

COG

EIDER FEDERAL #204H

SCAN FREEDOM

6/24/2018

This survey is correct to the best of my knowledge and is supported by actual field data.

Kolton Cotton

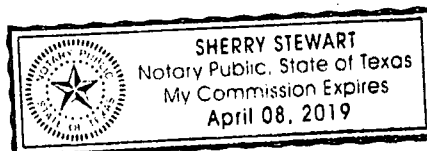
Notarized this date 1st of August, 2018.

Sherry Stewart

Notary Signature

County of Midland

State of Texas



Scientific Drilling

The Ultimate Partner In Wellbore Placement

SURVEY REPORT

EIDER FEDERAL #204H

DEFINITIVE GYRO KEEPER SURVEY

CUSTOMER
PROJECT
FIELD

COG
Eider Federal #204H
Avalon

SDI JOB NO.
SDI DISTRICT
SDI KIT/UNIT

OP011130
Midland

SITE INFORMATION

Site Name
Lat/Long
Northing
Easting

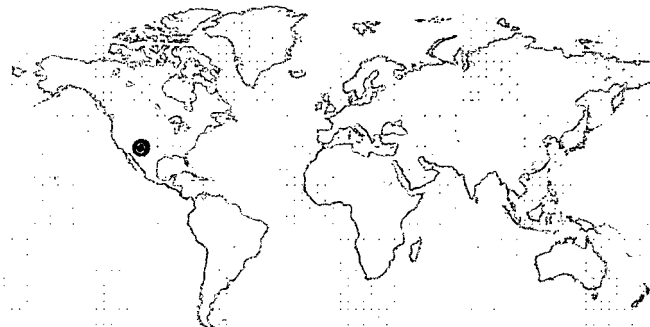
Eider Federal #204H
32.167278° N, 103.646852° E
425,254 ft
712,420 ft

Section
Township
Range

MAP INFORMATION

North Reference
Grid Correction
System
Datum
Map Zone

Grid North
-0.36 deg
US State Plane 1927
North American Datum 1927 (Clarke 1866)
New Mexico East: 3001



WELL INFORMATION

Lat/Long
Northing
Easting
UWI

32.167278° N, 103.646852° W
425,254 ft
712,420.5 ft
30-025-44636

DEPTH AND ELEVATION REFERENCE

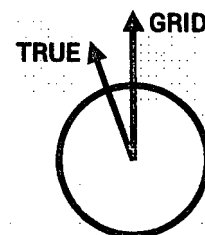
Ground Level
Reference Datum
Reference Height
Reference Elevation

3525 ft above Mean Sea Level
RKB
26 ft above G.L.
3551 ft

VERTICAL SECTION REFERENCE

+N/-S
+E/-W
Proposal Direction
Calculation Method

0 ft
0 ft
4.04°
Minimum Curvature



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity
True to Grid

998.484 mG [computed]
subtract 0.36°

WELL NOTES

OPERATORS

B.Kennedy

SDI Operator Name (Printed)

SIGNATURE

DATE

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
100.00	0.14	153.01	100.00	-0.11	-0.11	0.06	0.14	0.12	153.01
125.00	0.08	168.37	125.00	-0.15	-0.15	0.07	0.28	0.17	154.50
150.00	0.33	239.59	150.00	-0.20	-0.21	0.01	1.25	0.21	175.91
175.00	0.35	233.95	175.00	-0.29	-0.29	-0.11	0.17	0.31	200.85
200.00	0.24	230.17	200.00	-0.38	-0.37	-0.21	0.47	0.42	210.05
225.00	0.20	226.44	225.00	-0.45	-0.43	-0.28	0.17	0.51	213.41
250.00	0.22	262.13	250.00	-0.49	-0.47	-0.36	0.51	0.59	217.81
275.00	0.25	268.21	275.00	-0.51	-0.47	-0.46	0.15	0.66	224.24
300.00	0.50	248.01	300.00	-0.56	-0.52	-0.62	1.14	0.80	230.04
325.00	0.40	248.05	325.00	-0.65	-0.59	-0.80	0.40	0.99	233.55
350.00	0.40	229.06	350.00	-0.75	-0.68	-0.95	0.53	1.17	234.29
375.00	0.25	222.01	375.00	-0.85	-0.78	-1.05	0.60	1.31	233.43
400.00	0.29	222.82	400.00	-0.94	-0.87	-1.13	0.16	1.42	232.52
425.00	0.08	244.68	425.00	-1.00	-0.92	-1.19	0.87	1.50	232.26
450.00	0.22	286.06	450.00	-1.00	-0.92	-1.25	0.67	1.55	233.83
475.00	0.07	268.86	475.00	-0.99	-0.90	-1.31	0.63	1.59	235.49
500.00	0.10	47.74	500.00	-0.98	-0.89	-1.31	0.62	1.58	235.88
525.00	0.12	70.05	525.00	-0.95	-0.86	-1.27	0.19	1.54	235.76
550.00	0.20	72.52	550.00	-0.92	-0.84	-1.20	0.33	1.47	235.00
575.00	0.25	57.83	575.00	-0.88	-0.80	-1.11	0.31	1.37	234.33
600.00	0.33	31.65	599.99	-0.78	-0.71	-1.03	0.59	1.25	235.43
625.00	0.16	57.53	624.99	-0.70	-0.63	-0.96	0.79	1.15	236.79
650.00	0.12	69.98	649.99	-0.67	-0.60	-0.91	0.19	1.09	236.45
675.00	0.13	95.66	674.99	-0.66	-0.60	-0.86	0.22	1.05	235.15
700.00	0.14	112.89	699.99	-0.67	-0.61	-0.80	0.17	1.01	232.62
725.00	0.23	99.59	724.99	-0.68	-0.63	-0.72	0.40	0.96	228.78
750.00	0.20	117.14	749.99	-0.70	-0.66	-0.63	0.29	0.92	223.71
775.00	0.17	112.23	774.99	-0.73	-0.70	-0.56	0.16	0.89	218.80
800.00	0.29	95.06	799.99	-0.75	-0.71	-0.46	0.54	0.85	212.95
825.00	0.43	79.26	824.99	-0.72	-0.70	-0.31	0.70	0.77	203.72
850.00	0.28	70.82	849.99	-0.67	-0.67	-0.16	0.65	0.68	193.45

MD	INC	AZIM	TVD	VS	HN/S	HEAV	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
875.00	0.26	58.26	874.99	-0.62	-0.62	-0.05	0.25	0.62	185.04
900.00	0.06	165.93	899.99	-0.60	-0.60	0.00	1.12	0.60	180.36
925.00	0.14	141.71	924.99	-0.63	-0.64	0.02	0.37	0.64	178.33
950.00	0.22	185.01	949.99	-0.70	-0.71	0.03	0.61	0.71	177.28
975.00	0.20	176.32	974.99	-0.79	-0.80	0.03	0.15	0.80	177.69
1000.00	0.23	116.41	999.99	-0.86	-0.87	0.08	0.87	0.87	174.68
1025.00	0.15	91.71	1024.99	-0.88	-0.89	0.16	0.45	0.90	169.82
1050.00	0.12	134.18	1049.99	-0.89	-0.91	0.21	0.42	0.93	166.89
1075.00	0.16	161.84	1074.99	-0.94	-0.96	0.24	0.31	0.99	165.92
1100.00	0.27	164.15	1099.99	-1.03	-1.05	0.27	0.45	1.08	165.69
1125.00	0.19	125.91	1124.99	-1.10	-1.13	0.32	0.68	1.17	164.34
1150.00	0.11	185.30	1149.99	-1.15	-1.18	0.35	0.65	1.23	163.56
1175.00	0.18	156.70	1174.99	-1.21	-1.24	0.36	0.38	1.29	163.77
1200.00	0.09	130.23	1199.99	-1.26	-1.29	0.39	0.41	1.34	163.10
1225.00	0.62	35.09	1224.99	-1.15	-1.19	0.48	2.53	1.28	157.87
1250.00	1.50	27.28	1249.99	-0.73	-0.79	0.71	3.58	1.06	137.89
1275.00	1.41	17.73	1274.98	-0.14	-0.20	0.96	1.04	0.98	101.99
1300.00	1.60	22.77	1299.97	0.49	0.41	1.18	0.94	1.25	70.80
1325.00	1.33	24.19	1324.96	1.10	1.00	1.44	1.09	1.75	55.19
1350.00	1.61	25.85	1349.95	1.70	1.58	1.71	1.11	2.33	47.25
1375.00	1.53	22.38	1374.94	2.34	2.21	1.99	0.49	2.97	42.07
1400.00	1.66	21.73	1399.93	3.00	2.85	2.25	0.53	3.63	38.31
1425.00	1.38	19.18	1424.92	3.64	3.47	2.49	1.14	4.27	35.59
1450.00	1.48	21.31	1449.92	4.24	4.06	2.70	0.42	4.88	33.66
1475.00	1.61	22.34	1474.91	4.88	4.68	2.95	0.55	5.54	32.23
1500.00	1.53	27.82	1499.90	5.52	5.30	3.24	0.69	6.21	31.44
1525.00	1.56	36.39	1524.89	6.11	5.87	3.60	0.93	6.89	31.51
1550.00	1.54	39.99	1549.88	6.67	6.40	4.02	0.40	7.56	32.10
1575.00	1.59	43.17	1574.87	7.21	6.91	4.47	0.40	8.23	32.88
1600.00	1.48	36.74	1599.86	7.75	7.42	4.90	0.80	8.89	33.42
1625.00	1.60	35.60	1624.85	8.32	7.96	5.29	0.48	9.56	33.61
1650.00	1.44	34.86	1649.84	8.88	8.50	5.68	0.65	10.23	33.72

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE	CLOSURE
ft	deg	deg	ft	ft	ft	ft	%/100ft	DIST	DIR
1675.00	1.37	37.73	1674.84	9.40	9.00	6.04	0.39	10.84	33.86
1700.00	1.57	40.64	1699.83	9.93	9.49	6.44	0.86	11.48	34.17
1725.00	1.48	39.72	1724.82	10.46	10.00	6.87	0.40	12.14	34.50
1750.00	1.61	41.09	1749.81	11.00	10.52	7.31	0.57	12.81	34.81
1775.00	1.72	41.90	1774.80	11.58	11.06	7.79	0.43	13.53	35.17
1800.00	1.70	39.89	1799.79	12.18	11.62	8.28	0.25	14.27	35.46
1825.00	1.72	40.04	1824.78	12.78	12.19	8.76	0.07	15.01	35.69
1850.00	1.73	39.41	1849.77	13.39	12.77	9.24	0.08	15.76	35.88
1875.00	1.76	36.76	1874.76	14.02	13.37	9.71	0.35	16.52	35.98
1900.00	1.67	36.95	1899.74	14.65	13.97	10.16	0.34	17.27	36.02
1925.00	1.81	38.78	1924.73	15.28	14.57	10.62	0.58	18.03	36.10
1950.00	1.65	42.09	1949.72	15.89	15.14	11.11	0.73	18.78	36.27
1975.00	1.83	40.20	1974.71	16.49	15.72	11.61	0.72	19.54	36.46
2000.00	1.81	43.86	1999.70	17.12	16.30	12.14	0.47	20.33	36.67
2025.00	1.80	43.85	2024.68	17.72	16.87	12.69	0.08	21.11	36.94
2050.00	1.71	40.44	2049.67	18.33	17.44	13.20	0.53	21.87	37.12
2075.00	1.87	41.99	2074.66	18.95	18.03	13.72	0.67	22.65	37.27
2100.00	1.95	42.88	2099.65	19.60	18.64	14.28	0.33	23.48	37.45
2125.00	1.92	43.65	2124.63	20.26	19.26	14.86	0.16	24.33	37.65
2150.00	1.90	43.16	2149.62	20.90	19.86	15.43	0.11	25.15	37.84
2175.00	1.88	42.12	2174.60	21.55	20.47	15.99	0.15	25.98	37.99
2200.00	1.88	41.48	2199.59	22.20	21.08	16.54	0.08	26.79	38.11
2225.00	1.77	43.77	2224.58	22.82	21.67	17.08	0.52	27.59	38.24
2250.00	1.88	48.83	2249.57	23.41	22.22	17.65	0.77	28.38	38.47
2275.00	2.00	51.36	2274.55	23.99	22.76	18.30	0.60	29.21	38.80
2300.00	2.09	53.12	2299.54	24.59	23.31	19.01	0.42	30.08	39.20
2325.00	1.97	48.11	2324.52	25.20	23.87	19.69	0.86	30.94	39.53
2350.00	1.96	46.94	2349.51	25.82	24.45	20.32	0.17	31.79	39.74
2375.00	1.73	47.06	2374.49	26.40	24.99	20.91	0.92	32.59	39.92
2400.00	1.78	50.95	2399.48	26.94	25.49	21.49	0.52	33.34	40.13
2425.00	2.00	54.54	2424.47	27.49	25.99	22.15	1.02	34.15	40.43
2450.00	2.04	53.14	2449.45	28.06	26.51	22.86	0.23	35.00	40.77

MD	INC	AZIM	TVD	VS	N/S	TE/W	DLS	CLOSURE	CLOSURE
ft	deg	deg	ft	ft	ft	ft	%/100ft	DIST	DIR
2475.00	2.06	50.75	2474.44	28.66	27.06	23.56	0.35	35.88	41.04
2500.00	2.00	51.42	2499.42	29.26	27.62	24.25	0.25	36.75	41.28
2525.00	1.92	52.82	2524.41	29.83	28.14	24.92	0.37	37.59	41.53
2550.00	2.05	54.99	2549.39	30.39	28.66	25.63	0.59	38.44	41.81
2575.00	2.10	55.33	2574.37	30.96	29.17	26.37	0.19	39.32	42.11
2600.00	2.08	51.53	2599.36	31.55	29.71	27.10	0.56	40.22	42.36
2625.00	2.12	54.25	2624.34	32.15	30.27	27.83	0.42	41.12	42.60
2650.00	1.96	56.17	2649.32	32.71	30.77	28.56	0.69	41.98	42.86
2675.00	2.06	57.72	2674.31	33.24	31.25	29.29	0.46	42.83	43.15
2700.00	2.05	55.41	2699.29	33.78	31.74	30.04	0.33	43.70	43.42
2725.00	2.17	54.30	2724.28	34.36	32.27	30.79	0.48	44.61	43.65
2750.00	1.89	54.73	2749.26	34.93	32.79	31.51	1.10	45.48	43.86
2775.00	2.00	57.19	2774.25	35.45	33.26	32.22	0.55	46.31	44.08
2800.00	1.78	60.54	2799.23	35.93	33.69	32.92	0.98	47.10	44.34
2825.00	1.29	67.63	2824.22	36.27	33.99	33.52	2.11	47.74	44.60
2850.00	0.59	102.64	2849.22	36.37	34.07	33.91	3.50	48.06	44.86
2875.00	0.36	137.07	2874.22	36.30	33.98	34.09	1.43	48.13	45.09
2900.00	0.49	158.70	2899.22	36.15	33.82	34.18	0.82	48.09	45.30
2925.00	0.60	158.99	2924.22	35.93	33.60	34.26	0.45	47.99	45.56
2950.00	0.72	149.64	2949.22	35.68	33.34	34.39	0.62	47.90	45.89
2975.00	0.70	140.78	2974.21	35.44	33.09	34.57	0.44	47.85	46.25
3000.00	0.64	163.99	2999.21	35.20	32.84	34.70	1.10	47.77	46.58
3025.00	0.81	163.63	3024.21	34.90	32.53	34.79	0.67	47.63	46.92
3050.00	0.81	157.87	3049.21	34.58	32.20	34.91	0.33	47.49	47.31
3075.00	0.65	150.94	3074.21	34.30	31.91	35.04	0.71	47.40	47.67
3100.00	0.74	161.81	3099.20	34.03	31.64	35.16	0.63	47.30	48.02
3125.00	0.91	160.70	3124.20	33.70	31.30	35.28	0.68	47.16	48.42
3150.00	1.06	156.80	3149.20	33.32	30.90	35.43	0.65	47.01	48.91
3175.00	1.02	151.96	3174.19	32.92	30.49	35.63	0.38	46.89	49.44
3200.00	1.01	160.90	3199.19	32.53	30.09	35.80	0.63	46.77	49.96
3225.00	0.96	161.28	3224.19	32.14	29.68	35.94	0.21	46.61	50.45
3250.00	1.02	164.79	3249.18	31.74	29.27	36.07	0.36	46.45	50.94

MD	INC	AZIM	TVD	VS	IN/S	HE/W	DLS	CLOSURE	CLOSURE
ft	deg	deg	ft	ft	ft	ft	%/100ft	DIST	DIR
3275.00	1.11	169.45	3274.18	31.29	28.82	36.17	0.50	46.25	51.46
3300.00	1.17	167.06	3299.17	30.81	28.33	36.27	0.31	46.02	52.01
3325.00	1.16	164.80	3324.17	30.33	27.84	36.40	0.19	45.82	52.59
3350.00	1.15	169.40	3349.16	29.85	27.35	36.51	0.37	45.61	53.16
3375.00	1.27	167.08	3374.16	29.34	26.83	36.62	0.54	45.39	53.77
3400.00	1.32	166.00	3399.15	28.80	26.28	36.75	0.20	45.18	54.43
3425.00	1.34	163.62	3424.14	28.25	25.72	36.90	0.25	44.98	55.12
3450.00	1.30	162.19	3449.14	27.72	25.17	37.07	0.22	44.81	55.83
3475.00	1.55	159.78	3474.13	27.14	24.58	37.27	1.02	44.65	56.60
3500.00	1.61	160.43	3499.12	26.52	23.93	37.51	0.24	44.49	57.46
3525.00	1.69	156.57	3524.11	25.87	23.26	37.77	0.54	44.36	58.37
3550.00	1.69	151.39	3549.10	25.23	22.60	38.09	0.61	44.29	59.32
3575.00	1.86	156.48	3574.09	24.56	21.91	38.43	0.95	44.24	60.31
3600.00	1.99	154.16	3599.07	23.83	21.15	38.78	0.59	44.17	61.40
3625.00	2.13	152.49	3624.06	23.05	20.34	39.19	0.59	44.15	62.56
3650.00	2.29	151.38	3649.04	22.24	19.49	39.64	0.69	44.17	63.81
3675.00	2.25	147.86	3674.02	21.42	18.64	40.14	0.59	44.26	65.09
3700.00	2.29	148.42	3699.00	20.62	17.80	40.66	0.20	44.39	66.36
3725.00	2.31	150.21	3723.98	19.79	16.94	41.17	0.30	44.52	67.64
3750.00	2.31	150.65	3748.96	18.95	16.06	41.67	0.07	44.66	68.93
3775.00	2.33	146.25	3773.94	18.13	15.20	42.20	0.72	44.85	70.20
3800.00	2.22	148.63	3798.92	17.33	14.36	42.74	0.58	45.09	71.43
3825.00	2.43	154.10	3823.90	16.48	13.47	43.22	1.21	45.27	72.69
3850.00	2.34	152.68	3848.88	15.59	12.54	43.69	0.43	45.45	73.98
3875.00	2.33	150.54	3873.86	14.73	11.65	44.17	0.35	45.68	75.23
3900.00	2.29	156.51	3898.84	13.86	10.75	44.62	0.97	45.89	76.46
3925.00	2.37	156.91	3923.81	12.96	9.81	45.02	0.32	46.08	77.71
3950.00	2.50	156.93	3948.79	12.01	8.83	45.44	0.53	46.29	79.00
3975.00	2.45	151.52	3973.77	11.08	7.86	45.91	0.96	46.57	80.28
4000.00	2.34	151.89	3998.75	10.19	6.94	46.40	0.43	46.92	81.49
4025.00	2.51	153.35	4023.72	9.29	6.00	46.89	0.73	47.27	82.71
4050.00	2.48	152.60	4048.70	8.36	5.03	47.38	0.17	47.65	83.94

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE	CLOSURE
ft	deg	deg	ft	ft	ft	ft	%/100ft	DIST	DIR
4075.00	2.39	156.22	4073.68	7.43	4.07	47.84	0.72	48.01	85.13
4100.00	2.76	149.89	4098.65	6.47	3.07	48.35	1.87	48.45	86.36
4125.00	2.91	147.12	4123.62	5.47	2.02	49.00	0.80	49.04	87.64
4150.00	3.14	146.08	4148.59	4.42	0.92	49.73	0.95	49.74	88.94
4175.00	3.37	145.82	4173.55	3.30	-0.26	50.52	0.92	50.52	90.29
4200.00	3.45	144.14	4198.50	2.15	-1.47	51.37	0.52	51.40	91.64
4225.00	3.61	141.86	4223.46	0.99	-2.70	52.30	0.85	52.37	92.96
4250.00	3.62	143.43	4248.41	-0.19	-3.95	53.26	0.40	53.40	94.25
4275.00	3.69	141.99	4273.35	-1.39	-5.22	54.22	0.46	54.47	95.50
4300.00	3.66	142.46	4298.30	-2.58	-6.49	55.20	0.16	55.58	96.70
4325.00	3.76	142.98	4323.25	-3.80	-7.78	56.18	0.43	56.72	97.88
4350.00	3.87	139.99	4348.20	-5.02	-9.08	57.22	0.91	57.94	99.01
4375.00	4.12	140.44	4373.13	-6.28	-10.42	58.34	1.02	59.26	100.12
4400.00	4.42	138.52	4398.07	-7.61	-11.83	59.55	1.32	60.71	101.24
4425.00	4.66	136.67	4422.99	-8.97	-13.29	60.88	1.12	62.32	102.32
4450.00	5.04	137.24	4447.90	-10.41	-14.84	62.33	1.54	64.07	103.39
4475.00	5.48	137.17	4472.79	-11.98	-16.52	63.88	1.77	65.99	104.50
4500.00	5.89	135.72	4497.67	-13.65	-18.32	65.59	1.70	68.10	105.60
4525.00	5.83	135.02	4522.54	-15.33	-20.13	67.38	0.37	70.33	106.63
4550.00	5.91	135.18	4547.41	-17.01	-21.94	69.19	0.34	72.58	107.60
4575.00	6.14	134.89	4572.27	-18.73	-23.80	71.04	0.93	74.92	108.52
4600.00	6.13	134.71	4597.13	-20.48	-25.68	72.94	0.08	77.33	109.40
4625.00	6.01	133.94	4621.99	-22.19	-27.53	74.83	0.58	79.74	110.20
4650.00	6.06	134.09	4646.85	-23.88	-29.36	76.72	0.18	82.15	110.94
4675.00	6.28	133.45	4671.70	-25.60	-31.21	78.66	0.92	84.63	111.64
4700.00	6.28	131.17	4696.55	-27.29	-33.06	80.68	1.00	87.19	112.28
4725.00	6.29	131.62	4721.40	-28.95	-34.86	82.74	0.20	89.78	112.85
4750.00	6.34	130.51	4746.25	-30.60	-36.67	84.81	0.52	92.40	113.38
4775.00	6.44	129.26	4771.09	-32.23	-38.45	86.94	0.70	95.07	113.86
4800.00	6.73	128.57	4795.93	-33.87	-40.25	89.17	1.18	97.84	114.29
4825.00	6.75	127.58	4820.76	-35.51	-42.06	91.48	0.47	100.69	114.69
4850.00	6.72	127.47	4845.58	-37.13	-43.85	93.81	0.11	103.55	115.05

MD	INC	AZIM	TRD	VS	N/S	E/W	DLS	CLOSURE	CLOSURE
ft	deg	deg	ft	ft	ft	ft	%/100ft	DIST	DIR
4875.00	6.80	128.65	4870.41	-38.78	-45.66	96.12	0.64	106.42	115.41
4900.00	6.86	128.56	4895.23	-40.46	-47.52	98.45	0.25	109.31	115.76
4925.00	6.98	126.22	4920.05	-42.12	-49.34	100.84	1.22	112.27	116.07
4950.00	6.93	128.00	4944.87	-43.77	-51.17	103.25	0.88	115.24	116.36
4975.00	7.01	127.37	4969.68	-45.45	-53.03	105.66	0.45	118.21	116.65
5000.00	6.83	128.07	4994.50	-47.12	-54.87	108.04	0.79	121.17	116.92
5025.00	6.86	128.81	5019.32	-48.80	-56.72	110.37	0.36	124.10	117.20
5050.00	6.88	129.12	5044.14	-50.52	-58.60	112.70	0.17	127.02	117.47
5075.00	6.76	127.96	5068.97	-52.20	-60.45	115.02	0.73	129.94	117.73
5100.00	6.69	129.56	5093.79	-53.87	-62.28	117.30	0.80	132.81	117.97
5125.00	6.76	129.97	5118.62	-55.57	-64.16	119.55	0.34	135.68	118.22
5150.00	6.71	130.04	5143.45	-57.30	-66.04	121.80	0.22	138.55	118.47
5175.00	6.60	129.72	5168.28	-58.99	-67.90	124.02	0.43	141.39	118.70
5200.00	6.66	130.50	5193.11	-60.69	-69.76	126.23	0.43	144.23	118.93
5225.00	6.66	130.04	5217.94	-62.41	-71.63	128.44	0.22	147.07	119.15
5250.00	6.58	129.44	5242.78	-64.09	-73.48	130.66	0.41	149.90	119.35
5275.00	6.59	131.20	5267.61	-65.79	-75.33	132.85	0.81	152.72	119.56
5300.00	6.69	130.47	5292.45	-67.52	-77.22	135.04	0.50	155.56	119.76
5325.00	6.73	129.49	5317.27	-69.23	-79.10	137.27	0.49	158.43	119.95
5350.00	6.80	129.30	5342.10	-70.93	-80.97	139.55	0.29	161.34	120.12
5375.00	6.66	130.63	5366.93	-72.65	-82.85	141.79	0.82	164.22	120.30
5400.00	6.69	130.64	5391.76	-74.39	-84.74	144.00	0.10	167.08	120.48
5425.00	6.82	130.92	5416.59	-76.14	-86.66	146.22	0.55	169.97	120.65
5450.00	6.82	131.17	5441.41	-77.93	-88.61	148.46	0.12	172.89	120.83
5475.00	6.89	131.14	5466.23	-79.73	-90.57	150.71	0.26	175.83	121.01
5500.00	6.76	130.14	5491.05	-81.50	-92.51	152.96	0.68	178.76	121.16
5525.00	6.88	130.71	5515.88	-83.26	-94.43	155.22	0.53	181.69	121.32
5550.00	6.74	130.55	5540.70	-85.03	-96.36	157.47	0.55	184.62	121.46
5575.00	6.98	130.81	5565.52	-86.81	-98.31	159.74	0.97	187.57	121.61
5600.00	7.04	130.88	5590.33	-88.64	-100.31	162.05	0.23	190.58	121.76
5625.00	6.93	131.77	5615.15	-90.48	-102.31	164.33	0.63	193.58	121.91
5650.00	6.66	130.16	5639.97	-92.26	-104.25	166.56	1.31	196.50	122.04

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft	CLOSURE DIST ft	CLOSURE DIR deg
5675.00	6.74	130.24	5664.80	-93.98	-106.13	168.79	0.35	199.38	122.16
5700.00	6.51	129.45	5689.63	-95.67	-107.98	171.00	1.01	202.24	122.27
5725.00	6.65	129.99	5714.47	-97.34	-109.81	173.20	0.61	205.08	122.38
5750.00	6.55	130.97	5739.30	-99.04	-111.68	175.39	0.59	207.93	122.49
5775.00	6.64	130.28	5764.14	-100.76	-113.55	177.57	0.47	210.77	122.60
5800.00	6.69	129.62	5788.97	-102.46	-115.41	179.79	0.36	213.65	122.70
5825.00	6.66	130.28	5813.80	-104.16	-117.28	182.02	0.33	216.53	122.79
5850.00	6.83	129.53	5838.63	-105.88	-119.16	184.27	0.79	219.44	122.89
5875.00	6.78	128.57	5863.45	-107.58	-121.03	186.57	0.49	222.39	122.97
5900.00	6.87	130.11	5888.27	-109.30	-122.91	188.87	0.81	225.34	123.05
5925.00	6.86	129.99	5913.10	-111.06	-124.83	191.16	0.08	228.31	123.15
5950.00	6.79	129.58	5937.92	-112.79	-126.73	193.44	0.34	231.26	123.23
5975.00	6.85	129.95	5962.74	-114.53	-128.63	195.73	0.30	234.21	123.31
6000.00	6.78	128.23	5987.56	-116.23	-130.51	198.03	0.86	237.16	123.39
6025.00	6.59	129.48	6012.39	-117.89	-132.33	200.29	0.98	240.06	123.45
6050.00	6.84	129.24	6037.22	-119.58	-134.18	202.55	1.01	242.97	123.52
6075.00	6.75	127.76	6062.05	-121.25	-136.02	204.87	0.79	245.91	123.58
6100.00	6.83	127.92	6086.87	-122.90	-137.84	207.20	0.33	248.86	123.63
6125.00	6.78	128.48	6111.70	-124.56	-139.67	209.53	0.33	251.81	123.69
6150.00	6.61	127.99	6136.53	-126.20	-141.47	211.82	0.71	254.72	123.74
6175.00	6.55	129.05	6161.36	-127.82	-143.26	214.06	0.54	257.57	123.79
6200.00	6.60	127.57	6186.20	-129.43	-145.03	216.30	0.71	260.43	123.84
6225.00	6.59	127.44	6211.03	-131.01	-146.78	218.58	0.08	263.29	123.88
6250.00	6.77	127.65	6235.86	-132.62	-148.55	220.89	0.72	266.19	123.92
6275.00	6.75	127.82	6260.69	-134.25	-150.35	223.21	0.11	269.13	123.96
6300.00	6.93	127.04	6285.51	-135.89	-152.16	225.58	0.81	272.10	124.00
6325.00	6.89	125.53	6310.33	-137.49	-153.94	228.00	0.74	275.10	124.03
6350.00	6.69	123.28	6335.15	-138.99	-155.61	230.44	1.32	278.06	124.03
6375.00	6.87	117.92	6359.98	-140.30	-157.11	232.98	2.62	281.00	123.99
6400.00	6.77	117.91	6384.80	-141.50	-158.50	235.60	0.38	283.95	123.93
6425.00	6.92	117.73	6409.62	-142.71	-159.89	238.23	0.59	286.91	123.87
6450.00	6.75	118.34	6434.45	-143.92	-161.29	240.86	0.75	289.87	123.81

MD	INC	AZIM	IVD	VS	IN/S	FE/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
6475.00	6.75	118.53	6459.27	-145.13	-162.68	243.44	0.10	292.80	123.75
6500.00	6.79	117.93	6484.10	-146.34	-164.08	246.04	0.32	295.73	123.70
6525.00	6.64	117.26	6508.93	-147.51	-165.43	248.63	0.69	298.64	123.64
6550.00	6.91	117.10	6533.75	-148.66	-166.78	251.26	1.07	301.57	123.58
6575.00	6.67	116.07	6558.58	-149.80	-168.10	253.90	1.07	304.50	123.51
6600.00	6.64	116.06	6583.41	-150.88	-169.38	256.50	0.09	307.38	123.44
6625.00	6.42	111.44	6608.25	-151.84	-170.52	259.10	2.28	310.18	123.35
6650.00	6.68	106.95	6633.08	-152.59	-171.46	261.79	2.29	312.94	123.22
6675.00	6.82	104.98	6657.91	-153.19	-172.26	264.62	1.07	315.75	123.06
6700.00	6.85	102.11	6682.73	-153.68	-172.96	267.51	1.37	318.55	122.89
6725.00	7.39	97.73	6707.54	-154.00	-173.49	270.56	3.07	321.40	122.67
6750.00	8.03	94.98	6732.31	-154.13	-173.86	273.89	2.94	324.41	122.41
6775.00	7.95	94.61	6757.07	-154.18	-174.15	277.35	0.38	327.49	122.12
6800.00	7.87	94.59	6781.83	-154.21	-174.42	280.78	0.30	330.55	121.85
6825.00	8.01	95.99	6806.59	-154.28	-174.74	284.22	0.94	333.64	121.58
6850.00	8.13	97.52	6831.35	-154.45	-175.16	287.70	0.99	336.83	121.33
6875.00	8.24	97.35	6856.09	-154.66	-175.62	291.23	0.45	340.08	121.09
6900.00	8.23	96.57	6880.83	-154.84	-176.05	294.79	0.45	343.35	120.85
6925.00	8.36	96.74	6905.57	-155.01	-176.47	298.37	0.53	346.65	120.60
6950.00	8.52	95.40	6930.30	-155.14	-176.86	302.01	1.02	349.99	120.35
6975.00	8.48	92.30	6955.03	-155.13	-177.10	305.70	1.84	353.30	120.09
7000.00	8.32	91.96	6979.76	-155.00	-177.24	309.35	0.66	356.52	119.81
7025.00	8.27	88.48	7004.50	-154.76	-177.25	312.95	2.01	359.66	119.53
7050.00	7.96	80.60	7029.25	-154.19	-176.92	316.46	4.62	362.56	119.21
7075.00	7.88	77.32	7054.01	-153.29	-176.26	319.84	1.83	365.19	118.86
7100.00	7.91	76.50	7078.77	-152.28	-175.49	323.19	0.47	367.76	118.50
7125.00	7.82	77.17	7103.54	-151.27	-174.71	326.52	0.51	370.32	118.15
7150.00	7.86	77.64	7128.30	-150.29	-173.96	329.85	0.29	372.91	117.81
7175.00	7.85	77.13	7153.07	-149.31	-173.22	333.18	0.28	375.52	117.47
7200.00	7.77	77.05	7177.84	-148.32	-172.46	336.49	0.31	378.11	117.14
7225.00	7.97	77.62	7202.60	-147.34	-171.71	339.83	0.85	380.75	116.81
7250.00	8.00	77.47	7227.36	-146.35	-170.96	343.22	0.16	383.44	116.48

MD	INC	AZIM	IVD	VS	N/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
7275.00	8.01	78.23	7252.12	-145.38	-170.23	346.63	0.42	386.17	116.16
7300.00	8.04	78.32	7276.87	-144.43	-169.52	350.04	0.15	388.93	115.84
7325.00	8.14	78.49	7301.62	-143.49	-168.81	353.49	0.39	391.73	115.53
7350.00	8.16	80.38	7326.37	-142.59	-168.16	356.97	1.08	394.60	115.22
7375.00	8.39	80.20	7351.11	-141.74	-167.55	360.52	0.91	397.55	114.93
7400.00	8.16	78.75	7375.85	-140.83	-166.90	364.05	1.25	400.49	114.63
7425.00	8.20	78.69	7400.60	-139.89	-166.20	367.54	0.17	403.37	114.33
7450.00	8.37	78.97	7425.34	-138.95	-165.50	371.08	0.71	406.31	114.04
7475.00	8.07	79.38	7450.08	-138.03	-164.83	374.59	1.25	409.25	113.75
7500.00	8.04	80.01	7474.83	-137.16	-164.21	378.03	0.36	412.16	113.48
7525.00	7.95	80.24	7499.59	-136.33	-163.61	381.46	0.40	415.06	113.21
7550.00	7.93	79.89	7524.35	-135.49	-163.01	384.86	0.21	417.96	112.96
7575.00	7.85	79.98	7549.11	-134.66	-162.41	388.24	0.31	420.84	112.70
7600.00	7.88	80.52	7573.88	-133.84	-161.83	391.61	0.32	423.73	112.45
7625.00	7.74	81.08	7598.65	-133.06	-161.29	394.96	0.65	426.62	112.21
7650.00	7.62	81.16	7623.42	-132.32	-160.78	398.26	0.48	429.49	111.98
7675.00	7.56	80.91	7648.20	-131.57	-160.26	401.52	0.26	432.32	111.76
7700.00	7.29	81.79	7672.99	-130.86	-159.77	404.72	1.18	435.11	111.54
7725.00	7.28	81.80	7697.79	-130.19	-159.32	407.85	0.04	437.87	111.34
7750.00	7.27	81.55	7722.59	-129.51	-158.86	410.98	0.13	440.62	111.13
7775.00	7.13	82.65	7747.39	-128.87	-158.43	414.09	0.77	443.36	110.94
7800.00	6.93	82.79	7772.21	-128.27	-158.05	417.12	0.84	446.06	110.75
7825.00	6.94	82.37	7797.02	-127.67	-157.66	420.11	0.21	448.72	110.57
7850.00	6.94	82.97	7821.84	-127.07	-157.27	423.11	0.29	451.39	110.39
7875.00	6.96	82.67	7846.66	-126.48	-156.89	426.11	0.17	454.08	110.21
7900.00	6.86	83.65	7871.47	-125.91	-156.53	429.10	0.60	456.76	110.04
7925.00	6.89	83.32	7896.29	-125.37	-156.19	432.07	0.19	459.44	109.88
7950.00	6.76	83.63	7921.12	-124.82	-155.86	435.02	0.55	462.10	109.71
7975.00	6.88	83.27	7945.94	-124.28	-155.52	437.97	0.52	464.76	109.55
8000.00	6.66	83.36	7970.77	-123.73	-155.18	440.90	0.88	467.41	109.39
8025.00	6.72	83.95	7995.60	-123.20	-154.85	443.79	0.38	470.03	109.24
8050.00	6.43	83.09	8020.43	-122.68	-154.53	446.63	1.24	472.61	109.09

MD	INC	AZIM	TVD	VS	IN/ S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	/100ft	ft	deg
8075.00	6.54	85.03	8045.27	-122.19	-154.24	449.44	0.99	475.17	108.94
8100.00	6.39	85.76	8070.11	-121.77	-154.01	452.25	0.70	477.75	108.81
8125.00	6.58	86.54	8094.95	-121.38	-153.82	455.06	0.87	480.36	108.68
8150.00	6.23	84.82	8119.80	-120.98	-153.62	457.85	1.61	482.93	108.55
8175.00	6.15	84.82	8144.65	-120.55	-153.37	460.53	0.31	485.40	108.42
8200.00	6.07	84.70	8169.51	-120.12	-153.13	463.18	0.34	487.84	108.29
8225.00	6.05	86.50	8194.37	-119.73	-152.93	465.81	0.76	490.27	108.18
8250.00	5.80	86.30	8219.24	-119.39	-152.76	468.39	0.99	492.67	108.06
8275.00	5.81	86.98	8244.11	-119.06	-152.62	470.91	0.28	495.03	107.96
8300.00	5.58	87.13	8268.98	-118.76	-152.49	473.39	0.93	497.35	107.85
8325.00	5.65	88.15	8293.86	-118.49	-152.39	475.84	0.49	499.64	107.76
8350.00	5.46	89.11	8318.75	-118.26	-152.33	478.25	0.85	501.93	107.67
8375.00	5.53	89.04	8343.63	-118.05	-152.29	480.65	0.31	504.20	107.58
8400.00	5.33	90.04	8368.52	-117.86	-152.27	483.01	0.90	506.45	107.50
8425.00	5.32	89.85	8393.41	-117.70	-152.27	485.33	0.09	508.66	107.42
8450.00	5.17	90.32	8418.31	-117.54	-152.27	487.62	0.62	510.84	107.34
8475.00	5.06	90.29	8443.21	-117.40	-152.28	489.85	0.42	512.97	107.27
8500.00	4.95	90.79	8468.11	-117.26	-152.31	492.03	0.49	515.06	107.20
8525.00	4.72	90.54	8493.02	-117.14	-152.33	494.14	0.94	517.08	107.13
8550.00	4.76	92.95	8517.94	-117.06	-152.39	496.20	0.81	519.08	107.07
8575.00	4.60	90.16	8542.85	-116.97	-152.45	498.24	1.12	521.04	107.01
8600.00	4.43	91.52	8567.78	-116.86	-152.48	500.21	0.79	522.93	106.95
8625.00	4.27	89.44	8592.70	-116.74	-152.49	502.10	0.90	524.75	106.89
8650.00	4.20	91.80	8617.64	-116.63	-152.51	503.95	0.76	526.52	106.84
8675.00	4.12	90.24	8642.57	-116.53	-152.55	505.76	0.55	528.27	106.78
8700.00	3.89	92.28	8667.51	-116.45	-152.58	507.51	1.08	529.95	106.73
8725.00	3.88	92.20	8692.45	-116.40	-152.65	509.20	0.04	531.59	106.69
8750.00	3.90	96.66	8717.39	-116.41	-152.78	510.89	1.21	533.24	106.65
8767.00	3.68	93.93	8734.36	-116.43	-152.88	512.00	1.69	534.34	106.63