

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMNM136221

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

MARATHON OIL PERMIAN LLC

Contact: JENNIFER VAN CUREN

E-Mail: jvancuren@marathonoil.com

8. Well Name and No.

2006 IE DRAW FED COM 25 34 14 AV 24H

9. API Well No.

3002545091-00-X1

3a. Address

5555 SAN FELIPE STREET
HOUSTON, TX 77056

3b. Phone No. (include area code)

Ph: 713-296-2500

10. Field and Pool or Exploratory Area
RED HILLS-BONE SPRINGS

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 14 T25S R34E NWSW 2600FSL 656FWL
32.130268 N Lat, 103.446701 W Lon

11. County or Parish, State

LEA COUNTY, NM

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

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent☐ Subsequent Report☐ Final Abandonment Notice☐ Acidize☐ Alter Casing☐ Casing Repair☐ Change Plans☐ Convert to Injection☐ Deepen☐ Hydraulic Fracturing☐ New Construction☐ Plug and Abandon☐ Plug Back☐ Production (Start/Resume)☐ Reclamation☐ Recomplete☐ Temporarily Abandon☐ Water Disposal☐ Water Shut-Off☐ Well Integrity☒ Other
Change to Original APD

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

Marathon Oil Permian LLC. respectfully requests to make the following changes to the approved APD:

1)Change FTP

From: 2310' FSL & 661' FWL, Section 14

To: 2539' FSL & 330' FWL, Section 14

2)Change LTP/BHL

From: 330' FSL & 661' FWL, Section 23

To: 100' FSL & 330' FWL, Section 23

3) Change Casing Connections

All previous COAs still apply, except the changes in the Sundry.

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

Electronic Submission #451069 verified by the BLM Well Information System

For MARATHON OIL PERMIAN LLC, sent to the Hobbs

Committed to AFMSS for processing by ZOTA STEVENS on 01/18/2019 (19ZS0020SE)

Name (Printed/Typed) JENNIFER VAN CUREN

Title SR. REGULATORY COMPLIANCE REP

Signature (Electronic Submission)

Date 01/18/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ZOTA STEVENS

Title PETROLEUM ENGINEER

Date 01/18/2019

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 Hobbs

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

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED *****Kz*

Additional data for EC transaction #451069 that would not fit on the form

32. Additional remarks, continued

4) Revised cement volumes due to change in slurry

5) Request a variance to use a multibowl wellhead.

Please see email with attachments for details.
Changes are highlighted in yellow.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-45091	² Pool Code 97369	³ Pool Name RED HILLS; BONE SPRING; EAST
⁴ Property Code	⁵ Property Name DOGIE DRAW FEDERAL COM 25-34-14 AV	⁶ Well Number 24H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 3330'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	14	25S	34E		2600	SOUTH	656	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	23	25S	34E		100	SOUTH	330	WEST	LEA

¹² Dedicated Acres 240.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

Defining Well

CORNER COORDINATES NAD 83, SPCS NM EAST
A - X: 814995.83' / Y: 412337.42'
B - X: 816317.87' / Y: 412344.68'
C - X: 816384.72' / Y: 404427.05'
D - X: 815062.26' / Y: 404420.39'

CORNER COORDINATES NAD 27, SPCS NM EAST
A - X: 773809.53' / Y: 412279.37'
B - X: 775131.55' / Y: 412286.62'
C - X: 775198.01' / Y: 404369.19'
D - X: 773875.58' / Y: 404362.55'

SURFACE HOLE LOCATION
2600' FSL 656' FWL, SECTION 14
NAD 83, SPCS NM EAST
X: 815652.32' / Y: 412301.07'
LAT: 32.13039287N / LON: -103.44717181W
NAD 27, SPCS NM EAST
X: 774466.00' / Y: 412243.01'
LAT: 32.13026759N / LON: -103.44670362W

KICK OFF POINT
2539' FSL 330' FWL, SECTION 14
NAD 83, SPCS NM EAST
X: 815326.80' / Y: 412239.19'
LAT: 32.13023016N / LON: -103.44822491W
NAD 27, SPCS NM EAST
X: 774140.49' / Y: 412181.14'
LAT: 32.13010489N / LON: -103.44775669W

FIRST TAKE POINT
2539' FSL 330' FWL, SECTION 14
NAD 83, SPCS NM EAST
X: 815326.80' / Y: 412239.19'
LAT: 32.13023016N / LON: -103.44822491W
NAD 27, SPCS NM EAST
X: 774140.49' / Y: 412181.14'
LAT: 32.13010489N / LON: -103.44775669W

LAST TAKE POINT/BOTTOM HOLE LOCATION
100' FSL 330' FWL, SECTION 23
NAD 83, SPCS NM EAST
X: 815391.37' / Y: 404522.05'
LAT: 32.10901717N / LON: -103.44822110W
NAD 27, SPCS NM EAST
X: 774204.69' / Y: 404464.20'
LAT: 32.10889179N / LON: -103.44775417W

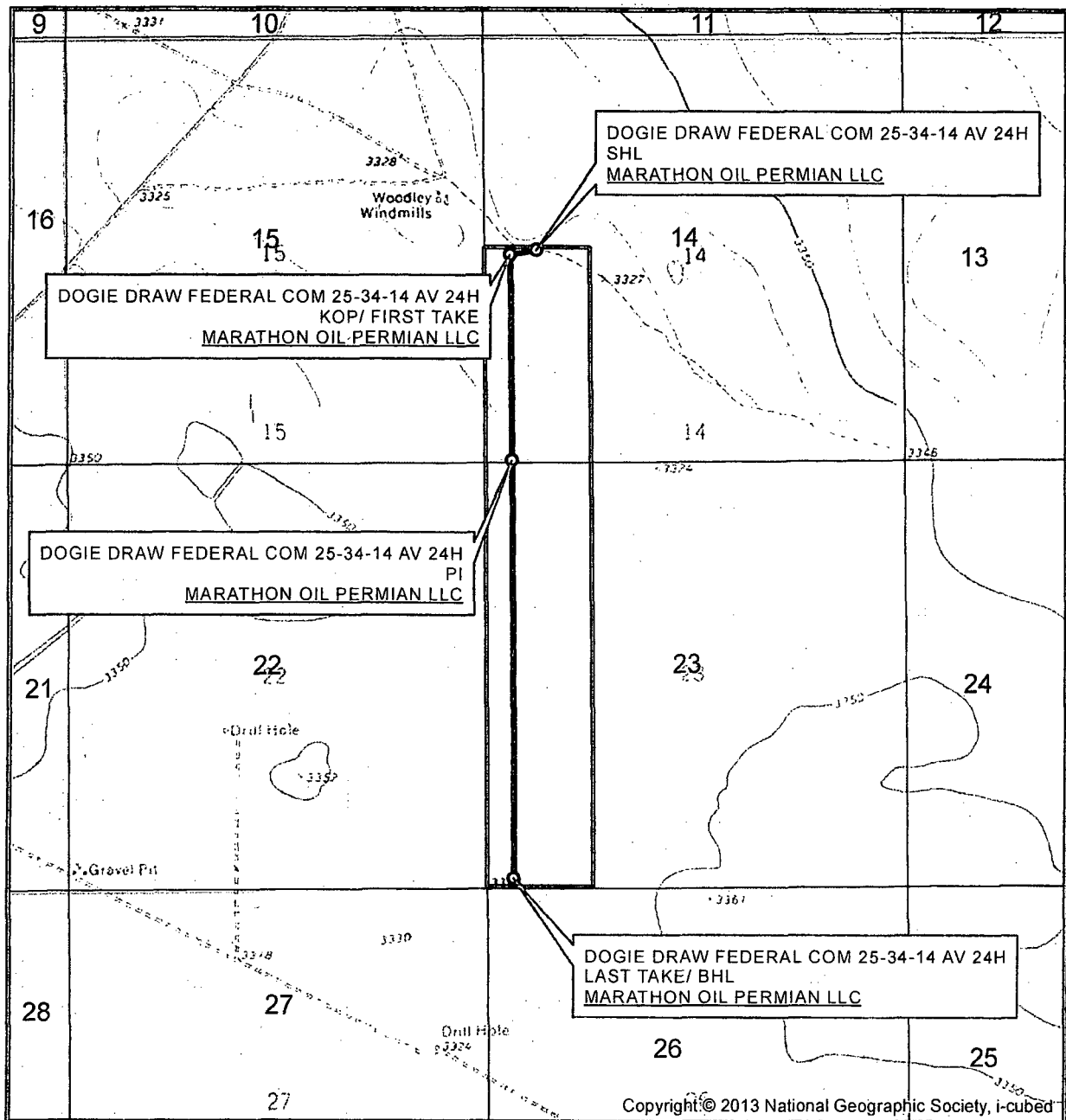
¹⁷ OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

[Signature] 12/4/2018
Signature Date
Adrian Covarrubias
Printed Name
E-mail Address

¹⁸ SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

NOVEMBER 29, 2018
Date of Survey
Signature and Seal of Professional Surveyor
[Signature]
Certificate Number
LLOYD P. SHORT 21653

LOCATION VERIFICATION MAP



SEC. 14 TWP. 25-S RGE. 34-E
 SURVEY: N.M.P.M.
 COUNTY: LEA
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 2600' FSL & 656' FWL
 ELEVATION: 3330'
 LEASE: DOGIE DRAW FEDERAL COM 25-34-14
 U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, NM.

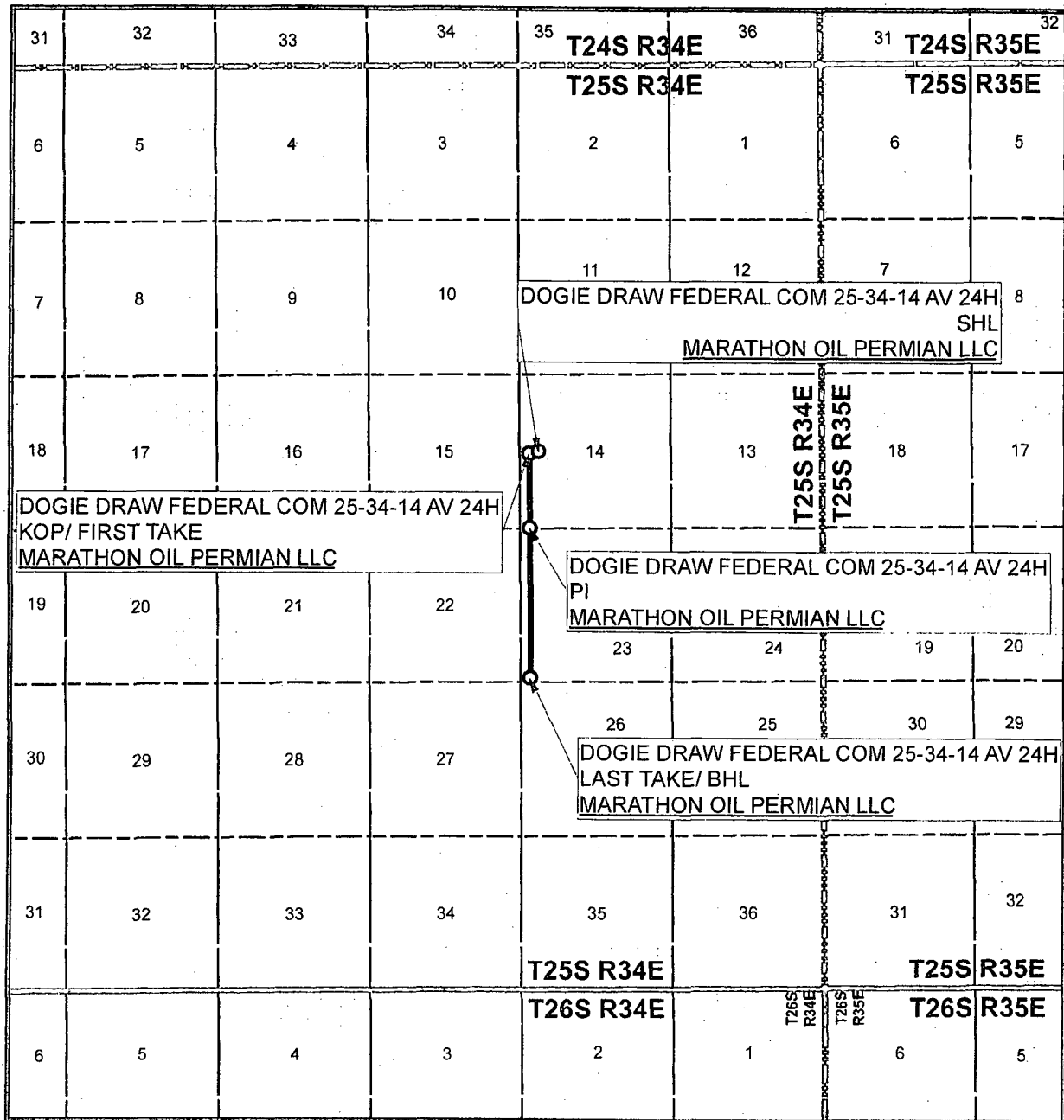
1" = 2,000'
 CONTOUR INTERVAL = 10'



SHEET 2 OF 3

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 318-323-6900 OFFICE
 JOB No. R3755_007

VICINITY MAP



SEC. 14 TWP. 25-S RGE. 34-E

SURVEY: N.M.P.M.

COUNTY: LEA

OPERATOR: MARATHON OIL PERMIAN LLC

DESCRIPTION: 2600' FSL & 656' FWL

ELEVATION: 3330'

LEASE: DOGIE DRAW FEDERAL COM 25-34-14

U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, NM.

1" = 1 MILE



SHEET 3 OF 3

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3755_007

Marathon Oil Permian, LLC

Dogie Draw Fed Com 25 34 1 24H

API# 30-025-45091

Lea County, New Mexico

Drilling Program Changes

1. Casing Changes:

- Change casing connections

String Type	Hole Size	Csg Size	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Weight (lbs/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
Surface	<u>17</u> <u>1/2</u>	<u>13 3/8</u>	<u>0</u>	<u>1000</u>	<u>0</u>	<u>1000</u>	<u>54.5</u>	<u>J55</u>	<u>BTC</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>
Intermediate I	<u>12</u> <u>1/4</u>	<u>9 5/8</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>40</u>	<u>G</u>	<u>BTC</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>
Production	<u>8 3/4</u>	<u>5 1/2</u>	<u>0</u>	<u>1700</u>	<u>0</u>	<u>0</u>	<u>20</u>	<u>P110</u>	<u>BTC</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>

Minimum safety factors: Burst 1.125 Collapse 1.125 Tension 1.8 Wet/1.6 Dry

2. Cementing Program:

Changes:

- Revised cement volumes due to change in slurry

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity (sx)	Yield (ft3/sx)	Density (ppg)	Slurry Volume (ft3)	Excess (%)	Cement Type	Additives
Surface	Lead	--	0	800	642	1.73	13.5	1111	100	Class C	3 lbm/sk granular LCM + 0.1250 lbm/sk Poly-E-Flake
Surface	Tail	--	800	1000	209	1.33	14.8	278	100	Class C	0.25 % Accelerator
Intermediate I	Lead	--	0	4400	1091	2.21	12.8	2412	75	Class C	0.02 Gal/Sx Defoamer + 0.5% Extender + 1% Accelerator
Intermediate I	Tail	--	4400	5400	353	1.33	14.8	470	50	Class C	0.07 % Retarder
Production	Lead	--	5100	8960	516	3.21	11	1658	70	Class H	0.1% viscofier + 0.25 lb/sx defoamer + 5% retarder
Production	Tail	--	8960	17043	2435	1.09	14.5	2654	30	Class H	2% extender + 0.25% defoamer + 0.5% fluid loss + 0.2% dispersant

3. Wellhead:

Changes:

A variance is requested to use a multibowl wellhead. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

A landing ring will be installed on the 20" conductor. A hanger will be installed on the surface casing that will land on the landing ring. The hanger will hold the surface casing in tension during the WOC duration. The wellhead will be installed on the surface casing.
See attached wellhead schematic.

Database:	WellPlanner1	Local Co-ordinate Reference:	Well AV #24H
Company:	Marathon Oil	TVD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Project:	Lea County, NM	MD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Site:	Dogie Draw Fed Com 25-34-14	North Reference:	Grid
Well:	AV #24H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

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

Site	Dogie Draw Fed Com 25-34-14			
Site Position:		Northing:	412,243.02 usft	Latitude: 32.130268
From: Map		Easting:	774,436.00 usft	Longitude: -103.446801
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence: 0.47°

Well	AV #24H			
Well Position	+N/-S	-0.01 usft	Northing: 412,243.01 usft	Latitude: 32.130268
	+E/-W	30.00 usft	Easting: 774,466.00 usft	Longitude: -103.446704
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level: 3,331.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/26/2018	6.67	59.78	47,845.80

Design	Prelim Plan B			
Audit Notes:				
Version:		Phase: PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.52

Plan Survey Tool Program		Date 11/29/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,850.00 Prelim Plan B (OH)	MWD+HDGM OWSG MWD + HRGM	
2	1,850.00	5,400.00 Prelim Plan B (OH)	MWD+HDGM OWSG MWD + HRGM	
3	5,400.00	10,000.00 Prelim Plan B (OH)	MWD+HDGM OWSG MWD + HRGM	
4	10,000.00	17,043.75 Prelim Plan B (OH)	MWD+HDGM OWSG MWD + HRGM	

Database:	WellPlanner1	Local Co-ordinate Reference:	Well AV #24H
Company:	Marathon Oil	TVD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Project:	Lea County, NM	MD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Site:	Dogie Draw Fed Com 25-34-14	North Reference:	Grid
Well:	AV #24H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

Plan Sections

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
0.00	0.00	0.00	0.00	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	
2,700.00	2.00	260.66	2,699.96	-0.57	-3.44	1.00	1.00	0.00	260.66	
3,900.00	2.00	260.66	3,899.23	-7.36	-44.77	0.00	0.00	0.00	0.00	
4,100.00	0.00	0.00	4,099.19	-7.93	-48.21	1.00	-1.00	0.00	180.00	
5,500.81	0.00	0.00	5,500.00	-7.93	-48.21	0.00	0.00	0.00	0.00	[DogieDraw#24H]Vert
5,750.81	5.00	260.66	5,749.68	-9.70	-58.97	2.00	2.00	0.00	260.66	
7,556.32	5.00	260.66	7,548.32	-35.23	-214.24	0.00	0.00	0.00	0.00	
7,806.32	0.00	0.00	7,798.00	-37.00	-225.00	2.00	-2.00	0.00	180.00	
8,968.32	0.00	0.00	8,960.00	-37.00	-225.00	0.00	0.00	0.00	0.00	[DogieDraw#24H]Nev
9,863.32	89.50	187.80	9,532.94	-599.70	-302.08	10.00	10.00	0.00	187.80	
10,139.45	89.50	179.52	9,535.36	-875.03	-319.68	3.00	0.00	-3.00	-90.05	
17,043.75	89.50	179.52	9,595.86	-7,778.81	-261.31	0.00	0.00	0.00	0.00	[DogieDraw#24H]LTP

Database:	WellPlanner1	Local Co-ordinate Reference:	Well AV #24H
Company:	Marathon Oil	TVD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Project:	Lea County, NM	MD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Site:	Dogie Draw Fed Com 25-34-14	North Reference:	Grid
Well:	AV #24H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[DogieDraw#24H]FTP									
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
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
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
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	1.00	260.66	2,599.99	-0.14	-0.86	0.13	1.00	1.00	0.00
2,700.00	2.00	260.66	2,699.96	-0.57	-3.44	0.54	1.00	1.00	0.00
2,800.00	2.00	260.66	2,799.90	-1.13	-6.89	1.08	0.00	0.00	0.00
2,900.00	2.00	260.66	2,899.84	-1.70	-10.33	1.61	0.00	0.00	0.00
3,000.00	2.00	260.66	2,999.78	-2.27	-13.78	2.15	0.00	0.00	0.00
3,100.00	2.00	260.66	3,099.72	-2.83	-17.22	2.69	0.00	0.00	0.00
3,200.00	2.00	260.66	3,199.65	-3.40	-20.66	3.23	0.00	0.00	0.00
3,300.00	2.00	260.66	3,299.59	-3.96	-24.11	3.76	0.00	0.00	0.00
3,400.00	2.00	260.66	3,399.53	-4.53	-27.55	4.30	0.00	0.00	0.00
3,500.00	2.00	260.66	3,499.47	-5.10	-30.99	4.84	0.00	0.00	0.00
3,600.00	2.00	260.66	3,599.41	-5.66	-34.44	5.38	0.00	0.00	0.00
3,700.00	2.00	260.66	3,699.35	-6.23	-37.88	5.91	0.00	0.00	0.00
3,800.00	2.00	260.66	3,799.29	-6.80	-41.32	6.45	0.00	0.00	0.00
3,900.00	2.00	260.66	3,899.23	-7.36	-44.77	6.99	0.00	0.00	0.00
4,000.00	1.00	260.66	3,999.19	-7.79	-47.35	7.39	1.00	-1.00	0.00
4,100.00	0.00	0.00	4,099.19	-7.93	-48.21	7.53	1.00	-1.00	0.00
4,200.00	0.00	0.00	4,199.19	-7.93	-48.21	7.53	0.00	0.00	0.00
4,300.00	0.00	0.00	4,299.19	-7.93	-48.21	7.53	0.00	0.00	0.00
4,400.00	0.00	0.00	4,399.19	-7.93	-48.21	7.53	0.00	0.00	0.00
4,500.00	0.00	0.00	4,499.19	-7.93	-48.21	7.53	0.00	0.00	0.00
4,600.00	0.00	0.00	4,599.19	-7.93	-48.21	7.53	0.00	0.00	0.00
4,700.00	0.00	0.00	4,699.19	-7.93	-48.21	7.53	0.00	0.00	0.00
4,800.00	0.00	0.00	4,799.19	-7.93	-48.21	7.53	0.00	0.00	0.00
4,900.00	0.00	0.00	4,899.19	-7.93	-48.21	7.53	0.00	0.00	0.00
5,000.00	0.00	0.00	4,999.19	-7.93	-48.21	7.53	0.00	0.00	0.00

Database:	WellPlanner1	Local Co-ordinate Reference:	Well AV #24H
Company:	Marathon Oil	TVD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Project:	Lea County, NM	MD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Site:	Dogie Draw Fed Com 25-34-14	North Reference:	Grid
Well:	AV #24H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

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)
5,100.00	0.00	0.00	5,099.19	-7.93	-48.21	7.53	0.00	0.00	0.00
5,200.00	0.00	0.00	5,199.19	-7.93	-48.21	7.53	0.00	0.00	0.00
5,300.00	0.00	0.00	5,299.19	-7.93	-48.21	7.53	0.00	0.00	0.00
5,400.00	0.00	0.00	5,399.19	-7.93	-48.21	7.53	0.00	0.00	0.00
5,500.81	0.00	0.00	5,500.00	-7.93	-48.21	7.53	0.00	0.00	0.00
[DogieDraw#24H]Vert1									
5,600.00	1.98	260.66	5,599.17	-8.21	-49.91	7.79	2.00	2.00	0.00
5,700.00	3.98	260.66	5,699.03	-9.05	-55.04	8.59	2.00	2.00	0.00
5,750.81	5.00	260.66	5,749.68	-9.70	-58.97	9.20	2.00	2.00	0.00
5,800.00	5.00	260.66	5,798.68	-10.39	-63.20	9.86	0.00	0.00	0.00
5,900.00	5.00	260.66	5,898.30	-11.81	-71.80	11.21	0.00	0.00	0.00
6,000.00	5.00	260.66	5,997.92	-13.22	-80.40	12.55	0.00	0.00	0.00
6,100.00	5.00	260.66	6,097.54	-14.64	-89.00	13.89	0.00	0.00	0.00
6,200.00	5.00	260.66	6,197.16	-16.05	-97.60	15.23	0.00	0.00	0.00
6,300.00	5.00	260.66	6,296.78	-17.46	-106.20	16.57	0.00	0.00	0.00
6,400.00	5.00	260.66	6,396.40	-18.88	-114.80	17.92	0.00	0.00	0.00
6,500.00	5.00	260.66	6,496.02	-20.29	-123.40	19.26	0.00	0.00	0.00
6,600.00	5.00	260.66	6,595.64	-21.71	-132.00	20.60	0.00	0.00	0.00
6,700.00	5.00	260.66	6,695.26	-23.12	-140.60	21.94	0.00	0.00	0.00
6,800.00	5.00	260.66	6,794.88	-24.54	-149.20	23.28	0.00	0.00	0.00
6,900.00	5.00	260.66	6,894.50	-25.95	-157.80	24.63	0.00	0.00	0.00
7,000.00	5.00	260.66	6,994.12	-27.36	-166.40	25.97	0.00	0.00	0.00
7,100.00	5.00	260.66	7,093.74	-28.78	-175.00	27.31	0.00	0.00	0.00
7,200.00	5.00	260.66	7,193.36	-30.19	-183.60	28.65	0.00	0.00	0.00
7,300.00	5.00	260.66	7,292.98	-31.61	-192.20	29.99	0.00	0.00	0.00
7,400.00	5.00	260.66	7,392.60	-33.02	-200.80	31.34	0.00	0.00	0.00
7,500.00	5.00	260.66	7,492.21	-34.43	-209.40	32.68	0.00	0.00	0.00
7,556.32	5.00	260.66	7,548.32	-35.23	-214.24	33.43	0.00	0.00	0.00
7,600.00	4.13	260.66	7,591.86	-35.80	-217.67	33.97	2.00	-2.00	0.00
7,700.00	2.13	260.66	7,691.71	-36.68	-223.05	34.81	2.00	-2.00	0.00
7,806.32	0.00	0.00	7,798.00	-37.00	-225.00	35.11	2.00	-2.00	0.00
7,900.00	0.00	0.00	7,891.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,000.00	0.00	0.00	7,991.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,100.00	0.00	0.00	8,091.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,200.00	0.00	0.00	8,191.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,300.00	0.00	0.00	8,291.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,400.00	0.00	0.00	8,391.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,500.00	0.00	0.00	8,491.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,600.00	0.00	0.00	8,591.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,700.00	0.00	0.00	8,691.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,800.00	0.00	0.00	8,791.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,900.00	0.00	0.00	8,891.68	-37.00	-225.00	35.11	0.00	0.00	0.00
8,968.32	0.00	0.00	8,960.00	-37.00	-225.00	35.11	0.00	0.00	0.00
[DogieDraw#24H]NewKOP									
9,000.00	3.17	187.80	8,991.67	-37.87	-225.12	35.98	10.00	10.00	0.00
9,050.00	8.17	187.80	9,041.41	-42.76	-225.79	40.87	10.00	10.00	0.00
9,100.00	13.17	187.80	9,090.53	-51.93	-227.04	50.02	10.00	10.00	0.00
9,150.00	18.17	187.80	9,138.65	-65.30	-228.88	63.38	10.00	10.00	0.00
9,200.00	23.17	187.80	9,185.42	-82.78	-231.27	80.84	10.00	10.00	0.00
9,250.00	28.17	187.80	9,230.47	-104.23	-234.21	102.26	10.00	10.00	0.00
9,300.00	33.17	187.80	9,273.47	-129.49	-237.67	127.49	10.00	10.00	0.00
9,350.00	38.17	187.80	9,314.07	-158.37	-241.63	156.34	10.00	10.00	0.00

Database:	WellPlanner1	Local Co-ordinate Reference:	Well AV #24H
Company:	Marathon Oil	TVD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Project:	Lea County, NM	MD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Site:	Dogie Draw Fed Com 25-34-14	North Reference:	Grid
Well:	AV #24H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

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)
9,400.00	43.17	187.80	9,351.99	-190.64	-246.05	188.57	10.00	10.00	0.00
9,450.00	48.17	187.80	9,386.92	-226.06	-250.90	223.95	10.00	10.00	0.00
9,500.00	53.17	187.80	9,418.60	-264.37	-256.15	262.21	10.00	10.00	0.00
9,550.00	58.17	187.80	9,446.79	-305.26	-261.75	303.06	10.00	10.00	0.00
9,600.00	63.17	187.80	9,471.27	-348.43	-267.66	346.18	10.00	10.00	0.00
9,650.00	68.17	187.80	9,491.87	-393.56	-273.84	391.25	10.00	10.00	0.00
9,700.00	73.17	187.80	9,508.41	-440.29	-280.24	437.92	10.00	10.00	0.00
9,750.00	78.17	187.80	9,520.78	-488.27	-286.82	485.85	10.00	10.00	0.00
9,800.00	83.17	187.80	9,528.89	-537.13	-293.51	534.65	10.00	10.00	0.00
9,850.00	88.17	187.80	9,532.67	-586.51	-300.27	583.98	10.00	10.00	0.00
9,863.32	89.50	187.80	9,532.94	-599.70	-302.08	597.15	10.00	10.00	0.00
9,900.00	89.50	186.70	9,533.26	-636.09	-306.71	633.50	3.00	0.00	-3.00
10,000.00	89.50	183.70	9,534.13	-735.66	-315.77	732.99	3.00	0.00	-3.00
10,100.00	89.50	180.70	9,535.01	-835.58	-319.61	832.87	3.00	0.00	-3.00
10,139.45	89.50	179.52	9,535.36	-875.03	-319.68	872.32	3.00	0.00	-3.00
10,200.00	89.50	179.52	9,535.89	-935.57	-319.17	932.86	0.00	0.00	0.00
10,300.00	89.50	179.52	9,536.76	-1,035.56	-318.32	1,032.86	0.00	0.00	0.00
10,400.00	89.50	179.52	9,537.64	-1,135.55	-317.48	1,132.85	0.00	0.00	0.00
10,500.00	89.50	179.52	9,538.51	-1,235.55	-316.63	1,232.85	0.00	0.00	0.00
10,600.00	89.50	179.52	9,539.39	-1,335.54	-315.79	1,332.85	0.00	0.00	0.00
10,700.00	89.50	179.52	9,540.27	-1,435.53	-314.94	1,432.84	0.00	0.00	0.00
10,800.00	89.50	179.52	9,541.14	-1,535.52	-314.10	1,532.84	0.00	0.00	0.00
10,900.00	89.50	179.52	9,542.02	-1,635.52	-313.25	1,632.83	0.00	0.00	0.00
11,000.00	89.50	179.52	9,542.90	-1,735.51	-312.41	1,732.83	0.00	0.00	0.00
11,100.00	89.50	179.52	9,543.77	-1,835.50	-311.56	1,832.83	0.00	0.00	0.00
11,200.00	89.50	179.52	9,544.65	-1,935.49	-310.72	1,932.82	0.00	0.00	0.00
11,300.00	89.50	179.52	9,545.53	-2,035.49	-309.87	2,032.82	0.00	0.00	0.00
11,400.00	89.50	179.52	9,546.40	-2,135.48	-309.02	2,132.82	0.00	0.00	0.00
11,500.00	89.50	179.52	9,547.28	-2,235.47	-308.18	2,232.81	0.00	0.00	0.00
11,600.00	89.50	179.52	9,548.15	-2,335.46	-307.33	2,332.81	0.00	0.00	0.00
11,700.00	89.50	179.52	9,549.03	-2,435.46	-306.49	2,432.80	0.00	0.00	0.00
11,800.00	89.50	179.52	9,549.91	-2,535.45	-305.64	2,532.80	0.00	0.00	0.00
11,900.00	89.50	179.52	9,550.78	-2,635.44	-304.80	2,632.80	0.00	0.00	0.00
12,000.00	89.50	179.52	9,551.66	-2,735.43	-303.95	2,732.79	0.00	0.00	0.00
12,100.00	89.50	179.52	9,552.54	-2,835.43	-303.11	2,832.79	0.00	0.00	0.00
12,200.00	89.50	179.52	9,553.41	-2,935.42	-302.26	2,932.78	0.00	0.00	0.00
12,300.00	89.50	179.52	9,554.29	-3,035.41	-301.42	3,032.78	0.00	0.00	0.00
12,400.00	89.50	179.52	9,555.17	-3,135.41	-300.57	3,132.78	0.00	0.00	0.00
12,500.00	89.50	179.52	9,556.04	-3,235.40	-299.72	3,232.77	0.00	0.00	0.00
12,600.00	89.50	179.52	9,556.92	-3,335.39	-298.88	3,332.77	0.00	0.00	0.00
12,700.00	89.50	179.52	9,557.79	-3,435.38	-298.03	3,432.77	0.00	0.00	0.00
12,800.00	89.50	179.52	9,558.67	-3,535.38	-297.19	3,532.76	0.00	0.00	0.00
12,900.00	89.50	179.52	9,559.55	-3,635.37	-296.34	3,632.76	0.00	0.00	0.00
13,000.00	89.50	179.52	9,560.42	-3,735.36	-295.50	3,732.75	0.00	0.00	0.00
13,100.00	89.50	179.52	9,561.30	-3,835.35	-294.65	3,832.75	0.00	0.00	0.00
13,200.00	89.50	179.52	9,562.18	-3,935.35	-293.81	3,932.75	0.00	0.00	0.00
13,300.00	89.50	179.52	9,563.05	-4,035.34	-292.96	4,032.74	0.00	0.00	0.00
13,400.00	89.50	179.52	9,563.93	-4,135.33	-292.12	4,132.74	0.00	0.00	0.00
13,500.00	89.50	179.52	9,564.80	-4,235.32	-291.27	4,232.73	0.00	0.00	0.00
13,600.00	89.50	179.52	9,565.68	-4,335.32	-290.42	4,332.73	0.00	0.00	0.00
13,700.00	89.50	179.52	9,566.56	-4,435.31	-289.58	4,432.73	0.00	0.00	0.00
13,800.00	89.50	179.52	9,567.43	-4,535.30	-288.73	4,532.72	0.00	0.00	0.00

Database:	WellPlanner1	Local Co-ordinate Reference:	Well AV #24H
Company:	Marathon Oil	TVD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Project:	Lea County, NM	MD Reference:	Well @ 3357.50usft (GL: 3331' + KB: 26.5' (H&P498))
Site:	Dogie Draw Fed Com 25-34-14	North Reference:	Grid
Well:	AV #24H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

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)
13,900.00	89.50	179.52	9,568.31	-4,635.29	-287.89	4,632.72	0.00	0.00	0.00
14,000.00	89.50	179.52	9,569.19	-4,735.29	-287.04	4,732.72	0.00	0.00	0.00
14,100.00	89.50	179.52	9,570.06	-4,835.28	-286.20	4,832.71	0.00	0.00	0.00
14,200.00	89.50	179.52	9,570.94	-4,935.27	-285.35	4,932.71	0.00	0.00	0.00
14,300.00	89.50	179.52	9,571.82	-5,035.26	-284.51	5,032.70	0.00	0.00	0.00
14,400.00	89.50	179.52	9,572.69	-5,135.26	-283.66	5,132.70	0.00	0.00	0.00
14,500.00	89.50	179.52	9,573.57	-5,235.25	-282.82	5,232.70	0.00	0.00	0.00
14,600.00	89.50	179.52	9,574.44	-5,335.24	-281.97	5,332.69	0.00	0.00	0.00
14,700.00	89.50	179.52	9,575.32	-5,435.23	-281.12	5,432.69	0.00	0.00	0.00
14,800.00	89.50	179.52	9,576.20	-5,535.23	-280.28	5,532.68	0.00	0.00	0.00
14,900.00	89.50	179.52	9,577.07	-5,635.22	-279.43	5,632.68	0.00	0.00	0.00
15,000.00	89.50	179.52	9,577.95	-5,735.21	-278.59	5,732.68	0.00	0.00	0.00
15,100.00	89.50	179.52	9,578.83	-5,835.21	-277.74	5,832.67	0.00	0.00	0.00
15,200.00	89.50	179.52	9,579.70	-5,935.20	-276.90	5,932.67	0.00	0.00	0.00
15,300.00	89.50	179.52	9,580.58	-6,035.19	-276.05	6,032.67	0.00	0.00	0.00
15,400.00	89.50	179.52	9,581.46	-6,135.18	-275.21	6,132.66	0.00	0.00	0.00
15,500.00	89.50	179.52	9,582.33	-6,235.18	-274.36	6,232.66	0.00	0.00	0.00
15,600.00	89.50	179.52	9,583.21	-6,335.17	-273.52	6,332.65	0.00	0.00	0.00
15,700.00	89.50	179.52	9,584.08	-6,435.16	-272.67	6,432.65	0.00	0.00	0.00
15,800.00	89.50	179.52	9,584.96	-6,535.15	-271.83	6,532.65	0.00	0.00	0.00
15,900.00	89.50	179.52	9,585.84	-6,635.15	-270.98	6,632.64	0.00	0.00	0.00
16,000.00	89.50	179.52	9,586.71	-6,735.14	-270.13	6,732.64	0.00	0.00	0.00
16,100.00	89.50	179.52	9,587.59	-6,835.13	-269.29	6,832.63	0.00	0.00	0.00
16,200.00	89.50	179.52	9,588.47	-6,935.12	-268.44	6,932.63	0.00	0.00	0.00
16,300.00	89.50	179.52	9,589.34	-7,035.12	-267.60	7,032.63	0.00	0.00	0.00
16,400.00	89.50	179.52	9,590.22	-7,135.11	-266.75	7,132.62	0.00	0.00	0.00
16,500.00	89.50	179.52	9,591.10	-7,235.10	-265.91	7,232.62	0.00	0.00	0.00
16,600.00	89.50	179.52	9,591.97	-7,335.09	-265.06	7,332.62	0.00	0.00	0.00
16,700.00	89.50	179.52	9,592.85	-7,435.09	-264.22	7,432.61	0.00	0.00	0.00
16,800.00	89.50	179.52	9,593.72	-7,535.08	-263.37	7,532.61	0.00	0.00	0.00
16,900.00	89.50	179.52	9,594.60	-7,635.07	-262.53	7,632.60	0.00	0.00	0.00
17,000.00	89.50	179.52	9,595.48	-7,735.06	-261.68	7,732.60	0.00	0.00	0.00
17,043.75	89.50	179.52	9,595.86	-7,778.81	-261.31	7,776.35	0.00	0.00	0.00

[DogieDraw#24H]LTP/BHL