

RM

Form 3160-5
(August 2007)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB No. 4004-0137
Expires: July 31, 2010

RECEIVED

APR 20 2010

NMOC D ARTESIA

SUNDRY NOTICES AND REPORTS ON WELLS
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE** - Other instructions on page 2.

1. Type of Well

☒ Oil Well ☒ Gas Well ☐ Other2. Name of Operator
Marbob Energy Corporation

3a. Address

P.O. Box 227, Artesia, NM 88211-0227

3b. Phone No. (include area code)

575-748-3303

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SL: 1600' FNL & 790' FEL, Section 23, T26S-R25E
BHL: 990' FNL & 790' FEL, Section 26, T26S-R25E

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

8. Well Name and No.

JHS Federal #1H OK JHS Federal #1H

9. API Well No.

30-015-37479 OK 30-015-37479

10. Field and Pool or Exploratory Area

Milepost - Monow (Gas) Undesignated Bone Spring

11. Country or Parish, State

Eddy County, New Mexico

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Name, BHL, Casing & Cement
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompletes horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Marbob Energy Corporation respectfully requests approval for the following:

Propose to change well from vertical to horizontal with a new BHL of 990' FNL & 790' FEL, Sec 26, T26S-R25E. Measured depth will be 9800' true vertical depth will be 5335'.

Propose to drill 8 3/4" hole from 1434' to 5300' then reduce hole size to 7 7/8" from 5300' to 9800'.

Propose to run 4500' of 5 1/2" 17# N80 from 5300' to 9800', 5300' of 23# N80 7" from 5300' to surface

Cement 1st stage with 400 sk "H" acid soluble cement wt 15.0 yield 2.6, 2nd stage with 550 sk "c" light wt 12.7 yield 1.91 tall in with 100 sk "H" wt 14.2 yield 1.58 DV @ 5300' TOC surface

Change name from JHS Federal #1, to: JHS Federal #1H

**SUBJECT TO LIKE
APPROVAL BY STATE****SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Nancy T. Agnew

Title Land Department

Signature

Date 04/15/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Office

Conditions of approval, if any, are attached. Approval of this notice 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.

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 any statement or representation in any agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

APPROVED

APR 16 2010 Date

s/ Dustin Winkler

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

M2

DISTRICT I

1625 N. FRENCH DR., ROSA, NM 86340

DISTRICT II

1301 E. GRAND AVENUE, ALBERNI, NM 86010

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 81340	Well Name <i>Underground Bone Spring</i> Milepost Morrow (Gas)
Property Code	Property Name JHS FEDERAL	Well Number 1H
OGRID No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 3596'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	23	26-S	25-E		1600	NORTH	790	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
A	26	26-S	25-E		990	NORTH	790	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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

	DETAIL 3593.8' 3593.4' 600' 600' 3594.8' 3590.9'	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. <i>Nancy T. Agnew</i> 4/15/10 Signature Date Nancy T. Agnew Printed Name
	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=374881.5 N X=491768.4 E LAT.=32.030661° N LONG.=104.359896° W BOTTOM HOLE LOCATION Y=370164.3 N X=491760.2 E SCALE - 1"=2000"	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. SEP 25 2009 Date Surveyed <i>Ronald J. Eidson</i> Signature & Seal Professional Surveyor Certificate No. CARY G. EIDSON 13841 RONALD J. EIDSON 3230

P. 04/11

FAX NO. 15757462523

APR-15-2010 THU 07:27 AM MARBOB ENERGY CORP



Marbob

Eddy County

JHS Federal

#1H

OH

Plan: Plan #1

Pathfinder X & Y Planning Report

12 April, 2010

PATHFINDER



Pathfinder

Pathfinder X & Y Planning Report

PATHFINDER

Company:	Marbob	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3614.00ft (Original Well Elev)
Site:	JHS Federal	MD Reference:	WELL @ 3614.00ft (Original Well Elev)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Project:	Eddy County	System Datum:	Mean Sea Level
Map System:	US State Plane 1927 (Exact solution)		
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	JHS Federal		
Site Position:		Northing:	374,881.500 ft
From:	Map	Easting:	491,768.400 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 1' 50.379 N
		Longitude:	104° 21' 35.626 W
		Grid Convergence:	-0.01 °

Well	#1H					
Well Position	+N-S	0.00 ft	Northing:	374,881.500 ft	Latitude:	32° 1' 50.379 N
	+E-W	0.00 ft	Easting:	491,768.400 ft	Longitude:	104° 21' 35.626 W
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft	Ground Level:	3,586.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	04/12/2010	8.06	59.91	48,557

Design:	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	N-S	E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	180.00

Survey Tool Program	Date	04/12/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	9,800.06	Plan #1 (OH)	MWD	MWD - Standard



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Well:	#1H	North Reference:	Gnd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Planned Survey											
MD (ft)	Inc (°)	Az (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	CLag (°/100ft)	Northing (ft)	Easting (ft)	
0.00	0.00	0.00	0.00	-3,614.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
100.00	0.00	0.00	100.00	-3,514.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
200.00	0.00	0.00	200.00	-3,414.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
300.00	0.00	0.00	300.00	-3,314.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
400.00	0.00	0.00	400.00	-3,214.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
500.00	0.00	0.00	500.00	-3,114.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
600.00	0.00	0.00	600.00	-3,014.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
700.00	0.00	0.00	700.00	-2,914.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
800.00	0.00	0.00	800.00	-2,814.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
900.00	0.00	0.00	900.00	-2,714.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,000.00	0.00	0.00	1,000.00	-2,614.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,100.00	0.00	0.00	1,100.00	-2,514.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,200.00	0.00	0.00	1,200.00	-2,414.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,300.00	0.00	0.00	1,300.00	-2,314.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,400.00	0.00	0.00	1,400.00	-2,214.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,500.00	0.00	0.00	1,500.00	-2,114.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,600.00	0.00	0.00	1,600.00	-2,014.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,700.00	0.00	0.00	1,700.00	-1,914.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,800.00	0.00	0.00	1,800.00	-1,814.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
1,900.00	0.00	0.00	1,900.00	-1,714.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,000.00	0.00	0.00	2,000.00	-1,614.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,100.00	0.00	0.00	2,100.00	-1,514.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,200.00	0.00	0.00	2,200.00	-1,414.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,300.00	0.00	0.00	2,300.00	-1,314.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,400.00	0.00	0.00	2,400.00	-1,214.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,500.00	0.00	0.00	2,500.00	-1,114.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,600.00	0.00	0.00	2,600.00	-1,014.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	



Pathfinder

Pathfinder X & Y Planning Report

PATHFINDER

Company:	Marbob	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3614.00ft (Original Well Elev)
Site:	JHS Federal	MD Reference:	WELL @ 3614.00ft (Original Well Elev)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	D Leg (ft)	Northing (ft)	Easting (ft)	
2,700.00	0.00	0.00	2,700.00	-914.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,800.00	0.00	0.00	2,800.00	-814.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
2,900.00	0.00	0.00	2,900.00	-714.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,000.00	0.00	0.00	3,000.00	-614.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,100.00	0.00	0.00	3,100.00	-514.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,200.00	0.00	0.00	3,200.00	-414.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,300.00	0.00	0.00	3,300.00	-314.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,400.00	0.00	0.00	3,400.00	-214.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,500.00	0.00	0.00	3,500.00	-114.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,600.00	0.00	0.00	3,600.00	-14.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,700.00	0.00	0.00	3,700.00	86.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,800.00	0.00	0.00	3,800.00	186.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
3,900.00	0.00	0.00	3,900.00	286.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,000.00	0.00	0.00	4,000.00	386.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,100.00	0.00	0.00	4,100.00	486.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,200.00	0.00	0.00	4,200.00	586.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,300.00	0.00	0.00	4,300.00	686.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,400.00	0.00	0.00	4,400.00	786.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,500.00	0.00	0.00	4,500.00	886.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,600.00	0.00	0.00	4,600.00	986.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,700.00	0.00	0.00	4,700.00	1,086.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,800.00	0.00	0.00	4,800.00	1,186.00	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,857.50	0.00	0.00	4,857.50	1,243.50	0.00	0.00	0.00	0.00	374,881.50	491,768.40	
4,875.00	2.10	180.00	4,875.00	1,261.00	-0.32	0.00	0.32	12.00	374,881.18	491,768.40	
4,900.00	5.10	180.00	4,899.94	1,285.94	-1.89	0.00	1.89	12.00	374,879.61	491,768.40	
4,925.00	8.10	180.00	4,924.78	1,310.78	-4.76	0.00	4.76	12.00	374,876.74	491,768.40	
4,950.00	11.10	180.00	4,949.42	1,335.42	-8.93	0.00	8.93	12.00	374,872.57	491,768.40	



Pathfinder

Pathfinder X & Y Planning Report

PATHFINDER

Company:	Marbob	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3614.00ft (Original Well Elev)
Site:	JHS Federal	MD Reference:	WELL @ 3614.00ft (Original Well Elev)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
4,975.00	14.10	180.00	4,973.82	1,359.82	-14.38	0.00	14.38	12.00	374,867.12	491,768.40
5,000.00	17.10	180.00	4,997.89	1,383.89	-21.11	0.00	21.11	12.00	374,860.39	491,768.40
5,025.00	20.10	180.00	5,021.59	1,407.59	-29.08	0.00	29.08	12.00	374,852.42	491,768.40
5,050.00	23.10	180.00	5,044.83	1,430.83	-38.28	0.00	38.28	12.00	374,843.22	491,768.40
5,075.00	26.10	180.00	5,067.56	1,453.56	-48.68	0.00	48.68	12.00	374,832.82	491,768.40
5,100.00	29.10	180.00	5,089.71	1,475.71	-60.27	0.00	60.27	12.00	374,821.23	491,768.40
5,125.00	32.10	180.00	5,111.23	1,497.23	-72.99	0.00	72.99	12.00	374,808.51	491,768.40
5,150.00	35.10	180.00	5,132.05	1,518.05	-86.82	0.00	86.82	12.00	374,794.68	491,768.40
5,175.00	38.10	180.00	5,152.12	1,538.12	-101.72	0.00	101.72	12.00	374,779.78	491,768.40
5,200.00	41.10	180.00	5,171.38	1,557.38	-117.66	0.00	117.66	12.00	374,763.84	491,768.40
5,225.00	44.10	180.00	5,189.78	1,575.78	-134.58	0.00	134.58	12.00	374,746.92	491,768.40
5,250.00	47.10	180.00	5,207.27	1,593.27	-152.43	0.00	152.43	12.00	374,729.07	491,768.40
5,275.00	50.10	180.00	5,223.80	1,609.80	-171.18	0.00	171.18	12.00	374,710.32	491,768.40
5,300.00	53.10	180.00	5,239.33	1,625.33	-190.77	0.00	190.77	12.00	374,690.73	491,768.40
5,325.00	56.10	180.00	5,253.81	1,639.81	-211.15	0.00	211.15	12.00	374,670.35	491,768.40
5,350.00	59.10	180.00	5,267.21	1,653.21	-232.25	0.00	232.25	12.00	374,649.25	491,768.40
5,375.00	62.10	180.00	5,279.48	1,665.48	-254.03	0.00	254.03	12.00	374,627.47	491,768.40
5,400.00	65.10	180.00	5,290.60	1,676.60	-276.42	0.00	276.42	12.00	374,605.08	491,768.40
5,425.00	68.09	180.00	5,300.53	1,686.53	-299.36	0.00	299.36	12.00	374,582.14	491,768.40
5,450.00	71.09	180.00	5,309.24	1,695.24	-322.79	0.00	322.79	12.00	374,558.71	491,768.40
5,475.00	74.09	180.00	5,316.72	1,702.72	-346.64	0.00	346.64	12.00	374,534.86	491,768.40
5,500.00	77.09	180.00	5,322.94	1,708.94	-370.85	0.00	370.85	12.00	374,510.65	491,768.40
5,525.00	80.09	180.00	5,327.88	1,713.88	-395.36	0.00	395.36	12.00	374,486.14	491,768.40
5,550.00	83.09	180.00	5,331.54	1,717.54	-420.08	0.00	420.08	12.00	374,461.42	491,768.40
5,575.00	86.09	180.00	5,333.89	1,719.89	-444.97	0.00	444.97	12.00	374,436.53	491,768.40
5,600.00	89.09	180.00	5,334.94	1,720.94	-469.95	0.00	469.95	12.00	374,411.55	491,768.40
5,607.56	90.00	180.00	5,335.00	1,721.00	-477.50	0.00	477.50	12.00	374,404.00	491,768.40



Pathfinder

Pathfinder X & Y Planning Report

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Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Planned Survey											
MD (ft)	Incl (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
5,700.00	90.00	180.00	5,335.00	1,721.00	-569.94	0.00	569.94	0.00	374,311.56	491,768.40	
5,800.00	90.00	180.00	5,335.00	1,721.00	-669.94	0.00	669.94	0.00	374,211.56	491,768.40	
5,900.00	90.00	180.00	5,335.00	1,721.00	-769.94	0.00	769.94	0.00	374,111.56	491,768.40	
6,000.00	90.00	180.00	5,335.00	1,721.00	-869.94	0.00	869.94	0.00	374,011.56	491,768.40	
6,100.00	90.00	180.00	5,335.00	1,721.00	-969.94	0.00	969.94	0.00	373,911.56	491,768.40	
6,200.00	90.00	180.00	5,335.00	1,721.00	-1,069.94	0.00	1,069.94	0.00	373,811.56	491,768.40	
6,300.00	90.00	180.00	5,335.00	1,721.00	-1,169.94	0.00	1,169.94	0.00	373,711.56	491,768.40	
6,400.00	90.00	180.00	5,335.00	1,721.00	-1,269.94	0.00	1,269.94	0.00	373,611.56	491,768.40	
6,500.00	90.00	180.00	5,335.00	1,721.00	-1,369.94	0.00	1,369.94	0.00	373,511.56	491,768.40	
6,600.00	90.00	180.00	5,335.00	1,721.00	-1,469.94	0.00	1,469.94	0.00	373,411.56	491,768.40	
6,700.00	90.00	180.00	5,335.00	1,721.00	-1,569.94	0.00	1,569.94	0.00	373,311.56	491,768.40	
6,800.00	90.00	180.00	5,335.00	1,721.00	-1,669.94	0.00	1,669.94	0.00	373,211.56	491,768.40	
6,900.00	90.00	180.00	5,335.00	1,721.00	-1,769.94	0.00	1,769.94	0.00	373,111.56	491,768.40	
7,000.00	90.00	180.00	5,335.00	1,721.00	-1,869.94	0.00	1,869.94	0.00	373,011.56	491,768.40	
7,100.00	90.00	180.00	5,335.00	1,721.00	-1,969.94	0.00	1,969.94	0.00	372,911.56	491,768.40	
7,200.00	90.00	180.00	5,335.00	1,721.00	-2,069.94	0.00	2,069.94	0.00	372,811.56	491,768.40	
7,300.00	90.00	180.00	5,335.00	1,721.00	-2,169.94	0.00	2,169.94	0.00	372,711.56	491,768.40	
7,400.00	90.00	180.00	5,335.00	1,721.00	-2,269.94	0.00	2,269.94	0.00	372,611.56	491,768.40	
7,500.00	90.00	180.00	5,335.00	1,721.00	-2,369.94	0.00	2,369.94	0.00	372,511.56	491,768.40	
7,600.00	90.00	180.00	5,335.00	1,721.00	-2,469.94	0.00	2,469.94	0.00	372,411.56	491,768.40	
7,700.00	90.00	180.00	5,335.00	1,721.00	-2,569.94	0.00	2,569.94	0.00	372,311.56	491,768.40	
7,800.00	90.00	180.00	5,335.00	1,721.00	-2,669.94	0.00	2,669.94	0.00	372,211.56	491,768.40	
7,900.00	90.00	180.00	5,335.00	1,721.00	-2,769.94	0.00	2,769.94	0.00	372,111.56	491,768.40	
8,000.00	90.00	180.00	5,335.00	1,721.00	-2,869.94	0.00	2,869.94	0.00	372,011.56	491,768.40	
8,100.00	90.00	180.00	5,335.00	1,721.00	-2,969.94	0.00	2,969.94	0.00	371,911.56	491,768.40	
8,200.00	90.00	180.00	5,335.00	1,721.00	-3,069.94	0.00	3,069.94	0.00	371,811.56	491,768.40	
8,300.00	90.00	180.00	5,335.00	1,721.00	-3,169.94	0.00	3,169.94	0.00	371,711.56	491,768.40	



Pathfinder

Pathfinder X & Y Planning Report

PATHFINDER

Company:	Marbob	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3614.00ft (Original Well Elev)
Site:	JHS Federal	MD Reference:	WELL @ 3614.00ft (Original Well Elev)
Well:	#1H	North Reference:	Gnd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	D Leg (°/100ft)	Northing (ft)	Easting (ft)	
8,400.00	90.00	180.00	5,335.00	1,721.00	-3,269.94	0.00	3,269.94	0.00	371,611.56	491,768.40	
8,500.00	90.00	180.00	5,335.00	1,721.00	-3,369.94	0.00	3,369.94	0.00	371,511.56	491,768.40	
8,600.00	90.00	180.00	5,335.00	1,721.00	-3,469.94	0.00	3,469.94	0.00	371,411.56	491,768.40	
8,700.00	90.00	180.00	5,335.00	1,721.00	-3,569.94	0.00	3,569.94	0.00	371,311.56	491,768.40	
8,800.00	90.00	180.00	5,335.00	1,721.00	-3,669.94	0.00	3,669.94	0.00	371,211.56	491,768.40	
8,900.00	90.00	180.00	5,335.00	1,721.00	-3,769.94	0.00	3,769.94	0.00	371,111.56	491,768.40	
9,000.00	90.00	180.00	5,335.00	1,721.00	-3,869.94	0.00	3,869.94	0.00	371,011.56	491,768.40	
9,100.00	90.00	180.00	5,335.00	1,721.00	-3,969.94	0.00	3,969.94	0.00	370,911.56	491,768.40	
9,200.00	90.00	180.00	5,335.00	1,721.00	-4,069.94	0.00	4,069.94	0.00	370,811.56	491,768.40	
9,300.00	90.00	180.00	5,335.00	1,721.00	-4,169.94	0.00	4,169.94	0.00	370,711.56	491,768.40	
9,400.00	90.00	180.00	5,335.00	1,721.00	-4,269.94	0.00	4,269.94	0.00	370,611.56	491,768.40	
9,500.00	90.00	180.00	5,335.00	1,721.00	-4,369.94	0.00	4,369.94	0.00	370,511.56	491,768.40	
9,600.00	90.00	180.00	5,335.00	1,721.00	-4,469.94	0.00	4,469.94	0.00	370,411.56	491,768.40	
9,700.00	90.00	180.00	5,335.00	1,721.00	-4,569.94	0.00	4,569.94	0.00	370,311.56	491,768.40	
9,800.00	90.00	180.00	5,335.00	1,721.00	-4,670.00	0.00	4,670.00	0.00	370,211.50	491,768.40	
PBHL(JHS#1)											

Targets									
Target Name	Dip Angle	Dip Dir	TVD	+N/S	+EW	Northing	Easting	Latitude	Longitude
Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
PBHL(JHS#1)	0.00	0.00	5,335.00	-4,670.00	0.00	370,211.500	491,768.400	32° 1' 4.162 N	104° 21' 35.613 W
- plan hits target center									
- Point									

Checked By: _____ Approved By: _____ Date: _____

P. 11/11

FAX NO. 15757462523

APR-15-2010 THU 07:29 AM MARBOB ENERGY CORP



Project: Eddy County
Site: JHS Federal
Well: #1H
Wellbore: OH
Plan: Plan #1 (#1H/OH)



Azimuths to Grid North
True North: 0.01°
Magnetic North: 8.07°

Magnetic Field
Strength: 48567.2nT
Dip Angle: 59.31°
Date: 04/12/2010
Model: IGRF200510

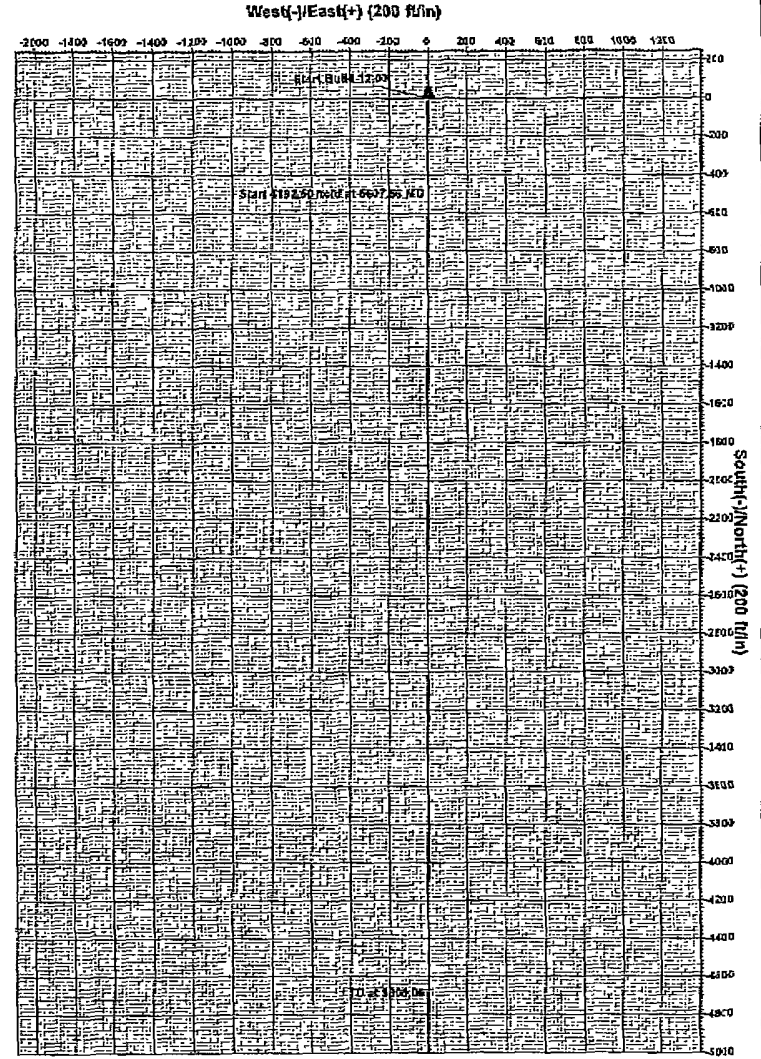
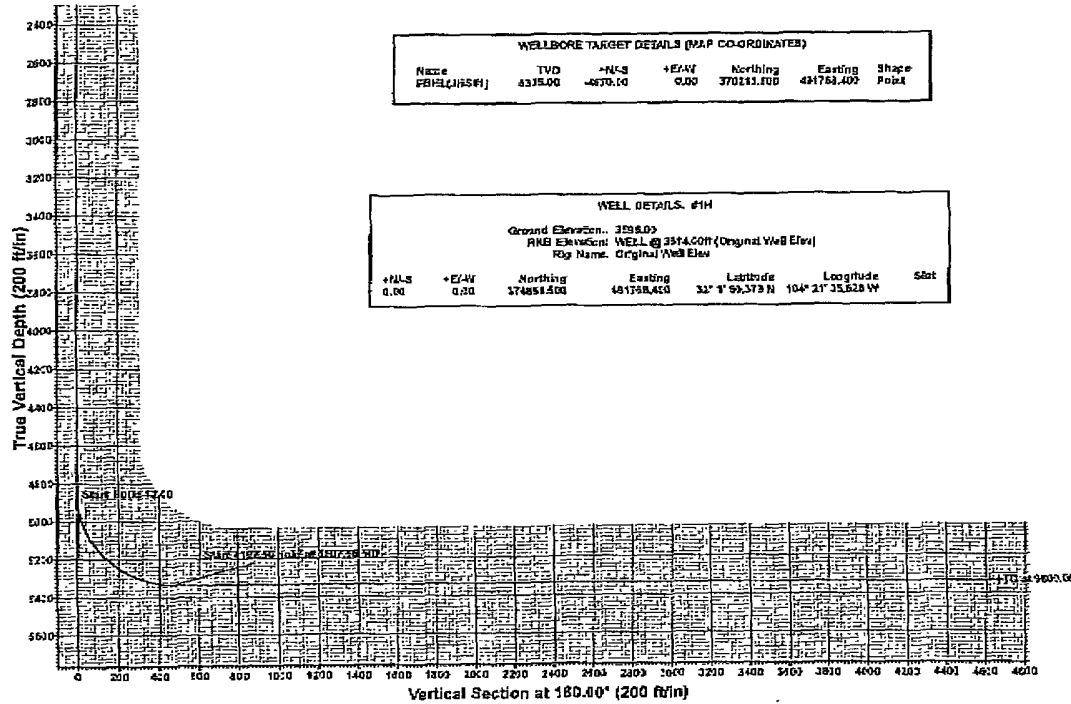
PATHFINDER

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

SECTION DETAILS									
Sec	MB	Inc	ΔZ	TVD	+NLS	+E/W	OLeg	TFace	VSec Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	4857.50	0.00	0.00	4857.50	0.00	0.00	0.00	0.00	0.00
3	5697.56	90.00	180.00	5315.00	-477.50	0.00	12.93	180.00	477.50
4	5600.05	90.00	180.00	5315.00	-4670.00	0.00	0.00	0.00	4670.00

WELLBORE TARGET DETAILS (MAP COORDINATES)					
Name	TVD	+NLS	+E/W	Northing	Easting
PBHL(JHS#1)	4335.00	-4670.00	0.00	370211.000	431763.400

WELL DETAILS: #1H					
Ground Elevation: 3595.00					
RAB Elevation: WELL @ 3514.00 (Original Well Elev)					
Rq Name: Original Well Elev					
+NLS	+E/W	Northing	Easting	Latitude	Longitude
0.00	0.00	374851.500	481758.400	32° 1' 59.373 N	104° 21' 35.828 W



Plan: Plan #1 (JHS#1H)	
Created By: Mike Stogdson	Date: 11/12/2010
Checked: _____	Date: _____

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Marbob
LEASE NO.:	NM-104666
WELL NAME & NO.:	JHS Fed 1H
SURFACE HOLE FOOTAGE:	1600' FNL & 790' FEL, Sec. 23
BOTTOM HOLE FOOTAGE:	990' FNL & 790' FEL, Sec. 26
LOCATION:	Section 23 & 26, T. 26 S., R 25 E., NMPM
COUNTY:	Eddy County, New Mexico

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

CRITICAL CAVE/KARST

Possible sulfur water flows within the Castile formation.

Possible loss of circulation in the Delaware.

Possible abnormally high pressures in the Wolfcamp, and high pressure gas down through the Pennsylvanian Section.

1. The 13-3/8 inch surface casing is set at 316 feet and cemented to surface.
2. The 9-5/8 inch intermediate casing is set at 1434 feet and cemented to surface.
3. The minimum required fill of cement behind the 7 & 5-1/2 inch production casing is:
 - a. First stage to DV tool, cement shall:
 - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool, cement shall:
 - ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.
4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling the horizontal shall be **5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

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

DHW 041510