# NOBBS OCD

и И У		HOBBS OCD			13-52/	
Form 3160 -3 (August 2007)		JUN 24 2013 OCD HO	FORM APPR OMB No. 100 Expires hilv 31	OVED 4-0137 2010		
DEP. BUI	5. Lease Serial No. NMNM 113412 (SL & BHL)					
APPLICATION	FOR PERMIT TO D	RILL OR REENTER		6. If Indian, Allotee or T	ribe Name	
la. Type of work: 🚺 DRILL	la. Type of work: DRILL REENTER					
Ib. Type of Well: 🖌 Oil Well	Gas Well Other	Single Zone 🗌 Mult	8. Lease Name and Well I Querecho 28 NC Feder	No. <b>&lt; 3997</b> al #1H		
2. Name of Operator Mewbourne Oil	Company	<1474	47	2 API Well No. 30 225- 4	1123,8,	
3a. Address PO Box 5270 Hobbs, NM 88241	3E	o. Phone No. (include area code) 175-393-5905		10. Field and Pool, or Explo	spring North	
4. Location of Well (Report location clea At surface 150' FSL & 2230' FW	arly and in accordance with any S L, Sec. 28 T18S R32E	ilate requirements.*) UNELC		11. Sec., T. R. M. or Blk.and Sec. 28 T18S R32E	i Survey or Area OK	
At proposed prod. zone 330' FNL & 14. Distance in miles and direction from ne	arest town or post office*	R32E Unit N		12. County or Parish	13. State	
34.86 miles West of Hobbs, NM 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig, unit line, if any)	1	6. No. of acres in lease 60	17. Spacin 160	In the second se	NM	
<ol> <li>Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.</li> </ol>	0' MOC's Querecho 28 D. 1 9	9. Proposed Depth 4041'-MD 384'-TVD	oposed Depth 20. BLM/BIA Bond No. on file 1'-MD NM-1693 naționwide, NMB000919 -TVD			
21. Elevations (Show whether DF, KDB, 3709' GL	RT, GL, etc.) 22	2 Approximate date work will sta 03/01/2013	urt*	23. Estimated duration 60 days		
		24. Attachments				
<ol> <li>Well plat certified by a registered survey.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is sUPO must be filed with the appropriate</li> </ol>	or. on National Forest System Lar Forest Service Office)	ds, the Name (Printed/Typed)	he operation specific info	ns unless covered by an existin rmation and/or plans as may b Date	ng bond on file (see	
Title	man p	Bradley Bishop		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
Approved by (Signature)		Name (Printed/Typed)		Date	132013	
Title FIELD MANAGER	FIELD MANAGER Office CARLSBAD FIELD C					
Application approval does not warrant or ce conduct operations thereon. Conditions of approval, if any, are attached.	rtify that the applicant holds lea	gal or equitable title to those right	is in the subj	ect lease which would entitle the APPROVAL FOF	ne applicant to	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. States any false, fictitious or fraudulent state	C. Section 1212, make it a crime ments or representations as to an	for any person knowingly and w y matter within its jurisdiction.	villfully to ma	ake to any department or agend	cy of the United	
(Continued on page 2) <u>CONDITIONS OF APPROVAL</u> - 24 Casing, Cement and all other 24 Hore reported to the Office phone 575-39 or 107 **Leave message if no one answe EMERGENCY ONLY PHONE 575	Hour call in for Spud, our notices to be 93-6161 ext 102, 120 vers** 5-370-3186	UN 17 201	D 3 SIA	*(Instruction Capitan Controlled Ket o C/251	Water Basin	
SEE ATTACHED FO	OR APPROVAL	Approval Subject to G & Special Stipula	eneral Re ations Att	quirements ached		

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JUL 0 2 2013 dra

13-327

## Drilling Program Mewbourne Oil Company Querecho 28 NC Federal #1H 150' FSL & 2230' FWL (SHL)

Sec 28-T18S-R32E

#### Lea County, New Mexico

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

Rustler	1120'
Top Salt	1280'
Base Salt	2490'
*Yates	2720'
Seven Rivers	3180'
*Queen	3820'
Grayburg	3970'
San Andres	NA
*Lamar/Delaware	4630'
*Bone Springs	7010'
Wolfcamp	NA

## 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 1145' 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 5000# WP Double Ram BOP and 5000# 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" to 1000# and 9 5/8" & 7" BOPE to 5000# and the Annular to 2500# with a 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 8932' & kick off to horizontal @ 9409' TVD. The well will be drilled to 14041' MD (9384' TVD). See attached directional plan.

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

Cacing Brogram

See COA

A. Casing	i i i ografii.				
Hole Size	Casing	<u>Wt/Ft.</u>	Grade	<u>Depth</u> 1/90	Jt Type
17 /2	13 3/6 (Hew)	40#	H40	2700	3100
12 ¼ "	9 5/8" (new)	36#	J55	0' - 2770' MD	LT&C
8 3/4"	7" (new)	26#	P110	0' - 8932' MD	LT&C
8 3⁄4"	7" (new)	26#	P110	8932' - 9684' MD	BT&C
6 1/8"	4 ½" (new)	13.5#	P110	9484' - TD	LT&C

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

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#### B. Cementing Program:

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- i. <u>Surface Casing</u>: 650 sks Class C light cement with salt & LCM. Yield at 2.15 cuft/sk. 200 sks Class C cement containing 1% CaCl2. Yield at 1.33 cuft/sk. Cmt circulated to surface w/100% excess.
  - Intermediate Casing: 490 sacks Class C light cement with salt & LCM. Yield at 2.02 cuft/sk. 200 sacks Class C cement. Yield at 1.33 cuft/sk. Cmt circulated to surface w/25% excess.
    - <u>Production Casing:</u> 685 sks Class "H" light cement w/salt, FL & LCM additives. Yeild @ 2.07 cuft/sk. 400 sks Class "H" cement w/ salt & FL additives. Yeild @ 1.18 cuft/sk. Cmt circulated to surface w/25% excess.
  - <u>Production Liner</u>: This will be a Packer/Port completion from TD up nside 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:

Interval 190	Type System	<u>Weight</u>	<u>Viscosity</u>	Fluid Loss
0'- 1145' 2700	FW spud mud	8.6-9.0	32-34	ŇA
1145'-2770'	Brine water	10.0-10.2	28-30	NA
2770' - 8932' (KOP)	Cut Brine	8.5-8.7	28-30	NA
8932' - TD	Cut Brine 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: See Con

Samples: 10' samples from KOP to TD Logging: GR, CN & Gyro 100' above KOP (8932') to surface. GR from 9684' to TD.

#### 8. Downhole Conditions

Zones of abnormal pressure: Zones of lost circulation	None anticipated 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 9394'=4102.17 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 Co**

Lea County, NM Sec 28-18S-32E Querecho 28 NC Federal Com #1H

Wellbore #1

Plan: Design #1

# **DDC Well Planning Report**

10 January, 2013

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DDC Well Planning Report



DDC Well Planning Report



Database: Company: Project: Site: Well: Wellbore: Design: S:	EDM 5000.1 S Mewbourne O Lea County, N Sec 28-18S-33 Quérecho 28 I Wellbore #1 Design #1	Single User D il Co IM 2E NC Federal C	b om #1H	Local C TVD/Re MD Re North F Survey	Co-ordinate F Iference: Frence: Reference: Calculation	teference: Méthod:	Well Querech WELL @ 372 WELL @ 372 Grid Minimum Cur	o 28 NC Fede 9.0usft (Patter 9.0usft (Patter vature	ral Com #1H son) son)
Planned Survey Measured Depth (üsft)	Inclination (?)	Azimuth ((j)	Vertical Depth (usft)	+N/-S (usft)	+E/ <sup>_</sup> W, (usft)	Vertical Section (usft)	Dogleg, Rate (%100usft) (	Build Rate //100usft).	Turn Rate ?/100usft)
Build 12° / 1 8,931.5 8,950.0 8,975.0 9,000.0 9,025.0	00' 0.00 2.22 5.22 8.22 11.22	0.00 352.81 352.81 352.81 352.81	8,931.5 8,950.0 8,974.9 8,999.8 9,024.4	0.0 0.4 2.0 4.9 9.1	0.0 0.0 -0.2 -0.6 -1.1	0.0 0.4 2.0 4.9 9.1	0.00 12.00 12.00 12.00 12.00	0.00 12.00 12.00 12.00 12.00 12.00	0.00 0.00 0.00 0.00 0.00 0.00
9,050.0	14.22	352.81	9,048.8	14.5	-1.8	14.6	12.00	12.00	0.00
9,075.0	17.22	352.81	9,072.8	21.2	-2.7	21.4	12.00	12.00	0.00
9,100.0	20.22	352.81	9,096.5	29.2	-3.7	29.4	12.00	12.00	0.00
9,125.0	23.22	352.81	9,119.7	38.4	-4.8	38.7	12.00	12.00	0.00
9,150.0	26.22	352.81	9,142.5	48.7	-6.2	49.1	12.00	12.00	0.00
9,175.0	29.22	352.81	9,164.6	60.3	-7.6	60.8	12.00	12.00	0.00
9,200.0	32.22	352.81	9,186.1	72.9	-9.2	73.5	12.00	12.00	0.00
9,225.0	35.22	352.81	9,206.9	86.7	-10.9	87.4	12.00	12.00	0.00
9,250.0	38.22	352.81	9,226.9	101.5	-12.8	102.3	12.00	12.00	0.00
9,275.0	41.22	352.81	9,246.1	117.4	-14.8	118.3	12.00	12.00	0.00
9,300.0	44.22	352.81	9,264.5	134.2	-16.9	135.3	12.00	12.00	0.00
9,325.0	47.22	352.81	9,281.9	152.0	-19.2	153.2	12.00	12.00	0.00
9,350.0	50.22	352.81	9,298.4	170.6	-21.5	172.0	12.00	12.00	0.00
9,375.0	53.22	352.81	9,313.9	190.1	-24.0	191.6	12.00	12.00	0.00
9,400.0	56.22	352.81	9,328.4	210.3	-26.6	212.0	12.00	12.00	0.00
9,425.0	59.22	352.81	9,341.7	231.3	-29.2	233.1	12.00	12.00	0.00
9,450.0	62.22	352.81	9,353.9	252.9	-31.9	254.9	12.00	12.00	0.00
9,475.0	65.22	352.81	9,365.0	275.2	-34.7	277.3	12.00	12.00	0.00
9,500.0	68.22	352.81	9,374.9	297.9	-37.6	300.3	12.00	12.00	0.00
9,525.0	71.22	352.81	9,383.5	321.2	-40.5	323.8	12.00	12.00	0.00
9,550.0	74.22	352.81	9,391.0	344.9	-43.5	347.6	12.00	12.00	0.00
9,575.0	77.22	352.81	9,397.1	368.9	-46.6	371.8	12.00	12.00	0.00
9,600.0 9,625.0 9,650.0 9,675.0 EOB @ 90.33	80.22 83.22 86.22 89.22 8° Inc / 352.81°	352.81 352.81 352.81 352.81 352.81 <b>Azm / 9409'</b>	9,402.0 9,405.6 9,407.9 9,408.9 TVD	393.2 417.8 442.5 467.3	-49.6 -52.7 -55.9 -59.0	396.4 421.1 446.0 471.0	12.00 12.00 12.00 12.00	12.00 12.00 12.00 12.00	0.00 0.00 0.00 0.00
9,684.2	90.33	352.81	9,409.0	476.4	-60.1	480.2	12.00	12.00	0.00
9,700.0	90.33	352.81	9,408.9	492.1	-62.1	496.0	0.00	0.00	0.00
9,800.0	90.33	352.81	9,408.3	591.3	-74.6	596.0	0.00	0.00	0.00
9,900.0	90.33	352.81	9,407.7	690.5	-87.2	696.0	0.00	0.00	0.00
10,000.0	90.33	352.81	9,407.1	789.7	-99.7	796.0	0.00	0.00	0.00
10,100.0 10,200.0 10,300.0 10,400.0 10,500.0 10,600.0	90.33 90.33 90.33 90.33 90.33 90.33	352.81 352.81 352.81 352.81 352.81 352.81	9,406.0 9,406.0 9,405.4 9,404.9 9,404.3 9,403.7	988.1 1,087.3 1,186.5 1,285.7 1,385.0	-112.2 -124.7 -137.3 -149.8 -162.3 -174.8	996.0 996.0 1,096.0 1,196.0 1,296.0 1,395.9	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
10,700.0	90.33	352.81	9,403.1	1,484.2	-187.4	1,495.9	0.00	0.00	0.00
10,800.0	90.33	352.81	9,402.6	1,583.4	-199.9	1,595.9	0.00	0.00	0.00
10,900.0	90.33	352.81	9,402.0	1,682.6	-212.4	1,695.9	0.00	0.00	0.00
11,000.0	90.33	352.81	9,401.4	1,781.8	-224.9	1,795.9	0.00	0.00	0.00
11,100.0	90.33	352.81	9,400.8	1,881.0	-237.5	1,895.9	0.00	0.00	0.00
11,200.0 11,300.0 11,400.0 11,500.0 11,600.0	90.33 90.33 90.33 90.33 90.33 90.33	352.81 352.81 352.81 352.81 352.81 352.81	9,400.3 9,399.7 9,399.1 9,398.6 9,398.0	1,980.2 2,079.4 2,178.6 2,277.9 2,377.1	-250.0 -262.5 -275.0 -287.5 -300.1	1,995.9 2,095.9 2,195.9 2,295.9 2,395.9	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00

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COMPASS 5000.1 Build 39

i  DDC Well Planning Report



Database: Company: Project: Site: Well: Wellbore: Design:	EDM 5000.1 Sir Mewbourne Oil Lea County, NM Sec 28-18S-32E Querecho 28 NC Wellbore #1 Design #1	igle User [ Co C Federal (	Db Com #1H	Local TVD R MD Re North Survey	Co-ordinate   eference: ference: Reference: /Calculation	Reference: Method:	Well Querecho WELL @ 3729 WELL @ 3729 Grid Minimum Curv	28 NC Feder 0.0usft (Patters 0:0usft (Patters 9:0usft (Patters vature	al Com #1H on) on)
Planned/Survey Measured			Vertical			Vertical	Dogleg	Build	Turn (*
Depth (usft)	nclination A	zimuth (ໃ)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft) (°/	Rate (100usft) (°	Rate /100usft)
11,700.0 11,800.0 11,900.0	90.33 90.33 90.33	352.81 352.81 352.81	9,397.4 9,396.8 9,396.3	2,476.3 2,575.5 2,674.7	-312.6 -325.1 -337.6	2,495.9 2,595.9 2,695.9	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
12,000.0 12,100.0 12,200.0	90.33 90.33 90.33	352.81 352.81 352.81	9,395.7 9,395.1 9,394.5	2,773.9 2,873.1 2,972.3	-350.2 -362.7 -375.2	2,795.9 2,895.9 2,995.9	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
12,500.0 12,400.0 12,500.0 12,600.0	90.33 90.33 90.33	352.81 352.81 352.81	9,394.0 9,393.4 9,392.8 9 392 3	3,170.8 3,270.0 3,269.2	-307.7 -400.3 -412.8 -425.3	3,095.9 3,195.9 3,295.9 3,395.9	0.00	0.00	0.00
12,700.0 12,800.0 12,900.0	90.33 90.33 90.33	352.81 352.81 352.81 352.81	9,391.7 9,391.1 9,390.5	3,468.4 3,567.6 3,666.8	-437.8 -450.4 -462.9	3,495.9 3,595.9 3,695.9	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
13,000.0 13,100.0 13,200.0 13,300.0 13,400.0	90.33 90.33 90.33 90.33 90.33	352.81 352.81 352.81 352.81 352.81	9,390.0 9,389.4 9,388.8 9,388.2 9,388.2	3,766.0 3,865.2 3,964.4 4,063.7 4 162 9	-475.4 -487.9 -500.5 -513.0 -525.5	3,795.9 3,895.9 3,995.9 4,095.9	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,500.0 13,600.0 13,700.0 13,800.0	90.33 90.33 90.33 90.33 90.33	352.81 352.81 352.81 352.81 352.81	9,387.1 9,386.5 9,386.0 9,385.4	4,262.1 4,361.3 4,460.5 4,559.7	-538.0 -550.6 -563.1 -575.6	4,295.9 4,395.9 4,495.9 4,595.9	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,900.0 14,000.0 <b>TD @ 14041'</b>	90.33 90.33 MD / <b>9384' TVD</b>	352.81 352.81	9,384.8 9,384.2	4,658.9 4,758.1	-588.1 -600.6	4,695.9 4,795.9	0.00	0.00	0.00
14,041.3	90.33	352.81	9,384.0	4,799.1	-605.8	4,837.2	0.00	0.00	0.00
Design Targets Target Name - hit/miss target - Shape	Dip Angle . Dir (°)	) Dir. 7 (9)	VD +N/-S isft) (usft)	+E/-Ŵ (usft)	Northin (usft)	g Eas (üs	ting ft)	titude	Longitude
PBHL Querecho 28 N - plan hits target c - Point	0.00 enter	0.00 9	,384.0 4,79	9.1 -605.	8 627,82	.4.20 672	2,006.73 32° 4	43' 29.054 N	103° 46' 26.483 W
Plan Annotations Measu	red Vertical		Local Coordi	nates	. <b> </b>			20 20 20	

(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	Comment
8,931.5	8,931.5	0.0	0.0	Build 12° / 100'
9,684.2	9,409.0	476.4	-60.1	EOB @ 90.33° Inc / 352.81° Azm / 9409' TVD
14,041.3	9,384.0	4,799.1	-605.8	TD @ 14041' MD / 9384' TVD

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Querecho 28 NC Fed. #1H

# Notes Regarding Blowout Preventer Mewbourne Oil Company Querecho 28 NC Federal #1H 150' FSL & 2230' FWL (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.

