

OCD Hobbs

Form 3160-3  
(March 2012)  
**ORTHODOX LOCATION**

**HOBBS OCD**

FORM APPROVED  
OMB No. 1004-0137  
Expires October 31, 2014

(H)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
JUN 20 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		RECEIVED	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.	
2. Name of Operator Mewbourne Oil Company (14744)		8. Lease Name and Well No. Qurecho 28 OB FED COM #1H (313386)	
3a. Address PO Box 5270 Hobbs, NM 88241		9. API Well No. 30-025-41933	
3b. Phone No. (include area code) 575-393-5905		10. Field and Pool, or Exploratory Querecho Plains Bone Spring (50510)	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 170' FSL & 1420' FEL Sec. 28 T18S R32E (O) At proposed prod. zone 330' FNL & 2310' FEL Sec. 28 T 18S R32E (B)		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 28 T18S R32E	
14. Distance in miles and direction from nearest town or post office* 9.5 miles S of Maljamar, NM		12. County or Parish Lea	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 170'	16. No. of acres in lease NMNM4609-480 NMNM94970-160	17. Spacing Unit dedicated to this well 160	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. QUERECHO 28 NC FEDERAL #001H 1600'	19. Proposed Depth 14,125' - MD 9384' - TUD	20. BLM/BIA Bond No. on file NM-1693 nationwide, NMB-000919	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3714' - GL	22. Approximate date work will start* 01/21/2014	23. Estimated duration 60 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.
- 2. A Drilling Plan.
- 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).
- 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 BLM.

25. Signature <i>Bradley Bishop</i>	Name (Printed/Typed)	Date 1-10-14
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Title

Approved by (Signature)	Name (Printed/Typed) <b>STEPHEN J. CAFFEY</b>	Date 6/17/14
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Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE
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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, 2 E-PERMITTING - CSNG \_\_\_\_\_  
 Title 18 U.S.C. Section 1001 and T P&A \_\_\_\_\_ TA \_\_\_\_\_  
 States any false, fictitious or fraud COMP \_\_\_\_\_ **NEW WELL** \_\_\_\_\_  
 (Continued on page 2) LOC CHG \_\_\_\_\_

wingly and willfully to make to any department or agency of the United irisdiction.  
 \*(Instructions on page 2)

CAPTAIN CONTROLLE

*Ka*  
06/23/14

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Approval Subject to General Requirements  
& Special Stipulations Attached

JUN 24 2014

# Mewbourne Oil Company

PO Box 5270  
Hobbs, NM 88241  
(575) 393-5905

HOBBS OCD

JUN 20 2014

RECEIVED

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 22 day of November, 2013.

Name: NM Young

Signature:  FOR NM YOUNG

Position Title: Hobbs District Manager

Address: PO Box 5270, Hobbs NM 88241

Telephone: 575-393-5905

E-mail: myoung@mewbourne.com

**Drilling Program**  
**Mewbourne Oil Company**  
 Querecho 28 OB Federal #1H  
 170' FSL & 1420' FEL (SHL)  
 Sec 28-T18S-R32E  
 Lea County, New Mexico

**1. The estimated tops of geological markers are as follows:**

Rustler	1150'
Top Salt	1315'
Base Salt/Tansill	2520'
*Yates	2730'
Seven Rivers	3210'
*Queen	3840'
Grayburg	4320'
San Andres	4520'
*Lamar/Delaware	4630'
*Bone Springs	6980'
*1 <sup>st</sup> Bone Spring Sand	8440'
*2 <sup>nd</sup> Bone Spring Sand	9120'
3 <sup>rd</sup> Bone Spring Sand	Will Not Penetrate
Wolfcamp	Will Not Penetrate

**2. Estimated depths of anticipated fresh water, oil, or gas:**

Water	Fresh water is anticipated @ 350' and will be protected by setting surface casing at <del>1175'</del> <sup>1225'</sup> and cementing to surface.
Hydrocarbons	Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as necessary.

**3. Pressure control equipment:**

A 2000# WP Annular will be installed after running 13 3/8" casing. A 3000# WP Double Ram BOP and 3000# WP Annular will be installed after running 9 5/8" & 7" casing. Pressure tests will be conducted prior to drilling out under all casing strings. BOP controls will be installed prior to drilling under surface casing and will remain in use until completion of drilling operations. BOP's will be inspected and operated as recommended in Onshore Order #2. A Kelly cock and a sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position when the Kelly is not in use.

Will test the 13 3/8" annular BOPE to 1250#. Will test 9 5/8" & 7" BOPE to 3000# and the Annular to 1500#. All BOPE tests will be done with third party testing company before drilling below each shoe, but will test again, if needed, in 30 days from the 1<sup>st</sup> test as per BLM Onshore Oil and Gas Order #2

4. MOC proposes to drill a vertical wellbore to 8987' & kick off to horizontal @ 9464' TVD. The well will be drilled to 14125' MD (9384' TVD). See attached directional plan.

**5. Proposed casing and cementing program:**

**A. Casing Program:**

<u>Hole Size</u>	<u>Casing</u>	<u>Wt/Ft.</u>	<u>Grade</u>	<u>Depth</u>	<u>Jt Type</u>
17 1/2"	13 3/8" (new)	48#	H40	0' - <del>1175'</del> <sup>1225'</sup>	ST&C
12 1/4"	9 5/8" (new)	36#	J55	0' - <del>2780'</del> <sup>2650'</sup> MD	LT&C
8 3/4"	7" (new)	26#	P110	0' - 8987' MD	LT&C
8 3/4"	7" (new)	26#	P110	8987' - 9745' MD	BT&C
6 1/8"	4 1/2" (new)	13.5#	P110	9545' - TD	LT&C

Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8.  
\*Subject to availability of casing.

**B. Cementing Program:**

- i. Surface Casing: 650 sks Class C light cement with salt & LCM. Yield at 2.15 cuft/sk. Mix water @ 11.29 gal/sk. 200 sks Class C cement containing 1% CaCl<sub>2</sub>. Yield at 1.33 cuft/sk. Mix water @ 6.34 gal/sk. Cmt circulated to surface w/100% excess.
- See COA  
ii. Intermediate Casing: 400 sacks Class C light cement with salt & LCM. Yield at 2.15 cuft/sk. Mix water @ 11.29 gal/sk. 200 sacks Class C cement. Yield at 1.33 cuft/sk. Mix water @ 6.34 gal/sk. Cmt circulated to surface w/25% excess.
- iii. Production Casing: 450 sks Class "H" light cement w/salt, FL & LCM additives. Yeild @ 2.12 cuft/sk. Mix water @ 11.12 gal/sk. 400 sks Class "H" cement w/ salt & FL additives. Yeild @ 1.18 cuft/sk. Mix water @ 5.25 gal/sk. Cmt calculated to tie back 200' into 9 5/8" casing @ ~~2580'~~ w/25% excess.
- See COA  
ii. Production Liner: This will be a Packer/Port completion from TD up inside 7" casing with packer type liner hanger.

\*Referring to above blends of light cement: (65% fly ash : 35% cement : 4% bentonite of the total of first two numbers). Generic names of additives are used since the availability of specific company and products are unknown at this time.

**6. Mud Program:**

See COA

Interval	Type System	Weight	Viscosity	Fluid Loss
0' - 1175' <sup>1205'</sup>	FW spud mud	8.6-9.0	32-34	NA
1175' - 2780' <sup>2650'</sup>	Brine water	10.0-10.2	28-30	NA
2780' - 8987' (KOP)	FW	8.5-8.7	28-30	NA
8987' - TD	FW w/Polymer	8.5-8.7	32-35	15

\*Visual mud monitoring system shall be in place to detect volume changes indicating loss or gain of circulation fluid volume. Sufficient mud materials will be kept on location at all times to combat abnormal conditions.

**7. Evaluation Program:**

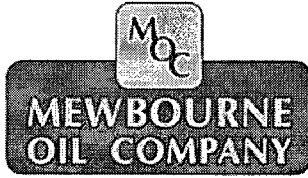
Samples: 10' samples from KOP to TD  
Logging: GR, CN & Gyro 100' above KOP (8887') to surface. GR from 8887' to TD.

**8. Downhole Conditions**

Zones of abnormal pressure: None anticipated  
Zones of lost circulation: Anticipated in surface and intermediate holes  
Maximum bottom hole temperature: 120 degree F  
Maximum bottom hole pressure: 8.3 lbs/gal gradient or less(.43668 x 9464'=4104 psi)

**9. Anticipated Starting Date:**

Mewbourne Oil Company intends to drill this well as soon as possible after receiving approval with approximately 40 days involved in drilling operations and an additional 20 days involved in completion operations on the project.



# Mewbourne Oil Company .

Lea County N.M.

Section 28-18S-32E Querecho 28 OB Fed Com#1H

Querecho 28 OB Federal #1H

Original Hole

Plan: Plan#2

## Standard Planning Report - Geographic

13 January, 2014





# Stryker Directional Planning Report - Geographic



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#2		

<b>Project</b>	Lea County N.M.		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H		
<b>Site Position:</b>	<b>Northing:</b>	623,049.30 usft	<b>Latitude:</b> 32° 42' 41.688 N
<b>From:</b> Map	<b>Easting:</b>	674,236.10 usft	<b>Longitude:</b> 103° 46' 0.686 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b> 13-3/16"	<b>Grid Convergence:</b> 0.31°

<b>Well</b>	Querecho 28 OB Federal #1H		
<b>Well Position</b>	<b>+N-S</b>	0.0 usft	<b>Northing:</b> 623,049.30 usft
	<b>+E-W</b>	0.0 usft	<b>Easting:</b> 674,236.10 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 3,714.0 usft

<b>Wellbore</b>	Original Hole
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/19/2013	7.41	60.54	48,643

<b>Design</b>	Plan#2
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<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N-S (usft)</b>	<b>+E-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	349.07

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,977.9	0.00	0.00	8,977.9	0.0	0.0	0.00	0.00	0.00	0.00	
9,753.3	91.06	333.91	9,465.7	446.3	-218.5	11.74	11.74	-3.36	333.91	
9,846.0	91.06	333.91	9,464.0	529.6	-259.3	0.00	0.00	0.00	0.00	LP Querecho 28 Of
10,815.0	91.06	353.30	9,445.9	1,454.6	-531.5	2.00	0.00	2.00	89.81	
14,160.7	91.06	353.30	9,384.0	4,776.8	-922.0	0.00	0.00	0.00	0.00	PBHL Querecho 28



COMPANY: Mewbourne Oil Company  
 WELL: Querecho 28 OB Federal #1H  
 COUNTY: Lea County N.M.  
 DATUM: NAD 1927 (NADCON CONUS)  
 RIG: Patterson 36

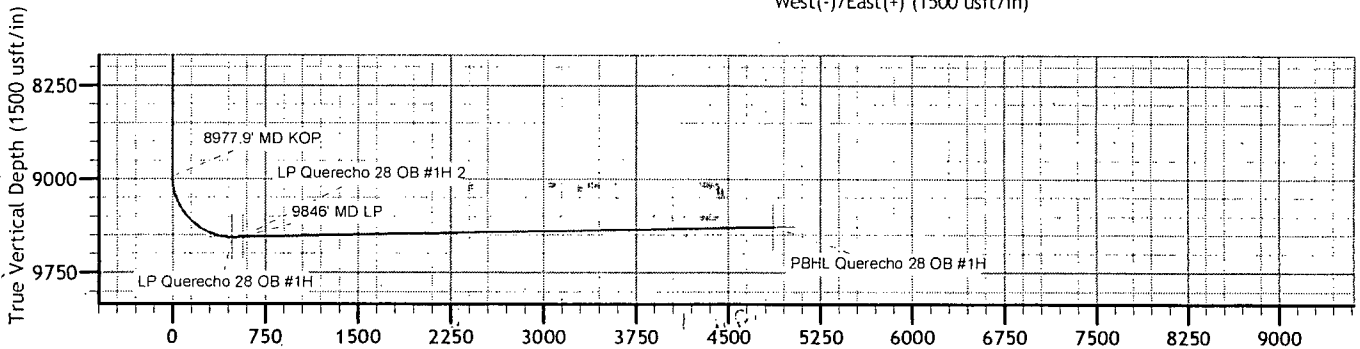
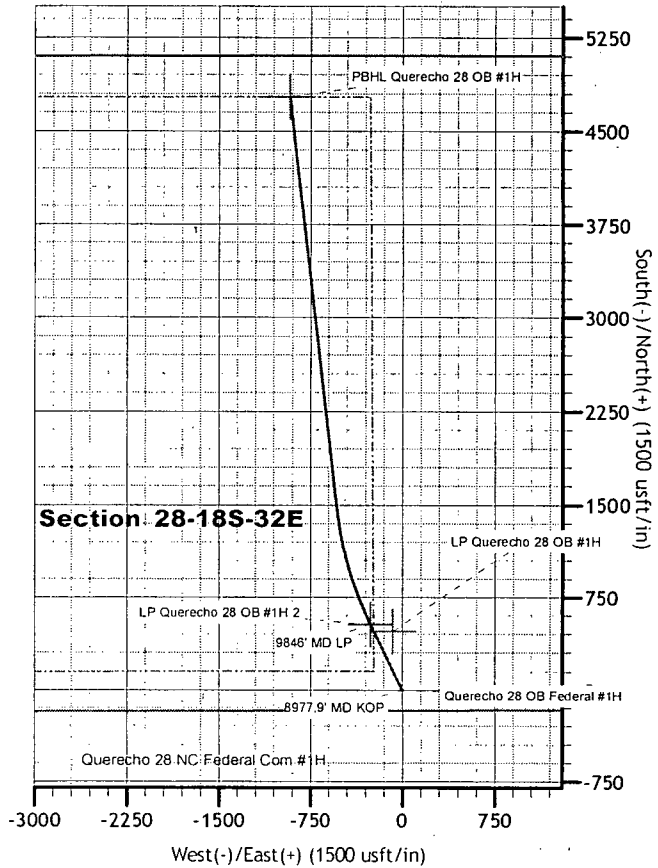
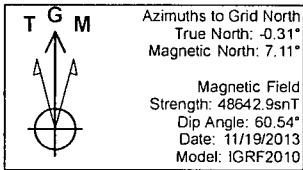


GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.11°

OFFICE: 936.582.7296

GEODETTIC ZONE: New Mexico East 3001							
GL 3714 + 20 @ 3734.0usft (Patterson 36)							
GROUND ELEVATION: 3714.0							
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot	
0.0	0.0	623049.30	674236.10	32° 42' 41.688 N	103° 46' 0.686 W		

PLAN SECTIONS											
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target	
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	8977.9	0.00	0.00	8977.9	0.0	0.0	0.00	0.00	0.0		
3	9753.3	91.06	333.91	9465.7	446.3	-218.5	11.74	333.91	479.6		
4	9846.0	91.06	333.91	9464.0	529.6	-259.3	0.00	0.00	569.1	LP Querecho 28 OB #1H 2	
5	10815.0	91.06	353.30	9445.9	1454.6	-531.5	2.00	89.81	1528.9		
6	14160.7	91.06	353.30	9384.0	4776.8	-922.0	0.00	0.00	4865.0	PBHL Querecho 28 OB #1H	



Vertical Section at 349.07° (1500 usft/in)



# Stryker Directional Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#2		

<b>Project</b>	Lea County N.M.		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H		
<b>Site Position:</b>	<b>Northing:</b>	623,049.30 usft	<b>Latitude:</b> 32° 42' 41.688 N
<b>From:</b> Map	<b>Easting:</b>	674,236.10 usft	<b>Longitude:</b> 103° 46' 0.686 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> 0.31 °

<b>Well</b>	Querecho 28 OB Federal #1H		
<b>Well Position</b>	<b>+N-S</b>	0.0 usft	<b>Northing:</b> 623,049.30 usft
	<b>+E-W</b>	0.0 usft	<b>Easting:</b> 674,236.10 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 3,714.0 usft

<b>Wellbore</b>	Original Hole		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/19/2013	7.41	60.54	48,643

<b>Design</b>	Plan#2		
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<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N-S (usft)</b>	<b>+E-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	349.07

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,977.9	0.00	0.00	8,977.9	0.0	0.0	0.00	0.00	0.00	0.00	
9,753.3	91.06	333.91	9,465.7	446.3	-218.5	11.74	11.74	-3.36	333.91	
9,846.0	91.06	333.91	9,464.0	529.6	-259.3	0.00	0.00	0.00	0.00	LP Querecho 28 Ot
10,815.0	91.06	353.30	9,445.9	1,454.6	-531.5	2.00	0.00	2.00	89.81	
14,160.7	91.06	353.30	9,384.0	4,776.8	-922.0	0.00	0.00	0.00	0.00	PBHL Querecho 28





# Stryker Directional Planning Report - Geographic



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#2		

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
100.0	0.00	0.00	100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
200.0	0.00	0.00	200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
300.0	0.00	0.00	300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
400.0	0.00	0.00	400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
500.0	0.00	0.00	500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
600.0	0.00	0.00	600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
700.0	0.00	0.00	700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
800.0	0.00	0.00	800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
900.0	0.00	0.00	900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W



# Stryker Directional Planning Report - Geographic



<b>Database:</b>	EDM:5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed. Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
5,500.0	0.00	0.00	5,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
5,700.0	0.00	0.00	5,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
5,800.0	0.00	0.00	5,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
5,900.0	0.00	0.00	5,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,100.0	0.00	0.00	6,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,200.0	0.00	0.00	6,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,300.0	0.00	0.00	6,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,400.0	0.00	0.00	6,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,500.0	0.00	0.00	6,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,600.0	0.00	0.00	6,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,700.0	0.00	0.00	6,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,800.0	0.00	0.00	6,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
6,900.0	0.00	0.00	6,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,000.0	0.00	0.00	7,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,100.0	0.00	0.00	7,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,200.0	0.00	0.00	7,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,300.0	0.00	0.00	7,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,400.0	0.00	0.00	7,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,500.0	0.00	0.00	7,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,600.0	0.00	0.00	7,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,700.0	0.00	0.00	7,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,800.0	0.00	0.00	7,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
7,900.0	0.00	0.00	7,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,000.0	0.00	0.00	8,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,100.0	0.00	0.00	8,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,200.0	0.00	0.00	8,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,300.0	0.00	0.00	8,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,400.0	0.00	0.00	8,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,500.0	0.00	0.00	8,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,600.0	0.00	0.00	8,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,700.0	0.00	0.00	8,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,800.0	0.00	0.00	8,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,900.0	0.00	0.00	8,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
8,977.9	0.00	0.00	8,977.9	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W	
<b>8977.9' MD KOP</b>										
9,000.0	2.60	333.91	9,000.0	0.5	-0.2	623,049.75	674,235.87	32° 42' 41.693 N	103° 46' 0.689 W	
9,025.0	5.53	333.91	9,024.9	2.0	-1.0	623,051.35	674,235.09	32° 42' 41.709 N	103° 46' 0.698 W	
9,050.0	8.47	333.91	9,049.7	4.8	-2.3	623,054.08	674,233.75	32° 42' 41.736 N	103° 46' 0.713 W	
9,075.0	11.41	333.91	9,074.4	8.7	-4.2	623,057.96	674,231.86	32° 42' 41.774 N	103° 46' 0.735 W	
9,100.0	14.34	333.91	9,098.7	13.7	-6.7	623,062.96	674,229.41	32° 42' 41.824 N	103° 46' 0.764 W	
9,125.0	17.28	333.91	9,122.8	19.8	-9.7	623,069.08	674,226.41	32° 42' 41.885 N	103° 46' 0.798 W	
9,150.0	20.21	333.91	9,146.5	27.0	-13.2	623,076.29	674,222.88	32° 42' 41.956 N	103° 46' 0.839 W	
9,175.0	23.15	333.91	9,169.7	35.3	-17.3	623,084.58	674,218.82	32° 42' 42.038 N	103° 46' 0.886 W	
9,200.0	26.08	333.91	9,192.4	44.6	-21.9	623,093.94	674,214.24	32° 42' 42.131 N	103° 46' 0.939 W	
9,225.0	29.02	333.91	9,214.6	55.0	-26.9	623,104.32	674,209.16	32° 42' 42.234 N	103° 46' 0.998 W	
9,250.0	31.96	333.91	9,236.1	66.4	-32.5	623,115.71	674,203.58	32° 42' 42.347 N	103° 46' 1.063 W	
9,275.0	34.89	333.91	9,257.0	78.8	-38.6	623,128.08	674,197.52	32° 42' 42.470 N	103° 46' 1.133 W	
9,300.0	37.83	333.91	9,277.1	92.1	-45.1	623,141.39	674,191.01	32° 42' 42.602 N	103° 46' 1.208 W	
9,325.0	40.76	333.91	9,296.4	106.3	-52.0	623,155.60	674,184.05	32° 42' 42.743 N	103° 46' 1.289 W	
9,350.0	43.70	333.91	9,315.0	121.4	-59.4	623,170.69	674,176.66	32° 42' 42.893 N	103° 46' 1.374 W	
9,375.0	46.63	333.91	9,332.6	137.3	-67.2	623,186.62	674,168.86	32° 42' 43.051 N	103° 46' 1.464 W	



# Stryker Directional Planning Report - Geographic



**Database:** EDM 5000.1 Single User Db  
**Company:** Mewbourne Oil Company  
**Project:** Lea County N.M.  
**Site:** Section 28-18S-32E Querecho 28 OB Fed Com#1H  
**Well:** Querecho 28 OB Federal #1H  
**Wellbore:** Original Hole  
**Design:** Plan#2

**Local Co-ordinate Reference:** Well Querecho 28 OB Federal #1H  
**TVD Reference:** GL 3714 + 20 @ 3734.0usft (Patterson 36)  
**MD Reference:** GL 3714 + 20 @ 3734.0usft (Patterson 36)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,400.0	49.57	333.91	9,349.3	154.0	-75.4	623,203.33	674,160.68	32° 42' 43.216 N	103° 46' 1.559 W
9,425.0	52.51	333.91	9,365.0	171.5	-84.0	623,220.78	674,152.13	32° 42' 43.390 N	103° 46' 1.658 W
9,450.0	55.44	333.91	9,379.7	189.6	-92.9	623,238.94	674,143.24	32° 42' 43.570 N	103° 46' 1.761 W
9,475.0	58.38	333.91	9,393.3	208.4	-102.1	623,257.75	674,134.03	32° 42' 43.756 N	103° 46' 1.868 W
9,500.0	61.31	333.91	9,405.9	227.9	-111.6	623,277.16	674,124.53	32° 42' 43.949 N	103° 46' 1.978 W
9,525.0	64.25	333.91	9,417.3	247.8	-121.3	623,297.12	674,114.75	32° 42' 44.147 N	103° 46' 2.091 W
9,550.0	67.18	333.91	9,427.6	268.3	-131.4	623,317.59	674,104.73	32° 42' 44.350 N	103° 46' 2.207 W
9,575.0	70.12	333.91	9,436.7	289.2	-141.6	623,338.50	674,094.49	32° 42' 44.557 N	103° 46' 2.325 W
9,600.0	73.05	333.91	9,444.6	310.5	-152.0	623,359.80	674,084.06	32° 42' 44.769 N	103° 46' 2.446 W
9,625.0	75.99	333.91	9,451.3	332.1	-162.6	623,381.44	674,073.47	32° 42' 44.983 N	103° 46' 2.569 W
9,650.0	78.93	333.91	9,456.7	354.0	-173.4	623,403.35	674,062.74	32° 42' 45.201 N	103° 46' 2.693 W
9,675.0	81.86	333.91	9,460.9	376.2	-184.2	623,425.49	674,051.90	32° 42' 45.420 N	103° 46' 2.818 W
9,700.0	84.80	333.91	9,463.8	398.5	-195.1	623,447.78	674,040.98	32° 42' 45.642 N	103° 46' 2.945 W
9,725.0	87.73	333.91	9,465.4	420.9	-206.1	623,470.19	674,030.01	32° 42' 45.864 N	103° 46' 3.072 W
9,750.0	90.67	333.91	9,465.8	443.3	-217.1	623,492.64	674,019.02	32° 42' 46.087 N	103° 46' 3.199 W
9,753.3	91.06	333.91	9,465.7	446.3	-218.5	623,495.61	674,017.56	32° 42' 46.116 N	103° 46' 3.216 W
9,800.0	91.06	333.91	9,464.9	488.2	-239.1	623,537.53	673,997.04	32° 42' 46.532 N	103° 46' 3.454 W
9,846.0	91.06	333.91	9,464.0	529.5	-259.3	623,578.84	673,976.81	32° 42' 46.942 N	103° 46' 3.688 W
<b>9846' MD LP</b>									
9,900.0	91.06	334.99	9,463.0	578.2	-282.6	623,627.55	673,953.53	32° 42' 47.425 N	103° 46' 3.957 W
10,000.0	91.07	336.99	9,461.1	669.6	-323.2	623,718.88	673,912.85	32° 42' 48.331 N	103° 46' 4.428 W
10,100.0	91.07	338.99	9,459.3	762.3	-360.7	623,811.57	673,875.38	32° 42' 49.250 N	103° 46' 4.860 W
10,200.0	91.07	340.99	9,457.4	856.2	-394.9	623,905.51	673,841.18	32° 42' 50.182 N	103° 46' 5.255 W
10,300.0	91.07	342.99	9,455.5	951.3	-425.8	624,000.59	673,810.27	32° 42' 51.124 N	103° 46' 5.611 W
10,400.0	91.07	344.99	9,453.7	1,047.4	-453.4	624,096.70	673,782.70	32° 42' 52.076 N	103° 46' 5.927 W
10,500.0	91.07	346.99	9,451.8	1,144.4	-477.6	624,193.70	673,758.50	32° 42' 53.038 N	103° 46' 6.204 W
10,600.0	91.07	348.99	9,449.9	1,242.2	-498.4	624,291.49	673,737.70	32° 42' 54.006 N	103° 46' 6.442 W
10,700.0	91.07	350.99	9,448.0	1,340.6	-515.8	624,389.95	673,720.33	32° 42' 54.981 N	103° 46' 6.639 W
10,800.0	91.06	352.99	9,446.2	1,439.6	-529.7	624,488.95	673,706.41	32° 42' 55.962 N	103° 46' 6.796 W
10,815.0	91.06	353.30	9,445.9	1,454.6	-531.5	624,503.88	673,704.61	32° 42' 56.110 N	103° 46' 6.816 W
10,900.0	91.06	353.30	9,444.3	1,538.9	-541.4	624,588.24	673,694.69	32° 42' 56.945 N	103° 46' 6.927 W
11,000.0	91.06	353.30	9,442.5	1,638.2	-553.1	624,687.54	673,683.02	32° 42' 57.928 N	103° 46' 7.057 W
11,100.0	91.06	353.30	9,440.6	1,737.5	-564.7	624,786.84	673,671.35	32° 42' 58.911 N	103° 46' 7.188 W
11,200.0	91.06	353.30	9,438.8	1,836.8	-576.4	624,886.14	673,659.67	32° 42' 59.895 N	103° 46' 7.318 W
11,300.0	91.06	353.30	9,436.9	1,936.1	-588.1	624,985.44	673,648.00	32° 43' 0.878 N	103° 46' 7.448 W
11,400.0	91.06	353.30	9,435.1	2,035.4	-599.8	625,084.74	673,636.33	32° 43' 1.861 N	103° 46' 7.579 W
11,500.0	91.06	353.30	9,433.2	2,134.7	-611.4	625,184.04	673,624.65	32° 43' 2.844 N	103° 46' 7.709 W
11,600.0	91.06	353.30	9,431.4	2,234.0	-623.1	625,283.34	673,612.98	32° 43' 3.827 N	103° 46' 7.840 W
11,700.0	91.06	353.30	9,429.5	2,333.3	-634.8	625,382.64	673,601.31	32° 43' 4.810 N	103° 46' 7.970 W
11,800.0	91.06	353.30	9,427.7	2,432.6	-646.5	625,481.94	673,589.63	32° 43' 5.794 N	103° 46' 8.101 W
11,900.0	91.06	353.30	9,425.8	2,531.9	-658.1	625,581.24	673,577.96	32° 43' 6.777 N	103° 46' 8.231 W
12,000.0	91.06	353.30	9,424.0	2,631.2	-669.8	625,680.53	673,566.29	32° 43' 7.760 N	103° 46' 8.362 W
12,100.0	91.06	353.30	9,422.1	2,730.5	-681.5	625,779.83	673,554.61	32° 43' 8.743 N	103° 46' 8.492 W
12,200.0	91.06	353.30	9,420.3	2,829.8	-693.2	625,879.13	673,542.94	32° 43' 9.726 N	103° 46' 8.622 W
12,300.0	91.06	353.30	9,418.4	2,929.1	-704.8	625,978.43	673,531.26	32° 43' 10.710 N	103° 46' 8.753 W
12,400.0	91.06	353.30	9,416.6	3,028.4	-716.5	626,077.73	673,519.59	32° 43' 11.693 N	103° 46' 8.883 W
12,500.0	91.06	353.30	9,414.7	3,127.7	-728.2	626,177.03	673,507.92	32° 43' 12.676 N	103° 46' 9.014 W
12,600.0	91.06	353.30	9,412.9	3,227.0	-739.9	626,276.33	673,496.24	32° 43' 13.659 N	103° 46' 9.144 W
12,700.0	91.06	353.30	9,411.0	3,326.3	-751.5	626,375.63	673,484.57	32° 43' 14.642 N	103° 46' 9.275 W
12,800.0	91.06	353.30	9,409.2	3,425.6	-763.2	626,474.93	673,472.90	32° 43' 15.626 N	103° 46' 9.405 W
12,900.0	91.06	353.30	9,407.3	3,524.9	-774.9	626,574.23	673,461.22	32° 43' 16.609 N	103° 46' 9.536 W
13,000.0	91.06	353.30	9,405.5	3,624.2	-786.5	626,673.53	673,449.55	32° 43' 17.592 N	103° 46' 9.666 W
13,100.0	91.06	353.30	9,403.6	3,723.5	-798.2	626,772.82	673,437.88	32° 43' 18.575 N	103° 46' 9.797 W
13,200.0	91.06	353.30	9,401.8	3,822.8	-809.9	626,872.12	673,426.20	32° 43' 19.558 N	103° 46' 9.927 W



# Stryker Directional Planning Report - Geographic

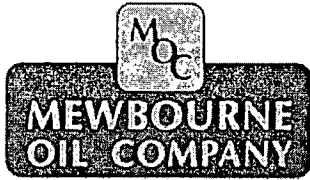


<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
13,300.0	91.06	353.30	9,399.9	3,922.1	-821.6	626,971.42	673,414.53	32° 43' 20.542 N	103° 46' 10.057 W	
13,400.0	91.06	353.30	9,398.1	4,021.4	-833.2	627,070.72	673,402.86	32° 43' 21.525 N	103° 46' 10.188 W	
13,500.0	91.06	353.30	9,396.2	4,120.7	-844.9	627,170.02	673,391.18	32° 43' 22.508 N	103° 46' 10.318 W	
13,600.0	91.06	353.30	9,394.4	4,220.0	-856.6	627,269.32	673,379.51	32° 43' 23.491 N	103° 46' 10.449 W	
13,700.0	91.06	353.30	9,392.5	4,319.3	-868.3	627,368.62	673,367.83	32° 43' 24.474 N	103° 46' 10.579 W	
13,800.0	91.06	353.30	9,390.7	4,418.6	-879.9	627,467.92	673,356.16	32° 43' 25.457 N	103° 46' 10.710 W	
13,900.0	91.06	353.30	9,388.8	4,517.9	-891.6	627,567.22	673,344.49	32° 43' 26.441 N	103° 46' 10.840 W	
14,000.0	91.06	353.30	9,387.0	4,617.2	-903.3	627,666.52	673,332.81	32° 43' 27.424 N	103° 46' 10.971 W	
14,100.0	91.06	353.30	9,385.1	4,716.5	-915.0	627,765.82	673,321.14	32° 43' 28.407 N	103° 46' 11.101 W	
14,160.7	91.06	353.30	9,384.0	4,776.8	-922.0	627,826.09	673,314.05	32° 43' 29.004 N	103° 46' 11.180 W	
<b>14160.7' MD PBHL</b>										

Design Targets										
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Querecho 28 O	- plan hits target center	0.00	0.00	9,384.0	4,776.8	-922.0	627,826.09	673,314.05	32° 43' 29.004 N	103° 46' 11.180 W
	- Point									
LP Querecho 28 OB #	- plan misses target center by 137.8usft at 9714.3usft MD (9464.9 TVD, 411.3 N, -201.4 E)	0.00	0.00	9,464.0	471.9	-77.6	623,521.23	674,158.45	32° 42' 46.362 N	103° 46' 1.565 W
	- Point									
LP Querecho 28 OB #	- plan hits target center	0.00	0.00	9,464.0	529.6	-259.3	623,578.87	673,976.80	32° 42' 46.942 N	103° 46' 3.688 W
	- Point									

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,977.9	8,977.9	0.0	0.0	8977.9' MD KOP	
9,846.0	9,464.0	529.5	-259.3	9846' MD LP	
14,160.7	9,384.0	4,776.8	-922.0	14160.7' MD PBHL	



# Mewbourne Oil Company .

Lea County N.M.

Section 28-18S-32E Querecho 28 OB Fed Com#1H

Querecho 28 OB Federal #1H

Original Hole

Plan: Plan#1

## Standard Planning Report

19 November, 2013





# Stryker Directional Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#1		

<b>Project</b>	Lea County N.M.		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H				
<b>Site Position:</b>		<b>Northing:</b>	623,049.30 usft	<b>Latitude:</b>	32° 42' 41.688 N
<b>From:</b>	Map	<b>Easting:</b>	674,236.10 usft	<b>Longitude:</b>	103° 46' 0.686 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.31 °

<b>Well</b>	Querecho 28 OB Federal #1H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	623,049.30 usft	<b>Latitude:</b>	32° 42' 41.688 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	674,236.10 usft	<b>Longitude:</b>	103° 46' 0.686 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	3,714.0 usft

<b>Wellbore</b>	Original Hole				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/19/2013	7.41	60.54	48,643

<b>Design</b>	Plan#1				
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<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	349.07	

<b>Plan Sections:</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,986.6	0.00	0.00	8,986.6	0.0	0.0	0.00	0.00	0.00	0.00	
9,745.3	91.05	349.07	9,464.0	477.4	-92.1	12.00	12.00	-1.44	349.07	
14,124.8	91.05	349.07	9,384.0	4,776.8	-922.0	0.00	0.00	0.00	0.00	PBHL Querecho 28



# Stryker Directional Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore Design:</b>	Original Hole Plan#1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (%/100usft)	Build Rate (%/100usft)	Turn Rate (%/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00



# Stryker Directional Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Querecho 28 OB Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL 3714 + 20 @ 3734.0usft (Patterson 36)
Project:	Lea County N.M.	MD Reference:	GL 3714 + 20 @ 3734.0usft (Patterson 36)
Site:	Section 28-18S-32E Querecho 28 OB Fed Com#1H	North Reference:	Grid
Well:	Querecho 28 OB Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,986.6	0.00	0.00	8,986.6	0.0	0.0	0.0	0.00	0.00	0.00	
<b>Start DLS 12.00 TFO 349.07</b>										
9,000.0	1.61	349.07	9,000.0	0.2	0.0	0.2	12.00	12.00	0.00	
9,025.0	4.61	349.07	9,025.0	1.5	-0.3	1.5	12.00	12.00	0.00	
9,050.0	7.61	349.07	9,049.8	4.1	-0.8	4.2	12.00	12.00	0.00	
9,075.0	10.61	349.07	9,074.5	8.0	-1.5	8.2	12.00	12.00	0.00	
9,100.0	13.61	349.07	9,098.9	13.2	-2.5	13.4	12.00	12.00	0.00	
9,125.0	16.61	349.07	9,123.1	19.6	-3.8	19.9	12.00	12.00	0.00	
9,150.0	19.61	349.07	9,146.8	27.2	-5.2	27.7	12.00	12.00	0.00	
9,175.0	22.61	349.07	9,170.1	36.0	-7.0	36.7	12.00	12.00	0.00	
9,200.0	25.61	349.07	9,193.0	46.1	-8.9	46.9	12.00	12.00	0.00	
9,225.0	28.61	349.07	9,215.2	57.2	-11.0	58.3	12.00	12.00	0.00	
9,250.0	31.61	349.07	9,236.8	69.5	-13.4	70.8	12.00	12.00	0.00	
9,275.0	34.61	349.07	9,257.8	83.0	-16.0	84.5	12.00	12.00	0.00	
9,300.0	37.61	349.07	9,278.0	97.4	-18.8	99.2	12.00	12.00	0.00	
9,325.0	40.61	349.07	9,297.4	112.9	-21.8	115.0	12.00	12.00	0.00	





# Stryker Directional Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#1		

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (%/100usft)	Build Rate (%/100usft)	Turn Rate (%/100usft)
9,350.0	43.61	349.07	9,315.9	129.4	-25.0	131.7	12.00	12.00	0.00
9,375.0	46.61	349.07	9,333.6	146.7	-28.3	149.5	12.00	12.00	0.00
9,400.0	49.61	349.07	9,350.3	165.0	-31.9	168.1	12.00	12.00	0.00
9,425.0	52.61	349.07	9,365.9	184.1	-35.5	187.5	12.00	12.00	0.00
9,450.0	55.61	349.07	9,380.6	204.0	-39.4	207.8	12.00	12.00	0.00
9,475.0	58.61	349.07	9,394.2	224.6	-43.4	228.8	12.00	12.00	0.00
9,500.0	61.61	349.07	9,406.6	245.9	-47.5	250.4	12.00	12.00	0.00
9,525.0	64.61	349.07	9,417.9	267.8	-51.7	272.7	12.00	12.00	0.00
9,550.0	67.61	349.07	9,428.1	290.2	-56.0	295.6	12.00	12.00	0.00
9,575.0	70.61	349.07	9,437.0	313.2	-60.4	318.9	12.00	12.00	0.00
9,600.0	73.61	349.07	9,444.7	336.5	-65.0	342.7	12.00	12.00	0.00
9,625.0	76.61	349.07	9,451.1	360.2	-69.5	366.9	12.00	12.00	0.00
9,650.0	79.61	349.07	9,456.2	384.2	-74.2	391.3	12.00	12.00	0.00
9,675.0	82.61	349.07	9,460.1	408.5	-78.8	416.0	12.00	12.00	0.00
9,700.0	85.61	349.07	9,462.7	432.9	-83.6	440.9	12.00	12.00	0.00
9,725.0	88.61	349.07	9,463.9	457.4	-88.3	465.9	12.00	12.00	0.00
9,745.3	91.05	349.07	9,464.0	477.4	-92.1	486.2	12.00	12.00	0.00
<b>Start 4379.5 hold at 9745.3 MD</b>									
9,800.0	91.05	349.07	9,463.0	531.1	-102.5	540.9	0.00	0.00	0.00
9,900.0	91.05	349.07	9,461.2	629.2	-121.5	640.8	0.00	0.00	0.00
10,000.0	91.05	349.07	9,459.3	727.4	-140.4	740.8	0.00	0.00	0.00
10,100.0	91.05	349.07	9,457.5	825.6	-159.4	840.8	0.00	0.00	0.00
10,200.0	91.05	349.07	9,455.7	923.7	-178.3	940.8	0.00	0.00	0.00
10,300.0	91.05	349.07	9,453.9	1,021.9	-197.3	1,040.8	0.00	0.00	0.00
10,400.0	91.05	349.07	9,452.0	1,120.1	-216.2	1,140.8	0.00	0.00	0.00
10,500.0	91.05	349.07	9,450.2	1,218.3	-235.2	1,240.7	0.00	0.00	0.00
10,600.0	91.05	349.07	9,448.4	1,316.4	-254.1	1,340.7	0.00	0.00	0.00
10,700.0	91.05	349.07	9,446.5	1,414.6	-273.1	1,440.7	0.00	0.00	0.00
10,800.0	91.05	349.07	9,444.7	1,512.8	-292.0	1,540.7	0.00	0.00	0.00
10,900.0	91.05	349.07	9,442.9	1,610.9	-311.0	1,640.7	0.00	0.00	0.00
11,000.0	91.05	349.07	9,441.1	1,709.1	-329.9	1,740.7	0.00	0.00	0.00
11,100.0	91.05	349.07	9,439.2	1,807.3	-348.9	1,840.6	0.00	0.00	0.00
11,200.0	91.05	349.07	9,437.4	1,905.4	-367.8	1,940.6	0.00	0.00	0.00
11,300.0	91.05	349.07	9,435.6	2,003.6	-386.7	2,040.6	0.00	0.00	0.00
11,400.0	91.05	349.07	9,433.8	2,101.8	-405.7	2,140.6	0.00	0.00	0.00
11,500.0	91.05	349.07	9,431.9	2,200.0	-424.6	2,240.6	0.00	0.00	0.00
11,600.0	91.05	349.07	9,430.1	2,298.1	-443.6	2,340.6	0.00	0.00	0.00
11,700.0	91.05	349.07	9,428.3	2,396.3	-462.5	2,440.5	0.00	0.00	0.00
11,800.0	91.05	349.07	9,426.5	2,494.5	-481.5	2,540.5	0.00	0.00	0.00
11,900.0	91.05	349.07	9,424.6	2,592.6	-500.4	2,640.5	0.00	0.00	0.00
12,000.0	91.05	349.07	9,422.8	2,690.8	-519.4	2,740.5	0.00	0.00	0.00
12,100.0	91.05	349.07	9,421.0	2,789.0	-538.3	2,840.5	0.00	0.00	0.00
12,200.0	91.05	349.07	9,419.2	2,887.2	-557.3	2,940.5	0.00	0.00	0.00
12,300.0	91.05	349.07	9,417.3	2,985.3	-576.2	3,040.4	0.00	0.00	0.00
12,400.0	91.05	349.07	9,415.5	3,083.5	-595.2	3,140.4	0.00	0.00	0.00
12,500.0	91.05	349.07	9,413.7	3,181.7	-614.1	3,240.4	0.00	0.00	0.00
12,600.0	91.05	349.07	9,411.8	3,279.8	-633.1	3,340.4	0.00	0.00	0.00
12,700.0	91.05	349.07	9,410.0	3,378.0	-652.0	3,440.4	0.00	0.00	0.00
12,800.0	91.05	349.07	9,408.2	3,476.2	-671.0	3,540.4	0.00	0.00	0.00
12,900.0	91.05	349.07	9,406.4	3,574.4	-689.9	3,640.3	0.00	0.00	0.00
13,000.0	91.05	349.07	9,404.5	3,672.5	-708.9	3,740.3	0.00	0.00	0.00
13,100.0	91.05	349.07	9,402.7	3,770.7	-727.8	3,840.3	0.00	0.00	0.00



# Stryker Directional Planning Report

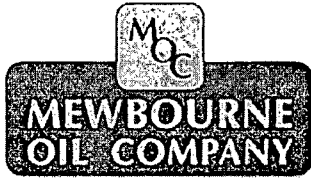


<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,200.0	91.05	349.07	9,400.9	3,868.9	-746.8	3,940.3	0.00	0.00	0.00	
13,300.0	91.05	349.07	9,399.1	3,967.0	-765.7	4,040.3	0.00	0.00	0.00	
13,400.0	91.05	349.07	9,397.2	4,065.2	-784.7	4,140.3	0.00	0.00	0.00	
13,500.0	91.05	349.07	9,395.4	4,163.4	-803.6	4,240.2	0.00	0.00	0.00	
13,600.0	91.05	349.07	9,393.6	4,261.6	-822.6	4,340.2	0.00	0.00	0.00	
13,700.0	91.05	349.07	9,391.8	4,359.7	-841.5	4,440.2	0.00	0.00	0.00	
13,800.0	91.05	349.07	9,389.9	4,457.9	-860.5	4,540.2	0.00	0.00	0.00	
13,900.0	91.05	349.07	9,388.1	4,556.1	-879.4	4,640.2	0.00	0.00	0.00	
14,000.0	91.05	349.07	9,386.3	4,654.2	-898.4	4,740.2	0.00	0.00	0.00	
14,100.0	91.05	349.07	9,384.5	4,752.4	-917.3	4,840.1	0.00	0.00	0.00	
14,124.8	91.05	349.07	9,384.0	4,776.8	-922.0	4,865.0	0.00	0.00	0.00	

TD at 14124.8

Wellbore Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL Querecho 28 O - hit/miss target - Shape - Point	0.00	0.00	9,384.0	4,776.8	-922.0	627,826.09	673,314.05	32° 43' 29.004 N	103° 46' 11.180 W	
LP Querecho 28 OB # - plan misses target center by 13.2usft at 9737.2usft MD (9464.1 TVD, 469.4 N, -90.6 E) - Point	0.00	0.00	9,464.0	471.9	-77.6	623,521.23	674,158.45	32° 42' 46.362 N	103° 46' 1.565 W	



# Mewbourne Oil Company .

Lea County N.M.

Section 28-18S-32E Querecho 28 OB Fed Com#1H

Querecho 28 OB Federal #1H

Original Hole

Plan: Plan#1

## Standard Planning Report - Geographic

19 November, 2013





# Stryker Directional

## Planning Report - Geographic



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#1		

<b>Project:</b>	Lea County N.M.		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H				
<b>Site Position:</b>		<b>Northing:</b>	623,049.30 usft	<b>Latitude:</b>	32° 42' 41.688 N
<b>From:</b>	Map	<b>Easting:</b>	674,236.10 usft	<b>Longitude:</b>	103° 46' 0.686 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.31 °

<b>Well:</b>	Querecho 28 OB Federal #1H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	623,049.30 usft	<b>Latitude:</b>	32° 42' 41.688 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	674,236.10 usft	<b>Longitude:</b>	103° 46' 0.686 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	3,714.0 usft

<b>Wellbore:</b>	Original Hole
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/19/2013	7.41	60.54	48,643

<b>Design:</b>	Plan#1
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<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	349.07

<b>Plan Sections:</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,986.6	0.00	0.00	8,986.6	0.0	0.0	0.00	0.00	0.00	0.00	
9,745.3	91.05	349.07	9,464.0	477.4	-92.1	12.00	12.00	-1.44	349.07	
14,124.8	91.05	349.07	9,384.0	4,776.8	-922.0	0.00	0.00	0.00	0.00	PBHL Querecho 28



# Stryker Directional

## Planning Report - Geographic



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#1		

**Planned Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
100.0	0.00	0.00	100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
200.0	0.00	0.00	200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
300.0	0.00	0.00	300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
400.0	0.00	0.00	400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
500.0	0.00	0.00	500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
600.0	0.00	0.00	600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
700.0	0.00	0.00	700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
800.0	0.00	0.00	800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
900.0	0.00	0.00	900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W



# Stryker Directional

## Planning Report - Geographic



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,400.0	0.00	0.00	5,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,500.0	0.00	0.00	5,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,600.0	0.00	0.00	5,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,700.0	0.00	0.00	5,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,800.0	0.00	0.00	5,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
5,900.0	0.00	0.00	5,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,000.0	0.00	0.00	6,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,100.0	0.00	0.00	6,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,200.0	0.00	0.00	6,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,300.0	0.00	0.00	6,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,400.0	0.00	0.00	6,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,500.0	0.00	0.00	6,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,600.0	0.00	0.00	6,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,700.0	0.00	0.00	6,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,800.0	0.00	0.00	6,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
6,900.0	0.00	0.00	6,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,000.0	0.00	0.00	7,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,100.0	0.00	0.00	7,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,200.0	0.00	0.00	7,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,300.0	0.00	0.00	7,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,400.0	0.00	0.00	7,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,500.0	0.00	0.00	7,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,600.0	0.00	0.00	7,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,700.0	0.00	0.00	7,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,800.0	0.00	0.00	7,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
7,900.0	0.00	0.00	7,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,000.0	0.00	0.00	8,000.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,100.0	0.00	0.00	8,100.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,200.0	0.00	0.00	8,200.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,300.0	0.00	0.00	8,300.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,400.0	0.00	0.00	8,400.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,500.0	0.00	0.00	8,500.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,600.0	0.00	0.00	8,600.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,700.0	0.00	0.00	8,700.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,800.0	0.00	0.00	8,800.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,900.0	0.00	0.00	8,900.0	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
8,986.6	0.00	0.00	8,986.6	0.0	0.0	623,049.30	674,236.10	32° 42' 41.688 N	103° 46' 0.686 W
<b>Start DLS 12.00 TFO 349.07</b>									
9,000.0	1.61	349.07	9,000.0	0.2	0.0	623,049.49	674,236.06	32° 42' 41.690 N	103° 46' 0.687 W
9,025.0	4.61	349.07	9,025.0	1.5	-0.3	623,050.82	674,235.80	32° 42' 41.703 N	103° 46' 0.690 W
9,050.0	7.61	349.07	9,049.8	4.1	-0.8	623,053.43	674,235.30	32° 42' 41.729 N	103° 46' 0.695 W
9,075.0	10.61	349.07	9,074.5	8.0	-1.5	623,057.32	674,234.55	32° 42' 41.768 N	103° 46' 0.704 W
9,100.0	13.61	349.07	9,098.9	13.2	-2.5	623,062.46	674,233.55	32° 42' 41.819 N	103° 46' 0.715 W
9,125.0	16.61	349.07	9,123.1	19.6	-3.8	623,068.86	674,232.32	32° 42' 41.882 N	103° 46' 0.729 W
9,150.0	19.61	349.07	9,146.8	27.2	-5.2	623,076.49	674,230.85	32° 42' 41.958 N	103° 46' 0.746 W
9,175.0	22.61	349.07	9,170.1	36.0	-7.0	623,085.33	674,229.14	32° 42' 42.045 N	103° 46' 0.765 W
9,200.0	25.61	349.07	9,193.0	46.1	-8.9	623,095.35	674,227.21	32° 42' 42.145 N	103° 46' 0.787 W
9,225.0	28.61	349.07	9,215.2	57.2	-11.0	623,106.54	674,225.05	32° 42' 42.255 N	103° 46' 0.812 W
9,250.0	31.61	349.07	9,236.8	69.5	-13.4	623,118.85	674,222.67	32° 42' 42.377 N	103° 46' 0.839 W
9,275.0	34.61	349.07	9,257.8	83.0	-16.0	623,132.26	674,220.08	32° 42' 42.510 N	103° 46' 0.868 W
9,300.0	37.61	349.07	9,278.0	97.4	-18.8	623,146.72	674,217.29	32° 42' 42.653 N	103° 46' 0.900 W
9,325.0	40.61	349.07	9,297.4	112.9	-21.8	623,162.20	674,214.30	32° 42' 42.807 N	103° 46' 0.934 W
9,350.0	43.61	349.07	9,315.9	129.4	-25.0	623,178.66	674,211.13	32° 42' 42.970 N	103° 46' 0.970 W
9,375.0	46.61	349.07	9,333.6	146.7	-28.3	623,196.05	674,207.77	32° 42' 43.142 N	103° 46' 1.009 W



# Stryker Directional

## Planning Report - Geographic



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#1		

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,400.0	49.61	349.07	9,350.3	165.0	-31.9	623,214.32	674,204.24	32° 42' 43.323 N	103° 46' 1.049 W
9,425.0	52.61	349.07	9,365.9	184.1	-35.5	623,233.42	674,200.56	32° 42' 43.512 N	103° 46' 1.091 W
9,450.0	55.61	349.07	9,380.6	204.0	-39.4	623,253.31	674,196.72	32° 42' 43.709 N	103° 46' 1.134 W
9,475.0	58.61	349.07	9,394.2	224.6	-43.4	623,273.92	674,192.74	32° 42' 43.913 N	103° 46' 1.180 W
9,500.0	61.61	349.07	9,406.6	245.9	-47.5	623,295.19	674,188.63	32° 42' 44.124 N	103° 46' 1.226 W
9,525.0	64.61	349.07	9,417.9	267.8	-51.7	623,317.08	674,184.41	32° 42' 44.341 N	103° 46' 1.274 W
9,550.0	67.61	349.07	9,428.1	290.2	-56.0	623,339.53	674,180.07	32° 42' 44.563 N	103° 46' 1.324 W
9,575.0	70.61	349.07	9,437.0	313.2	-60.4	623,362.46	674,175.65	32° 42' 44.790 N	103° 46' 1.374 W
9,600.0	73.61	349.07	9,444.7	336.5	-65.0	623,385.81	674,171.14	32° 42' 45.022 N	103° 46' 1.425 W
9,625.0	76.61	349.07	9,451.1	360.2	-69.5	623,409.53	674,166.56	32° 42' 45.257 N	103° 46' 1.477 W
9,650.0	79.61	349.07	9,456.2	384.2	-74.2	623,433.55	674,161.93	32° 42' 45.494 N	103° 46' 1.530 W
9,675.0	82.61	349.07	9,460.1	408.5	-78.8	623,457.80	674,157.25	32° 42' 45.735 N	103° 46' 1.583 W
9,700.0	85.61	349.07	9,462.7	432.9	-83.6	623,482.21	674,152.53	32° 42' 45.976 N	103° 46' 1.637 W
9,725.0	88.61	349.07	9,463.9	457.4	-88.3	623,506.73	674,147.80	32° 42' 46.219 N	103° 46' 1.691 W
9,745.3	91.05	349.07	9,464.0	477.4	-92.1	623,526.68	674,143.95	32° 42' 46.417 N	103° 46' 1.735 W
<b>Start 4379.5 hold at 9745.3 MD</b>									
9,800.0	91.05	349.07	9,463.0	531.1	-102.5	623,580.36	674,133.59	32° 42' 46.949 N	103° 46' 1.853 W
9,900.0	91.05	349.07	9,461.2	629.2	-121.5	623,678.53	674,114.64	32° 42' 47.921 N	103° 46' 2.068 W
10,000.0	91.05	349.07	9,459.3	727.4	-140.4	623,776.70	674,095.69	32° 42' 48.893 N	103° 46' 2.284 W
10,100.0	91.05	349.07	9,457.5	825.6	-159.4	623,874.87	674,076.74	32° 42' 49.866 N	103° 46' 2.500 W
10,200.0	91.05	349.07	9,455.7	923.7	-178.3	623,973.04	674,057.79	32° 42' 50.838 N	103° 46' 2.715 W
10,300.0	91.05	349.07	9,453.9	1,021.9	-197.3	624,071.21	674,038.84	32° 42' 51.811 N	103° 46' 2.931 W
10,400.0	91.05	349.07	9,452.0	1,120.1	-216.2	624,169.38	674,019.89	32° 42' 52.783 N	103° 46' 3.147 W
10,500.0	91.05	349.07	9,450.2	1,218.3	-235.2	624,267.55	674,000.94	32° 42' 53.756 N	103° 46' 3.362 W
10,600.0	91.05	349.07	9,448.4	1,316.4	-254.1	624,365.73	673,981.99	32° 42' 54.728 N	103° 46' 3.578 W
10,700.0	91.05	349.07	9,446.5	1,414.6	-273.1	624,463.90	673,963.04	32° 42' 55.700 N	103° 46' 3.794 W
10,800.0	91.05	349.07	9,444.7	1,512.8	-292.0	624,562.07	673,944.09	32° 42' 56.673 N	103° 46' 4.009 W
10,900.0	91.05	349.07	9,442.9	1,610.9	-311.0	624,660.24	673,925.14	32° 42' 57.645 N	103° 46' 4.225 W
11,000.0	91.05	349.07	9,441.1	1,709.1	-329.9	624,758.41	673,906.19	32° 42' 58.618 N	103° 46' 4.441 W
11,100.0	91.05	349.07	9,439.2	1,807.3	-348.9	624,856.58	673,887.24	32° 42' 59.590 N	103° 46' 4.656 W
11,200.0	91.05	349.07	9,437.4	1,905.4	-367.8	624,954.75	673,868.30	32° 43' 0.562 N	103° 46' 4.872 W
11,300.0	91.05	349.07	9,435.6	2,003.6	-386.7	625,052.92	673,849.35	32° 43' 1.535 N	103° 46' 5.088 W
11,400.0	91.05	349.07	9,433.8	2,101.8	-405.7	625,151.10	673,830.40	32° 43' 2.507 N	103° 46' 5.303 W
11,500.0	91.05	349.07	9,431.9	2,200.0	-424.6	625,249.27	673,811.45	32° 43' 3.480 N	103° 46' 5.519 W
11,600.0	91.05	349.07	9,430.1	2,298.1	-443.6	625,347.44	673,792.50	32° 43' 4.452 N	103° 46' 5.735 W
11,700.0	91.05	349.07	9,428.3	2,396.3	-462.5	625,445.61	673,773.55	32° 43' 5.425 N	103° 46' 5.950 W
11,800.0	91.05	349.07	9,426.5	2,494.5	-481.5	625,543.78	673,754.60	32° 43' 6.397 N	103° 46' 6.166 W
11,900.0	91.05	349.07	9,424.6	2,592.6	-500.4	625,641.95	673,735.65	32° 43' 7.369 N	103° 46' 6.382 W
12,000.0	91.05	349.07	9,422.8	2,690.8	-519.4	625,740.12	673,716.70	32° 43' 8.342 N	103° 46' 6.597 W
12,100.0	91.05	349.07	9,421.0	2,789.0	-538.3	625,838.29	673,697.75	32° 43' 9.314 N	103° 46' 6.813 W
12,200.0	91.05	349.07	9,419.2	2,887.2	-557.3	625,936.46	673,678.80	32° 43' 10.287 N	103° 46' 7.029 W
12,300.0	91.05	349.07	9,417.3	2,985.3	-576.2	626,034.64	673,659.85	32° 43' 11.259 N	103° 46' 7.244 W
12,400.0	91.05	349.07	9,415.5	3,083.5	-595.2	626,132.81	673,640.90	32° 43' 12.231 N	103° 46' 7.460 W
12,500.0	91.05	349.07	9,413.7	3,181.7	-614.1	626,230.98	673,621.95	32° 43' 13.204 N	103° 46' 7.676 W
12,600.0	91.05	349.07	9,411.8	3,279.8	-633.1	626,329.15	673,603.00	32° 43' 14.176 N	103° 46' 7.891 W
12,700.0	91.05	349.07	9,410.0	3,378.0	-652.0	626,427.32	673,584.05	32° 43' 15.149 N	103° 46' 8.107 W
12,800.0	91.05	349.07	9,408.2	3,476.2	-671.0	626,525.49	673,565.10	32° 43' 16.121 N	103° 46' 8.323 W
12,900.0	91.05	349.07	9,406.4	3,574.4	-689.9	626,623.66	673,546.15	32° 43' 17.093 N	103° 46' 8.538 W
13,000.0	91.05	349.07	9,404.5	3,672.5	-708.9	626,721.83	673,527.20	32° 43' 18.066 N	103° 46' 8.754 W
13,100.0	91.05	349.07	9,402.7	3,770.7	-727.8	626,820.01	673,508.25	32° 43' 19.038 N	103° 46' 8.970 W
13,200.0	91.05	349.07	9,400.9	3,868.9	-746.8	626,918.18	673,489.31	32° 43' 20.011 N	103° 46' 9.186 W
13,300.0	91.05	349.07	9,399.1	3,967.0	-765.7	627,016.35	673,470.36	32° 43' 20.983 N	103° 46' 9.401 W
13,400.0	91.05	349.07	9,397.2	4,065.2	-784.7	627,114.52	673,451.41	32° 43' 21.956 N	103° 46' 9.617 W
13,500.0	91.05	349.07	9,395.4	4,163.4	-803.6	627,212.69	673,432.46	32° 43' 22.928 N	103° 46' 9.833 W



# Stryker Directional Planning Report - Geographic



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Querecho 28 OB Federal #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Project:</b>	Lea County N.M.	<b>MD Reference:</b>	GL 3714 + 20 @ 3734.0usft (Patterson 36)
<b>Site:</b>	Section 28-18S-32E Querecho 28 OB Fed Com#1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Querecho 28 OB Federal #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Plan#1		

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,600.0	91.05	349.07	9,393.6	4,261.6	-822.6	627,310.86	673,413.51	32° 43' 23.900 N	103° 46' 10.048 W
13,700.0	91.05	349.07	9,391.8	4,359.7	-841.5	627,409.03	673,394.56	32° 43' 24.873 N	103° 46' 10.264 W
13,800.0	91.05	349.07	9,389.9	4,457.9	-860.5	627,507.20	673,375.61	32° 43' 25.845 N	103° 46' 10.480 W
13,900.0	91.05	349.07	9,388.1	4,556.1	-879.4	627,605.37	673,356.66	32° 43' 26.818 N	103° 46' 10.695 W
14,000.0	91.05	349.07	9,386.3	4,654.2	-898.4	627,703.55	673,337.71	32° 43' 27.790 N	103° 46' 10.911 W
14,100.0	91.05	349.07	9,384.5	4,752.4	-917.3	627,801.72	673,318.76	32° 43' 28.762 N	103° 46' 11.127 W
14,124.8	91.05	349.07	9,384.0	4,776.8	-922.0	627,826.09	673,314.05	32° 43' 29.004 N	103° 46' 11.180 W

TD at 14124.8

### Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Querecho 28 O	- plan hits target center	0.00	0.00	9,384.0	4,776.8	-922.0	627,826.09	673,314.05	32° 43' 29.004 N	103° 46' 11.180 W
	- Point									
LP Querecho 28 OB #	- plan misses target center by 13.2usft at 9737.2usft MD (9464.1 TVD, 469.4 N, -90.6 E)	0.00	0.00	9,464.0	471.9	-77.6	623,521.23	674,158.45	32° 42' 46.362 N	103° 46' 1.565 W
	- Point									

### Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,986.6	8,986.6	0.0	0.0	Start DLS 12.00 TFO 349.07
9,745.3	9,464.0	477.4	-92.1	Start 4379.5 hold at 9745.3 MD
14,124.8	9,384.0	4,776.8	-922.0	TD at 14124.8



**Notes Regarding Blowout Preventer**

**Mewbourne Oil Company**

Querecho 28 OB Fed Com #1H

170' FSL & 1420' FEL (SHL)

Sec 28-T18S-R32E

Lea County, New Mexico

- I. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with minimum internal diameter equal to blowout preventer bore.
- II. Blowout preventer and all fittings must be in good condition with a minimum 3000 psi working pressure on 9 5/8" and 7" casing.
- III. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 3000 psi working pressure.
- IV. Equipment through which bit must pass shall be at least as large as internal diameter of the casing.
- V. A kelly cock shall be installed on the kelly at all times.

Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

# 11" 3M BOPE & Closed Loop Equipment Schematic

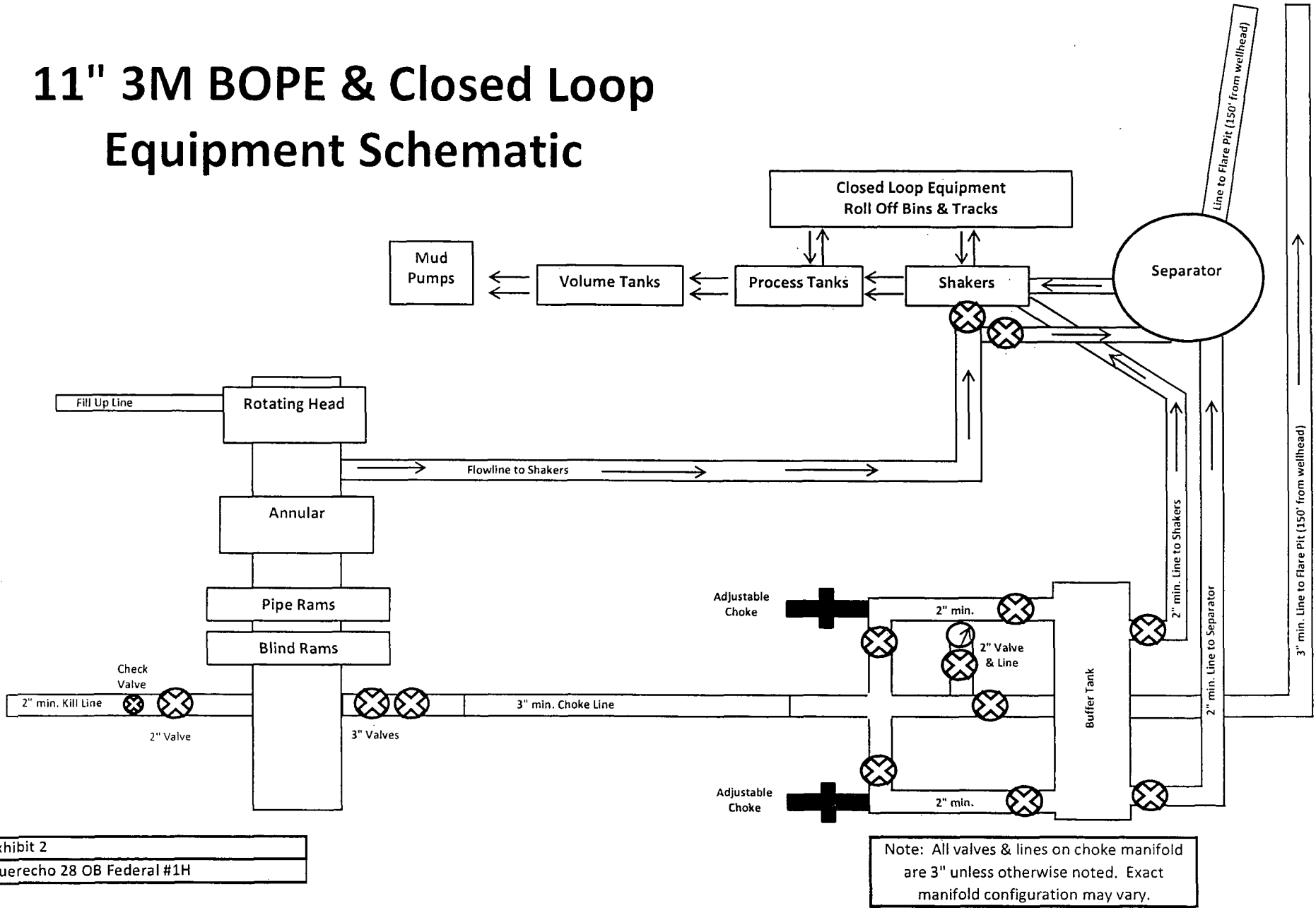


Exhibit 2  
Querecho 28 OB Federal #1H

# 13 5/8" 2M BOPE & Closed Loop Equipment Schematic

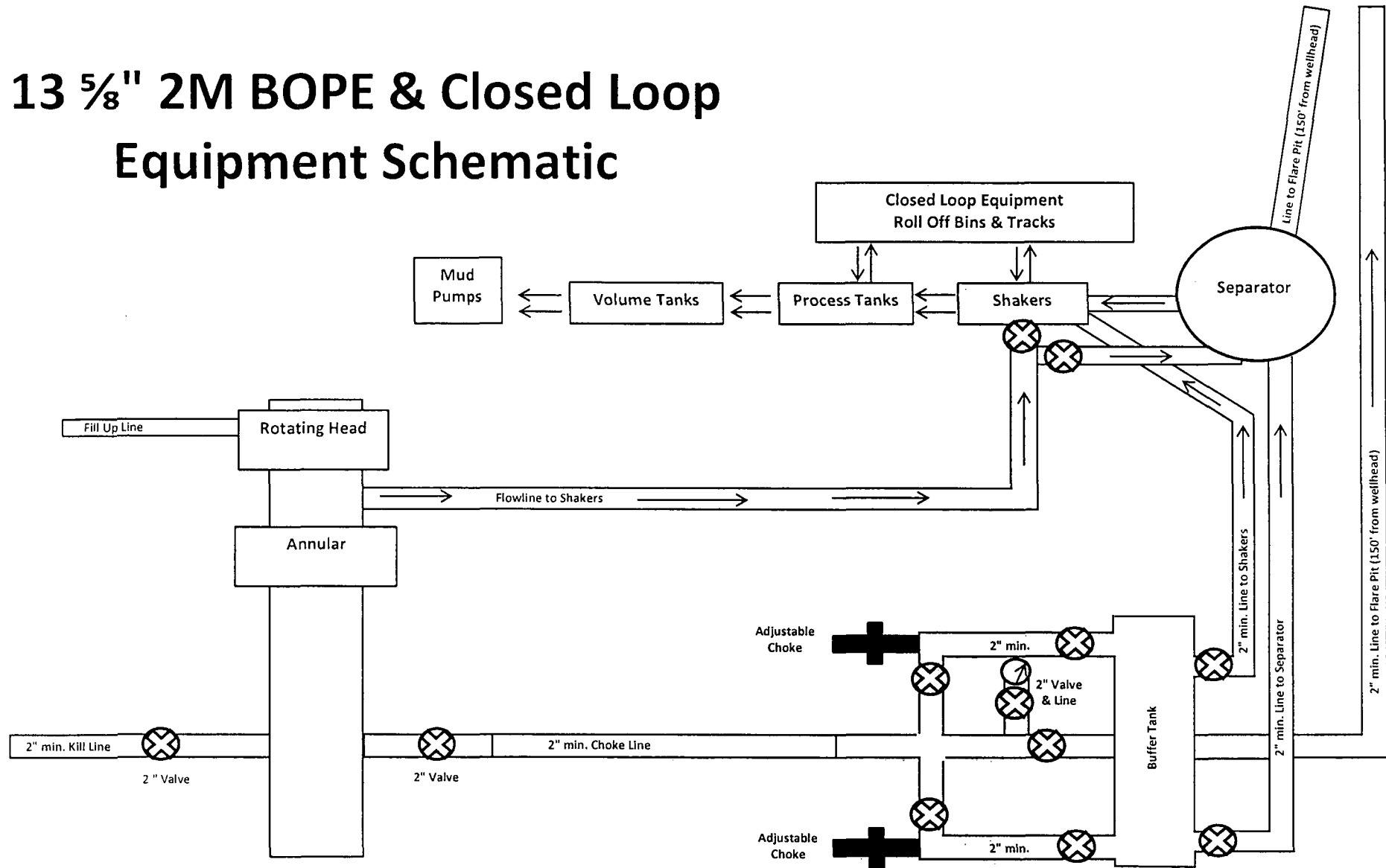


Exhibit 2A  
Querecho 28 OB Federal #1H

H2S Diagram  
 Closed Loop Pad Dimensions 280' x 320'

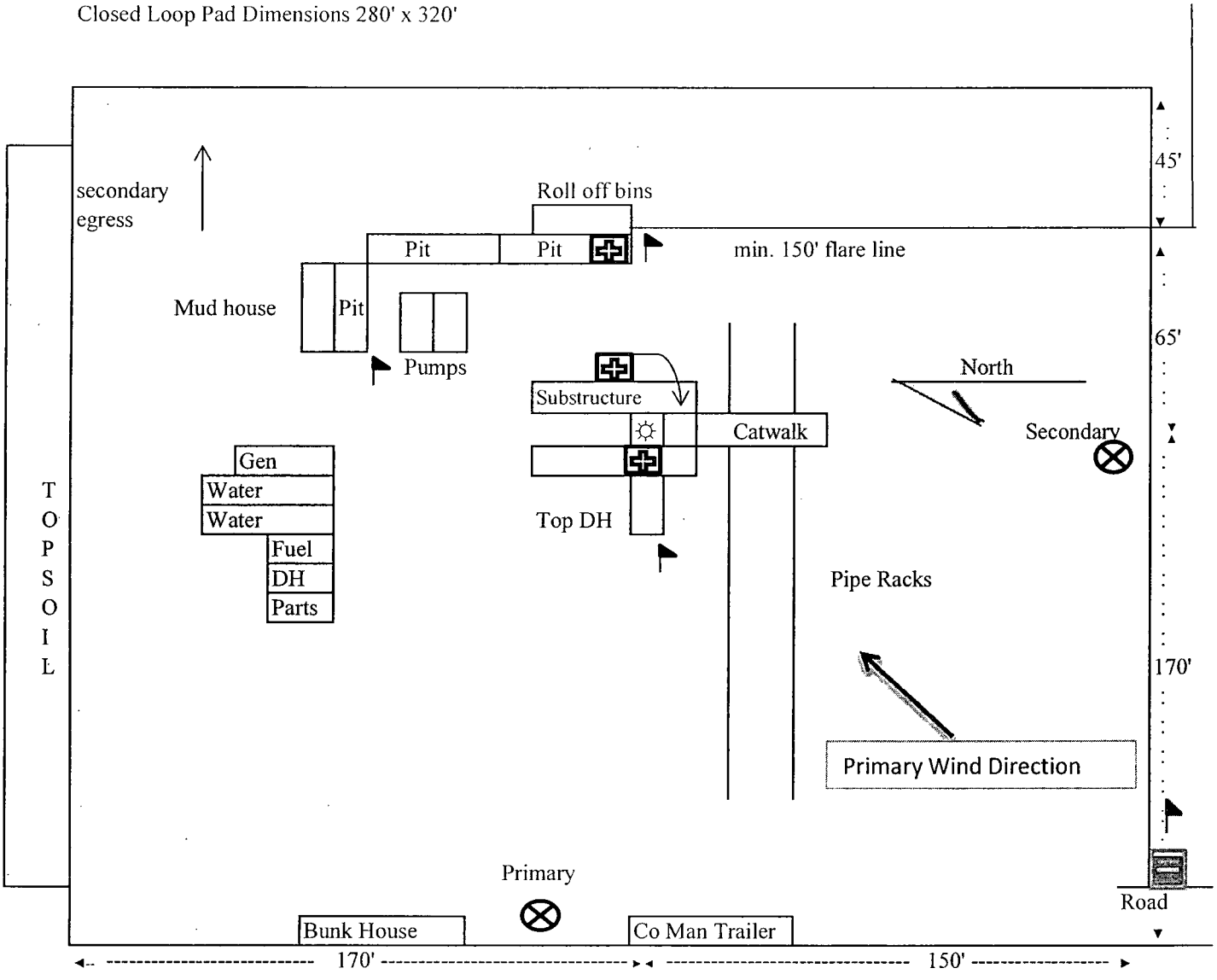






Exhibit 6

-  = Safety Stations
-  = H2S Monitors
-  = Wind Markers
-  = Warning Signs

Mewbourne Oil Company  
 Querecho 28 BO Fed Com #1H  
 170' FSL & 1420' FEL  
 Sec. 28 T18S R32E  
 Lea County, NM



Salaz, Robert &lt;rsalaz@blm.gov&gt;

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## Querecho

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**Bradley Bishop** <bbishop@mewbourne.com>

Tue, Jan 28, 2014 at 10:59 AM

To: rsalaz@blm.gov

The Querecho 28 OB Fed #1H will be changed to the Querecho 28 OB Fed Com #1H.

Bradley Bishop  
Mewbourne Oil Company  
PO Box 5270  
Hobbs, NM 88241 US

Phone: (575) 393-5905 | Fax: (575) 397-6252  
(575) 390-6838  
Email: BBishop@Mewbourne.com

*Please add def's  
to folder.*