

Form 3160-3
(April 2004)

OCT 28 2008
OCD-ARTESIA
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

R-111-POTASH
902

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No. NM-0290960 LC029096A
1b Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6 If Indian, Allottee or Tribe Name
2 Name of Operator V-F Petroleum, Inc.		7 If Unit or CA Agreement, Name and No.
3a Address P.O. Box 1889 Midland, TX 79702		8 Lease Name and Well No. Budge Federal Com., Well No. 2 3/018
3b Phone No. (include area code) 432-683-3344		9 API Well No. 30-015-36756
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1996' FSL & 1792' FEL At proposed prod. zone 1650' FNL & 1980' FWL		10 Field and Pool, or Exploratory Dos Hermanos Morrow 76080
11 Sec., T R. M. or Blk. and Survey or Area CAPTAN CONTROLLED WATER BASIN Sec. 21-T20S-R30E		12 County or Parish Eddy
13 State NM		14 Distance in miles and direction from nearest town or post office* 18 miles NE of Carlsbad, NM
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest diag. unit line, if any) 660'	16 No. of acres in lease 320	17 Spacing Unit dedicated to this well 640 (320)
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 2007.3'	19 Proposed Depth 12,550'	20 BLM/BIA Bond No. on file NM-2246
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3316' GL	22 Approximate date work will start* 10/01/2007	23 Estimated duration 30 - 40 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:

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

25 Signature <i>George R. Smith</i>	Name (Printed/Typed) George R. Smith	Date 06/04/2007
Title Agent for V-F Petroleum, Inc.		
Approved by (Signature) <i>/s/ Linda S.C. Rundell</i>	Name (Printed/Typed) /s/ Linda S.C. Rundell	Date OCT 23 2008
Title 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)

Lease Responsibility Statement: V-F Petroleum, Inc. accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

George R. Smith
George R. Smith, agent

ENTERED
[Signature]

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Bravos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30.015-36756	2 Pool Code 76080	3 Pool Name Dos Hermanos Morrow
4 Property Code 34018	5 Property Name BUDGE FEDERA COM	6 Well Number 2
7 OGRID No. 24010	8 Operator Name V F PETROLEUM INC.	9 Elevation 3316

10 Surface Location

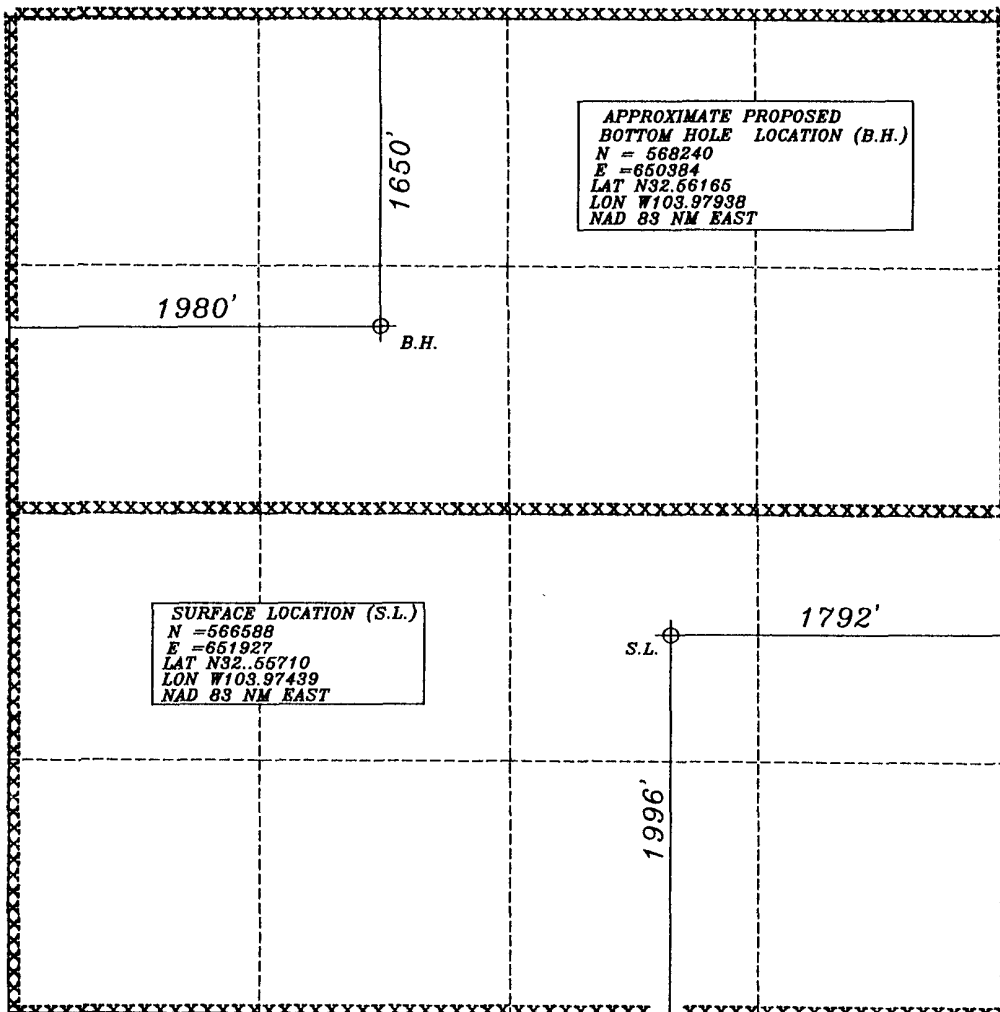
UL or lot no.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
J	21	20-S	30-E		1996	SOUTH	1792	EAST	EDDY

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
F	21	20-S	30-E		1650	NORTH	1980	WEST	EDDY

12 Dedicated Acres 6.40	13 Joint or Injunctive	14 Consolidation Code Com	15 Order No.
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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.



17 OPERATORS CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided 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 voluntary pooling agreement or a compulsory pooling order heretofore ordered by the division.

Signature: George R. Smith
Date: 6/4/07

Printed Name: George R. Smith, agent

18 SURVEYOR CERTIFICATION
SURFACE LOCATION ONLY

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.

Signature and Seal of Professional Surveyor:

JANUARY 27, 2004

Date of Survey

DAN R. REDDY
NEW MEXICO
5412
REGISTERED PROFESSIONAL ENGINEER
LAND SURVEYOR

Certificate Number: DAN R. REDDY NM PE&PS #5412

V-F PETROLEUM, INC.
 Budge Federal Com., Well No. 2
 Surface: 1996' FSL & 1792' FEL, Sec. 21-T20S-R30E
 Production: 1650' FNL & 1980' FWL, Sec. 21-T20S-R30E
 Eddy County, New Mexico
 Lease No.: ~~NM-029096~~ **LC-029096A**
 (Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, V-F Petroleum, Inc. submits the following items of pertinent information in accordance with BLM requirements:

- The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.
- The estimated tops of geologic markers are as follows:

Rustler	80'	Wolfcamp Limestone	10,050'
Yates	1,758'	Middle Strawn Limestone	10,996'
Capitan Reef	2,282'	Atoka	11,290'
Delaware	3,650'	Morrow	11,552'
Bone Spring	6,500'	Lower Morrow	12,261'
Wolfcamp	9,900'	T.D	12,500'

- 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 10,953', Atoka below 11,243' and the Morrow below 11,652'.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
20" - 26"	20"	94.0#	H-40	ST&C	200'	Circ. 550 sx HL & 150 "C" to surface.
17 1/2"	13 3/8"	48.0#	H-40	ST&C	750'	
17 1/2"	13 3/8"	54.5#	K-55	ST&C	2,210'	Circ. 1000 sx HL & 150 "C" to surface
12 1/4"	9 5/8"	36.0#	K-55	ST&C	1,950'	
12 1/4"	9 5/8"	40.0#	K-55	ST&C	3,700'	Circ. 900 sx HL & 300 "C" to surface.
8 3/4"	5 1/2"	17.0#	N-80	LT&C	6,150'	
8 3/4"	5 1/2"	20.0#	N-80	LT&C	12,500'	750 sx "H" returned to 8,000' for TOC. 3200'

NOTE: Deviation Requirements: Commencing at 4,500': Kick off and build angle at 2.0 degrees per 100 feet. Drill and build curve section at 21.34 degrees to 9716'. Natural drop section to near vertical at T.D. See Exhibit "F".

- Proposed Control Equipment: A 12" 5000 psi wp Shaffer Type LWS Double Gate BOP will be installed on the 13 3/8" casing. 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" and will be tested regularly. See Exhibit "E".

6. MUD PROGRAM:

	MUD WEIGHT	VIS.	W/L CONTROL
0' - 200':	Fresh water mud: 8.6 - 9.2 ppg	32 - 40	No W/L control
200' - 2210':	Brine water mud 10.0 - 10.1 ppg	28 - 29	No W/L control
2210' - 3700':	Fresh water mud: 10.0 - 10.1 ppg	28 - 29	No W/L control
3700' - 10,600':	Brine water mud: 8.3 - 8.4 ppg	28 - 29	No W/L control
10,600' - 12,500':	Cut Brine mud: 9.8 - 10.0 ppg	36 - 40	W/L cont. 12 - to 6 cc in Morrow

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

V-F PETROLEUM, Inc.

Budge Federal Com., Well No. 2

Page 2

8. Testing, Logging, and Coring Program:

Drill Stem Tests: None.

Logging: T.D. to 3700': GR-DNL-DLL

3700' to Surface: GR-

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 = 5544 and Surface Pressure = 2772 with a temperature of 186°.
10. H₂S: None expected. The Mud Log Unit will be cautioned to use a gas trap to detect H₂S and if any is detected the mud weight will be increased along with H₂S inhibitors sufficient to control the gas.
11. Anticipated starting date: October 1, 2007
Anticipated completion of drilling operations: Approximately 30- 40 days.

V-F PETROLEUM

Field: Eddy County, New Mexico
Site: Budge Federal Com
Well: #2
Wellpath: OH
Plan: Plan #4

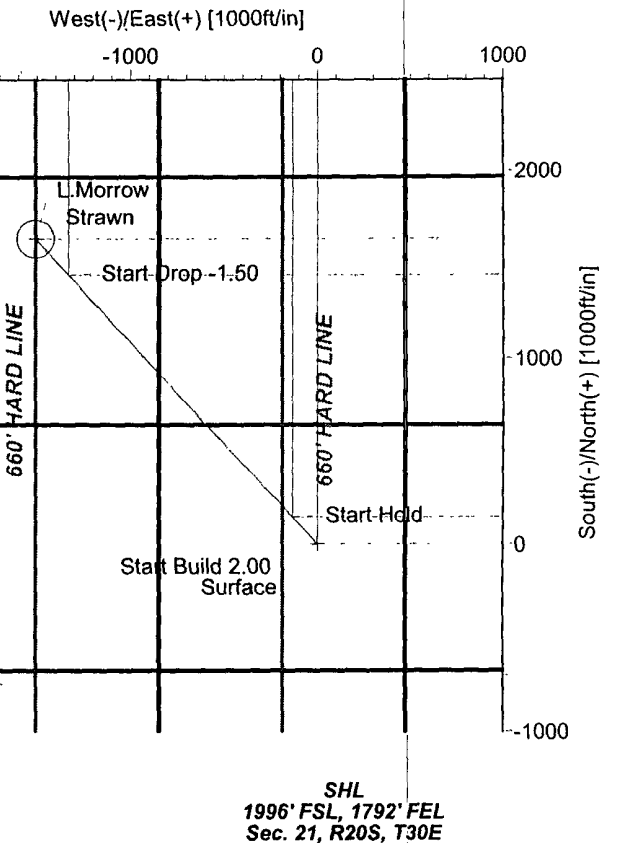
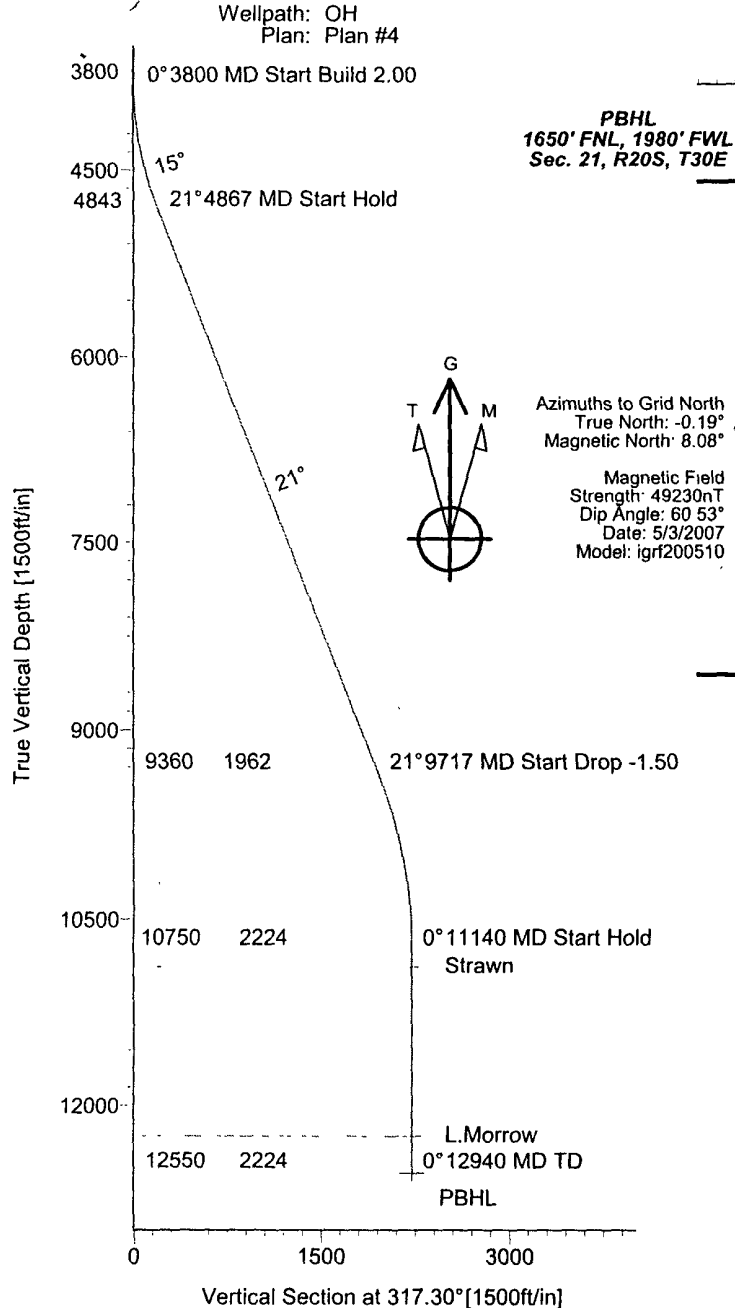


EXHIBIT "F"

V-F PETROLEUM, INC.

Budge Federal Com., Well No. 2

Directional Drilling Program

Surface: 1996' FSL & 1792' FEL, Sec. 21-T20S-R30E

Production: 1650' FNL & 1980' FWL, Sec. 22-T20S-R30E

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	10885.00	11274.79	Strawn
2	12250.00	12639.79	L.Morrow

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface	0.00	0.00	0.00	566565.36	610593.18	32°33'25.500N	103°58'27.800W	Point
PBHL	12550.00	1634.00	-1508.00	568199.36	609085.18	32°33'41.719N	103°58'45.356W	Circle (Radius: 100)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	317.30	0.00	0.00	0.00	0.00	0.00	0.00	
2	3800.00	0.00	317.30	3800.00	0.00	0.00	0.00	0.00	0.00	
3	4867.15	21.34	317.30	4842.64	144.38	-133.25	2.00	317.30	196.47	
4	9716.93	21.34	317.30	9359.81	1441.49	-1330.34	0.00	0.00	1961.55	
5	11139.79	0.00	317.30	10750.00	1634.00	-1508.00	1.50	180.00	2223.52	
6	12939.79	0.00	317.30	12550.00	1634.00	-1508.00	0.00	0.00	2223.52	PBHL



Drilling Systems, Inc.

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

Plan: Plan #4 (#2/OH)

Created By: Well Planner Date: 5/14/2007

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

LEAM Drilling Systems, Inc.

Planning Report

Company: V-F PETROLEUM
 Field: Eddy County, New Mexico
 Site: Budge Federal Com
 Well: #2
 Wellpath: OH

Date: 5/14/2007 Time: 16:43:03
 Co-ordinate(NE) Reference: Well: #2, Grid North
 Vertical (TVD) Reference: SITE 0.0
 Section (VS) Reference: Well (0.00N,0.00E,317.30Azi)
 Survey Calculation Method: Minimum Curvature
 Db: Sybase

Page: 1

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: Budge Federal Com
 Sec. 21 R 20S, T30E
 1996' FSL, 1792' FEL

Site Position: Northing: 566565.36 ft Latitude: 32 33 25.500 N
 From: Geographic Easting: 610593.18 ft Longitude: 103 58 27.800 W
 Position Uncertainty: 0.00 ft North Reference: Grid
 Ground Level: 3300.00 ft Grid Convergence: 0.19 deg

Well: #2

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 566565.36 ft Latitude: 32 33 25.500 N
 +E/-W 0.00 ft Easting: 610593.18 ft Longitude: 103 58 27.800 W
 Position Uncertainty: 0.00 ft

Wellpath: OH

Current Datum: SITE Height 0.00 ft
 Magnetic Data: 5/3/2007
 Field Strength: 49230 nT
 Vertical Section: Depth From (TVD) +N/-S
 ft ft
 0.00 0.00
 Drilled From: Surface
 Tie-on Depth: 0.00 ft
 Above System Datum: Mean Sea Level
 Declination: 8.28 deg
 Mag Dip Angle: 60.53 deg
 +E/-W Direction
 ft deg
 0.00 317.30

Plan: Plan #4
 Adjust KOP/3a Add from lines for SH&BHL
 Principal: No

Date Composed: 5/11/2007
 Version: 1
 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	317.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3800.00	0.00	317.30	3800.00	0.00	0.00	0.00	0.00	0.00	0.00	
4867.15	21.34	317.30	4842.64	144.38	-133.25	2.00	2.00	0.00	317.30	
9716.93	21.34	317.30	9359.81	1441.49	-1330.34	0.00	0.00	0.00	0.00	
11139.79	0.00	317.30	10750.00	1634.00	-1508.00	1.50	-1.50	0.00	180.00	
12939.79	0.00	317.30	12550.00	1634.00	-1508.00	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
3800.00	0.00	317.30	3800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3900.00	2.00	317.30	3899.98	1.28	-1.18	1.75	2.00	2.00	0.00	
4000.00	4.00	317.30	3999.84	5.13	-4.73	6.98	2.00	2.00	0.00	
4100.00	6.00	317.30	4099.45	11.53	-10.64	15.69	2.00	2.00	0.00	
4200.00	8.00	317.30	4198.70	20.49	-18.91	27.88	2.00	2.00	0.00	
4300.00	10.00	317.30	4297.47	31.98	-29.52	43.52	2.00	2.00	0.00	
4400.00	12.00	317.30	4395.62	46.00	-42.46	62.60	2.00	2.00	0.00	
4500.00	14.00	317.30	4493.06	62.54	-57.71	85.10	2.00	2.00	0.00	
4600.00	16.00	317.30	4589.64	81.55	-75.27	110.98	2.00	2.00	0.00	
4700.00	18.00	317.30	4685.27	103.04	-95.09	140.21	2.00	2.00	0.00	
4800.00	20.00	317.30	4779.82	126.96	-117.17	172.77	2.00	2.00	0.00	
4867.15	21.34	317.30	4842.64	144.38	-133.25	196.47	2.00	2.00	0.00	
4900.00	21.34	317.30	4873.24	153.17	-141.36	208.43	0.00	0.00	0.00	
5000.00	21.34	317.30	4966.38	179.91	-166.04	244.82	0.00	0.00	0.00	
5100.00	21.34	317.30	5059.52	206.66	-190.72	281.22	0.00	0.00	0.00	

LEAM Drilling Systems, Inc.

Planning Report

Company: V-F PETROLEUM
 Field: Eddy County, New Mexico
 Site: Budge Federal Com
 Well: #2
 Wellpath: OH

Date: 5/14/2007 Time: 16:43:03
 Co-ordinate(NE) Reference: Well: #2, Grid North
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 Survey Calculation Method: Minimum Curvature

Page: 2
 Db: Sybase

Survey										Tool/Comment
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	
5200.00	21.34	317.30	5152.66	233.41	-215.41	317.61	0.00	0.00	0.00	
5300.00	21.34	317.30	5245.81	260.15	-240.09	354.01	0.00	0.00	0.00	
5400.00	21.34	317.30	5338.95	286.90	-264.77	390.40	0.00	0.00	0.00	
5500.00	21.34	317.30	5432.09	313.64	-289.46	426.80	0.00	0.00	0.00	
5600.00	21.34	317.30	5525.23	340.39	-314.14	463.19	0.00	0.00	0.00	
5700.00	21.34	317.30	5618.37	367.13	-338.82	499.59	0.00	0.00	0.00	
5800.00	21.34	317.30	5711.51	393.88	-363.51	535.98	0.00	0.00	0.00	
5900.00	21.34	317.30	5804.66	420.63	-388.19	572.38	0.00	0.00	0.00	
6000.00	21.34	317.30	5897.80	447.37	-412.87	608.77	0.00	0.00	0.00	
6100.00	21.34	317.30	5990.94	474.12	-437.56	645.17	0.00	0.00	0.00	
6200.00	21.34	317.30	6084.08	500.86	-462.24	681.56	0.00	0.00	0.00	
6300.00	21.34	317.30	6177.22	527.61	-486.92	717.96	0.00	0.00	0.00	
6400.00	21.34	317.30	6270.37	554.35	-511.61	754.35	0.00	0.00	0.00	
6500.00	21.34	317.30	6363.51	581.10	-536.29	790.75	0.00	0.00	0.00	
6600.00	21.34	317.30	6456.65	607.85	-560.97	827.14	0.00	0.00	0.00	
6700.00	21.34	317.30	6549.79	634.59	-585.66	863.54	0.00	0.00	0.00	
6800.00	21.34	317.30	6642.93	661.34	-610.34	899.93	0.00	0.00	0.00	
6900.00	21.34	317.30	6736.07	688.08	-635.02	936.33	0.00	0.00	0.00	
7000.00	21.34	317.30	6829.22	714.83	-659.71	972.72	0.00	0.00	0.00	
7100.00	21.34	317.30	6922.36	741.57	-684.39	1009.12	0.00	0.00	0.00	
7200.00	21.34	317.30	7015.50	768.32	-709.07	1045.51	0.00	0.00	0.00	
7300.00	21.34	317.30	7108.64	795.07	-733.76	1081.91	0.00	0.00	0.00	
7400.00	21.34	317.30	7201.78	821.81	-758.44	1118.30	0.00	0.00	0.00	
7500.00	21.34	317.30	7294.93	848.56	-783.12	1154.70	0.00	0.00	0.00	
7600.00	21.34	317.30	7388.07	875.30	-807.81	1191.09	0.00	0.00	0.00	
7700.00	21.34	317.30	7481.21	902.05	-832.49	1227.49	0.00	0.00	0.00	
7800.00	21.34	317.30	7574.35	928.79	-857.17	1263.89	0.00	0.00	0.00	
7900.00	21.34	317.30	7667.49	955.54	-881.86	1300.28	0.00	0.00	0.00	
8000.00	21.34	317.30	7760.63	982.29	-906.54	1336.68	0.00	0.00	0.00	
8100.00	21.34	317.30	7853.78	1009.03	-931.22	1373.07	0.00	0.00	0.00	
8200.00	21.34	317.30	7946.92	1035.78	-955.91	1409.47	0.00	0.00	0.00	
8300.00	21.34	317.30	8040.06	1062.52	-980.59	1445.86	0.00	0.00	0.00	
8400.00	21.34	317.30	8133.20	1089.27	-1005.27	1482.26	0.00	0.00	0.00	
8500.00	21.34	317.30	8226.34	1116.01	-1029.96	1518.65	0.00	0.00	0.00	
8600.00	21.34	317.30	8319.49	1142.76	-1054.64	1555.05	0.00	0.00	0.00	
8700.00	21.34	317.30	8412.63	1169.51	-1079.32	1591.44	0.00	0.00	0.00	
8800.00	21.34	317.30	8505.77	1196.25	-1104.01	1627.84	0.00	0.00	0.00	
8900.00	21.34	317.30	8598.91	1223.00	-1128.69	1664.23	0.00	0.00	0.00	
9000.00	21.34	317.30	8692.05	1249.74	-1153.37	1700.63	0.00	0.00	0.00	
9100.00	21.34	317.30	8785.19	1276.49	-1178.06	1737.02	0.00	0.00	0.00	
9200.00	21.34	317.30	8878.34	1303.23	-1202.74	1773.42	0.00	0.00	0.00	
9300.00	21.34	317.30	8971.48	1329.98	-1227.42	1809.81	0.00	0.00	0.00	
9400.00	21.34	317.30	9064.62	1356.73	-1252.11	1846.21	0.00	0.00	0.00	
9500.00	21.34	317.30	9157.76	1383.47	-1276.79	1882.60	0.00	0.00	0.00	
9600.00	21.34	317.30	9250.90	1410.22	-1301.47	1919.00	0.00	0.00	0.00	
9700.00	21.34	317.30	9344.05	1436.96	-1326.16	1955.39	0.00	0.00	0.00	
9716.93	21.34	317.30	9359.81	1441.49	-1330.34	1961.55	0.00	0.00	0.00	
9800.00	20.10	317.30	9437.51	1463.09	-1350.27	1990.94	1.50	-1.50	0.00	
9900.00	18.60	317.30	9531.86	1487.43	-1372.74	2024.07	1.50	-1.50	0.00	
10000.00	17.10	317.30	9627.05	1509.96	-1393.52	2054.72	1.50	-1.50	0.00	
10100.00	15.60	317.30	9723.00	1530.64	-1412.61	2082.86	1.50	-1.50	0.00	
10200.00	14.10	317.30	9819.66	1549.47	-1429.99	2108.48	1.50	-1.50	0.00	
10300.00	12.60	317.30	9916.95	1566.43	-1445.64	2131.57	1.50	-1.50	0.00	

LEAM Drilling Systems, Inc.

Planning Report

Company: V-F PETROLEUM Field: Eddy County, New Mexico Site: Budge Federal Com Well: #2 Wellpath: OH	Date: 5/14/2007 Co-ordinate(NE) Reference: Well: #2, Grid North Vertical (TVD) Reference: SITE 0.0 Section (VS) Reference: Well (0.00N,0.00E,317.30Azi) Survey Calculation Method: Minimum Curvature	Page: 3 Db: Sybase
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Survey										Tool/Comment
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	
10400.00	11.10	317.30	10014.82	1581.52	-1459.56	2152.10	1.50	-1.50	0.00	
10500.00	9.60	317.30	10113.19	1594.72	-1471.75	2170.06	1.50	-1.50	0.00	
10600.00	8.10	317.30	10212.00	1606.02	-1482.18	2185.44	1.50	-1.50	0.00	
10700.00	6.60	317.30	10311.18	1615.41	-1490.85	2198.22	1.50	-1.50	0.00	
10800.00	5.10	317.30	10410.65	1622.90	-1497.76	2208.41	1.50	-1.50	0.00	
10900.00	3.60	317.30	10510.36	1628.47	-1502.90	2215.99	1.50	-1.50	0.00	
11000.00	2.10	317.30	10610.24	1632.12	-1506.27	2220.96	1.50	-1.50	0.00	
11100.00	0.60	317.30	10710.21	1633.85	-1507.86	2223.31	1.50	-1.50	0.00	
11139.79	0.00	317.30	10750.00	1634.00	-1508.00	2223.52	1.50	-1.50	0.00	
11200.00	0.00	317.30	10810.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
11274.79	0.00	317.30	10885.00	1634.00	-1508.00	2223.52	0.00	0.00	0.00	Strawn
11300.00	0.00	317.30	10910.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
11400.00	0.00	317.30	11010.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
11500.00	0.00	317.30	11110.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
11600.00	0.00	317.30	11210.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
11700.00	0.00	317.30	11310.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
11800.00	0.00	317.30	11410.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
11900.00	0.00	317.30	11510.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12000.00	0.00	317.30	11610.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12100.00	0.00	317.30	11710.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12200.00	0.00	317.30	11810.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12300.00	0.00	317.30	11910.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12400.00	0.00	317.30	12010.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12500.00	0.00	317.30	12110.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12600.00	0.00	317.30	12210.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12639.79	0.00	317.30	12250.00	1634.00	-1508.00	2223.52	0.00	0.00	0.00	L.Morrow
12700.00	0.00	317.30	12310.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12800.00	0.00	317.30	12410.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12900.00	0.00	317.30	12510.21	1634.00	-1508.00	2223.52	0.00	0.00	0.00	
12939.79	0.00	317.30	12550.00	1634.00	-1508.00	2223.52	0.00	0.00	0.00	PBHL

Targets

Name	Description		TVD	+N/-S	+E/-W	Map	Map	Latitude			Longitude			
	Dip.	Dir.	ft	ft	ft	Northing	Easting	Deg	Min	Sec	Deg	Min	Sec	
Surface			0.00	0.00	0.00	566565.36	610593.18	32	33	25.500	N	103	58	27.800
PBHL			12550.00	1634.00	-1508.00	568199.36	609085.18	32	33	41.719	N	103	58	45.356
-Circle (Radius: 100)														
-Plan hit target														

Casing Points

MD	TVD	Diameter	Hole Size	Name
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Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
11274.79	10885.00	Strawn	LIMESTONE	0.00	317.30
12639.79	12250.00	L.Morrow	SANDSTONE	0.00	317.30

RIG 3

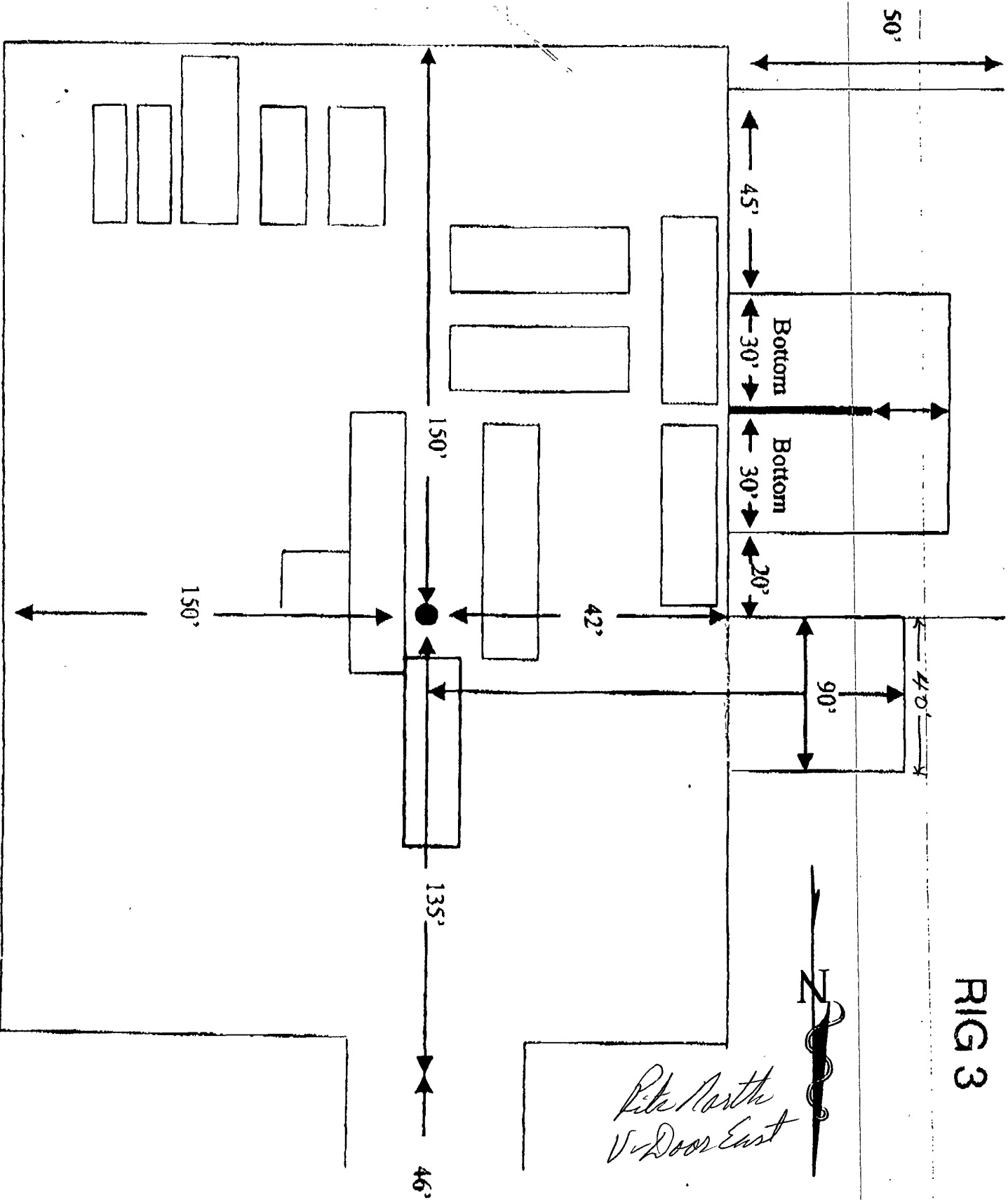


EXHIBIT "B"
V-F PETROLEUM, INC.
Budge Federal Com., Well No. 2
Pad & Pit Layout

PERSON DRILLING

4326821565

T-101 P 005/005 P-374

BUDGE FED
#1

HILL

ARCH
SITE

ACCESS ROAD

FEDERAL "1-G"

WATER
PIT

125'

150'

42'-50'

150'

135'

BUDGE FED
#2

150'

GAS LINE

GAS LINE
TAP

DUKE PIPE LINE

PWR LINE

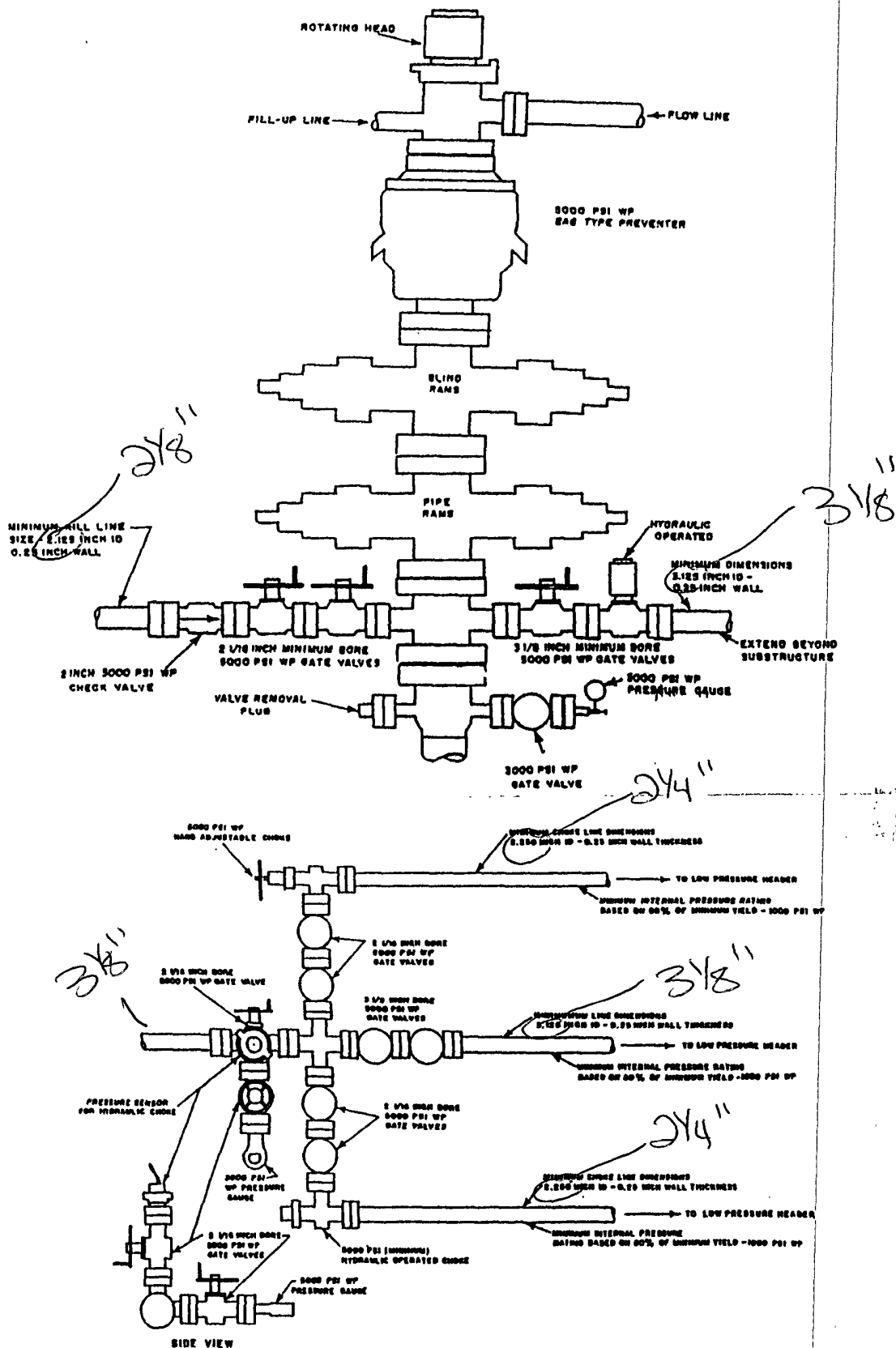
PATERSON RIG #3

BUDGE FED Com. #2

- 1996' FSL + 1792 FEL
SEC. 21-T205-R30E

5000 PSI WORKING PRESSURE BLOWOUT PREVENTER STACK

EXHIBIT C-1



5000 PSI WORKING PRESSURE CHOKES MANIFOLD

EXHIBIT C-2

EXHIBIT "E"
V-F PETROLEUM, INC.
Budge Federal Com., Well No. 2
BOP Specifications

MULTI POINT SURFACE USE AND OPERATIONS PLAN

V-F PETROLEUM INC.

Budge Federal Com., Well No. 2

Surface: 1996' FSL & 1792' FEL, Sec. 21-T20S-R30E

Production: 1650' FNL & 1980' FWL, Sec. 21-T20S-R30E

Eddy County, New Mexico

Lease No.: LC-029096 ~~4~~ A

(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 18 road miles northeast of Carlsbad, New Mexico. Traveling east from Carlsbad there will be approximately 17.6 miles of paved highway and .7 miles of gravel ranch/oilfield roads.
- 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 2.4 miles to a cattle guard on the east side of highway. Travel east for .7 mile. The proposed access road starts at the southwest corner of the Federal "G", well No. 1 well pad and will follow the south side of the existing well pad and then turn north following the east side of the pad to the southeast corner of the proposed location.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The proposed access road will parallel the south and east side of the Federal "G", Well No. 1 well pad for approximately 750 feet and 12 foot wide.
- B. Construction: The proposed access road will be constructed by grading and topping with compacted caliche and will be properly drained.
- 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. Duke will bury a line of approximately 150 feet to the southeast corner of the Federal G, which currently is the access point on the Duke line for the Budge Fed. #1.

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 SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 5-T21S-R29E. No surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access road.

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: 192' X 285', plus 150' X 125' reserve pits. The pits will be on the west.
- C. Cut & Fill: A 2 - 3 foot cut on the west with fill to the east.
- D. The surface will be topped 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 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 proposed well site and access road is located on the east side of a northeast/southwest running hill. The location has a northeasterly slope of 3 - 4% from an elevation of 3316'.
- B. Soil: The topsoil at the well site is a moderately dark brown colored, calcareous soil with caliche outcrops. The soil is of the Largo loam and Stony Land Complex soils series with Pajarito Dune lands.
- 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, javalina brush, 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 except potash disposal ponds 1 - 1.5 miles to the east.
- E. Residences and Other Structures: None, but existing oil field facilities.
- 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 evidence of archaeological, historical or cultural sites on the north side proposed 600' X 600' site, but none on the pad area, which is separated from the arch site by a deep ravine on the north side of the pad area. Archaeological Survey Consultants, P.O. Box 2285, Roswell, NM 88202, are conducting an archaeological survey and their report will be submitted to the appropriate government agencies.

12. OPERATOR'S REPRESENTATIVE:

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

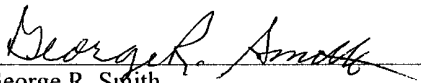
Tom Beall
V-F Petroleum Inc.
P.O. Box 1889
Midland, TX 79702
Office Phone: (432) 687-0008

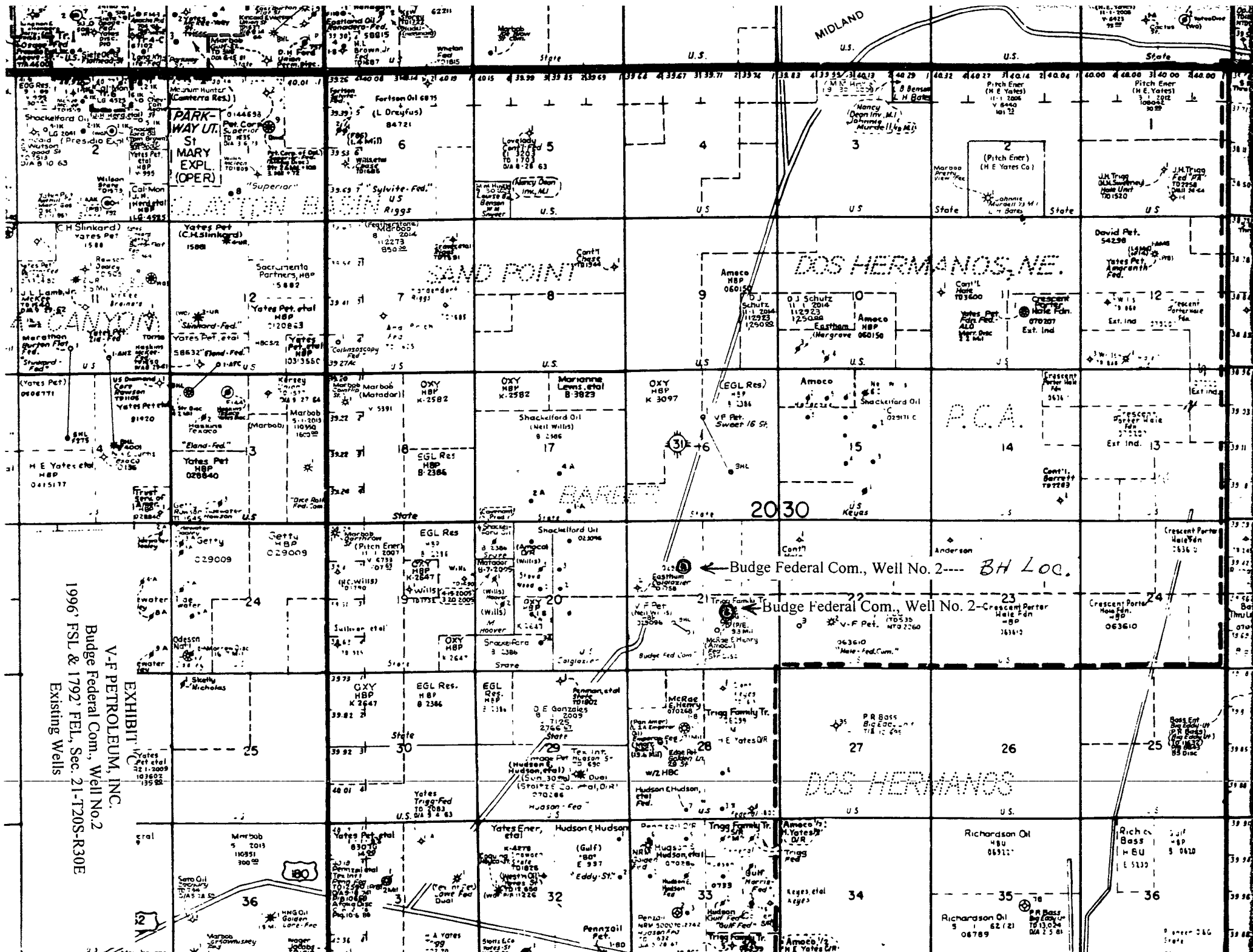
Jerry Gahr
V-F Petroleum, Inc.
P.O. Box 1889
Midland, TX 79702
Office Phone: (432) 683-3344

13. 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.

June 4, 2007


George R. Smith
Agent for: V-F Petroleum Inc.



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)

BURIED PIPELINE STIPULATIONS

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault.

Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting there from, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. Blading of all vegetation will be allowed. Blading is defined as the complete removal of brush and ground vegetation. Clearing of brush species will be allowed. Clearing defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface. In areas where blading and/or clearing is allowed, maximum width of these operations will not exceed **35** feet.

8. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

9. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in row, piles, or berms, unless otherwise approved by the Authorized Officer. A berm will be left over the ditch line to allow for settling back to grade.

10. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

11. The holder will reseed. Seeding will be done according to the attached seeding requirements, using the following seed mix.

<input type="checkbox"/> seed mixture 1	<input type="checkbox"/> seed mixture 3
<input checked="" type="checkbox"/> seed mixture 2	<input type="checkbox"/> seed mixture 4

12. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder 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 will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

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. CLOSED LOOP SYSTEM

Although this is a closed loop system and no reserve pits will be utilized, the v-door will be to the East.

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

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

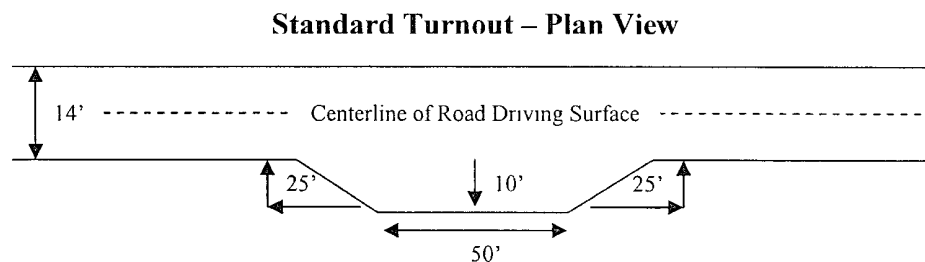
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

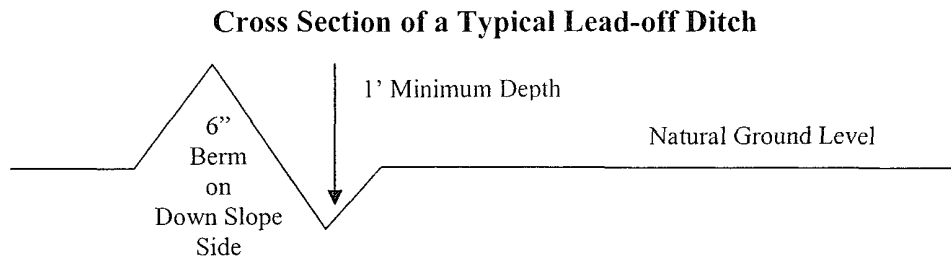
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing 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.



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:

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

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

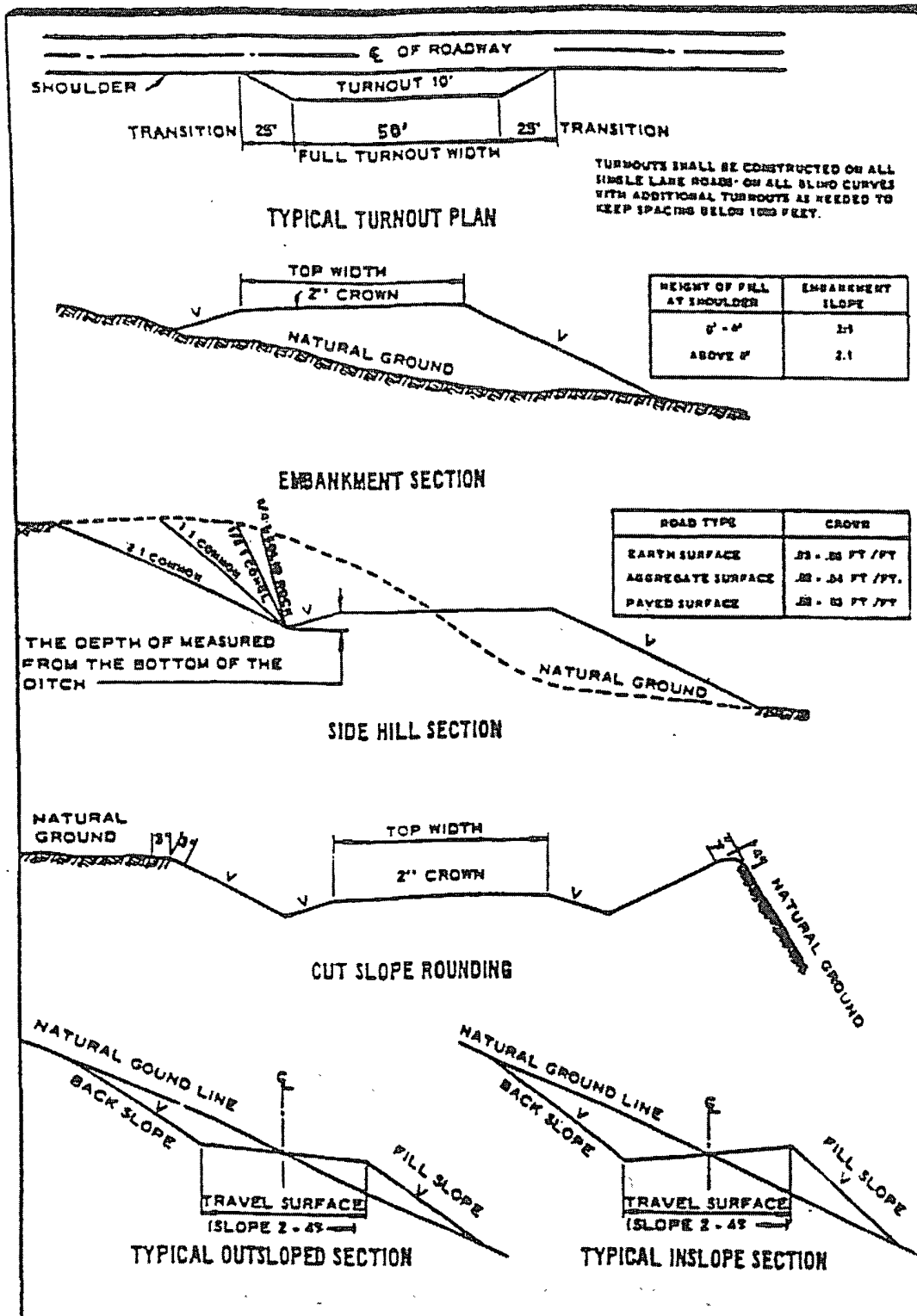
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 this section, it is always a potential hazard. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
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. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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 for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in the Artesia Group, Delaware and Bone Spring formations.

Possible high pressure gas bursts in the Wolfcamp and the Pennsylvanian section may be overpressured.

1. The **20 inch surface casing shall be set at approximately 200 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.
 - 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 is to include the lead cement slurry.**
 - 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.
2. The minimum required fill of cement behind the **13-3/8 inch intermediate casing is:**
 - ☒ **Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to R-111-P potash. WOC is a minimum of 24 hours or WOC for cement slurries, whichever is greater.**

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

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to R-111-P potash. WOC is a minimum of 24 hours or WOC for cement slurries, whichever is greater.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

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

- a. First stage to DV tool, cement shall:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.

- b. Second stage above DV tool, cement shall:

- ☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required to bring cement to required height as cement excess calculates to less than 20%.**

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" casing shoe shall be **3000 (3M) psi.**

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8"** casing shoe shall be **5000 (5M) psi. BOP/BOPE to be tested to 3000 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. BOP/BOPE to be tested to 5000 psi.**
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.
 - f. A variance to test the **20"** surface casing and BOP/BOPE (**entire system**) to the reduced pressure of **1000** psi with the rig pumps is approved.

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.

E. DRILL STEM TEST

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

WWI 090408

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

VRM Facility Requirement

B. PIPELINES

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. Blading of all vegetation will be allowed. Blading is defined as the complete removal of brush and ground vegetation. Clearing of brush species will be allowed. Clearing defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface. In areas where blading and/or clearing is allowed, maximum width of these operations will not exceed **35** feet.

8. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

9. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in row, piles, or berms, unless otherwise approved by the Authorized Officer. A berm will be left over the ditch line to allow for settling back to grade.

10. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

11. The holder will reseed. Seeding will be done according to the attached seeding requirements, using the following seed mix.

<input type="checkbox"/> seed mixture 1	<input type="checkbox"/> seed mixture 3
<input checked="" type="checkbox"/> seed mixture 2	<input type="checkbox"/> seed mixture 4

12. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder 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 will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IX. INTERIM RECLAMATION & RESEEDING PROCEDURE

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.

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. RESEEDING PROCEDURE

Once drilling and completion of proposed location is complete and all trash removed, reseed location as follows:

Seed Mixture 2, for Sandy 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 authorized 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:

<u>Species</u>	<u>lb/acre</u>
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

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

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.