OCD Hobbs

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM20979

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
LEA SOUTH 25 FEDERAL COM 8H

2. Name of Operator
NEARBURG PRODUCING COMPANY

Contact: VICKI JOHNSTON
E-Mail: vjohnston1@gmail.com

9. API Well No.
30-025-43057-00-X1

3a. Address
3300 NORTH A STREET BLDG 2 STE 120
MIDLAND, TX 79705

3b. Phone No. (include area code)
Ph: 830-537-4599

10. Field and Pool, or Exploratory
LEA

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 25 T20S R34E SESE 0330FSL 0490FEL
32.321594 N Lat, 103.302433 W Lon

HOBBS OCD
JUN 14 2016
RECEIVED

11. County or Parish, and State
LEA COUNTY, NM

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

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

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

Nearburg Producing Company (NPC) requests to drill a pilot hole for this well. After logging the pilot hole, NPC may decide to complete the well as a 3rd Bone Spring Carbonate. If the 3rd Bone Spring Carbonate is non-productive, NPC will file another Sundry Notice with revised drilling plan and related documents for the horizontal well. Please see revised attachments:
C-102
Drilling Plan
Directional Plan
Wellbore Diagram

Original COAs Apply

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #340853 verified by the BLM Well Information System
For NEARBURG PRODUCING COMPANY, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 06/02/2016 (16PP0716SE)

Name *(Printed/Typed)* TIM GREEN — Title PRODUCTION MANAGER

Signature (Electronic Submission) — Date 06/01/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By Chris Walls — Title Eng — Date 6/5/16

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office CFO

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

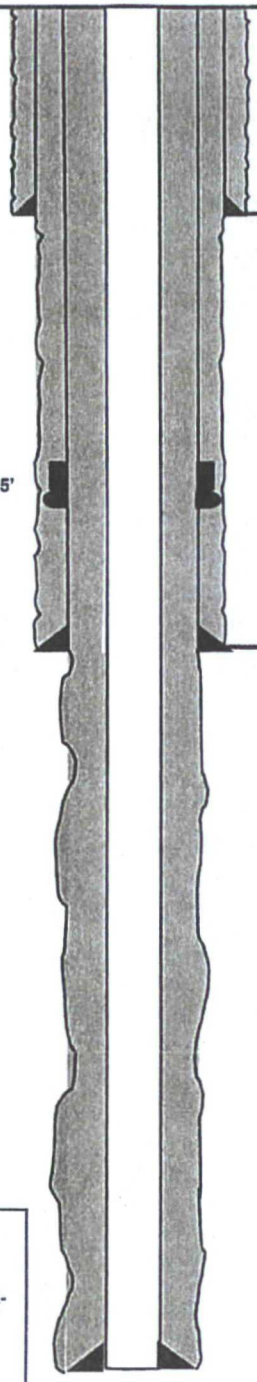
Lea County, NM
S25, T20S, R34E

Lea South 25 Federal Com #8
3rd Bone Spring
Proposed 7 " Wellbore
API: 30-025-43057

Rig:	H&P 497
Well Type:	Vertical Pilot
AFE Days:	24
AFE M$:	$2,607

SHL	BHL
330' FSL	330' FSL
490' FEL	330' FEL

KB: 3777'
GL: 3761'



Rustler @ 1779'

1910'

T/ Salt @ 1929'

B/ Salt @ 3634'

Yates @ 3649'

7 Rivers @ 4009'

DV-ECP @ 4025'

C/ Reef @ 4109'

5700'

Delaware @ 5729'

Bone Spring @ 8529'

1st Bone Spring Sand @ 9709'

2nd Bone Spring Sand @ 10459'

3rd Bone Springs Carbonate 11031'

3rd Bone Spring Sand @ 11306'

Formation Evaluation

RU Mud Loggers prior to DO 9-5/8" OH Logs Schlumberger PEX-HRLA & BHC Sonic from TD to Intermediate Casing; Spec-GR from TD to +-10500'
GR-N to surface

Wolfcamp @ 11451'

13-3/8" 54.5# J55 STC @ 1910+-'

Bit Size: 17-1/2"

Lead - 1125 sx' C w/ 4% gel, 2% $CaCl_2$, Defoamer, .025#/sx phenoseal (13.5/1.75) 9.18 GPS Water

Tail - 300 sx's C: Poz:Gel, C-45, w/ 2% $CaCl_2$ (14.8/1.34) 6.35 GPS Water
Est 18.90" Hole Size + 100 sx Lead, BHST @ 1920' = 85° F

Conventional BHA: MWD tool, MM & PDC

Surface Mud:
FW Spud Mud
8.4 ppg
FV 28-29
WL NC

9-5/8" 40# P-110 LTC 0'- 5700'

Bit Size: 12-1/4"

1st Stage

Lead: 330 sx's 85:15:6 C: Poz:Gel w/ .46 #/sx salt, .050% C-45 STE,Defoamer, Citric Acid, 5.0#/sx Kol-seal (12.8/2.10) 11.10 GPS Water

Tail: 200 sx's C: Poz:Gel w/ C-45 (14.8/1.33), 6.32 GPS Water
Est. 13.6" Hole: BHST @ 5900' = 117° F

2nd Stage

Lead: 830sx's C 85:15:6 C: Poz:Gel w/ Bentonite, Salt, C45,STE, Defoamer, Kol-seal (12.8/2.10) 11.16 GPS Water

Tail: 100 sx's C: Poz:Gel (14.8/1.33) 6.32 GPS Water

Est. 16.8" Hole: BHST @ 4025' = 102° F

Conventional BHA: EM-MWD EVO GR tool MM & PDC

Intrmd Mud:
Brine
10 ppg,
FV @ 28-29
WL NC

7" P-110 29# casing set @ 11700

Bit Size: 8-3/4"

Lead: 675 sx's 40:60:10 (C:Poz:Gel) w/ Bentonite,Salt, STE, Defoamer FLA-CSA-1000 Kol Seal, Gyp Seal (11.0/3.24) 19.41 gps Water

Tail: 170 sx's 50:50:0 (ClassH:Poz:Gel) w/ Salt, CSA – 1000 & C-47B

Production Mud
5700 – 8000'
FW
8.4 – 8.6
8000' - TD
Cut Brine
9.0-9.5 ppg
FV 32-34
WL 9-10

TD @ ~~11700'~~ 12000 per Operator 6/7/16

rds: 05/16/2016

DRILLING PLAN

Lea South 25 Federal Com #8H

REVISED 5/27/16 -- (Nearburg Revisions-Blue; COA Revisions-Red)

Nearburg Producing Co. OGRID #15742

UL: P, Sec. 25-20S-34E

Lea Co., NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

1 Location: SHL 330 FSL 490 FEL
BHL 660 FNL 330 FEL

2 Elevation above sea level: 3761' GR

3 Geologic name of surface formation: Quaternary Alluvium Deposits

4 Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.

5 Proposed drilling depth: 15,631' MD 11,350' TVD

6 Estimated tops of geological markers:

Formation	Est. Top	Bearing
Rustler	1650	NA
Top of Salt	1800	NA
Tansill	3400	NA
Capitan	3970	NA
Delaware	5700	Hydrocarbons
Bone Spring	8400	NA
Avalon Shale	8900	Hydrocarbons
1st Bone Spring Ss	9600	Hydrocarbons
2nd Bone Spring Ss	10150	Hydrocarbons
3rd Carbonate	10630	NA
3rd Bone Spring Ss	10925	NA
3rd Bone Spring C Ss	11015	Hydrocarbons

7 Possible mineral bearing formation:
Shown above

7A OSE Ground Water estimated depth: 100'

8 Casing Program:

Casing Depth From (ft)	Casing Setting Depth(ft) MD	Casing Setting Depth(ft) TVD	Open Hole Size (inches)	Casing Size (inches)	Casing Weight (lb/ft)	Casing Grade	Thread	Conditon	BHP (psig)	Anticipated Mud Weight (ppg)	Collapse SF (1.125)	Burst SF (1.125)	Cumulative Air Weight (lbs)	Cumulative Bouyed Weight (lbs)	Bouyant Tension SF (1.8)
Surface															
0'	1910'	1910'	17 1/2	13 3/8	54.5	J-55	ST&C	New	801	8.4	1.45	3.42	97,010	84,569	6.08
Intermediate															
0'	5700'	5700'	12 1/4	9 5/8	40	P-110	LT&C	New	2,565	10.2	2.97	5.63	279,300	235,806	5.07
Production	12000 → Per Operator														
0'	~~11700'~~	~~11700'~~	8 3/4	7	29	P-110	LT&C	New	2,611	9.2	1.40	1.32	339,300	290,088	2.35
~~11700'~~	~~11700'~~	~~11700'~~	~~8 3/4~~	~~7~~	~~29~~	~~P-110~~	~~LT&C~~	~~New~~	~~5,108~~	~~9.2~~	~~1.40~~	~~1.32~~	~~339,300~~	~~290,088~~	~~2.35~~

Casing Design Criteria and Casing Loading Assumptions:

Surface

Tension A 1.8 design factor with effects of buoyancy. 8.4 ppg

Collapse A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.4 ppg mud gradient

Burst A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

Intermediate

Tension A 1.8 design factor with effects of buoyancy. 10.2 ppg

Collapse A 1.125 design factor evacuated 1/3 TVD of next casing string with a collapse force equal to a 10.2 ppg mud gradient

Burst A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

Production

Tension A 1.8 design factor with effects of buoyancy. 9.2 ppg

Collapse A 1.125 design factor with full internal evacuation and a collapse force equal to a 9.2 ppg mud gradient

Burst A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

Drilling Plan

Lea South 25 Federal Com #8H

REVISED 5/27/16 -- (Nearburg Revisions-Blue; COA Revisions-Red)

Nearburg Producing Co. OGRID #15742

UL: P, Sec. 25-20S-34E

Lea Co., NM

9 **Cementing Program:**

		Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Surface						
13-3/8"	Lead	1125	1.75	13.5	1969	100:0 4 (Class C: Poz: Gel) + Bentonite + Phenoseal + Defoamer + CaCl 2%
	Tail	300	1.34	14.8	402	100:0:0 (Class C: Poz: Gel C-45 + CaCl 2%)
		TOC: 0'	**85% Excess**		**Centralizers per Onshore Order 2.III.B.1f**	
Intermediate 1		Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
9-5/8"	Lead	330	2.1	12.8	693	85:15:6 (Class C: Poz: Gel) + salt + C-45 + STE + Defoamer + Citric Acid + Kol-Seal
	Tail	200	1.33	14.8	266	100:0:0 (Class C: Poz: Gel) + Econolite
		TOC: 0'	**81% Excess**		DV tool @ 4025	
Intermediate 2		Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
9-5/8"	Lead	830	2.1	12.8	1743	85:15:6 (Class C: Poz: Gel) + Bentonite + salt + Econolite + STE + Defoamer + Kol-Seal
	Tail	100	1.33	14.8	133	100:0:0 (Class C: Poz: Gel) + Econolite
		TOC: 0'	**0% Excess**			
Production		Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
7"	Lead	675	3.24	11	1928	40:60:10 C: Poz: Gel
	Tail	170	1.25	14.2	204	50:50 (poz/H) + Salt + Fluid Loss

10 **Pressure Control Equipment:**

Exhibit "E-1". A BOP consisting of two rams with blind rams and pipe rams, and one annular preventer. Below the surface casing, a 2M system will be used. Below the intermediate casing, a 5M system will be used. See attachments for BOP and choke manifold diagrams. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A Rotating head may be installed as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP and associated equipment will be installed, used, maintained, and tested in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe. The Annular Preventer shall be functioned at least weekly. The pipe and blind rams will be operated each trip. No abnormal pressure or temperature is expected while drilling.

BOPS will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: On the surface casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate casing, pressure tests will be made to 250 psi low and 5000 psi high.

The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, and 250 low and 2500 high on the intermediate casing.

Nearburg Producing Company requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached (please see Exhibit F, F-1, F-2, F-3). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

Application to Drill
Lea South 25 Federal Com #8H
REVISED 5/27/16 -- (Nearburg Revisions-Blue; COA Revisions-Red)
Nearburg Producing Co. OGRID #15742
UL: P, Sec. 25-20S-34E
Lea Co., NM

11 Proposed Mud Circulating System:

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0'	to	1910'	8.4	28	NC	FW Spud Mud
1910'	to	5700'	10.2	30-32	NC	Brine water
5700'	to	11700'	9.2	30-32	NC	FW/Cut Brine

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

The Mud Monitoring System is an electronic Pason System satisfying requirements of Onshore Order 1.

12 Proposed Drilling Plan
Pilot Hole TD: 11700'
Set surface and intermediate strings. **Drill production hole to 11700'.**

13 Testing, Logging and Coring Program:
A. Mud logging program: 2 man unit from 5700' to TD
B. Electric logging program: CNL / LDT / CAL / GR, DLL /GR -- Inter. Csg to TD
CNL /GR -- Surf to Inter. Csg
C. No DSTs or cores are planned at this time.
D. CBL w/ CCL from as far as gravity will let it fall to TOC

14 Potential Hazards:
No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Nearburg does not anticipate that there will be enough H_2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H_2S Safety package on all wells, attached is an "H_2S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP **5108 psi** Estimated BHT **180°**

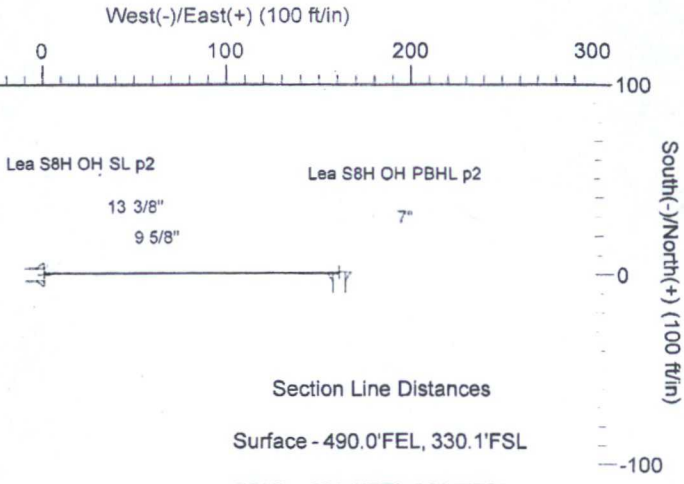
15 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.
Drilling expected to take : 21 days
If production casing is run an additional 30 days will be required to complete and construct surface facilities.

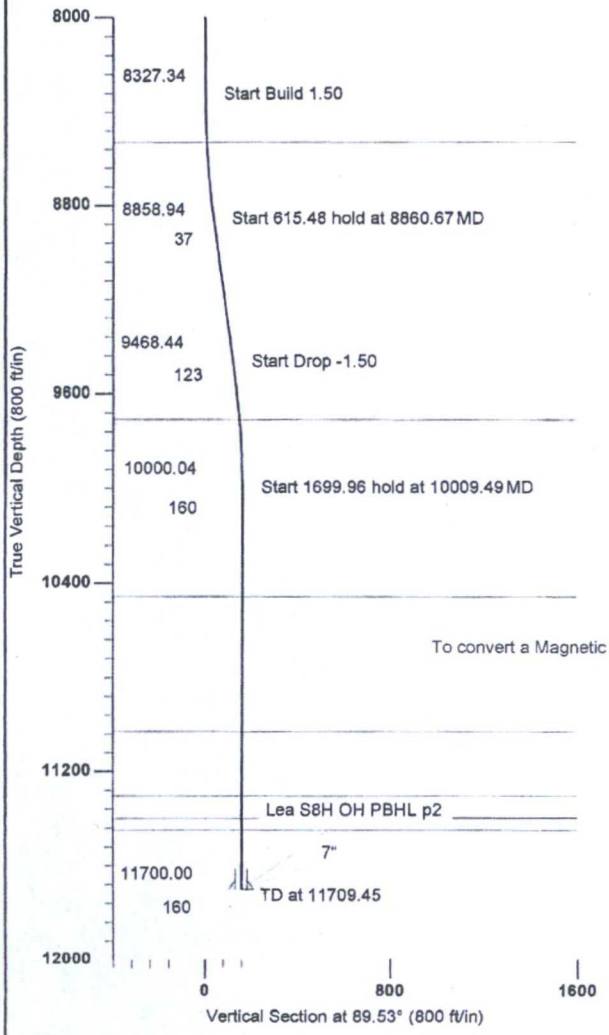
16 Other Facets of Operations:
After running casing, cased hole gamma ray neutron collar logs will be run from TD over possible pay intervals.
Bone Spring pay will be perforated and stimulated.
The proposed well will be tested and potentialed as **Oil**

NEARBURG PRODUCING COMPANY

Project: Lea County, NM (NAD83)
Site: Lea South 25 Fed Com 8H Pilot
Well: 8H Pilot
Wellbore: Original Hole
Design: Plan #2

3761+15 @ 3776.00ft (Per GeoProg)
North American Datum 1983

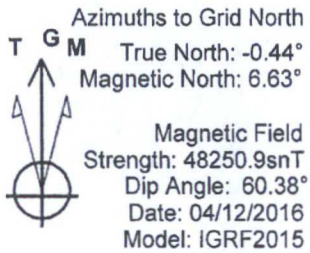




Section Line Distances

Surface - 490.0'FEL, 330.1'FSL

PBHL - 330.0'FEL, 330.0'FSL



Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.63°

Magnetic Field
Strength: 48250.9snT
Dip Angle: 60.38°
Date: 04/12/2016
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.63°

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1779.00	1779.00	Rustler
1929.00	1929.00	Salt
3649.00	3649.00	Yates
4009.00	4009.00	Seven Rivers
4109.00	4109.00	Capitan
5729.00	5729.00	Delaware
8529.00	8529.09	Bone Springs
9709.00	9718.17	1 BS Sand
10459.00	10468.45	2 BS Sand
11031.00	11040.45	3 BS Carbonate
11306.00	11315.45	3 BS Sand
11401.00	11410.45	Basal 3 S Sand
11451.00	11460.45	Wolfcamp Mkr

CASING DETAILS

TVD	MD	Name	Size
1675.00	1675.00	13 3/8"	13.37
5500.00	5500.00	9 5/8"	9.62
11700.00	11709.45	5 1/2"	5.50

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Lea S8H OH SL p2	0.00	0.00	0.00	560356.50	796063.30	Point
Lea S8H OH PBHL p2	11700.00	1.30	160.00	560357.80	796223.30	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8327.34	0.00	0.00	8327.34	0.00	0.00	0.00	0.00	0.00	
8860.67	8.00	89.53	8858.94	0.30	37.17	1.50	89.53	37.17	
9476.16	8.00	89.53	9468.44	1.00	122.83	0.00	0.00	122.83	
10009.49	0.00	0.00	10000.04	1.30	160.00	1.50	180.00	160.01	
11709.45	0.00	0.00	11700.00	1.30	160.00	0.00	0.00	160.01	Lea S8H OH PBHL p2

Plan: Plan #2 (8H Pilot/Original Hole)
Created By: Mekka Williams
eSomina Well Design
mekka@esominawelldesign.com
15:19, May 27 2016

VON DIRECTIONAL
12074 FM 3083 Conroe, Texas 77301
936-756-2400

VON DIRECTIONAL, LLC

Database:	VONEDM	**Local Co-ordinate Reference:**	Site Lea South 25 Fed Com 8H Pilot
Company:	NEARBURG PRODUCING COMPANY	**TVD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Project:	Lea County, NM (NAD83)	**MD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Site:	Lea South 25 Fed Com 8H Pilot	**North Reference:**	Grid
Well:	8H Pilot	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Project	Lea County, NM (NAD83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Lea South 25 Fed Com 8H Pilot, Sec 25 20S-34E (Lat Long per Plat)				
Site Position:		**Northing:**	560,356.50 ft	**Latitude:**	32° 32' 15.929 N
From:	Map	**Easting:**	796,063.30 ft	**Longitude:**	103° 30' 24.344 w
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.20 in	**Grid Convergence:**	0.44 °

Well	8H Pilot					
Well Position	**+N/-S**	0.00 ft	**Northing:**	560,356.50 ft	**Latitude:**	32° 32' 15.929 N
	+E/-W	0.00 ft	**Easting:**	796,063.30 ft	**Longitude:**	103° 30' 24.344 w
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,761.00 ft

Wellbore	Original Hole			
Magnetics	**Model Name**	**Sample Date**	**Declination (0**	**Dip Angle (0**	**Field Strength (nT**
	IGRF2015	04/12/2016	7.07	60.38	48,251

Design	Plan #2			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD (ft**	**+N/-S (ft**	**+E/-W (ft**	**Direction (0**
	0.00	0.00	0.00	89.53

Plan Sections

Measured Depth (ft	Inclination (0	Azimuth (0	Vertical Depth (ft	+N/-S (ft	+E/-W (ft	Dogleg Rate (0/ ft	Build Rate (0/ ft	Turn Rate (0/ ft	TFO (0	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,327.34	0.00	0.00	8,327.34	0.00	0.00	0.00	0.00	0.00	0.00	
8,860.67	8.00	89.53	8,858.94	0.30	37.17	1.50	1.50	0.00	89.53	
9,476.16	8.00	89.53	9,468.44	1.00	122.83	0.00	0.00	0.00	0.00	
10,009.49	0.00	0.00	10,000.04	1.30	160.00	1.50	-1.50	0.00	180.00	
11,709.45	0.00	0.00	11,700.00	1.30	160.00	0.00	0.00	0.00	0.00	Lea S8H OH PBHL p

Database:	VONEDM	**Local Co-ordinate Reference:**	Site Lea South 25 Fed Com 8H Pilot
Company:	NEARBURG PRODUCING COMPANY	**TVD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Project:	Lea County, NM (NAD83)	**MD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Site:	Lea South 25 Fed Com 8H Pilot	**North Reference:**	Grid
Well:	8H Pilot	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Planned Survey

Measured Depth (ft	Inclination (0	Azimuth (0	Vertical Depth (ft	+N/-S (ft	+E/-W (ft	Vertical Section (ft	Dogleg Rate (0/ ft	Build Rate (0/ ft	Turn Rate (0/ ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,675.00	0.00	0.00	1,675.00	0.00	0.00	0.00	0.00	0.00	0.00
3 3/8"									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,779.00	0.00	0.00	1,779.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,929.00	0.00	0.00	1,929.00	0.00	0.00	0.00	0.00	0.00	0.00
Salt									
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,649.00	0.00	0.00	3,649.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,009.00	0.00	0.00	4,009.00	0.00	0.00	0.00	0.00	0.00	0.00
Seven Rivers									
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,109.00	0.00	0.00	4,109.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	VONEDM	**Local Co-ordinate Reference:**	Site Lea South 25 Fed Com 8H Pilot
Company:	NEARBURG PRODUCING COMPANY	**TVD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Project:	Lea County, NM (NAD83)	**MD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Site:	Lea South 25 Fed Com 8H Pilot	**North Reference:**	Grid
Well:	8H Pilot	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Planned Survey

Measured Depth (ft	Inclination (0	Azimuth (0	Vertical Depth (ft	+N/-S (ft	+E/-W (ft	Vertical Section (ft	Dogleg Rate (0/ ft	Build Rate (0/ ft	Turn Rate (0/ ft
Capitan									
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,729.00	0.00	0.00	5,729.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,327.34	0.00	0.00	8,327.34	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	1.09	89.53	8,400.00	0.01	0.69	0.69	1.50	1.50	0.00
8,500.00	2.59	89.53	8,499.94	0.03	3.90	3.90	1.50	1.50	0.00
8,529.09	3.03	89.53	8,529.00	0.04	5.33	5.33	1.50	1.50	0.00
Bone Springs									
8,600.00	4.09	89.53	8,599.77	0.08	9.73	9.73	1.50	1.50	0.00
8,700.00	5.59	89.53	8,699.41	0.15	18.16	18.16	1.50	1.50	0.00

Database:	VONEDM	**Local Co-ordinate Reference:**	Site Lea South 25 Fed Com 8H Pilot
Company:	NEARBURG PRODUCING COMPANY	**TVD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Project:	Lea County, NM (NAD83)	**MD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Site:	Lea South 25 Fed Com 8H Pilot	**North Reference:**	Grid
Well:	8H Pilot	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Planned Survey

Measured Depth (ft	Inclination (0	Azimuth (0	Vertical Depth (ft	+N/-S (ft	+E/-W (ft	Vertical Section (ft	Dogleg Rate (0/ ft	Build Rate (0/ ft	Turn Rate (0/ ft
8,800.00	7.09	89.53	8,798.79	0.24	29.21	29.21	1.50	1.50	0.00
8,860.67	8.00	89.53	8,858.94	0.30	37.17	37.17	1.50	1.50	0.00
8,900.00	8.00	89.53	8,897.89	0.35	42.65	42.65	0.00	0.00	0.00
9,000.00	8.00	89.53	8,996.91	0.46	56.56	56.56	0.00	0.00	0.00
9,100.00	8.00	89.53	9,095.94	0.57	70.48	70.48	0.00	0.00	0.00
9,200.00	8.00	89.53	9,194.97	0.69	84.40	84.40	0.00	0.00	0.00
9,300.00	8.00	89.53	9,293.99	0.80	98.31	98.32	0.00	0.00	0.00
9,400.00	8.00	89.53	9,393.02	0.91	112.23	112.23	0.00	0.00	0.00
9,476.16	8.00	89.53	9,468.44	1.00	122.63	122.63	0.00	0.00	0.00
9,500.00	7.64	89.53	9,492.06	1.02	126.07	126.08	1.50	-1.50	0.00
9,600.00	6.14	89.53	9,591.33	1.12	138.07	138.08	1.50	-1.50	0.00
9,700.00	4.64	89.53	9,690.89	1.20	147.47	147.47	1.50	-1.50	0.00
9,718.17	4.37	89.53	9,709.00	1.21	148.90	148.90	1.50	-1.50	0.00
BS Sand									
9,800.00	3.14	89.53	9,790.65	1.25	154.26	154.26	1.50	-1.50	0.00
9,900.00	1.64	89.53	9,890.56	1.29	158.43	158.44	1.50	-1.50	0.00
10,009.49	0.00	0.00	10,000.04	1.30	160.00	160.01	1.50	-1.50	0.00
10,100.00	0.00	0.00	10,090.55	1.30	160.00	160.01	0.00	0.00	0.00
10,200.00	0.00	0.00	10,190.55	1.30	160.00	160.01	0.00	0.00	0.00
10,300.00	0.00	0.00	10,290.55	1.30	160.00	160.01	0.00	0.00	0.00
10,400.00	0.00	0.00	10,390.55	1.30	160.00	160.01	0.00	0.00	0.00
10,468.45	0.00	0.00	10,459.00	1.30	160.00	160.01	0.00	0.00	0.00
2 BS Sand									
10,500.00	0.00	0.00	10,490.55	1.30	160.00	160.01	0.00	0.00	0.00
10,600.00	0.00	0.00	10,590.55	1.30	160.00	160.01	0.00	0.00	0.00
10,700.00	0.00	0.00	10,690.55	1.30	160.00	160.01	0.00	0.00	0.00
10,800.00	0.00	0.00	10,790.55	1.30	160.00	160.01	0.00	0.00	0.00
10,900.00	0.00	0.00	10,890.55	1.30	160.00	160.01	0.00	0.00	0.00
11,000.00	0.00	0.00	10,990.55	1.30	160.00	160.01	0.00	0.00	0.00
11,040.45	0.00	0.00	11,031.00	1.30	160.00	160.01	0.00	0.00	0.00
3 BS Carbonate									
11,100.00	0.00	0.00	11,090.55	1.30	160.00	160.01	0.00	0.00	0.00
11,200.00	0.00	0.00	11,190.55	1.30	160.00	160.01	0.00	0.00	0.00
11,300.00	0.00	0.00	11,290.55	1.30	160.00	160.01	0.00	0.00	0.00
11,315.45	0.00	0.00	11,306.00	1.30	160.00	160.01	0.00	0.00	0.00
3 BS Sand									
11,400.00	0.00	0.00	11,390.55	1.30	160.00	160.01	0.00	0.00	0.00
11,410.45	0.00	0.00	11,401.00	1.30	160.00	160.01	0.00	0.00	0.00
Basal 3 S Sand									
11,460.45	0.00	0.00	11,451.00	1.30	160.00	160.01	0.00	0.00	0.00
Wolfcamp Mkr									
11,500.00	0.00	0.00	11,490.55	1.30	160.00	160.01	0.00	0.00	0.00
11,600.00	0.00	0.00	11,590.55	1.30	160.00	160.01	0.00	0.00	0.00
11,709.45	0.00	0.00	11,700.00	1.30	160.00	160.01	0.00	0.00	0.00
7"									

Database:	VONEDM	**Local Co-ordinate Reference:**	Site Lea South 25 Fed Com 8H Pilot
Company:	NEARBURG PRODUCING COMPANY	**TVD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Project:	Lea County, NM (NAD83)	**MD Reference:**	3761+15 @ 3776.00ft (Per GeoProg)
Site:	Lea South 25 Fed Com 8H Pilot	**North Reference:**	Grid
Well:	8H Pilot	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (0	Dip Dir. (0	TVD (ft	+N/-S (ft	+E/-W (ft	Northing (ft	Easting (ft	Latitude	Longitude
Lea S8H OH SL p2 - plan hits target center - Point	0.00	0.01	0.00	0.00	0.00	560,356.50	796,063.30	32° 32' 15.929 N	103° 30' 24.344 w
Lea S8H OH PBHL p2 - plan hits target center - Point	0.00	0.01	11,700.00	1.30	160.00	560,357.80	796,223.30	32° 32' 15.930 N	103° 30' 22.475 w

Casing Points

Measured Depth (ft	Vertical Depth (ft	Name	Casing Diameter (in	Hole Diameter (in
1,675.00	1,675.00	13 3/8"	13.37	17.50
5,500.00	5,500.00	9 5/8"	9.62	12.25
11,709.45	11,700.00	7"	5.50	6.75