Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA
MAR 30 2009

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.

SUBMIT IN TRIPLICATE – *Other instructions on page 2.*

1. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No NMNM 113927 (11946
	6. If Indian, Allottee or Tribe Name
	7. If Unit of CA/Agreement, Name and/or No
	8. Well Name and No Noose Federal Com #5
2. Name of Operator Marbob Energy Corporation	9. API Well No.
3a. Address P O Box 227, Artesia, NM 88211-0227 3b Phone No. *(include area code)* 575-748-3303	10. Field and Pool or Exploratory Area North Seven Rivers; Glorieta-Yeso
4 Location of Well *(Footage, Sec , T.,R.,M., or Survey Description)* 1980' FNL & 1980' FWL Sec 35, T19S - R25E Roswell Controlled Water Basin	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
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Measured Depth & Cement Program
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ 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 recomplete 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 changes:

SEE ATTACHED FOR CONDITIONS OF APPROVAL

The Proposed Measured Depth. FROM: 4095' TO: 5415'

The cement program: FROM: 8 5/8" Surf - Cement to surface with 225 sk "C" Light wt 12.7 ppg yield 1.91 Tail in with 250 sk "c" wt 14.8 ppg yield 1.34
5 ½" Prod - Cement with 250 sk "H" Light wt 12.7 yield 1 91 Tail in with 200 sk acid soluble cement yield 2.6 wt 15.0 ppg TOC 1100'

TO: 5 1/2 Prod - Cement with 300 sk "H" Light wt 12.7 yield 1.91 Tail in with 360 sk acid soluble cement yield 2.6 wt 15.0 ppg TOC 800'

(I attached replacement pages if needed)

Witness CIT on the 8 5/8" casing.
Witness tag of cement plug to cover the Bone Spring formation.

Approval Subject to General Requirements & Special Stipulations Attached

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 03/24/2009

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Ryan D. Hall	Title Petroleum Engineer	Date MAR 27 2009
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 CFO	

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)

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Marbob**
LEASE NO.:	**NM 111946**
WELL NAME & NO.:	**Noose Federal Com #5 (Formerly Gulf-Federal #1)**
SURFACE HOLE FOOTAGE:	**1980' FNL & 1980' FWL**
BOTTOM HOLE FOOTAGE LOCATION:	**330' FSL & 1980' FWL Section 35, T. 19 S., R 25 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

I. DRILLING (Re-entry of Gulf-Federal #1 well)

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

1. **Hydrogen Sulfide may be encountered after drilling thru the 8 5/8 inch casing shoe. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

B. CASING

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

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

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

2. The 8 5/8 inch intermediate casing is set at 1300 feet and cemented to surface.

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

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

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

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

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

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 8 5/8 intermediate casing shoe shall be 2000 (2M) psi.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

a. The tests shall be done by an independent service company.

b. The results of the test shall be reported to the appropriate BLM office.

c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

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

RGH 032709

MARBOB ENERGY CORPORATION
DRILLING AND OPERATIONS PROGRAM

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

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Marbob Energy Corporation submits the following ten items of pertinent information in accordance with BLM requirements. Our general plan is to drill out the cement plugs to 2500', set a kickoff plug from 2500' – 2150' then build curve for a horizontal well @ 2650' TVD to new BHL of 330' FSL & 1980' FWL, run 5 ½" casing and cement to 1100'.

1. **Geological surface formation:** Permian

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

Grayburg	Surface
San Andres	902'
Yeso	2455'
TVD	2650'
TMD	5415'

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

Yeso 2455' Oil

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands are protected by 13 3/8" casing at 305' with cement circulated to surface. Any water zones below 305' are is protected by 8 5/8" casing at 1300' with cement circulated to surface. 5 ½" casing will be cemented from 3200' TD to 800' (500' overlap into 8 5/8").

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

Hole Size	Interval	OD Casing	New or Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0'–305'	13 3/8"	New	48#	STC	H-40	N/A	N/A	N/A
11"	0'-1300'	8 5/8"	New	24#	STC	K55	N/A	N/A	N/A
7 7/8"	0'-5415'	5 ½"	New	17#	LTC	J-55	1.125	1.125	1.6

5. Cement Program:

c. 5 ½" Prod	Cement with 250 sk "H" Light wt 12.7 yield 1.91 Tail in with 360 sk acid soluble cement yield 2.6 wt 15.0 ppg TOC 1100'

6. Minimum Specifications for Pressure Control:

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

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

7. Estimated BHP: 1703.52 psi

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

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' - 5415'	Cut Brine	9.0	29-32	N.C.

9. Auxiliary Well Control and Monitoring Equipment:

a. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
b. Hydrogen Sulfide detection equipment will be in operation when reentry operations start during cleanout until 5 ½" casing is cemented in place.

10. Testing, Logging and Coring Program:

No testing, logging or coring planned

11. Potential Hazards:

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

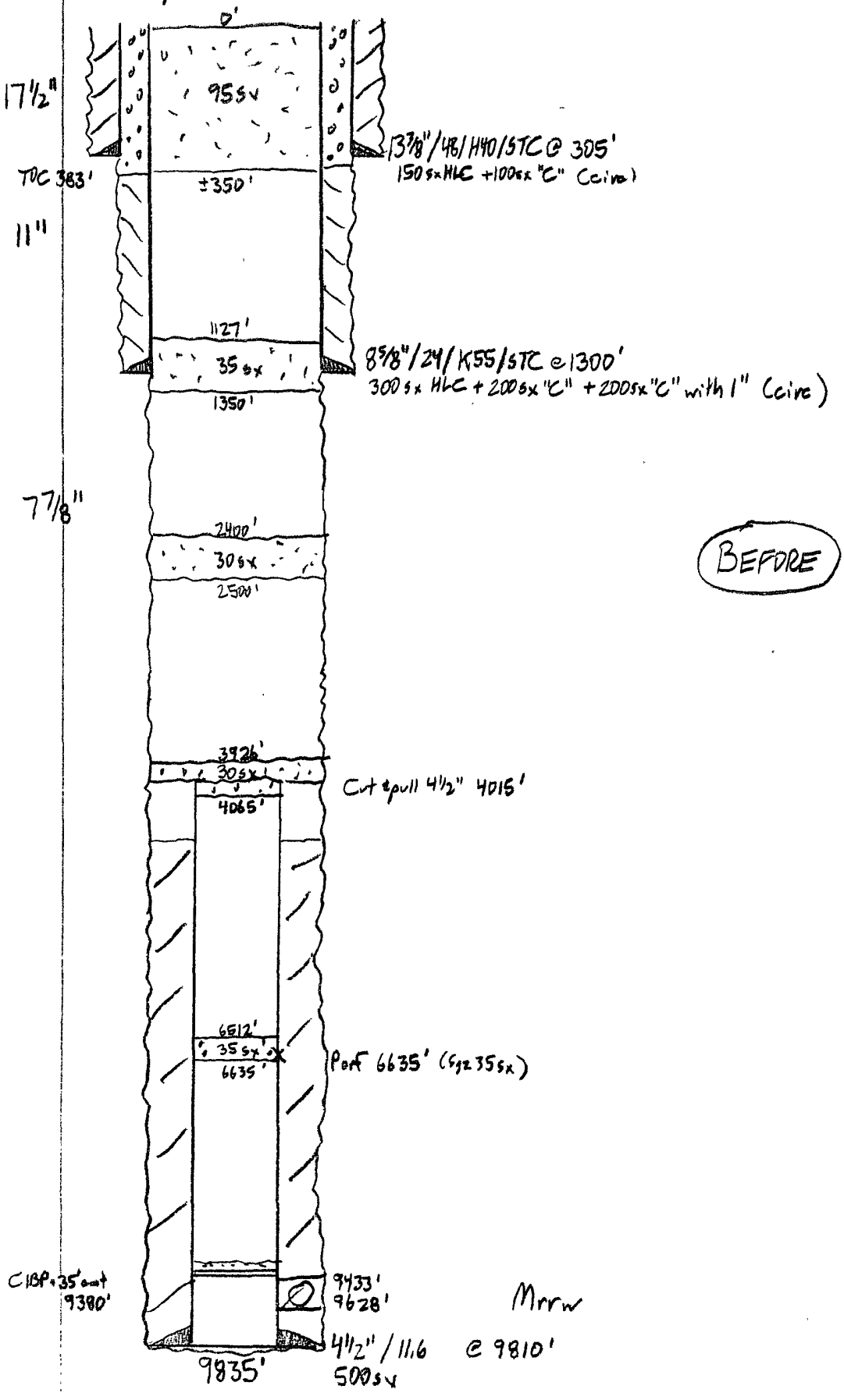
12. Anticipated starting date and Duration of Operations:

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

Noose Fed Com. 5H

1980' FNL, 1980' FWL
F-35-19S-25E
Eddy, NM

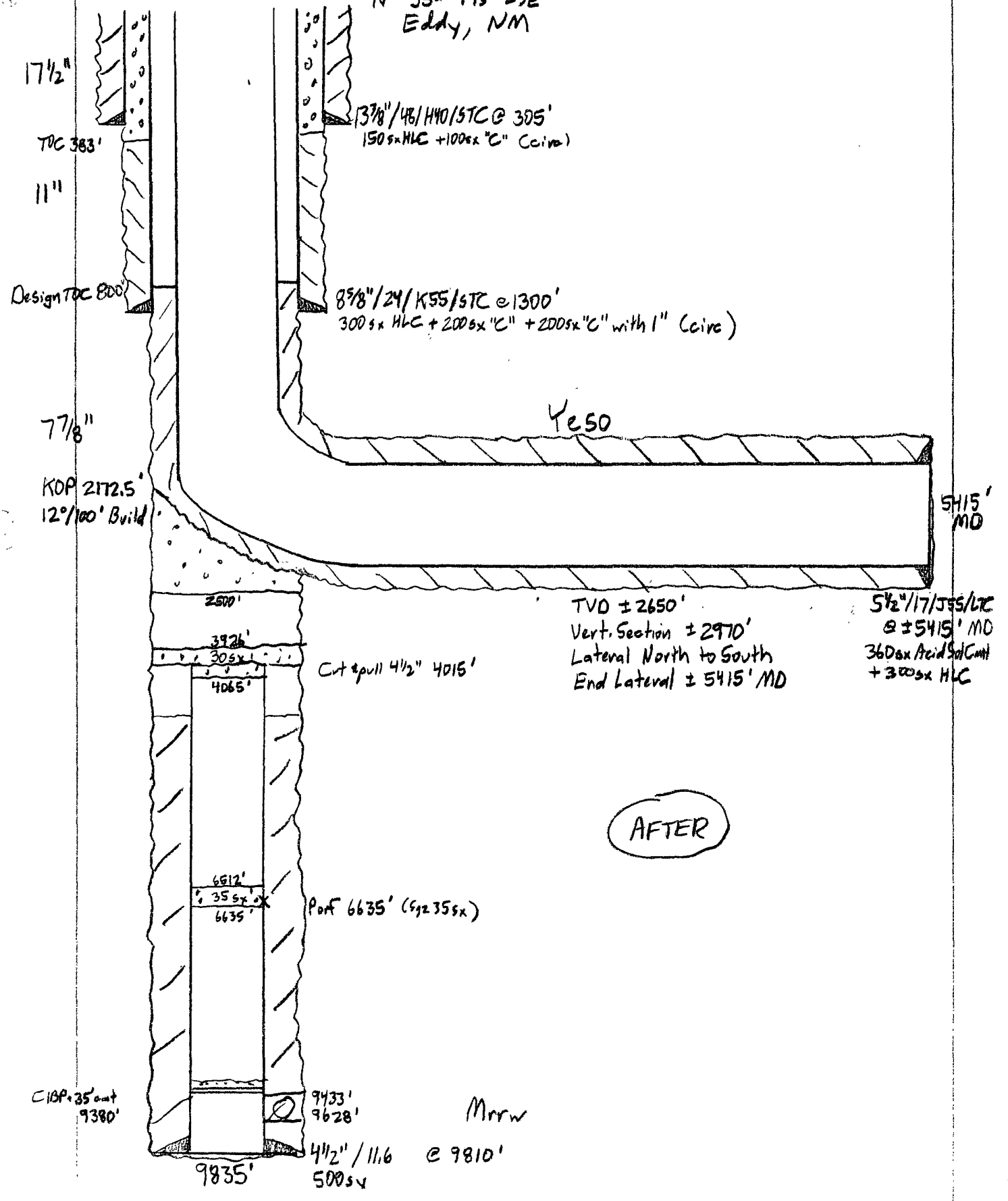
(Formerly Hilliard Gulf Fed. 1)



Noose Fed Com. 5H

1980' FNL, 1980' FWL (surface)
F-35-19s-25E
330' FSL, 1980' FWL (end lateral)
N-35-19s-25E
Eddy, NM

(Formerly Hilliard Gulf Fed. 1)



marbob
energy corporation
Artesia, N M.

Marbob

Eddy County
Noose Federal #5
Noose Fed #5
OH

Plan: Plan #1

Pathfinder X & Y Survey Report

16 March, 2009

PATHFINDER

marbob energy corporation
Artesia, N.M.

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

G T M

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

Magnetic Field
Strength: 47861 6snT
Dip Angle: 58.65°
Date: 11/20/2008
Model: IGRF200510

PATHFINDER

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

WELL DETAILS Noose Fed #5

Ground Elevation	3225 00
RKB Elevation	WELL @ 3225 00ft (Original Well Elev)
Rig Name	Original Well Elev

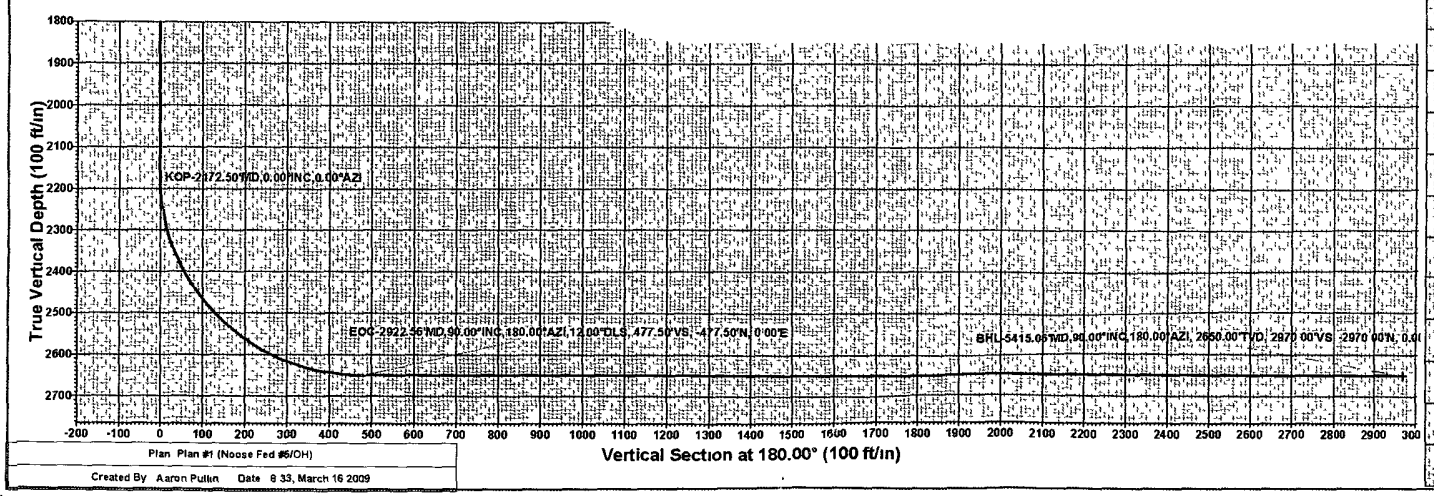
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	0 000	0 000	30° 59' 24 512 N	105° 55' 44 137 W	

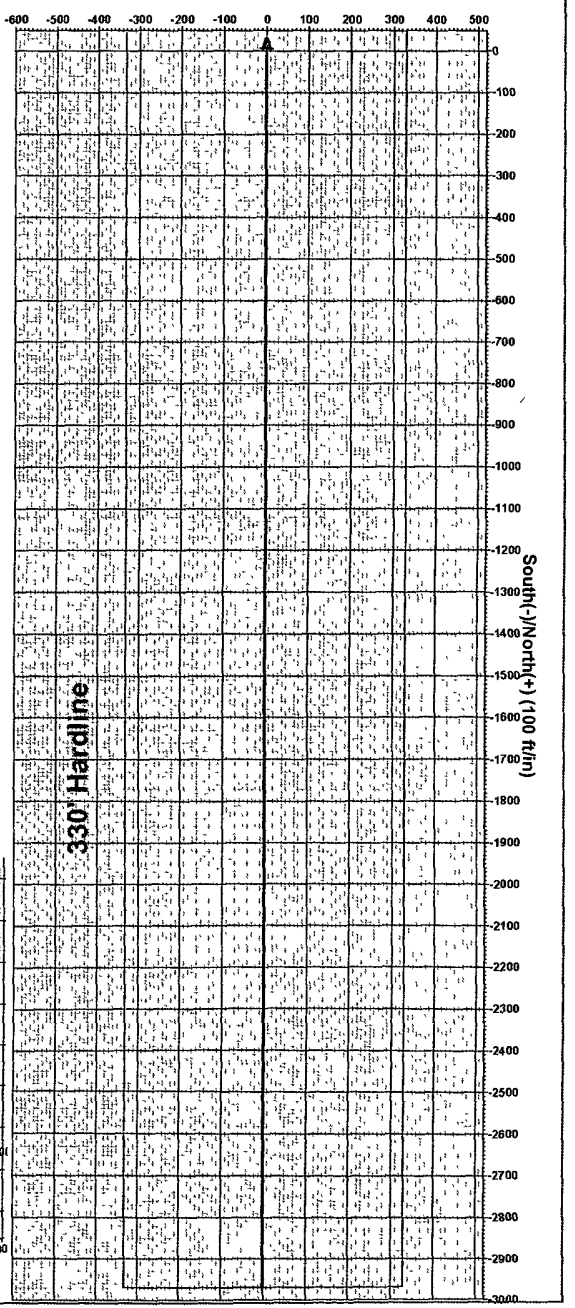
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	2172 50	0 00	0 00	2172 50	0 00	0 00	0 00	0 00	0 00	
3	2922 56	90 00	180 00	2650 00	-477 50	0 00	12 00	180 00	477 50	
4	5415 06	90 00	180 00	2650 00	-2970 00	0 00	0 00	0 00	2970 00	PBHL (Noose #5)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (Noose #5)	2650 00	-2970 00	0 00	-2970 000	0 000	Point





Plan Plan #1 (Noose Fed #5/OH)
Created By Aaron Pullen Date 8 33, March 16 2009

Pathfinder Energy Services

Pathfinder X & Y Survey Report

Company:	Marbob	**Local Co-ordinate Reference:**	Well Noose Fed #5
Project:	Eddy County	**TVD Reference:**	WELL @ 3225 00ft (Original Well Elev)
Site:	Noose Federal #5	**MD Reference:**	WELL @ 3225 00ft (Original Well Elev)
Well:	Noose Fed #5	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Project Eddy County

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

Site Noose Federal #5

Site Position:		**Northing**	ft	**Latitude:**	
From:	None	**Easting:**	ft	**Longitude:**	
Position Uncertainty:	0 00 ft	**Slot Radius:**	"	**Grid Convergence:**	0 00 °

Well Noose Fed #5

Well Position	**+N/-S**	0 00 ft	**Northing:**	0 000 ft	**Latitude:**	30° 59' 24 512 N
	+E/-W	0 00 ft	**Easting**	0 000 ft	**Longitude:**	105° 55' 44 137 W
Position Uncertainty		0 00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,225 00 ft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	11/20/2008	8 77	58 65	47,862

Design Plan #1

Audit Notes:

Version:		**Phase**	PLAN	**Tie On Depth:**	0 00

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0 00	0 00	0 00	180 00

Survey Tool Program Date 03/16/2009

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
0 00	5,415 06	Plan #1 (OH)	MWD	MWD - Standard

Company:	Marbob	**Local Co-ordinate Reference:**	Well Noose Fed #5
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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)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0 00	0 00	0 00	0 00	-3,225 00	0 00	0 00	0 00	0 00	0 00	0.00
100 00	0 00	0 00	100 00	-3,125 00	0 00	0 00	0 00	0 00	0 00	0 00
200 00	0 00	0 00	200 00	-3,025 00	0 00	0 00	0 00	0 00	0 00	0 00
300 00	0 00	0 00	300 00	-2,925 00	0 00	0 00	0 00	0 00	0 00	0 00
400 00	0 00	0 00	400 00	-2,825 00	0 00	0 00	0 00	0 00	0 00	0 00
500 00	0 00	0 00	500 00	-2,725 00	0 00	0 00	0 00	0 00	0 00	0 00
600 00	0 00	0 00	600 00	-2,625 00	0 00	0 00	0 00	0 00	0 00	0 00
700 00	0 00	0 00	700 00	-2,525 00	0 00	0 00	0 00	0 00	0 00	0 00
800 00	0.00	0 00	800 00	-2,425 00	0 00	0 00	0 00	0 00	0 00	0 00
900 00	0 00	0 00	900 00	-2,325 00	0 00	0 00	0 00	0 00	0 00	0 00
1,000 00	0 00	0 00	1,000 00	-2,225 00	0 00	0 00	0 00	0 00	0 00	0 00
1,100 00	0 00	0 00	1,100 00	-2,125 00	0 00	0 00	0 00	0 00	0 00	0 00
1,200 00	0 00	0 00	1,200 00	-2,025 00	0 00	0 00	0 00	0 00	0 00	0 00
1,300 00	0 00	0 00	1,300 00	-1,925 00	0 00	0 00	0 00	0 00	0 00	0 00
1,400 00	0 00	0 00	1,400 00	-1,825 00	0 00	0 00	0 00	0 00	0 00	0 00
1,500 00	0 00	0 00	1,500 00	-1,725 00	0 00	0 00	0 00	0 00	0 00	0 00
1,600 00	0 00	0 00	1,600 00	-1,625 00	0 00	0 00	0 00	0.00	0 00	0 00
1,700 00	0 00	0 00	1,700 00	-1,525 00	0 00	0 00	0 00	0 00	0 00	0 00
1,800 00	0 00	0 00	1,800 00	-1,425 00	0 00	0 00	0 00	0 00	0 00	0 00
1,900 00	0 00	0 00	1,900 00	-1,325 00	0 00	0 00	0 00	0 00	0 00	0 00
2,000 00	0 00	0 00	2,000 00	-1,225 00	0 00	0 00	0 00	0 00	0 00	0 00
2,100 00	0 00	0 00	2,100 00	-1,125 00	0 00	0 00	0 00	0 00	0 00	0 00
2,172 50	0 00	0 00	2,172 50	-1,052 50	0 00	0 00	0 00	0 00	0 00	0 00
KOP-2172.50'MD,0.00°INC,0 00°AZI										
2,175 00	0 30	180 00	2,175 00	-1,050 00	-0 01	0 00	0 01	12 00	-0 01	0 00
2,200 00	3 30	180 00	2,199 98	-1,025 02	-0 79	0 00	0 79	12 00	-0 79	0 00
2,225 00	6 30	180 00	2,224 89	-1,000 11	-2 88	0 00	2 88	12 00	-2 88	0 00

Company:	Marbob	**Local Co-ordinate Reference:**	Well Noose Fed #5
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Well:	Noose Fed #5	**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)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,250 00	9 30	180 00	2,249 66	-975 34	-6 28	0 00	6 28	12 00	-6 28	0 00
2,275 00	12 30	180 00	2,274 21	-950 79	-10 96	0 00	10 96	12 00	-10 96	0 00
2,300 00	15 30	180 00	2,298 49	-926 51	-16 92	0 00	16 92	12 00	-16 92	0 00
2,325 00	18 30	180 00	2,322 42	-902 58	-24 15	0 00	24 15	12 00	-24 15	0 00
2,350 00	21 30	180 00	2,345 94	-879 06	-32 61	0 00	32 61	12 00	-32 61	0 00
2,375 00	24 30	180 00	2,368 98	-856 02	-42 30	0 00	42 30	12 00	-42 30	0 00
2,400 00	27 30	180 00	2,391 49	-833 51	-53 18	0 00	53 18	12 00	-53 18	0 00
2,425 00	30 30	180 00	2,413 40	-811 60	-65 22	0 00	65 22	12 00	-65 22	0 00
2,450 00	33 30	180 00	2,434 64	-790 36	-78 39	0 00	78 39	12 00	-78 39	0 00
2,475 00	36 30	180 00	2,455 17	-769 83	-92 66	0 00	92 66	12 00	-92 66	0 00
2,500 00	39 30	180 00	2,474 92	-750 08	-107 98	0 00	107 98	12 00	-107 98	0 00
2,525 00	42 30	180 00	2,493 84	-731 16	-124 31	0 00	124 31	12 00	-124 31	0 00
2,550 00	45 30	180 00	2,511 89	-713 11	-141 61	0 00	141 61	12 00	-141 61	0 00
2,575 00	48 30	180 00	2,529 00	-696 00	-159 83	0 00	159 83	12 00	-159 83	0 00
2,600 00	51 30	180 00	2,545 14	-679 86	-178 92	0 00	178 92	12 00	-178 92	0 00
2,625 00	54 30	180 00	2,560 25	-664 75	-198 83	0 00	198 83	12 00	-198 83	0 00
2,650 00	57 30	180 00	2,574 30	-650 70	-219 51	0 00	219 51	12 00	-219 51	0 00
2,675 00	60 30	180 00	2,587 25	-637 75	-240 89	0 00	240 89	12 00	-240 89	0 00
2,700 00	63 30	180 00	2,599 07	-625 93	-262 92	0 00	262 92	12 00	-262 92	0 00
2,725 00	66 30	180 00	2,609 71	-615 29	-285 53	0 00	285 53	12 00	-285 53	0 00
2,750 00	69 29	180 00	2,619 16	-605 84	-308 68	0 00	308 68	12 00	-308 68	0 00
2,775 00	72 29	180 00	2,627 38	-597 62	-332 28	0 00	332 28	12 00	-332 28	0 00
2,800 00	75 29	180 00	2,634 36	-590 64	-356 29	0 00	356 29	12 00	-356 29	0 00
2,825 00	78 29	180 00	2,640 07	-584 93	-380 62	0 00	380 62	12 00	-380 62	0 00
2,850 00	81 29	180 00	2,644 50	-580 50	-405 22	0 00	405 22	12 00	-405 22	0 00
2,875 00	84 29	180 00	2,647 63	-577 37	-430 02	0 00	430 02	12 00	-430 02	0 00
2,900 00	87 29	180 00	2,649 47	-575 53	-454 95	0 00	454 95	12 00	-454 95	0 00

Company:	Marbob	**Local Co-ordinate Reference:**	Well Noose Fed #5
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Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,922 56	90 00	180 00	2,650 00	-575 00	-477 50	0 00	477 50	12 00	-477 50	0 00
EOC-2922 56'MD,90.00°INC,180.00°AZI,12.00°DLS, 477.50'VS, -477.50'N, 0.00'E										
3,000 00	90 00	180 00	2,650 00	-575 00	-554 94	0 00	554 94	0 00	-554 94	0 00
3,100 00	90 00	180 00	2,650 00	-575 00	-654 94	0 00	654 94	0 00	-654 94	0 00
3,200 00	90 00	180 00	2,650 00	-575 00	-754 94	0 00	754 94	0 00	-754 94	0 00
3,300 00	90 00	180 00	2,650 00	-575 00	-854 94	0 00	854 94	0 00	-854 94	0 00
3,400 00	90 00	180 00	2,650 00	-575 00	-954 94	0 00	954 94	0 00	-954 94	0 00
3,500 00	90 00	180 00	2,650 00	-575 00	-1,054 94	0 00	1,054 94	0 00	-1,054 94	0 00
3,600 00	90 00	180 00	2,650 00	-575 00	-1,154 94	0 00	1,154 94	0 00	-1,154 94	0 00
3,700 00	90 00	180 00	2,650 00	-575 00	-1,254 94	0 00	1,254 94	0 00	-1,254 94	0 00
3,800 00	90 00	180 00	2,650 00	-575 00	-1,354 94	0 00	1,354 94	0 00	-1,354 94	0 00
3,900 00	90 00	180 00	2,650 00	-575 00	-1,454 94	0 00	1,454 94	0 00	-1,454 94	0 00
4,000 00	90 00	180 00	2,650 00	-575 00	-1,554 94	0 00	1,554 94	0 00	-1,554 94	0 00
4,100 00	90 00	180 00	2,650 00	-575 00	-1,654 94	0 00	1,654 94	0 00	-1,654 94	0 00
4,200 00	90 00	180 00	2,650 00	-575 00	-1,754 94	0 00	1,754 94	0 00	-1,754 94	0 00
4,300 00	90 00	180 00	2,650 00	-575 00	-1,854 94	0 00	1,854 94	0 00	-1,854 94	0 00
4,400 00	90 00	180 00	2,650 00	-575 00	-1,954 94	0 00	1,954 94	0 00	-1,954 94	0 00
4,500 00	90 00	180 00	2,650 00	-575 00	-2,054 94	0 00	2,054 94	0 00	-2,054 94	0 00
4,600 00	90 00	180 00	2,650 00	-575 00	-2,154 94	0 00	2,154 94	0 00	-2,154 94	0 00
4,700 00	90 00	180 00	2,650 00	-575 00	-2,254 94	0 00	2,254 94	0 00	-2,254 94	0 00
4,800 00	90 00	180 00	2,650 00	-575 00	-2,354 94	0 00	2,354 94	0 00	-2,354 94	0 00
4,900 00	90 00	180 00	2,650 00	-575 00	-2,454 94	0 00	2,454 94	0 00	-2,454 94	0 00
5,000 00	90 00	180 00	2,650 00	-575 00	-2,554 94	0 00	2,554 94	0 00	-2,554 94	0 00
5,100 00	90 00	180 00	2,650 00	-575 00	-2,654 94	0 00	2,654 94	0 00	-2,654 94	0 00
5,200 00	90 00	180 00	2,650 00	-575 00	-2,754 94	0 00	2,754 94	0 00	-2,754 94	0 00
5,300 00	90 00	180 00	2,650 00	-575 00	-2,854 94	0 00	2,854 94	0 00	-2,854 94	0 00
5,400 00	90 00	180 00	2,650 00	-575 00	-2,954 94	0 00	2,954 94	0 00	-2,954 94	0 00

Pathfinder Energy Services

Pathfinder X & Y Survey Report

Company:	Marbob	**Local Co-ordinate Reference:**	Well Noose Fed #5
Project:	Eddy County	**TVD Reference:**	WELL @ 3225 00ft (Original Well Elev)
Site:	Noose Federal #5	**MD Reference:**	WELL @ 3225 00ft (Original Well Elev)
Well:	Noose Fed #5	**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)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,415 06	90 00	180 00	2,650 00	-575 00	-2,970 00	0 00	2,970 00	0 00	-2,970 00	0 00

BHL-5415.06'MD,90.00°INC,180.00°AZI, 2650 00'TVD, 2970.00'VS, -2970.00'N, 0.00'E - PBHL (Noose #5)

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL (Noose #5) - plan hits target - Point	0 00	360 00	2,650 00	-2,970 00	0 00	-2,970 000	0 000	30° 58' 55 125 N	105° 55' 43 648 W

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,172 50	2,172 50	0 00	0 00	KOP-2172 50'MD,0 00°INC,0 00°AZI
2,922 56	2,650 00	-477 50	0 00	EOC-2922 56'MD,90 00°INC,180 00°AZI,12 00°DLS, 477 50'VS, -477 5
5,415 06	2,650 00	-2,970 00	0 00	BHL-5415 06'MD,90 00°INC,180 00°AZI, 2650 00'TVD, 2970 00'VS, -2

Checked By. _____ Approved By. _____ Date: _____

marbob energy corporation
Artesia, N.M.

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

G T M

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

Magnetic Field
Strength: 47861 6snT
Dip Angle 58.65°
Date: 11/20/2008
Model: IGRF200510

PATHFINDER

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

WELL DETAILS Noose Fed #5

Ground Elevation	3225 00
RKB Elevation	WELL @ 3225 00ft (Original Well Elev)
Rig Name	Original Well Elev

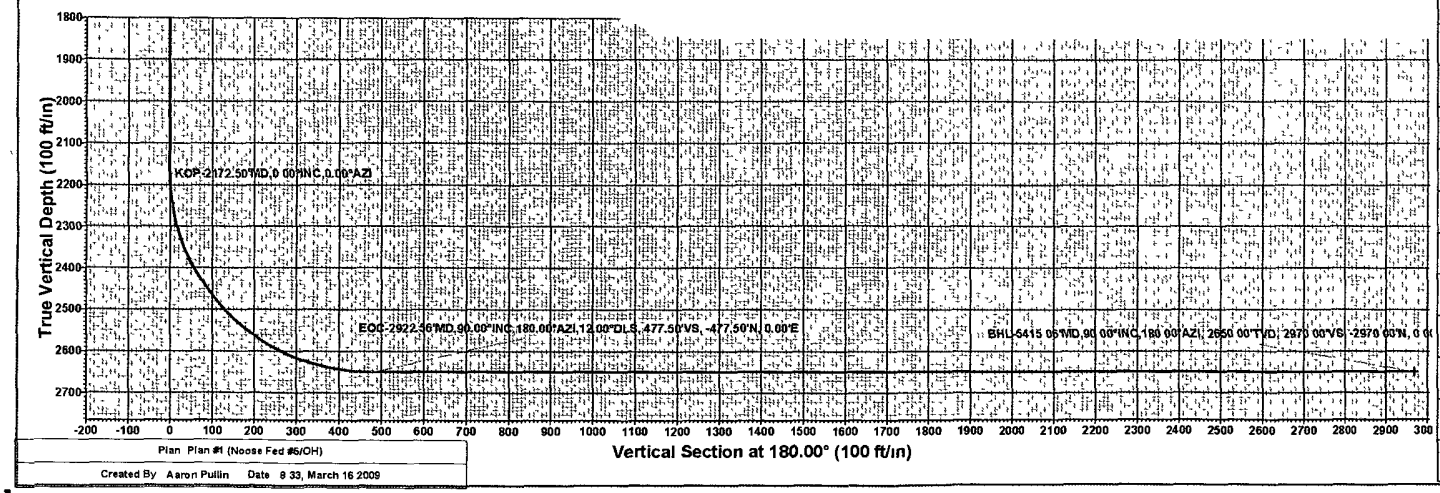
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	0 000	0 000	30° 59' 24 512 N	105° 55' 44 137 W	

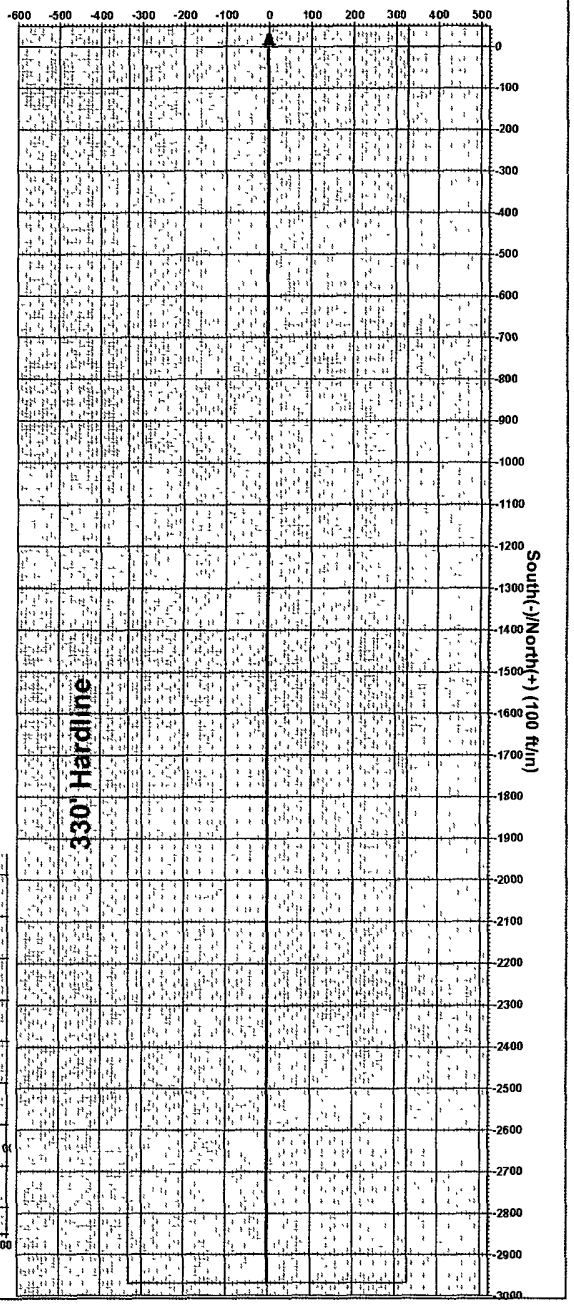
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	2172 50	0 00	0 00	2172 50	0 00	0 00	0 00	0 00	0 00	
3	2922 56	90 00	180 00	2650 00	-477 50	0 00	12 00	180 00	477 50	
4	5415 06	90 00	180 00	2650 00	-2970 00	0 00	0 00	0 00	2970 00	PBHL (Noose #5)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (Noose #5)	2650 00	-2970 00	0 00	-2970 000	0 000	Point





Plan Plan #1 (Noose Fed #5/OH)
Created By Aaron Pullin Date 8 33, March 16 2009