



Job Number: US2018-120-OP
Company: XTO Energy
Lease/Well: Remuda South 30 State 121H
Location: Remuda South 30 State Pad
Rig Name: Orion Perseus
State/Country: New Mexico/ Eddy
Country: USA
API Number: 30-015-44404

Elev. GL: 3112.00 ft **RKB:** 3134.00 ft
System: US State Plane 1927 (Exact solution)
Group: Texas Central 4203
Datum: CLARKE 1866
Mag. Decl: 2.43° (C:\HawkEye\IGRF2005.mif)
Grid Conv.: 2.41351 E
Date: Thursday, September 06, 2018



Calculated by HawkEye Software
Minimum Curvature Method
Vertical Section Plane 181.75°
Northing (US ft): 810940.54 Easting (US ft): 3455231.48
Latitude: 31°48'43.5024" N Longitude: -95°38'50.7877" W
Direction Reference: Grid North

#	Measured Depth (ft)	INC Deg	AZN Deg	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS 1000 Ft	Bridg Rate 1000 Ft	Walk Rate 1000 Ft	LREW From-Plan (ft)	UDNS From-Plan (ft)	Obseq (ft)	Closure Dir Deg	Tool Face Deg	Subsea TVD (ft)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 (E)	0.00 (N)	0.00	0.00	0.00	-6246.00
2	121.00	0.30	191.00	121.00	-0.31	-0.06	0.31	0.25	0.25	-139.67	-0.06 (W)	-0.31 (S)	0.32	191.00	137.60	-6125.00
3	152.00	1.10	64.00	152.00	-0.26	0.19	0.25	4.20	2.58	-409.68	0.19 (E)	-0.26 (S)	0.32	143.64	154.87	-6094.00
4	182.00	0.50	20.00	181.99	-0.01	0.50	0.00	2.73	-2.00	-146.67	0.50 (E)	-0.01 (S)	0.50	91.27	46.95	-6064.01
5	211.00	0.90	43.00	210.99	0.27	0.69	-0.30	1.66	1.38	79.31	0.69 (E)	0.27 (N)	0.75	68.41	98.48	-6035.01
6	239.00	1.40	102.00	238.99	0.36	1.18	-0.40	4.33	1.79	210.71	1.18 (E)	0.36 (N)	1.23	72.82	168.11	-6007.01
7	270.00	0.30	196.00	269.98	0.21	1.53	-0.25	4.68	-3.55	303.23	1.53 (E)	0.21 (N)	1.54	82.26	-75.86	-5976.02
8	300.00	0.90	139.00	299.98	-0.05	1.66	0.00	2.59	2.00	-190.00	1.66 (E)	-0.05 (S)	1.66	91.58	-47.92	-5946.02
9	334.00	1.30	122.00	333.98	-0.45	2.16	0.39	1.51	1.18	-50.00	2.16 (E)	-0.45 (S)	2.21	101.80	150.24	-5912.02
10	362.00	0.80	146.00	361.97	-0.78	2.54	0.70	2.34	-1.79	85.71	2.54 (E)	-0.78 (S)	2.66	107.11	-65.34	-5884.03
11	404.00	1.00	127.30	403.97	-1.25	3.00	1.16	0.84	0.48	-44.52	3.00 (E)	-1.25 (S)	3.25	112.60	-36.56	-5842.03
12	499.00	1.20	120.50	498.95	-2.25	4.51	2.12	0.25	0.21	-7.16	4.51 (E)	-2.25 (S)	5.04	116.55	125.86	-5747.05
13	595.00	1.00	142.90	594.93	-3.43	5.88	3.25	0.49	-0.21	23.33	5.88 (E)	-3.43 (S)	6.81	120.26	55.59	-5651.07
14	690.00	1.30	159.10	689.91	-5.10	6.77	4.89	0.46	0.32	17.05	6.77 (E)	-5.10 (S)	8.48	127.00	131.75	-5556.09
15	788.00	1.10	172.70	787.89	-7.07	7.28	6.85	0.35	-0.20	13.88	7.28 (E)	-7.07 (S)	10.15	134.15	67.13	-5458.11
16	852.00	1.20	182.20	851.88	-8.35	7.34	8.12	0.34	0.16	14.84	7.34 (E)	-8.35 (S)	11.12	138.70	-15.27	-5394.12
17	946.00	1.30	181.00	945.86	-10.40	7.28	10.17	0.11	0.11	-1.28	7.28 (E)	-10.40 (S)	12.70	145.01	89.40	-5300.14
18	1042.00	1.40	202.20	1041.83	-12.58	6.82	12.36	0.53	0.10	22.08	6.82 (E)	-12.58 (S)	14.31	151.53	111.99	-5204.17
19	1138.00	1.30	221.10	1137.80	-14.48	5.66	14.30	0.47	-0.10	19.69	5.66 (E)	-14.48 (S)	15.55	158.66	61.88	-5108.20
20	1233.00	1.40	228.00	1232.78	-16.07	4.09	15.94	0.20	0.11	7.26	4.09 (E)	-16.07 (S)	16.58	165.73	153.37	-5013.22
21	1328.00	1.20	232.90	1327.75	-17.45	2.43	17.37	0.24	-0.21	5.16	2.43 (E)	-17.45 (S)	17.62	172.06	160.75	-4918.25
22	1424.00	0.60	254.90	1423.74	-18.18	1.15	18.14	0.71	-0.63	22.92	1.15 (E)	-18.18 (S)	18.22	176.40	97.00	-4822.26
23	1519.00	0.60	268.90	1518.74	-18.32	0.17	18.31	0.15	0.00	14.74	0.17 (E)	-18.32 (S)	18.32	179.48	6.29	-4727.26
24	1615.00	0.90	271.00	1614.73	-18.32	-1.09	18.35	0.31	0.31	2.19	-1.09 (W)	-18.32 (S)	18.35	183.40	150.72	-4631.27
25	1710.00	0.50	238.60	1709.72	-18.52	-2.19	18.58	0.58	-0.42	-34.11	-2.19 (W)	-18.52 (S)	18.65	186.74	104.06	-4536.28
26	1806.00	0.70	178.40	1805.72	-19.33	-2.53	19.40	0.65	0.21	-62.71	-2.53 (W)	-19.33 (S)	19.49	187.46	-20.78	-4440.28
27	1901.00	1.00	172.00	1900.71	-20.73	-2.40	20.79	0.33	0.32	-6.74	-2.40 (W)	-20.73 (S)	20.87	186.60	129.07	-4345.29
28	1996.00	0.80	197.10	1995.69	-22.18	-2.48	22.25	0.46	-0.21	26.42	-2.48 (W)	-22.18 (S)	22.32	186.37	101.35	-4250.31
29	2092.00	0.80	219.80	2091.69	-23.34	-3.10	23.42	0.33	0.00	23.65	-3.10 (W)	-23.34 (S)	23.54	187.57	134.40	-4154.31
30	2186.00	0.60	246.50	2185.68	-24.04	-3.98	24.15	0.40	-0.21	28.40	-3.98 (W)	-24.04 (S)	24.37	189.39	78.75	-4060.32
31	2282.00	1.00	289.20	2281.67	-23.96	-5.23	24.11	0.72	0.42	44.48	-5.23 (W)	-23.96 (S)	24.53	192.30	164.19	-3964.33
32	2378.00	0.80	293.30	2377.66	-23.42	-6.63	23.62	0.22	-0.21	4.27	-6.63 (W)	-23.42 (S)	24.35	195.81	158.72	-3868.34
33	2472.00	0.30	347.40	2471.65	-22.92	-7.29	23.14	0.71	-0.53	57.55	-7.29 (W)	-22.92 (S)	24.06	197.64	120.75	-3774.35
34	2568.00	0.30	48.90	2567.65	-22.51	-7.16	22.72	0.32	0.00	64.06	-7.16 (W)	-22.51 (S)	23.62	197.63	94.55	-3678.35
35	2663.00	0.80	121.50	2662.65	-22.70	-6.40	22.88	0.81	0.53	76.42	-6.40 (W)	-22.70 (S)	23.58	195.75	28.96	-3583.35
36	2759.00	1.90	138.70	2758.62	-24.24	-4.78	24.38	1.21	1.15	17.92	-4.78 (W)	-24.24 (S)	24.71	191.16	177.20	-3487.38
37	2854.00	1.40	137.70	2853.58	-26.28	-2.96	26.36	0.53	-0.53	-1.05	-2.96 (W)	-26.28 (S)	26.45	186.43	49.21	-3392.42
38	2949.00	2.10	156.60	2948.54	-28.74	-1.49	28.77	0.95	0.74	19.89	-1.49 (W)	-28.74 (S)	28.78	182.96	46.93	-3297.46
39	3044.00	2.40	163.80	3043.46	-32.25	-0.24	32.24	0.43	0.32	7.58	-0.24 (W)	-32.25 (S)	32.25	180.43	170.68	-3202.54
40	3140.00	1.50	158.10	3139.41	-35.34	0.79	35.30	0.96	-0.94	-5.94	0.79 (E)	-35.34 (S)	35.35	178.72	172.35	-3106.59
41	3235.00	0.20	243.10	3234.40	-36.57	1.10	36.52	1.57	-1.37	89.47	1.10 (E)	-36.57 (S)	36.59	178.27	103.49	-3011.60
42	3330.00	0.40	317.50	3329.40	-36.40	0.73	36.36	0.42	0.21	78.32	0.73 (E)	-36.40 (S)	36.41	178.85	19.38	-2916.60
43	3427.00	0.60	324.10	3426.39	-35.74	0.21	35.72	0.21	0.21	6.80	0.21 (E)	-35.74 (S)	35.74	179.67	-91.85	-2819.61
44	3522.00	0.60	320.40	3521.39	-34.96	-0.40	34.95	0.04	0.00	-3.89	-0.40 (W)	-34.96 (S)	34.96	180.66	170.13	-2724.61

#	Measured Depth (ft)	INC Deg	AZM Deg	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	CLS %100 ft	Build Rate %100 ft	Walk Rate %100 ft	LRVIEW From-Plan (ft)	UDNS From-Plan (ft)	Closure (ft)	Closure Dir Deg	Total Face Deg	Subsea TVD (ft)
45	3617.00	0.50	322.40	3616.38	-34.24	-0.97	34.26	0.11	-0.11	2.11	-0.97 (W)	-34.24 (S)	34.26	181.63	93.80	-2629.62
46	3712.00	0.50	330.00	3711.38	-33.56	-1.43	33.58	0.07	0.00	8.00	-1.43 (W)	-33.56 (S)	33.59	182.45	-93.60	-2534.62
47	3809.00	0.50	322.80	3808.37	-32.85	-1.90	32.90	0.06	0.00	-7.42	-1.90 (W)	-32.85 (S)	32.91	183.31	94.45	-2437.63
48	3904.00	0.50	331.70	3903.37	-32.16	-2.35	32.21	0.08	0.00	9.37	-2.35 (W)	-32.16 (S)	32.24	184.18	-90.30	-2342.63
49	3998.00	0.50	331.10	3997.37	-31.44	-2.74	31.51	0.01	0.00	-0.64	-2.74 (W)	-31.44 (S)	31.56	184.98	10.70	-2248.63
50	4093.00	0.60	332.90	4092.36	-30.63	-3.17	30.71	0.11	0.11	1.89	-3.17 (W)	-30.63 (S)	30.80	185.90	167.54	-2153.64
51	4189.00	0.30	346.00	4188.36	-29.94	-3.46	30.03	0.33	-0.31	13.65	-3.46 (W)	-29.94 (S)	30.14	186.59	-92.95	-2057.64
52	4284.00	0.30	340.10	4283.36	-29.47	-3.60	29.56	0.03	0.00	-6.21	-3.60 (W)	-29.47 (S)	29.68	186.97	-98.65	-1962.64
53	4380.00	0.30	322.80	4379.36	-29.03	-3.84	29.13	0.09	0.00	-18.02	-3.84 (W)	-29.03 (S)	29.28	187.54	-96.90	-1866.64
54	4475.00	0.30	309.00	4474.36	-28.67	-4.18	28.79	0.08	0.00	-14.53	-4.18 (W)	-28.67 (S)	28.98	188.30	90.45	-1771.64
55	4569.00	0.30	309.90	4568.36	-28.36	-4.56	28.49	0.01	0.00	0.96	-4.56 (W)	-28.36 (S)	28.73	189.14	0.00	-1677.64
56	4665.00	0.30	309.90	4664.35	-28.04	-4.95	28.18	0.00	0.00	0.00	-4.95 (W)	-28.04 (S)	28.47	190.01	-16.53	-1581.65
57	4760.00	0.50	303.20	4759.35	-27.65	-5.49	27.81	0.22	0.21	-7.05	-5.49 (W)	-27.65 (S)	28.19	191.22	97.05	-1486.65
58	4856.00	0.50	317.30	4855.35	-27.12	-6.12	27.29	0.13	0.00	14.69	-6.12 (W)	-27.12 (S)	27.80	192.72	-93.85	-1390.65
59	4952.00	0.50	309.60	4951.34	-26.54	-6.73	26.73	0.07	0.00	-8.02	-6.73 (W)	-26.54 (S)	27.38	194.23	171.16	-1294.66
60	5047.00	0.30	315.60	5046.34	-26.10	-7.22	26.31	0.21	-0.21	6.32	-7.22 (W)	-26.10 (S)	27.08	195.47	-100.55	-1199.66
61	5143.00	0.30	294.50	5142.34	-25.81	-7.63	26.04	0.11	0.00	-21.98	-7.63 (W)	-25.81 (S)	26.92	196.46	170.19	-1103.66
62	5238.00	0.20	299.50	5237.34	-25.63	-8.00	25.86	0.11	-0.11	5.26	-8.00 (W)	-25.63 (S)	26.85	197.33	180.00	-1008.66
63	5333.00	0.00	0.00	5332.34	-25.55	-8.14	25.79	0.21	-0.21	63.68	-8.14 (W)	-25.55 (S)	26.81	197.68	180.00	-913.66
64	5428.00	0.20	249.60	5427.34	-25.61	-8.30	25.85	0.21	0.21	-116.21	-8.30 (W)	-25.61 (S)	26.92	197.95	-92.75	-818.66
65	5523.00	0.30	198.60	5522.34	-25.90	-8.53	26.15	0.25	0.11	-53.68	-8.53 (W)	-25.90 (S)	27.27	198.23	-1.20	-723.66
66	5619.00	0.40	198.30	5618.34	-26.46	-8.72	26.71	0.10	0.10	-0.31	-8.72 (W)	-26.46 (S)	27.85	198.24	-51.39	-627.66
67	5715.00	0.50	185.60	5714.33	-27.19	-8.86	27.45	0.15	0.10	-13.23	-8.86 (W)	-27.19 (S)	28.60	198.05	135.48	-531.67
68	5811.00	0.40	168.90	5810.33	-27.94	-8.84	28.19	0.17	-0.10	-17.40	-8.84 (W)	-27.94 (S)	29.30	197.56	172.86	-435.67
69	5907.00	0.30	171.30	5906.33	-28.51	-8.74	28.77	0.11	-0.10	2.50	-8.74 (W)	-28.51 (S)	29.82	197.04	22.75	-339.67
70	6002.00	0.60	182.90	6001.33	-29.26	-8.72	29.51	0.33	0.32	12.21	-8.72 (W)	-29.26 (S)	30.53	196.60	165.54	-244.67
71	6096.00	0.30	167.40	6095.32	-29.99	-8.70	30.24	0.34	-0.32	-16.49	-8.70 (W)	-29.99 (S)	31.22	196.17	-16.99	-150.68
72	6193.00	0.80	156.70	6192.32	-30.86	-8.37	31.10	0.52	0.52	-11.03	-8.37 (W)	-30.86 (S)	31.97	195.18	-49.62	-53.68
73	6288.00	1.20	137.60	6287.30	-32.20	-7.44	32.41	0.54	0.42	-20.11	-7.44 (W)	-32.20 (S)	33.05	193.01	139.67	41.30
74	6383.00	0.80	173.40	6382.29	-33.60	-6.69	33.78	0.76	-0.42	37.68	-6.69 (W)	-33.60 (S)	34.26	191.27	-93.90	136.29
75	6478.00	0.80	165.60	6477.28	-34.90	-6.45	35.08	0.11	0.00	-8.21	-6.45 (W)	-34.90 (S)	35.49	190.47	119.28	231.28
76	6572.00	0.70	199.40	6571.27	-36.07	-6.48	36.25	0.47	-0.11	35.96	-6.48 (W)	-36.07 (S)	36.65	190.18	32.76	325.27
77	6668.00	0.80	203.90	6667.26	-37.24	-6.94	37.43	0.12	0.10	4.69	-6.94 (W)	-37.24 (S)	37.88	190.56	-96.25	421.26
78	6763.00	0.80	191.40	6762.26	-38.50	-7.34	38.70	0.18	0.00	-13.16	-7.34 (W)	-38.50 (S)	39.19	190.80	-53.23	516.26
79	6858.00	1.10	173.80	6857.24	-40.05	-7.38	40.26	0.44	0.32	-18.53	-7.38 (W)	-40.05 (S)	40.73	190.44	114.86	611.24
80	6954.00	1.00	195.10	6953.23	-41.78	-7.50	41.99	0.42	-0.10	22.19	-7.50 (W)	-41.78 (S)	42.44	190.17	166.06	707.23
81	7050.00	0.40	218.20	7049.22	-42.85	-7.92	43.07	0.68	-0.63	24.06	-7.92 (W)	-42.85 (S)	43.58	190.47	90.45	803.22
82	7144.00	0.70	273.80	7143.22	-43.07	-8.70	43.31	0.61	0.32	59.15	-8.70 (W)	-43.07 (S)	43.94	191.42	-89.13	897.22
83	7240.00	0.80	245.70	7239.21	-43.31	-9.89	43.59	0.39	0.10	-29.27	-9.89 (W)	-43.31 (S)	44.42	192.87	112.75	993.21
84	7335.00	0.80	291.20	7334.20	-43.34	-11.12	43.66	0.65	0.00	47.89	-11.12 (W)	-43.34 (S)	44.74	194.39	34.59	1088.20
85	7430.00	1.60	309.30	7429.18	-42.26	-12.76	42.63	0.92	0.84	19.05	-12.76 (W)	-42.26 (S)	44.14	196.80	-82.75	1183.18
86	7526.00	1.80	288.40	7525.14	-40.93	-15.23	41.38	0.67	0.21	-21.77	-15.23 (W)	-40.93 (S)	43.68	200.41	158.48	1279.14
87	7622.00	1.00	268.60	7621.11	-40.48	-17.50	40.99	0.96	-0.83	-20.63	-17.50 (W)	-40.48 (S)	44.10	203.38	151.21	1375.11
88	7717.00	1.60	134.90	7716.10	-41.44	-17.39	41.95	2.53	0.63	-140.74	-17.39 (W)	-41.44 (S)	44.94	202.76	49.48	1470.10
89	7812.00	1.70	138.70	7811.06	-43.43	-15.52	43.88	0.16	0.11	4.00	-15.52 (W)	-43.43 (S)	46.12	199.66	114.91	1565.06
90	7908.00	1.80	194.70	7907.02	-45.96	-14.96	46.39	1.71	0.10	58.33	-14.96 (W)	-45.96 (S)	48.33	198.03	121.04	1661.02
91	8003.00	1.60	179.10	8001.98	-48.73	-15.32	49.17	0.53	-0.21	-16.42	-15.32 (W)	-48.73 (S)	51.08	197.45	134.48	1755.98
92	8099.00	1.30	163.20	8097.95	-51.11	-14.98	51.54	0.52	-0.31	-16.56	-14.98 (W)	-51.11 (S)	53.26	196.34	-96.05	1851.95
93	8196.00	1.30	151.10	8194.92	-53.13	-14.13	53.53	0.28	0.00	-12.47	-14.13 (W)	-53.13 (S)	54.97	194.90	152.55	1948.92
94	8291.00	0.90	136.80	8289.90	-54.61	-13.10	54.99	0.51	-0.42	-15.05	-13.10 (W)	-54.61 (S)	56.16	193.49	142.83	2043.90
95	8387.00	0.70	123.00	8385.90	-55.48	-12.09	55.83	0.29	-0.21	-14.38	-12.09 (W)	-55.48 (S)	56.79	192.29	0.37	2139.90
96	8476.00	1.50	123.20	8474.88	-56.42	-10.66	56.72	0.90	0.90	0.22	-10.66 (W)	-56.42 (S)	57.42	190.70	46.05	2228.88
97	8600.00	1.60	126.80	8598.83	-58.34	-7.92	58.56	0.11	0.08	2.90	-7.92 (W)	-58.34 (S)	58.88	187.73	142.92	2352.83
98	8696.00	1.00	58.60	8694.81	-58.71	-6.13	58.87	1.60	-0.63	-71.04	-6.13 (W)	-58.71 (S)	59.03	185.96	-78.32	2448.81
99	8791.00	2.20	6.70	8789.78	-56.47	-5.21	56.60	1.86	1.26	-54.63	-5.21 (W)	-56.47 (S)	56.71	185.27	152.93	2543.78
100	8887.00	1.50	351.90	8885.73	-53.39	-5.17	53.53	0.88	-0.73	-15.42	-5.17 (W)	-53.39 (S)	53.64	185.53	136.51	2639.73

#	Measured Depth (ft)	INC Deg	AZM Deg	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	CLS %100 ft	Build Rate %/100 ft	Walk Rate %/100 ft	LR/EW From-Plan (ft)	UD/NS From-Plan (ft)	Closure (ft)	Closure Dir Deg	Tool Face Deg	Subsea TVD (ft)
101	8983.00	1.10	18.20	8981.70	-51.27	-5.06	51.40	0.74	-0.42	27.40	-5.06 (W)	-51.27 (S)	51.52	185.64	16.00	2735.70
102	9079.00	2.10	25.90	9077.66	-48.82	-4.00	48.92	1.06	1.04	8.02	-4.00 (W)	-48.82 (S)	48.98	184.69	71.92	2831.66
103	9173.00	2.30	37.60	9171.60	-45.77	-2.10	45.81	0.52	0.21	12.45	-2.10 (W)	-45.76 (S)	45.82	182.63	175.35	2925.60
104	9267.00	2.00	36.90	9265.53	-42.97	0.04	42.94	0.32	-0.32	-0.74	0.04 (E)	-39.96 (S)	42.97	179.95	-18.61	3019.53
105	9362.00	2.30	34.40	9360.46	-40.07	2.11	39.98	0.33	0.32	-2.63	2.11 (E)	-30.66 (S)	40.12	176.99	-75.61	3114.46
106	9457.00	2.50	21.80	9455.38	-36.57	3.95	36.43	0.59	0.21	-13.26	3.95 (E)	-18.84 (S)	36.78	173.83	179.82	3209.38
107	9553.00	1.60	21.70	9551.32	-33.38	5.23	33.21	0.94	-0.94	-0.10	5.23 (E)	-7.21 (S)	33.79	171.10	149.76	3305.32
108	9648.00	1.40	26.60	9646.29	-31.11	6.24	30.91	0.25	-0.21	5.16	6.24 (E)	3.40 (N)	31.73	168.66	163.77	3400.29
109	9744.00	0.40	324.90	9742.27	-29.79	6.57	29.57	1.31	-1.04	-64.27	6.57 (E)	13.11 (N)	30.50	167.56	101.57	3496.27
110	9839.00	1.10	244.20	9837.27	-29.91	5.56	29.73	1.17	0.74	-84.95	5.56 (E)	21.27 (N)	30.43	169.47	50.01	3591.27
111	9934.00	1.40	257.20	9932.24	-30.57	3.61	30.44	0.43	0.32	13.68	3.60 (E)	28.92 (N)	30.78	173.27	-73.58	3686.24
112	10008.00	2.50	216.10	10006.20	-32.07	1.77	32.00	2.31	1.49	-55.54	1.77 (E)	33.80 (N)	32.12	176.84	-33.53	3760.20
113	10054.00	7.90	192.60	10052.00	-35.97	0.49	35.94	12.38	11.74	-51.09	6.86 (R)	-33.23 (D)	35.97	179.22	-9.25	3806.00
114	10102.00	13.30	188.80	10099.16	-44.65	-1.07	44.67	11.34	11.25	-7.92	5.48 (R)	-29.15 (D)	44.67	181.38	-1.21	3853.16
115	10150.00	17.60	188.50	10145.42	-57.29	-2.99	57.36	8.96	8.96	-0.63	5.92 (R)	-20.71 (D)	57.37	182.99	13.51	3899.42
116	10198.00	22.80	191.70	10190.45	-73.59	-5.95	73.74	11.07	10.83	6.67	6.25 (R)	-10.31 (D)	73.83	184.63	41.87	3944.45
117	10244.00	26.20	198.30	10232.31	-91.97	-10.95	92.26	9.48	7.39	14.35	5.54 (R)	0.31 (U)	92.62	186.79	45.08	3986.31
118	10292.00	28.30	202.60	10274.99	-112.54	-18.65	113.05	5.99	4.38	8.96	3.75 (R)	9.45 (U)	114.07	189.41	25.42	4028.99
119	10339.00	31.90	205.80	10315.65	-134.01	-28.34	134.81	8.38	7.66	6.81	1.73 (R)	16.61 (U)	136.97	191.94	27.96	4069.65
120	10387.00	33.80	207.60	10355.97	-157.26	-40.05	158.41	4.45	3.96	3.75	-0.14 (L)	21.97 (U)	162.28	194.29	11.71	4109.97
121	10434.00	37.00	208.70	10394.28	-181.26	-52.90	182.79	6.94	6.81	2.34	-1.91 (L)	25.29 (U)	188.82	196.27	6.53	4148.28
122	10482.00	39.80	209.20	10431.89	-207.34	-67.34	209.30	5.87	5.83	1.04	-3.71 (L)	27.07 (U)	218.00	197.99	10.29	4185.89
123	10529.00	43.20	210.10	10467.09	-234.40	-82.75	236.82	7.34	7.23	1.91	-5.79 (L)	27.28 (U)	248.58	199.44	9.61	4221.09
124	10580.00	47.10	211.00	10503.05	-265.53	-101.13	268.49	7.75	7.65	1.76	-7.93 (L)	26.23 (U)	284.13	200.85	4.56	4257.05
125	10624.00	51.00	211.40	10531.88	-293.95	-118.34	297.42	8.89	8.86	0.91	-9.67 (L)	24.45 (U)	316.87	201.93	-4.69	4285.88
126	10672.00	55.00	211.00	10560.76	-326.73	-138.19	330.80	8.36	8.33	-0.83	-11.72 (L)	21.95 (U)	354.75	202.93	-2.65	4314.76
127	10718.00	58.70	210.80	10585.91	-359.77	-157.97	364.43	8.05	8.04	-0.43	-14.28 (L)	19.06 (U)	392.93	203.71	-46.65	4339.91
128	10766.00	62.10	206.80	10609.62	-396.34	-178.04	401.59	10.13	7.08	-8.33	-16.62 (L)	15.59 (U)	434.49	204.19	-39.31	4363.62
129	10813.00	65.70	203.60	10630.30	-434.53	-195.99	440.31	9.80	7.66	-6.81	-18.98 (L)	12.84 (U)	476.68	204.28	-40.14	4384.30
130	10861.00	69.40	200.30	10648.63	-475.66	-212.55	481.93	9.99	7.71	-6.87	-20.66 (L)	10.70 (U)	520.99	204.08	-32.06	4402.63
131	10908.00	73.40	197.70	10663.62	-517.77	-227.04	524.47	10.00	8.51	-5.53	-21.44 (L)	9.25 (U)	565.36	203.68	-45.31	4417.62
132	10956.00	76.80	194.20	10675.97	-562.36	-239.77	569.42	9.99	7.08	-7.29	-21.43 (L)	8.38 (U)	611.34	203.09	-43.52	4429.97
133	11004.00	79.40	191.70	10685.87	-608.13	-250.29	615.49	7.44	5.42	-5.21	-20.68 (L)	7.29 (U)	657.62	202.37	-46.17	4439.87
134	11052.00	81.40	189.60	10693.87	-654.64	-259.03	662.24	6.00	4.17	-4.37	-18.65 (L)	5.43 (U)	704.02	201.59	-34.40	4447.87
135	11099.00	84.90	187.20	10699.48	-700.79	-265.85	708.58	9.01	7.45	-5.11	-15.42 (L)	3.28 (U)	749.52	200.77	-16.91	4453.48
136	11147.00	87.20	186.50	10702.78	-748.33	-271.56	756.28	5.01	4.79	-1.46	-10.81 (L)	1.23 (U)	796.08	199.94	-40.62	4456.78
137	11174.00	89.30	184.70	10703.61	-775.19	-274.19	783.20	10.24	7.78	-6.67	-8.01 (L)	0.45 (U)	822.25	199.48	0.00	4457.61
138	11194.00	90.00	184.70	10703.73	-795.12	-275.83	803.17	3.50	3.50	0.00	-6.27 (L)	0.36 (U)	841.60	199.13	-74.74	4457.73
139	11290.00	90.90	181.40	10702.98	-890.97	-280.94	899.13	3.56	0.94	-3.44	-0.70 (L)	1.27 (U)	934.21	197.50	15.94	4456.98
140	11324.00	91.60	181.60	10702.23	-924.95	-281.83	933.12	2.14	2.06	0.59	0.35 (R)	2.07 (U)	966.93	196.95	167.90	4456.23
141	11420.00	88.80	181.00	10701.90	-1020.91	-284.00	1029.11	2.98	-2.92	-0.62	2.96 (R)	2.56 (U)	1059.68	195.55	48.82	4455.90
142	11515.00	89.50	181.80	10703.31	-1115.87	-286.32	1124.09	1.12	0.74	0.84	5.72 (R)	1.31 (U)	1152.02	194.39	159.45	4457.31
143	11610.00	88.70	182.10	10704.80	-1210.80	-289.56	1219.08	0.90	-0.84	0.32	9.39 (R)	-0.03 (D)	1244.95	193.45	-52.13	4458.80
144	11705.00	89.40	181.20	10706.38	-1305.75	-292.29	1314.07	1.20	0.74	-0.95	12.55 (R)	-1.45 (D)	1338.06	192.62	-40.60	4460.38
145	11801.00	90.10	180.60	10706.79	-1401.74	-293.80	1410.05	0.96	0.73	-0.62	14.50 (R)	-1.72 (D)	1432.19	191.84	-71.56	4460.79
146	11897.00	90.50	179.40	10706.29	-1497.73	-293.80	1506.01	1.32	0.42	-1.25	14.94 (R)	-1.06 (D)	1526.28	191.10	-96.34	4460.29
147	11994.00	90.40	178.50	10705.53	-1594.71	-292.02	1602.89	0.93	-0.10	-0.93	13.60 (R)	-0.14 (D)	1621.23	190.38	146.31	4459.53
148	12089.00	90.10	178.30	10705.11	-1689.67	-289.37	1697.72	0.38	-0.32	-0.21	11.39 (R)	0.43 (U)	1714.27	189.72	108.43	4459.11
149	12184.00	89.90	178.90	10705.11	-1784.65	-287.05	1792.58	0.67	-0.21	0.63	9.50 (R)	0.58 (U)	1807.58	189.14	128.66	4459.11
150	12280.00	89.10	177.90	10705.95	-1880.60	-284.37	1888.41	1.33	-0.83	-1.04	7.26 (R)	-0.10 (D)	1901.98	188.60	46.47	4459.95
151	12377.00	91.00	179.90	10705.87	-1977.58	-282.51	1985.28	2.84	1.96	2.06	5.83 (R)	0.14 (U)	1997.65	188.13	0.00	4459.87
152	12472.00	91.80	179.90	10703.55	-2072.55	-282.34	2080.20	0.84	0.84	0.00	6.10 (R)	2.62 (U)	2091.69	187.76	153.43	4457.55
153	12568.00	90.20	179.10	10701.87	-2168.52	-281.50	2176.11	1.86	-1.67	-0.83	5.70 (R)	4.45 (U)	2186.72	187.40	131.63	4455.87
154	12664.00	89.40	178.20	10702.21	-2264.49	-279.24	2271.97	1.25	-0.83	-0.94	3.88 (R)	4.27 (U)	2281.65	187.03	132.53	4456.21
155	12760.00	88.30	177.00	10704.13	-2360.39	-275.22	2367.69	1.70	-1.15	-1.25	0.30 (R)	2.50 (U)	2376.38	186.65	33.69	4458.13
156	12856.00	88.90	177.40	10706.48	-2456.24	-270.53	2463.36	0.75	0.63	0.42	-3.95 (L)	0.31 (U)	2471.10	186.29	24.23	4460.48

#	Measured Depth (ft)	INC Deg	AZM Deg	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS %/100 ft	Build Rate %/100 ft	Walk Rate %/100 ft	LRVIEW From-Plan (ft)	UD/NS From-Plan (ft)	Closure (ft)	Closure Dir Deg	Tool Face Deg	Subsea TVD (ft)
157	12950.00	90.90	178.30	10706.64	-2550.17	-267.01	2557.14	2.33	2.13	0.96	-7.05 (L)	0.29 (U)	2564.11	185.98	131.63	4460.64
158	13045.00	90.10	177.40	10705.81	-2645.10	-263.44	2651.91	1.27	-0.84	-0.95	-10.19 (L)	1.28 (U)	2658.19	185.69	121.61	4459.81
159	13140.00	89.30	176.10	10706.31	-2739.94	-258.06	2746.55	1.61	-0.84	-1.37	-15.16 (L)	0.93 (U)	2752.07	185.38	-63.43	4460.31
160	13235.00	89.40	175.90	10707.39	-2834.71	-251.43	2841.06	0.24	0.11	-0.21	-21.37 (L)	0.01 (U)	2845.83	185.07	90.01	4461.39
161	13330.00	89.40	178.30	10708.38	-2929.57	-246.63	2935.74	2.53	0.00	2.53	-25.70 (L)	-0.83 (D)	2939.93	184.81	48.37	4462.38
162	13425.00	90.20	179.20	10708.72	-3024.55	-244.55	3030.60	1.27	0.84	0.95	-27.33 (L)	-1.01 (D)	3034.42	184.62	90.00	4462.72
163	13520.00	90.20	179.70	10708.38	-3119.54	-243.64	3125.53	0.53	0.00	0.53	-27.81 (L)	-0.52 (D)	3129.04	184.47	56.31	4462.38
164	13616.00	90.40	180.00	10707.88	-3215.54	-243.39	3221.47	0.38	0.21	0.31	-27.62 (L)	0.13 (U)	3224.74	184.33	71.56	4461.88
165	13710.00	90.60	180.60	10707.06	-3309.53	-243.88	3315.44	0.67	0.21	0.64	-26.71 (L)	1.11 (U)	3318.51	184.21	149.54	4461.06
166	13806.00	88.90	179.60	10707.48	-3405.53	-244.05	3411.39	2.05	-1.77	-1.04	-26.10 (L)	0.84 (U)	3414.26	184.10	126.88	4461.48
167	13902.00	88.60	179.20	10709.57	-3501.50	-243.04	3507.29	0.52	-0.31	-0.42	-26.66 (L)	-1.10 (D)	3509.93	183.97	36.87	4463.57
168	13998.00	89.40	179.80	10711.25	-3597.48	-242.21	3603.20	1.04	0.83	0.63	-27.06 (L)	-2.62 (D)	3605.62	183.85	-54.46	4465.25
169	14093.00	89.90	179.10	10711.83	-3692.47	-241.30	3698.12	0.91	0.53	-0.74	-27.54 (L)	-3.04 (D)	3700.35	183.74	35.54	4465.83
170	14188.00	90.60	179.60	10711.42	-3787.47	-240.22	3793.04	0.91	0.74	0.53	-28.18 (L)	-2.48 (D)	3795.08	183.63	-44.99	4465.42
171	14284.00	91.20	179.00	10709.91	-3883.45	-239.04	3888.93	0.88	0.63	-0.63	-28.92 (L)	-0.81 (D)	3890.80	183.52	124.99	4463.91
172	14381.00	90.50	180.00	10708.47	-3980.43	-238.20	3985.85	1.26	-0.72	1.03	-29.32 (L)	0.79 (U)	3987.55	183.42	158.96	4462.47
173	14476.00	89.20	180.50	10708.72	-4075.43	-238.61	4080.81	1.47	-1.37	0.53	-28.47 (L)	0.69 (U)	4082.41	183.35	101.31	4462.72
174	14570.00	89.10	180.00	10710.11	-4169.41	-239.02	4174.77	0.54	-0.11	-0.53	-27.63 (L)	-0.55 (D)	4176.26	183.28	19.98	4464.11
175	14666.00	90.20	180.40	10710.70	-4265.41	-239.36	4270.73	1.22	1.15	0.42	-26.86 (L)	-0.98 (D)	4272.12	183.21	44.99	4464.70
176	14762.00	91.10	181.30	10709.61	-4361.39	-240.78	4366.71	1.33	0.94	0.94	-25.00 (L)	0.26 (U)	4368.03	183.16	4.76	4463.61
177	14857.00	92.30	181.40	10706.79	-4456.32	-243.02	4461.66	1.27	1.26	0.11	-22.33 (L)	3.24 (U)	4462.94	183.12	180.00	4460.79
178	14953.00	91.80	181.40	10703.36	-4552.23	-245.36	4557.60	0.52	-0.52	0.00	-19.54 (L)	6.83 (U)	4558.84	183.09	44.97	4457.36
179	15049.00	92.30	181.90	10699.92	-4648.13	-248.13	4653.54	0.74	0.52	0.52	-16.34 (L)	10.42 (U)	4654.75	183.06	105.92	4453.92
180	15144.00	91.70	184.00	10696.61	-4742.94	-253.01	4748.45	2.30	-0.63	2.21	-11.02 (L)	13.89 (U)	4749.68	183.05	178.02	4450.61
181	15240.00	88.80	184.10	10696.19	-4838.69	-259.79	4844.37	3.02	-3.02	0.10	-3.84 (L)	14.46 (U)	4845.66	183.07	124.42	4450.19
182	15335.00	87.50	182.20	10699.26	-4933.49	-265.01	4939.28	2.42	-1.37	-2.00	1.82 (R)	11.55 (U)	4940.60	183.07	17.10	4453.26
183	15431.00	88.80	182.60	10702.35	-5029.35	-269.03	5035.22	1.42	1.35	0.42	6.30 (R)	8.60 (U)	5036.54	183.06	125.55	4456.35
184	15526.00	88.30	181.90	10704.76	-5124.25	-272.76	5130.19	0.91	-0.53	-0.74	10.46 (R)	6.35 (U)	5131.50	183.05	-58.00	4458.76
185	15622.00	88.80	181.10	10707.19	-5220.18	-275.27	5226.16	0.98	0.52	-0.83	13.42 (R)	4.08 (U)	5227.44	183.02	168.69	4461.19
186	15717.00	88.30	181.00	10709.59	-5315.14	-277.01	5321.12	0.54	-0.53	-0.11	15.59 (R)	1.83 (U)	5322.35	182.98	101.33	4463.59
187	15812.00	88.10	180.00	10712.58	-5410.09	-277.84	5416.05	1.07	-0.21	-1.05	16.85 (R)	-1.01 (D)	5417.22	182.94	-14.03	4466.58
188	15907.00	88.50	179.90	10715.39	-5505.04	-277.75	5510.96	0.43	0.42	-0.11	17.20 (R)	-3.67 (D)	5512.05	182.89	-23.96	4469.39
189	16003.00	89.40	179.50	10717.15	-5601.03	-277.25	5606.88	1.03	0.94	-0.42	17.14 (R)	-5.27 (D)	5607.88	182.83	-29.75	4471.15
190	16099.00	90.10	179.10	10717.57	-5697.02	-276.08	5702.79	0.84	0.73	-0.42	16.40 (R)	-5.54 (D)	5703.70	182.77	168.69	4471.57
191	16195.00	89.60	179.00	10717.82	-5793.00	-274.49	5798.68	0.53	-0.52	-0.10	15.25 (R)	-5.63 (D)	5799.50	182.71	-34.99	4471.82
192	16290.00	90.60	178.30	10717.66	-5887.97	-272.25	5893.54	1.28	1.05	-0.74	13.45 (R)	-5.32 (D)	5894.26	182.65	140.71	4471.66
193	16386.00	89.50	179.20	10717.57	-5983.95	-270.15	5989.41	1.48	-1.15	0.94	11.79 (R)	-5.07 (D)	5990.04	182.58	173.66	4471.57
194	16482.00	88.60	179.10	10719.17	-6079.92	-268.73	6085.29	0.94	-0.94	-0.10	10.80 (R)	-6.51 (D)	6085.86	182.53	130.62	4473.17
195	16576.00	88.00	179.80	10721.95	-6173.88	-267.83	6179.18	0.98	-0.64	0.74	10.33 (R)	-9.15 (D)	6179.68	182.48	-74.06	4475.95
196	16671.00	88.20	179.10	10725.10	-6268.82	-266.92	6274.05	0.77	0.21	-0.74	9.85 (R)	-12.15 (D)	6274.50	182.44	12.81	4479.10
197	16766.00	90.40	179.60	10726.26	-6363.80	-265.84	6368.95	2.37	2.32	0.53	9.21 (R)	-13.15 (D)	6369.35	182.39	56.31	4480.26
198	16862.00	90.80	180.20	10725.26	-6459.79	-265.67	6464.89	0.75	0.42	0.62	9.48 (R)	-11.99 (D)	6465.26	182.36	0.00	4479.26
199	16957.00	90.80	180.20	10723.93	-6554.78	-266.00	6559.85	0.00	0.00	0.00	10.25 (R)	-10.51 (D)	6560.18	182.32	-8.13	4477.93
200	17052.00	91.50	180.10	10722.03	-6649.76	-266.25	6654.79	0.74	0.74	-0.11	10.93 (R)	-8.45 (D)	6655.09	182.29	153.43	4476.03
201	17146.00	88.90	178.80	10721.70	-6743.75	-265.35	6748.71	3.09	-2.77	-1.38	10.46 (R)	-7.97 (D)	6748.97	182.25	68.97	4475.70
202	17242.00	89.40	180.10	10723.12	-6839.73	-264.43	6844.62	1.45	0.52	1.35	9.98 (R)	-9.24 (D)	6844.84	182.21	8.13	4477.12
203	17336.00	90.10	180.20	10723.53	-6933.73	-264.67	6938.58	0.75	0.74	0.11	10.65 (R)	-9.50 (D)	6938.78	182.19	-14.93	4477.53
204	17432.00	91.60	179.80	10722.11	-7029.72	-264.67	7034.52	1.62	1.56	-0.42	11.09 (R)	-7.92 (D)	7034.70	182.16	18.41	4476.11
205	17527.00	93.10	180.30	10718.21	-7124.63	-264.76	7129.40	1.66	1.58	0.53	11.60 (R)	-3.87 (D)	7129.55	182.13	120.26	4472.21
206	17622.00	92.40	179.10	10713.65	-7219.52	-264.26	7224.22	1.46	-0.74	-1.26	11.54 (R)	0.85 (U)	7224.36	182.10	135.00	4467.65
207	17718.00	91.40	178.10	10710.47	-7315.44	-261.92	7320.02	1.47	-1.04	-1.04	9.64 (R)	4.19 (U)	7320.12	182.05	75.95	4464.47
208	17813.00	91.60	178.90	10707.98	-7410.37	-259.43	7414.84	0.87	0.21	0.84	7.58 (R)	6.83 (U)	7414.91	182.01	180.00	4461.98
209	17909.00	90.80	178.90	10705.97	-7506.33	-257.59	7510.70	0.83	-0.83	0.00	6.18 (R)	8.99 (U)	7510.75	181.97	138.81	4459.97
210	18005.00	90.00	179.60	10705.30	-7602.32	-256.33	7606.60	1.11	-0.83	0.73	5.36 (R)	9.82 (U)	7606.64	181.93	122.28	4459.30
211	18100.00	88.80	181.50	10706.30	-7697.30	-257.24	7701.57	2.37	-1.26	2.00	6.70 (R)	8.98 (U)	7701.60	181.91	81.88	4460.30
212	18195.00	88.90	182.20	10708.21	-7792.23	-260.31	7796.55	0.74	0.11	0.74	10.21 (R)	7.22 (U)	7796.58	181.91	126.88	4462.21

#	Measured Depth (ft)	INC Deg	AZM Deg	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	OLS "/100 ft	Build Rate "/100 ft	Walk Rate "/100 ft	LR/EW From-Plan (ft)	UD/NS From-Plan (ft)	Closure (ft)	Closure Dir Deg	Tool Face Deg	Subsea TVD (ft)
213	18289.00	88.60	182.60	10710.26	-7886.13	-264.24	7890.52	0.53	-0.32	0.43	14.58 (R)	5.33 (U)	7890.56	181.92	176.64	4464.26
214	18384.00	86.90	182.50	10713.99	-7980.96	-268.47	7985.44	1.79	-1.79	-0.11	19.25 (R)	1.75 (U)	7985.47	181.93	32.46	4467.99
215	18487.00	88.00	183.20	10718.57	-8083.73	-273.58	8088.31	1.27	1.07	0.68	24.86 (R)	-2.67 (D)	8088.36	181.94	0.00	4472.57
216	18538.00	88.00	183.20	10720.35	-8134.62	-276.43	8139.26	0.00	0.00	0.00	27.95 (R)	-4.37 (D)	8139.31	181.95	0.00	4474.35