

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

1301 W. Grand Avenue

Artesia, NM 88210

## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator

Marbob Energy Corporation

14049

3a. Address

PO Box 227, Artesia, NM 88211-0227

3b. Phone No. (include area code)

505-748-3303

Undes. Carlsbad

5. Lease Serial No.

NM 31636

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

Whirlybird 13 Federal #1

9. API Well No.

30-015-34403

10. Field and Pool, or Exploratory

Undes. Carlsbad Morrow South

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

Section 13: T24S-R25E

12. County or Parish

Eddy

13. State

NM

15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any)

At surface 330' FSL &amp; 750' FEL

At proposed prod. zone 660' FSL &amp; 750' FEL

SUBJECT TO LIKE  
APPROVAL BY STATE

14. Distance in miles and direction from nearest town or post office\*

16. No. of Acres in lease

17. Spacing Unit dedicated to this well

320

RECEIVED

18. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft.

19. Proposed Depth

12100'

20. BLM/BIA Bond No. on file

585716

OCT 21 2005

BBL-ARTECOM

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3858' GL

22. Approximate date work will start\*

October 07, 2005

23. Estimated duration

21 Days

24. Attachments

CARLSBAD CONTROLLED WATER BASIN

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

Name (Printed/Typed)

Amy Reid

Date

9/7/05

Title

Land Department

Approved by (Signature)

/s/ Joe G. Lara

Name (Printed/Typed)

/s/ Joe G. Lara

Date

OCT 19 2005

Title

ACTING 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 1 YEAR

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)

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHEDWITNESS 13 3/8" Cement Jobs  
and 9 5/8"

DISTRICT I  
M. FREMPTON 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 JUNE 10, 2003  
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 7396	Pool Name Carlsbad
Property Code	Property Name WHIRLYBIRD 13 FEDERAL		Well Number 1
OGRID No. 14049	Operator Name MARBOB ENERGY CORPORATION		Elevation 3858'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	13	24-S	25-E		330	SOUTH	750	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
	13	24-S	25-E		660	SOUTH	750	EAST	EDDY

Dedicated Acres 32c	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

<p>Project Area      Producing Area</p> <p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=440355.3 N X=497069.2 E</p> <p>LAT.=32°12'38.35" N LONG.=104°20'34.11" W</p> <p>BHL 3837.1' 3842.0' 600' SL 750' 3870.0' 3833.9'</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p> Signature AMY REID Printed Name LAND DEPARTMENT Title SEPTEMBER 14, 2005 Date</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>AUGUST 12, 2005 Date Surveyed Signature of Gary E. Eidson Professional Surveyor NEW MEXICO 05.11.182 Certified No. GARY EIDSON 12641</p>

Hand delivered to Brian @ OGD 9/14/05 - AR





# PathFinder Planning Report

Company: Marbob Energy  
Field: Mule  
Site: Mule 13 Federal #1 Whirlybird 13 Fed #1  
Well: Mule 13 Federal #1 Whirlybird 13 Fed #1  
Wellpath: Original Hole

Date: 9/6/2005 Time: 16:51:04 Page: 2  
Co-ordinate(NE) Reference: Site: Mule 13 Federal #1, True North  
Vertical (TVD) Reference: SITE 0.0  
Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)  
Plan: Plan #1 090605

## 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
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	0.00	0.00	
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	
6484.09	0.00	0.00	6484.09	0.00	0.00	0.00	0.00	0.00	0.00	KOP @ 6484' w/ 2° doglegs
6500.00	0.32	0.00	6500.00	0.04	0.00	0.04	2.00	2.00	0.00	
6600.00	2.32	0.00	6599.97	2.34	0.00	2.34	2.00	2.00	0.00	
6700.00	4.32	0.00	6699.80	8.13	0.00	8.13	2.00	2.00	0.00	
6800.00	6.32	0.00	6799.36	17.40	0.00	17.40	2.00	2.00	0.00	



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Well: Mule 13 Federal #1 Whirlybird 13 Fed #1  
Wellpath: Original Hole

Date: 9/6/2005 Time: 16:51:04 Page: 3  
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Vertical (TVD) Reference: SITE 0.0  
Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)  
Plan: Plan #1 090605

## 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
6900.00	8.32	0.00	6898.54	30.14	0.00	30.14	2.00	2.00	0.00	
7000.00	10.32	0.00	6997.22	46.33	0.00	46.33	2.00	2.00	0.00	
7084.09	12.00	0.00	7079.72	62.60	0.00	62.60	2.00	2.00	0.00	End of Build @ 12° Incln
7100.00	12.00	0.00	7095.28	65.91	0.00	65.91	0.00	0.00	0.00	
7200.00	12.00	0.00	7193.09	86.70	0.00	86.70	0.00	0.00	0.00	
7300.00	12.00	0.00	7290.91	107.49	0.00	107.49	0.00	0.00	0.00	
7400.00	12.00	0.00	7388.72	128.28	0.00	128.28	0.00	0.00	0.00	
7500.00	12.00	0.00	7486.53	149.07	0.00	149.07	0.00	0.00	0.00	
7600.00	12.00	0.00	7584.35	169.87	0.00	169.87	0.00	0.00	0.00	
7700.00	12.00	0.00	7682.16	190.66	0.00	190.66	0.00	0.00	0.00	
7800.00	12.00	0.00	7779.98	211.45	0.00	211.45	0.00	0.00	0.00	
7900.00	12.00	0.00	7877.79	232.24	0.00	232.24	0.00	0.00	0.00	
8000.00	12.00	0.00	7975.61	253.03	0.00	253.03	0.00	0.00	0.00	
8100.00	12.00	0.00	8073.42	273.82	0.00	273.82	0.00	0.00	0.00	
8200.00	12.00	0.00	8171.24	294.61	0.00	294.61	0.00	0.00	0.00	
8300.00	12.00	0.00	8269.05	315.40	0.00	315.40	0.00	0.00	0.00	
8400.00	12.00	0.00	8366.87	336.20	0.00	336.20	0.00	0.00	0.00	
8500.00	12.00	0.00	8464.68	356.99	0.00	356.99	0.00	0.00	0.00	
8600.00	12.00	0.00	8562.50	377.78	0.00	377.78	0.00	0.00	0.00	
8658.79	12.00	0.00	8620.00	390.00	0.00	390.00	0.00	0.00	0.00	Target @ 8620' TVD
8700.00	11.86	0.00	8660.32	398.52	0.00	398.52	0.34	-0.34	0.00	
8800.00	11.52	0.00	8758.25	418.78	0.00	418.78	0.34	-0.34	0.00	
8900.00	11.18	0.00	8856.29	438.45	0.00	438.45	0.34	-0.34	0.00	
9000.00	10.83	0.00	8954.46	457.54	0.00	457.54	0.34	-0.34	0.00	
9100.00	10.49	0.00	9052.73	476.04	0.00	476.04	0.34	-0.34	0.00	
9200.00	10.15	0.00	9151.11	493.95	0.00	493.95	0.34	-0.34	0.00	
9300.00	9.81	0.00	9249.60	511.28	0.00	511.28	0.34	-0.34	0.00	
9400.00	9.47	0.00	9348.19	528.02	0.00	528.02	0.34	-0.34	0.00	
9500.00	9.12	0.00	9446.87	544.17	0.00	544.17	0.34	-0.34	0.00	
9600.00	8.78	0.00	9545.66	559.73	0.00	559.73	0.34	-0.34	0.00	
9700.00	8.44	0.00	9644.53	574.70	0.00	574.70	0.34	-0.34	0.00	Allow Natural Drop to Ver
9800.00	8.10	0.00	9743.49	589.08	0.00	589.08	0.34	-0.34	0.00	
9900.00	7.76	0.00	9842.53	602.87	0.00	602.87	0.34	-0.34	0.00	
10000.00	7.41	0.00	9941.66	616.07	0.00	616.07	0.34	-0.34	0.00	
10100.00	7.07	0.00	10040.86	628.68	0.00	628.68	0.34	-0.34	0.00	
10200.00	6.73	0.00	10140.14	640.69	0.00	640.69	0.34	-0.34	0.00	
10300.00	6.39	0.00	10239.48	652.11	0.00	652.11	0.34	-0.34	0.00	
10400.00	6.05	0.00	10338.89	662.94	0.00	662.94	0.34	-0.34	0.00	
10500.00	5.70	0.00	10438.37	673.17	0.00	673.17	0.34	-0.34	0.00	
10600.00	5.36	0.00	10537.90	682.81	0.00	682.81	0.34	-0.34	0.00	
10700.00	5.02	0.00	10637.49	691.86	0.00	691.86	0.34	-0.34	0.00	
10800.00	4.68	0.00	10737.13	700.31	0.00	700.31	0.34	-0.34	0.00	
10900.00	4.34	0.00	10836.83	708.17	0.00	708.17	0.34	-0.34	0.00	
11000.00	3.99	0.00	10936.56	715.43	0.00	715.43	0.34	-0.34	0.00	
11100.00	3.65	0.00	11036.34	722.10	0.00	722.10	0.34	-0.34	0.00	
11200.00	3.31	0.00	11136.15	728.17	0.00	728.17	0.34	-0.34	0.00	
11300.00	2.97	0.00	11236.00	733.64	0.00	733.64	0.34	-0.34	0.00	
11400.00	2.63	0.00	11335.88	738.52	0.00	738.52	0.34	-0.34	0.00	
11500.00	2.28	0.00	11435.79	742.80	0.00	742.80	0.34	-0.34	0.00	
11600.00	1.94	0.00	11535.72	746.49	0.00	746.49	0.34	-0.34	0.00	
11700.00	1.60	0.00	11635.68	749.58	0.00	749.58	0.34	-0.34	0.00	
11800.00	1.26	0.00	11735.65	752.07	0.00	752.07	0.34	-0.34	0.00	
11900.00	0.92	0.00	11835.63	753.96	0.00	753.96	0.34	-0.34	0.00	

# PathFinder

## Planning Report

<b>Company:</b> Marbob Energy	<b>Date:</b> 9/6/2005	<b>Time:</b> 16:51:04	<b>Page:</b> 4
<b>Field:</b> Mule	<b>Co-ordinate(NE) Reference:</b> Site: Mule 13 Federal #1, True North		
<b>Site:</b> Mule 13 Federal #1 Whirlybird 13 Fed #1	<b>Vertical (TVD) Reference:</b> SITE 0.0		
<b>Well:</b> Mule 13 Federal #1 Whirlybird 13 Fed #1	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,0.00Azi)		
<b>Wellpath:</b> Original Hole	<b>Plan:</b>	Plan #1 090605	

### 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
12000.00	0.57	0.00	11935.62	755.26	0.00	755.26	0.34	-0.34	0.00	
12100.00	0.23	0.00	12035.62	755.96	0.00	755.96	0.34	-0.34	0.00	
12164.38	0.01	0.00	12100.00	756.10	0.00	756.10	0.34	-0.34	0.00	Mule 13 Federal #1 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		
Target @ 8620' TVD			8620.00	390.00	0.00	389.96	5.59	30	59	28.371 N	105	55	44.137 W
-Plan hit target													
Mule 13 Federal #1 PBHL			12100.00	756.10	0.00	756.02	10.84	30	59	31.994 N	105	55	44.137 W
-Plan hit target													

### Annotation

MD ft	TVD ft	
6484.09	6484.09	KOP @ 6484' w/ 2° doglegs
7084.09	7079.71	End of Build @ 12° Inclination
9700.00	9644.53	Allow Natural Drop to Vertical @ TD

# Marbob Energy Corporation

Mule "13" Federal #1 Whirlybird 13 Fed #1

Section 13, T24S & R25E

Eddy County, New Mexico

Plan #1 090605

## 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 Cone  
Warning Method: Error Ratio

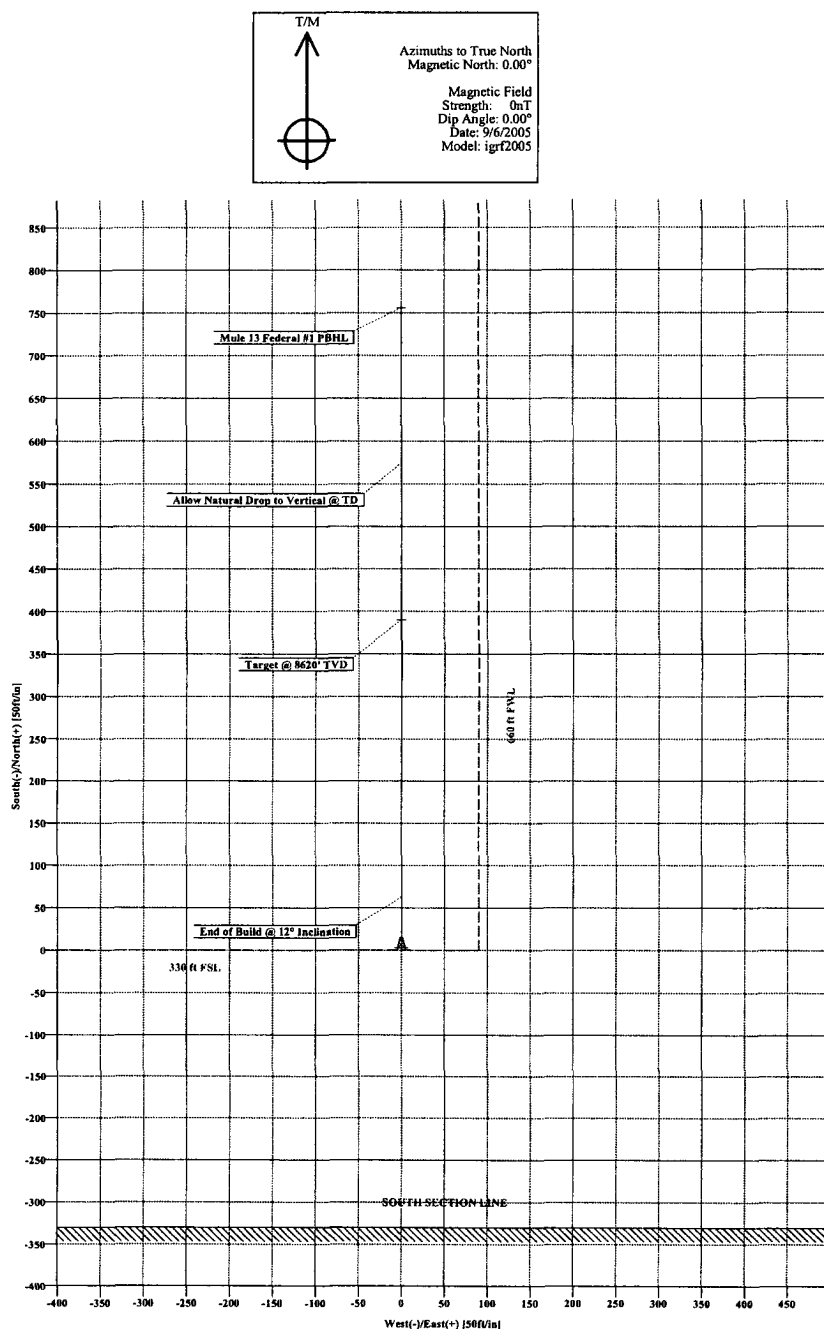
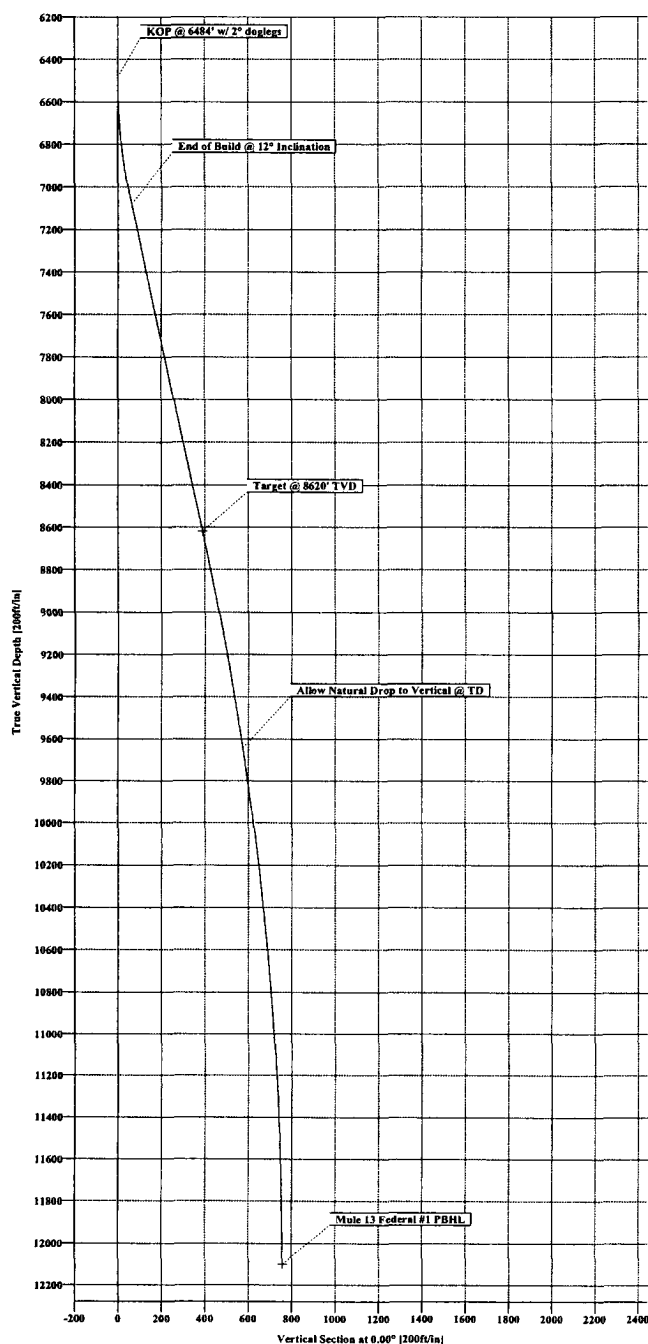


## SECTION DETAILS

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	6484.09	0.00	0.00	6484.09	0.00	0.00	0.00	0.00	0.00	
3	7084.09	12.00	0.00	7079.72	62.60	0.00	2.00	0.00	62.60	
4	8658.79	12.00	0.00	8620.00	390.00	0.00	0.00	0.00	390.00	Target @ 8620' TVD
5	12164.38	0.01	0.00	12100.00	756.10	0.00	0.34	180.00	756.10	Mule 13 Federal #1 PBHL

## FIELD DETAILS

Mule  
Eddy County, New Mexico  
Geodetic System: US State Plane Coordinate System 1927  
Ellipsoid: NAD27 (Clarke 1866)  
Zone: New Mexico, Eastern Zone  
Magnetic Model: igr2005  
System Datum: Mean Sea Level  
Local North: True North



**MARBOB ENERGY CORPORATION**  
**DRILLING AND OPERATIONS PROGRAM**

**WHIRLYBIRD 13 Federal #1**  
**330' FSL & 750' FEL, Unit P**  
**Section 13, T24S, 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.

1. The geological surface formation is Permian.
2. The estimated tops of geologic markers are as follows:

Permian	surface	Atoka	11000
Capitan	240	Morrow	11600
Delaware	2517	TD	12100
Bone Spring	5600		
Wolfcamp	8700		
Strawn	10700		

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

Capitan	240	Water
Delaware	2517	Oil
Bone Spring	5600	Oil
Wolfcamp	8700	Oil
Strawn	10700	Gas
Atoka	11000	Gas
Morrow	11600	Gas

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 9 5/8" casing at 2500' and circulating cement back to surface. Any shallower zones above TD which contain commercial quantities of oil and/or gas will have cement circulated across them by inserting a float shoe joint into the 5 1/2" production casing which will be run at TD to sufficiently cover all known oil and gas horizons above 200'.

4. Proposed Casing Program:

Hole Size	Interval	OD Casing	Wt	Grade
17 1/2"	0-220'	13 3/8"	48#	H-40 STC
12 1/4"	200-2500'	9 5/8"	36#	J-55 STC
8 3/4"	2500-12100'	5 1/2"	17#	S-95 P-110

2300  
555



Proposed Cement Program:

- 13 3/8" Surface Casing: Cement w/ 250 sk Class C. Circulate to surface.
- 9 5/8" Intermediate Casing: Cement w/ 550 sk Class C. Attempt to tie in to 13 3/8" csg.
- 5 1/2" Production Casing: Cement w/ 600 sk Class C. Attempt to tie in to 9 5/8" csg. 200' above all oil and gas zones.

5. Minimum Specifications for Pressure Control:

Propose to nipple up on 13 3/8" casing with 2M system and test to 1000# with rig pumps, then nipple up on 9 5/8" casing with 5M system and test to 5000# with independent tester before drilling out of casing.

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 5000 psi WP rating.

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

Depth	Type	Weight (ppg)	Viscosity (sec)	Waterloss (cc)
0 - 220'	Fresh Wtr (spud)	8.5	28	N.C.
220 - 2500'	Fresh Wtr	8.5	28	N.C.
2500 - 12100'	Cut Brine	8.6-9.4	28-36	N.C.

7. Auxiliary Equipment: Kelly Cock; Sub with full opening valve on floor; and drill pipe connections.

8. Testing, Logging and Coring Program:

No drillstem tests are anticipated.

The electric logging program will consist of Dual Laterolog Micro SFL, Spectral Density Dual Spaced Neutron Csg Log, and Depth Control Log.

No conventional coring is anticipated.

9. No abnormal pressures or temperatures are anticipated.

10. Anticipated starting date: As soon as possible after approval.

**MARBOB ENERGY CORPORATION**  
**MULTI-POINT SURFACE USE AND OPERATIONS PLAN**

**WHIRLYBIRD 13 Federal #1**  
**330' FSL & 750' FEL, Unit P**  
**Section 13, T24S, 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:**

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.

**DIRECTIONS:**

From the intersection of U.S. Highway #62-180 & Means Road (Co Rd #772). Go west on Means Road approx. 1.5 miles. Turn right (NW) and go approx. 0.1 miles. Turn right (NE) and go approx. 0.2 miles to dry hole. This location is approx 0.3 miles NE along proposed road survey.

**2. PLANNED ACCESS ROAD:**

Improvement on existing road and 1568' of new road will be necessary.

- A. The average grade will be less than 3%.
- B. No turnouts are planned.
- C. No culverts or low-water crossings will be necessary.
- D. A cattle guard will be installed on a portion of the new access road.

**3. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:**

- A. Marbob Energy Corporation proposes a collection facility, if well is productive, to be located on Whirlybird 13 Federal #1 well pad.

**4. METHODS OF HANDLING WASTE DISPOSAL:**

- A. Drill cuttings will be disposed of in the lined pit.
- B. Drilling fluids will be allowed to evaporate in the lined pit until the pit is dry.
- C. Water produced during completion may be disposed into the lined reserve pit.
- D. All trash and debris will be removed from the wellsite within 30 days after finishing drilling and/or completion operations. All waste material will be contained to prevent scattering by the wind.

**5. WELLSITE LAYOUT:**

- A. Exhibit 3 shows the relative location and dimensions of the well pad, the pit.
- B. The reserve pit will be lined with high quality plastic sheeting.

**6. PLANS FOR RESTORATION:**

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the wellsite in as aesthetically pleasing a condition as possible.
- B. Reserve pit will be fenced until they have dried and been leveled.
- C. All rehabilitation and/or vegetation requirements of the BLM will be complied with and will be accomplished as expeditiously as possible. All pits will be filled level within 90 days after abandonment.

**7. SURFACE OWNERSHIP:**

The well site and lease are located on Federal surface

- A. The area around the well site is composed rough, rocky hills with steep slopes and large canyon bottoms. Vegetation is comprised of that found within the chihuahuan desert and consists of Opuntia spp., soap tree yucca, Lechuguilla sotols, Beargrass, desert sumac, ocotillo, and a variety of grasses and forbs.
- B. A Cultural Resources Examination has been requested and will be forwarded to your office in the near future.

**8. OTHER INFORMATION:**

- A. Topography: Refer to the existing archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.

**9. OPERATOR'S REPRESENTATIVE:**

A. Through A.P.D. Approval:

Ross Duncan, Landman  
Marbob Energy Corporation  
P. O. Box 227  
Artesia, NM 88211-0227  
Phone (505)748-3303  
Cell (505)513-2544


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

**10. 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.

9/7/05  
Date

  
\_\_\_\_\_  
Ross Duncan  
Landman

## **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<sub>2</sub>S).
- B. The proper use and maintenance of personal protective equipment and life support systems.
- C. The proper use of H<sub>2</sub>S 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<sub>2</sub>S 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<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S 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<sub>2</sub>S SAFETY EQUIPMENT AND SYSTEMS**

Note: All H<sub>2</sub>S 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<sub>2</sub>S.

### **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<sub>2</sub>S detection and monitoring equipment:**

2 - portable H<sub>2</sub>S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H<sub>2</sub>S 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<sub>2</sub>S 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<sub>2</sub>S service.

G. Communication:

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

# **W A R N I N G**

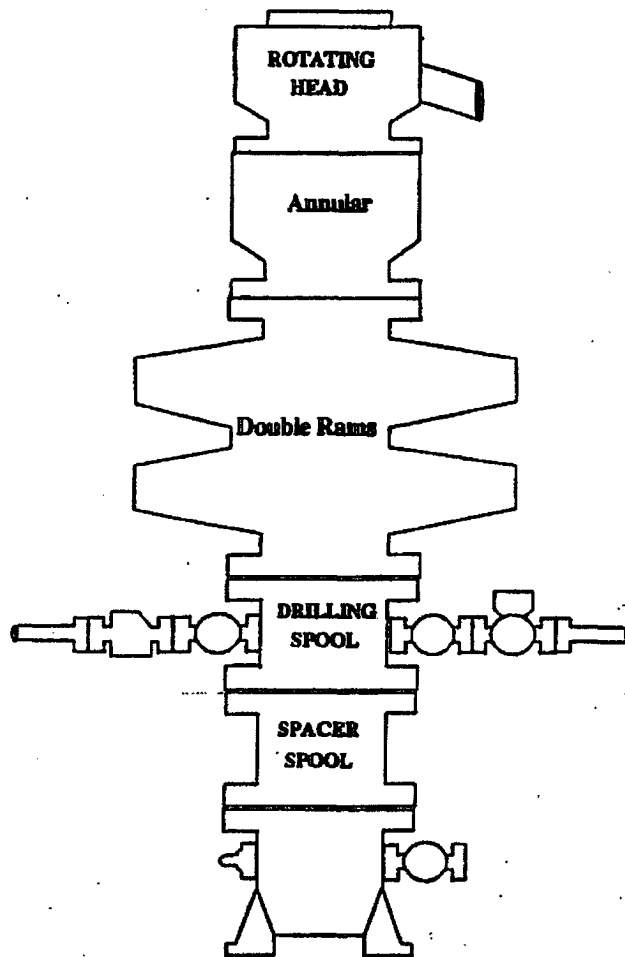
**YOU ARE ENTERING AN H<sub>2</sub>S AREA  
AUTHORIZED PERSONNEL ONLY**

- 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***

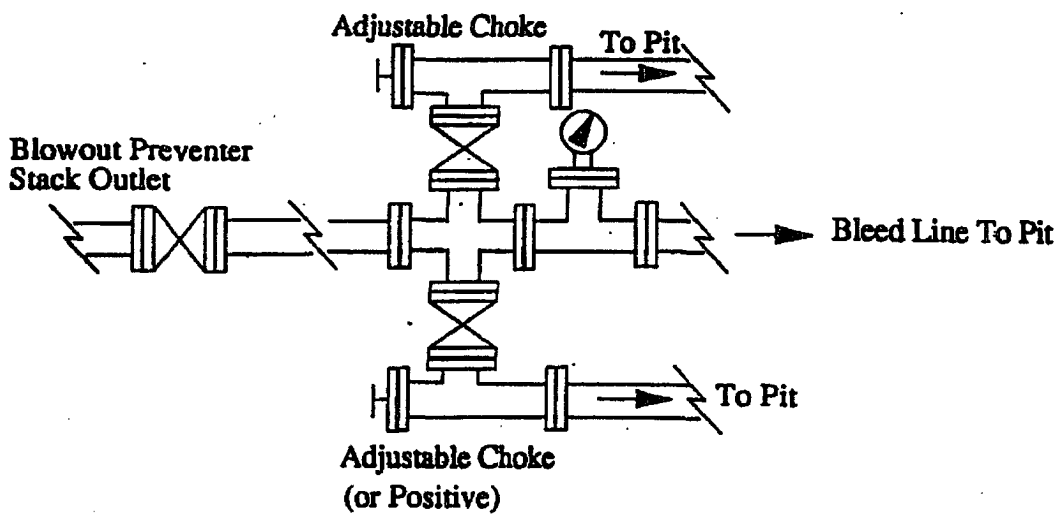
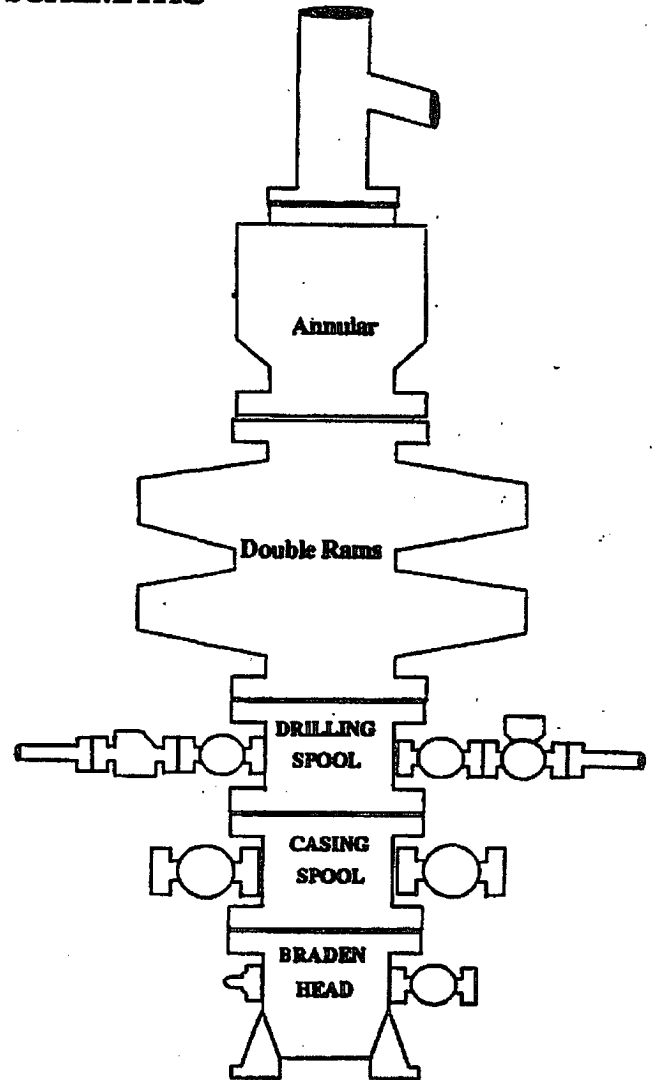
**MARBOB ENERGY CORPORATION**

**1-505-748-3303**

# BOPE SCHEMATIC

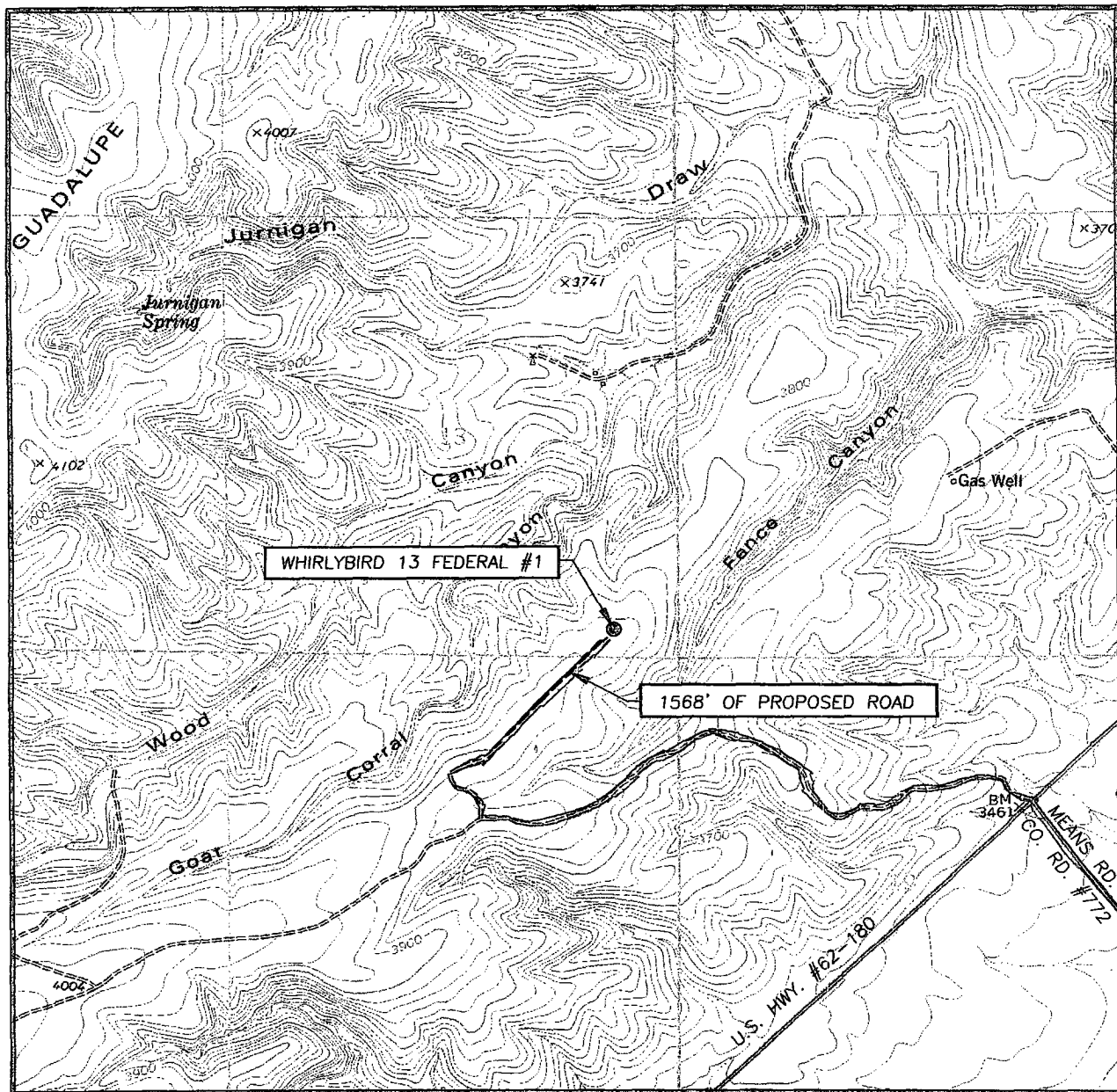


**Choke Manifold**





# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
BLACK RIVER VILLAGE, N.M. - 20'

SEC. 13 TWP. 24-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 330' FSL & 750' FEL

ELEVATION 3858'

OPERATOR MARBOB ENERGY CORPORATION

LEASE WHIRLYBIRD 13 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP  
BLACK RIVER VILLAGE, N.M.

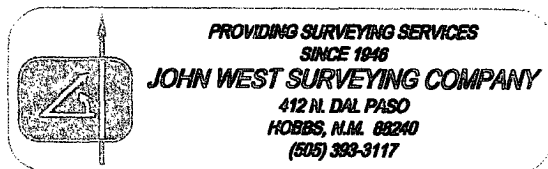


EXHIBIT TWO

**Conditions of Approval  
for  
Marbob Energy Corp.  
Whirlybird 13 #1, 23 #1, 24 #1  
Lease # NM-31636**

13 #1- Surface Hole: 330 FSL & 750 FEL, Section 13, T. 24 S., R. 25 E.  
Bottom Hole: 660 FSL & 750 FEL, Section 13, T. 24 S., R. 25 E.

23 #1- Surface Hole: 550 FSL & 2215 FWL, Section 23, T. 24 S., R. 25 E.  
Bottom Hole: 660 FSL & 1980 FWL, Section 23, T. 24 S., R. 25 E.

24 #1- Surface Hole: 2600 FNL & 1150 FWL, Section 24, T. 24 S., R. 25 E.  
Bottom Hole: 1980 FNL & 1150 FWL, Section 24, T. 24 S., R. 25 E.

**Surface Mitigation**

Whether or not a proposed activity has been relocated to reduce potential impacts on caves or karst, the following stipulations will be applied to minimize the risk of impacts during construction, drilling and production.

1. NO PITS WILL BE ALLOWED: A closed mud system (steel tanks) will be utilized to drill all wells. All cuttings and fluids will be hauled off site for disposal.
2. Berms will be constructed around all storage tanks used in drilling or production to protect against spills.
3. A leak detection system will be installed for pipelines and tanks used in production or drilling.
4. A permanent 12 mil liner will be installed in storage tank areas.
5. The use of a stock tank vapor recovery system will be installed.
6. All production facilities, appurtenances, pipelines, and other above ground structures will be "low profile" (less than 8 feet in height) and painted a non-reflective (Flat) Shale Green.

**Subsurface Mitigation**

The following stipulations will be applied where the presence of caves or karst is obvious or expected, based on the results of detection efforts, and in lost circulation zones.

1. Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst features are expected. ***Sixteen (16)***

***ounces of Florescene dye will be added to the drilling fluid during the drilling of the first 2,500 feet of the well.*** Below those zones, the operator may use whatever drilling fluid is approved in the drilling plan.

- 2. Kick off for directional drilling will occur below 2,500 feet.**
- 3. All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.**
- 4. A cave protection casing will be required. The cave-protection casing string would be set at the base of the reef and where present at set it in the Lamar Limestone. (See Attached Diagram as an example of the Cave Protection String)**
- 5. ALL lost circulation zones from the surface to 2,500 ft. will be logged and reported.**
- 6. Regardless of the type of drilling machinery used, if a bit drops of four feet or more and circulation losses greater then 75 percent occur simultaneously while drilling in any cave-bearing zone, drilling operations will immediately stop and the BLM will be notified by the Operator. The BLM will assess the consequences of the situation and work with Operator on corrective actions to resolve the problem. If corrective actions fail, the well will be plugged. In the event that such an incident occurs contact Jim Goodbar at 505 234-5929 or 505 236-1016 after hours.**
- 7. The casing will be cemented in place using one or a combination of any of the following methods that are environmentally sound, as determined by the BLM and the Operator:**
  - A. If a large void is encountered, isolation from above and below rather than complete cement coverage of these zones could be employed. This would be accomplished by using stage cementing equipment, external packers, cement baskets, and one-inch remedial cementing techniques.**
  - B. For a less severe lost circulation zone encountered while drilling, the operator will attempt to circulate cement to the surface using a single or multistage cementing job composed of a "lead and "tail" slurry for each stage.**
  - C. Foam cementing techniques will be used.**

**Any corrective actions proposed to resolve problems related to bit drops or lost circulation will require BLM concurrence prior to implementation. A decision on how to proceed will be reached within 24 hours of notification.**

#### **Monitoring Production Operations**

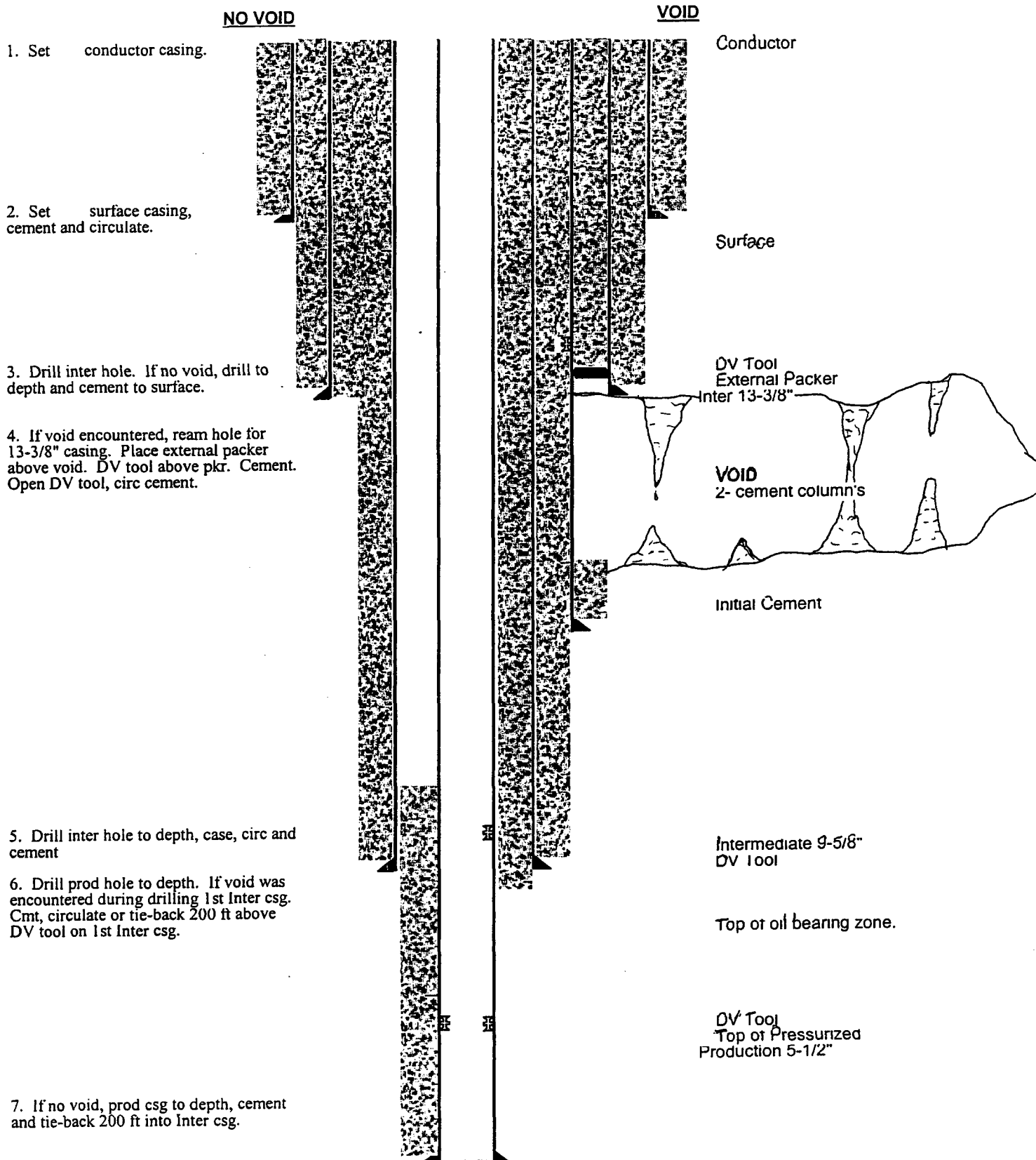
- 1. Annual pressure tests will be performed by the Operator on all casing annuli. If the test results indicated a casing failure, remedial actions approved by the BLM will be undertaken to correct the problem.**

## **Record Keeping**

1. The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence of absence of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.
2. The BLM may review data held by companies on wells drilled in cave or karst areas, to gain information about impacts to caves and karst. This information will be used to categorize lost-circulation zones on the basis of depth, relative volume, and severity, and to evaluate and compare the relative success or failure of different remedies attempted to combat lost-circulation problems while drilling and cementing casing in these zones. This information also will be used to update information about the occurrence of cave and karst features. Information concerning cave resources gathered during drilling will be submitted, as well, to retained by the BLM in accordance with The Carlsbad Field Office Cave Management Plan and the regulations implementing the Federal Cave Resources Protection Act.

# WELLBORE SCHEMATIC

## "CAVE PROTECTION"



## CONDITIONS OF APPROVAL - DRILLING

Operator's Name: MARBOB ENERGY CORPORATION  
Well Name & No. 1 - WHIRLYBIRD 13 FEDERAL  
Location: 330' FSL & 750' FEL - SEC 13 - T24S - R25E - EDDY COUNTY (SHL)  
660' FSL & 750' FEL - SEC 13 - T24S - R25E - EDDY COUNTY (BHL)  
Lease: NM-31636

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13-3/8 inch 9-5/8 inch 5-1/2 inch

C. BOP tests

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. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing ( size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

### II. CASING:

1. The 13-3/8 inch surface casing shall be set at 220 feet, below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is circulate cement to the surface. Note: Because of the variability in identifying the Capitan Reef it was decided to set 9-5/8 inch casing at 2300 feet unless the mudlogger on location identifies the Delaware sands at a lesser depth. In this event the casing will be set at least 25 feet above the top of the Delaware sand.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is cement shall extend upward a minimum of 500 feet above the uppermost hydrocarbon bearing interval.

ORIG. SGD LLS BABYAK

### **III. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13-3/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the surface and intermediate casing shall be 2000 psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 9-5/8 inch casing shall be 5000 psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.
- BOPE must be tested prior to drilling into the Wolfcamp Formation by an independent service company.

### **IV. DRILLING MUD:**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp Formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

1. Recording pit level indicator to indicate volume gains and losses.
2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.

BLM Serial Number: NM-31636  
Company Reference: MARBOB ENERGY CORP  
Well No. & Name: 1-WHIRLYBIRD 13 FEDERAL

STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS  
CARLSBAD FIELD OFFICE

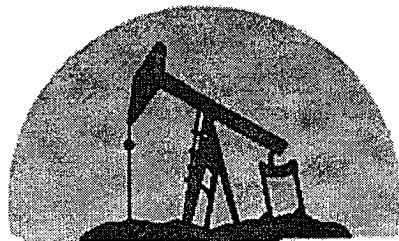
A copy of the grant and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder/grantee/permittee shall hereafter be identified as the holder in these stipulations. The Authorized Officer is the person who approves the Application for Permit to Drill (APD) and/or Right-of-Way (ROW).

GENERAL REQUIREMENTS

- A. 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.
- B. 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 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.
- C. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
- D. If, during any phase of the construction, operation, maintenance, or termination of the road, any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all





**marbob**  
ENERGY CORPORATION  
ARTESIA, NEW MEXICO

November 1, 2005

Oil Conservation Division  
1301 W. Grand Ave.  
Artesia, NM 88210

Attention: Bryan Arrant

Re: Whirlybird 13 Federal #1  
330' FSL & 750' FEL  
Section 13 T-24S R-25E  
Eddy County, New Mexico

Dear Bryan:

We plan to complete this well in the Morrow which is sweet and we don't anticipate cutting any formations that contain H2S gas during the drilling of the above referenced well. Therefore, we do not believe that an H2S contingency plan is necessary.

If you have questions or need further information, please call.

Sincerely,

Melanie J. Parker  
Land Department

/mp



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

November 1, 2005  
Marbob Energy Corporation  
P.O. Box 227  
Artesia, NM 88211  
Attn: Melanie or to Whom It May Concern,

**RE: Marbob Energy Corporation: Whirlybird '13' Federal #1, located in Unit P  
(330' FSL & 750' FEL surface location) in Section 13 of Township 24 South Range 25 East  
Eddy County, New Mexico.**

Dear Melanie or To Whom It may Concern,

In regards with the conditions for approval of the above captioned well, the New Mexico Oil Conservation Division (NMOCD) will require the following:

This is for Marbob Energy Corporation Oil Company, to take samples from the flow line of the drilling mud every 100' in order to determine the chloride levels from the surface casing setting depth of @ 220' to the projected 9 5/8" intermediate casing setting depth of @ 2300'. Please note that we are aware that lost circulation in drilling of the reef may occur and the collection of samples may not be possible at times.

In addition, said well is to be drilled with a 'fresh water mud' system in the Capitan Reef from @ 220' to the setting depth of @ 2300' as stated in your APD.

The results of this data are to be submitted to the NMOCD and the Bureau of Land Management. Please call our office if you have any questions regarding this matter.

Respectfully yours,

Bryan G. Arrant  
PES

CC:

Well File