

MAR 19 2009

OCD-ARTESIA

ATS-09-243

EA-09-365

Form 3160-3
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No 1004-0137
Expires March 31, 20075 Lease Serial No.
SHL: NMNM 113927 BHL: NM 111946

6 If Indian, Allottee or Tribe Name

1a. Type of work ☐ DRILL ☒ REENTER

7 If Unit or CA Agreement, Name and No

1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone8 Lease Name and Well No.
Noose Federal Com #5 363002 Name of Operator
Marbob Energy Corporation9 API Well No.
30-015-21066

3a Address P.O. Box 227, Artesia, NM 88211-0228

3b Phone No. (include area code)
575-748-330310 Field and Pool, or Exploratory
☒ North Seven Rivers; Glorieta-Yeso

4. Location of Well (Report location clearly and in accordance with any State requirements *)

At surface 1980' FNL & 1980' FWL

At proposed prod zone BHL: 330' FSL & 1980' FWL

11 Sec, T, R, M or Blk and Survey or Area

Section 35, T19S - R25E

14 Distance in miles and direction from nearest town or post office*
About 6 miles from Lakewood, NM12 County or Parish
Eddy County13. State
NM15 Distance from proposed*
location to nearest
property or lease line, ft
(Also to nearest drig unit line, if any) 660'16 No of acres in lease
320.0017 Spacing Unit dedicated to this well
12018 Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft19 Proposed Depth
4095' MD & TVD 2650'20 BLM/BIA Bond No. on file
NMB00041221 Elevations (Show whether DF, KDB, RT, GL, etc.)
3504' GL22 Approximate date work will start*
02/27/200923. Estimated duration
14 Days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must 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 must 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
BLM.25 Signature *Nancy T. Agnew*Name (Printed/Typed)
Nancy T. AgnewDate
01/27/2009Title
Land DepartmentApproved by (Signature) */s/ Don Peterson*Name (Printed/Typed) */s/ Don Peterson*Date
MAR 17 2009Title
FIELD MANAGEROffice
CARLSBAD FIELD OFFICEApplication 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 USC Section 1001 and Title 43 USC 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)

ROSWELL CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

NR

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Date: January 27, 2009

Lease #: 111944 BA
NMNM104646
Noose Federal Com #5

Legal Description: Sec. 35-T19S-R25E
Eddy County, New Mexico

Formation(s): Permian

Bond Coverage: Statewide

BLM Bond File #: NMB000412

Marbob Energy Corporation

Nancy T. Agnew

Nancy T. Agnew
Land Department

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 30-015-21066	Pool Code 97565	Pool Name North Seven Rivers; Glorieta-Yeso
Property Code 36300	Property Name NOOSE FEDERAL	Well Number 5
OGRID No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 3506'

Surface Location

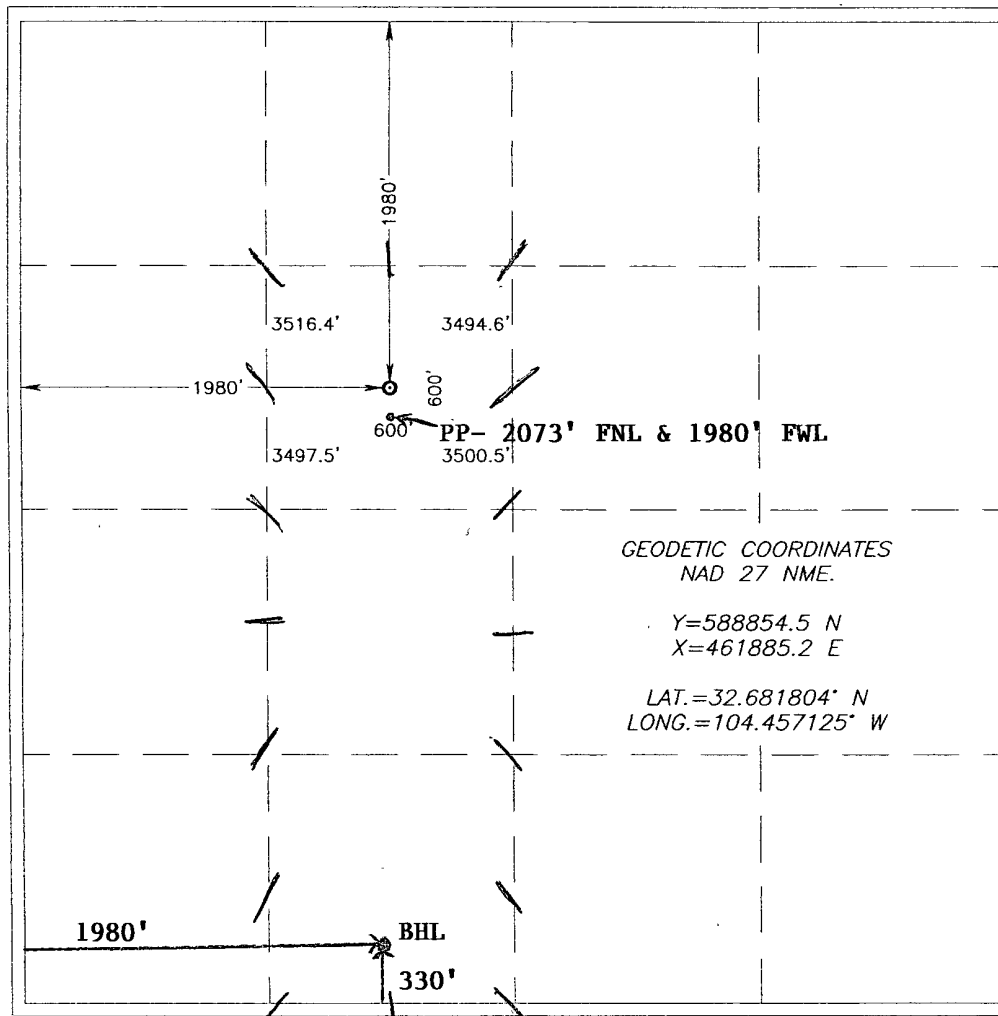
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	35	19-S	25-E		1980	NORTH	1980	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	35	19-S	25-E		330'	South	1980'	West	Eddy

Dedicated Acres 120	Joint or Infill	Consolidation Code	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



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.

Nancy T. Agnew 1/27/09
Signature Date
Nancy T. Agnew
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 8, 2008
Date Surveyed DSS
Signature & Seal of Professional Surveyor
08.11.0073
Certificate No. GARY G. EIDSON 12641
RONALD J. EIDSON 3239

N. MEXICO OIL CONSERVATION COMMISS
WELL LOCATION AND ACREAGE DEDICATION PLAT

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

All distances must be from the outer boundaries of the Section.

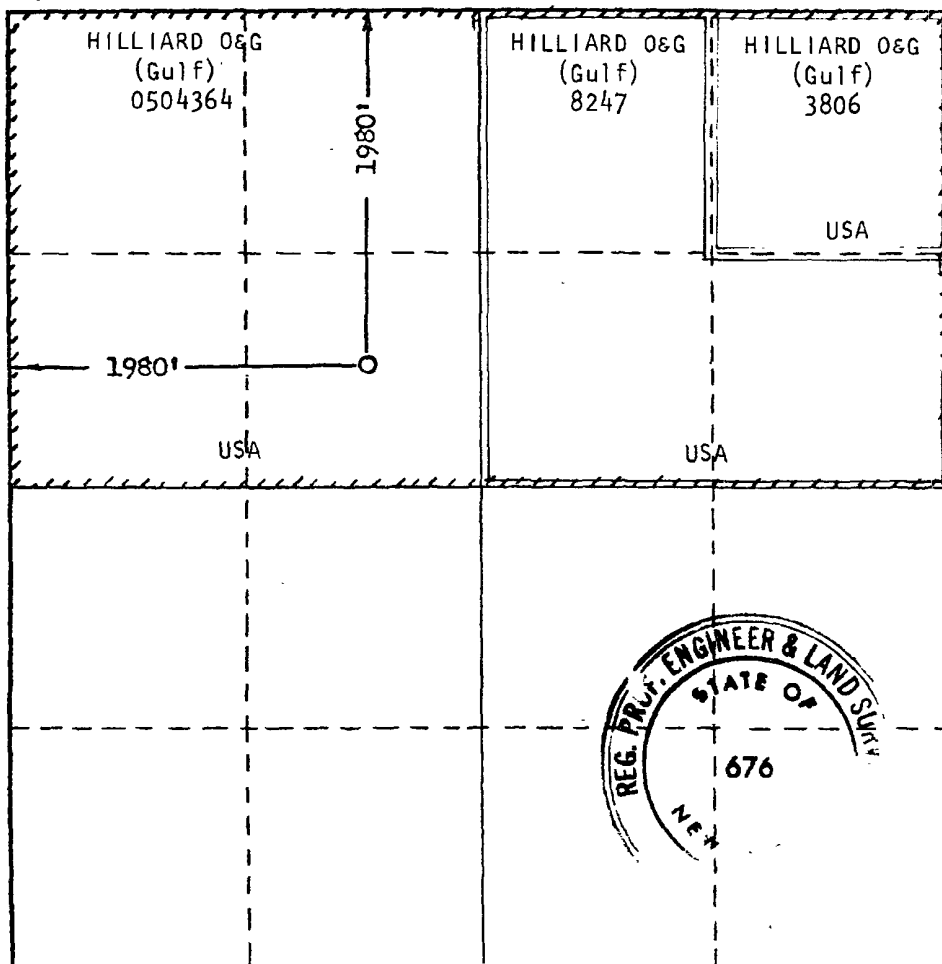
Operator HILLIARD OIL AND GAS, INC.		Lease Gulf-Federal		Well No. 1
Unit Letter F	Section 35	Township 19 South	Range 25 East	County Eddy
Actual Footage Location of Well: 1980 feet from the north line and 1980 feet from the west line				
Ground Level Elev. 3502.78	Producing Formation Morrow	Pool Wildcat	Dedicated Acreage: 320 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

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

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

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



CERTIFICATION

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

Name

DAROL K. RAMEY

Position

Manager of Operations

Company

HILLIARD OIL & GAS, INC.

Date

12-24-73

RECEIVED
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 correct to the best of my knowledge and belief.

Date Surveyed

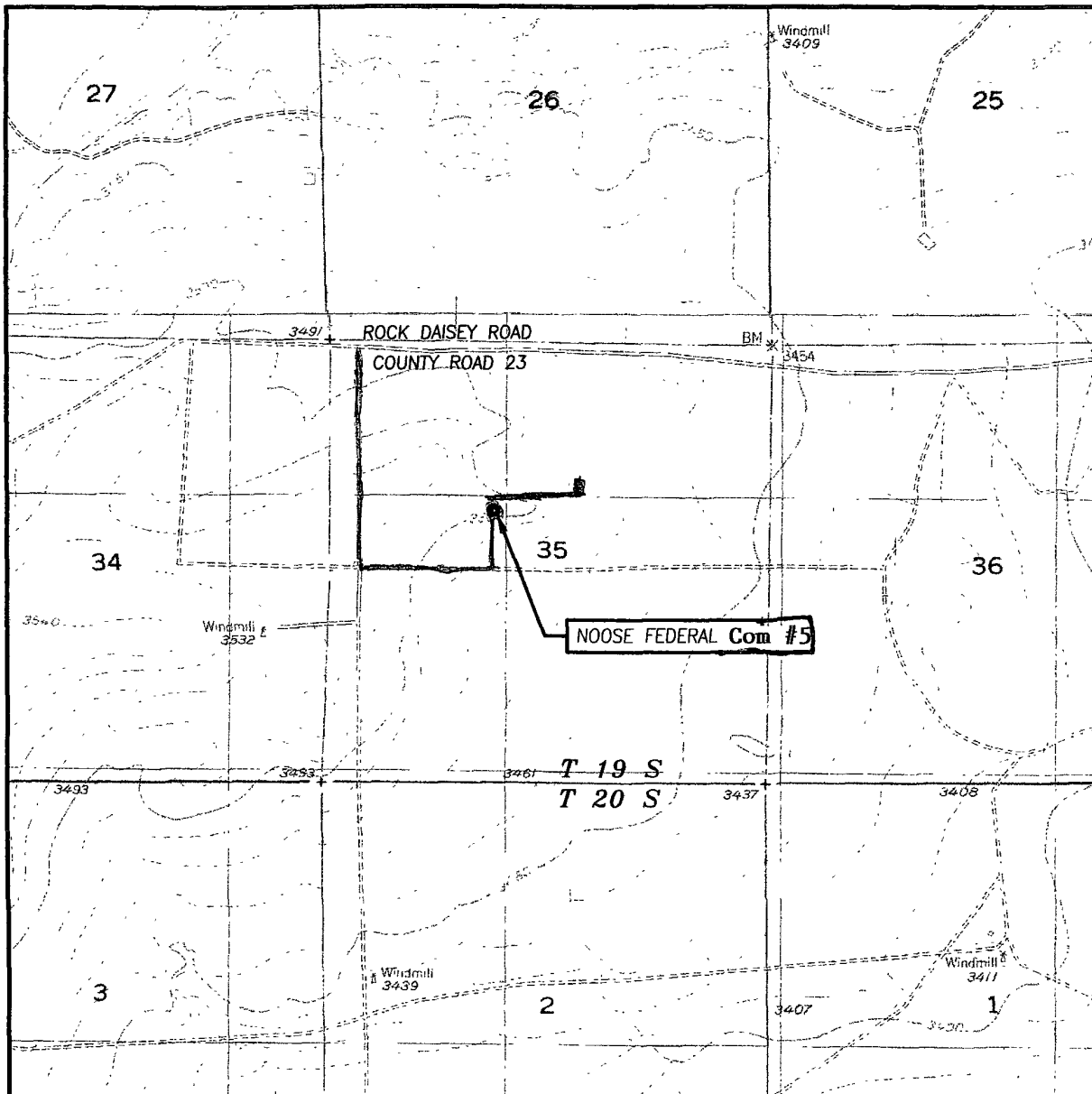
Dec. 8, 1973

Registered Professional Engineer and/or Land Surveyor

Certificate No.

676

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
SEVEN RIVERS, NM

SEC. 35 TWP. 19-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1980' FNL & 1980' FWL

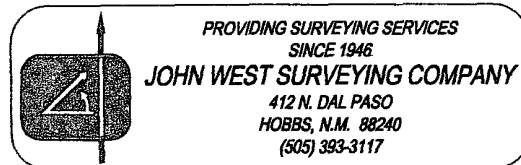
ELEVATION 3506'

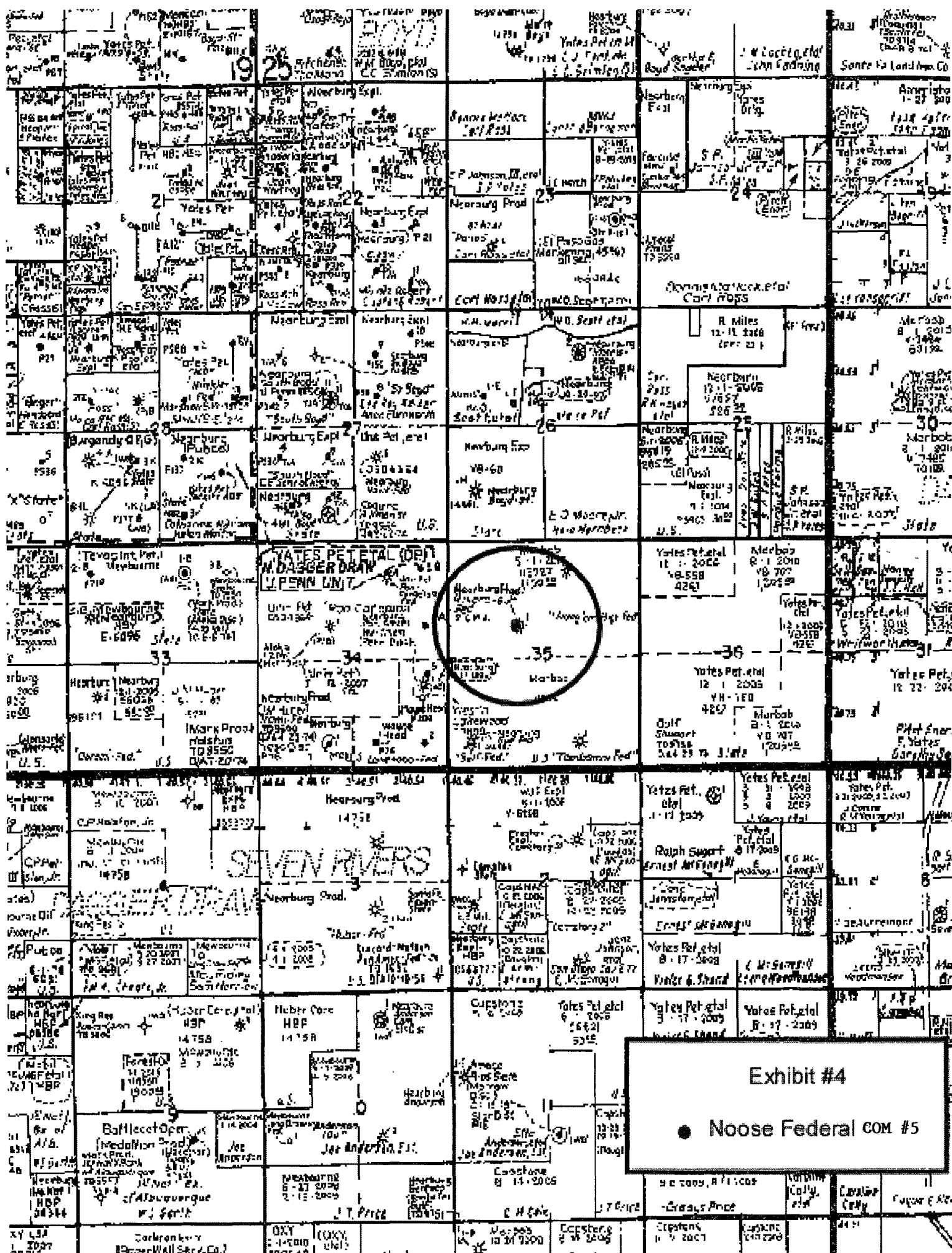
OPERATOR MARBOB ENERGY CORPORATION

LEASE NOOSE FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP
SEVEN RIVERS, NM

— EXISTING ROADS
— PROPOSED FLOWLINE





MARBOB ENERGY CORPORATION
DRILLING AND OPERATIONS PROGRAM

Re-Entry
Noose Federal Com #5
(Previously "Gulf Federal #1")
Surf: 1980' FNL & 1980' FWL
BHL: 330' FSL & 1980' FWL
Section 35, T19S, R25E
Eddy County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Marbob Energy Corporation submits the following ten items of pertinent information in accordance with BLM requirements. Our general plan is to drill out the cement plugs to 2500', set a kickoff plug from 2500' – 2150' then build curve for a horizontal well @ 2650' TVD to new BHL of 330' FSL & 1980' FWL, run 5 1/2" casing and cement to 1100'.

- 1. Geological surface formation:** Permian
- 2. The estimated tops of geologic markers are as follows:**

Grayburg	Surface
San Andres	902'
Yeso	2455'
TVD	2650'
TMD	4095'

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

Yeso 2455' Oil

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands are protected by 13 3/8" casing at 305' with cement circulated to surface. Any water zones below 305' are is protected by 8 5/8" casing at 1300' with cement circulated to surface. 5 1/2" casing will be cemented from 3200' TD to 800' (500' overlap into 8 5/8").

- 4. Casing Program: (*The 13 3/8" and 8 5/8" are already in place*)**

Hole Size	Interval	OD Casing	New or Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0'-305'	13 3/8"	New	48#	STC	H-40	N/A	N/A	N/A
11"	0'-1300'	8 5/8"	New	24#	STC	K55	N/A	N/A	N/A
7 7/8"	0'-4095'	5 1/2"	New	17#	LTC	J-55	1.125	1.125	1.6

5. Cement Program:

- b. 8 5/8" Surf Cement to surface with 225 sk "c" Light wt 12.7 ppg yield 1.91 Tail in with 250 sk "c" wt 14.8 ppg yield 1.34
- c. 5 1/2" Prod Cement with 250 sk "H" Light wt 12.7 yield 1.91 Tail in with 200 sk acid soluble cement yield 2.6 wt 15.0 ppg TOC
1100' 800' per item 3 of drilling plan

6. Minimum Specifications for Pressure Control:

Nipple up on 8 5/8" surface with 2M system tested to 2000 psi with independent tester.

BOP will be operationally checked each 24 hour period. BOP will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a floor safety valve (inside BOP) with 2000 psi WP rating.

7. Estimated BHP: 1703.52 psi

8. Mud Program: The applicable depths and properties of this system are as follows:

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' - 4095'	Cut Brine	9.0	29-32	N.C.

9. Auxiliary Well Control and Monitoring Equipment:

- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- Hydrogen Sulfide detection equipment will be in operation when reentry operations start during cleanout until 5 1/2" casing is cemented in place.

10. Testing, Logging and Coring Program:

No testing, logging or coring planned

11. Potential Hazards:

- No abnormal pressures or temperatures are expected. There is H2S in this area in the San Andres and Yeso. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP: 1703.52 psi.

12. Anticipated starting date and Duration of Operations:

a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 14 days.

BUREAU OF LAND MGMT.
GENERAL OFFICE

NOV 20 PM 3:59

RECEIVED

Marbob

Eddy County

Noose Federal #5

Noose Fed #5

OH

Plan: Plan #1

Patfinder X & Y Survey Report

20 November, 2008



Azimuths to Grid North
True North: 0.82°
Magnetic North: 9.59°

Magnetic Field
Strength: 47861.6nT
Dip Angle: 58.65°
Date: 11/20/2008
Model: IGRF200510

PATHFINDER

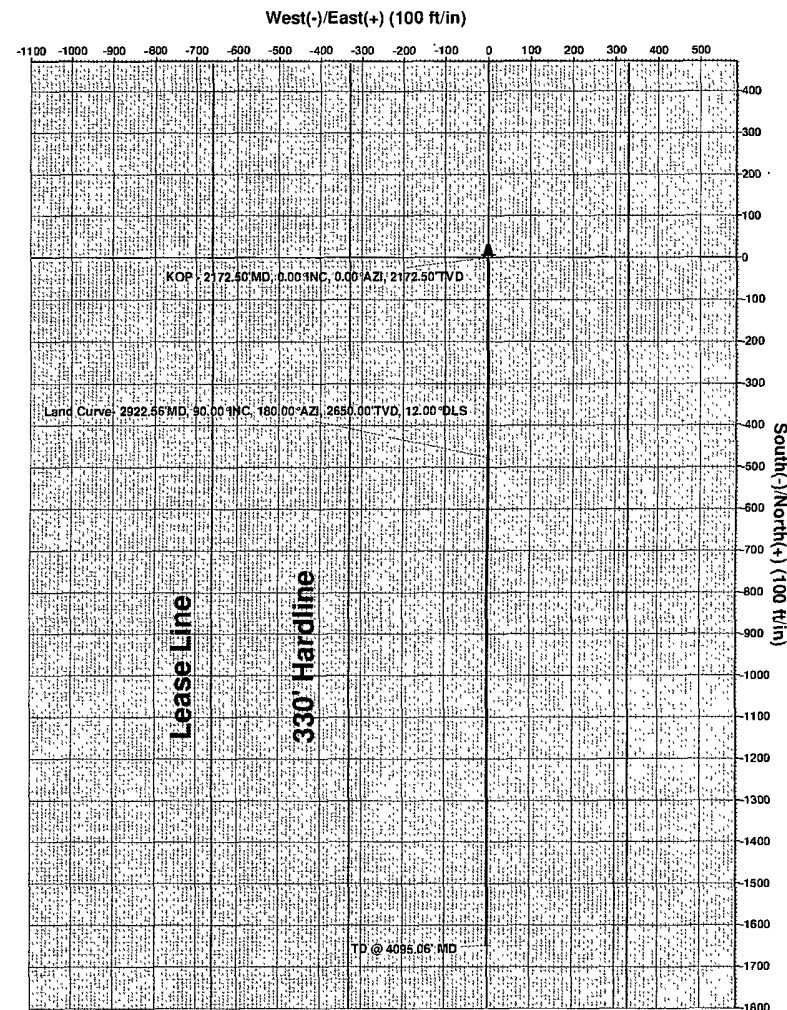
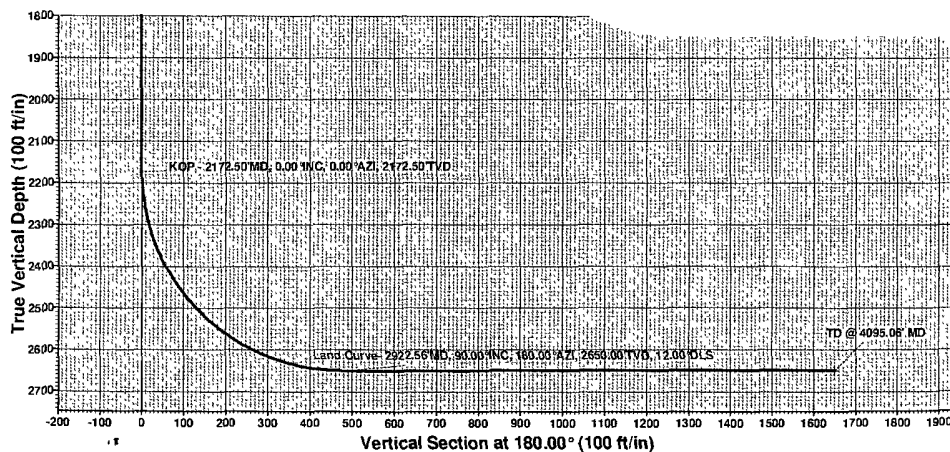
ENERGY SERVICES

WELL DETAILS: Noose Fed #5							
Ground Elevation: 3225.00							
RKB Elevation: WELL @ 3225.00ft (Original Well Elev)							
Rig Name: Original Well Elev							
±N-S	±E-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	0.000	0.000	30°59'24.512 N	105°55'44.137 W		

SECTION DETAILS									
Sec'	MD	Inc	Azi	TVD	±N-S	±E-W	DLeg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2172.50	0.00	0.00	2172.50	0.00	0.00	0.00	0.00	0.00
3	2922.56	90.00	180.00	2650.00	-477.50	0.00	12.00	180.00	477.50
4	4095.06	90.00	180.00	2650.00	-1650.00	0.00	0.00	0.00	1650.00
PBHL (Noose #5)									

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	±N-S	±E-W	Northing	Easting	Shape
PBHL (Noose #5)	2650.00	-1650.00	0.00	-1650.000	0.000	Point

Project: Eddy County
Site: Noose Federal #5
Well: Noose Fed #5
Wellbore: OH
Plan: Plan #1 (Noose Fed #5/OH)



PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Plan: Plan #1 (Noose Fed #5/OH)			
Created By	Aaron Pullin	Date	14 45, November 20 2008
Checked		Date	

Pathfinder Energy Services Pathfinder X & Y Survey Report

Company: Marbob
 Project: Eddy County
 Site: Moose Federal #5
 Well: Moose Fed #5
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well Moose Fed #5
 TVD Reference: WELL @ 3225.00ft (Original Well Elev)
 MD Reference: WELL @ 3225.00ft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 2003.16 Single User Db

Project: Eddy County

Map System: US State Plane 1927 (Exact solution)
 Geo Datum: NAD 1927 (NADCON CONUS)
 Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Moose Federal #5

Site Position:
 From: None
 Position Uncertainty: 0.00 ft

Northing: ft
 Easting: ft
 Slot Radius: "

Latitude:
 Longitude:
 Grid Convergence: 0.00 °

Well: Moose Fed #5

Well Position +N/-S 0.00 ft Northing: 0.000 ft Latitude: 30° 59' 24.512 N
 +E/-W 0.00 ft Easting: 0.000 ft Longitude: 105° 55' 44.137 W
 Position Uncertainty 0.00 ft Wellhead Elevation: ft Ground Level: 3,225.00 ft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/20/2008	8.77	58.65	47,862

Design: Plan #1

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	180.00

Survey Tool Program: Date 11/20/2008

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	4,095.06	Plan #1 (OH)	MWD	MWD - Standard

Pathfinder Energy Services

Patfinder X & Y Survey Report

Company: Marbob
 Project: Eddy County
 Site: Noose Federal #5
 Well: Noose Fed #5
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well Noose Fed #5
 TVD Reference: WELL @ 3225.00ft (Original Well Elev)
 MD Reference: WELL @ 3225.00ft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,225.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	-3,125.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	-3,025.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	-2,925.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	-2,825.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	-2,725.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	-2,625.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	-2,525.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	-2,425.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	-2,325.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	-2,225.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	-2,125.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	-2,025.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	-1,925.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	-1,825.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	-1,725.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	-1,625.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	-1,525.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	-1,425.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	-1,325.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	-1,225.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	-1,125.00	0.00	0.00	0.00	0.00	0.00	0.00
2,172.50	0.00	0.00	2,172.50	-1,052.50	0.00	0.00	0.00	0.00	0.00	0.00
KOP - 2172.50'MD, 0.00°INC, 0.00°AZI, 2172.50'TVD										
2,175.00	0.30	180.00	2,175.00	-1,050.00	-0.01	0.00	0.01	12.00	-0.01	0.00
2,200.00	3.30	180.00	2,199.98	-1,025.02	-0.79	0.00	0.79	12.00	-0.79	0.00
2,225.00	6.30	180.00	2,224.89	-1,000.11	-2.88	0.00	2.88	12.00	-2.88	0.00

Pathfinder Energy Services **Patfinder X & Y Survey Report**

Company: Marbob
Project: Eddy County
Site: Noose Federal #5
Well: Noose Fed #5
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Noose Fed #5
TVD Reference: WELL @ 3225.00ft (Original Well Elev)
MD Reference: WELL @ 3225.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,250.00	9.30	180.00	2,249.66	-975.34	-6.28	0.00	6.28	12.00	-6.28	0.00
2,275.00	12.30	180.00	2,274.21	-950.79	-10.96	0.00	10.96	12.00	-10.96	0.00
2,300.00	15.30	180.00	2,298.49	-926.51	-16.92	0.00	16.92	12.00	-16.92	0.00
2,325.00	18.30	180.00	2,322.42	-902.58	-24.15	0.00	24.15	12.00	-24.15	0.00
2,350.00	21.30	180.00	2,345.94	-879.06	-32.61	0.00	32.61	12.00	-32.61	0.00
2,375.00	24.30	180.00	2,368.98	-856.02	-42.30	0.00	42.30	12.00	-42.30	0.00
2,400.00	27.30	180.00	2,391.49	-833.51	-53.18	0.00	53.18	12.00	-53.18	0.00
2,425.00	30.30	180.00	2,413.40	-811.60	-65.22	0.00	65.22	12.00	-65.22	0.00
2,450.00	33.30	180.00	2,434.64	-790.36	-78.39	0.00	78.39	12.00	-78.39	0.00
2,475.00	36.30	180.00	2,455.17	-769.83	-92.66	0.00	92.66	12.00	-92.66	0.00
2,500.00	39.30	180.00	2,474.92	-750.08	-107.98	0.00	107.98	12.00	-107.98	0.00
2,525.00	42.30	180.00	2,493.84	-731.16	-124.31	0.00	124.31	12.00	-124.31	0.00
2,550.00	45.30	180.00	2,511.89	-713.11	-141.61	0.00	141.61	12.00	-141.61	0.00
2,575.00	48.30	180.00	2,529.00	-696.00	-159.83	0.00	159.83	12.00	-159.83	0.00
2,600.00	51.30	180.00	2,545.14	-679.86	-178.92	0.00	178.92	12.00	-178.92	0.00
2,625.00	54.30	180.00	2,560.25	-664.75	-198.83	0.00	198.83	12.00	-198.83	0.00
2,650.00	57.30	180.00	2,574.30	-650.70	-219.51	0.00	219.51	12.00	-219.51	0.00
2,675.00	60.30	180.00	2,587.25	-637.75	-240.89	0.00	240.89	12.00	-240.89	0.00
2,700.00	63.30	180.00	2,599.07	-625.93	-262.92	0.00	262.92	12.00	-262.92	0.00
2,725.00	66.30	180.00	2,609.71	-615.29	-285.53	0.00	285.53	12.00	-285.53	0.00
2,750.00	69.29	180.00	2,619.16	-605.84	-308.68	0.00	308.68	12.00	-308.68	0.00
2,775.00	72.29	180.00	2,627.38	-597.62	-332.28	0.00	332.28	12.00	-332.28	0.00
2,800.00	75.29	180.00	2,634.36	-590.64	-356.29	0.00	356.29	12.00	-356.29	0.00
2,825.00	78.29	180.00	2,640.07	-584.93	-380.62	0.00	380.62	12.00	-380.62	0.00
2,850.00	81.29	180.00	2,644.50	-580.50	-405.22	0.00	405.22	12.00	-405.22	0.00
2,875.00	84.29	180.00	2,647.63	-577.37	-430.02	0.00	430.02	12.00	-430.02	0.00
2,900.00	87.29	180.00	2,649.47	-575.53	-454.95	0.00	454.95	12.00	-454.95	0.00

Pathfinder Energy Services

Patfinder X & Y Survey Report

Company: Marbob
Project: Eddy County
Site: Noose Federal #5
Well: Noose Fed #5
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Noose Fed #5
TVD Reference: WELL @ 3225.00ft (Original Well Elev)
MD Reference: WELL @ 3225.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003 16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,922.56	90.00	180.00	2,650.00	-575.00	-477.50	0.00	477.50	12.00	-477.50	0.00
Land Curve- 2922.56'MD, 90.00°INC, 180.00°AZI, 2650.00'TVD, 12.00°DLS										
3,000.00	90.00	180.00	2,650.00	-575.00	-554.94	0.00	554.94	0.00	-554.94	0.00
3,100.00	90.00	180.00	2,650.00	-575.00	-654.94	0.00	654.94	0.00	-654.94	0.00
3,200.00	90.00	180.00	2,650.00	-575.00	-754.94	0.00	754.94	0.00	-754.94	0.00
3,300.00	90.00	180.00	2,650.00	-575.00	-854.94	0.00	854.94	0.00	-854.94	0.00
3,400.00	90.00	180.00	2,650.00	-575.00	-954.94	0.00	954.94	0.00	-954.94	0.00
3,500.00	90.00	180.00	2,650.00	-575.00	-1,054.94	0.00	1,054.94	0.00	-1,054.94	0.00
3,600.00	90.00	180.00	2,650.00	-575.00	-1,154.94	0.00	1,154.94	0.00	-1,154.94	0.00
3,700.00	90.00	180.00	2,650.00	-575.00	-1,254.94	0.00	1,254.94	0.00	-1,254.94	0.00
3,800.00	90.00	180.00	2,650.00	-575.00	-1,354.94	0.00	1,354.94	0.00	-1,354.94	0.00
3,900.00	90.00	180.00	2,650.00	-575.00	-1,454.94	0.00	1,454.94	0.00	-1,454.94	0.00
4,000.00	90.00	180.00	2,650.00	-575.00	-1,554.94	0.00	1,554.94	0.00	-1,554.94	0.00
4,095.06	90.00	180.00	2,650.00	-575.00	-1,650.00	0.00	1,650.00	0.00	-1,650.00	0.00

TD @ 4095.06' MD - PBHL (Noose #5)

Pathfinder Energy Services

Patfinder X & Y Survey Report

Company: Marbob
 Project: Eddy County
 Site: Noose Federal #5
 Well: Noose Fed #5
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well Noose Fed #5
 TVD Reference: WELL @ 3225.00ft (Original Well Elev)
 MD Reference: WELL @ 3225.00ft (Original Well Elev)
 North Reference: Grd
 Survey Calculation Method: Minimum Curvature
 Database: EDM 2003.16 Single User Db

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL (Noose #5) - plan hits target - Point	0.00	360 00	2,650 00	-1,650.00	0.00	-1,650 000	0.000	30° 59' 8.186 N	105° 55' 43 866 W

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,172.50	2,172 50	0.00	0.00	KOP - 2172.50'MD, 0.00°INC, 0.00°AZI, 2172.50'TVD
2,922.56	2,650 00	-477.50	0.00	Land Curve- 2922 56'MD, 90.00°INC, 180.00°AZI, 2650.00'TVD, 12 00
4,095.06	2,650.00	-1,650.00	0.00	TD @ 4095 06' MD

Checked By: _____ Approved By: _____ Date: _____



Azimuths to Grid North
True North: 0.82°
Magnetic North: 9.59°

Magnetic Field
Strength: 47861.6nT
Dip Angle: 58.65°
Date: 11/20/2008
Model: IGRF200510

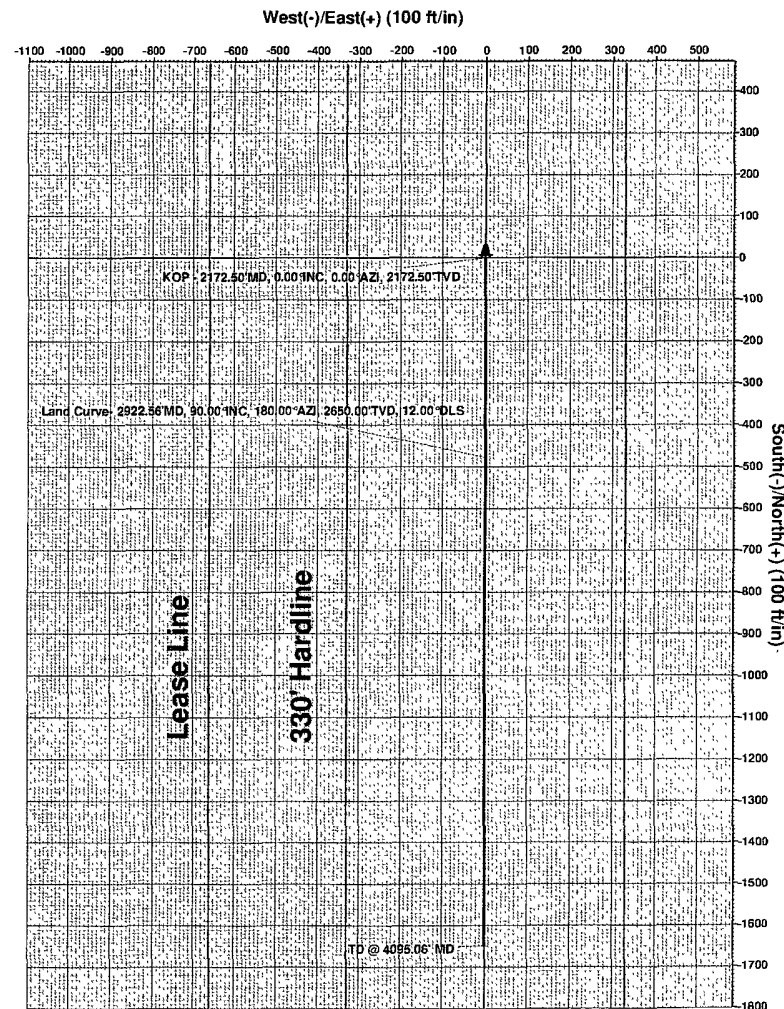
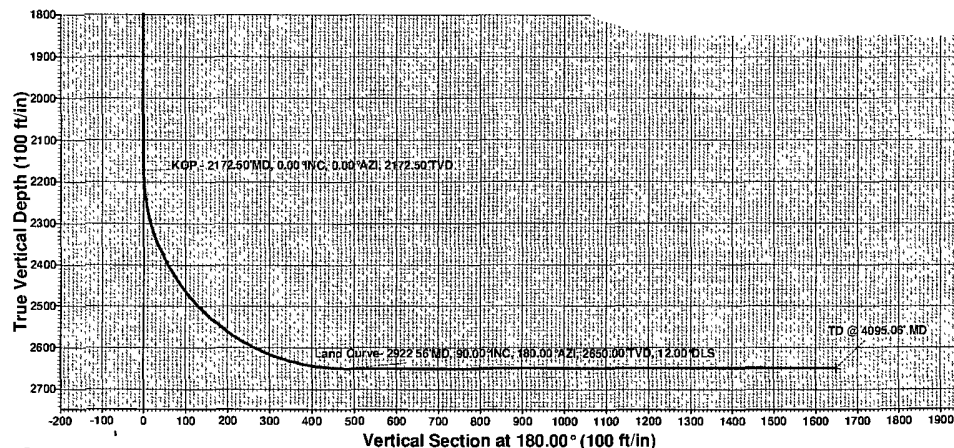


WELL DETAILS. Moose Fed #5							
Ground Elevation: 3225.00							
RKB Elevation: WELL @ 3225.00ft (Original Well Elev)							
Rig Name: Original Well Elev							
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	0.000	0.000	30° 59' 24.512 N	105° 55' 44.137 W		

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2172.50	0.00	0.00	2172.50	0.00	0.00	0.00	0.00	0.00
3	2922.56	90.00	180.00	2650.00	-477.50	0.00	12.00	180.00	477.50
4	4095.06	90.00	180.00	2650.00	-1650.00	0.00	0.00	0.00	1650.00

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape Point
PBHL (Noose Fed #5)	2650.00	-1650.00	0.00	-1650.000	0.000	

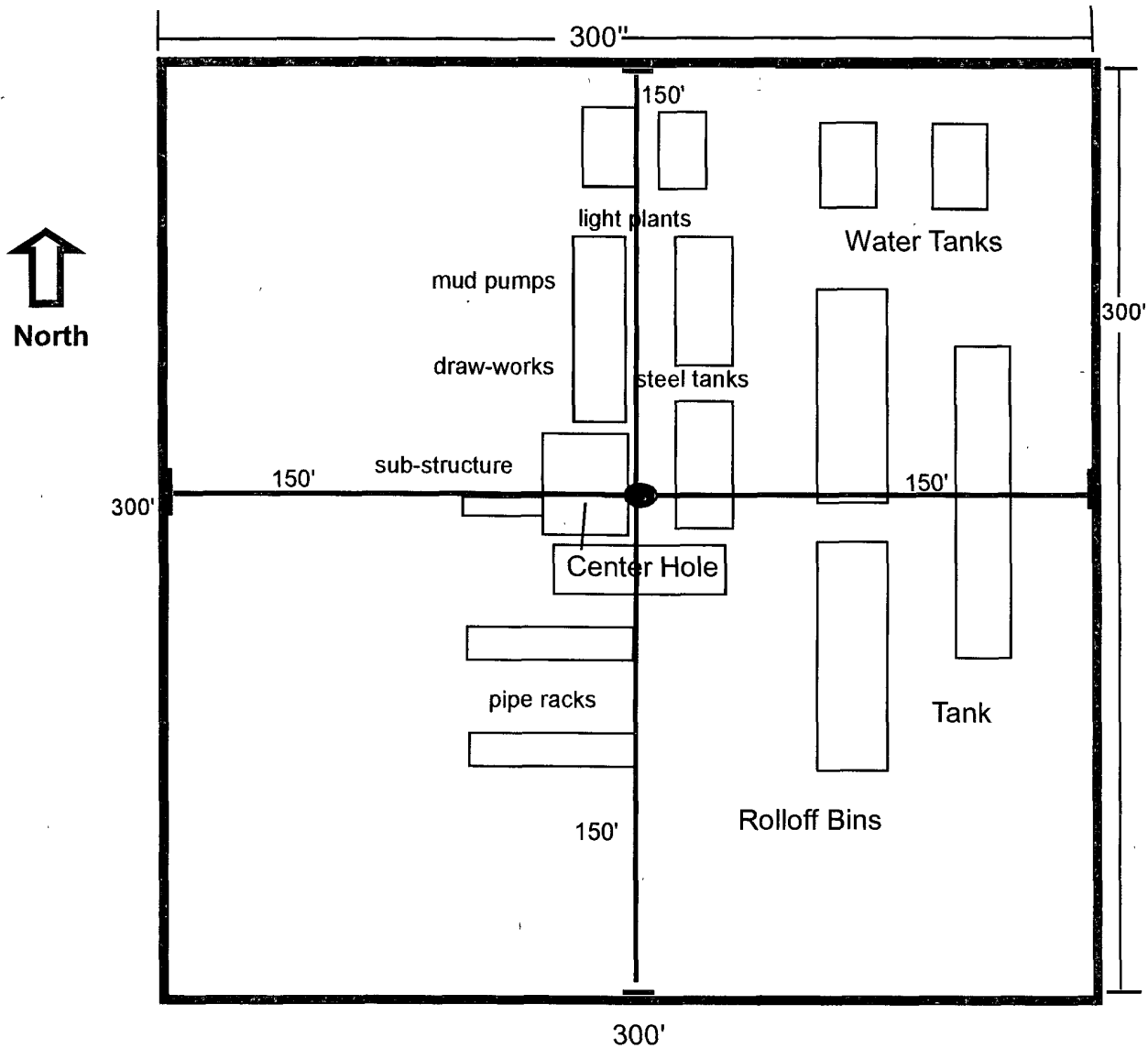
Project: Eddy County
Site: Noose Federal #5
Well: Noose Fed #5
Wellbore: OH
Plan: Plan #1 (Noose Fed #5/OH)



PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Plan Plan #1 (Noose Fed #5/OH)			
Created By	Aaron Pullin	Date	14 45, November 20 2008
Checked		Date	

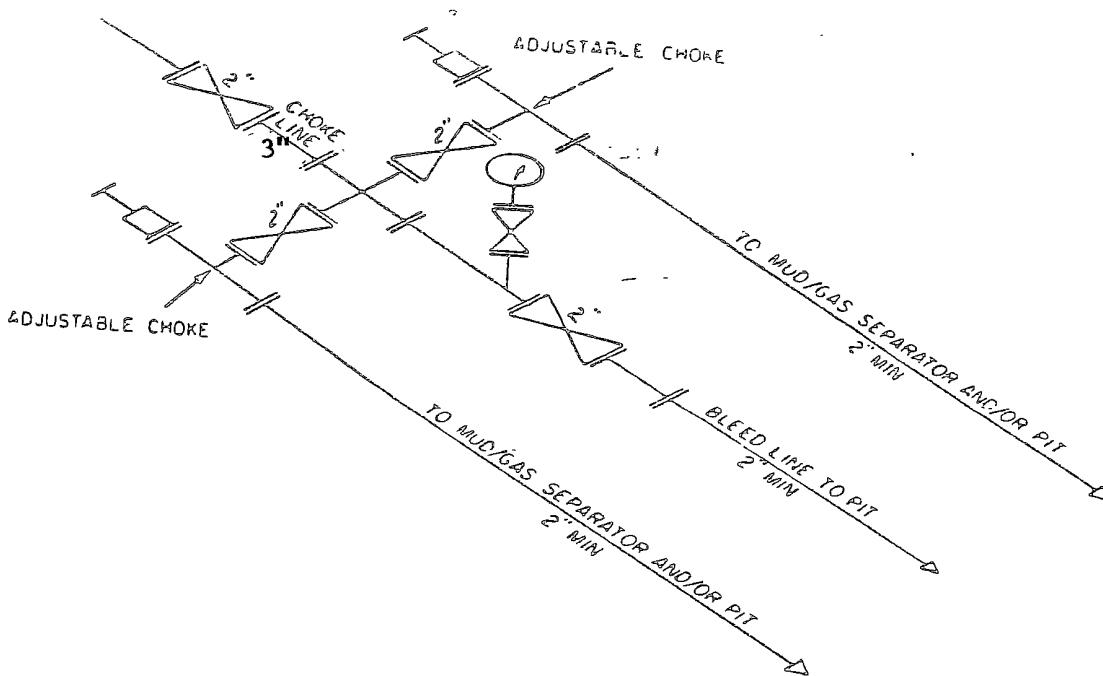
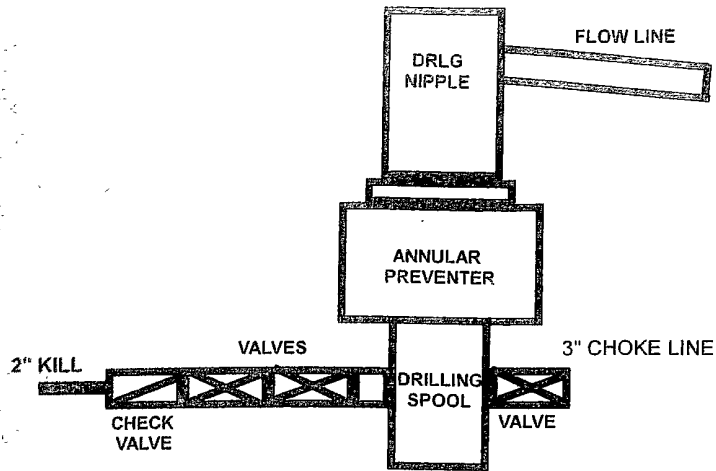
Well Site Lay-Out Plat



Re-Entry
Noose Federal Com #5
(Previously "Gulf Federal #1")
1980' FNL & 1980' FWL
Section 35, T19S, R25E
Eddy County, New Mexico

EXHIBIT THREE

2M SYSTEM



2M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES
MAY VARY

MARBOB ENERGY CORPORATION

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- A. The hazards and characteristics of hydrogen sulfide (H₂S).
- B. The proper use and maintenance of personal protective equipment and life support systems.
- C. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- D. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- A. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- B. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- C. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling out the 5 ½" casing shoe at 4230'.

A. Well Control Equipment:

Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

B. Protective equipment for essential personnel:

Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

C. H₂S detection and monitoring equipment:

2 - portable H₂S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 20 ppm are reached.

D. Visual warning systems:

Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

E. Mud Program:

The mud program has been designed to minimize the volume of H₂S circulated to the surface.

F. Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.

G. Communication:

Company vehicles equipped with cellular telephone and 2-way radio.

Marbob Energy has conducted a review to determine if an H₂S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H₂S concentrations of wells in this area from surface to TD are low enough; therefore we do not believe that an H₂S Contingency Plan would be necessary.

W A R N I N G

**YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED**
- 2. HARD HATS REQUIRED**
- 3. SMOKING IN DESIGNATED AREAS ONLY**
- 4. BE WIND CONSCIOUS AT ALL TIMES**
- 5. CK WITH MARBOB FOREMAN AT MAIN OFFICE**

MARBOB ENERGY CORPORATION

1-575-748-3303

MARBOB ENERGY CORPORATION
MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Re-Entry
Noose Federal Com #5
(Previously "Gulf Federal #1")
Surf: 1980' FNL & 1980' FWL
BHL: 330' FSL & 1980' FWL
Section 35, T19S, R25E
Eddy County, New Mexico

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

1. EXISTING ROADS:

- a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by John West Surveying Company.
- b. Exhibit 2 is a portion of a topo map showing the well and roads in the vicinity of the proposed location. The proposed wellsite and the access route to the location are indicated in red on Exhibit 2.
- c. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

DIRECTIONS:

From the intersection of Highway 285 and County Road 23 (Rock Daisy Road), go west on county road 23 approx. 3.0 miles. Turn left and go south approx 0.5 miles. Turn left and go east approx. 0.3 miles. Bend left and go approx. 0.15 miles to Gulf Federal #1 dry hole well pad.

2. PLANNED ACCESS ROAD:

There is an existing road.

3. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. In the event the well is found productive, the Noose Federal #1 tank battery would be utilized and the necessary production equipment will be installed at the well site. A Site Facilities Diagram will be submitted upon completion of facility.
- B. All flowlines will adhere to API standards
- C. If electricity is needed, power will be obtained from Central Valley Electric. Central Valley Electric will apply for ROW for their power lines.
- D. If the well is productive, rehabilitation plans are as follows:

- i. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

4. LOCATION AND TYPES OF WATER SUPPLY:

This location will be drilled using a cut brine mud system (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads shown in Exhibit #2. If a poly pipeline is used to transport water for drilling purposes, the existing and proposed road shown in Exhibit "2" will be utilized.

5. CONSTRUCTION MATERIALS:

All Caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of 6" rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

6. METHODS OF HANDLING WASTE MATERIAL:

- a. All trash, junk and other waste material will be removed from the wellsite within 30 days after finishing drilling and/or completion operations. All waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed, all contents will be removed and disposed of in an approved sanitary landfill.
- b. The supplier, including broken sacks, will pick up slats remaining after completion of well.
- c. A porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- d. Disposal of fluids to be transported by an approved disposal company.

7. ANCILLARY FACILITIES:

No campsite or other facilities will be constructed as a result of this well.

8. WELLSITE LAYOUT:

- a. Exhibit 3 shows the proposed well site layout with dimensions of the pad layout.
- b. No reserve or sump pits will be utilized.
- c. Mud pits in the active circulating system will be steel pits and a closed loop system will be utilized.

9. PLANS FOR SURFACE RECLAMATION:

- a. After finishing drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original state.
- b. The location and road will be rehabilitated as recommended by the BLM.
- c. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

10. SURFACE OWNERSHIP:

The surface is owned by the US Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas. The proposed road routes and the surface location will be restored as directed by the BLM.

11. OTHER INFORMATION:

- a. The proposed access road and well pad are located in topography that varies from small rolling hills to generally flat areas. Soil is of the Limestone rock land-Ector association: Rock land and very shallow, stony and rocky, loamy soils over limestone; on hills and mountains. Vegetation associated with the project area is consistent with the Chihuahuan Desert Scrub and includes acacia, creosote, sotol, cane cholla, juniper, pencil cholla, lechuguilla, prickly pear, algerita, ocotillo, crucifix bush, horse crippler, and various grasses. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within 2 miles of location.
- d. A Cultural Resources Examination will be completed by Boone Archeological and forwarded to the BLM office in Carlsbad, New Mexico

12. OPERATOR'S REPRESENTATIVE:

A. Through A.P.D. Approval:
 Dean Chumbley, Landman
 Marbob Energy Corporation
 P. O. Box 227
 Artesia, NM 88211-0227
 Phone (575)748-3303
 Cell (575)748-5988

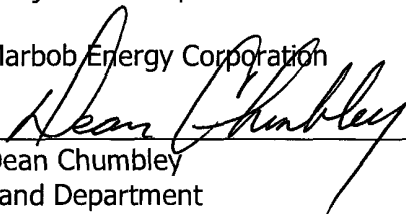
B. Through Drilling Operations
 Sheryl Baker, Drilling Supervisor
 Marbob Energy Corporation
 P. O. Box 227
 Artesia, NM 88211-0227
 Phone (575)748-3303
 Cell (575)748-5489

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Marbob Energy Corporation 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.

1.27.2009
Date

Marbob Energy Corporation



Dean Chumbley
Land Department

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Marbob Energy Corp
LEASE NO.:	NM111946
WELL NAME & NO.:	5 Moose Fed Com
SURFACE HOLE FOOTAGE:	1980' FNL & 1980' FWL
BOTTOM HOLE FOOTAGE:	330' FSL & 1980' FWL
LOCATION:	Section 35, T. 19 S., R 25 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Cave/Karst
- ☒ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☒ **Road Section Diagram**
- ☒ **Drilling**
 - Re-entry of Gulf Federal #1
 - Bone Spring plug
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
- ☒ **Closed Loop System/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

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)

Noose Federal Com. # 5: Closed Loop System V-Door South

Cave and Karst

**** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.**

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Tank Battery Liners and Berms:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, siting valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

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 (575) 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 shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. Closed Loop System

Noose Federal Com. # 5: Closed Loop System V-Door South

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 (575) 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

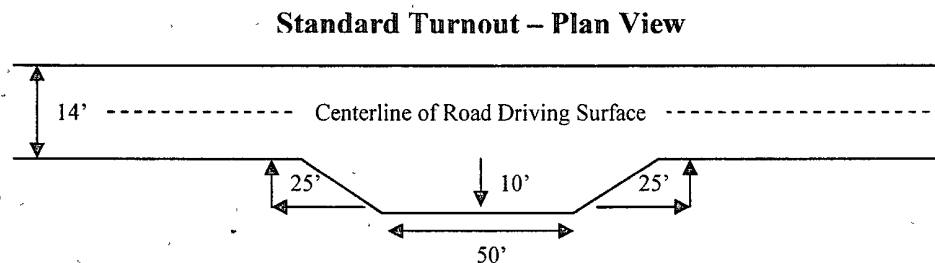
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

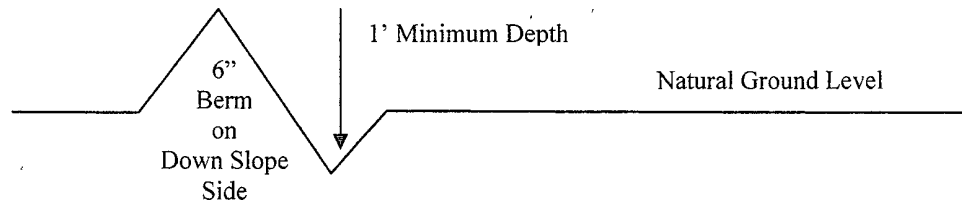


Drainage

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.

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:

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

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

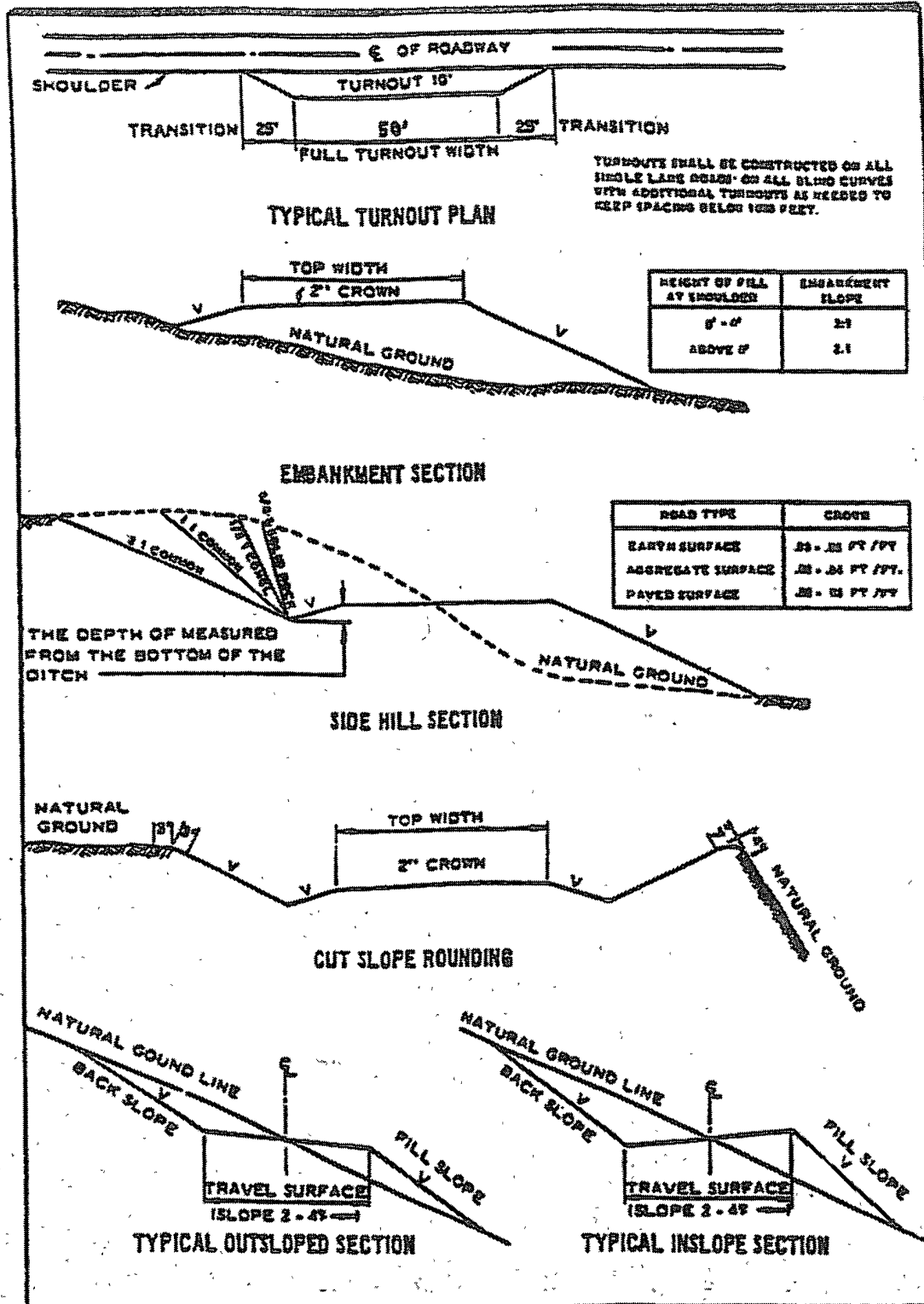
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 (Re-entry of Gulf-Federal #1 well)

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
- d. CIT tests

☒ **Eddy County**

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

1. **Hydrogen Sulfide may be encountered after drilling thru the 8 5/8 inch casing shoe. 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.

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.

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.

1. The 13 3/8 inch surface casing is set at 305 feet and cemented to the surface.
2. The 8 5/8 inch intermediate casing is set at 1300 feet and cemented to surface.

A CIT is to be performed on the 8 5/8 inch casing per Onshore Oil and Gas Order 2.III.B.1.h prior to drilling the shoe plug. Operator to report results to the BLM.

A plug is required at the top of the Bone Spring formation. Plug to be 130 feet in length and set at 3335 feet and tagged at 3205 feet or shallower.

Kick-off plug to be set as described in APD.

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

☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

4. 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.

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 8 5/8 intermediate casing shoe shall be 2000 (2M) psi.

3. 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.

D. DRILL STEM TEST

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

RGH 030509

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

B. PIPELINES

BLM Serial Number:

Company Reference:

Well # & Name:

STANDARD STIPULATIONS FOR SURFACE INSTALLED 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

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 resource (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 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.

(March 1989)

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.

The 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.

Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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>
Plains lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	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.