

30-015-44209

COG

CRAIG FEDERAL COM #2H

ENSIGN 155

8/22/2017

Scientific Drilling

The

In Wellbore Placement

SURVEY REPORT

CRAIG FEDERAL COM #2H

COMPUTED KEEPER GYRO WIRELINE SURVEY

CUSTOMER
PROJECT
FIELD

COG
Craig Federal Com #2H
Craig Federal Com #2H

SDI JOB NO.
SDI DISTRICT
SDI KIT/UNIT

OP.003721
Midland

SITE INFORMATION

Site Name
Lat/Long
Northing
Easting

Craig Federal Com #2H
32.077153° N, 104.252773° E
391,815 ft
566,289.4 ft

Section
Township
Range

MAP INFORMATION

North Reference
Grid Correction
System
Datum
Map Zone

Grid North
-0.04 deg
US State Plane 1983
North American Datum 1983 (GRS 1980)
New Mexico East: 3001

**WELL INFORMATION**

Lat/Long
Northing
Easting
UWI

32.077153° N, 104.252773° W
391,815 ft
566,289.4 ft
30-015-44209

DEPTH AND ELEVATION REFERENCE

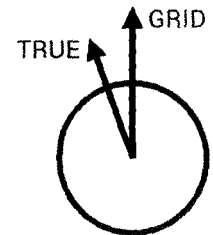
Ground Level
Reference Datum
Reference Height
Reference Elevation

3369.8 ft above Mean Sea
Level
RKB
24 ft above G.L.
3393.8 ft

VERTICAL SECTION REFERENCE

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

0 ft
0 ft
358.48°
Minimum Curvature

**LOCAL GRAVITY REFERENCE INFORMATION**

Local Gravity
True to Grid

998.492 mG [computed]
subtract 0.04°

WELL NOTES

Keeper Gyro Wireline Survey in 4 1/2 IF to 6965 Ft

OPERATORS

Nathan Yerby

SDI Operator Name (Printed)

SIGNATURE

DATE

SURVEY REPORT

CRAIG FEDERAL COM #2H

COMPUTED KEEPER GYRO WIRELINE SURVEY

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	0.90	290.91	100.00	0.30	0.28	-0.74	0.90	0.79	290.91
125.00	0.86	292.88	124.99	0.45	0.42	-1.09	0.23	1.17	291.23
150.00	0.84	298.66	149.99	0.62	0.59	-1.43	0.35	1.54	292.31
175.00	1.25	302.34	174.99	0.87	0.82	-1.82	1.65	1.99	294.26
200.00	1.04	299.78	199.98	1.14	1.08	-2.24	0.88	2.49	295.64
225.00	0.97	303.05	224.98	1.37	1.31	-2.62	0.35	2.93	296.50
250.00	1.00	303.42	249.97	1.62	1.54	-2.98	0.11	3.35	297.36
275.00	0.89	301.93	274.97	1.85	1.76	-3.32	0.44	3.76	297.95
300.00	0.71	299.54	299.97	2.04	1.94	-3.62	0.75	4.11	298.19
325.00	0.90	292.92	324.97	2.20	2.09	-3.94	0.84	4.46	298.01
350.00	0.68	295.47	349.96	2.35	2.23	-4.25	0.87	4.80	297.72
375.00	0.65	299.02	374.96	2.49	2.37	-4.51	0.20	5.09	297.70
400.00	0.65	292.55	399.96	2.62	2.49	-4.77	0.29	5.38	297.59
425.00	0.48	290.00	424.96	2.71	2.58	-5.00	0.70	5.62	297.33
450.00	0.64	287.70	449.96	2.80	2.66	-5.23	0.63	5.86	296.97
475.00	0.73	287.63	474.96	2.89	2.75	-5.51	0.36	6.16	296.52
500.00	0.48	270.09	499.95	2.95	2.80	-5.76	1.22	6.41	295.89
525.00	0.48	273.78	524.95	2.96	2.80	-5.97	0.12	6.60	295.15
550.00	0.45	285.01	549.95	3.00	2.84	-6.17	0.38	6.79	294.68
575.00	0.33	274.69	574.95	3.04	2.87	-6.34	0.58	6.96	294.34
600.00	0.32	270.14	599.95	3.05	2.87	-6.48	0.11	7.09	293.92
625.00	0.31	262.47	624.95	3.04	2.87	-6.62	0.17	7.21	293.42
650.00	0.29	272.73	649.95	3.04	2.86	-6.75	0.24	7.33	292.96
675.00	0.42	268.62	674.95	3.04	2.86	-6.90	0.55	7.47	292.50
700.00	0.39	278.09	699.95	3.06	2.87	-7.08	0.31	7.64	292.07
725.00	0.39	281.50	724.95	3.09	2.90	-7.25	0.10	7.81	291.80
750.00	0.34	295.09	749.95	3.14	2.95	-7.40	0.41	7.96	291.72
775.00	0.19	283.24	774.95	3.19	2.99	-7.51	0.65	8.08	291.71
800.00	0.19	240.20	799.95	3.18	2.98	-7.58	0.55	8.14	291.44
825.00	0.04	163.34	824.95	3.15	2.95	-7.61	0.73	8.16	291.17
850.00	0.36	117.95	849.95	3.10	2.90	-7.54	1.35	8.08	291.05

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
875.00	0.40	120.71	874.95	3.02	2.82	-7.40	0.15	7.92	290.88
900.00	0.46	121.04	899.95	2.92	2.73	-7.24	0.24	7.73	290.64
925.00	0.43	132.04	924.95	2.80	2.61	-7.08	0.36	7.55	290.24
950.00	0.41	132.68	949.95	2.67	2.49	-6.95	0.07	7.38	289.71
975.00	0.42	138.99	974.94	2.54	2.36	-6.82	0.18	7.22	289.08
1000.00	0.53	143.13	999.94	2.37	2.20	-6.69	0.48	7.04	288.18
1025.00	0.45	133.92	1024.94	2.21	2.04	-6.55	0.45	6.86	287.26
1050.00	0.39	145.29	1049.94	2.07	1.90	-6.43	0.43	6.71	286.44
1075.00	0.40	153.63	1074.94	1.92	1.75	-6.34	0.24	6.58	285.42
1100.00	0.42	178.41	1099.94	1.75	1.58	-6.30	0.71	6.50	284.08
1125.00	0.47	178.48	1124.94	1.55	1.39	-6.30	0.19	6.45	282.42
1150.00	0.46	174.03	1149.94	1.35	1.19	-6.29	0.15	6.40	280.69
1175.00	0.39	186.39	1174.94	1.17	1.00	-6.28	0.45	6.36	279.08
1200.00	0.40	170.15	1199.94	1.00	0.84	-6.28	0.44	6.33	277.58
1225.00	0.37	191.77	1224.94	0.84	0.67	-6.28	0.58	6.32	276.10
1250.00	0.60	145.87	1249.94	0.65	0.48	-6.22	1.73	6.24	274.44
1275.00	0.90	130.71	1274.93	0.41	0.25	-6.00	1.42	6.01	272.36
1300.00	1.35	123.77	1299.93	0.10	-0.04	-5.61	1.89	5.61	269.55
1325.00	2.06	115.96	1324.92	-0.27	-0.40	-4.96	2.98	4.98	265.34
1350.00	2.09	112.98	1349.90	-0.67	-0.78	-4.14	0.46	4.21	259.32
1375.00	2.44	112.17	1374.88	-1.07	-1.16	-3.22	1.39	3.42	250.21
1400.00	2.46	110.85	1399.86	-1.49	-1.55	-2.23	0.23	2.71	235.16
1425.00	2.31	108.11	1424.84	-1.86	-1.90	-1.25	0.73	2.27	213.30
1450.00	2.27	105.58	1449.82	-2.18	-2.19	-0.29	0.45	2.21	187.57
1475.00	2.20	100.17	1474.80	-2.42	-2.41	0.66	0.88	2.49	164.70
1500.00	2.17	93.28	1499.78	-2.56	-2.52	1.60	1.06	2.98	147.51
1525.00	2.30	87.38	1524.76	-2.59	-2.52	2.58	1.06	3.61	134.38
1550.00	2.41	82.25	1549.74	-2.52	-2.43	3.60	0.95	4.34	124.00
1575.00	2.50	78.45	1574.72	-2.37	-2.25	4.65	0.74	5.17	115.77
1600.00	2.47	76.17	1599.69	-2.16	-2.01	5.71	0.42	6.05	109.39
1625.00	2.45	77.85	1624.67	-1.95	-1.77	6.76	0.29	6.98	104.67
1650.00	2.42	77.27	1649.65	-1.75	-1.54	7.79	0.16	7.94	101.18

SURVEY REPORT

CRAIG FEDERAL COM #2H

COMPUTED KEEPER GYRO WIRELINE SURVEY

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS */100ft	CLOSURE DIST ft	CLOSURE DIR deg
1675.00	2.10	72.18	1674.63	-1.52	-1.28	8.74	1.51	8.84	98.36
1700.00	1.57	64.76	1699.62	-1.25	-1.00	9.49	2.30	9.54	96.01
1725.00	1.14	43.69	1724.61	-0.94	-0.67	9.97	2.62	9.99	93.86
1750.00	0.96	22.66	1749.61	-0.57	-0.30	10.22	1.69	10.23	91.68
1775.00	0.89	1.96	1774.60	-0.19	0.09	10.31	1.35	10.31	89.52
1800.00	1.02	338.92	1799.60	0.22	0.49	10.24	1.60	10.25	87.27
1825.00	1.06	304.81	1824.59	0.56	0.83	9.96	2.45	10.00	85.25
1850.00	1.22	297.19	1849.59	0.83	1.08	9.54	0.87	9.60	83.52
1875.00	1.17	292.10	1874.58	1.06	1.30	9.07	0.47	9.16	81.84
1900.00	1.21	291.57	1899.58	1.26	1.49	8.58	0.17	8.71	80.14
1925.00	1.27	294.62	1924.57	1.49	1.70	8.09	0.35	8.27	78.10
1950.00	1.25	293.02	1949.57	1.72	1.93	7.59	0.15	7.83	75.76
1975.00	1.17	293.07	1974.56	1.94	2.13	7.10	0.32	7.41	73.29
2000.00	0.99	300.45	1999.56	2.16	2.34	6.68	0.89	7.08	70.68
2025.00	0.77	308.10	2024.55	2.39	2.56	6.36	1.00	6.85	68.11
2050.00	0.65	309.38	2049.55	2.59	2.75	6.12	0.51	6.71	65.80
2075.00	0.63	303.36	2074.55	2.76	2.91	5.90	0.28	6.58	63.70
2100.00	0.67	303.09	2099.55	2.92	3.07	5.66	0.16	6.44	61.53
2125.00	0.51	305.99	2124.55	3.07	3.21	5.45	0.62	6.32	59.46
2150.00	0.50	316.10	2149.55	3.22	3.36	5.28	0.36	6.26	57.55
2175.00	0.44	319.49	2174.55	3.37	3.51	5.14	0.23	6.23	55.69
2200.00	0.45	331.59	2199.55	3.54	3.67	5.03	0.38	6.23	53.90
2225.00	0.40	316.01	2224.54	3.69	3.82	4.93	0.51	6.23	52.20
2250.00	0.42	313.20	2249.54	3.82	3.95	4.80	0.11	6.21	50.57
2275.00	0.47	329.99	2274.54	3.97	4.10	4.68	0.55	6.22	48.81
2300.00	0.39	323.76	2299.54	4.13	4.25	4.58	0.35	6.25	47.10
2325.00	0.35	319.27	2324.54	4.26	4.38	4.48	0.20	6.26	45.61
2350.00	0.40	317.47	2349.54	4.39	4.51	4.37	0.19	6.27	44.11
2375.00	0.34	318.34	2374.54	4.51	4.63	4.26	0.24	6.29	42.64
2400.00	0.29	325.61	2399.54	4.62	4.73	4.17	0.25	6.31	41.41
2425.00	0.38	323.20	2424.54	4.74	4.85	4.09	0.37	6.34	40.11
2450.00	0.36	326.32	2449.54	4.88	4.99	3.99	0.11	6.39	38.69

SURVEY REPORT

CRAIG FEDERAL COM #2H

COMPUTED KEEPER GYRO WIRELINE SURVEY

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS "/100ft	CLOSURE DIST ft	CLOSURE DIR deg
2475.00	0.44	318.66	2474.54	5.02	5.12	3.89	0.39	6.43	37.17
2500.00	0.30	332.49	2499.54	5.15	5.26	3.79	0.67	6.48	35.80
2525.00	0.34	322.35	2524.54	5.27	5.37	3.72	0.28	6.53	34.66
2550.00	0.44	317.11	2549.54	5.40	5.50	3.60	0.44	6.58	33.23
2575.00	0.28	350.69	2574.54	5.54	5.63	3.53	1.05	6.65	32.06
2600.00	0.26	339.54	2599.54	5.65	5.75	3.50	0.22	6.73	31.34
2625.00	0.31	349.46	2624.54	5.77	5.87	3.47	0.28	6.81	30.57
2650.00	0.23	351.27	2649.54	5.89	5.98	3.45	0.32	6.91	29.93
2675.00	0.12	321.91	2674.54	5.96	6.05	3.42	0.56	6.96	29.48
2700.00	0.10	317.14	2699.54	6.00	6.09	3.39	0.09	6.97	29.11
2725.00	0.21	324.36	2724.54	6.05	6.14	3.35	0.44	7.00	28.61
2750.00	0.19	311.21	2749.54	6.12	6.21	3.29	0.20	7.03	27.95
2775.00	0.13	285.32	2774.54	6.15	6.24	3.24	0.37	7.03	27.40
2800.00	0.27	301.89	2799.54	6.19	6.28	3.16	0.59	7.03	26.71
2825.00	0.08	286.60	2824.54	6.23	6.32	3.09	0.77	7.03	26.10
2850.00	0.08	205.75	2849.54	6.22	6.30	3.07	0.42	7.01	25.97
2875.00	0.12	240.26	2874.54	6.19	6.27	3.04	0.27	6.97	25.85
2900.00	0.10	246.72	2899.54	6.17	6.25	3.00	0.08	6.94	25.62
2925.00	0.19	241.02	2924.54	6.14	6.22	2.94	0.36	6.89	25.30
2950.00	0.11	218.74	2949.54	6.11	6.19	2.89	0.37	6.83	25.06
2975.00	0.13	187.58	2974.54	6.06	6.14	2.87	0.27	6.78	25.08
3000.00	0.16	235.27	2999.53	6.01	6.09	2.84	0.48	6.72	25.00
3025.00	0.22	214.41	3024.53	5.96	6.03	2.78	0.36	6.64	24.78
3050.00	0.23	203.55	3049.53	5.87	5.95	2.74	0.17	6.55	24.72
3075.00	0.27	206.70	3074.53	5.78	5.85	2.69	0.16	6.44	24.71
3100.00	0.24	230.94	3099.53	5.69	5.76	2.62	0.44	6.33	24.48
3125.00	0.28	217.72	3124.53	5.61	5.68	2.55	0.30	6.23	24.14
3150.00	0.23	204.61	3149.53	5.52	5.59	2.49	0.33	6.12	24.00
3175.00	0.27	203.62	3174.53	5.42	5.49	2.44	0.18	6.01	23.99
3200.00	0.32	213.59	3199.53	5.31	5.38	2.38	0.29	5.88	23.88
3225.00	0.35	206.33	3224.53	5.18	5.25	2.31	0.20	5.73	23.73
3250.00	0.27	199.54	3249.53	5.06	5.12	2.25	0.34	5.60	23.74

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS "/100ft	CLOSURE DIST ft	CLOSURE DIR deg
3275.00	0.38	207.45	3274.53	4.94	5.00	2.20	0.46	5.46	23.73
3300.00	0.46	201.37	3299.53	4.77	4.83	2.12	0.39	5.27	23.72
3325.00	0.46	207.90	3324.53	4.59	4.64	2.04	0.21	5.07	23.68
3350.00	0.47	212.83	3349.53	4.42	4.47	1.93	0.16	4.87	23.40
3375.00	0.56	200.07	3374.53	4.22	4.27	1.84	0.57	4.65	23.28
3400.00	0.48	216.36	3399.53	4.02	4.07	1.73	0.66	4.42	23.06
3425.00	0.48	207.06	3424.53	3.85	3.89	1.62	0.31	4.22	22.64
3450.00	0.53	194.12	3449.53	3.64	3.69	1.55	0.50	4.00	22.77
3475.00	0.62	189.66	3474.52	3.40	3.44	1.50	0.40	3.75	23.50
3500.00	0.81	201.52	3499.52	3.10	3.14	1.41	0.97	3.44	24.15
3525.00	0.97	198.26	3524.52	2.74	2.77	1.28	0.67	3.05	24.71
3550.00	0.92	202.09	3549.52	2.36	2.39	1.13	0.33	2.64	25.42
3575.00	0.87	202.62	3574.51	2.00	2.03	0.99	0.21	2.25	25.95
3600.00	0.90	204.91	3599.51	1.65	1.67	0.83	0.20	1.87	26.40
3625.00	0.85	205.39	3624.51	1.31	1.33	0.67	0.21	1.49	26.72
3650.00	0.95	202.31	3649.50	0.96	0.97	0.51	0.46	1.10	27.78
3675.00	1.05	201.76	3674.50	0.56	0.57	0.35	0.37	0.66	31.57
3700.00	1.00	205.81	3699.50	0.15	0.16	0.17	0.33	0.23	46.97
3725.00	1.05	200.53	3724.49	-0.26	-0.26	-0.01	0.42	0.26	181.92
3750.00	0.91	206.06	3749.49	-0.64	-0.65	-0.18	0.68	0.67	195.20
3775.00	0.90	206.95	3774.49	-0.99	-1.00	-0.35	0.09	1.06	199.37
3800.00	1.03	199.98	3799.48	-1.37	-1.39	-0.52	0.70	1.48	200.46
3825.00	1.05	202.66	3824.48	-1.79	-1.81	-0.68	0.21	1.93	200.66
3850.00	1.14	202.80	3849.47	-2.22	-2.25	-0.87	0.35	2.41	201.07
3875.00	1.15	201.59	3874.47	-2.68	-2.71	-1.05	0.12	2.91	201.26
3900.00	1.05	203.16	3899.46	-3.12	-3.16	-1.24	0.42	3.39	201.42
3925.00	1.09	199.48	3924.46	-3.55	-3.59	-1.41	0.32	3.86	201.40
3950.00	1.09	201.85	3949.45	-4.00	-4.04	-1.58	0.18	4.34	201.32
3975.00	0.96	207.73	3974.45	-4.40	-4.44	-1.76	0.69	4.78	201.62
4000.00	1.01	205.49	3999.45	-4.77	-4.83	-1.95	0.26	5.21	202.03
4025.00	0.77	202.95	4024.44	-5.12	-5.18	-2.11	0.97	5.59	202.19
4050.00	0.84	195.37	4049.44	-5.45	-5.51	-2.23	0.50	5.94	202.01

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
4075.00	0.75	201.28	4074.44	-5.77	-5.84	-2.33	0.49	6.29	201.80
4100.00	0.74	199.84	4099.44	-6.07	-6.14	-2.45	0.09	6.61	201.74
4125.00	0.84	193.76	4124.43	-6.40	-6.47	-2.55	0.54	6.95	201.48
4150.00	0.92	191.32	4149.43	-6.77	-6.84	-2.63	0.34	7.33	201.01
4175.00	0.93	190.95	4174.43	-7.16	-7.24	-2.71	0.04	7.73	200.50
4200.00	0.83	184.22	4199.43	-7.54	-7.62	-2.76	0.57	8.10	199.91
4225.00	0.97	181.78	4224.42	-7.93	-8.01	-2.78	0.59	8.48	199.13
4250.00	0.98	184.98	4249.42	-8.36	-8.43	-2.80	0.23	8.89	198.39
4275.00	1.09	176.65	4274.41	-8.81	-8.89	-2.81	0.75	9.32	197.54
4300.00	1.21	167.76	4299.41	-9.31	-9.38	-2.74	0.86	9.77	196.27
4325.00	1.20	172.00	4324.40	-9.83	-9.90	-2.65	0.36	10.25	194.96
4350.00	1.36	171.51	4349.40	-10.38	-10.45	-2.57	0.63	10.76	193.79
4375.00	1.65	163.89	4374.39	-11.02	-11.09	-2.42	1.40	11.35	192.32
4400.00	1.74	166.45	4399.38	-11.74	-11.80	-2.23	0.50	12.01	190.71
4425.00	1.72	166.03	4424.37	-12.48	-12.54	-2.05	0.12	12.71	189.30
4450.00	1.60	170.43	4449.36	-13.19	-13.25	-1.90	0.68	13.38	188.18
4475.00	1.02	187.60	4474.35	-13.76	-13.81	-1.88	2.78	13.94	187.74
4500.00	0.75	218.26	4499.35	-14.10	-14.16	-2.01	2.15	14.30	188.07
4525.00	0.79	223.03	4524.34	-14.35	-14.42	-2.23	0.31	14.59	188.78
4550.00	0.60	226.06	4549.34	-14.56	-14.63	-2.44	0.78	14.84	189.46
4575.00	0.73	229.92	4574.34	-14.75	-14.83	-2.66	0.55	15.06	190.15
4600.00	0.66	244.27	4599.34	-14.91	-14.99	-2.91	0.75	15.27	190.97
4625.00	0.62	250.43	4624.34	-15.01	-15.10	-3.16	0.32	15.43	191.83
4650.00	0.57	300.60	4649.34	-14.99	-15.08	-3.40	2.02	15.46	192.70
4675.00	0.86	318.51	4674.33	-14.78	-14.88	-3.63	1.46	15.32	193.71
4700.00	0.80	319.83	4699.33	-14.50	-14.61	-3.87	0.25	15.11	194.83
4725.00	0.83	322.50	4724.33	-14.22	-14.33	-4.09	0.19	14.90	195.93
4750.00	0.73	316.33	4749.33	-13.95	-14.07	-4.31	0.52	14.72	197.02
4775.00	0.84	316.27	4774.33	-13.70	-13.82	-4.55	0.47	14.55	198.20
4800.00	0.80	312.73	4799.32	-13.44	-13.57	-4.80	0.28	14.40	199.48
4825.00	0.77	304.32	4824.32	-13.22	-13.36	-5.07	0.47	14.29	200.77
4850.00	0.71	310.04	4849.32	-13.02	-13.17	-5.32	0.39	14.20	202.01

SURVEY REPORT

CRAIG FEDERAL COM #2H

COMPUTED KEEPER GYRO WIRELINE SURVEY

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
4875.00	0.73	307.06	4874.32	-12.82	-12.97	-5.57	0.19	14.11	203.24
4900.00	0.71	304.92	4899.31	-12.63	-12.78	-5.82	0.13	14.05	204.49
4925.00	0.68	288.72	4924.31	-12.48	-12.65	-6.09	0.80	14.04	205.72
4950.00	0.58	291.80	4949.31	-12.38	-12.55	-6.35	0.42	14.07	206.84
4975.00	0.65	289.10	4974.31	-12.28	-12.46	-6.60	0.28	14.10	207.92
5000.00	0.59	279.75	4999.31	-12.20	-12.39	-6.86	0.46	14.16	208.98
5025.00	0.60	273.44	5024.31	-12.17	-12.36	-7.12	0.26	14.26	209.93
5050.00	0.59	264.88	5049.31	-12.17	-12.37	-7.38	0.36	14.40	210.82
5075.00	0.58	255.29	5074.30	-12.20	-12.41	-7.63	0.39	14.57	211.58
5100.00	0.64	241.19	5099.30	-12.29	-12.51	-7.87	0.64	14.78	212.18
5125.00	0.64	234.91	5124.30	-12.44	-12.66	-8.11	0.28	15.03	212.64
5150.00	0.65	224.81	5149.30	-12.61	-12.84	-8.32	0.46	15.30	212.96
5175.00	0.71	223.00	5174.30	-12.82	-13.05	-8.53	0.26	15.59	213.16
5200.00	0.77	216.45	5199.30	-13.06	-13.30	-8.73	0.41	15.91	213.29
5225.00	0.86	212.89	5224.29	-13.35	-13.59	-8.93	0.42	16.26	213.32
5250.00	0.88	215.35	5249.29	-13.66	-13.90	-9.15	0.16	16.64	213.34
5275.00	0.96	214.84	5274.29	-13.98	-14.23	-9.38	0.33	17.04	213.38
5300.00	0.98	207.67	5299.28	-14.33	-14.59	-9.59	0.49	17.46	213.33
5325.00	1.11	207.28	5324.28	-14.73	-15.00	-9.80	0.52	17.92	213.18
5350.00	1.25	206.13	5349.27	-15.18	-15.46	-10.04	0.56	18.43	213.00
5375.00	1.30	205.95	5374.27	-15.68	-15.95	-10.28	0.23	18.98	212.79
5400.00	1.33	207.59	5399.26	-16.18	-16.47	-10.54	0.19	19.55	212.62
5425.00	1.40	206.86	5424.25	-16.70	-17.00	-10.81	0.27	20.14	212.46
5450.00	1.42	204.64	5449.25	-17.25	-17.55	-11.08	0.24	20.75	212.26
5475.00	1.34	206.68	5474.24	-17.79	-18.09	-11.34	0.40	21.35	212.07
5500.00	0.77	215.30	5499.23	-18.18	-18.49	-11.56	2.35	21.81	212.03
5525.00	0.32	251.95	5524.23	-18.33	-18.65	-11.73	2.17	22.03	212.17
5550.00	0.38	280.54	5549.23	-18.33	-18.65	-11.88	0.72	22.11	212.48
5575.00	0.42	261.04	5574.23	-18.33	-18.65	-12.05	0.57	22.21	212.86
5600.00	0.46	237.89	5599.23	-18.39	-18.72	-12.23	0.72	22.36	213.14
5625.00	0.59	243.32	5624.23	-18.50	-18.83	-12.43	0.57	22.56	213.42
5650.00	0.52	234.27	5649.23	-18.62	-18.96	-12.63	0.47	22.78	213.68

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	0.37	234.95	5674.23	-18.72	-19.07	-12.79	0.57	22.96	213.85
5700.00	0.23	205.96	5699.23	-18.81	-19.16	-12.88	0.82	23.09	213.91
5725.00	0.09	155.09	5724.23	-18.87	-19.22	-12.89	0.74	23.15	213.85
5750.00	0.08	161.84	5749.23	-18.91	-19.26	-12.88	0.05	23.17	213.78
5775.00	0.13	152.78	5774.23	-18.95	-19.30	-12.86	0.20	23.19	213.68
5800.00	0.17	164.04	5799.23	-19.01	-19.36	-12.84	0.19	23.23	213.56
5825.00	0.12	176.42	5824.23	-19.07	-19.42	-12.83	0.21	23.27	213.45
5850.00	0.28	187.75	5849.23	-19.16	-19.51	-12.83	0.66	23.35	213.34
5875.00	0.33	204.60	5874.23	-19.28	-19.63	-12.87	0.41	23.48	213.25
5900.00	0.45	206.29	5899.23	-19.44	-19.79	-12.95	0.47	23.65	213.20
5925.00	0.75	216.07	5924.23	-19.65	-20.01	-13.09	1.28	23.91	213.19
5950.00	1.26	235.48	5949.22	-19.93	-20.30	-13.41	2.42	24.32	213.45
5975.00	2.35	246.91	5974.21	-20.27	-20.65	-14.11	4.58	25.01	214.34
6000.00	2.72	247.52	5999.18	-20.67	-21.08	-15.13	1.47	25.95	215.66
6025.00	2.84	246.92	6024.16	-21.11	-21.55	-16.25	0.49	26.99	217.01
6050.00	2.60	240.56	6049.13	-21.60	-22.07	-17.31	1.54	28.05	218.10
6075.00	1.92	237.09	6074.11	-22.09	-22.58	-18.16	2.77	28.97	218.80
6100.00	0.92	231.89	6099.10	-22.43	-22.93	-18.67	4.04	29.57	219.15
6125.00	0.67	211.17	6124.10	-22.67	-23.18	-18.90	1.52	29.91	219.19
6150.00	0.59	196.61	6149.10	-22.91	-23.43	-19.01	0.70	30.17	219.06
6175.00	0.94	174.08	6174.09	-23.24	-23.75	-19.03	1.82	30.43	218.69
6200.00	1.32	172.51	6199.09	-23.73	-24.24	-18.97	1.53	30.78	218.04
6225.00	1.48	171.57	6224.08	-24.34	-24.85	-18.88	0.67	31.21	217.23
6250.00	1.69	176.60	6249.07	-25.03	-25.54	-18.81	1.00	31.72	216.38
6275.00	1.69	180.73	6274.06	-25.77	-26.27	-18.80	0.49	32.30	215.58
6300.00	1.75	188.96	6299.05	-26.51	-27.02	-18.86	1.02	32.95	214.92
6325.00	1.95	192.59	6324.04	-27.30	-27.81	-19.01	0.93	33.69	214.36
6350.00	2.15	198.29	6349.02	-28.15	-28.67	-19.25	1.16	34.54	213.88
6375.00	2.38	204.05	6374.00	-29.06	-29.59	-19.61	1.27	35.50	213.53
6400.00	2.62	203.87	6398.98	-30.04	-30.59	-20.05	0.98	36.58	213.25
6425.00	2.36	222.25	6423.95	-30.93	-31.49	-20.63	3.34	37.65	213.23
6450.00	2.23	220.22	6448.93	-31.67	-32.24	-21.29	0.62	38.64	213.44

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
6475.00	1.70	227.13	6473.92	-32.28	-32.87	-21.88	2.33	39.48	213.65
6500.00	1.49	241.23	6498.91	-32.67	-33.28	-22.44	1.76	40.13	213.99
6525.00	1.31	248.40	6523.90	-32.92	-33.54	-22.99	1.01	40.66	214.43
6550.00	1.01	258.59	6548.90	-33.05	-33.69	-23.47	1.46	41.06	214.86
6575.00	0.78	299.31	6573.89	-33.01	-33.65	-23.83	2.64	41.24	215.31
6600.00	0.92	313.60	6598.89	-32.78	-33.43	-24.13	1.02	41.23	215.82
6625.00	1.01	334.64	6623.89	-32.43	-33.09	-24.37	1.45	41.09	216.37
6650.00	0.96	335.08	6648.88	-32.04	-32.70	-24.55	0.18	40.89	216.90
6675.00	0.64	319.75	6673.88	-31.74	-32.40	-24.73	1.53	40.76	217.35
6700.00	0.91	311.50	6698.88	-31.49	-32.17	-24.97	1.15	40.72	217.82
6725.00	0.76	287.80	6723.88	-31.30	-31.98	-25.27	1.49	40.76	218.32
6750.00	0.84	278.95	6748.87	-31.21	-31.90	-25.61	0.59	40.91	218.76
6775.00	0.89	266.36	6773.87	-31.19	-31.89	-25.99	0.78	41.14	219.18
6800.00	0.95	239.02	6798.87	-31.30	-32.01	-26.36	1.76	41.46	219.47
6825.00	0.91	236.22	6823.87	-31.50	-32.22	-26.70	0.26	41.85	219.65
6840.00	0.88	234.46	6838.86	-31.63	-32.36	-26.89	0.26	42.07	219.73