

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.
30-015-44620

5. Indicate Type of Lease
STATE ☒ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name
Sterling State 23 27 20 WA

8. Well Number 6H

9. OGRID Number
372098

10. Pool name or Wildcat
Purple Sage; Wolfcamp (Gas)

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

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

2. Name of Operator
Marathon Oil Permian LLC.

3. Address of Operator
5555 San Felipe St, Houston, TX 77056

4. Well Location
Unit Letter O : 603 feet from the South line and 1412 feet from the East line
Section 20 Township 23S Range 27E NMPM County Edd

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3181'

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Marathon Oil Permian LLC. ran and cemented 7" casing on the above listed well at 9335' MD. We drilled out shoe track and got stuck 20 ft below the 7" casing shoe, after two unsuccessful attempts the decision was made to set a cased hole 7" whipstock at ~8377 ft MD and perform a cased hole sidetrack. We will drill 6 1/8" hole from 8,377 ft MD to planned TD at 13680 ft MD.

Revised Casing for this Well:

- 13 3/8" 54# J55 STC set at 606 ft (Already cemented with cement to surface)
- 9 5/8" casing set at 2112 ft (Already cemented with cement to surface)
- 7" casing set at 9335 ft MD. (Already cemented with cement to surface) . Casing window to be milled at 8,377 ft MD.
- 4 1/2" Liner to be run from 8,050 ft to 13,680 ft TD. Liner will be cemented to the top of liner.

NM OIL CONSERVATION
ARTESIA DISTRICT

Attached you will find the sidetrack directional plan for the cased hole sidetrack.

MAR 13 2018

Spud Date: 02/07/2018

Rig Release Date:

RECEIVED

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Melissa Szudera TITLE Regulatory Compliance Representative DATE 03/13/2018

Type or print name Melissa Szudera E-mail address: mszudera@marathonoil.com PHONE: 713-296-3179

For State Use Only

APPROVED BY: Raymond R. Bodany TITLE Geologist DATE 3-13-18
Conditions of Approval (if any):

Marathon Oil Permian, LLC

Eddy County, NM (NAD27)

Sterling State 23-27-20

WA #6H

ST1

ST Plan #1

Anticollision Report

**NM OIL CONSERVATION
ARTESIA DISTRICT**

MAR 13 2018

RECEIVED

08 March, 2018



Scientific Drilling

www.scientificdrilling.com

Anticollision Report

Company	Marathon Oil Permian, LLC	Well Name	Well WA #6H
Project	Eddy County, NM (NAD27)	MD Reference	KB = 25' @ 3206.00usft (Precision 594)
Reference	Sterling State 23-27-20	MD Reference	KB = 25' @ 3206.00usft (Precision 594)
Site Error	0.00 usft	North Reference	Grid
Reference Well	WA #6H	Survey Detail/Well Method	Minimum Curvature
Well Error	0.00 usft	Offset	2.00 sigma
Reference Well(s)	ST1	District	Midland District
Reference Design	ST Plan #1	Offset Datum	Offset Datum

Reference		ST Plan #1	
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.99 usf	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Description		Date	Survey Method	Method
Tool	Tool	Survey Method	Method	Method
8,377.00	13,680.65	ST Plan #1 (ST1)	MWD+HDGM	OWSG MWD + HDGM

Site Name	Offset	Well	Wallbox	Drillbit	Drillbit	Drillbit	Drillbit	Drillbit
Offset	Well	Wallbox	Drillbit	Drillbit	Drillbit	Drillbit	Drillbit	Drillbit
Offset	Well	Wallbox	Drillbit	Drillbit	Drillbit	Drillbit	Drillbit	Drillbit
Forehand Ranch 22 State								
#1H - OH - Plan #1	13,574.47	19,205.47	1,340.79	1,236.30	12.831	CC		
#1H - OH - Plan #1	13,600.00	19,205.47	1,341.03	1,236.17	12.788	ES		
#1H - OH - Plan #1	13,680.65	19,205.47	1,344.99	1,238.95	12.684	SF		
#2H - OH - Plan #1	8,681.34	19,512.45	3,082.94	2,824.21	11.916	SF		
#2H - OH - Plan #1	11,670.39	19,512.45	1,355.87	1,277.22	17.241	CC		
#2H - OH - Plan #1	11,700.00	19,512.45	1,356.19	1,277.12	17.151	ES		
Sterling Offsets								
Sterling State #1 - As-Drilled - As-Drilled	10,499.86	9,134.52	386.86	332.71	7.144	CC		
Sterling State #1 - As-Drilled - As-Drilled	10,503.37	9,134.52	386.88	332.68	7.137	ES, SF		
Sterling State 23-27-20								
TB #4H - OH - OH	8,795.07	8,900.99	134.48	101.21	4.041	CC		
TB #4H - OH - OH	8,800.00	8,905.13	134.51	101.19	4.037	ES		
TB #4H - OH - OH	13,680.65	13,641.00	303.72	218.56	3.567	SF		
TB #4H - OH - Plan #3	8,826.63	8,942.64	125.29	92.23	3.790	CC, ES		
TB #4H - OH - Plan #3	13,680.65	13,653.88	310.20	222.20	3.525	SF		
WA #6H - OH - OH	8,377.00	8,377.00	0.00	-27.49	0.000	Level 1, CC, SF		
WA #6H - OH - OH	8,405.00	8,405.00	0.13	-28.03	0.004	Level 1, ES		

Forehand Ranch 22 State - #1H - OH - Plan #1													Overall Error:	0.00 ush
													Overall Error:	0.00 ush
Material	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit		
(USD)	(USD)	(USD)	(USD)	(USD)	(USD)	(USD)	(USD)	(USD)	(USD)	(USD)	(USD)	(USD)		
8,377.00	8,351.90	19,205.47	9,057.00	0.00	290.14	-123.60	4,308.47	1,688.43	4,872.86	4,594.73	278.13	17,520		
8,400.00	8,374.86	19,205.47	9,057.00	0.52	290.14	-124.03	4,308.47	1,688.43	4,870.09	4,591.93	278.16	17,508		
8,405.00	8,379.85	19,205.47	9,057.00	0.51	290.14	170.93	4,308.47	1,688.43	4,869.49	4,591.77	277.72	17,534		
8,410.00	8,384.85	19,205.47	9,057.00	0.52	290.14	114.02	4,308.47	1,688.43	4,868.88	4,591.64	277.23	17,562		
8,415.00	8,389.83	19,205.47	9,057.00	0.55	290.14	101.86	4,308.47	1,688.43	4,868.26	4,591.55	276.71	17,594		
8,465.00	8,439.54	19,205.47	9,057.00	0.62	290.14	101.86	4,308.47	1,688.43	4,862.25	4,585.37	276.88	17,561		
8,500.00	8,474.36	19,205.47	9,057.00	0.68	290.14	92.98	4,308.47	1,688.43	4,858.04	4,580.93	277.11	17,531		
8,600.00	8,574.04	19,205.47	9,057.00	0.93	290.14	51.97	4,308.47	1,688.43	4,844.10	4,566.53	277.57	17,452		
8,676.34	8,650.15	19,205.47	9,057.00	1.15	290.14	19.48	4,308.47	1,688.43	4,831.54	4,553.86	277.68	17,399		
8,681.34	8,655.14	19,205.47	9,057.00	1.17	290.14	19.48	4,308.47	1,688.43	4,830.67	4,552.97	277.70	17,395		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company	Marathon Oil Permian, LLC	Local Coordinates Reference	Well WA #6H
Project	Eddy County, NM (NAD27)	Anticollision	KB = 25' @ 3206.00usft (Precision 594)
Record Name	Sterling State 23-27-20	Anticollision	KB = 25' @ 3206.00usft (Precision 594)
Site Error	0.00 usft	Anticollision	Grid
Reference Point	WA #6H	Anticollision	Minimum Curvature
Well Error	0.00 usft	Anticollision	2.00 sigma
Record Number	ST1	Anticollision	Midland District
Record Name	ST Plan #1	Anticollision	Offset Datum

Forehand Ranch 22 State - #1H - OH - Plan #1													Offset Error
Survey Points													0.00 usft
Station	Offset	Station	Offset	Station	Offset	Station	Offset	Station	Offset	Station	Offset	Station	Offset
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
8,700.00	8,673.69	19,205.47	9,057.00	1.23	290.14	19.04	4,308.47	1,688.43	4,827.17	4,550.22	276.95	17.430	
8,750.00	8,723.01	19,205.47	9,057.00	1.42	290.14	18.80	4,308.47	1,688.43	4,815.33	4,541.78	273.55	17.603	
8,800.00	8,771.43	19,205.47	9,057.00	1.64	290.14	19.06	4,308.47	1,688.43	4,799.99	4,531.90	268.09	17.904	
8,850.00	8,818.59	19,205.47	9,057.00	1.88	290.14	19.58	4,308.47	1,688.43	4,781.22	4,520.62	260.59	18.347	
8,900.00	8,864.12	19,205.47	9,057.00	2.12	290.14	20.32	4,308.47	1,688.43	4,759.12	4,508.02	251.10	18.953	
8,950.00	8,907.68	19,205.47	9,057.00	2.38	290.14	21.29	4,308.47	1,688.43	4,733.82	4,494.14	239.68	19.751	
9,000.00	8,948.94	19,205.47	9,057.00	2.71	290.14	22.52	4,308.47	1,688.43	4,705.46	4,479.05	226.41	20.783	
9,050.00	8,987.59	19,205.47	9,057.00	3.10	290.14	24.05	4,308.47	1,688.43	4,674.20	4,462.81	211.40	22.111	
9,100.00	9,023.32	19,205.47	9,057.00	3.54	290.14	25.97	4,308.47	1,688.43	4,640.23	4,445.47	194.76	23.825	
9,150.00	9,055.88	19,205.47	9,057.00	4.02	290.14	28.37	4,308.47	1,688.43	4,603.75	4,427.09	176.66	26.060	
9,200.00	9,085.00	19,205.47	9,057.00	4.55	290.14	31.40	4,308.47	1,688.43	4,564.97	4,407.69	157.27	29.026	
9,250.00	9,110.47	19,205.47	9,057.00	5.11	290.14	35.26	4,308.47	1,688.43	4,524.13	4,387.26	136.88	33.053	
9,300.00	9,132.10	19,205.47	9,057.00	5.71	290.14	40.23	4,308.47	1,688.43	4,481.51	4,365.62	115.88	38.672	
9,350.00	9,149.72	19,205.47	9,057.00	6.33	290.14	46.66	4,308.47	1,688.43	4,437.36	4,342.37	94.99	46.712	
9,400.00	9,163.19	19,205.47	9,057.00	6.98	290.14	55.00	4,308.47	1,688.43	4,392.00	4,316.57	75.43	58.228	
9,450.00	9,172.42	19,205.47	9,057.00	7.65	290.14	65.58	4,308.47	1,688.43	4,345.72	4,286.55	59.18	73.437	
9,500.00	9,177.33	19,205.47	9,057.00	8.33	290.14	78.30	4,308.47	1,688.43	4,298.87	4,250.18	48.69	88.296	
9,528.37	9,178.18	19,205.47	9,057.00	8.71	290.14	86.15	4,308.47	1,688.43	4,272.15	4,226.10	46.05	92.768	
9,600.00	9,178.55	19,205.47	9,057.00	9.71	290.14	86.15	4,308.47	1,688.43	4,204.74	4,157.70	47.04	89.384	
9,700.00	9,179.08	19,205.47	9,057.00	11.11	290.14	86.15	4,308.47	1,688.43	4,110.85	4,062.41	48.44	84.863	
9,778.37	9,179.49	19,205.47	9,057.00	12.22	290.14	86.15	4,308.47	1,688.43	4,037.48	3,987.93	49.55	81.485	
9,800.00	9,179.60	19,205.47	9,057.00	12.52	290.14	86.06	4,308.47	1,688.43	4,017.24	3,967.34	49.89	80.516	
9,900.00	9,180.12	19,205.47	9,057.00	13.94	290.14	85.65	4,308.47	1,688.43	3,923.09	3,870.02	53.07	73.926	
10,000.00	9,180.65	19,205.47	9,057.00	15.34	290.14	85.15	4,308.47	1,688.43	3,828.08	3,769.56	58.52	65.416	
10,078.37	9,181.06	19,205.47	9,057.00	16.43	290.14	84.68	4,308.47	1,688.43	3,753.05	3,689.06	63.99	58.647	
10,100.00	9,181.17	19,205.47	9,057.00	16.72	290.14	84.68	4,308.47	1,688.43	3,732.29	3,667.99	64.29	58.051	
10,200.00	9,181.69	19,205.47	9,057.00	18.11	290.14	84.68	4,308.47	1,688.43	3,636.40	3,570.72	65.68	55.367	
10,243.37	9,181.92	19,205.47	9,057.00	18.71	290.14	84.68	4,308.47	1,688.43	3,594.89	3,528.61	66.28	54.237	
10,300.00	9,182.22	19,205.47	9,057.00	19.50	290.14	85.01	4,308.47	1,688.43	3,540.91	3,477.10	63.81	55.488	
10,400.00	9,182.74	19,205.47	9,057.00	20.92	290.14	85.49	4,308.47	1,688.43	3,446.71	3,385.95	60.76	56.725	
10,503.37	9,183.28	19,205.47	9,057.00	22.40	290.14	85.88	4,308.47	1,688.43	3,351.03	3,291.12	59.91	55.937	
10,600.00	9,183.79	19,205.47	9,057.00	23.80	290.14	85.88	4,308.47	1,688.43	3,262.69	3,201.39	61.30	53.224	
10,700.00	9,184.31	19,205.47	9,057.00	25.24	290.14	85.88	4,308.47	1,688.43	3,171.79	3,109.05	62.74	50.551	
10,800.00	9,184.84	19,205.47	9,057.00	26.69	290.14	85.88	4,308.47	1,688.43	3,081.46	3,017.27	64.19	48.005	
10,900.00	9,185.36	19,205.47	9,057.00	28.14	290.14	85.88	4,308.47	1,688.43	2,991.74	2,926.10	65.64	45.580	
11,000.00	9,185.88	19,205.47	9,057.00	29.59	290.14	85.88	4,308.47	1,688.43	2,902.69	2,835.60	67.08	43.269	
11,100.00	9,186.41	19,205.47	9,057.00	31.04	290.14	85.88	4,308.47	1,688.43	2,814.37	2,745.84	68.53	41.066	
11,200.00	9,186.93	19,205.47	9,057.00	32.50	290.14	85.88	4,308.47	1,688.43	2,726.87	2,656.88	69.98	38.965	
11,300.00	9,187.46	19,205.47	9,057.00	33.95	290.14	85.88	4,308.47	1,688.43	2,640.25	2,568.82	71.43	36.961	
11,400.00	9,187.98	19,205.47	9,057.00	35.40	290.14	85.88	4,308.47	1,688.43	2,554.61	2,481.72	72.88	35.051	
11,500.00	9,188.50	19,205.47	9,057.00	36.85	290.14	85.88	4,308.47	1,688.43	2,470.05	2,395.71	74.33	33.229	
11,600.00	9,189.03	19,205.47	9,057.00	38.31	290.14	85.88	4,308.47	1,688.43	2,386.68	2,310.89	75.79	31.492	
11,700.00	9,189.55	19,205.47	9,057.00	39.76	290.14	85.88	4,308.47	1,688.43	2,304.63	2,227.40	77.24	29.838	
11,800.00	9,190.07	19,205.47	9,057.00	41.22	290.14	85.88	4,308.47	1,688.43	2,224.06	2,145.37	78.69	28.264	
11,900.00	9,190.60	19,205.47	9,057.00	42.67	290.14	85.88	4,308.47	1,688.43	2,145.12	2,064.98	80.14	26.766	
12,000.00	9,191.12	19,205.47	9,057.00	44.13	290.14	85.88	4,308.47	1,688.43	2,068.01	1,986.41	81.60	25.345	
12,100.00	9,191.64	19,205.47	9,057.00	45.58	290.14	85.88	4,308.47	1,688.43	1,992.93	1,909.88	83.05	23.997	
12,200.00	9,192.17	19,205.47	9,057.00	47.04	290.14	85.88	4,308.47	1,688.43	1,920.12	1,835.62	84.50	22.723	
12,300.00	9,192.69	19,205.47	9,057.00	48.50	290.14	85.88	4,308.47	1,688.43	1,848.86	1,763.90	85.95	21.521	
12,400.00	9,193.21	19,205.47	9,057.00	49.95	290.14	85.88	4,308.47	1,688.43	1,782.44	1,695.03	87.41	20.392	
12,500.00	9,193.74	19,205.47	9,057.00	51.41	290.14	85.88	4,308.47	1,688.43	1,718.19	1,629.33	88.86	19.335	
12,600.00	9,194.26	19,205.47	9,057.00	52.87	290.14	85.88	4,308.47	1,688.43	1,657.50	1,567.18	90.32	18.352	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company	Marathon Oil Permian, LLC	Local Coordinate Reference	Well WA #6H
Project	Eddy County, NM (NAD27)	North Arrow	KB = 25' @ 3206.00usft (Precision 594)
Reference Station	Sterling State 23-27-20	North Arrow	KB = 25' @ 3206.00usft (Precision 594)
Station	0.00 usft	North Arrow	Grid
Reference Well	WA #6H	North Arrow	Minimum Curvature
Well Error	0.00 usft	North Arrow	2.00 sigma
Reference Well Error	ST1	North Arrow	Midland District
Reference Well Error	ST Plan #1	North Arrow	Offset Datum

Forehand Ranch 22 State - #1H - OH - Plan #1													Offset Error
													Offset Error
Distance	Distance	Distance	Distance	Distance	Distance	Distance	Distance	Distance	Distance	Distance	Distance	Distance	Distance
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
12,700.00	9,194.79	19,205.47	9,057.00	54.32	290.14	85.88	4,308.47	1,688.43	1,600.75	1,508.98	91.77	17.443	
12,800.00	9,195.31	19,205.47	9,057.00	55.78	290.14	85.88	4,308.47	1,688.43	1,548.39	1,455.17	93.23	16.609	
12,900.00	9,195.83	19,205.47	9,057.00	57.24	290.14	85.88	4,308.47	1,688.43	1,500.87	1,406.19	94.68	15.852	
13,000.00	9,196.36	19,205.47	9,057.00	58.69	290.14	85.88	4,308.47	1,688.43	1,458.67	1,362.54	96.13	15.173	
13,100.00	9,196.88	19,205.47	9,057.00	60.15	290.14	85.88	4,308.47	1,688.43	1,422.26	1,324.68	97.59	14.574	
13,200.00	9,197.40	19,205.47	9,057.00	61.61	290.14	85.88	4,308.47	1,688.43	1,392.10	1,293.06	99.04	14.055	
13,300.00	9,197.93	19,205.47	9,057.00	63.07	290.14	85.88	4,308.47	1,688.43	1,368.59	1,268.10	100.50	13.618	
13,400.00	9,198.45	19,205.47	9,057.00	64.52	290.14	85.88	4,308.47	1,688.43	1,352.09	1,250.14	101.95	13.262	
13,500.00	9,198.97	19,205.47	9,057.00	65.98	290.14	85.88	4,308.47	1,688.43	1,342.86	1,239.45	103.41	12.986	
13,574.47	9,199.36	19,205.47	9,057.00	67.07	290.14	85.88	4,308.47	1,688.43	1,340.79	1,236.30	104.49	12.831 CC	
13,600.00	9,199.50	19,205.47	9,057.00	67.44	290.14	85.88	4,308.47	1,688.43	1,341.03	1,236.17	104.86	12.788 ES	
13,635.65	9,199.68	19,205.47	9,057.00	67.96	290.14	85.88	4,308.47	1,688.43	1,342.19	1,236.80	105.38	12.736	
13,680.65	9,199.92	19,205.47	9,057.00	68.61	290.14	85.88	4,308.47	1,688.43	1,344.99	1,238.95	106.04	12.684 SF	

Anticollision Report

Company	Marathon Oil Permian, LLC	Well	Well WA #6H
Project	Eddy County, NM (NAD27)	KB = 25' @ 3206.00usft (Precision 594)	
Reference Well	Sterling State 23-27-20	KB = 25' @ 3206.00usft (Precision 594)	
Site Error	0.00 usft	Grid	
Reference Well	WA #6H	Minimum Curvature	
Well Error	0.00 usft	2.00 sigma	
Reference Well	ST1	Midland District	
Reference Well	ST Plan #1	Offset Datum	

Forehand Ranch 22 State - #2H - OH - Plan #1												
8,377.00	8,351.90	19,512.45	9,123.16	0.00	294.16	-113.57	2,404.11	1,713.44	3,148.72	2,886.62	262.10	12.013
8,400.00	8,374.86	19,512.45	9,123.16	0.52	294.16	-113.99	2,404.11	1,713.44	3,143.35	2,881.26	262.09	11.993
8,405.00	8,379.85	19,512.45	9,123.16	0.51	294.16	-178.71	2,404.11	1,713.44	3,142.21	2,881.71	260.50	12.062
8,410.00	8,384.85	19,512.45	9,123.16	0.52	294.16	124.68	2,404.11	1,713.44	3,141.11	2,882.13	258.98	12.129
8,415.00	8,389.83	19,512.45	9,123.16	0.55	294.16	112.78	2,404.11	1,713.44	3,140.05	2,882.52	257.54	12.193
8,465.00	8,439.54	19,512.45	9,123.16	0.62	294.16	112.78	2,404.11	1,713.44	3,130.04	2,872.38	257.66	12.148
8,500.00	8,474.36	19,512.45	9,123.16	0.68	294.16	103.88	2,404.11	1,713.44	3,123.16	2,865.29	257.87	12.111
8,600.00	8,574.04	19,512.45	9,123.16	0.93	294.16	62.84	2,404.11	1,713.44	3,101.92	2,843.45	258.47	12.001
8,676.34	8,650.15	19,512.45	9,123.16	1.15	294.16	30.34	2,404.11	1,713.44	3,084.15	2,825.43	258.71	11.921
8,681.34	8,655.14	19,512.45	9,123.16	1.17	294.16	30.34	2,404.11	1,713.44	3,082.94	2,824.21	258.73	11.916 SF
8,700.00	8,673.69	19,512.45	9,123.16	1.23	294.16	30.02	2,404.11	1,713.44	3,078.26	2,820.69	257.57	11.951
8,750.00	8,723.01	19,512.45	9,123.16	1.42	294.16	30.15	2,404.11	1,713.44	3,063.69	2,810.68	253.02	12.109
8,800.00	8,771.43	19,512.45	9,123.16	1.64	294.16	30.82	2,404.11	1,713.44	3,046.26	2,799.95	246.31	12.368
8,850.00	8,818.59	19,512.45	9,123.16	1.88	294.16	31.82	2,404.11	1,713.44	3,026.04	2,788.58	237.45	12.744
8,900.00	8,864.12	19,512.45	9,123.16	2.12	294.16	33.11	2,404.11	1,713.44	3,003.13	2,776.61	226.52	13.258
8,950.00	8,907.68	19,512.45	9,123.16	2.38	294.16	34.69	2,404.11	1,713.44	2,977.65	2,764.06	213.59	13.941
9,000.00	8,948.94	19,512.45	9,123.16	2.71	294.16	36.59	2,404.11	1,713.44	2,949.72	2,750.95	198.77	14.840
9,050.00	8,987.59	19,512.45	9,123.16	3.10	294.16	38.87	2,404.11	1,713.44	2,919.50	2,737.24	182.25	16.019
9,100.00	9,023.32	19,512.45	9,123.16	3.54	294.16	41.58	2,404.11	1,713.44	2,887.14	2,722.87	164.27	17.576
9,150.00	9,055.88	19,512.45	9,123.16	4.02	294.16	44.78	2,404.11	1,713.44	2,852.82	2,707.67	145.15	19.654
9,200.00	9,085.00	19,512.45	9,123.16	4.55	294.16	48.54	2,404.11	1,713.44	2,816.74	2,691.33	125.41	22.460
9,250.00	9,110.47	19,512.45	9,123.16	5.11	294.16	52.94	2,404.11	1,713.44	2,779.11	2,673.34	105.76	26.276
9,300.00	9,132.10	19,512.45	9,123.16	5.71	294.16	58.04	2,404.11	1,713.44	2,740.15	2,652.90	87.25	31.407
9,350.00	9,149.72	19,512.45	9,123.16	6.33	294.16	63.87	2,404.11	1,713.44	2,700.11	2,628.89	71.22	37.910
9,400.00	9,163.19	19,512.45	9,123.16	6.98	294.16	70.38	2,404.11	1,713.44	2,659.26	2,600.11	59.16	44.954
9,450.00	9,172.42	19,512.45	9,123.16	7.65	294.16	77.45	2,404.11	1,713.44	2,617.88	2,566.09	51.79	50.549
9,500.00	9,177.33	19,512.45	9,123.16	8.33	294.16	84.86	2,404.11	1,713.44	2,576.26	2,527.92	48.34	53.300
9,528.37	9,178.18	19,512.45	9,123.16	8.71	294.16	89.11	2,404.11	1,713.44	2,552.65	2,505.13	47.52	53.720
9,600.00	9,178.55	19,512.45	9,123.16	9.71	294.16	89.11	2,404.11	1,713.44	2,493.45	2,444.94	48.51	51.401
9,700.00	9,179.08	19,512.45	9,123.16	11.11	294.16	89.11	2,404.11	1,713.44	2,411.94	2,362.02	49.91	48.323
9,778.37	9,179.49	19,512.45	9,123.16	12.22	294.16	89.11	2,404.11	1,713.44	2,349.05	2,298.03	51.02	46.039
9,800.00	9,179.60	19,512.45	9,123.16	12.52	294.16	89.10	2,404.11	1,713.44	2,331.81	2,280.26	51.55	45.237
9,900.00	9,180.12	19,512.45	9,123.16	13.94	294.16	89.04	2,404.11	1,713.44	2,251.78	2,196.30	55.48	40.589
10,000.00	9,180.65	19,512.45	9,123.16	15.34	294.16	88.98	2,404.11	1,713.44	2,171.24	2,109.72	61.52	35.294
10,078.37	9,181.06	19,512.45	9,123.16	16.43	294.16	88.94	2,404.11	1,713.44	2,107.81	2,040.46	67.34	31.299
10,100.00	9,181.17	19,512.45	9,123.16	16.72	294.16	88.94	2,404.11	1,713.44	2,090.30	2,022.65	67.64	30.901
10,200.00	9,181.69	19,512.45	9,123.16	18.11	294.16	88.94	2,404.11	1,713.44	2,010.41	1,941.37	69.04	29.121
10,243.37	9,181.92	19,512.45	9,123.16	18.71	294.16	88.94	2,404.11	1,713.44	1,976.33	1,906.68	69.64	28.379
10,300.00	9,182.22	19,512.45	9,123.16	19.50	294.16	88.97	2,404.11	1,713.44	1,932.74	1,865.81	66.93	28.877
10,400.00	9,182.74	19,512.45	9,123.16	20.92	294.16	89.02	2,404.11	1,713.44	1,859.38	1,796.05	63.32	29.363
10,503.37	9,183.28	19,512.45	9,123.16	22.40	294.16	89.06	2,404.11	1,713.44	1,788.95	1,727.23	61.71	28.989
10,600.00	9,183.79	19,512.45	9,123.16	23.80	294.16	89.06	2,404.11	1,713.44	1,727.46	1,664.35	63.11	27.373
10,700.00	9,184.31	19,512.45	9,123.16	25.24	294.16	89.06	2,404.11	1,713.44	1,667.34	1,602.79	64.56	25.828
10,800.00	9,184.84	19,512.45	9,123.16	26.69	294.16	89.06	2,404.11	1,713.44	1,611.20	1,545.19	66.00	24.411
10,900.00	9,185.36	19,512.45	9,123.16	28.14	294.16	89.06	2,404.11	1,713.44	1,559.45	1,492.00	67.45	23.119
11,000.00	9,185.88	19,512.45	9,123.16	29.59	294.16	89.06	2,404.11	1,713.44	1,512.55	1,443.64	68.90	21.952
11,100.00	9,186.41	19,512.45	9,123.16	31.04	294.16	89.06	2,404.11	1,713.44	1,470.96	1,400.61	70.35	20.908
11,200.00	9,186.93	19,512.45	9,123.16	32.50	294.16	89.06	2,404.11	1,713.44	1,435.15	1,363.34	71.81	19.986
11,300.00	9,187.46	19,512.45	9,123.16	33.95	294.16	89.06	2,404.11	1,713.44	1,405.55	1,332.29	73.26	19.186
11,400.00	9,187.98	19,512.45	9,123.16	35.40	294.16	89.06	2,404.11	1,713.44	1,382.56	1,307.85	74.71	18.505
11,500.00	9,188.50	19,512.45	9,123.16	36.85	294.16	89.06	2,404.11	1,713.44	1,366.53	1,290.37	76.17	17.942
11,600.00	9,189.03	19,512.45	9,123.16	38.31	294.16	89.06	2,404.11	1,713.44	1,357.69	1,280.07	77.62	17.492

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Marathon Oil Permian, LLC	Well VA #6H
Project:	Eddy County, NM (NAD27)	KB = 25' @ 3206.00usft (Precision 594)
Reference Site:	Sterling State 23-27-20	KB = 25' @ 3206.00usft (Precision 594)
Site EGM:	0.00 usft	Grid
Reference Well:	VA #6H	Minimum Curvature
Well EGM:	0.00 usft	2.00 sigma
Reference Wellbore:	ST1	Midland District
Reference Design:	ST Plan #1	Offset Datum

Forehand Ranch 22 State - #2H - OH - Plan #1													Offset Error
Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Offset Error
11,670.39	9,189.39	19,512.45	9,123.16	39.33	294.16	89.06	2,404.11	1,713.44	1,355.87	1,277.22	78.64	17.241	CC
11,700.00	9,189.55	19,512.45	9,123.16	39.76	294.16	89.06	2,404.11	1,713.44	1,356.19	1,277.12	79.07	17.151	ES
11,800.00	9,190.07	19,512.45	9,123.16	41.22	294.16	89.06	2,404.11	1,713.44	1,362.05	1,281.52	80.53	16.914	
11,900.00	9,190.60	19,512.45	9,123.16	42.67	294.16	89.06	2,404.11	1,713.44	1,375.17	1,293.19	81.98	16.774	
12,000.00	9,191.12	19,512.45	9,123.16	44.13	294.16	89.06	2,404.11	1,713.44	1,395.35	1,311.91	83.44	16.723	
12,100.00	9,191.64	19,512.45	9,123.16	45.58	294.16	89.06	2,404.11	1,713.44	1,422.30	1,337.40	84.89	16.754	
12,200.00	9,192.17	19,512.45	9,123.16	47.04	294.16	89.06	2,404.11	1,713.44	1,455.63	1,369.28	86.35	16.857	
12,300.00	9,192.69	19,512.45	9,123.16	48.50	294.16	89.06	2,404.11	1,713.44	1,494.92	1,407.11	87.81	17.025	
12,400.00	9,193.21	19,512.45	9,123.16	49.95	294.16	89.06	2,404.11	1,713.44	1,539.71	1,450.44	89.26	17.249	
12,500.00	9,193.74	19,512.45	9,123.16	51.41	294.16	89.06	2,404.11	1,713.44	1,589.53	1,498.81	90.72	17.521	
12,600.00	9,194.26	19,512.45	9,123.16	52.87	294.16	89.06	2,404.11	1,713.44	1,643.94	1,551.76	92.18	17.835	
12,700.00	9,194.79	19,512.45	9,123.16	54.32	294.16	89.06	2,404.11	1,713.44	1,702.49	1,608.85	93.63	18.183	
12,800.00	9,195.31	19,512.45	9,123.16	55.78	294.16	89.06	2,404.11	1,713.44	1,764.76	1,669.67	95.09	18.559	
12,900.00	9,195.83	19,512.45	9,123.16	57.24	294.16	89.06	2,404.11	1,713.44	1,830.38	1,733.84	96.55	18.959	
13,000.00	9,196.36	19,512.45	9,123.16	58.69	294.16	89.06	2,404.11	1,713.44	1,899.01	1,801.00	98.00	19.377	
13,100.00	9,196.88	19,512.45	9,123.16	60.15	294.16	89.06	2,404.11	1,713.44	1,970.32	1,870.86	99.46	19.810	
13,200.00	9,197.40	19,512.45	9,123.16	61.61	294.16	89.06	2,404.11	1,713.44	2,044.03	1,943.11	100.92	20.254	
13,300.00	9,197.93	19,512.45	9,123.16	63.07	294.16	89.06	2,404.11	1,713.44	2,119.90	2,017.53	102.38	20.707	
13,400.00	9,198.45	19,512.45	9,123.16	64.52	294.16	89.06	2,404.11	1,713.44	2,197.71	2,093.87	103.83	21.166	
13,500.00	9,198.97	19,512.45	9,123.16	65.98	294.16	89.06	2,404.11	1,713.44	2,277.24	2,171.95	105.29	21.628	
13,600.00	9,199.50	19,512.45	9,123.16	67.44	294.16	89.06	2,404.11	1,713.44	2,358.34	2,251.59	106.75	22.093	
13,635.65	9,199.68	19,512.45	9,123.16	67.96	294.16	89.06	2,404.11	1,713.44	2,387.59	2,280.33	107.27	22.258	
13,680.65	9,199.92	19,512.45	9,123.16	68.61	294.16	89.06	2,404.11	1,713.44	2,424.77	2,316.84	107.92	22.467	

Anticollision Report

Company	Marathon Oil Permian, LLC	Well Name	Well VA #6H
Project	Eddy County, NM (NAD27)	KB = 25' @ 3206.00usft (Precision 594)	
Reference Site	Sterling State 23-27-20	KB = 25' @ 3206.00usft (Precision 594)	
Site Elev	0.00 usft	Grid	
Reference Point	WA #6H	Minimum Curvature	
Well Elev	0.00 usft	2.00 sigma	
Reference Well	ST1	Midland District	
Reference Point	ST Plan #1	Offset Datum	

Sterling Offsets - Sterling State #1 - As-Drilled - As-Drilled													Offset Elev	Offset Elev
Measured	Depth	Offset	Offset	Offset	Offset	Offset	Offset	Offset	Offset	Offset	Offset	Offset	Offset	Offset
8,377.00	8,351.90	8,324.31	8,322.26	0.00	28.99	-125.69	1,234.37	732.68	1,597.72	1,568.76	28.96	55.176		
8,400.00	8,374.86	8,346.11	8,344.06	0.52	29.07	-126.16	1,234.10	733.00	1,598.29	1,569.21	29.08	54.971		
8,405.00	8,379.85	8,350.85	8,348.80	0.51	29.08	168.38	1,234.04	733.07	1,598.40	1,569.26	29.13	54.863		
8,410.00	8,384.85	8,355.59	8,353.53	0.52	29.10	111.07	1,233.98	733.14	1,598.48	1,569.28	29.20	54.736		
8,415.00	8,389.83	8,360.00	8,357.94	0.55	29.11	98.53	1,233.93	733.20	1,598.54	1,569.26	29.27	54.608		
8,465.00	8,439.54	8,406.73	8,404.66	0.62	29.28	98.73	1,233.44	733.90	1,599.01	1,569.44	29.57	54.071		
8,500.00	8,474.36	8,439.25	8,437.18	0.68	29.39	90.08	1,233.15	734.41	1,599.13	1,569.25	29.88	53.519		
8,600.00	8,574.04	8,532.30	8,530.22	0.93	29.72	49.62	1,232.52	736.09	1,596.57	1,565.84	30.73	51.950		
8,676.34	8,650.15	8,607.19	8,605.08	1.15	29.98	17.46	1,232.16	737.72	1,591.66	1,560.30	31.36	50.755		
8,681.34	8,655.14	8,612.25	8,610.15	1.17	30.00	17.47	1,232.13	737.83	1,591.25	1,559.86	31.39	50.693		
8,700.00	8,673.69	8,631.11	8,628.99	1.23	30.06	17.01	1,232.03	738.26	1,589.41	1,557.78	31.63	50.249		
8,750.00	8,723.01	8,680.60	8,678.47	1.42	30.24	16.74	1,231.76	739.37	1,581.63	1,549.44	32.19	49.135		
8,800.00	8,771.43	8,728.36	8,726.22	1.64	30.40	17.00	1,231.51	740.45	1,569.76	1,537.18	32.58	48.184		
8,850.00	8,818.59	8,774.98	8,772.83	1.88	30.57	17.57	1,231.28	741.49	1,553.90	1,521.12	32.79	47.396		
8,900.00	8,864.12	8,820.20	8,818.03	2.12	30.72	18.40	1,231.07	742.48	1,534.18	1,501.37	32.81	46.753		
8,950.00	8,907.68	8,863.51	8,861.34	2.38	30.88	19.53	1,230.89	743.39	1,510.77	1,478.09	32.68	46.228		
9,000.00	8,948.94	8,905.23	8,903.04	2.71	31.02	20.99	1,230.71	744.25	1,483.83	1,451.42	32.42	45.773		
9,050.00	8,987.59	8,944.25	8,942.06	3.10	31.16	22.85	1,230.53	745.04	1,453.60	1,421.54	32.07	45.328		
9,100.00	9,023.32	8,980.05	8,977.85	3.54	31.28	25.20	1,230.36	745.74	1,420.34	1,388.63	31.71	44.794		
9,150.00	9,055.88	9,012.45	9,010.25	4.02	31.40	28.19	1,230.20	746.37	1,384.32	1,352.87	31.45	44.022		
9,200.00	9,085.00	9,041.41	9,039.20	4.55	31.50	31.98	1,230.07	746.92	1,345.86	1,314.43	31.43	42.826		
9,250.00	9,110.47	9,066.65	9,064.43	5.11	31.59	36.81	1,229.95	747.40	1,305.27	1,273.45	31.82	41.022		
9,300.00	9,132.10	9,087.89	9,085.67	5.71	31.66	42.95	1,229.85	747.79	1,262.92	1,230.15	32.77	38.541		
9,350.00	9,149.72	9,105.16	9,102.94	6.33	31.72	50.65	1,229.78	748.11	1,219.16	1,184.85	34.31	35.536		
9,400.00	9,163.19	9,118.33	9,116.11	6.98	31.77	60.05	1,229.73	748.35	1,174.36	1,138.08	36.28	32.373		
9,450.00	9,172.42	9,127.28	9,125.06	7.65	31.80	70.90	1,229.69	748.51	1,128.91	1,090.61	38.30	29.474		
9,500.00	9,177.33	9,131.95	9,129.73	8.33	31.81	82.42	1,229.67	748.60	1,083.20	1,043.28	39.92	27.137		
9,528.37	9,178.18	9,132.68	9,130.45	8.71	31.82	88.85	1,229.67	748.61	1,057.29	1,016.79	40.51	26.102		
9,600.00	9,178.55	9,132.75	9,130.52	9.71	31.82	88.85	1,229.67	748.61	992.45	950.95	41.50	23.915		
9,700.00	9,179.08	9,132.85	9,130.62	11.11	31.82	88.87	1,229.67	748.61	903.64	860.73	42.90	21.063		
9,778.37	9,179.49	9,132.92	9,130.70	12.22	31.82	88.88	1,229.67	748.62	835.80	791.79	44.01	18.990		
9,800.00	9,179.60	9,132.95	9,130.72	12.52	31.82	88.86	1,229.67	748.62	817.37	773.05	44.32	18.443		
9,900.00	9,180.12	9,133.09	9,130.86	13.94	31.82	88.81	1,229.67	748.62	733.19	687.48	45.72	16.038		
10,000.00	9,180.65	9,133.30	9,131.07	15.34	31.82	88.77	1,229.67	748.62	651.31	604.23	47.09	13.832		
10,078.37	9,181.06	9,133.50	9,131.28	16.43	31.82	88.75	1,229.66	748.63	589.45	541.31	48.14	12.245		
10,100.00	9,181.17	9,133.57	9,131.34	16.72	31.82	88.76	1,229.66	748.63	572.89	524.45	48.44	11.827		
10,200.00	9,181.69	9,133.86	9,131.63	18.11	31.82	88.80	1,229.66	748.63	501.38	451.54	49.83	10.061		
10,243.37	9,181.92	9,133.98	9,131.76	18.71	31.82	88.82	1,229.66	748.63	473.58	423.15	50.44	9.389		
10,300.00	9,182.22	9,134.14	9,131.91	19.50	31.82	88.87	1,229.66	748.64	441.57	390.30	51.26	8.614		
10,400.00	9,182.74	9,134.36	9,132.13	20.92	31.82	88.93	1,229.66	748.64	401.22	348.51	52.71	7.612		
10,499.86	9,183.27	9,134.52	9,132.29	22.35	31.82	88.97	1,229.66	748.64	386.86	332.71	54.15	7.144 CC		
10,503.37	9,183.28	9,134.52	9,132.30	22.40	31.82	88.97	1,229.66	748.64	386.88	332.68	54.20	7.137 ES, SF		
10,600.00	9,183.79	9,134.64	9,132.42	23.80	31.82	88.99	1,229.66	748.65	399.73	344.13	55.60	7.189		
10,700.00	9,184.31	9,134.77	9,132.54	25.24	31.82	89.00	1,229.66	748.65	435.79	378.74	57.05	7.639		
10,800.00	9,184.84	9,134.90	9,132.67	26.69	31.83	89.02	1,229.66	748.65	489.93	431.43	58.50	8.375		
10,900.00	9,185.36	9,135.02	9,132.80	28.14	31.83	89.04	1,229.66	748.65	556.92	496.97	59.95	9.290		
11,000.00	9,185.88	9,135.15	9,132.92	29.59	31.83	89.06	1,229.66	748.66	632.68	571.28	61.40	10.304		
11,100.00	9,186.41	9,135.27	9,133.05	31.04	31.83	89.08	1,229.66	748.66	714.42	651.57	62.85	11.367		
11,200.00	9,186.93	9,135.40	9,133.18	32.50	31.83	89.10	1,229.66	748.66	800.33	736.03	64.30	12.446		
11,300.00	9,187.46	9,135.53	9,133.30	33.95	31.83	89.12	1,229.66	748.66	889.18	823.43	65.76	13.522		
11,400.00	9,187.98	9,135.66	9,133.43	35.40	31.83	89.14	1,229.66	748.67	980.19	912.98	67.21	14.584		
11,500.00	9,188.50	9,135.78	9,133.56	36.85	31.83	89.15	1,229.66	748.67	1,072.80	1,004.13	68.66	15.624		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Marathon Oil Permian, LLC	Local Co-ordinate Reference:	Well VA #6H
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 25' @ 3206.00usft (Precision 594)
Reference Station:	Sterling State 23-27-20	MD Reference:	KB = 25' @ 3206.00usft (Precision 594)
Station:	0.00 usft	North:	Grid
Reference Well:	VA #6H	Minimum Curvature:	Minimum Curvature
Well:	0.00 usft	2.00 sigma:	2.00 sigma
Reference Well:	ST1	Midland District:	Midland District
Reference Design:	ST Plan #1	Offset Datum:	Offset Datum

Sterling Offsets - Sterling State #1 - As-Drilled - As-Drilled													Offset Station
													Offset Station
Station	Station	Station	Station	Station	Station	Station	Station	Station	Station	Station	Station	Station	Offset Station
(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	Offset Station
11,600.00	9,189.03	9,135.91	9,133.69	38.31	31.83	89.17	1,229.66	748.67	1,166.63	1,096.51	70.12	16.638	
11,700.00	9,189.55	9,136.04	9,133.81	39.76	31.83	89.19	1,229.66	748.67	1,261.40	1,189.83	71.57	17.624	
11,800.00	9,190.07	9,136.17	9,133.94	41.22	31.83	89.21	1,229.65	748.67	1,356.93	1,283.90	73.03	18.581	
11,900.00	9,190.60	9,136.30	9,134.07	42.67	31.83	89.23	1,229.65	748.68	1,453.06	1,378.58	74.49	19.508	
12,000.00	9,191.12	9,136.43	9,134.20	44.13	31.83	89.25	1,229.65	748.68	1,549.68	1,473.74	75.94	20.406	
12,100.00	9,191.64	9,136.56	9,134.33	45.58	31.83	89.27	1,229.65	748.68	1,646.70	1,569.31	77.40	21.276	
12,200.00	9,192.17	9,136.69	9,134.46	47.04	31.83	89.29	1,229.65	748.68	1,744.06	1,665.21	78.85	22.117	
12,300.00	9,192.69	9,136.82	9,134.59	48.50	31.83	89.31	1,229.65	748.69	1,841.71	1,761.39	80.31	22.932	
12,400.00	9,193.21	9,136.95	9,134.72	49.95	31.83	89.33	1,229.65	748.69	1,939.59	1,857.82	81.77	23.721	
12,500.00	9,193.74	9,137.08	9,134.85	51.41	31.83	89.35	1,229.65	748.69	2,037.68	1,954.45	83.23	24.484	
12,600.00	9,194.26	9,137.21	9,134.98	52.87	31.83	89.37	1,229.65	748.69	2,135.94	2,051.26	84.68	25.223	
12,700.00	9,194.79	9,137.34	9,135.11	54.32	31.83	89.39	1,229.65	748.70	2,234.36	2,148.22	86.14	25.939	
12,800.00	9,195.31	9,137.47	9,135.24	55.78	31.83	89.40	1,229.65	748.70	2,332.92	2,245.32	87.60	26.632	
12,900.00	9,195.83	9,137.60	9,135.37	57.24	31.83	89.42	1,229.65	748.70	2,431.59	2,342.53	89.06	27.304	
13,000.00	9,196.36	9,137.73	9,135.51	58.69	31.84	89.44	1,229.65	748.70	2,530.36	2,439.85	90.51	27.956	
13,100.00	9,196.88	9,137.86	9,135.64	60.15	31.84	89.46	1,229.65	748.70	2,629.23	2,537.26	91.97	28.588	
13,200.00	9,197.40	9,138.00	9,135.77	61.61	31.84	89.48	1,229.65	748.71	2,728.18	2,634.75	93.43	29.201	
13,300.00	9,197.93	9,138.13	9,135.90	63.07	31.84	89.50	1,229.65	748.71	2,827.21	2,732.32	94.89	29.795	
13,400.00	9,198.45	9,138.26	9,136.03	64.52	31.84	89.52	1,229.65	748.71	2,926.30	2,829.95	96.35	30.373	
13,500.00	9,198.97	9,138.39	9,136.17	65.98	31.84	89.54	1,229.65	748.71	3,025.45	2,927.65	97.80	30.934	
13,600.00	9,199.50	9,138.53	9,136.30	67.44	31.84	89.56	1,229.65	748.72	3,124.66	3,025.39	99.26	31.479	
13,635.65	9,199.68	9,138.58	9,136.35	67.96	31.84	89.57	1,229.65	748.72	3,160.03	3,060.25	99.78	31.669	
13,680.65	9,199.92	9,138.64	9,136.41	68.61	31.84	89.58	1,229.64	748.72	3,204.70	3,104.26	100.44	31.907	

Anticollision Report

Company	Marathon Oil Permian, LLC	Well WA #6H
Project	Eddy County, NM (NAD27)	KB = 25' @ 3206.00usft (Precision 594)
Reference Point	Sterling State 23-27-20	KB = 25' @ 3206.00usft (Precision 594)
Grid	0.00 usft	Grid
Reference Point	WA #6H	Minimum Curvature
Well End	0.00 usft	2.00 sigma
Reference Well	ST1	Midland District
Reference Well	ST Plan #1	Offset Datum

Sterling State 23-27-20 - TB #4H - OH - OH													
Station	Offset	Station	Offset	Station	Offset	Station	Offset	Station	Offset	Station	Offset	Station	Offset
8,377.00	8,351.90	8,474.54	8,414.39	0.00	31.47	12.95	-513.24	462.42	228.83	198.70	30.13	7.594	
8,400.00	8,374.86	8,498.11	8,436.61	0.52	31.52	11.31	-505.42	463.44	221.27	191.04	30.23	7.321	
8,405.00	8,379.85	8,503.20	8,441.38	0.51	31.53	-55.02	-503.67	463.71	219.70	189.21	30.49	7.205	
8,410.00	8,384.85	8,508.29	8,446.14	0.52	31.55	-113.19	-501.91	464.00	218.31	187.56	30.75	7.099	
8,415.00	8,389.83	8,514.01	8,451.49	0.55	31.56	-126.84	-499.89	464.34	217.11	186.14	30.98	7.009	
8,465.00	8,439.54	8,571.65	8,504.35	0.62	31.68	-132.26	-477.23	467.87	204.95	173.78	31.17	6.576	
8,500.00	8,474.36	8,604.81	8,534.02	0.68	31.75	-144.70	-462.72	470.81	196.64	165.34	31.30	6.283	
8,600.00	8,574.04	8,719.21	8,632.10	0.93	31.95	159.47	-404.53	477.97	171.41	139.62	31.78	5.393	
8,676.34	8,650.15	8,798.69	8,694.24	1.15	32.06	112.77	-355.05	478.59	150.59	118.33	32.26	4.669	
8,681.34	8,655.14	8,803.56	8,697.84	1.17	32.06	111.68	-351.78	478.50	149.30	117.00	32.30	4.623	
8,700.00	8,673.69	8,821.46	8,710.88	1.23	32.08	107.45	-339.52	478.05	144.82	112.36	32.46	4.461	
8,750.00	8,723.01	8,863.12	8,740.30	1.42	32.13	97.85	-310.07	476.74	136.70	103.82	32.88	4.158	
8,795.07	8,766.71	8,900.99	8,766.16	1.62	32.18	89.16	-282.42	475.62	134.48	101.21	33.28	4.041 CC	
8,800.00	8,771.43	8,905.13	8,768.92	1.64	32.18	88.22	-279.33	475.51	134.51	101.19	33.32	4.037 ES	
8,850.00	8,818.59	8,946.91	8,795.80	1.88	32.23	78.85	-247.38	474.35	137.38	103.51	33.86	4.057	
8,900.00	8,864.12	8,987.00	8,819.76	2.12	32.27	70.36	-215.27	473.32	144.34	109.90	34.44	4.191	
8,950.00	8,907.68	9,028.39	8,842.98	2.38	32.31	62.74	-181.01	472.59	154.17	119.26	34.91	4.416	
9,000.00	8,948.94	9,066.00	8,862.19	2.71	32.35	56.67	-148.69	472.23	166.00	130.84	35.16	4.722	
9,050.00	8,987.59	9,098.61	8,876.22	3.10	32.38	51.72	-119.28	472.23	180.00	144.84	35.16	5.119	
9,100.00	9,023.32	9,129.54	8,886.74	3.54	32.41	47.31	-90.20	472.51	196.01	161.08	34.93	5.612	
9,150.00	9,055.88	9,159.83	8,894.02	4.02	32.43	43.26	-60.81	472.84	213.65	179.19	34.46	6.199	
9,200.00	9,085.00	9,191.32	8,898.85	4.55	32.44	39.48	-29.71	472.82	231.96	198.18	33.78	6.867	
9,250.00	9,110.47	9,231.12	8,902.09	5.11	32.48	35.65	9.95	472.20	250.00	217.13	32.87	7.606	
9,300.00	9,132.10	9,278.60	8,905.40	5.71	32.53	32.34	57.30	470.65	265.27	233.38	31.89	8.319	
9,350.00	9,149.72	9,326.18	8,908.35	6.33	32.60	29.85	104.72	468.28	277.22	246.19	31.03	8.933	
9,400.00	9,163.19	9,374.08	8,910.82	6.98	32.70	27.98	152.45	465.21	285.81	255.44	30.37	9.410	
9,450.00	9,172.42	9,424.93	8,912.97	7.65	32.84	26.52	203.09	461.04	290.71	260.74	29.97	9.699	
9,500.00	9,177.33	9,476.34	8,914.66	8.33	32.99	25.39	254.17	455.52	291.50	261.63	29.87	9.759	
9,528.37	9,178.18	9,504.34	8,915.69	8.71	33.10	24.90	281.93	451.96	290.18	260.21	29.96	9.684	
9,600.00	9,178.55	9,574.38	8,916.88	9.71	33.37	23.26	351.15	441.39	285.47	255.49	29.98	9.521	
9,700.00	9,179.08	9,666.90	8,916.55	11.11	33.80	20.40	442.19	424.94	280.30	250.47	29.82	9.399	
9,740.05	9,179.29	9,698.55	8,915.21	11.67	33.96	19.21	473.21	418.77	279.65	249.92	29.73	9.406	
9,778.37	9,179.49	9,728.63	8,912.99	12.22	34.12	17.97	502.57	412.66	280.26	250.66	29.60	9.468	
9,800.00	9,179.60	9,745.76	8,911.32	12.52	34.22	17.22	519.23	409.07	281.11	251.59	29.52	9.522	
9,900.00	9,180.12	9,840.88	8,899.85	13.94	34.79	12.99	611.85	390.79	288.12	259.11	29.02	9.929	
10,000.00	9,180.65	9,958.75	8,894.70	15.34	35.50	10.21	729.15	382.35	290.56	261.34	29.21	9.946	
10,078.37	9,181.06	10,039.91	8,895.59	16.43	35.99	9.60	810.23	385.23	289.60	259.74	29.86	9.699	
10,100.00	9,181.17	10,061.07	8,895.93	16.72	36.12	9.49	831.36	386.48	289.26	259.21	30.05	9.626	
10,200.00	9,181.69	10,158.20	8,897.09	18.11	36.74	9.08	928.27	392.73	288.23	257.24	30.99	9.302	
10,243.37	9,181.92	10,200.43	8,897.22	18.71	37.02	8.83	970.43	395.15	288.12	256.74	31.38	9.181	
10,254.36	9,181.98	10,211.37	8,897.24	18.86	37.09	8.78	981.36	395.83	288.12	256.63	31.49	9.149	
10,300.00	9,182.22	10,256.82	8,897.39	19.50	37.40	8.75	1,026.69	399.13	288.19	256.20	31.99	9.009	
10,400.00	9,182.74	10,354.50	8,897.58	20.92	38.09	9.46	1,123.99	407.69	289.11	255.78	33.33	8.673	
10,503.37	9,183.28	10,453.96	8,896.67	22.40	38.83	10.74	1,223.08	416.21	291.87	256.92	34.95	8.351	
10,600.00	9,183.79	10,557.90	8,896.39	23.80	39.66	12.33	1,326.70	424.30	294.19	257.42	36.77	8.001	
10,700.00	9,184.31	10,654.02	8,896.42	25.24	40.46	13.51	1,422.62	430.32	296.15	257.65	38.50	7.692	
10,800.00	9,184.84	10,751.34	8,894.55	26.69	41.32	14.33	1,519.82	434.98	299.75	259.60	40.15	7.465	
10,900.00	9,185.36	10,857.81	8,893.68	28.14	42.29	15.09	1,626.20	439.08	302.10	260.21	41.89	7.211	
11,000.00	9,185.88	10,963.31	8,894.23	29.59	43.28	15.61	1,731.67	441.56	302.83	259.26	43.57	6.951	
11,100.00	9,186.41	11,068.92	8,897.14	31.04	44.32	16.32	1,837.19	444.44	301.52	258.14	45.38	6.644	
11,200.00	9,186.93	11,165.98	8,899.88	32.50	45.30	16.66	1,934.21	445.31	299.68	252.69	46.99	6.378	
11,300.00	9,187.46	11,267.08	8,901.72	33.95	46.35	16.66	2,035.29	444.55	298.32	249.85	48.47	6.155	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company	Marathon Oil Permian, LLC	Well Name	Well WA #6H
Project	Eddy County, NM (NAD27)	KB = 25' @ 3206.00usft (Precision 594)	
Reference Site	Sterling State 23-27-20	KB = 25' @ 3206.00usft (Precision 594)	
Site Area	0.00 usft	Grid	
Reference Well	WA #6H	Minimum Curvature	
Well Error	0.00 usft	2.00 sigma	
Reference Wellbore	ST1	Midland District	
Reference Design	ST Plan #1	Offset Datum	

Sterling State 23-27-20 - TB #4H - OH - OH												Offset Site Error	0.00 usft
												Offset Well Error	0.00 usft
Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)		
11,383.21	9,187.89	11,345.68	8,902.62	35.16	47.18	16.60	2,113.88	443.78	297.68	248.04	49.64	5.996	
11,400.00	9,187.98	11,361.62	8,902.69	35.40	47.35	16.61	2,129.82	443.78	297.70	247.81	49.89	5.967	
11,500.00	9,188.50	11,456.88	8,902.14	36.85	48.38	16.56	2,225.07	443.51	298.78	247.45	51.34	5.820	
11,600.00	9,189.03	11,555.34	8,899.89	38.31	49.46	16.31	2,323.50	442.64	301.32	248.61	52.70	5.717	
11,700.00	9,189.55	11,662.67	8,898.93	39.76	50.66	16.00	2,430.81	440.96	302.33	248.23	54.10	5.588	
11,800.00	9,190.07	11,773.79	8,901.29	41.22	51.93	16.12	2,541.90	440.73	300.87	245.09	55.79	5.393	
11,900.00	9,190.60	11,873.27	8,905.99	42.67	53.08	16.24	2,641.26	439.82	296.68	239.28	57.40	5.169	
12,000.00	9,191.12	11,962.89	8,909.06	44.13	54.11	16.86	2,730.79	442.07	294.73	235.47	59.26	4.973	
12,001.37	9,191.13	11,964.11	8,909.08	44.15	54.12	16.87	2,732.01	442.11	294.73	235.44	59.29	4.971	
12,100.00	9,191.64	12,057.27	8,909.72	45.58	55.20	17.59	2,825.10	445.63	295.77	234.51	61.26	4.828	
12,200.00	9,192.17	12,159.88	8,909.52	47.04	56.41	18.10	2,927.68	448.30	297.37	234.15	63.22	4.704	
12,300.00	9,192.69	12,268.14	8,910.97	48.50	57.71	18.20	3,035.91	448.17	296.64	231.68	64.96	4.567	
12,400.00	9,193.21	12,366.95	8,912.80	49.95	58.91	18.03	3,134.70	446.49	294.96	228.51	66.44	4.439	
12,472.85	9,193.60	12,435.77	8,914.28	51.01	59.75	18.35	3,203.49	447.59	294.28	226.46	67.82	4.339	
12,500.00	9,193.74	12,458.90	8,914.51	51.41	60.03	18.51	3,226.60	448.33	294.47	226.12	68.35	4.308	
12,600.00	9,194.26	12,547.82	8,912.69	52.87	61.11	19.01	3,315.43	451.53	298.12	227.85	70.27	4.243	
12,700.00	9,194.79	12,644.40	8,908.45	54.32	62.30	19.31	3,411.88	454.51	303.88	231.76	72.11	4.214	
12,800.00	9,195.31	12,755.97	8,903.60	55.78	63.70	19.34	3,523.33	456.23	309.21	235.32	73.89	4.185	
12,900.00	9,195.83	12,859.90	8,902.86	57.24	65.01	19.25	3,627.24	455.76	310.32	234.81	75.50	4.110	
13,000.00	9,196.36	12,960.49	8,901.81	58.69	66.29	18.92	3,727.82	454.11	311.38	234.47	76.90	4.049	
13,100.00	9,196.88	13,067.20	8,901.24	60.15	67.67	18.21	3,834.45	450.04	311.28	233.25	78.03	3.989	
13,200.00	9,197.40	13,172.09	8,902.29	61.61	69.05	17.14	3,939.11	443.41	308.99	230.16	78.84	3.919	
13,300.00	9,197.93	13,266.48	8,903.67	63.07	70.28	16.41	4,033.37	438.70	306.78	226.95	79.83	3.843	
13,323.62	9,198.05	13,287.42	8,903.72	63.41	70.56	16.31	4,054.30	438.11	306.68	226.56	80.12	3.828	
13,400.00	9,198.45	13,360.23	8,903.21	64.52	71.51	16.17	4,127.10	437.34	307.41	226.18	81.23	3.785	
13,500.00	9,198.97	13,463.00	8,902.93	65.98	72.85	16.19	4,229.87	437.32	308.27	225.37	82.90	3.719	
13,600.00	9,199.50	13,576.91	8,904.65	67.44	74.35	15.79	4,343.72	434.36	306.76	222.44	84.31	3.638	
13,635.65	9,199.68	13,612.83	8,906.02	67.96	74.83	15.56	4,379.57	432.65	305.20	220.50	84.71	3.603	
13,677.05	9,199.90	13,641.00	8,907.09	68.56	75.21	15.38	4,407.69	431.31	303.69	218.57	85.13	3.568	
13,680.65	9,199.92	13,641.00	8,907.09	68.61	75.21	15.38	4,407.69	431.31	303.72	218.56	85.16	3.567 SF	

Anticollision Report

Company	Marathon Oil Permian, LLC	Well Name	Well WA #6H
Project	Eddy County, NM (NAD27)	KB = 25' @ 3206.00usft (Precision 594)	
Reference Site	Sterling State 23-27-20	KB = 25' @ 3206.00usft (Precision 594)	
Site Error	0.00 usft	Grid	
Reference Well	WA #6H	Minimum Curvature	
Well Error	0.00 usft	2.00 sigma	
Reference Well Error	ST1	Midland District	
Reference Design	ST Plan #1	Offset Datum	

Offset Design: Sterling State 23-27-20 - TB #4H - OH - Plan #3													Offset Error
Survey Program: ANTICOLLISION													Offset Error
Distance	Offset	Distance	Offset	Distance	Offset	Distance	Offset	Distance	Offset	Distance	Offset	Distance	Offset
(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)	(USFT)
8,377.00	8,351.90	8,428.89	8,361.86	0.00	31.05	12.09	-516.39	467.11	225.35	195.70	29.65	7.600	
8,400.00	8,374.86	8,463.63	8,396.47	0.52	31.16	11.39	-513.59	467.10	222.45	192.65	29.81	7.463	
8,405.00	8,379.85	8,471.12	8,403.91	0.51	31.18	-54.39	-512.72	467.10	221.76	191.67	30.09	7.370	
8,410.00	8,384.85	8,478.59	8,411.32	0.52	31.21	-112.07	-511.74	467.09	221.21	190.85	30.36	7.286	
8,415.00	8,389.83	8,486.03	8,418.69	0.55	31.23	-125.03	-510.68	467.09	220.79	190.20	30.59	7.217	
8,465.00	8,439.54	8,558.54	8,489.50	0.62	31.43	-128.79	-495.34	467.04	214.82	183.98	30.83	6.967	
8,500.00	8,474.36	8,606.76	8,535.28	0.68	31.55	-140.65	-480.24	466.98	207.96	176.96	31.00	6.708	
8,600.00	8,574.04	8,730.49	8,645.45	0.93	31.80	-167.32	-424.45	466.79	179.42	147.99	31.43	5.708	
8,676.34	8,650.15	8,809.97	8,708.86	1.15	31.92	122.95	-376.64	466.62	153.25	121.46	31.79	4.821	
8,681.34	8,655.14	8,814.73	8,712.44	1.17	31.93	121.97	-373.50	466.61	151.56	119.74	31.82	4.763	
8,700.00	8,673.69	8,832.22	8,725.37	1.23	31.95	118.22	-361.72	466.57	145.59	113.62	31.97	4.554	
8,750.00	8,723.01	8,877.40	8,757.04	1.42	32.00	108.21	-329.52	466.46	132.97	100.60	32.37	4.108	
8,800.00	8,771.43	8,920.45	8,784.77	1.64	32.04	97.62	-296.61	466.34	126.23	93.43	32.80	3.849	
8,826.63	8,796.73	8,942.64	8,798.08	1.77	32.06	91.84	-278.85	466.28	125.29	92.23	33.06	3.790 CC, ES	
8,850.00	8,818.59	8,961.72	8,808.97	1.88	32.07	86.78	-263.18	466.23	126.00	92.69	33.31	3.783	
8,900.00	8,864.12	9,000.00	8,829.20	2.12	32.09	76.68	-230.70	466.11	131.92	97.98	33.94	3.887	
8,950.00	8,907.68	9,040.00	8,847.98	2.38	32.11	66.86	-195.39	465.99	142.76	108.20	34.56	4.131	
9,000.00	8,948.94	9,077.43	8,863.28	2.71	32.12	58.67	-161.24	465.87	157.06	122.14	34.91	4.499	
9,050.00	8,987.59	9,113.94	8,876.03	3.10	32.13	51.80	-127.04	465.75	173.49	138.57	34.92	4.968	
9,100.00	9,023.32	9,150.00	8,886.46	3.54	32.14	46.10	-92.52	465.63	191.07	156.45	34.61	5.520	
9,150.00	9,055.88	9,184.67	8,894.42	4.02	32.15	41.49	-58.77	465.51	209.07	175.01	34.06	6.138	
9,200.00	9,085.00	9,219.11	8,900.29	4.55	32.16	37.69	-24.85	465.39	227.01	193.68	33.33	6.810	
9,250.00	9,110.47	9,250.00	8,903.81	5.11	32.16	34.72	5.84	465.29	244.55	212.01	32.54	7.516	
9,300.00	9,132.10	9,286.52	8,905.84	5.71	32.17	31.99	42.29	465.16	261.35	229.70	31.65	8.257	
9,350.00	9,149.72	9,327.94	8,906.00	6.33	32.20	29.63	83.71	465.01	278.88	246.08	30.81	8.988	
9,400.00	9,163.19	9,376.07	8,906.00	6.98	32.24	27.85	131.84	464.85	289.14	258.99	30.15	9.589	
9,450.00	9,172.42	9,425.19	8,906.00	7.65	32.30	26.75	180.96	464.68	297.69	267.85	29.84	9.976	
9,500.00	9,177.33	9,474.92	8,906.00	8.33	32.39	26.24	230.69	464.50	302.41	272.49	29.92	10.107	
9,528.37	9,178.18	9,503.28	8,906.00	8.71	32.46	26.20	259.05	464.40	303.35	273.20	30.15	10.063	
9,600.00	9,178.55	9,574.90	8,906.00	9.71	32.66	26.34	330.67	464.15	304.13	273.34	30.78	9.880	
9,700.00	9,179.08	9,674.89	8,906.00	11.11	33.02	26.53	430.66	463.80	305.22	273.46	31.76	9.611	
9,778.37	9,179.49	9,753.25	8,906.00	12.22	33.35	26.68	509.02	463.53	306.07	273.48	32.59	9.391	
9,800.00	9,179.60	9,774.88	8,906.00	12.52	33.45	26.71	530.64	463.45	306.27	273.44	32.83	9.328	
9,900.00	9,180.12	9,874.86	8,906.00	13.94	33.94	26.47	630.63	463.11	306.25	272.39	33.86	9.045	
10,000.00	9,180.65	9,974.75	8,906.00	15.34	34.50	25.61	730.52	462.76	304.70	270.00	34.70	8.781	
10,078.37	9,181.06	10,052.88	8,906.00	16.43	34.97	24.50	808.65	462.48	302.51	267.30	35.21	8.593	
10,100.00	9,181.17	10,074.43	8,906.00	16.72	35.10	24.16	830.19	462.41	301.80	266.48	35.33	8.543	
10,200.00	9,181.69	10,174.01	8,906.00	18.11	35.75	22.54	929.78	462.06	298.68	262.79	35.88	8.324	
10,243.37	9,181.92	10,217.20	8,906.00	18.71	36.05	21.82	972.97	461.91	297.40	261.27	36.13	8.232	
10,300.00	9,182.22	10,273.65	8,906.00	19.50	36.45	21.01	1,029.41	461.71	296.00	259.51	36.48	8.113	
10,400.00	9,182.74	10,373.50	8,906.00	20.92	37.19	20.04	1,129.26	461.36	294.61	257.29	37.32	7.894	
10,461.56	9,183.07	10,435.04	8,906.00	21.80	37.67	19.75	1,190.80	461.15	294.38	256.40	37.98	7.751	
10,503.37	9,183.28	10,476.84	8,906.00	22.40	38.01	19.68	1,232.60	461.00	294.49	256.00	38.48	7.652	
10,600.00	9,183.79	10,573.47	8,906.00	23.80	38.80	19.65	1,329.24	460.67	294.96	255.19	39.77	7.416	
10,700.00	9,184.31	10,673.47	8,906.00	25.24	39.66	19.61	1,429.23	460.32	295.46	254.32	41.14	7.182	
10,800.00	9,184.84	10,773.47	8,906.00	26.69	40.56	19.58	1,529.23	459.97	295.95	253.42	42.53	6.958	
10,900.00	9,185.36	10,873.47	8,906.00	28.14	41.48	19.54	1,629.23	459.62	296.44	252.49	43.95	6.745	
11,000.00	9,185.88	10,973.47	8,906.00	29.59	42.44	19.51	1,729.23	459.27	296.94	251.54	45.39	6.542	
11,100.00	9,186.41	11,073.47	8,906.00	31.04	43.42	19.48	1,829.23	458.92	297.43	250.58	46.85	6.348	
11,200.00	9,186.93	11,173.46	8,906.00	32.50	44.43	19.44	1,929.22	458.57	297.92	249.59	48.34	6.164	
11,300.00	9,187.46	11,273.46	8,906.00	33.95	45.46	19.41	2,029.22	458.22	298.42	248.58	49.83	5.988	
11,400.00	9,187.98	11,373.46	8,906.00	35.40	46.52	19.38	2,129.22	457.87	298.91	247.57	51.35	5.822	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company	Marathon Oil Permian, LLC	Local Coordinate Reference	Well WA #6H
Project	Eddy County, NM (NAD27)	WGS 1984	KB = 25' @ 3206.00usft (Precision 594)
Route (L&R)	Sterling State 23-27-20	UTM Zone 15	KB = 25' @ 3206.00usft (Precision 594)
Station	0.00 usft	North Arrow	Grid
Reference Well	WA #6H	Survey Control Method	Minimum Curvature
Well Error	0.00 usft	Offset (ft) (L&R)	2.00 sigma
Report Author	ST1	Offset	Midland District
Route (L&R)	ST Plan #1	Offset Datum	Offset Datum

Sterling State 23-27-20 - TB #4H - OH - Plan #3													Offset (ft)	Offset (ft)
Station	Offset (ft)	Station	Offset (ft)	Station	Offset (ft)	Station	Offset (ft)	Station	Offset (ft)	Station	Offset (ft)	Station	Offset (ft)	Offset (ft)
11,500.00	9,188.50	11,473.46	8,906.00	36.85	47.59	19.34	2,229.22	457.53	299.41	246.53	52.87	5.663		
11,600.00	9,189.03	11,573.46	8,906.00	38.31	48.69	19.31	2,329.22	457.18	299.90	245.49	54.41	5.512		
11,700.00	9,189.55	11,673.46	8,906.00	39.76	49.81	19.28	2,429.21	456.83	300.39	244.43	55.96	5.368		
11,800.00	9,190.07	11,773.46	8,906.00	41.22	50.94	19.24	2,529.21	456.48	300.89	243.37	57.52	5.231		
11,900.00	9,190.60	11,873.45	8,906.00	42.67	52.09	19.21	2,629.21	456.13	301.38	242.29	59.09	5.100		
12,000.00	9,191.12	11,973.45	8,906.00	44.13	53.25	19.18	2,729.21	455.78	301.88	241.21	60.67	4.976		
12,100.00	9,191.64	12,073.45	8,906.00	45.58	54.43	19.15	2,829.21	455.43	302.37	240.11	62.26	4.857		
12,200.00	9,192.17	12,173.45	8,906.00	47.04	55.62	19.11	2,929.20	455.08	302.87	239.02	63.85	4.743		
12,300.00	9,192.69	12,273.45	8,906.00	48.50	56.82	19.08	3,029.20	454.73	303.36	237.91	65.45	4.635		
12,400.00	9,193.21	12,373.45	8,906.00	49.95	58.04	19.05	3,129.20	454.38	303.86	236.80	67.06	4.531		
12,500.00	9,193.74	12,473.45	8,906.00	51.41	59.27	19.02	3,229.20	454.03	304.35	235.68	68.67	4.432		
12,600.00	9,194.26	12,573.44	8,906.00	52.87	60.50	18.98	3,329.20	453.69	304.85	234.56	70.29	4.337		
12,700.00	9,194.79	12,673.44	8,906.00	54.32	61.75	18.95	3,429.19	453.34	305.34	233.43	71.91	4.246		
12,800.00	9,195.31	12,773.44	8,906.00	55.78	63.00	18.92	3,529.19	452.99	305.84	232.30	73.54	4.159		
12,900.00	9,195.83	12,873.44	8,906.00	57.24	64.27	18.89	3,629.19	452.64	306.33	231.16	75.17	4.075		
13,000.00	9,196.36	12,973.44	8,906.00	58.69	65.54	18.86	3,729.19	452.29	306.83	230.03	76.80	3.995		
13,100.00	9,196.88	13,073.44	8,906.00	60.15	66.82	18.83	3,829.19	451.94	307.32	228.88	78.44	3.918		
13,200.00	9,197.40	13,173.44	8,906.00	61.61	68.11	18.79	3,929.18	451.59	307.82	227.74	80.08	3.844		
13,300.00	9,197.93	13,273.44	8,906.00	63.07	69.40	18.76	4,029.18	451.24	308.31	226.59	81.72	3.773		
13,400.00	9,198.45	13,373.43	8,906.00	64.52	70.70	18.73	4,129.18	450.89	308.81	225.44	83.37	3.704		
13,500.00	9,198.97	13,473.43	8,906.00	65.98	72.01	18.70	4,229.18	450.54	309.31	224.29	85.02	3.638		
13,600.00	9,199.50	13,573.43	8,906.00	67.44	73.32	18.67	4,329.18	450.19	309.80	223.13	86.67	3.575		
13,635.65	9,199.68	13,609.08	8,906.00	67.96	73.79	18.66	4,364.83	450.07	309.98	222.72	87.26	3.552		
13,680.65	9,199.92	13,653.88	8,906.00	68.61	74.38	18.64	4,409.62	449.91	310.20	222.20	88.00	3.525 SF		

Anticollision Report

Company	Marathon Oil Permian, LLC	Local Coordinates Reference	Well WA #6H
Project	Eddy County, NM (NAD27)	Anticollision	KB = 25' @ 3206.00usft (Precision 594)
Reference Point	Sterling State 23-27-20	Grid	KB = 25' @ 3206.00usft (Precision 594)
Station	0.00 usft	Minimum Curvature	Grid
Reference Well	WA #6H	2.00 sigma	Midland District
Well Level	0.00 usft	Offset Datum	
Reference Well Bore	ST1		
Reference Well Bore	ST Plan #1		

Sterling State 23-27-20 - WA #6H - OH - OH													
Station	Well	Station	Well	Station	Well	Station	Well	Station	Well	Station	Well	Station	Well
8,377.00	8,351.90	8,377.00	8,351.90	0.00	28.16	0.00	-318.96	358.93	0.00	-27.49	27.49	0.000	Level 1, CC, SF
8,386.76	8,361.64	8,386.76	8,361.64	0.22	28.20	-171.16	-319.38	359.29	0.00	-27.57	27.57	0.000	Level 1
8,400.00	8,374.86	8,400.00	8,374.86	0.52	28.25	-171.42	-319.95	359.77	0.00	-27.64	27.64	0.000	Level 1
8,405.00	8,379.85	8,405.00	8,379.85	0.51	28.27	-95.47	-320.16	359.95	0.13	-28.03	28.15	0.004	Level 1, ES
8,410.00	8,384.85	8,409.98	8,384.83	0.52	28.29	-152.69	-320.37	360.13	0.51	-28.01	28.51	0.018	Level 1
8,415.00	8,389.83	8,414.94	8,389.78	0.55	28.30	-165.21	-320.58	360.31	1.14	-27.67	28.81	0.039	Level 1
8,465.00	8,439.54	8,464.39	8,439.15	0.62	28.48	-165.41	-322.59	361.99	8.63	-20.38	29.01	0.297	Level 1
8,500.00	8,474.36	8,499.02	8,473.74	0.68	28.61	-173.27	-323.95	363.16	13.65	-15.46	29.11	0.469	Level 1
8,600.00	8,574.04	8,598.94	8,573.56	0.93	28.97	152.23	-326.66	366.44	25.45	-4.00	29.45	0.864	Level 1
8,676.34	8,650.15	8,677.73	8,652.11	1.15	29.23	118.31	-321.56	367.69	28.45	-1.38	29.83	0.954	Level 1
8,681.34	8,655.14	8,682.99	8,657.30	1.17	29.24	117.60	-320.71	367.67	28.29	-1.57	29.86	0.947	Level 1
8,700.00	8,673.69	8,702.31	8,676.24	1.23	29.30	113.83	-316.95	367.45	27.50	-2.52	30.02	0.916	Level 1
8,750.00	8,723.01	8,752.97	8,724.72	1.42	29.44	100.11	-302.42	366.68	25.38	-5.03	30.41	0.834	Level 1
8,777.35	8,749.64	8,780.00	8,749.57	1.54	29.51	89.44	-291.81	366.27	24.89	-5.76	30.65	0.812	Level 1
8,800.00	8,771.43	8,801.91	8,769.13	1.64	29.56	79.72	-281.93	366.02	25.35	-5.57	30.92	0.820	Level 1
8,850.00	8,818.59	8,848.92	8,809.24	1.88	29.66	60.41	-257.48	366.15	29.82	-1.88	31.70	0.941	Level 1
8,900.00	8,864.12	8,894.41	8,845.08	2.12	29.74	47.41	-229.55	367.87	38.98	6.84	32.14	1.213	Level 2
8,950.00	8,907.68	8,939.23	8,877.68	2.38	29.81	40.29	-198.95	370.80	50.42	18.21	32.21	1.565	
9,000.00	8,948.94	8,983.09	8,906.56	2.71	29.87	35.74	-166.12	373.96	62.84	30.79	32.05	1.961	
9,050.00	8,987.59	9,027.20	8,932.61	3.10	29.92	32.62	-130.69	377.21	75.54	43.83	31.71	2.382	
9,100.00	9,023.32	9,072.63	8,957.16	3.54	29.97	30.47	-92.57	380.12	87.09	55.83	31.26	2.786	
9,150.00	9,055.88	9,121.53	8,982.09	4.02	30.02	29.22	-50.59	382.66	96.24	65.48	30.77	3.128	
9,200.00	9,085.00	9,172.60	9,007.75	4.55	30.09	28.26	-6.44	383.05	101.01	70.78	30.24	3.341	
9,250.00	9,110.47	9,223.02	9,032.66	5.11	30.19	27.70	37.37	381.64	101.53	71.79	29.74	3.414	
9,300.00	9,132.10	9,272.82	9,057.13	5.71	30.31	28.19	80.71	379.74	98.11	68.63	29.48	3.328	
9,350.00	9,149.72	9,321.44	9,080.70	6.33	30.45	28.99	123.19	377.77	91.15	61.50	29.65	3.074	
9,400.00	9,163.19	9,369.47	9,103.92	6.98	30.80	34.01	165.20	376.15	80.88	50.28	30.60	2.643	
9,450.00	9,172.42	9,414.20	9,124.11	7.65	30.75	39.95	205.06	374.30	68.84	36.53	32.31	2.131	
9,500.00	9,177.33	9,457.57	9,141.07	8.33	30.90	48.92	244.95	373.13	57.53	22.65	34.88	1.649	
9,528.37	9,178.18	9,483.21	9,149.96	8.71	31.00	56.37	269.00	372.80	51.93	15.16	36.77	1.412	Level 3
9,600.00	9,178.55	9,548.34	9,169.51	9.71	31.24	78.45	331.10	373.45	45.15	4.44	40.71	1.109	Level 2
9,600.83	9,178.56	9,549.12	9,169.72	9.72	31.24	78.71	331.85	373.47	45.15	4.41	40.74	1.108	Level 2
9,700.00	9,179.08	9,644.10	9,188.45	11.11	31.62	100.28	424.67	379.47	53.12	11.05	42.07	1.263	Level 3
9,778.37	9,179.49	9,722.59	9,190.53	12.22	31.93	100.39	502.77	386.66	61.82	18.39	43.43	1.423	Level 3
9,800.00	9,179.60	9,727.00	9,190.59	12.52	31.95	100.32	507.17	387.07	66.35	22.59	43.75	1.516	
9,900.00	9,180.12	9,727.00	9,190.59	13.94	31.95	99.91	507.17	387.07	137.46	92.29	45.17	3.043	
10,000.00	9,180.65	9,727.00	9,190.59	15.34	31.95	99.06	507.17	387.07	230.09	183.48	46.62	4.936	
10,078.37	9,181.06	9,727.00	9,190.59	16.43	31.95	98.23	507.17	387.07	305.40	257.65	47.75	6.396	
10,100.00	9,181.17	9,727.00	9,190.59	16.72	31.95	98.23	507.17	387.07	326.37	278.33	48.04	6.793	
10,200.00	9,181.69	9,727.00	9,190.59	18.11	31.95	98.23	507.17	387.07	424.18	374.76	49.42	8.584	
10,243.37	9,181.92	9,727.00	9,190.59	18.71	31.95	98.23	507.17	387.07	466.89	416.88	50.02	9.335	
10,300.00	9,182.22	9,727.00	9,190.59	19.50	31.95	99.41	507.17	387.07	522.90	472.22	50.69	10.316	
10,400.00	9,182.74	9,727.00	9,190.59	20.92	31.95	103.29	507.17	387.07	622.36	570.84	51.52	12.080	
10,503.37	9,183.28	9,727.00	9,190.59	22.40	31.95	116.06	507.17	387.07	725.56	675.76	49.81	14.568	
10,600.00	9,183.79	9,727.00	9,190.59	23.80	31.95	116.06	507.17	387.07	822.15	771.08	51.07	16.099	
10,700.00	9,184.31	9,727.00	9,190.59	25.24	31.95	116.06	507.17	387.07	922.10	869.72	52.38	17.604	
10,800.00	9,184.84	9,727.00	9,190.59	26.69	31.95	116.06	507.17	387.07	1,022.07	968.37	53.70	19.033	
10,900.00	9,185.36	9,727.00	9,190.59	28.14	31.95	116.06	507.17	387.07	1,122.04	1,067.02	55.02	20.393	
11,000.00	9,185.88	9,727.00	9,190.59	29.59	31.95	116.06	507.17	387.07	1,222.02	1,165.67	56.34	21.688	
11,100.00	9,186.41	9,727.00	9,190.59	31.04	31.95	116.06	507.17	387.07	1,322.00	1,264.33	57.67	22.923	
11,200.00	9,186.93	9,727.00	9,190.59	32.50	31.95	116.06	507.17	387.07	1,421.98	1,362.98	59.00	24.101	
11,300.00	9,187.46	9,727.00	9,190.59	33.95	31.95	116.06	507.17	387.07	1,521.97	1,461.63	60.33	25.226	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Marathon Oil Permian, LLC	Local 2 - 23-27-20 - OH - OH	Well WA #6H
Project:	Eddy County, NM (NAD27)	Survey Method	KB = 25' @ 3206.00usft (Precision 594)
Reference Site:	Sterling State 23-27-20	Stationing	KB = 25' @ 3206.00usft (Precision 594)
Site Error:	0.00 usft	Reference Station	Grid
Reference Well:	WA #6H	Survey Method	Minimum Curvature
Well Error:	0.00 usft	Stationing	2.00 sigma
Reference Well Error:	ST1	Stationing	Midland District
Reference Station:	ST Plan #1	Offset TVD Reference	Offset Datum

Sterling State 23-27-20 - WA #6H - OH - OH													Offset Site Error	0.00 usft
													Offset TVD Error	0.00 usft
Station	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Stationing	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)		
11,400.00	9,187.98	9,727.00	9,190.59	35.40	31.95	116.06	507.17	387.07	1,621.95	1,560.29	61.67	26.302		
11,500.00	9,188.50	9,727.00	9,190.59	36.85	31.95	116.06	507.17	387.07	1,721.94	1,658.94	63.00	27.331		
11,600.00	9,189.03	9,727.00	9,190.59	38.31	31.95	116.06	507.17	387.07	1,821.93	1,757.59	64.34	28.318		
11,700.00	9,189.55	9,727.00	9,190.59	39.76	31.95	116.06	507.17	387.07	1,921.92	1,856.25	65.68	29.263		
11,800.00	9,190.07	9,727.00	9,190.59	41.22	31.95	116.06	507.17	387.07	2,021.92	1,954.90	67.02	30.170		
11,900.00	9,190.60	9,727.00	9,190.59	42.67	31.95	116.06	507.17	387.07	2,121.91	2,053.55	68.36	31.041		
12,000.00	9,191.12	9,727.00	9,190.59	44.13	31.95	116.06	507.17	387.07	2,221.90	2,152.20	69.70	31.878		
12,100.00	9,191.64	9,727.00	9,190.59	45.58	31.95	116.06	507.17	387.07	2,321.89	2,250.85	71.04	32.684		
12,200.00	9,192.17	9,727.00	9,190.59	47.04	31.95	116.06	507.17	387.07	2,421.89	2,349.50	72.38	33.459		
12,300.00	9,192.69	9,727.00	9,190.59	48.50	31.95	116.06	507.17	387.07	2,521.88	2,448.16	73.73	34.205		
12,400.00	9,193.21	9,727.00	9,190.59	49.95	31.95	116.06	507.17	387.07	2,621.88	2,546.81	75.07	34.924		
12,500.00	9,193.74	9,727.00	9,190.59	51.41	31.95	116.06	507.17	387.07	2,721.87	2,645.46	76.42	35.618		
12,600.00	9,194.26	9,727.00	9,190.59	52.87	31.95	116.06	507.17	387.07	2,821.87	2,744.11	77.76	36.288		
12,700.00	9,194.79	9,727.00	9,190.59	54.32	31.95	116.06	507.17	387.07	2,921.87	2,842.76	79.11	36.934		
12,800.00	9,195.31	9,727.00	9,190.59	55.78	31.95	116.06	507.17	387.07	3,021.86	2,941.41	80.46	37.559		
12,900.00	9,195.83	9,727.00	9,190.59	57.24	31.95	116.06	507.17	387.07	3,121.86	3,040.06	81.80	38.163		
13,000.00	9,196.36	9,727.00	9,190.59	58.69	31.95	116.06	507.17	387.07	3,221.86	3,138.71	83.15	38.747		
13,100.00	9,196.88	9,727.00	9,190.59	60.15	31.95	116.06	507.17	387.07	3,321.85	3,237.35	84.50	39.312		
13,200.00	9,197.40	9,727.00	9,190.59	61.61	31.95	116.06	507.17	387.07	3,421.85	3,336.00	85.85	39.860		
13,300.00	9,197.93	9,727.00	9,190.59	63.07	31.95	116.06	507.17	387.07	3,521.85	3,434.65	87.20	40.390		
13,400.00	9,198.45	9,727.00	9,190.59	64.52	31.95	116.06	507.17	387.07	3,621.85	3,533.30	88.54	40.904		
13,500.00	9,198.97	9,727.00	9,190.59	65.98	31.95	116.06	507.17	387.07	3,721.84	3,631.95	89.89	41.403		
13,600.00	9,199.50	9,727.00	9,190.59	67.44	31.95	116.06	507.17	387.07	3,821.84	3,730.60	91.24	41.886		
13,635.65	9,199.68	9,727.00	9,190.59	67.96	31.95	116.06	507.17	387.07	3,857.49	3,765.77	91.72	42.055		
13,680.65	9,199.92	9,727.00	9,190.59	68.61	31.95	116.06	507.17	387.07	3,902.49	3,810.16	92.33	42.266		

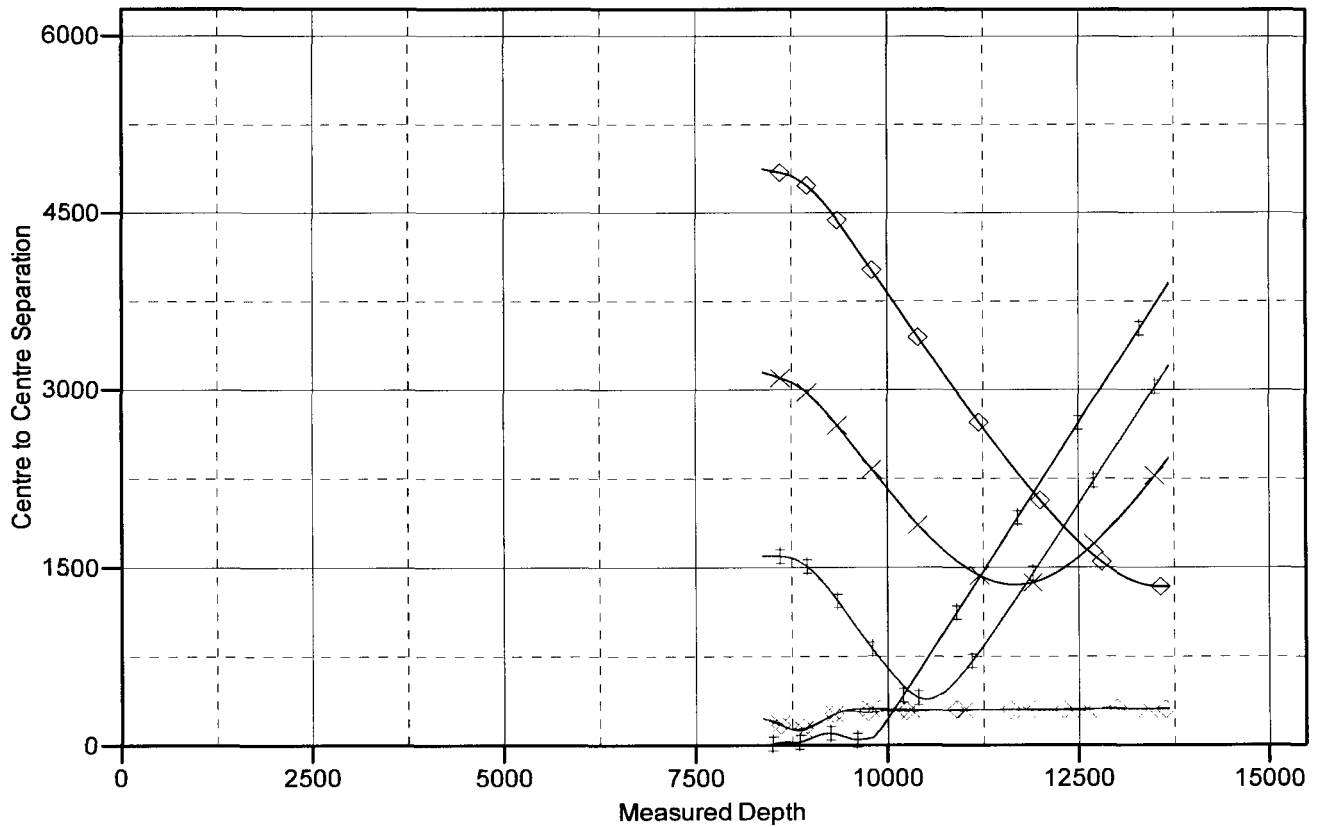
Anticollision Report

Company	Marathon Oil Permian, LLC	Well	Well WA #6H
Project	Eddy County, NM (NAD27)	KB = 25' @ 3206.00usft (Precision 594)	
Reference Well	Sterling State 23-27-20	KB = 25' @ 3206.00usft (Precision 594)	
ST Plan	0.00 usft	Grid	
Reference Well	WA #6H	Minimum Curvature	
Wellbore	0.00 usft	2.00 sigma	
Reference Wellbore	ST1	Midland District	
Reference Design	ST Plan #1	Offset Datum	

Reference Depths are relative to KB = 25' @ 3206.00usft (Precision 59)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: WA #6H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.07°

Ladder Plot



LEGEND

- ✕ TB #4H, OH, Plan #3 V0
- ◆ WA #6H, OH, OH V0
- #1H, OH, Plan #1 V0
- ◻ TB #4H, OH, OH V0
- ▲ Sterling State #1, As-Drilled, As-Drilled V0
- * #2H, OH, Plan #1 V0

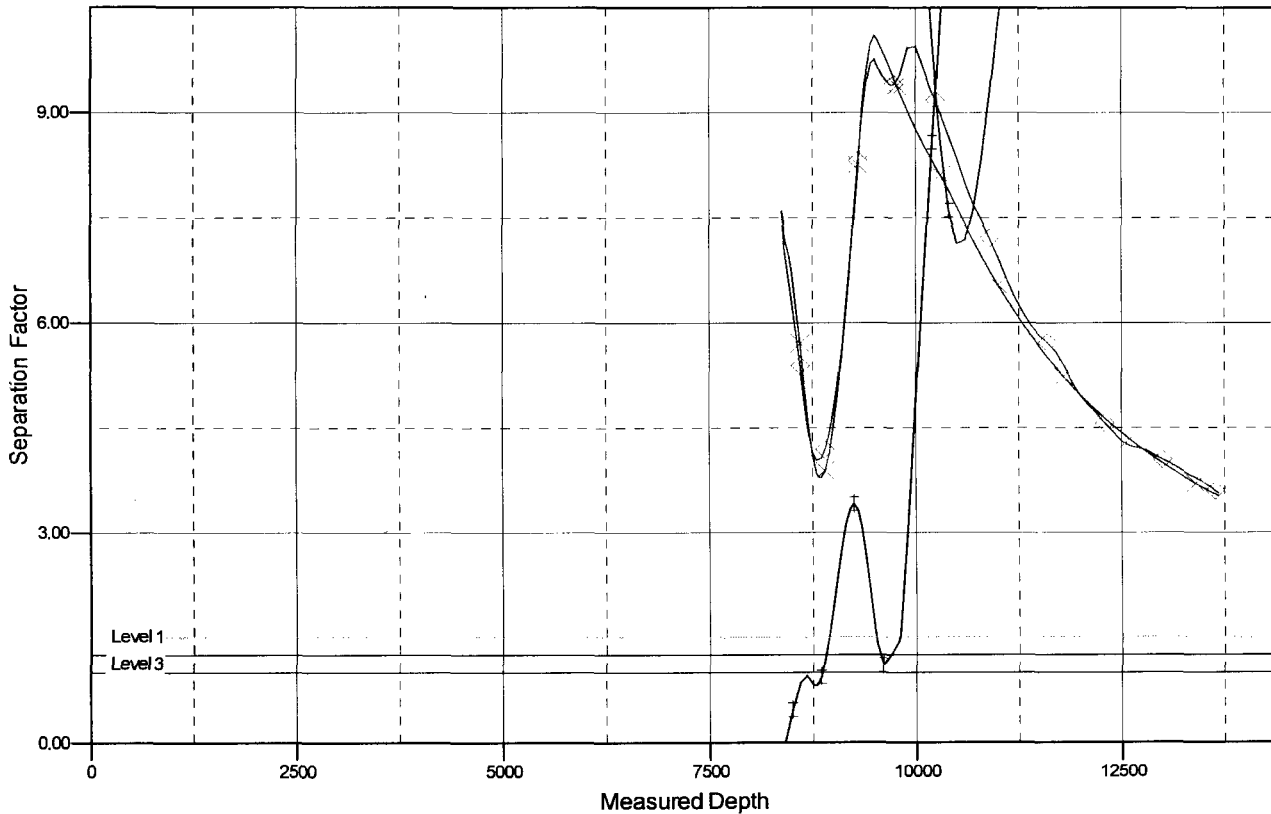
Anticollision Report

Company	Marathon Oil Permian, LLC	Well WA #6H
Project	Eddy County, NM (NAD27)	KB = 25' @ 3206.00usft (Precision 594)
Reference Well	Sterling State 23-27-20	KB = 25' @ 3206.00usft (Precision 594)
Well Plan	0.00 usft	Grid
Reference Well	WA #6H	Minimum Curvature
Well Plan	0.00 usft	2.00 sigma
Reference Well	ST1	Midland District
Well Plan	ST Plan #1	Offset Datum

Reference Depths are relative to KB = 25' @ 3206.00usft (Precision 59)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: WA #6H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.07°

Separation Factor Plot



LEGEND

- ✕ TB #4H, OH, Plan #3 V0
- ✕ WA #6H, OH, OH V0
- ✕ #1H, OH, Plan #1 V0
- ✕ TB #4H, OH, OH V0
- ✕ Sterling State #1, As-Drilled, As-Drilled V0
- ✕ #2H, OH, Plan #1 V0

EDDY COUNTY, NM (NAD27)
STERLING STATE 23-27-20
WA #6H
ST1
ST PLAN #1
PRECISION 594

GL ELEV.: 5181.00
DEPTH REF. X/B = 25' @ 3206.000/ST (PRECISION 594)

WELL DETAILS:

4N-S 0.00 4E-W 0.00 NORTHING 467254.93 EASTING 538852.63 LATITUDE 32° 17' 4.336 N LONGITUDE 107° 27.397 W

SECTION DETAILS

NO	IN	AZ	TVD	+N-S	+E-W	DLEG	TRACE	ISCT	TARGET
837.00	3.20	159.59	837.46	-319.96	359.77	0.45	85.91	-319.96	
840.00	6.20	275.00	839.83	-320.23	359.24	58.45	150.11	-320.23	
8465.00	6.20	275.00	845.94	-316.73	353.86	0.00	0.00	-319.73	
8466.00	6.20	275.00	845.94	-316.73	353.86	0.00	0.00	-319.73	
8466.35	5.00	357.30	84655.16	-300.08	341.97	0.00	0.00	-309.06	
9528.37	89.73	359.00	9178.18	258.58	330.67	10.60	2.01	258.58	
9778.37	89.73	359.00	9179.48	508.54	326.11	0.00	0.00	508.54	
10243.37	89.73	359.00	9181.92	977.55	353.95	0.00	0.00	977.55	
10503.37	89.73	359.00	983.28	1232.26	361.84	2.00	-90.31	1232.26	
10538.65	89.73	359.80	9199.68	4366.48	350.90	0.00	0.00	4366.48	
12860.65	89.73	359.80	9795.92	4409.48	350.90	0.00	0.00	4409.48	

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Nothing	Easting
FTPS/WASH	9189.00	-278.34	425.33	469778.01	539277.92
FTPS/WASH	9189.00	-278.34	425.33	469778.01	539277.92
FTPS/WASH	9189.00	-278.34	425.33	469778.01	539277.92

SITE DETAILS: STERLING STATE 23-27-20
SITE CENTRE NORTHING: 467254.93
EASTING: 538852.63

POSITIONAL UNCERTAINTY: 0.00
CONVERGENCE: 0.07
LOCAL NORTH: GRID

PROJECT DETAILS: EDDY COUNTY, NM (NAD27)
SYSTEM: US STATE PLANE 1927 (NAD27)
DATUM: NAD 1927 (NAD27)
ELLIPSOID: CLARKE 1866
ZONE: NEW MEXICO EAST 3001
SYSTEM DATUM: MEAN SEA LEVEL

FORMATION TOP DETAILS

NO FORMATION DATA IS AVAILABLE

MAP SYSTEM: US STATE PLANE 1927 (EXACT SOLUTION)

DATUM: NAD 1927 (NAD27)

ELLIPSOID: CLARKE 1866

ZONE: NEW MEXICO EAST 3001

LOCAL ORIGIN: TELL WA 854, 00N NORTH

LATITUDE: 32° 17' 4.336 N

LONGITUDE: 107° 27.397 W

GRID EAST: 538852.63

GRID NORTH: 467254.93

SCALE FACTOR: 1.00

GEOMAGNETIC MODEL: IGRF08

SAMPLE DATE: 07-14-18

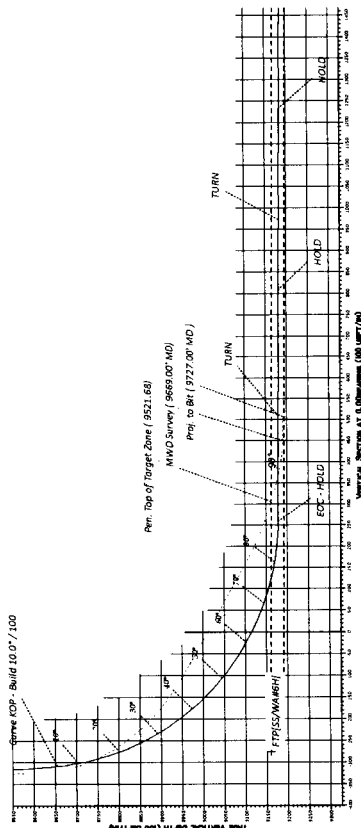
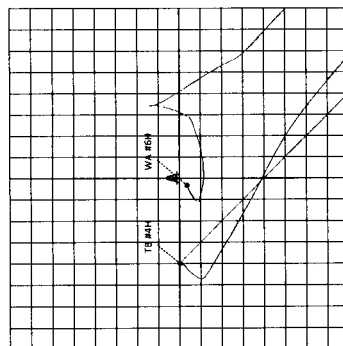
MAGNETIC DECLINATION: 7.33° W

MAGNETIC FIELD STRENGTH: 48000

TO CONVERT MAGNETIC NORTH TO GRID, ADD 7.33°

TO CONVERT MAGNETIC NORTH TO TRUE, ADD 7.37° EAST

TO CONVERT TRUE NORTH TO GRID, SUBTRACT 0.07°



Surface KOP - Build 10.0°/100

FTPS/WASH



Scientific Drilling