

NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 27 2017

RECEIVED

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SEP 27 2017
ARTESIA DISTRICT
NM OIL CONSERVATION

Marathon Oil Permian, LLC

Eddy County, NM (NAD27)

Black River

15-10 State ComX 7H

30-015-44456

OH

Plan: Plan#1

Standard Planning Report

15 September, 2017



www.scientificdrilling.com

Planning Report

Database:	Midland District	Local Coordinate Reference:	Well 15-10 State Com X 7H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 28' @257.00usft (Paterson 244)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 28' @257.00usft (Paterson 244)
Site:	Black River	North Reference:	Grid
Well:	15-10 StateCom X 7H	Survey/Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Eddy County, NM (NAD27)		
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		Using geodetic scale factor

Site	Black River		
Site Position:		Northing:	440,342.60 usft
From:	Map	Easting:	549,619.27 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 12' 37.862 N
		Longitude:	104° 10'22.443 W
		Grid Convergence:	0.09 °

Well	15-10 StateCom X 7H		
Well Position	+N/-S	17.05 usft	Northing: 440,359.65 usft
	+E/-W	-966.53 usft	Easting: 548,652.83 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 12' 38.044 N
		Longitude:	104° 10'33.692 W
		Ground Level:	3,229.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	9/15/2017	7.38
			Dip Angle (°)
			60.00
			Field Strength (nT)
			48,048

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (bearing)
			0.09

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,125.00	2.50	180.10	1,124.96	-2.73	0.00	2.00	2.00	0.00	180.10	
4,175.00	2.50	180.10	4,172.06	-135.77	-0.24	0.00	0.00	0.00	0.00	
6,959.64	2.50	180.10	6,954.05	-257.23	-0.45	0.00	0.00	0.00	0.00	
7,884.64	90.00	0.09	7,552.00	315.18	0.43	10.00	9.46	19.46	179.99	
17,552.09	90.00	0.09	7,552.00	9,982.62	15.35	0.00	0.00	0.00	0.00	BHL[15-10X7H]

Planning Report

Database:	Midland District	Local Coordinate Reference:	Well 15-10 State Com X 7H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 28' @257.00usft (Patterson 244)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 28' @257.00usft (Patterson 244)
Site:	Black River	North Reference:	Grid
Well:	15-10 StateCom X 7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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
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
KOP - Build 2.0 / 10									
1,100.00	2.00	180.10	1,099.98	-1.75	0.00	-1.75	2.00	2.00	0.00
1,125.00	2.50	180.10	1,124.96	-2.73	0.00	-2.73	2.00	2.00	0.00
EOB - 10LD									
1,200.00	2.50	180.10	1,199.89	-6.00	-0.01	-6.00	0.00	0.00	0.00
1,300.00	2.50	180.10	1,299.79	-10.36	-0.02	-10.36	0.00	0.00	0.00
1,400.00	2.50	180.10	1,399.70	-14.72	-0.03	-14.72	0.00	0.00	0.00
1,500.00	2.50	180.10	1,499.60	-19.08	-0.03	-19.08	0.00	0.00	0.00
1,600.00	2.50	180.10	1,599.51	-23.45	-0.04	-23.45	0.00	0.00	0.00
1,700.00	2.50	180.10	1,699.41	-27.81	-0.05	-27.81	0.00	0.00	0.00
1,800.00	2.50	180.10	1,799.32	-32.17	-0.06	-32.17	0.00	0.00	0.00
1,900.00	2.50	180.10	1,899.22	-36.53	-0.06	-36.53	0.00	0.00	0.00
2,000.00	2.50	180.10	1,999.13	-40.89	-0.07	-40.89	0.00	0.00	0.00
2,100.00	2.50	180.10	2,099.03	-45.26	-0.08	-45.26	0.00	0.00	0.00
2,200.00	2.50	180.10	2,198.94	-49.62	-0.09	-49.62	0.00	0.00	0.00
2,300.00	2.50	180.10	2,298.84	-53.98	-0.09	-53.98	0.00	0.00	0.00
2,400.00	2.50	180.10	2,398.75	-58.34	-0.10	-58.34	0.00	0.00	0.00
2,500.00	2.50	180.10	2,498.65	-62.70	-0.11	-62.70	0.00	0.00	0.00
2,600.00	2.50	180.10	2,598.56	-67.07	-0.12	-67.07	0.00	0.00	0.00
2,700.00	2.50	180.10	2,698.46	-71.43	-0.12	-71.43	0.00	0.00	0.00
2,800.00	2.50	180.10	2,798.37	-75.79	-0.13	-75.79	0.00	0.00	0.00
2,900.00	2.50	180.10	2,898.27	-80.15	-0.14	-80.15	0.00	0.00	0.00
3,000.00	2.50	180.10	2,998.18	-84.51	-0.15	-84.51	0.00	0.00	0.00
3,100.00	2.50	180.10	3,098.08	-88.87	-0.16	-88.87	0.00	0.00	0.00
3,200.00	2.50	180.10	3,197.99	-93.24	-0.16	-93.24	0.00	0.00	0.00
3,300.00	2.50	180.10	3,297.89	-97.60	-0.17	-97.60	0.00	0.00	0.00
3,400.00	2.50	180.10	3,397.80	-101.96	-0.18	-101.96	0.00	0.00	0.00
3,500.00	2.50	180.10	3,497.70	-106.32	-0.19	-106.32	0.00	0.00	0.00
3,600.00	2.50	180.10	3,597.60	-110.68	-0.19	-110.68	0.00	0.00	0.00
3,700.00	2.50	180.10	3,697.51	-115.05	-0.20	-115.05	0.00	0.00	0.00
3,800.00	2.50	180.10	3,797.41	-119.41	-0.21	-119.41	0.00	0.00	0.00
3,900.00	2.50	180.10	3,897.32	-123.77	-0.22	-123.77	0.00	0.00	0.00
4,000.00	2.50	180.10	3,997.22	-128.13	-0.22	-128.13	0.00	0.00	0.00
4,100.00	2.50	180.10	4,097.13	-132.49	-0.23	-132.49	0.00	0.00	0.00
4,175.00	2.50	180.10	4,172.06	-135.77	-0.24	-135.77	0.00	0.00	0.00
4,200.00	2.50	180.10	4,197.03	-136.86	-0.24	-136.86	0.00	0.00	0.00
4,300.00	2.50	180.10	4,296.94	-141.22	-0.25	-141.22	0.00	0.00	0.00
4,400.00	2.50	180.10	4,396.84	-145.58	-0.25	-145.58	0.00	0.00	0.00
4,500.00	2.50	180.10	4,496.75	-149.94	-0.26	-149.94	0.00	0.00	0.00
4,600.00	2.50	180.10	4,596.65	-154.30	-0.27	-154.30	0.00	0.00	0.00
4,700.00	2.50	180.10	4,696.56	-158.67	-0.28	-158.67	0.00	0.00	0.00
4,800.00	2.50	180.10	4,796.46	-163.03	-0.28	-163.03	0.00	0.00	0.00
4,900.00	2.50	180.10	4,896.37	-167.39	-0.29	-167.39	0.00	0.00	0.00

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Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 28' @3257.00usft (Paterson 244)
Site:	Black River	North Reference:	Grid
Well:	15-10 StateCom X 7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,000.00	2.50	180.10	4,996.27	-171.75	-0.30	-171.75	0.00	0.00	0.00
5,100.00	2.50	180.10	5,096.18	-176.11	-0.31	-176.11	0.00	0.00	0.00
5,200.00	2.50	180.10	5,196.08	-180.48	-0.31	-180.48	0.00	0.00	0.00
5,300.00	2.50	180.10	5,295.99	-184.84	-0.32	-184.84	0.00	0.00	0.00
5,400.00	2.50	180.10	5,395.89	-189.20	-0.33	-189.20	0.00	0.00	0.00
5,500.00	2.50	180.10	5,495.80	-193.56	-0.34	-193.56	0.00	0.00	0.00
5,600.00	2.50	180.10	5,595.70	-197.92	-0.35	-197.92	0.00	0.00	0.00
5,700.00	2.50	180.10	5,695.61	-202.29	-0.35	-202.29	0.00	0.00	0.00
5,800.00	2.50	180.10	5,795.51	-206.65	-0.36	-206.65	0.00	0.00	0.00
5,900.00	2.50	180.10	5,895.42	-211.01	-0.37	-211.01	0.00	0.00	0.00
6,000.00	2.50	180.10	5,995.32	-215.37	-0.38	-215.37	0.00	0.00	0.00
6,100.00	2.50	180.10	6,095.23	-219.73	-0.38	-219.73	0.00	0.00	0.00
6,200.00	2.50	180.10	6,195.13	-224.09	-0.39	-224.10	0.00	0.00	0.00
6,300.00	2.50	180.10	6,295.04	-228.46	-0.40	-228.46	0.00	0.00	0.00
6,400.00	2.50	180.10	6,394.94	-232.82	-0.41	-232.82	0.00	0.00	0.00
6,500.00	2.50	180.10	6,494.84	-237.18	-0.41	-237.18	0.00	0.00	0.00
6,600.00	2.50	180.10	6,594.75	-241.54	-0.42	-241.54	0.00	0.00	0.00
6,700.00	2.50	180.10	6,694.65	-245.90	-0.43	-245.90	0.00	0.00	0.00
6,800.00	2.50	180.10	6,794.56	-250.27	-0.44	-250.27	0.00	0.00	0.00
6,900.00	2.50	180.10	6,894.46	-254.63	-0.44	-254.63	0.00	0.00	0.00
6,959.64	2.50	180.10	6,954.05	-257.23	-0.45	-257.23	0.00	0.00	0.00
Curve IOP - Bld 10.0° / 80									
7,000.00	1.54	0.07	6,994.40	-257.57	-0.45	-257.57	10.00	-2.39	445.91
7,050.00	6.54	0.08	7,044.26	-254.05	-0.44	-254.05	10.00	10.00	0.03
7,100.00	11.54	0.09	7,093.62	-246.20	-0.43	-246.20	10.00	10.00	0.00
7,150.00	16.54	0.09	7,142.11	-234.08	-0.41	-234.08	10.00	10.00	0.00
7,200.00	21.54	0.09	7,189.36	-217.78	-0.39	-217.78	10.00	10.00	0.00
7,250.00	26.54	0.09	7,235.01	-197.42	-0.36	-197.42	10.00	10.00	0.00
7,300.00	31.54	0.09	7,278.72	-173.16	-0.32	-173.16	10.00	10.00	0.00
7,350.00	36.54	0.09	7,320.14	-145.18	-0.28	-145.18	10.00	10.00	0.00
7,400.00	41.54	0.09	7,358.96	-113.70	-0.23	-113.70	10.00	10.00	0.00
7,450.00	46.54	0.09	7,394.90	-78.96	-0.18	-78.96	10.00	10.00	0.00
7,500.00	51.54	0.09	7,427.67	-41.21	-0.12	-41.21	10.00	10.00	0.00
7,550.00	56.54	0.09	7,457.02	-0.76	-0.06	-0.76	10.00	10.00	0.00
7,600.00	61.54	0.09	7,482.74	42.10	0.01	42.10	10.00	10.00	0.00
7,646.23	66.16	0.09	7,503.11	83.59	0.07	83.59	10.00	10.00	0.00
FTP[15-10X7H]									
7,650.00	66.54	0.09	7,504.62	87.04	0.08	87.04	10.00	10.00	0.00
7,700.00	71.54	0.09	7,522.50	133.72	0.15	133.72	10.00	10.00	0.00
7,750.00	76.54	0.09	7,536.25	181.77	0.22	181.77	10.00	10.00	0.00
7,800.00	81.54	0.09	7,545.76	230.85	0.30	230.85	10.00	10.00	0.00
7,850.00	86.54	0.09	7,550.95	280.56	0.38	280.56	10.00	10.00	0.00
7,884.64	90.00	0.09	7,552.00	315.18	0.43	315.18	10.00	10.00	0.00
EOC - BLD									
7,900.00	90.00	0.09	7,552.00	330.54	0.45	330.54	0.00	0.00	0.00
8,000.00	90.00	0.09	7,552.00	430.54	0.61	430.54	0.00	0.00	0.00
8,100.00	90.00	0.09	7,552.00	530.54	0.76	530.54	0.00	0.00	0.00
8,200.00	90.00	0.09	7,552.00	630.54	0.92	630.54	0.00	0.00	0.00
8,300.00	90.00	0.09	7,552.00	730.54	1.07	730.54	0.00	0.00	0.00
8,400.00	90.00	0.09	7,552.00	830.54	1.22	830.54	0.00	0.00	0.00
8,500.00	90.00	0.09	7,552.00	930.54	1.38	930.54	0.00	0.00	0.00
8,600.00	90.00	0.09	7,552.00	1,030.54	1.53	1,030.54	0.00	0.00	0.00
8,700.00	90.00	0.09	7,552.00	1,130.54	1.69	1,130.54	0.00	0.00	0.00

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, Artesia, NM 88210
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
ARTESIA DISTRICT
Submit one copy to appropriate District Office
SEP 27 2017
☐ AMENDED REPORT
RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	98220	BONE SPRING
Property Code	Property Name	Well Number
	BLACK RIVER 15-10 STATE COM X	7H
OGRIID No.	Operator Name	Elevation
372098	MARATHON OIL PERMIAN LLC	3229'

" Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	15	T24S	R27E		270'	SOUTH	2038'	EAST	EDDY

" 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
B	10	T24S	R27E		330'	NORTH	1974'	EAST	EDDY

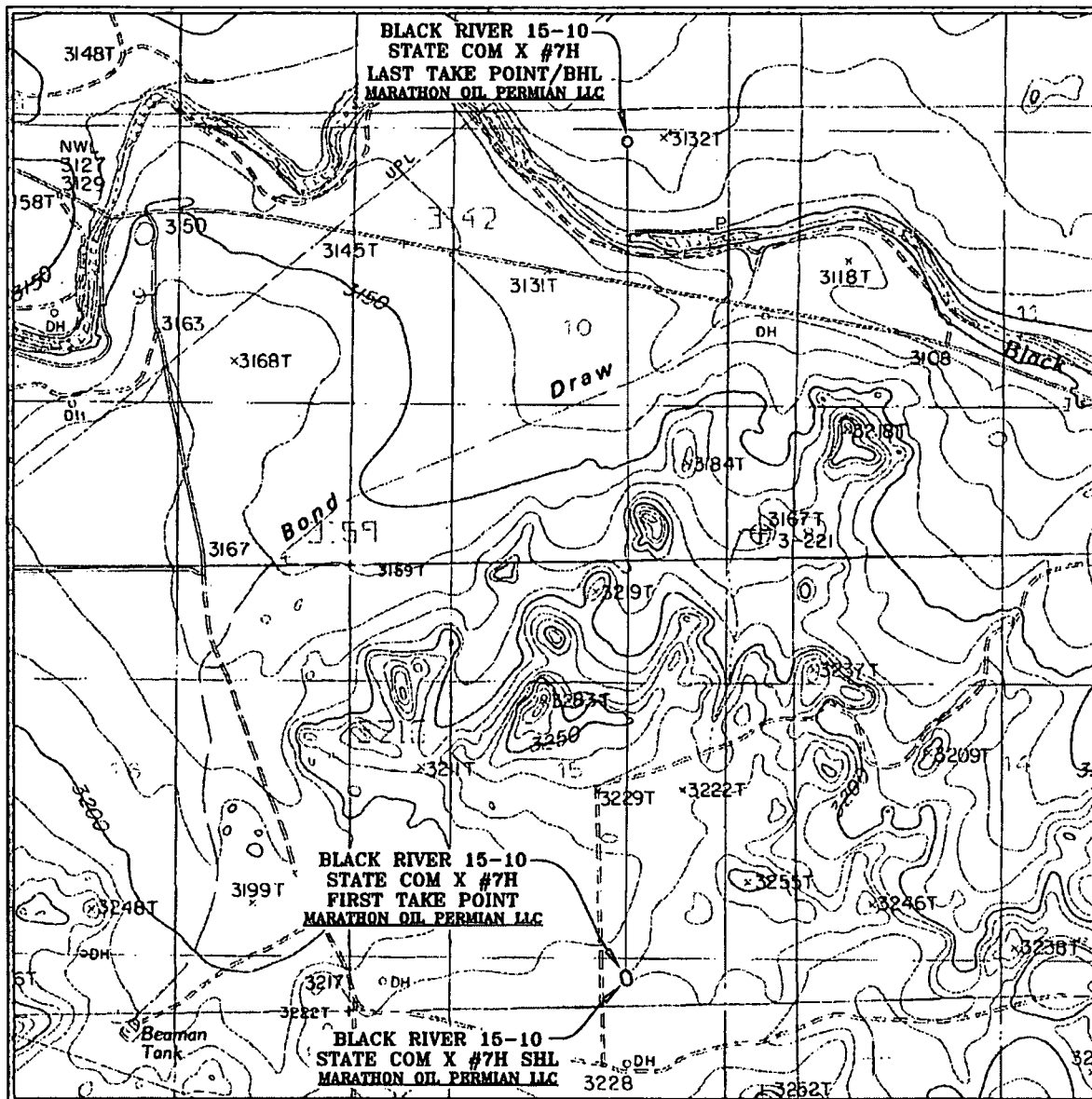
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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.

SECTION 4 SECTION 9 LAST TAKE POINT/BOTTOM HOLE LOCATION 330' FSL 1974' FEL, SECTION 10 NAD 83, SPCS NM EAST Y430399.71 / X589830.93 LAT32.23812770N / LON104.17642559W NAD 27, SPCS NM EAST Y430341.39 / X548668.18 LAT32.23800749N / LON104.17592866W		SECTION 3 SECTION 10 SECTION 11		" 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 undivided 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: <i>[Signature]</i> Date: 9/26/2017 Printed Name: MELISSA SZUDERA E-mail Address: MSZUDERA@MARATHONOIL.COM	
SECTION 9 SECTION 16 FIRST TAKE POINT 330' FSL 2053' FEL, SECTION 15 NAD 83, SPCS NM EAST Y440478.05 / X589819.50 LAT32.21085383N / LON104.17657405W NAD 27, SPCS NM EAST Y440419.92 / X548636.58 LAT32.21073366N / LON104.17607783V SURFACE HOLE LOCATION 270' FSL 2038' FEL, SECTION 15 NAD 83, SPCS NM EAST Y440417.78 / X589835.79 LAT32.21068814N / LON104.17652585W NAD 27, SPCS NM EAST Y440359.65 / X548632.83 LAT32.21056797N / LON104.17602963V		SECTION 10 SECTION 15 SECTION 14 SECTION 11 SECTION 14 SECTION 14 SECTION 23		" 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. SEPTEMBER 26, 2017 Date of Survey Signature and Seal of Professional Surveyor: <i>[Signature]</i> Certificate Number: 21653	
SECTION 16 SECTION 21 CORNER COORDINATES NAD 83, SPCS NM EAST A - Y: 430743.64 / X: 589192.43 B - Y: 430716.15 / X: 590507.15 C - Y: 440136.88 / X: 590500.75 D - Y: 440139.23 / X: 589132.63		SECTION 15 SECTION 22 CORNER COORDINATES NAD 27, SPCS NM EAST A - Y: 430685.32 / X: 548009.70 B - Y: 430716.15 / X: 590507.15 C - Y: 440078.75 / X: 549317.81 D - Y: 440101.12 / X: 547949.72		PRODUCTION AREA BHL / LAST TAKE POINT P1 FIRST TAKE POINT SHL 270' 330' 330' 2053' 2038'	

SEP 27 2017

LOCATION VERIFICATION MAP RECEIVED



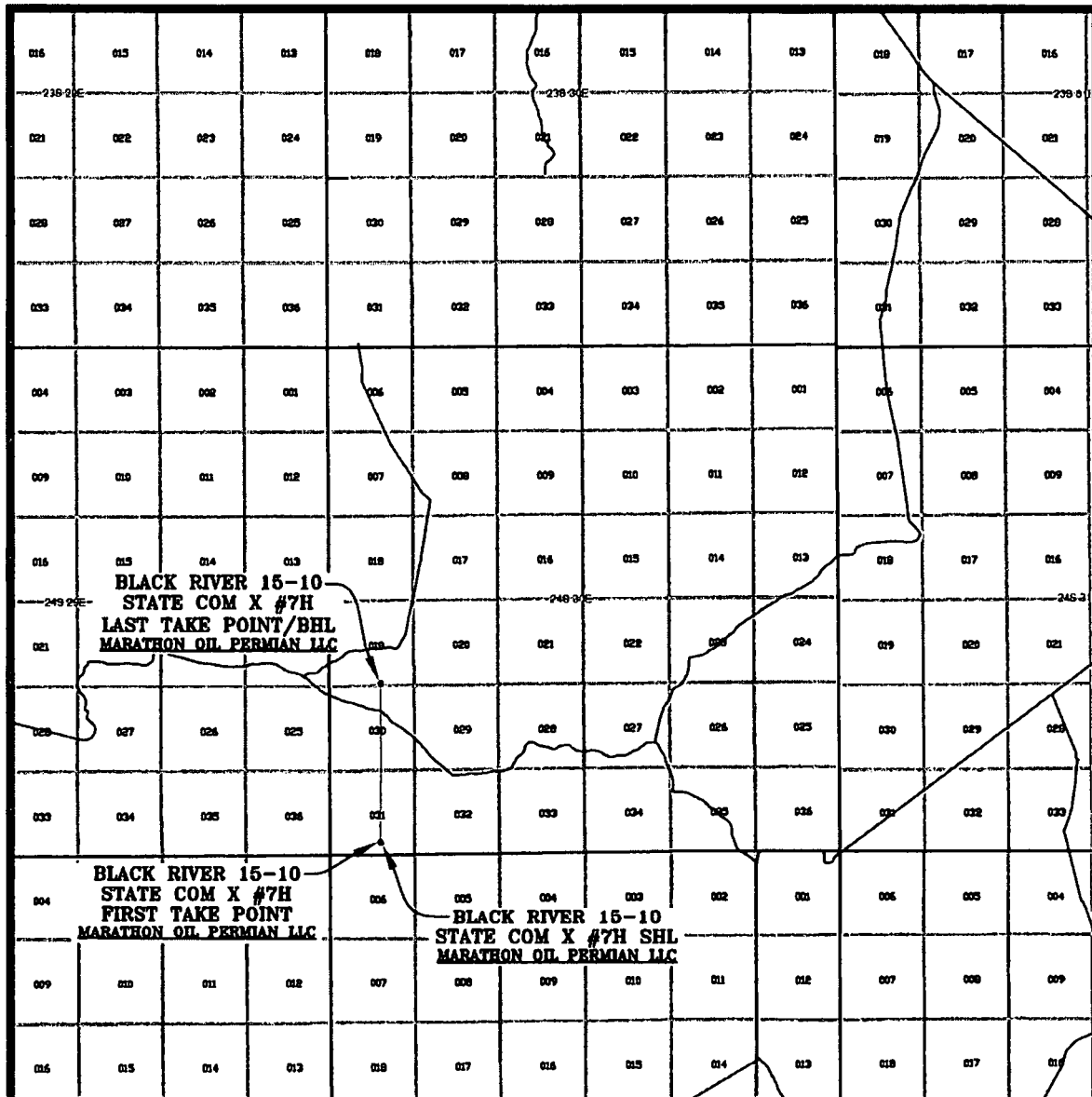
SEC. 15 TWP. 24-S RGE. 27-E
SURVEY: N.M.P.M.
COUNTY: EDDY
DESCRIPTION: 270' FSL & 2038' FEL
ELEVATION: 3229'
OPERATOR: MARATHON OIL PERMIAN LLC
LEASE: BLACK RIVER
U.S.G.S. TOPOGRAPHIC MAP: BOND DRAW, N.M.

SCALE: 1" = 2000'
CONTOUR INTERVAL = 5'

SEP 27 2017

VICINITY MAP

RECEIVED



SEC. 15 TWP. 24-S RGE. 27-E
SURVEY: N.M.P.M.
COUNTY: EDDY
DESCRIPTION: 270' FSL & 2038' FEL
ELEVATION: 3229'
OPERATOR: MARATHON OIL PERMIAN LLC
LEASE: BLACK RIVER
U.S.G.S. TOPOGRAPHIC MAP: BOND DRAW, N.M.

SCALE: 1" = 2 MILES

WELL PAD SURFACE

SEP 27 2017



100' 0' 100' 200'
SCALE: 1" = 200'

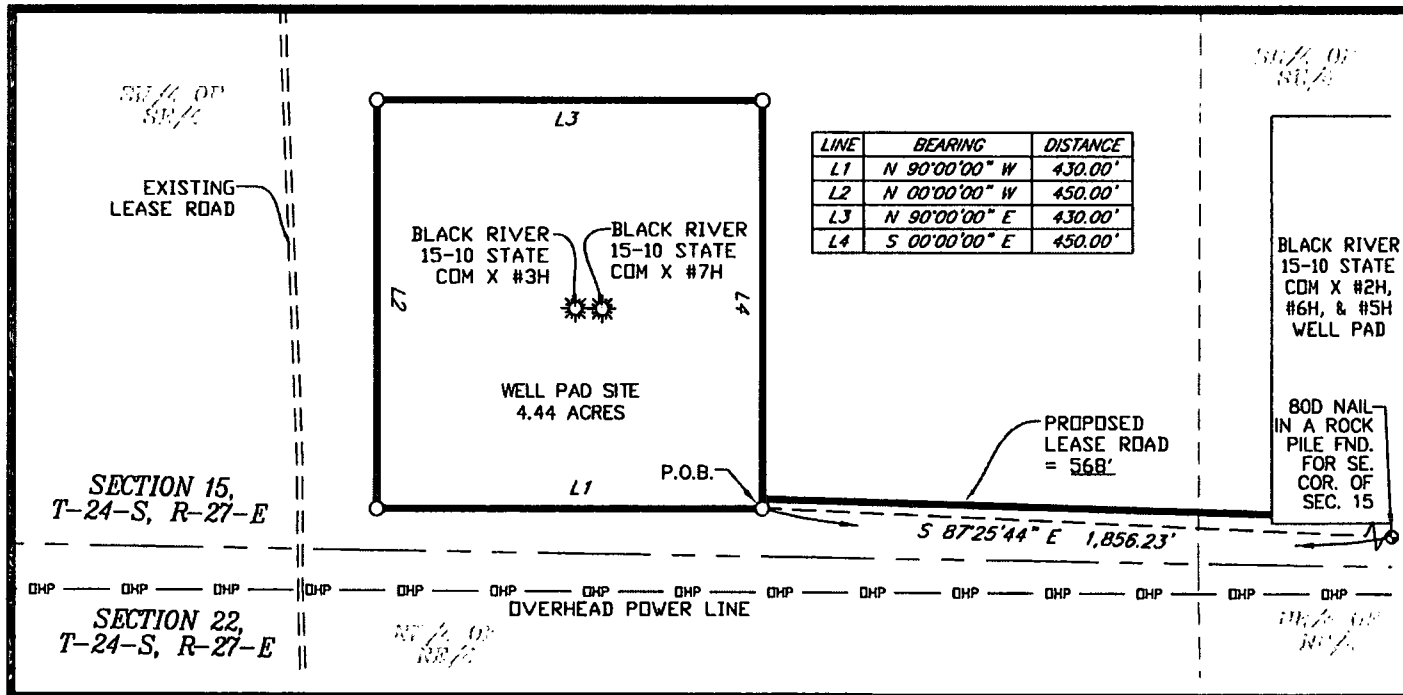
SEC. 15 TWP. 24-S RGE. 27-E

SURVEY: N.M.P.M.

COUNTY: EDDY

U.S.G.S. TOPOGRAPHIC MAP: BOND DRAW, N.M.

RECEIVED



FIELD NOTES DESCRIBING

A tract of land being 4.44 acres. Said tract being located in Section 15, Township 24 South, Range 27 East, New Mexico Principal Meridian, Eddy County, New Mexico.

Being more particularly described by metes and bounds as follows:

BEGINNING at a point from which an 80D nail in a rock pile found for the Southeast corner of said Section 15 bears, S 87°25'44" E a distance of 1,856.23 feet.

THENCE

N 90°00'00" W a distance of 430.00 feet to the Southwest corner of this tract, and
N 00°00'00" W a distance of 450.00 feet to the Northwest corner of this tract, and
N 90°00'00" E a distance of 430.00 feet to the Northeast corner of this tract, and
S 00°00'00" E a distance of 450.00 feet to the **POINT OF BEGINNING**.

The total area of the herein described tract contains 4.44 acres of land.

All bearings and coordinates refer to NAD 83, New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet. (All bearings and distances are grid measurements.)

Title information furnished by Marathon Oil Permian LLC

Reference accompanying Certificate of Survey prepared in conjunction with this legal description for easement.

STATE OF NEW MEXICO
COUNTY OF EDDY

I, Lloyd P. Short, New Mexico Professional Surveyor No. 21653, do hereby certify that this easement survey plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision; that I am responsible for this survey; that this survey meets the minimum standards for surveying in New Mexico; and that it is true and correct to the best of my knowledge and belief. I further certify that this survey is not a land division or subdivision as defined in the New Mexico Subdivision Act and that this instrument is an easement survey plat crossing an existing tract or tracts.



LLOYD P. SHORT, PS No. 21653 DATE: SEPTEMBER 26, 2017

Lloyd P. Short

Marathon Oil
Permian LLC

PLAT FOR A SURFACE SITE ON THE PROPERTY OF
STATE OF NEW MEXICO
EDDY COUNTY, NEW MEXICO

BASIS OF BEARING
ALL BEARINGS AND COORDINATES
REFER TO NAD 83, NEW MEXICO
STATE PLANE COORDINATE
SYSTEM, EAST ZONE, U.S.
SURVEY FEET. (ALL BEARINGS
AND DISTANCES ARE GRID
MEASUREMENTS.)

LEGEND P.O.B. POINT OF BEGINNING

R3784_007

REV.	DATE	DESCRIPTION	BY	CHKD
1	08/07/2017	SHEET 4 OF 7		
2	08/07/2017	DRAWN BY: DEF		
3	08/07/2017	DATE: 08/07/2017		
4		CHECKED BY: LPS		

1309 LOUISVILLE AVE.
MONROE, LA 71201
(318) 323-6900
FAX (318) 382-0064

SEP 27 2017

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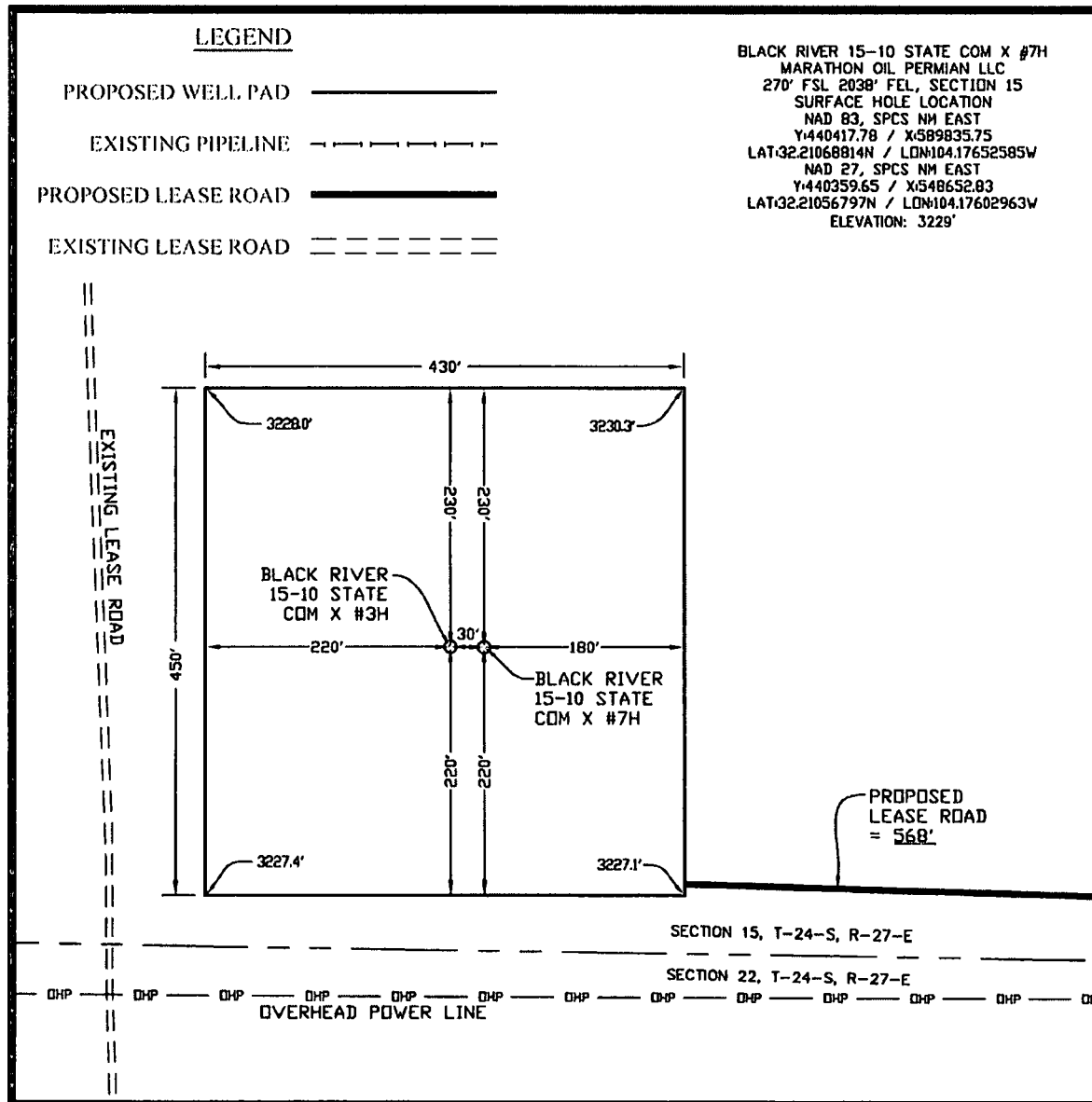
WELL PAD TOPO

SEC. 15 TWP. 24-S RGE. 27-E

SURVEY: N.M.P.M.

COUNTY: EDDY

U.S.G.S. TOPOGRAPHIC MAP: BOND DRAW, N.M.



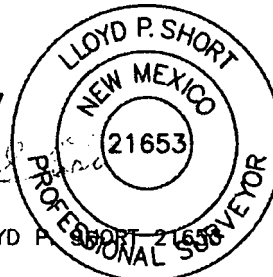
DIRECTIONS TO LOCATION:

FROM THE INTERSECTION OF U.S. HIGHWAY 62/WEST GREENE STREET AND U.S. 180 W./U.S. 62 W./S. CANAL STREET IN CARLSBAD, NEW MEXICO, TRAVEL SOUTH ON U.S. 62 W./S. CANAL STREET FOR 2.0 MILES TO SLIGHT LEFT ONTO U.S.-285 SOUTH. TRAVEL SOUTH ON U.S. 285 SOUTH FOR 11.2 MILES TO HIGHBY HOLE ROAD ON THE RIGHT. TRAVEL SOUTH ON HIGHBY HOLE ROAD FOR 3.3 MILES TO A BLACK RIVER VILLAGE ROAD ON THE RIGHT. TRAVEL WEST ON BLACK RIVER VILLAGE ROAD FOR 3.2 MILES TO A LEASE ROAD ON THE LEFT. TRAVEL SOUTHWEST ON THE LEASE ROAD FOR 1.4 MILES TO A LEASE ROAD ON THE LEFT. TRAVEL SOUTH ON LEASE ROAD FOR 0.5 MILES TO PROPOSED WELL PAD 1,673 FEET ON THE RIGHT.

NOTE:
THIS IS NOT A BOUNDARY SURVEY.
APPARENT PROPERTY CORNERS AND
PROPERTY LINES ARE SHOWN FOR
INFORMATION ONLY. BOUNDARY DATA
SHOWN IS FROM STATE OF NEW MEXICO
OIL CONSERVATION DIVISION FORM C-102
INCLUDED IN THIS SUBMITTAL.

75' 0' 75' 150'
SCALE: 1" = 150'

SEPTEMBER 26, 2017



LLOYD P. SHORT

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6800 OFFICE
JOB No. R3784_007

SEP 27 2017

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WELL PAD LOCATION VERIFICATION MAP



SEC. 15 TWP. 24-S RGE. 27-E
SURVEY: N.M.P.M.
COUNTY: EDDY
DESCRIPTION: 270' FSL & 2038' FEL
ELEVATION: 3229'
OPERATOR: MARATHON OIL PERMIAN LLC
LEASE: BLACK RIVER
U.S.G.S. TOPOGRAPHIC MAP: BOND DRAW, N.M.

SCALE: 1" = 2000'
CONTOUR INTERVAL = 20'

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-8900 OFFICE
JOB No. R3784_007

SEP 27 2017

EXISTING ACCESS ROAD VICINITY MAP

RECEIVED

BLACK RIVER 15-10 STATE COM X #7H

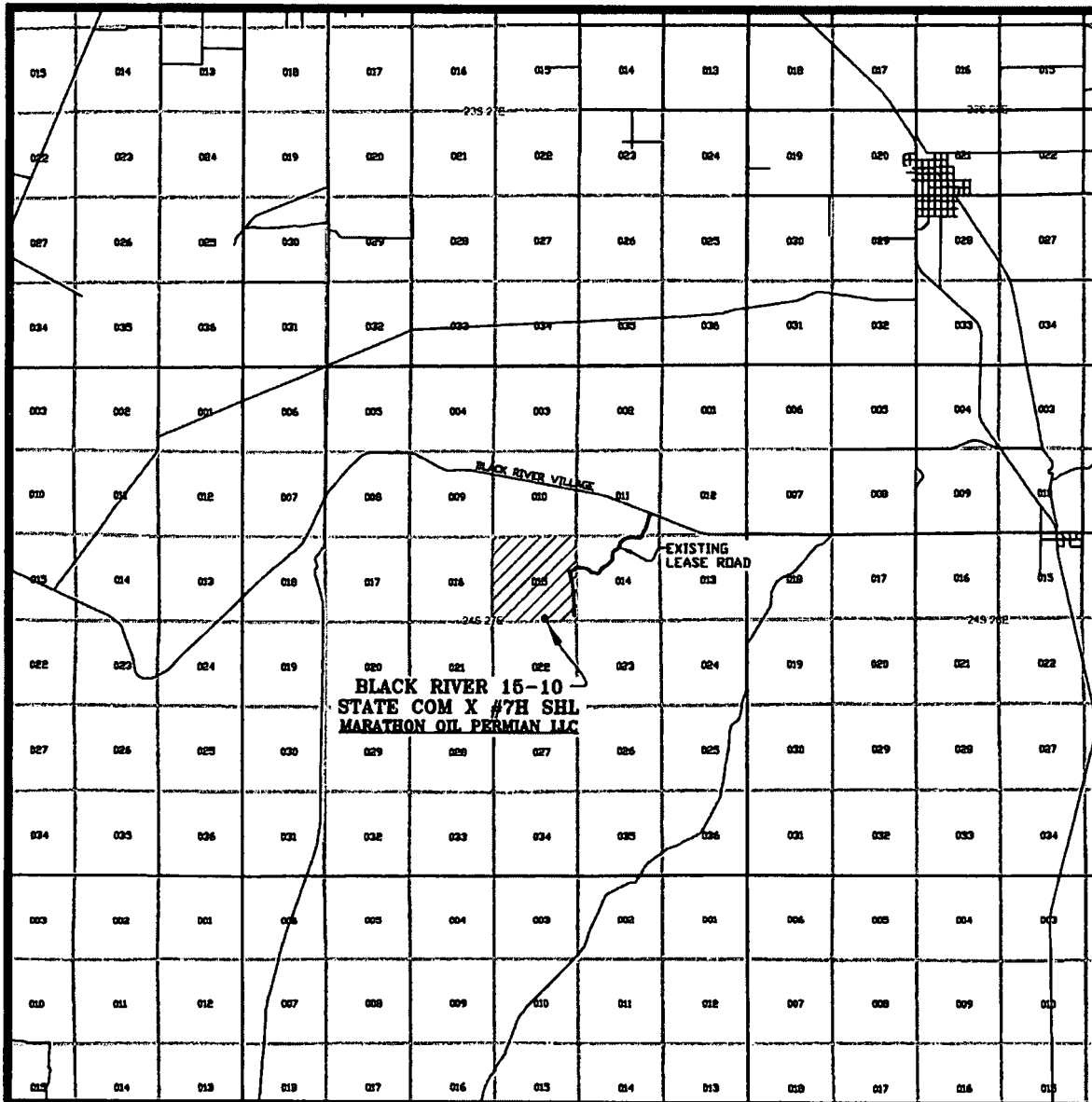
270' FSL & 2038' FEL

SEC. 15 TWP. 24-S RGE. 27-E

SURVEY: N.M.P.M.

COUNTY: EDDY

U.S.G.S. TOPOGRAPHIC MAP: BOND DRAW, N.M.



SCALE: 1" = 2 MILES

Planning Report

Database:	Midland District	Local Coordinate Reference:	Well 15-10 State Com X 7H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 28' @257.00usft (Paterson 244)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 28' @257.00usft (Paterson 244)
Site:	Black River	North Reference:	Grid
Well:	15-10 StateCom X 7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,800.00	90.00	0.09	7,552.00	1,230.54	1.84	1,230.54	0.00	0.00	0.00
8,900.00	90.00	0.09	7,552.00	1,330.54	2.00	1,330.54	0.00	0.00	0.00
9,000.00	90.00	0.09	7,552.00	1,430.54	2.15	1,430.54	0.00	0.00	0.00
9,100.00	90.00	0.09	7,552.00	1,530.54	2.31	1,530.54	0.00	0.00	0.00
9,200.00	90.00	0.09	7,552.00	1,630.54	2.46	1,630.54	0.00	0.00	0.00
9,300.00	90.00	0.09	7,552.00	1,730.54	2.61	1,730.54	0.00	0.00	0.00
9,400.00	90.00	0.09	7,552.00	1,830.54	2.77	1,830.54	0.00	0.00	0.00
9,500.00	90.00	0.09	7,552.00	1,930.54	2.92	1,930.54	0.00	0.00	0.00
9,600.00	90.00	0.09	7,552.00	2,030.54	3.08	2,030.54	0.00	0.00	0.00
9,700.00	90.00	0.09	7,552.00	2,130.54	3.23	2,130.54	0.00	0.00	0.00
9,800.00	90.00	0.09	7,552.00	2,230.54	3.39	2,230.54	0.00	0.00	0.00
9,900.00	90.00	0.09	7,552.00	2,330.54	3.54	2,330.54	0.00	0.00	0.00
10,000.00	90.00	0.09	7,552.00	2,430.54	3.69	2,430.54	0.00	0.00	0.00
10,100.00	90.00	0.09	7,552.00	2,530.54	3.85	2,530.54	0.00	0.00	0.00
10,200.00	90.00	0.09	7,552.00	2,630.54	4.00	2,630.54	0.00	0.00	0.00
10,300.00	90.00	0.09	7,552.00	2,730.54	4.16	2,730.54	0.00	0.00	0.00
10,400.00	90.00	0.09	7,552.00	2,830.54	4.31	2,830.54	0.00	0.00	0.00
10,500.00	90.00	0.09	7,552.00	2,930.54	4.47	2,930.54	0.00	0.00	0.00
10,600.00	90.00	0.09	7,552.00	3,030.54	4.62	3,030.54	0.00	0.00	0.00
10,700.00	90.00	0.09	7,552.00	3,130.54	4.77	3,130.54	0.00	0.00	0.00
10,800.00	90.00	0.09	7,552.00	3,230.54	4.93	3,230.54	0.00	0.00	0.00
10,900.00	90.00	0.09	7,552.00	3,330.54	5.08	3,330.54	0.00	0.00	0.00
11,000.00	90.00	0.09	7,552.00	3,430.54	5.24	3,430.54	0.00	0.00	0.00
11,100.00	90.00	0.09	7,552.00	3,530.54	5.39	3,530.54	0.00	0.00	0.00
11,200.00	90.00	0.09	7,552.00	3,630.53	5.55	3,630.54	0.00	0.00	0.00
11,300.00	90.00	0.09	7,552.00	3,730.53	5.70	3,730.54	0.00	0.00	0.00
11,400.00	90.00	0.09	7,552.00	3,830.53	5.86	3,830.54	0.00	0.00	0.00
11,500.00	90.00	0.09	7,552.00	3,930.53	6.01	3,930.54	0.00	0.00	0.00
11,600.00	90.00	0.09	7,552.00	4,030.53	6.16	4,030.54	0.00	0.00	0.00
11,700.00	90.00	0.09	7,552.00	4,130.53	6.32	4,130.54	0.00	0.00	0.00
11,800.00	90.00	0.09	7,552.00	4,230.53	6.47	4,230.54	0.00	0.00	0.00
11,900.00	90.00	0.09	7,552.00	4,330.53	6.63	4,330.54	0.00	0.00	0.00
12,000.00	90.00	0.09	7,552.00	4,430.53	6.78	4,430.54	0.00	0.00	0.00
12,100.00	90.00	0.09	7,552.00	4,530.53	6.94	4,530.54	0.00	0.00	0.00
12,200.00	90.00	0.09	7,552.00	4,630.53	7.09	4,630.54	0.00	0.00	0.00
12,300.00	90.00	0.09	7,552.00	4,730.53	7.24	4,730.54	0.00	0.00	0.00
12,400.00	90.00	0.09	7,552.00	4,830.53	7.40	4,830.54	0.00	0.00	0.00
12,500.00	90.00	0.09	7,552.00	4,930.53	7.55	4,930.54	0.00	0.00	0.00
12,600.00	90.00	0.09	7,552.00	5,030.53	7.71	5,030.54	0.00	0.00	0.00
12,700.00	90.00	0.09	7,552.00	5,130.53	7.86	5,130.54	0.00	0.00	0.00
12,800.00	90.00	0.09	7,552.00	5,230.53	8.02	5,230.54	0.00	0.00	0.00
12,900.00	90.00	0.09	7,552.00	5,330.53	8.17	5,330.54	0.00	0.00	0.00
13,000.00	90.00	0.09	7,552.00	5,430.53	8.33	5,430.54	0.00	0.00	0.00
13,100.00	90.00	0.09	7,552.00	5,530.53	8.48	5,530.54	0.00	0.00	0.00
13,200.00	90.00	0.09	7,552.00	5,630.53	8.63	5,630.54	0.00	0.00	0.00
13,300.00	90.00	0.09	7,552.00	5,730.53	8.79	5,730.54	0.00	0.00	0.00
13,400.00	90.00	0.09	7,552.00	5,830.53	8.94	5,830.54	0.00	0.00	0.00
13,500.00	90.00	0.09	7,552.00	5,930.53	9.10	5,930.54	0.00	0.00	0.00
13,600.00	90.00	0.09	7,552.00	6,030.53	9.25	6,030.54	0.00	0.00	0.00
13,700.00	90.00	0.09	7,552.00	6,130.53	9.41	6,130.54	0.00	0.00	0.00
13,800.00	90.00	0.09	7,552.00	6,230.53	9.56	6,230.54	0.00	0.00	0.00
13,900.00	90.00	0.09	7,552.00	6,330.53	9.71	6,330.54	0.00	0.00	0.00
14,000.00	90.00	0.09	7,552.00	6,430.53	9.87	6,430.54	0.00	0.00	0.00
14,100.00	90.00	0.09	7,552.00	6,530.53	10.02	6,530.54	0.00	0.00	0.00

Planning Repot

Database:	Midland District	Local Coordinate Reference:	Well 15-10 State Com X 7H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 28' @257.00usft (Patterson 244)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 28' @257.00usft (Patterson 244)
Site:	Black River	North Reference:	Grid
Well:	15-10 StateCom X 7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,200.00	90.00	0.09	7,552.00	6,630.53	10.18	6,630.54	0.00	0.00	0.00
14,300.00	90.00	0.09	7,552.00	6,730.53	10.33	6,730.54	0.00	0.00	0.00
14,400.00	90.00	0.09	7,552.00	6,830.53	10.49	6,830.54	0.00	0.00	0.00
14,500.00	90.00	0.09	7,552.00	6,930.53	10.64	6,930.54	0.00	0.00	0.00
14,600.00	90.00	0.09	7,552.00	7,030.53	10.79	7,030.54	0.00	0.00	0.00
14,700.00	90.00	0.09	7,552.00	7,130.53	10.95	7,130.54	0.00	0.00	0.00
14,800.00	90.00	0.09	7,552.00	7,230.53	11.10	7,230.54	0.00	0.00	0.00
14,900.00	90.00	0.09	7,552.00	7,330.53	11.26	7,330.54	0.00	0.00	0.00
15,000.00	90.00	0.09	7,552.00	7,430.53	11.41	7,430.54	0.00	0.00	0.00
15,100.00	90.00	0.09	7,552.00	7,530.53	11.57	7,530.54	0.00	0.00	0.00
15,200.00	90.00	0.09	7,552.00	7,630.53	11.72	7,630.54	0.00	0.00	0.00
15,300.00	90.00	0.09	7,552.00	7,730.53	11.88	7,730.54	0.00	0.00	0.00
15,400.00	90.00	0.09	7,552.00	7,830.53	12.03	7,830.54	0.00	0.00	0.00
15,500.00	90.00	0.09	7,552.00	7,930.53	12.18	7,930.54	0.00	0.00	0.00
15,600.00	90.00	0.09	7,552.00	8,030.53	12.34	8,030.54	0.00	0.00	0.00
15,700.00	90.00	0.09	7,552.00	8,130.53	12.49	8,130.54	0.00	0.00	0.00
15,800.00	90.00	0.09	7,552.00	8,230.53	12.65	8,230.54	0.00	0.00	0.00
15,900.00	90.00	0.09	7,552.00	8,330.53	12.80	8,330.54	0.00	0.00	0.00
16,000.00	90.00	0.09	7,552.00	8,430.53	12.96	8,430.54	0.00	0.00	0.00
16,100.00	90.00	0.09	7,552.00	8,530.53	13.11	8,530.54	0.00	0.00	0.00
16,200.00	90.00	0.09	7,552.00	8,630.53	13.26	8,630.54	0.00	0.00	0.00
16,300.00	90.00	0.09	7,552.00	8,730.53	13.42	8,730.54	0.00	0.00	0.00
16,400.00	90.00	0.09	7,552.00	8,830.53	13.57	8,830.54	0.00	0.00	0.00
16,500.00	90.00	0.09	7,552.00	8,930.53	13.73	8,930.54	0.00	0.00	0.00
16,600.00	90.00	0.09	7,552.00	9,030.53	13.88	9,030.54	0.00	0.00	0.00
16,700.00	90.00	0.09	7,552.00	9,130.53	14.04	9,130.54	0.00	0.00	0.00
16,800.00	90.00	0.09	7,552.00	9,230.53	14.19	9,230.54	0.00	0.00	0.00
16,900.00	90.00	0.09	7,552.00	9,330.53	14.34	9,330.54	0.00	0.00	0.00
17,000.00	90.00	0.09	7,552.00	9,430.53	14.50	9,430.54	0.00	0.00	0.00
17,100.00	90.00	0.09	7,552.00	9,530.53	14.65	9,530.54	0.00	0.00	0.00
17,200.00	90.00	0.09	7,552.00	9,630.53	14.81	9,630.54	0.00	0.00	0.00
17,300.00	90.00	0.09	7,552.00	9,730.53	14.96	9,730.54	0.00	0.00	0.00
17,400.00	90.00	0.09	7,552.00	9,830.53	15.12	9,830.54	0.00	0.00	0.00
17,500.00	90.00	0.09	7,552.00	9,930.53	15.27	9,930.54	0.00	0.00	0.00
17,552.09	90.00	0.09	7,552.00	9,982.62	15.35	9,982.63	0.00	0.00	0.00

TD at 7552.09 -BHL[15-10X7H]

Design Targets

Target Name

- H/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL[15-10X7H] - plan hits target center - Point	0.00	0.00	7,552.00	9,982.62	15.35	450,341.39	548,668.18	32° 14' 16.827 N	104° 10' 33.343 W
FTP[15-10X7H] - plan misses target center by 54.38usft at 7646.23usft MD (7503.11 TVD, 83.59 N, 0.07 E) - Point	0.00	0.00	7,552.00	59.78	0.00	440,419.42	548,652.83	32° 12' 38.636 N	104° 10' 33.691 W

Planning Repot

Database:	Midland Distict	Local Coordinate Reference:	Well 15-10 State Com X 7H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 28' @8257.00usft (Paterson 244)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 28' @8257.00usft (Paterson 244)
Site:	Black Rver	North Reference:	Grid
Well:	15-10 StateCom X 7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.00	1,000.00	0.00	0.00	KOP -Build 20° / 100
1,125.00	1,124.96	-2.73	0.00	EOB - HOLD
6,959.64	6,954.05	-257.23	-0.45	Curve KCP - Build 10.0° /100
7,884.64	7,552.00	315.18	0.43	EOC -HOLD
17,552.09	7,552.00	9,982.62	15.35	TD at 17552.09