

OCD-ARTESIA

ATS-10-343

Form 3160-3
(February 2005)FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

EA10-504

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. SL:NM96849 BL:unleased
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. <35609> Rocket Federal #3H
3b. Phone No. (include area code) 575-748-3303		9. API Well No. 30-014-38436
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 330' FSL & 230' FWL Unit M UNORTHODOX At proposed prod. zone 1650' FNL BHL: 330 FNL & 380' FWL Unit E LOCATION		10. Field and Pool, or Exploratory Willow Lake; Bone Spring SE 50404
11. Sec., T. R. M. or Blk. and Survey or Area SEC. 3, T26S-R29E		12. County or Parish Eddy
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximately 10 to 12 miles from Malaga, NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 230'	16. No. of acres in lease SL: 520 BHL: 40	17. Spacing Unit dedicated to this well 160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth TVD 7500' MD 11960' Pilot Hole 10,300' TVD	20. BLM/BIA Bond No. on file NMB000412
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2989' GL	22. Approximate date work will start* 04/22/2010	23. Estimated duration 30 Days

24. Attachments

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

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

25. Signature Nancy T. Agnew	Name (Printed/Typed) Nancy T. Agnew	Date 03/03/2010
Title Land Department		

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date MAY 13 2010
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 page 2)

Carlsbad Controlled Water Basin

OCD CONDITION OF APPROVAL of Drilling:
Intent to drill ONLY --- CANNOT produce until the Non-Standard
Location has been approved by OCD Santa Fe office.

KZ

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

UNITED STATES **OCD-ARTESIA**
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

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.

5. Lease Serial No.
NMNM96849

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE – Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. 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: 330' FSL & 230' FWL, BHL: 1650' FNL & 380' FEL
Sec 3, T26S-R29E

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

8. Well Name and No.
Rocket Federal #3H

9. API Well No.

10. Field and Pool or Exploratory Area
Willow Lake; Bone Spring SE

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 BHL Change
	☐ 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 recompleat 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 recompleat 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 change in bottom hole location:

From: 330' FNL & 380' FWL
To: 1650' FNL & 380' FWL

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

Nancy T. Agnew

Title Land Department

Signature

Nancy T. Agnew

Date 03/29/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

/s/ Don Peterson

FIELD MANAGER

MAY 13 2010

Title

Date

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.

Office

CARLSBAD FIELD OFFICE

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.

MARBOB ENERGY CORPORATION
DRILLING AND OPERATIONS PROGRAM

Rocket Federal #3H
Surf: 330' FSL & 230' FWL
BHL: ~~330'~~ FNL & 380' FWL
1680' N Section 3, T26S, 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 & estimated depths at which anticipated water, oil or gas formations are expected to be encountered are as follows:

Rustler	850'	
Top of Salt	950'	
Base of Salt	2750'	
Delaware	2950'	Oil
Bone Spring	6750'	Oil
TD(Pilot)	10200'	
TVD	7500'	
TMD	11960'	

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 ~~875'~~ and circulating cement back to surface. All intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement above the base of the 9 5/8" casing.

3. Proposed Casing Program:

Hole Size	Interval	OD Casing	New or Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
	475'								
17 1/2"	0' - 875'	13 3/8"	New	54.5#	STC	J-55	1.125	1.125	1.6
12 1/4"	875' - 2900'	9 5/8"	New	36#	STC	J-55	1.125	1.125	1.6
7 7/8"	2900' - 11960'	5 1/2"	New	17#	LTC	N-80	1.125	1.125	1.6

5. Proposed Cement Program:

- a. 13 3/8" Surf Cement to surface with 350 sk "C" light wt 13.5 yield 1.69 tail in with 200 sk "C" wt 14.8 yield 1.34.
- b. 9 5/8" Int Cement to surface with 450 sk "C" Light wt 12.7 yield 1.91 Tail in with 200 sk "C" wt 14.8 yield 1.34
- c. 5 1/2" Prod Cement 1st stage with 450 sk "H" acid soluble wt 15.0 yield 2.6, cement second stage with 450 sk "H" light wt 12.7 yield 1.91 Tail in with 100 sk "H" wt 13.0 yield 1.64. DV Tool @ 6975' TOC 2500'

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 tested to 2000# by independent tester, nipple up on 9 5/8 with 3m system tested to 3000# by 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: 3120 psi

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

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' - 875'	Fresh Water	8.4	29	N.C.
875' - 2900'	Brine	9.9 - 10.0	29	N.C.
2900' - 11960'	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.

Plan to drill pilot hole to approx. 10200' (All Bone Spring) run electric logs then set a 50 sk. plug on bottom then setting a 500' kickoff plug to drill to new bottom hole location.

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 1/2" 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: *See COA*

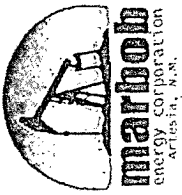
- a. Drill stem tests will be based on geological sample shows.
- b. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing: Dual Laterolog-Micro Laterolog and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
 - ii. Total Depth to Surface: Compensated Neutron with Gamma Ray
 - iii. No coring program is planned
 - iv. Additional testing will be initiated subsequent to setting the 5 1/2" 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: 3120 psi. 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.



Marbob
Eddy County
Rocket Federal
#3H
OH

Plan: Plan #1

Pathfinder X & Y Planning Report

23 March, 2010

PATHFINDER



Pathfinder

Pathfinder X & Y Planning Report



Company: Marbob Project: Eddy County Site: Rocket Federal Well: #3H Wellbore: OH Design: Plan #1		Local Co-ordinate Reference: TVD Reference: WELL @ 3007.00ft (18' KB) MD Reference: WELL @ 3007.00ft (18' KB) North Reference: Grid Survey Calculation Method: Minimum Curvature 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 Rocket Federal			
Site Position: Northing: 387,584.200 ft Easting: 611,493.900 ft Slot Radius: " Latitude: 32° 3' 54.264 N Longitude: 103° 58' 24.298 W Grid Convergence: 0.19 °			
Well #3H			
Well Position +N/-S 0.00 ft +E/-W 0.00 ft Wellhead Elevation: 0.00 ft		Latitude: 32° 3' 54.397 N Longitude: 103° 58' 44.642 W Ground Level: 2,989.00 ft	
Wellbore OH			
Magnetics Model Name Sample Date Declination (°) Dip Angle (°) Field Strength (nT)		IGRF200510 05/03/2010 7.88 60.01 48,621	
Design Plan #1			
Audit Notes:			
Version:			
Vertical Section: Depth From (TVD) (ft) Phase: PLAN Tie On Depth: 0.00 Direction (°)		+N/-S 0.00 +E/-W 0.00 0.79	
Survey Tool Program Date 03/23/2010			
From (ft) To (ft) Survey (Wellbore)		Tool Name Description	
0.00 10,639.71 Plan #1 (OH)		MWD MWD - Standard	



Pathfinder

Pathfinder X & Y Planning Report



Company:
Project:
Site:
Well:
Wellbore:
Design:

Marathon
Eddy County
Rocket Federal
#3H
OH
Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #3H
WELL @ 3007.00ft (18' KB)
WELL @ 3007.00ft (18' KB)
Grid
Minimum Curvature
Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	D Leg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,007.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
100.00	0.00	0.00	100.00	-2,907.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
200.00	0.00	0.00	200.00	-2,807.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
300.00	0.00	0.00	300.00	-2,707.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
400.00	0.00	0.00	400.00	-2,607.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
500.00	0.00	0.00	500.00	-2,507.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
600.00	0.00	0.00	600.00	-2,407.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
700.00	0.00	0.00	700.00	-2,307.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
800.00	0.00	0.00	800.00	-2,207.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
900.00	0.00	0.00	900.00	-2,107.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,000.00	0.00	0.00	1,000.00	-2,007.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,100.00	0.00	0.00	1,100.00	-1,907.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,200.00	0.00	0.00	1,200.00	-1,807.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,300.00	0.00	0.00	1,300.00	-1,707.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,400.00	0.00	0.00	1,400.00	-1,607.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,500.00	0.00	0.00	1,500.00	-1,507.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,600.00	0.00	0.00	1,600.00	-1,407.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,700.00	0.00	0.00	1,700.00	-1,307.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,800.00	0.00	0.00	1,800.00	-1,207.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
1,900.00	0.00	0.00	1,900.00	-1,107.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,000.00	0.00	0.00	2,000.00	-1,007.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,100.00	0.00	0.00	2,100.00	-907.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,200.00	0.00	0.00	2,200.00	-807.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,300.00	0.00	0.00	2,300.00	-707.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,400.00	0.00	0.00	2,400.00	-607.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,500.00	0.00	0.00	2,500.00	-507.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,600.00	0.00	0.00	2,600.00	-407.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20



Pathfinder

Pathfinder X & Y Planning Report



Company:
Project:
Site:
Well:
Wellbore:
Design:

Marbob
Eddy County
Rocket Federal
#3H
OH
Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #3H
WELL @ 3007.00ft (18' KB)
WELL @ 3007.00ft (18' KB)
Grid
Minimum Curvature
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)
2,700.00	0.00	0.00	2,700.00	-307.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,800.00	0.00	0.00	2,800.00	-207.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
2,900.00	0.00	0.00	2,900.00	-107.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,000.00	0.00	0.00	3,000.00	-7.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,100.00	0.00	0.00	3,100.00	93.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,200.00	0.00	0.00	3,200.00	193.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,300.00	0.00	0.00	3,300.00	293.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,400.00	0.00	0.00	3,400.00	393.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,500.00	0.00	0.00	3,500.00	493.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,600.00	0.00	0.00	3,600.00	593.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,700.00	0.00	0.00	3,700.00	693.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,800.00	0.00	0.00	3,800.00	793.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
3,900.00	0.00	0.00	3,900.00	893.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,000.00	0.00	0.00	4,000.00	993.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,100.00	0.00	0.00	4,100.00	1,093.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,200.00	0.00	0.00	4,200.00	1,193.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,300.00	0.00	0.00	4,300.00	1,293.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,400.00	0.00	0.00	4,400.00	1,393.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,500.00	0.00	0.00	4,500.00	1,493.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,600.00	0.00	0.00	4,600.00	1,593.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,700.00	0.00	0.00	4,700.00	1,693.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,800.00	0.00	0.00	4,800.00	1,793.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
4,900.00	0.00	0.00	4,900.00	1,893.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,000.00	0.00	0.00	5,000.00	1,993.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,100.00	0.00	0.00	5,100.00	2,093.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,200.00	0.00	0.00	5,200.00	2,193.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,300.00	0.00	0.00	5,300.00	2,293.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20



Pathfinder

Pathfinder X & Y Planning Report



Company:
Project:
Site:
Well:
Wellbore:
Design:

Marbob
Eddy County
Rocket Federal
#3H
OH
Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #3H
WELL @ 3007.00ft (18' KB)
WELL @ 3007.00ft (18' KB)
Grid
Minimum Curvature
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)
5,400.00	0.00	0.00	5,400.00	2,393.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,500.00	0.00	0.00	5,500.00	2,493.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,600.00	0.00	0.00	5,600.00	2,593.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,700.00	0.00	0.00	5,700.00	2,693.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,800.00	0.00	0.00	5,800.00	2,793.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
5,900.00	0.00	0.00	5,900.00	2,893.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,000.00	0.00	0.00	6,000.00	2,993.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,100.00	0.00	0.00	6,100.00	3,093.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,200.00	0.00	0.00	6,200.00	3,193.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,300.00	0.00	0.00	6,300.00	3,293.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,400.00	0.00	0.00	6,400.00	3,393.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,500.00	0.00	0.00	6,500.00	3,493.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,600.00	0.00	0.00	6,600.00	3,593.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,700.00	0.00	0.00	6,700.00	3,693.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,800.00	0.00	0.00	6,800.00	3,793.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
6,900.00	0.00	0.00	6,900.00	3,893.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
7,000.00	0.00	0.00	7,000.00	3,993.00	0.00	0.00	0.00	0.00	387,591.90	609,743.20
7,022.50	0.00	0.00	7,022.50	4,015.50	0.00	0.00	0.00	0.00	387,591.90	609,743.20
7,025.00	0.30	0.79	7,025.00	4,018.00	0.01	0.00	0.01	12.00	387,591.91	609,743.20
7,050.00	3.30	0.79	7,049.98	4,042.98	0.79	0.01	0.79	12.00	387,592.69	609,743.21
7,075.00	6.30	0.79	7,074.89	4,067.89	2.88	0.04	2.88	12.00	387,594.78	609,743.24
7,100.00	9.30	0.79	7,099.66	4,092.66	6.27	0.09	6.28	12.00	387,598.17	609,743.29
7,125.00	12.30	0.79	7,124.21	4,117.21	10.96	0.15	10.96	12.00	387,602.86	609,743.35
7,150.00	15.30	0.79	7,148.49	4,141.49	16.92	0.23	16.92	12.00	387,608.82	609,743.43
7,175.00	18.30	0.79	7,172.42	4,165.42	24.14	0.33	24.15	12.00	387,616.04	609,743.53
7,200.00	21.30	0.79	7,195.94	4,188.94	32.61	0.45	32.61	12.00	387,624.51	609,743.65
7,225.00	24.30	0.79	7,218.98	4,211.98	42.29	0.58	42.30	12.00	387,634.19	609,743.78



Pathfinder

Pathfinder X & Y Planning Report



Company:
Project:
Site:
Well:
Wellbore:
Design:

Marbob
Eddy County
Rocket Federal
#3H
OH
Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #3H
WELL @ 3007.00ft (18' KB)
WELL @ 3007.00ft (18' KB)
Grid
Minimum Curvature
Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
7,250.00	27.30	0.79	7,241.49	4,234.49	53.17	0.73	53.18	12.00	387,645.07	609,743.93
7,275.00	30.30	0.79	7,263.40	4,256.40	65.21	0.90	65.22	12.00	387,657.11	609,744.10
7,300.00	33.30	0.79	7,284.64	4,277.64	78.38	1.08	78.39	12.00	387,670.28	609,744.28
7,325.00	36.30	0.79	7,305.17	4,298.17	92.65	1.28	92.66	12.00	387,684.55	609,744.48
7,350.00	39.30	0.79	7,324.92	4,317.92	107.97	1.49	107.98	12.00	387,699.87	609,744.69
7,375.00	42.30	0.79	7,343.84	4,336.84	124.30	1.71	124.31	12.00	387,716.20	609,744.91
7,400.00	45.30	0.79	7,361.89	4,354.89	141.60	1.95	141.61	12.00	387,733.50	609,745.15
7,425.00	48.30	0.79	7,379.00	4,372.00	159.82	2.20	159.83	12.00	387,751.72	609,745.40
7,450.00	51.30	0.79	7,395.14	4,388.14	178.91	2.47	178.92	12.00	387,770.81	609,745.67
7,475.00	54.30	0.79	7,410.25	4,403.25	198.81	2.74	198.83	12.00	387,790.71	609,745.94
7,500.00	57.30	0.79	7,424.30	4,417.30	219.48	3.03	219.51	12.00	387,811.38	609,746.23
7,525.00	60.30	0.79	7,437.25	4,430.25	240.86	3.32	240.89	12.00	387,832.76	609,746.52
7,550.00	63.30	0.79	7,449.07	4,442.07	262.89	3.62	262.92	12.00	387,854.79	609,746.82
7,575.00	66.30	0.79	7,459.71	4,452.71	285.51	3.94	285.53	12.00	387,877.41	609,747.14
7,600.00	69.29	0.79	7,469.16	4,462.16	308.65	4.26	308.68	12.00	387,900.55	609,747.46
7,625.00	72.29	0.79	7,477.38	4,470.38	332.25	4.58	332.28	12.00	387,924.15	609,747.78
7,650.00	75.29	0.79	7,484.36	4,477.36	356.25	4.91	356.29	12.00	387,948.15	609,748.11
7,675.00	78.29	0.79	7,490.07	4,483.07	380.59	5.25	380.62	12.00	387,972.49	609,748.45
7,700.00	81.29	0.79	7,494.50	4,487.50	405.19	5.59	405.22	12.00	387,997.09	609,748.79
7,725.00	84.29	0.79	7,497.63	4,490.63	429.98	5.93	430.02	12.00	388,021.88	609,749.13
7,750.00	87.29	0.79	7,499.47	4,492.47	454.91	6.27	454.95	12.00	388,046.81	609,749.47
7,772.56	90.00	0.79	7,500.00	4,493.00	477.45	6.58	477.50	12.00	388,069.35	609,749.78
7,800.00	90.00	0.79	7,500.00	4,493.00	504.90	6.96	504.94	0.00	388,096.80	609,750.16
7,900.00	90.00	0.79	7,500.00	4,493.00	604.89	8.34	604.94	0.00	388,196.79	609,751.54
8,000.00	90.00	0.79	7,500.00	4,493.00	704.88	9.72	704.94	0.00	388,296.78	609,752.92
8,100.00	90.00	0.79	7,500.00	4,493.00	804.87	11.10	804.94	0.00	388,396.77	609,754.30
8,200.00	90.00	0.79	7,500.00	4,493.00	904.86	12.48	904.94	0.00	388,496.76	609,755.68



Pathfinder

Pathfinder X & Y Planning Report



Company: Marbob
Project: Eddy County
Site: Rocket Federal
Well: #3H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #3H
WELL @ 3007.00ft (18' KB)
WELL @ 3007.00ft (18' KB)
Grid
Minimum Curvature
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)
8,300.00	90.00	0.79	7,500.00	4,493.00	1,004.85	13.86	1,004.94	0.00	388,596.75	609,757.06
8,400.00	90.00	0.79	7,500.00	4,493.00	1,104.84	15.23	1,104.94	0.00	388,696.74	609,758.43
8,500.00	90.00	0.79	7,500.00	4,493.00	1,204.83	16.61	1,204.94	0.00	388,796.73	609,759.81
8,600.00	90.00	0.79	7,500.00	4,493.00	1,304.82	17.99	1,304.94	0.00	388,896.72	609,761.19
8,700.00	90.00	0.79	7,500.00	4,493.00	1,404.81	19.37	1,404.94	0.00	388,996.71	609,762.57
8,800.00	90.00	0.79	7,500.00	4,493.00	1,504.80	20.75	1,504.94	0.00	389,096.70	609,763.95
8,900.00	90.00	0.79	7,500.00	4,493.00	1,604.79	22.13	1,604.94	0.00	389,196.69	609,765.33
9,000.00	90.00	0.79	7,500.00	4,493.00	1,704.78	23.51	1,704.94	0.00	389,296.68	609,766.71
9,100.00	90.00	0.79	7,500.00	4,493.00	1,804.77	24.89	1,804.94	0.00	389,396.67	609,768.09
9,200.00	90.00	0.79	7,500.00	4,493.00	1,904.76	26.26	1,904.94	0.00	389,496.66	609,769.46
9,300.00	90.00	0.79	7,500.00	4,493.00	2,004.75	27.64	2,004.94	0.00	389,596.65	609,770.84
9,400.00	90.00	0.79	7,500.00	4,493.00	2,104.74	29.02	2,104.94	0.00	389,696.64	609,772.22
9,500.00	90.00	0.79	7,500.00	4,493.00	2,204.74	30.40	2,204.94	0.00	389,796.64	609,773.60
9,600.00	90.00	0.79	7,500.00	4,493.00	2,304.73	31.78	2,304.94	0.00	389,896.63	609,774.98
9,700.00	90.00	0.79	7,500.00	4,493.00	2,404.72	33.16	2,404.94	0.00	389,996.62	609,776.36
9,800.00	90.00	0.79	7,500.00	4,493.00	2,504.71	34.54	2,504.94	0.00	390,096.61	609,777.74
9,900.00	90.00	0.79	7,500.00	4,493.00	2,604.70	35.92	2,604.94	0.00	390,196.60	609,779.12
10,000.00	90.00	0.79	7,500.00	4,493.00	2,704.69	37.29	2,704.94	0.00	390,296.59	609,780.49
10,100.00	90.00	0.79	7,500.00	4,493.00	2,804.68	38.67	2,804.94	0.00	390,396.58	609,781.87
10,200.00	90.00	0.79	7,500.00	4,493.00	2,904.67	40.05	2,904.94	0.00	390,496.57	609,783.25
10,300.00	90.00	0.79	7,500.00	4,493.00	3,004.66	41.43	3,004.94	0.00	390,596.56	609,784.63
10,400.00	90.00	0.79	7,500.00	4,493.00	3,104.65	42.81	3,104.94	0.00	390,696.55	609,786.01
10,500.00	90.00	0.79	7,500.00	4,493.00	3,204.64	44.19	3,204.94	0.00	390,796.54	609,787.39
10,600.00	90.00	0.79	7,500.00	4,493.00	3,304.63	45.57	3,304.94	0.00	390,896.53	609,788.77
10,639.97	90.00	0.79	7,500.00	4,493.00	3,344.60	46.12	3,344.92	0.00	390,936.50	609,789.32

PBHL(RFED#3)



Pathfinder
Pathfinder X & Y Planning Report



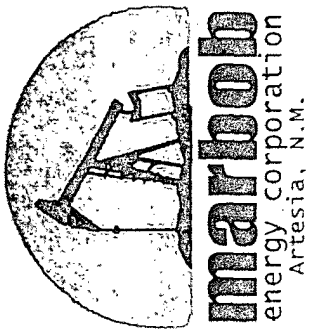
Company:	Marbob	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County	TVD Reference:	WELL @ 3007.00ft (18' KB)
Site:	Rocket Federal	MD Reference:	WELL @ 3007.00ft (18' KB)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Targets

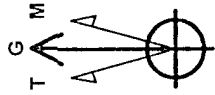
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL(RFED#3)	0.00	0.00	7,500.00	3,344.60	46.20	390,936.500	609,789.400	32° 4' 27.495 N	103° 58' 43.978 W
- hit/miss target									
- Shape									
- PBHL(RFED#3)									
- plan hits target center									
- Point									

Checked By: _____ Approved By: _____

Date: _____

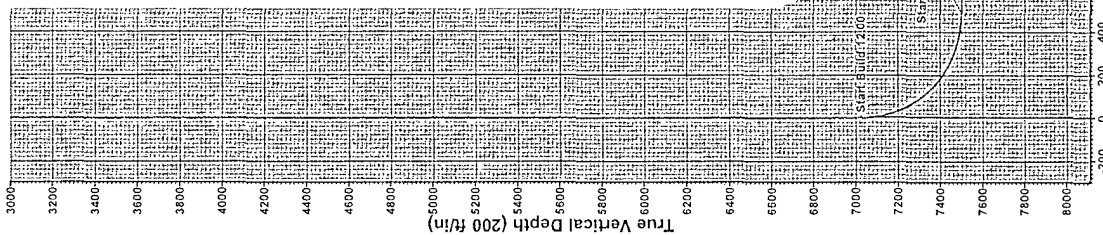


Project: Eddy County
Site: Rocket Federal
Well: #3H
Wellbore: OH
Plan: Plan #1 (#3H/OH)



Azimuths to Grid North
True North: -0.19°
Magnetic North: 7.69°
Magnetic Field
Strength: 48620.9nT
Dip Angle: 60.01°
Date: 05/03/2010
Model: IGRF200510

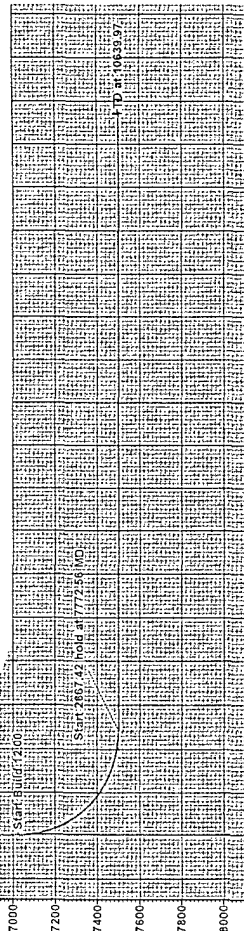
PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid



SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/S	+E/W	OLeg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	7022.50	0.00	0.00	7022.50	0.00	0.00	0.00	0.00	0.00
3	7772.56	90.00	0.79	7500.00	477.45	6.58	12.00	0.79	477.50
4	10639.97	90.00	0.79	7500.00	3344.60	46.12	0.00	0.00	3344.92 PBHL(RFED#3)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)				
Name	TVD	+N/S	+E/W	Shape
PBHL(RFED#3)	7500.00	3344.60	46.20	Point

WELL DETAILS: #3H				
Ground Elevation: 2989.00				
RXB Elevation: WELL @ 3007.00ft (18' KB)				
Rig Name: 18' KB				
+N/S	0.00	North	East	Slot
0.00	387591.900	609743.200	32° 3' 54.397 N	103° 58' 44.842 W



Vertical Section at 0.79° (200 ft/in)

PATHFINDER

West(-)/East(+) (200 ft/in)

South(-)/North(+) (200 ft/in)

