

30.015-42728

MARATHON OIL PERMIAN, LLC

SURVEY REPORT

BLACK RIVER 15-10 STATE COM X 2H

PATTERSON 244

9/30/2017

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 26 2018

RECEIVED



The Ultimate Partner In Wellbore Placement

SURVEY REPORT

VER 15-10 STATE COM X 2H

BLACK RIVER 15-10 STATE COM X 2H COMPUTED

CUSTOMER Marathon Oil Permian , LLC
PROJECT Black River 15-10 State Com X 2H
FIELD Wolfcamp

SDI JOB NO. OP.004628
SDI DISTRICT Midland
SDI KIT/UNIT

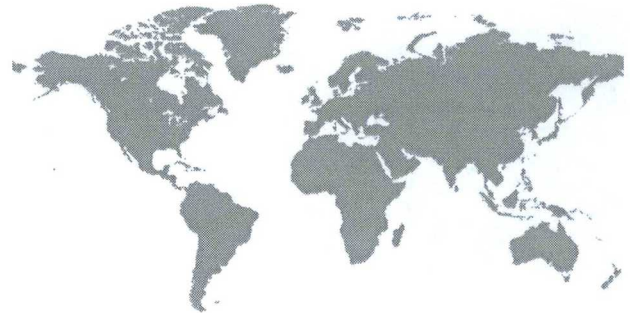
SITE INFORMATION

Site Name Black River
Lat/Long 32° 12' 37.862" N, 104° 10' 22.443" W
Northing 440,342.6 ft
Easting 549,619.27 ft

Section
Township
Range

MAP INFORMATION

North Reference Grid North
Grid Correction -0.09 deg
System US State Plane 1927
Datum North American Datum 1927 (Clarke 1866)
Map Zone New Mexico East: 3001

**WELL INFORMATION**

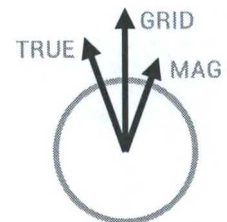
Lat/Long 32° 12' 37.862" N, 104° 10' 22.443" W
Northing 440,342.6 ft
Easting 549,619.27 ft
UWI 30-015-42748

DEPTH AND ELEVATION REFERENCE

Ground Level 3231 ft above Mean Sea Level
Reference Datum KB
Reference Height 28 ft above G.L.
Reference Elevation 3259 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 0.00°
Calculation Method Minimum Curvature

**GEOMAGNETIC REFERENCE INFORMATION**

Local Gravity: 998.516 mG [computed]

MD	MODEL	DATE	DECLINATION	TRUE TO GRID	MAG TO GRID
0-19145 ft	HDGM2016	30 Sep 2017	7.38°	subtract 0.09°	add 7.29°

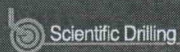
WELL NOTES**OPERATORS**

Dale Baird, James Nair

SDI Operator Name (Printed)

SIGNATURE

DATE



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12/3/2017 6:55 Central Standard Time

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MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
166.00	0.31	168.37	166.00	-0.44	-0.44	0.09	0.19	0.45	168.37
316.00	0.50	277.30	316.00	-0.75	-0.75	-0.48	0.45	0.89	212.64
415.00	0.88	227.84	414.99	-1.20	-1.20	-1.47	0.68	1.90	230.74
591.00	1.62	239.92	590.95	-3.35	-3.35	-4.62	0.44	5.71	234.03
681.00	1.65	240.66	680.91	-4.62	-4.62	-6.85	0.05	8.26	235.97
772.00	1.61	248.21	771.87	-5.74	-5.74	-9.18	0.24	10.83	237.98
863.00	1.55	247.71	862.84	-6.69	-6.69	-11.51	0.07	13.31	239.86
953.00	1.44	249.89	952.81	-7.54	-7.54	-13.71	0.14	15.64	241.19
1044.00	1.39	253.00	1043.78	-8.25	-8.25	-15.84	0.10	17.86	242.47
1135.00	1.49	259.18	1134.75	-8.80	-8.80	-18.05	0.20	20.08	244.01
1227.00	1.48	266.52	1226.72	-9.10	-9.10	-20.41	0.21	22.35	245.98
1319.00	1.48	271.00	1318.69	-9.15	-9.15	-22.78	0.13	24.55	248.12
1409.00	1.95	269.94	1408.65	-9.13	-9.13	-25.47	0.53	27.06	250.28
1500.00	1.78	270.03	1499.60	-9.13	-9.13	-28.43	0.19	29.86	252.20
1594.00	0.59	241.57	1593.58	-9.36	-9.36	-30.31	1.37	31.72	252.84
1688.00	1.08	219.49	1687.57	-10.27	-10.27	-31.30	0.61	32.94	251.84
1783.00	1.42	205.11	1782.55	-12.02	-12.02	-32.36	0.48	34.52	249.62
1878.00	1.83	150.75	1877.52	-14.41	-14.41	-32.12	1.61	35.20	245.84
1972.00	2.22	144.53	1971.46	-17.20	-17.20	-30.33	0.48	34.86	240.44
2066.00	2.00	150.25	2065.39	-20.11	-20.11	-28.45	0.33	34.84	234.75
2160.00	0.27	152.15	2159.37	-21.73	-21.73	-27.53	1.84	35.08	231.72
2254.00	1.08	279.54	2253.37	-21.78	-21.78	-28.31	1.35	35.72	232.42
2283.00	1.22	268.44	2282.36	-21.75	-21.75	-28.89	0.91	36.16	233.03
2451.00	2.04	269.71	2450.29	-21.81	-21.81	-33.67	0.49	40.12	237.07
2547.00	2.22	270.89	2546.22	-21.79	-21.79	-37.24	0.18	43.15	239.67
2642.00	2.02	266.64	2641.16	-21.86	-21.86	-40.75	0.26	46.24	241.79
2737.00	2.76	260.42	2736.08	-22.34	-22.34	-44.68	0.82	49.95	243.44
2832.00	4.40	260.92	2830.89	-23.29	-23.29	-50.53	1.72	55.64	245.25
2926.00	4.32	258.18	2924.62	-24.59	-24.59	-57.55	0.24	62.58	246.87
3020.00	4.17	255.32	3018.36	-26.18	-26.18	-64.31	0.28	69.44	247.85
3114.00	4.47	248.72	3112.09	-28.37	-28.37	-71.03	0.62	76.48	248.23

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft	CLOSURE DIST ft	CLOSURE DIR deg
3208.00	6.03	245.43	3205.70	-31.75	-31.75	-78.93	1.70	85.08	248.09
3302.00	5.76	244.52	3299.20	-35.84	-35.84	-87.69	0.30	94.73	247.77
3396.00	5.77	243.77	3392.72	-39.95	-39.95	-96.18	0.08	104.15	247.44
3489.00	5.59	242.67	3485.27	-44.10	-44.10	-104.40	0.22	113.33	247.10
3584.00	5.21	242.19	3579.84	-48.24	-48.24	-112.32	0.40	122.24	246.76
3679.00	4.97	242.31	3674.47	-52.16	-52.16	-119.78	0.26	130.65	246.47
3773.00	4.58	241.64	3768.14	-55.83	-55.83	-126.69	0.42	138.45	246.22
3867.00	4.43	239.37	3861.85	-59.47	-59.47	-133.12	0.25	145.79	245.93
3961.00	4.21	238.47	3955.59	-63.12	-63.12	-139.18	0.24	152.83	245.60
4054.00	4.03	239.72	4048.35	-66.56	-66.56	-144.92	0.22	159.47	245.33
4149.00	3.95	236.03	4143.11	-70.07	-70.07	-150.51	0.28	166.02	245.04
4243.00	3.57	235.21	4236.91	-73.54	-73.54	-155.60	0.41	172.10	244.70
4337.00	3.51	234.83	4330.73	-76.87	-76.87	-160.35	0.07	177.82	244.39
4432.00	5.22	234.70	4425.45	-81.04	-81.04	-166.25	1.80	184.95	244.01
4526.00	4.84	231.61	4519.09	-85.97	-85.97	-172.85	0.50	193.05	243.55
4620.00	4.41	231.06	4612.79	-90.71	-90.71	-178.77	0.46	200.47	243.10
4715.00	4.04	226.93	4707.53	-95.29	-95.29	-184.06	0.51	207.26	242.63
4809.00	3.88	225.31	4801.30	-99.79	-99.79	-188.73	0.21	213.49	242.13
4904.00	4.29	230.56	4896.06	-104.30	-104.30	-193.76	0.59	220.05	241.71
4999.00	5.59	235.22	4990.71	-109.20	-109.20	-200.31	1.43	228.15	241.40
5093.00	5.25	232.52	5084.29	-114.43	-114.43	-207.49	0.45	236.95	241.12
5188.00	5.28	252.87	5178.89	-118.37	-118.37	-215.12	1.96	245.53	241.18
5282.00	5.01	251.99	5272.52	-120.91	-120.91	-223.15	0.30	253.80	241.55
5376.00	4.58	249.51	5366.19	-123.49	-123.49	-230.57	0.51	261.55	241.83
5470.00	4.34	246.39	5459.90	-126.23	-126.23	-237.34	0.36	268.82	241.99
5565.00	4.05	247.91	5554.65	-128.93	-128.93	-243.74	0.33	275.74	242.12
5660.00	4.09	256.01	5649.41	-131.01	-131.01	-250.14	0.61	282.37	242.36
5755.00	3.81	255.16	5744.18	-132.64	-132.64	-256.47	0.29	288.74	242.65
5849.00	3.48	257.65	5837.99	-134.05	-134.05	-262.28	0.39	294.56	242.93
5942.00	3.60	261.72	5930.82	-135.07	-135.07	-267.93	0.30	300.06	243.25
6037.00	3.30	275.91	6025.65	-135.22	-135.22	-273.60	0.95	305.20	243.70
6131.00	2.60	292.37	6119.52	-134.13	-134.13	-278.27	1.16	308.91	244.27

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft	CLOSURE DIST ft	CLOSURE DIR deg
6225.00	0.60	334.19	6213.48	-132.87	-132.87	-280.46	2.33	310.35	244.65
6318.00	0.91	150.85	6306.48	-133.08	-133.08	-280.32	1.63	310.30	244.60
6413.00	1.52	111.38	6401.46	-134.20	-134.20	-278.77	1.06	309.39	244.29
6507.00	3.17	72.50	6495.38	-133.88	-133.88	-275.12	2.35	305.97	244.05
6601.00	1.86	76.36	6589.29	-132.73	-132.73	-271.16	1.41	301.90	243.92
6695.00	1.58	210.65	6683.27	-133.49	-133.49	-270.33	3.38	301.50	243.72
6789.00	3.80	241.39	6777.16	-136.09	-136.09	-273.73	2.73	305.69	243.56
6883.00	4.31	238.10	6870.93	-139.45	-139.45	-279.45	0.60	312.31	243.48
6978.00	3.77	233.58	6965.69	-143.19	-143.19	-284.99	0.66	318.94	243.32
7073.00	2.98	235.98	7060.53	-146.42	-146.42	-289.55	0.84	324.46	243.18
7165.00	3.84	250.88	7152.37	-148.76	-148.76	-294.43	1.33	329.88	243.19
7259.00	4.49	251.42	7246.12	-150.97	-150.97	-300.90	0.70	336.64	243.36
7354.00	3.59	239.66	7340.88	-153.65	-153.65	-306.99	1.29	343.30	243.41
7448.00	5.37	248.68	7434.59	-156.74	-156.74	-313.63	2.03	350.62	243.45
7542.00	4.38	250.10	7528.25	-159.56	-159.56	-321.11	1.06	358.57	243.58
7637.00	5.85	258.38	7622.87	-161.78	-161.78	-329.27	1.73	366.86	243.83
7731.00	5.90	259.99	7716.38	-163.58	-163.58	-338.73	0.18	376.16	244.22
7825.00	4.89	258.28	7809.96	-165.23	-165.23	-347.41	1.10	384.70	244.56
7919.00	5.39	263.91	7903.58	-166.52	-166.52	-355.71	0.75	392.76	244.91
8014.00	5.50	274.81	7998.16	-166.61	-166.61	-364.69	1.09	400.94	245.45
8109.00	4.04	280.08	8092.82	-165.64	-165.64	-372.52	1.60	407.69	246.03
8203.00	3.91	280.88	8186.60	-164.45	-164.45	-378.94	0.15	413.08	246.54
8297.00	2.67	270.52	8280.44	-163.83	-163.83	-384.28	1.46	417.74	246.91
8391.00	1.36	264.13	8374.38	-163.92	-163.92	-387.58	1.41	420.82	247.07
8486.00	1.26	331.60	8469.36	-163.12	-163.12	-389.20	1.53	422.00	247.26
8579.00	1.45	330.34	8562.34	-161.20	-161.20	-390.27	0.21	422.25	247.56
8613.00	3.71	345.30	8596.30	-159.76	-159.76	-390.76	6.87	422.15	247.76
8644.00	6.05	355.78	8627.18	-157.15	-157.15	-391.13	8.06	421.52	248.11
8674.00	7.64	0.92	8656.97	-153.58	-153.58	-391.22	5.64	420.29	248.57
8708.00	9.00	8.96	8690.61	-148.70	-148.70	-390.77	5.26	418.10	249.17
8740.00	11.78	10.72	8722.09	-143.02	-143.02	-389.77	8.73	415.18	249.85
8769.00	13.73	14.10	8750.37	-136.77	-136.77	-388.38	7.21	411.76	250.60

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
8803.00	15.40	15.48	8783.28	-128.51	-128.51	-386.19	5.03	407.01	251.60
8834.00	17.30	15.92	8813.02	-120.10	-120.10	-383.83	6.13	402.18	252.62
8864.00	19.28	15.68	8841.50	-111.05	-111.05	-381.27	6.59	397.11	253.76
8898.00	21.35	12.45	8873.39	-99.60	-99.60	-378.42	6.93	391.30	255.25
8930.00	25.48	8.27	8902.75	-87.09	-87.09	-376.17	13.92	386.12	256.96
8960.00	29.84	6.57	8929.31	-73.28	-73.28	-374.39	14.74	381.49	258.92
8994.00	33.87	6.77	8958.19	-55.47	-55.47	-372.30	11.87	376.41	261.53
9026.00	38.03	7.20	8984.09	-36.82	-36.82	-370.01	13.03	371.84	264.32
9056.00	42.95	7.27	9006.90	-17.50	-17.50	-367.56	16.41	367.98	267.27
9090.00	47.24	7.40	9030.89	6.37	6.37	-364.48	12.61	364.54	271.00
9122.00	50.88	7.70	9051.86	30.33	30.33	-361.31	11.40	362.58	274.80
9152.00	54.08	7.98	9070.13	53.90	53.90	-358.06	10.68	362.10	278.56
9186.00	57.17	8.11	9089.32	81.68	81.68	-354.13	9.11	363.43	282.99
9218.00	58.80	8.20	9106.28	108.54	108.54	-350.29	5.08	366.72	287.22
9247.00	59.87	7.88	9121.08	133.24	133.24	-346.80	3.83	371.51	291.02
9328.00	59.64	6.73	9161.88	202.64	202.64	-337.90	1.25	394.01	300.95
9359.00	59.27	6.84	9177.63	229.15	229.15	-334.74	1.22	405.67	304.39
9391.00	61.51	5.71	9193.45	256.81	256.81	-331.71	7.63	419.50	307.75
9423.00	64.64	4.47	9207.93	285.22	285.22	-329.18	10.39	435.56	310.91
9454.00	66.93	3.65	9220.65	313.42	313.42	-327.18	7.75	453.08	313.77
9486.00	69.10	3.01	9232.63	343.04	343.04	-325.46	7.04	472.86	316.51
9518.00	72.13	3.19	9243.25	373.18	373.18	-323.83	9.50	494.09	319.05
9548.00	75.95	2.07	9251.49	401.99	401.99	-322.51	13.23	515.37	321.26
9581.00	79.46	1.93	9258.52	434.21	434.21	-321.39	10.63	540.21	323.49
9613.00	81.71	1.23	9263.75	465.76	465.76	-320.52	7.34	565.39	325.47
9643.00	83.14	1.00	9267.71	495.49	495.49	-319.94	4.83	589.81	327.15
9676.00	85.09	2.02	9271.09	528.30	528.30	-319.07	6.67	617.18	328.87
9707.00	85.22	0.76	9273.71	559.18	559.18	-318.32	4.08	643.44	330.35
9738.00	85.30	0.53	9276.27	590.08	590.08	-317.98	0.77	670.30	331.68
9769.00	88.22	0.58	9278.02	621.02	621.02	-317.68	9.42	697.56	332.91
9801.00	88.49	359.77	9278.94	653.01	653.01	-317.58	2.68	726.14	334.06
9833.00	88.99	0.10	9279.65	685.00	685.00	-317.62	1.90	755.05	335.12

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
9865.00	89.83	0.29	9279.97	717.00	717.00	-317.51	2.68	784.15	336.11
9928.00	89.90	359.73	9280.12	780.00	780.00	-317.50	0.91	842.14	337.85
10023.00	91.48	0.96	9278.98	874.98	874.98	-316.93	2.11	930.61	340.09
10118.00	89.70	1.44	9278.00	969.95	969.95	-314.94	1.94	1019.80	342.01
10213.00	88.32	0.89	9279.65	1064.92	1064.92	-313.01	1.56	1109.96	343.62
10308.00	88.46	1.66	9282.32	1159.86	1159.86	-310.89	0.82	1200.80	345.00
10402.00	88.52	1.35	9284.79	1253.79	1253.79	-308.42	0.34	1291.17	346.18
10497.00	88.62	1.90	9287.16	1348.72	1348.72	-305.73	0.60	1382.94	347.23
10592.00	89.19	1.92	9288.97	1443.65	1443.65	-302.56	0.60	1475.02	348.16
10687.00	89.83	0.15	9289.78	1538.63	1538.63	-300.84	1.98	1567.76	348.94
10782.00	90.27	0.46	9289.70	1633.63	1633.63	-300.33	0.57	1661.00	349.58
10877.00	89.53	1.40	9289.86	1728.61	1728.61	-298.78	1.26	1754.24	350.19
10971.00	89.83	0.96	9290.38	1822.59	1822.59	-296.84	0.57	1846.61	350.75
11066.00	90.97	1.75	9289.72	1917.56	1917.56	-294.59	1.46	1940.06	351.27
11161.00	88.46	358.71	9290.19	2012.54	2012.54	-294.20	4.16	2033.93	351.68
11256.00	87.68	355.93	9293.38	2107.37	2107.37	-298.64	3.04	2128.43	351.93
11351.00	90.44	355.26	9294.95	2202.07	2202.07	-305.93	2.99	2223.22	352.09
11445.00	91.81	357.55	9293.10	2295.86	2295.86	-311.83	2.84	2316.94	352.27
11540.00	90.07	359.29	9291.54	2390.80	2390.80	-314.44	2.60	2411.39	352.51
11635.00	89.80	357.69	9291.65	2485.76	2485.76	-316.95	1.71	2505.89	352.73
11730.00	90.70	0.54	9291.23	2580.74	2580.74	-318.42	3.15	2600.31	352.97
11824.00	92.22	0.83	9288.84	2674.70	2674.70	-317.29	1.64	2693.45	353.23
11919.00	90.24	0.23	9286.80	2769.67	2769.67	-316.41	2.18	2787.68	353.48
12014.00	93.35	3.72	9283.83	2864.54	2864.54	-313.14	4.92	2881.61	353.76
12108.00	92.46	2.89	9279.07	2958.26	2958.26	-307.73	1.30	2974.22	354.06
12203.00	92.52	2.73	9274.94	3053.06	3053.06	-303.08	0.18	3068.07	354.33
12298.00	88.22	359.75	9274.33	3148.00	3148.00	-301.03	5.51	3162.36	354.54
12393.00	87.15	357.93	9278.17	3242.90	3242.90	-302.96	2.22	3257.02	354.66
12488.00	87.68	358.33	9282.46	3337.75	3337.75	-306.06	0.70	3351.75	354.76
12582.00	87.92	357.92	9286.07	3431.63	3431.63	-309.14	0.51	3445.53	354.85
12677.00	86.37	354.96	9290.80	3526.32	3526.32	-315.03	3.51	3540.36	354.89
12772.00	86.71	356.72	9296.54	3620.89	3620.89	-321.91	1.88	3635.17	354.92

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
12866.00	89.66	359.01	9299.51	3714.76	3714.76	-325.41	3.97	3728.99	354.99
12961.00	90.34	1.83	9299.51	3809.75	3809.75	-324.72	3.06	3823.56	355.13
13056.00	90.91	3.29	9298.48	3904.64	3904.64	-320.48	1.64	3917.77	355.31
13150.00	89.33	1.88	9298.29	3998.54	3998.54	-316.24	2.24	4011.03	355.48
13245.00	90.87	2.62	9298.12	4093.47	4093.47	-312.50	1.80	4105.38	355.63
13340.00	90.40	2.96	9297.07	4188.35	4188.35	-307.87	0.61	4199.65	355.80
13435.00	92.08	3.32	9295.01	4283.18	4283.18	-302.67	1.81	4293.86	355.96
13530.00	93.96	4.22	9290.00	4377.84	4377.84	-296.43	2.19	4387.86	356.13
13624.00	92.55	2.91	9284.66	4471.50	4471.50	-290.59	2.05	4480.93	356.28
13719.00	91.34	3.05	9281.44	4566.31	4566.31	-285.65	1.28	4575.24	356.42
13813.00	90.94	2.61	9279.56	4660.18	4660.18	-281.02	0.64	4668.64	356.55
13908.00	90.47	0.45	9278.40	4755.13	4755.13	-278.48	2.32	4763.28	356.65
14003.00	91.11	359.47	9277.09	4850.12	4850.12	-278.55	1.23	4858.11	356.71
14097.00	91.75	0.14	9274.75	4944.09	4944.09	-278.87	0.98	4951.95	356.77
14192.00	92.25	359.78	9271.44	5039.03	5039.03	-278.94	0.65	5046.75	356.83
14287.00	89.87	358.28	9269.69	5133.99	5133.99	-280.55	2.96	5141.65	356.87
14381.00	88.02	356.46	9271.42	5227.87	5227.87	-284.87	2.76	5235.63	356.88
14476.00	88.49	356.54	9274.32	5322.65	5322.65	-290.67	0.50	5330.58	356.87
14570.00	89.53	354.97	9275.94	5416.37	5416.37	-297.63	2.00	5424.54	356.85
14665.00	89.16	354.23	9277.03	5510.94	5510.94	-306.56	0.87	5519.46	356.82
14760.00	87.59	354.70	9279.73	5605.46	5605.46	-315.72	1.73	5614.34	356.78
14855.00	88.32	355.59	9283.12	5700.06	5700.06	-323.75	1.22	5709.24	356.75
14949.00	86.91	358.14	9287.03	5793.82	5793.82	-328.89	3.10	5803.15	356.75
15044.00	89.23	0.77	9290.23	5888.75	5888.75	-329.79	3.69	5897.98	356.79
15138.00	93.05	2.54	9288.36	5982.67	5982.67	-327.08	4.49	5991.61	356.87
15233.00	85.57	355.89	9289.51	6077.54	6077.54	-328.39	10.54	6086.40	356.91
15327.00	85.36	358.13	9296.94	6171.11	6171.11	-333.28	2.39	6180.10	356.91
15422.00	89.50	2.16	9301.21	6265.97	6265.97	-333.03	6.08	6274.82	356.96
15517.00	92.69	2.74	9299.40	6360.85	6360.85	-328.97	3.41	6369.36	357.04
15611.00	92.62	1.75	9295.05	6454.68	6454.68	-325.30	1.06	6462.87	357.11
15706.00	91.61	0.44	9291.54	6549.60	6549.60	-323.49	1.73	6557.58	357.17
15801.00	90.54	1.74	9289.76	6644.56	6644.56	-321.68	1.77	6652.34	357.23

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS "/100ft	CLOSURE DIST ft	CLOSURE DIR deg
15895.00	91.44	1.84	9288.13	6738.50	6738.50	-318.75	0.97	6746.03	357.29
15990.00	90.07	1.32	9286.88	6833.45	6833.45	-316.13	1.55	6840.76	357.35
16085.00	90.60	0.56	9286.32	6928.43	6928.43	-314.57	0.98	6935.57	357.40
16179.00	91.41	2.33	9284.67	7022.39	7022.39	-312.21	2.07	7029.32	357.45
16274.00	89.23	1.85	9284.14	7117.32	7117.32	-308.75	2.35	7124.01	357.52
16369.00	88.29	1.03	9286.20	7212.26	7212.26	-306.37	1.31	7218.77	357.57
16463.00	89.36	4.41	9288.13	7306.12	7306.12	-301.91	3.78	7312.36	357.63
16558.00	89.93	4.05	9288.71	7400.86	7400.86	-294.90	0.71	7406.73	357.72
16653.00	87.88	1.19	9290.52	7495.73	7495.73	-290.56	3.70	7501.36	357.78
16747.00	89.29	359.97	9292.84	7589.69	7589.69	-289.61	1.99	7595.21	357.81
16842.00	89.70	358.90	9293.67	7684.68	7684.68	-290.55	1.20	7690.17	357.83
16937.00	88.66	358.58	9295.04	7779.65	7779.65	-292.64	1.15	7785.15	357.85
17032.00	88.62	357.01	9297.29	7874.55	7874.55	-296.29	1.66	7880.12	357.85
17126.00	88.52	359.30	9299.63	7968.46	7968.46	-299.33	2.44	7974.08	357.85
17221.00	89.03	358.91	9301.67	8063.43	8063.43	-300.81	0.67	8069.04	357.86
17316.00	90.40	359.09	9302.14	8158.41	8158.41	-302.47	1.46	8164.02	357.88
17411.00	89.90	0.06	9301.89	8253.41	8253.41	-303.18	1.15	8258.97	357.90
17505.00	90.54	359.93	9301.53	8347.40	8347.40	-303.18	0.69	8352.91	357.92
17600.00	91.14	359.61	9300.14	8442.39	8442.39	-303.56	0.72	8447.85	357.94
17694.00	92.22	358.95	9297.38	8536.34	8536.34	-304.74	1.35	8541.78	357.96
17789.00	91.28	358.81	9294.49	8631.28	8631.28	-306.60	1.00	8636.72	357.97
17884.00	89.93	358.77	9293.49	8726.25	8726.25	-308.61	1.41	8731.71	357.97
17978.00	90.20	358.08	9293.38	8820.21	8820.21	-311.19	0.79	8825.70	357.98
18073.00	90.67	0.03	9292.65	8915.19	8915.19	-312.75	2.11	8920.68	357.99
18169.00	90.37	0.52	9291.78	9011.19	9011.19	-312.29	0.60	9016.60	358.02
18264.00	89.80	2.57	9291.64	9106.15	9106.15	-309.73	2.24	9111.41	358.05
18359.00	90.30	1.07	9291.56	9201.10	9201.10	-306.72	1.67	9206.21	358.09
18454.00	91.01	359.67	9290.47	9296.09	9296.09	-306.10	1.64	9301.13	358.11
18549.00	90.54	359.50	9289.19	9391.08	9391.08	-306.79	0.53	9396.09	358.13
18644.00	91.14	358.66	9287.80	9486.05	9486.05	-308.32	1.08	9491.06	358.14
18739.00	90.84	359.73	9286.16	9581.03	9581.03	-309.65	1.17	9586.03	358.15
18834.00	89.40	1.17	9285.96	9676.02	9676.02	-308.90	2.14	9680.95	358.17

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
18929.00	88.76	0.26	9287.49	9771.00	9771.00	-307.72	1.17	9775.84	358.20
19024.00	89.16	0.83	9289.22	9865.98	9865.98	-306.82	0.74	9870.75	358.22
19094.00	89.36	0.42	9290.12	9935.97	9935.97	-306.05	0.66	9940.68	358.24
19145.00	89.36	0.42	9290.69	9986.96	9986.96	-305.68	0.00	9991.64	358.25