Form 3160-3
(September 2001)

OCD-ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No 1004-0136
Expires January 31, 2004

1a. Type of Work: ☑ DRILL ☐ REENTER	5 Lease Serial No: NMNM115413
1b Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6 If Indian, Allottee or Tribe Name:
2 Name of Operator: Marbob Energy Corporation	7 If Unit or CA Agreement, Name and No.:
3a. Address: P.O. Box 227, Artesia, NM 88211-0227	8 Lease Name and Well No: White Federal #1H
3b Phone No. (include area code): 505-748-3303	9 API Well No: 30-015-36185
4 Location of Well (Report location clearly and in accordance with any State requirements. *) At surface ~~330' FNL & 330' FEL~~ 450' FNL & 330' FEL per SN dated 1-14-08 At proposed prod zone 2310' FNL & 330' FEL	10 Field and Pool, or Exploratory: Willow Lake; Bone Spring SE
	11. Sec., T., R., M., or Blk and Survey or Area: Section 21, T25S - R29E
14 Distance in miles and direction from nearest town or post office*: About 12 miles SE from Malaga, NM	12 County or Parish: Eddy County; 13. State: NM
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 330'	16. No of Acres in lease: 160.00; 17 Spacing Unit dedicated to this well: 80
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19. Proposed Depth: ~~9400~~ TVD 8600 MD 10225; 20. BLM/BIA Bond No on file: NMB000412
21 Elevations (Show whether DF, KDB, RT, GL, etc.): 3037' GL	22 Approximate date work will start*: January 10, 2007; 23. Estimated duration: 30 Days

Carlsbad Controlled Water Basin

FEB 28 2008
OCD-ARTESIA

285

ATS-08-252

24. Attachments

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

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

25. Signature: Nancy T. Agnew	Name (Printed/Typed): Nancy T. Agnew	Date: 12/10/07
Title: Land Department		
Approved by (Signature): /s/ Don Peterson	Name (Printed/Typed): /s/ Don Peterson	Date: FEB 22 2008
Title: FIELD MANAGER	Office: CARLSBAD FIELD 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 reverse)

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

ENTERED
AFMSS

ENTERED
AFMSS

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: December 10, 2007

Lease #: NMNM115413
White Federal #1H

Legal Description: Sec. 21-T25S-R29E
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	Pool Code	Pool Name
30-015-36185	96217	WILLOW LAKE; BONE SPRING, SE

Property Code	Property Name	Well Number
37031	WHITE FEDERAL	1H

OGRID No.	Operator Name	Elevation
14049	MARBOB ENERGY CORPORATION	3042'

Surface Location

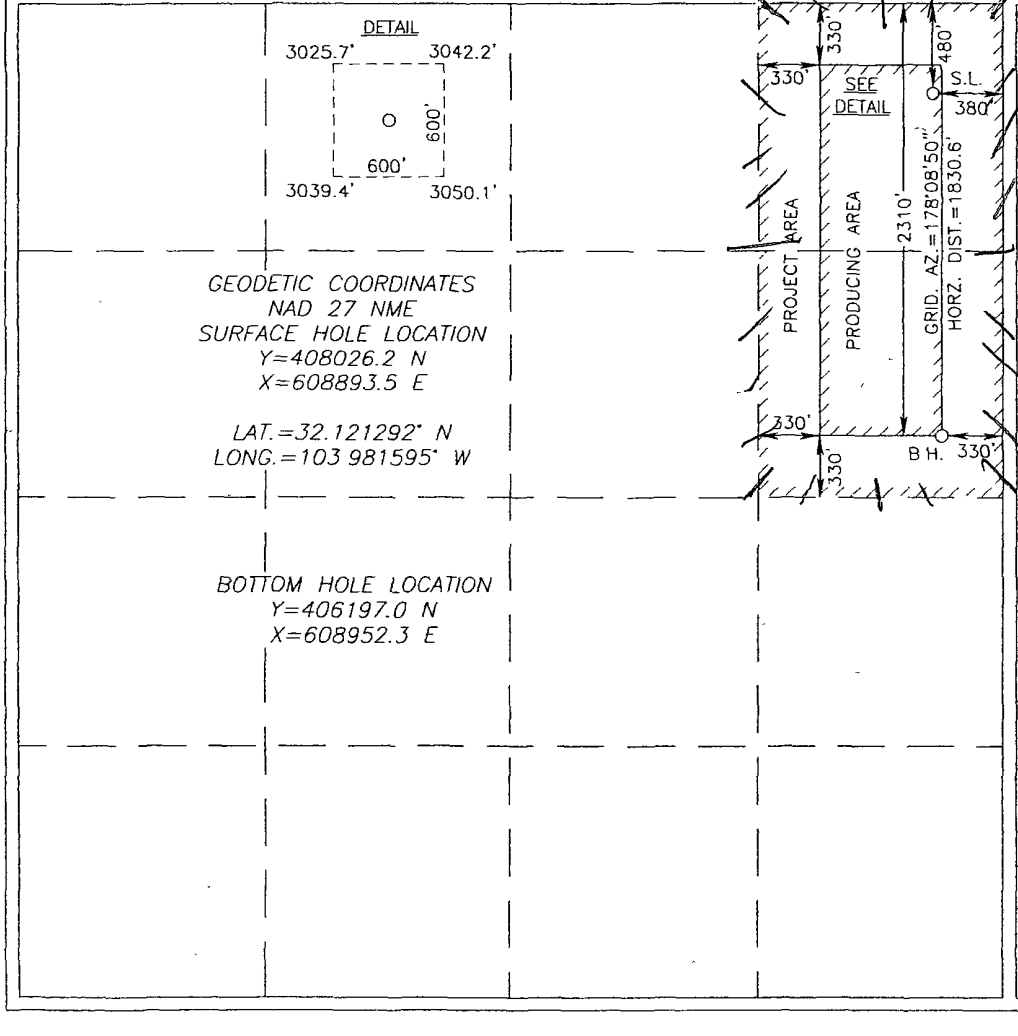
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	25-S	29-E		480	NORTH	380	EAST	EDDY

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
H	21	25-S	29-E		2310	NORTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
80			

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 1/11/08
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.

JANUARY 4, 2008
Date Surveyed LA

Signature & Seal of Professional Surveyor

Ronald J. Eidson 1/09/08

07.11.0189

Certificate No. GARY EIDSON 12641
RONALD EIDSON 3239

MARBOB ENERGY CORPORATION
DRILLING AND OPERATIONS PROGRAM

White Federal #1H
Surf: 330' FNL & 330' FEL 480'N & 380'E
BHL: 2310' FNL & 330' FEL
Section 21, T25S, R29E
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.

1. **Geological surface formation:** Permian

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

Rustler	604'	BSPGS	6854'
Top of Salt	684'	1st Sand	7726'
Base of Salt	2864'	2nd Sand	8584'
Delaware	3064'	TD	9400'

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

Delaware	3064'	Oil
1st Sand	7726'	Oil
2nd Sand	8584'	Oil

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13 3/8" casing at 300' and circulating cement back to surface. Potash / fresh water sands will be protected by setting 9 5/8" casing at 2950' and circulating cement back to surface. The Bone Spring intervals will be isolated by setting 5 ½" casing to total vertical depth and circulating cement above the base of the 9 5/8" casing. Marbob proposes to drill this well to 9400' vertically then log well, if a production zone is found then plug back and Horizontal the formation.

4. **Proposed Casing Program:**

Hole Size	Interval	OD Casing	New or Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 ½"	0' – 300'	13 3/8"	New	48#	STC	H-40	1.125	1.125	1.6
12 ¼"	300' – 2950'	9 5/8"	New	36#	STC	J-55	1.125	1.125	1.6
8 ¾"	2950' – 9400'	5 ½"	New	17#	LTC	N-80	1.125	1.125	1.6
7 7/8"	8100' - ~~10100'~~ 10225 according to directional plan	HORIZONTAL							

See COA

5. Proposed Cement Program:

see cont

a. 13 3/8" Surface	Cement to surface with 300 sk, class "C", yield 1.34, wt 14.8 ppg
b. 9 5/8" Int	Cement to surface with 500 sk, class "C" lite yield 1.99, wt 12.7 ppg, Tail in with 200 sk "C" yield 1.34 wt 14.8 ppg
c. 5 ½" Production	Cement **1st Stage**, with 250 sk Acid Soluble cement "H" wt. 15 ppg, yield 2.61 **2nd stage**, with 750 sk "H" Lite, yield 1.93 wt 12.6 Tail in with 100 sk "H" wt 13.0#/gal yield 1.67. DV Tool @ 8100' TOC 2750'

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 200' above the 9 5/8" casing shoe. **All casing is new and API approved.**

6. Minimum Specifications for Pressure Control:

Nipple up on 13 3/8 with 2M system and test to 1000# with rig pumps. Nipple up on 9 5/8" with a 3M system and test to 3000# with an independent tester.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2"kill line and a 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

7. Estimated BHP: 3910.4 psi

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

see COA

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' – 300'	Fresh Water	8.4 – 8.5	29	N.C.
300' – 2950'	Brine	9.9 – 10.1	29	N.C.
2950' – 9400'	Cut Brine	8.9 – 9.0	29	N.C.

The necessary mud products for weight addition and fluid loss control will be on location at all times.

9. Auxiliary Well Control and Monitoring Equipment:

a. A Kelly cock will be in the drill string at all times.
b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 ½" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

10. Testing, Logging and Coring Program:

a. Drill stem tests will be based on geological sample shows.
b. The open hole electrical logging program will be:
   i. Total Depth to Intermediate Casing: Dual Laterolog-Micro Laterolog and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
   ii. Total Depth to Surface: Compensated Neutron with Gamma Ray
   iii. No coring program is planned
   iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

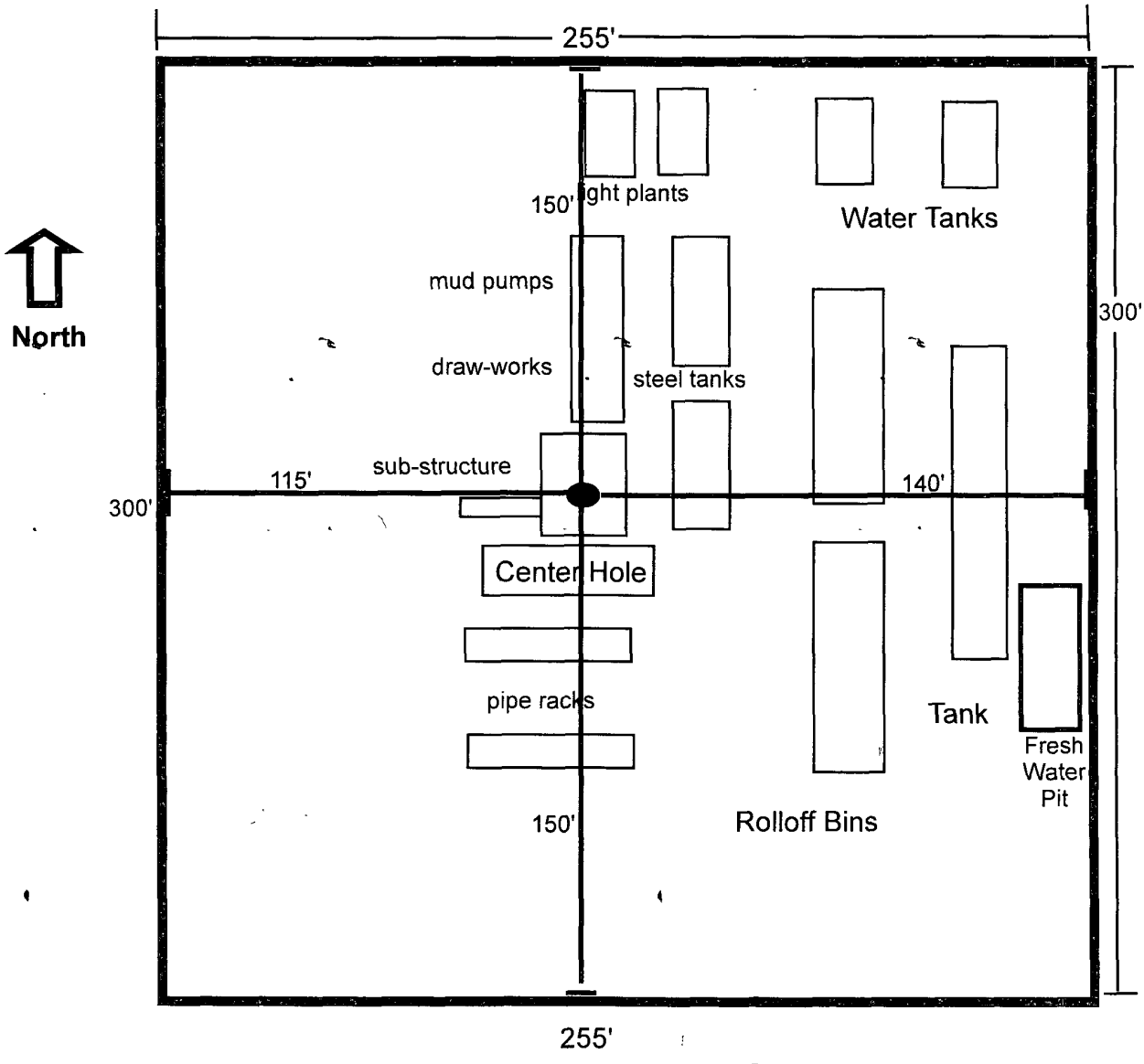
11. Potential Hazards:

a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. 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: 3910.4 psi. Estimated BHT: 165°. No H2S is anticipated to be encountered.

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 30 days.

Well Site Lay-Out Plat

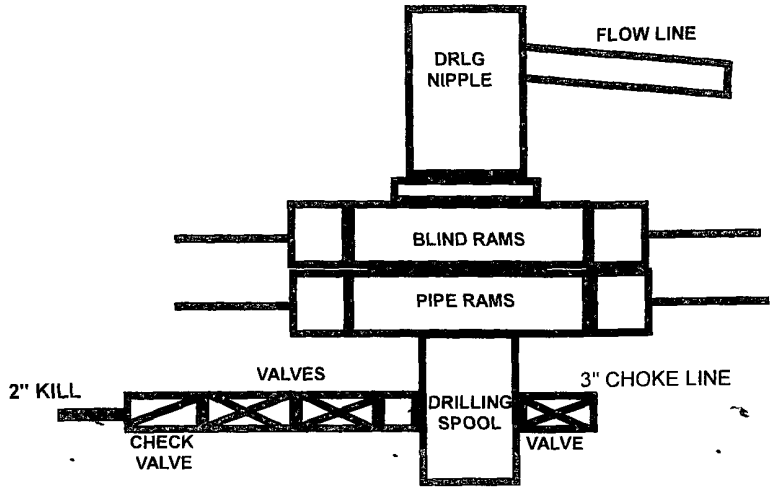


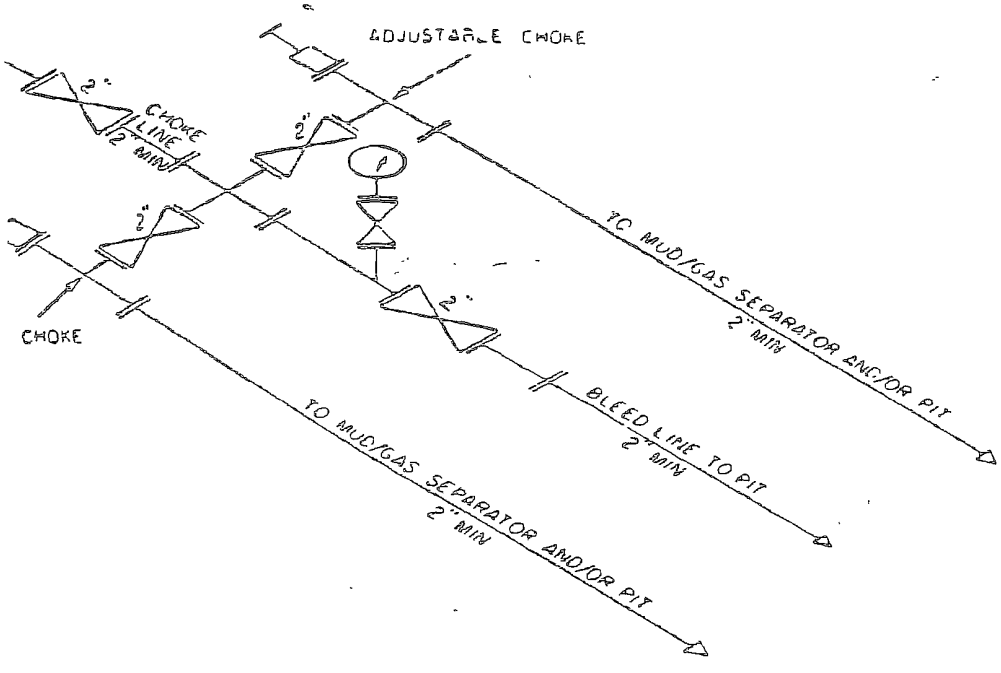
SEE ATTACHED FOR
CONDITIONS OF APPROVAL

White Federal #1H
Surf: 330' FNL & 330' FEL 480'N & 380'E
BHL: 2310' FNL & 330' FEL
Section 21, T25S, R29E
Eddy County, New Mexico

EXHIBIT THREE

2M SYSTEM

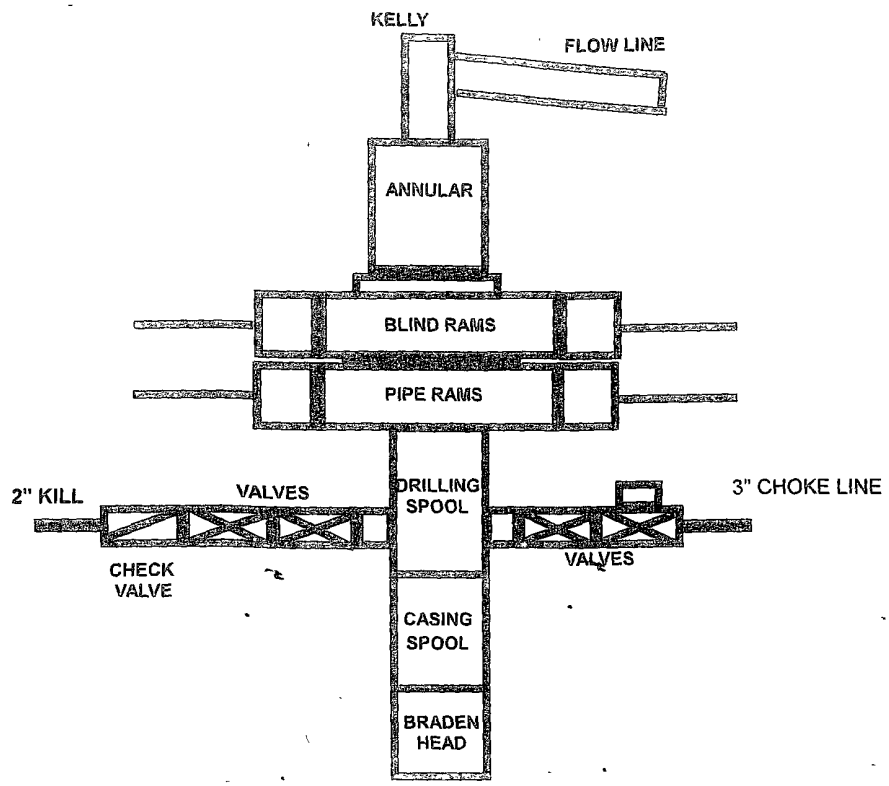


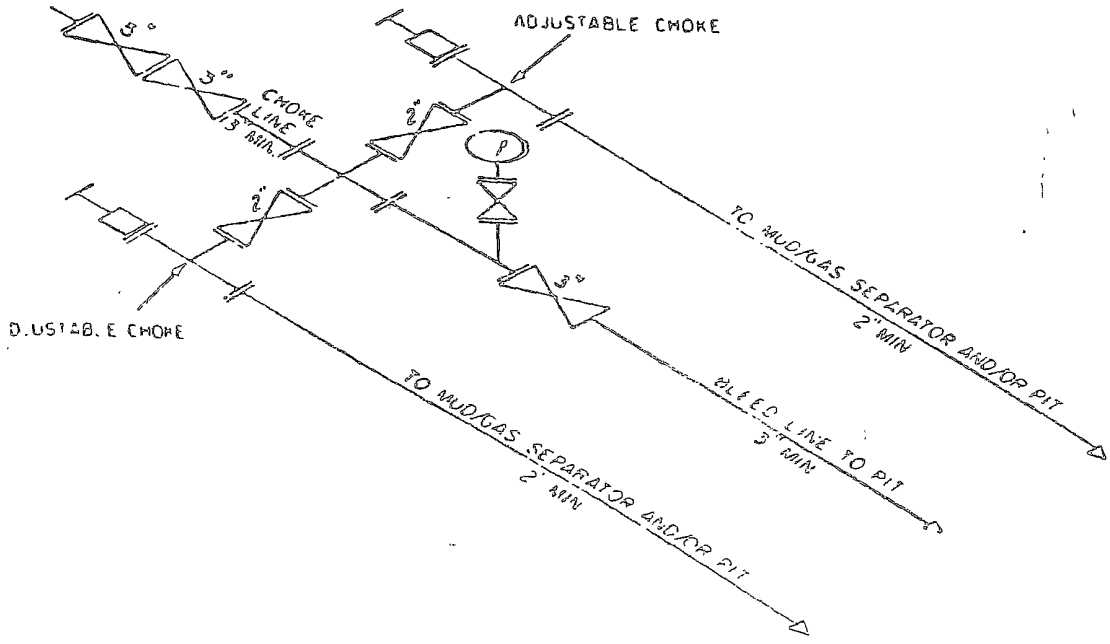


I CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES MAY VARY

Exhibit One

3M SYSTEM





3M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES MAY VARY

Pathfinder Energy
Planning Report

Company:	Marbob Energy	**Date:** 01/14/2008 **Time:** 15:42:49 **Page:** 1	
Field:	White Fed #1H	**Co-ordinate(NE) Reference:**	Site: White Fed #1H, Grid North
Site:	White Fed #1H	**Vertical (TVD) Reference:**	SITE 0.0
Well:	White Fed #1H	**Section (VS) Reference:**	Well (0.00N,0.00E,178.16Azi)
Wellpath:	OH	**Plan:**	Plan #1 1-14-08

Field: White Fed #1H
Eddy County, NM

Map System:	US State Plane Coordinate System 1927	**Map Zone:**	New Mexico, Eastern Zone
Geo Datum:	NAD27 (Clarke 1866)	**Coordinate System:**	Site Centre
Sys Datum:	Mean Sea Level	**Geomagnetic Model:**	igrf2005

Site: White Fed #1H

Site Position:		**Northing:**	408026.20 ft	**Latitude:**	32 7 16.651 N
From:	Map	**Easting:**	608893.50 ft	**Longitude:**	103 58 53 742 W
Position Uncertainty:	0.00 ft			**North Reference:**	Grid
Ground Level:	3042.00 ft			**Grid Convergence:**	0 19 deg

Well: White Fed #1H **Slot Name:**

Well Position:	+N/-S	0.00 ft	**Northing:**	408026.20 ft	**Latitude:**	32 7 16.651 N
	+E/-W	0.00 ft	**Easting:**	608893.50 ft	**Longitude:**	103 58 53.742 W
Position Uncertainty:		0.00 ft				

Wellpath: OH

				Drilled From:	Surface
				Tie-on Depth:	0.00 ft
Current Datum:	SITE	**Height**	0 00 ft	**Above System Datum:**	Mean Sea Level
Magnetic Data:	12/10/2007			**Declination:**	8.17 deg
Field Strength:	48907 nT			**Mag Dip Angle:**	60.11 deg

Vertical Section: Depth From (TVD) ft	**+N/-S** ft	**+E/-W** ft	**Direction** deg
0.00	0.00	0 00	178.16

Plan: Plan #1 1-14-08 **Date Composed:** 12/10/2007
Version: 1
Principal: No **Tied-to:** From Surface

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0 00	0.00	0.00	0.00	
8122.50	0.00	0.00	8122.50	0.00	0.00	0.00	0 00	0 00	0.00	
8872.49	90.00	178.16	8599.96	-477.21	15 34	12.00	12.00	23.75	178.16	
10225.18	90.00	178.16	8600.00	-1829.20	58.80	0.00	0.00	0.00	0.00	White Federal #1H 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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0 00	
100 00	0.00	0 00	100.00	0.00	0.00	0.00	0.00	0.00	0 00	
200.00	0.00	0.00	200.00	0 00	0.00	0.00	0.00	0.00	0.00	
300.00	0 00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400 00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0 00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800 00	0.00	0.00	800.00	0 00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0 00	0.00	0.00	0.00	0 00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1200.00	0.00	0.00	1200 00	0.00	0.00	0.00	0.00	0.00	0.00	
1300.00	0.00	0 00	1300 00	0.00	0.00	0.00	0.00	0.00	0 00	
1400.00	0.00	0.00	1400.00	0.00	0 00	0.00	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0 00	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0 00	0 00	0.00	0.00	

Pathfinder Energy
Planning Report

Company:	Marbob Energy	**Date:** 01/14/2008 **Time:** 15:42:49 **Page:** 2	
Field:	White Fed #1H	**Co-ordinate(NE) Reference:**	Site: White Fed #1H, Grid North
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Well:	White Fed #1H	**Section (VS) Reference:**	Well (0.00N,0.00E,178.16Azi)
Wellpath:	OH	**Plan:**	Plan #1 1-14-08

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
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	0.00	0.00	0.00	
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	0.00	0.00	0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	0.00	0.00	0.00	
4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	0.00	0.00	0.00	
4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	0.00	0.00	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	0.00	0.00	0.00	
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	0.00	0.00	0.00	
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	
4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	0.00	0.00	0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	0.00	0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	0.00	0.00	
5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	0.00	0.00	0.00	
5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	0.00	0.00	
5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	0.00	0.00	0.00	
5900.00	0.00	0.00	5900.00	0.00	0.00	0.00	0.00	0.00	0.00	
6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	0.00	0.00	0.00	
6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	0.00	0.00	0.00	
6200.00	0.00	0.00	6200.00	0.00	0.00	0.00	0.00	0.00	0.00	
6300.00	0.00	0.00	6300.00	0.00	0.00	0.00	0.00	0.00	0.00	
6400.00	0.00	0.00	6400.00	0.00	0.00	0.00	0.00	0.00	0.00	
6500.00	0.00	0.00	6500.00	0.00	0.00	0.00	0.00	0.00	0.00	
6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	0.00	0.00	0.00	
6700.00	0.00	0.00	6700.00	0.00	0.00	0.00	0.00	0.00	0.00	
6800.00	0.00	0.00	6800.00	0.00	0.00	0.00	0.00	0.00	0.00	
6900.00	0.00	0.00	6900.00	0.00	0.00	0.00	0.00	0.00	0.00	

Pathfinder Energy
Planning Report

Company:	Marbob Energy	**Date:** 01/14/2008 **Time:** 15:42:49 **Page:**	3
Field:	White Fed #1H	**Co-ordinate(NE) Reference:**	Site: White Fed #1H, Grid North
Site:	White Fed #1H	**Vertical (TVD) Reference:**	SITE 0.0
Well:	White Fed #1H	**Section (VS) Reference:**	Well (0.00N,0.00E,178.16Azi)
Wellpath:	OH	**Plan:**	Plan #1 1-14-08

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
7000.00	0.00	0.00	7000.00	0.00	0 00	0.00	0.00	0.00	0.00	
7100.00	0.00	0.00	7100.00	0.00	0.00	0.00	0.00	0.00	0.00	
7200.00	0.00	0.00	7200.00	0.00	0.00	0.00	0.00	0.00	0.00	
7300.00	0.00	0.00	7300.00	0 00	0.00	0.00	0.00	0 00	0.00	
7400 00	0.00	0.00	7400.00	0.00	0.00	0.00	0.00	0.00	0.00	
7500.00	0.00	0.00	7500.00	0.00	0.00	0.00	0.00	0.00	0.00	
7600.00	0.00	0.00	7600.00	0.00	0.00	0.00	0.00	0.00	0.00	
7700.00	0.00	0 00	7700.00	0.00	0.00	0.00	0.00	0.00	0 00	
7800.00	0.00	0.00	7800.00	0.00	0.00	0.00	0 00	0.00	0.00	
7900 00	0.00	0.00	7900 00	0.00	0.00	0.00	0.00	0.00	0.00	
8000.00	0.00	0 00	8000.00	0.00	0.00	0.00	0.00	0.00	0 00	
8100.00	0.00	0.00	8100.00	0.00	0.00	0.00	0.00	0.00	0.00	
8122.50	0 00	0.00	8122.50	0.00	0.00	0.00	0.00	0.00	0.00	KOP @ 8122 5' MD, Begin B
8200.00	9.30	178.16	8199.66	-6 27	0.20	6.28	12.00	12.00	0.00	
8300.00	21.30	178.16	8295.94	-32.60	1.05	32.62	12.00	12.00	0 00	
8400.00	33.30	178.16	8384.64	-78.36	2.52	78.40	12.00	12.00	0.00	
8500.00	45.30	178.16	8461.88	-141.55	4.55	141.62	12.00	12.00	0.00	
8600.00	57.30	178.16	8524.29	-219.41	7.05	219.52	12 00	12.00	0 00	
8700 00	69.30	178.16	8569.14	-308.53	9.92	308.69	12 00	12.00	0.00	
8800.00	81.30	178.16	8594.47	-405.03	13 02	405.24	12.00	12.00	0 00	
8872 49	90.00	178.16	8599.96	-477.21	15.34	477.45	12.00	12.00	0.00	EOC @ 8873' MD, 8600' TVD
8900.00	90.00	178.16	8599.97	-504.70	16.22	504.96	0.00	0.00	0.00	
9000.00	90.00	178.16	8599.97	-604.65	19.44	604 96	0 00	0.00	0.00	
9100.00	90.00	178 16	8599.97	-704.60	22.65	704.96	0 00	0 00	0.00	
9200.00	90.00	178 16	8599.97	-804.55	25.86	804.96	0 00	0.00	0.00	
9300 00	90.00	178.16	8599.98	-904.50	29.08	904.96	0.00	0.00	0 00	
9400 00	90.00	178.16	8599.98	-1004.45	32.29	1004 96	0 00	0.00	0.00	
9500.00	90 00	178.16	8599.98	-1104.39	35.50	1104.96	0 00	0.00	0 00	
9600 00	90 00	178.16	8599.98	-1204.34	38.71	1204.96	0 00	0 00	0 00	
9700.00	90.00	178 16	8599.99	-1304.29	41.93	1304.96	0.00	0.00	0.00	
9800.00	90.00	178.16	8599.99	-1404.24	45.14	1404.96	0.00	0.00	0.00	
9900.00	90.00	178.16	8599.99	-1504.19	48.35	1504.96	0 00	0 00	0 00	
10000.00	90.00	178.16	8599.99	-1604.14	51.57	1604.96	0.00	0.00	0.00	
10100 00	90 00	178 16	8600 00	-1704.08	54.78	1704.96	0.00	0.00	0.00	
10200.00	90.00	178.16	8600.00	-1804.03	57.99	1804.96	0.00	0.00	0.00	
10225.18	90.00	178.16	8600.00	-1829.20	58.80	1830.14	0.00	0.00	0.00	White Federal #1H PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ----> Deg	Min	Sec	<---- Longitude ----> Deg	Min	Sec
White Federal #1H PBHL			8600.00	-1829.20	58.80	406197.00	608952.30	32	6	58.546 N	103	58	53.128 W

Annotation

MD ft	TVD ft	
8122 50	8122.50	KOP @ 8122.5' MD, Begin Build @ 12°/100'
8872.49	8599.96	EOC @ 8873' MD, 8600' TVD, Hold to TD

Marbob Energy

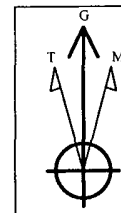
Field: White Fed #1H
Site: White Fed #1H
Well: White Fed #1H
Wellpath: OH
Plan: Plan #1 1-14-08

COMPANY DETAILS

Marbob Energy
2208 W Main St
Artesia, New Mexico

Calculation Method	Minimum Curvature
Error System	Systematic Ellipse
Scan Method	Closest Approach 3D
Error Surface	Elliptical Conic
Warning Method	Error Ratio

PATHFINDER



Azimuths to Grid North
True North -0 19°
Magnetic North 7 99°

Magnetic Field
Strength 48907nT
Dip Angle 60 11°
Date 12/10/2007
Model igrf2005

SITE DETAILS

White Fed #1H

Site Centre Northing 408026 20
Easting 608893 50

Ground Level 3042 00
Positional Uncertainty 0 00
Convergence 0 19

ANNOTATIONS

No	TVD	MD	Annotation
1	8122 50	8122 50	KOP @ 8122 5' MD, Begin Build @ 12°/100'
2	8599 96	8872 49	EOC @ 8873' MD, 8600' TVD, Hold to TD

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
White Federal #1H PBHL	8600 00	-1829 20	58 80	Point

SECTION DETAILS

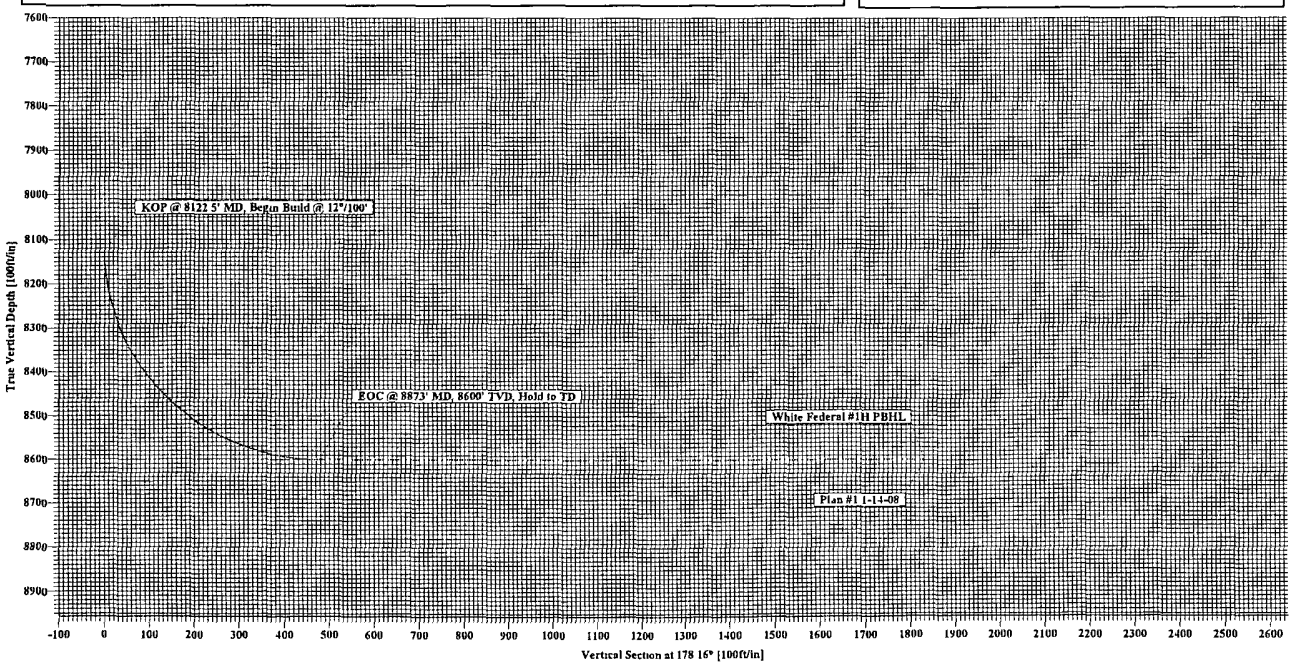
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	8122 50	0 00	0 00	8122 50	0 00	0 00	0 00	0 00	0 00	
3	8872 49	90 00	178 16	8599 96	-477 21	15 34	12 00	178 16	477 45	
4	10225 18	90 00	178 16	8600 00	-1829 20	58 80	0 00	0 00	1830 14	White Federal #1H PBHL

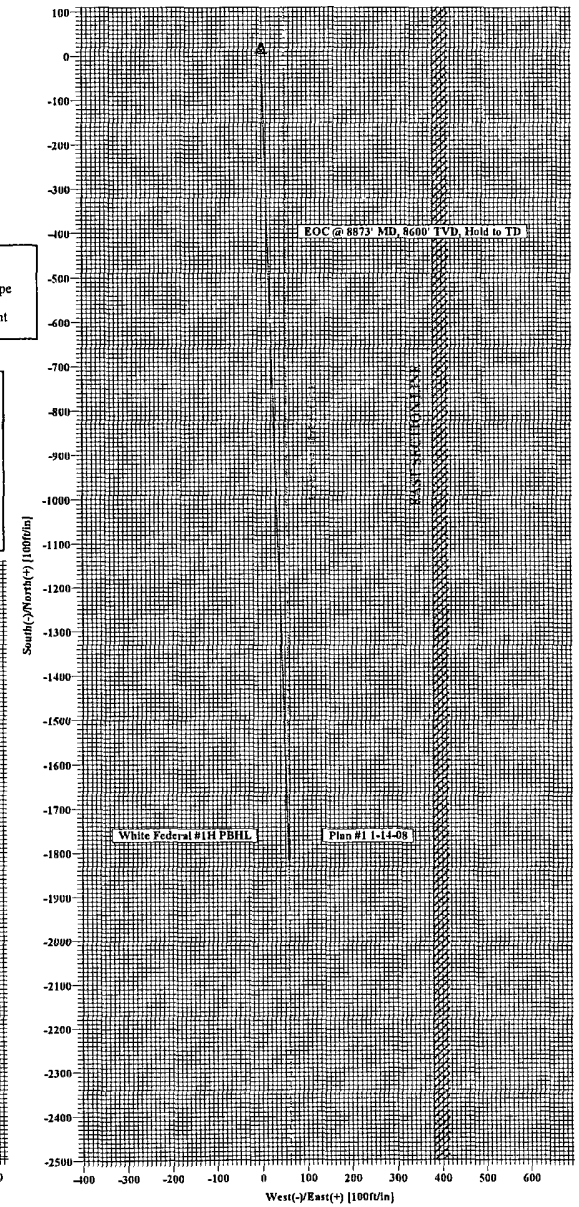
WELLPATH DETAILS

OH

Rig
Ref Datum SITE 0 00ft

V Section Angle	Origin +N/-S	Origin +E/-W	Starting From TVD
178 16°	0 00	0 00	0 00





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 (H_2S).

B. The proper use and maintenance of personal protective equipment and life support systems.

C. The proper use of H_2S 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 H_2S 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 H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S 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. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

A. Well Control Equipment:

Flare line.

Choke manifold.

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

Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

B. Protective equipment for essential personnel:

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

C. H_2S detection and monitoring equipment:

2 - portable H_2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S 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 H_2S 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 H_2S service.

G. Communication:

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

WARNING

YOU ARE ENTERING AN H_2S 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

1-505-748-3303

MARBOB ENERGY CORPORATION
MULTI-POINT SURFACE USE AND OPERATIONS PLAN

White Federal #1H
Surf: 330' FNL & 330' FEL 30-015-38016
BHL: 2310' FNL & 330' FEL
Section 21, T25S, R29E
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 U.S. Hwy #285 and Co. Rd. #725 (Whitehorn Rd.) go Northeast on Co. Rd. #725 approx. 4.2 miles. Turn left and go northeast approx. 1.8 miles. Turn left and go north approx. 2.8 miles. Turn left and go west approx. 0.1 mile. This location is on the North edge of road.

2. PLANNED ACCESS ROAD:

There is no new proposed access road needed. The location is on the North edge of the road as described as above in the directions.

3. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. In the event the well is found productive, the White Federal #1H 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 combination of water mud systems (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. On occasion, water will be obtained form a pre-existing water well, running a pump directly to the drill rig. In these cases where 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. This exhibit indicates proposed location of reserve and sump pits if utilized and living facilities.

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, the reserve pit will be restored as described in 10(A) within 120 days subsequent to the completion date. 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 area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, some mesquite bushes and shinnery oak. 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 (505)748-3303
Cell (505) 748-5988

B. Through Drilling Operations

Sheryl Baker, Drilling Supervisor
Marbob Energy Corporation
P. O. Box 227
Artesia, NM 88211-0227
Phone (505)748-3303
Cell (505)748-5489

CERTIFICATION:

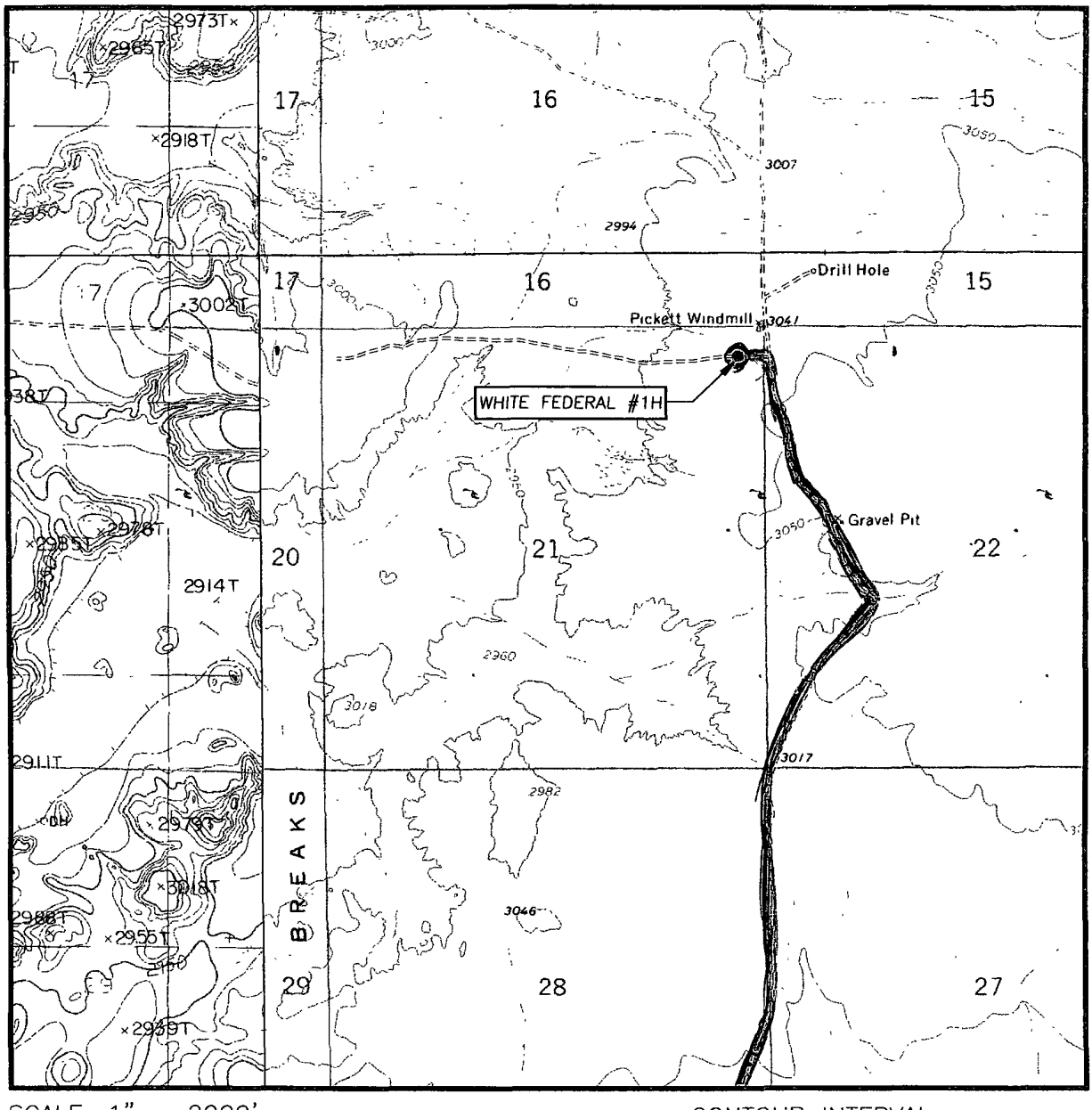
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated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

Marbob Energy Corporation

12/13/07
Date

Ross Duncan
Land Department

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
ROSS RANCH, N.M. – 10'
MALAGA, N.M. – 10'
RED BLUFF, N.M. – 10'
PIERCE CANYON, N.M. – 10'

SEC. 21 TWP. 25-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 330' (480') FNL & 330' (380') FEL

ELEVATION 3037'

OPERATOR MARBOB ENERGY CORPORATION

LEASE WHITE FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
ROSS RANCH, N.M.

Existing Roads

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

EXHIBIT #2

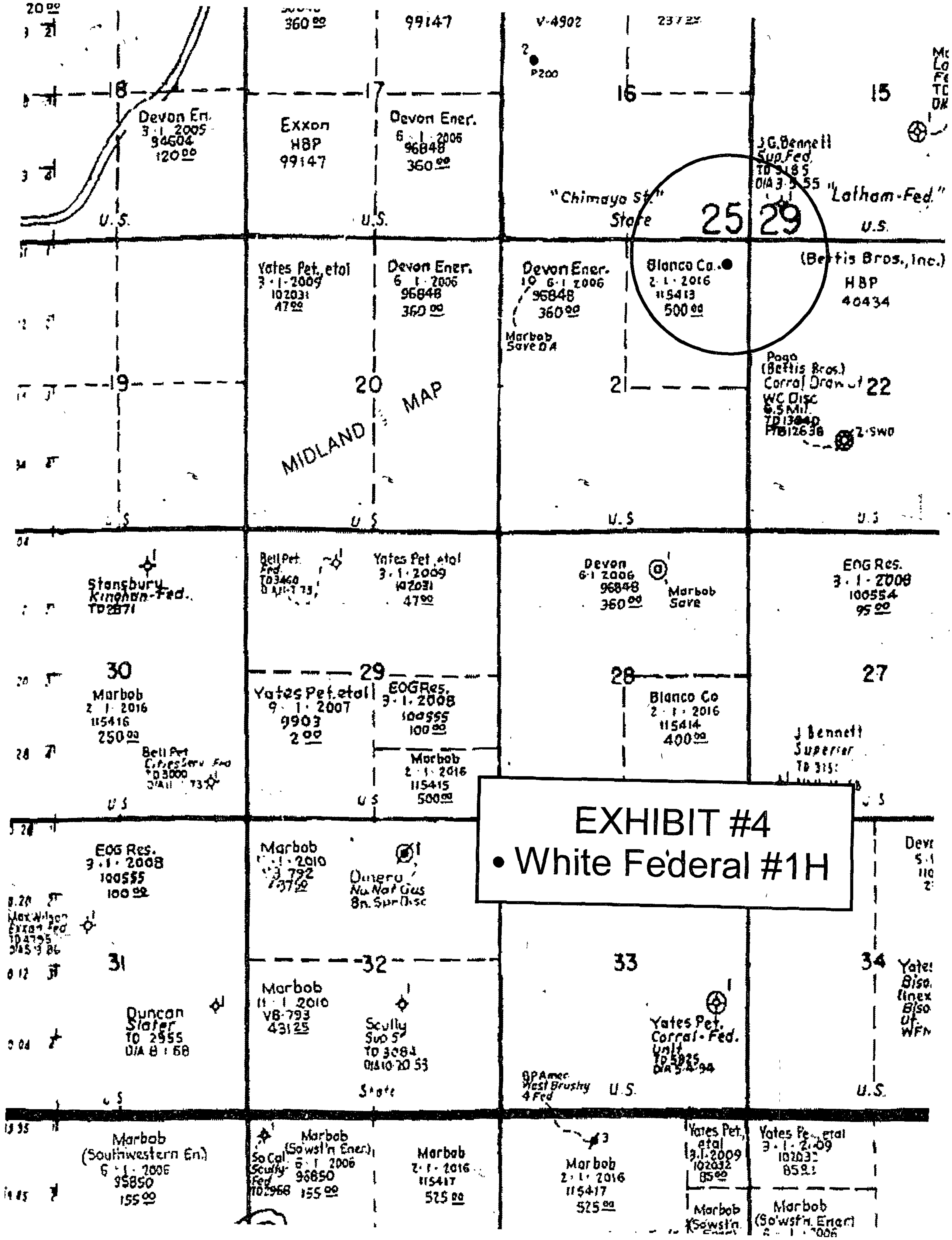


EXHIBIT #4
• White Federal #1H
MIDLAND MAP
Devon En.
3-1-2005
94604
120 00
Exxon
HBP
99147
Devon Ener.
6-1-2006
96848
360 00
"Chimayo St."
State
25
29
J.G. Bennett
Sup. Fed.
"Latham-Fed."
U.S.
Yates Pet. etal
3-1-2009
102031
47 00
Devon Ener.
Blanco Co.
2-1-2016
115413
500 00
(Bettis Bros., Inc.)
HBP
40434
Marbob
Save D/A
Pogo
(Bettis Bros.)
Corral Draw
WC Disc
Stansbury
Kinghan-Fed.
Yates Pet. etal
Devon
6-1-2006
96848
360 00
Marbob
Save
EOG Res.
3-1-2008
100554
95 00
Marbob
2-1-2016
115416
250 00
Yates Pet. etal
9-1-2007
9903
2 00
EOG Res.
3-1-2008
100555
100 00
Marbob
2-1-2016
115415
500 00
Blanco Co
2-1-2016
115414
400 00
J Bennett
Superior
EOG Res.
3-1-2008
100555
100 00
Marbob
Onnero
Nu Nat Gas
Max Wilson
Exxon Fed
Duncan
Slater
TD 2955
D/A 8-1-68
Marbob
11-1-2010
VB-793
431 25
Scully
Yates Pet.
Corral-Fed.
Unit
BP Amer
West Brushy
4 Fed
Marbob
(Southwestern En.)
6-1-2006
95850
155 00
So Cal
Scully
Fed
Marbob
(Sowst'n Ener.)
6-1-2006
95850
155 00
Marbob
2-1-2016
115417
525 00
Marbob
2-1-2016
115417
525 00
Yates Pet.
etal
3-1-2009
102032
85 00
Marbob
(Sowst'n Ener.)
8
17
16
15
19
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21
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34

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Marbob Energy Corporation
LEASE NO.:	NM-115413
WELL NAME & NO.:	1H- White Federal
SURFACE HOLE FOOTAGE:	480' FNL & 380' FEL
BOTTOM HOLE FOOTAGE	2310' FNL & 330' FEL
LOCATION:	Section 21, T. 25 S., R 29 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.

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)

Due to large drainage to north and east, feeding large draw to west, the north side of the location will butt up against the south side (edge) of the existing caliche road. The location will need to be bermed on the north and east sides of the location to protect the drainage complex.

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

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. FRESH WATER PIT

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

The fresh water pit shall be constructed 100' X 150' X 6' deep on the South side of the well pad, for fresh water only, since this well is a closed loop system.

The fresh water shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.
The fresh water shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

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

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.

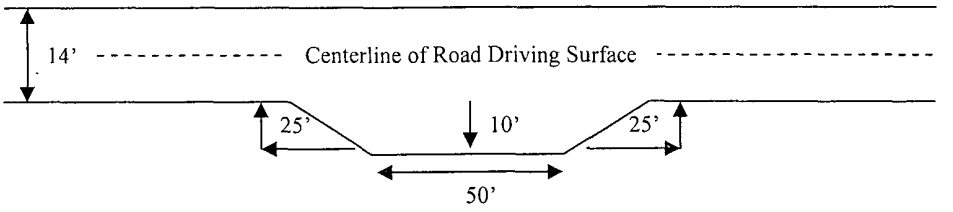
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

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

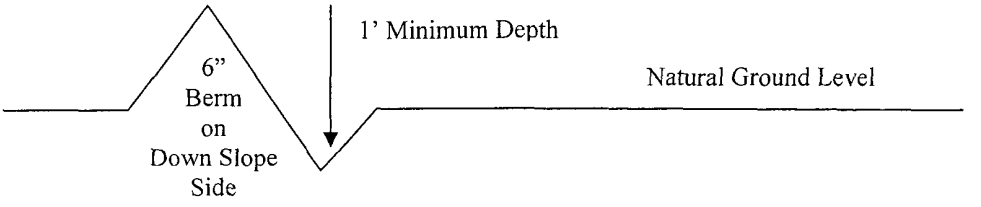
Standard Turnout – Plan View



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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

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.

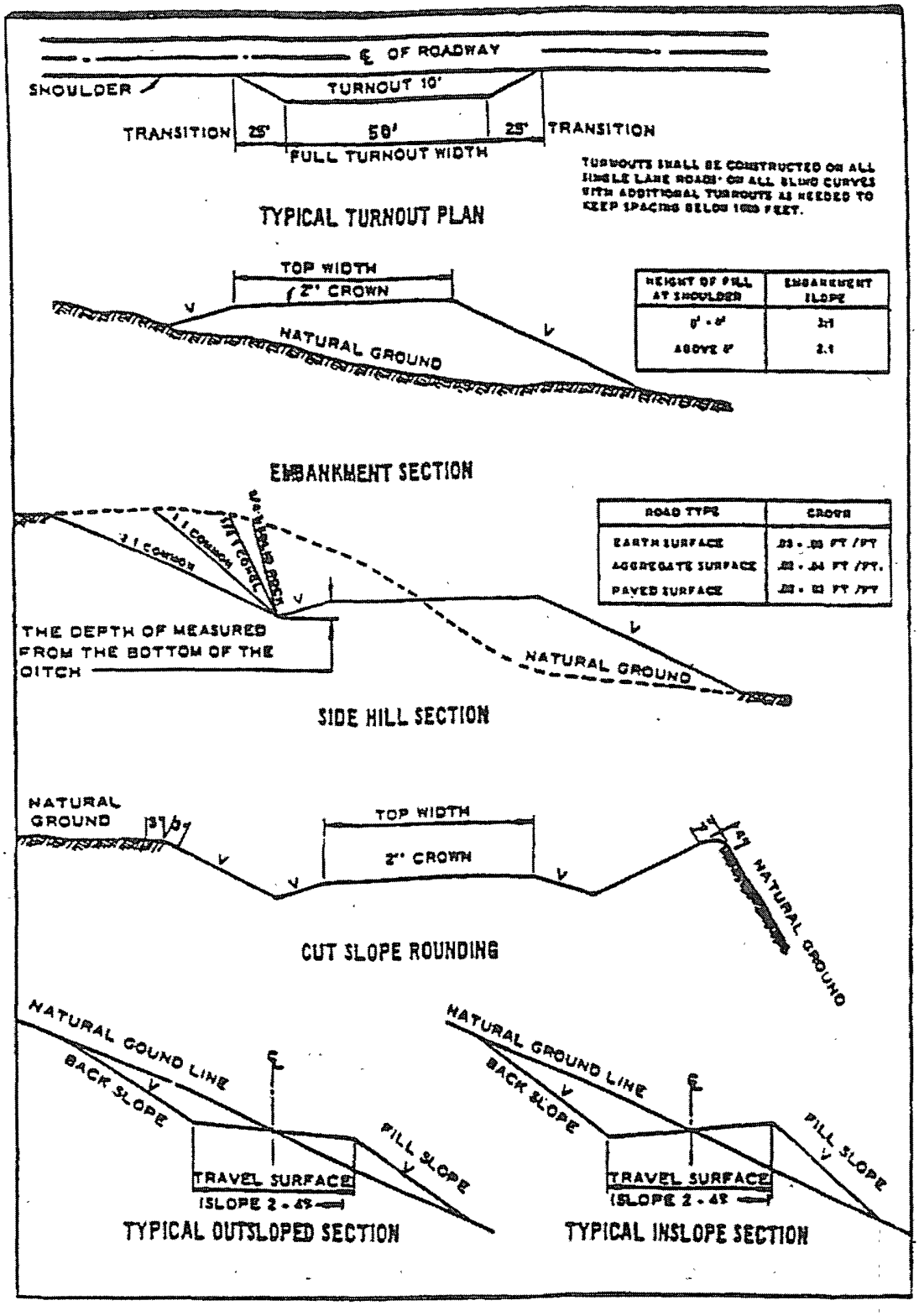
A gate shall be constructed and fastened securely to H-braces.

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 the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts 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.

B. CASING

1. The **13-3/8** inch surface casing shall be set **a minimum of 25 feet into the Rustler Anhydrite and above the salt at approximately 600** feet and cemented to the surface. **Additional cement will be required due to additional length of casing.**

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

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

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

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

Medium cave/karst.
Possible lost circulation in the Delaware Mountain Group.
Possible water flows in the Salado and Delaware Mountain Group.

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

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

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

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

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. 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. A variance to test the surface casing and BOP/BOPE to the reduced pressure of **1000** psi with the rig pumps is approved.

D. DRILL STEM TEST

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

Engineer on call phone (after hours): Carlsbad: (575) 706-2779

WWI 011908

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

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

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

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

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

B. RESERVE PIT CLOSURE

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

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.