

30-015-44148

COG

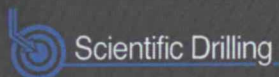
SURVEY REPORT

ROAD RUNNER FEDERAL COM #12H

LATSHAW 44

8/23/2017

**Please provide signature
page for directional survey**



The **Ultimate Partner** In Wellbore Placement

SURVEY REPORT

AD RUNNER FEDERAL COM #12H

COMPUTED KEEPER GYRO WIRELINE SURV

CUSTOMER
PROJECT
FIELD

COG
Road Runner Federal Com #12H
Road Runner Federal Com #12H

SDI JOB NO.
SDI DISTRICT
SDI KIT/UNIT

OP:003726
Midland

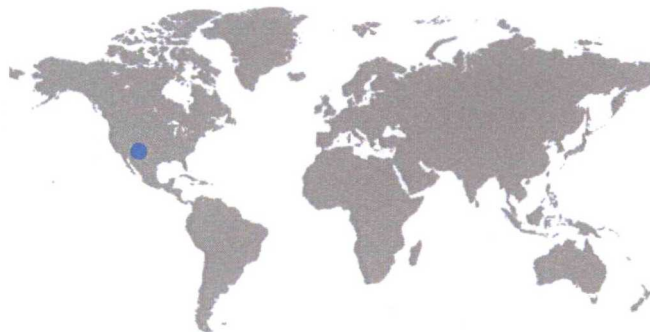
SITE INFORMATION

Site Name Road Runner Federal Com #12H
Lat/Long 32.093993° N, 104.243913° W
Northing 397,929.8 ft
Easting 527,691.5 ft

Section
Township
Range

MAP INFORMATION

North Reference Grid North
Grid Correction -0.50 deg
System US State Plane 1927
Datum North American Datum 1927 (Clarke 1866)
Map Zone New Mexico East: 3001



WELL INFORMATION

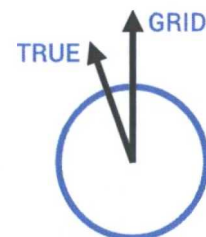
Lat/Long 32.093993° N, 104.243913° W
Northing 397,929.8 ft
Easting 527,691.5 ft
UWI 30-015-44148-00

DEPTH AND ELEVATION REFERENCE

Ground Level 3247.7 ft above Mean Sea
Level
Reference Datum RKB
Reference Height 25 ft above G.L.
Reference Elevation 3272.7 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 358.19°
Calculation Method Minimum Curvature



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity 998.505 mG [computed]
True to Grid subtract 0.5°

WELL NOTES

Keeper Gyro Wireline Survey in 4 1/2 IF

OPERATORS

Nathan Yerby

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	0.97	177.23	100.00	-0.85	-0.85	0.04	0.97	0.85	177.23
125.00	1.24	185.42	124.99	-1.33	-1.33	0.03	1.23	1.33	178.89
150.00	1.03	193.79	149.99	-1.81	-1.82	-0.05	1.06	1.82	181.68
175.00	1.05	200.42	174.98	-2.24	-2.25	-0.19	0.49	2.26	184.75
200.00	1.08	203.23	199.98	-2.67	-2.68	-0.36	0.23	2.70	187.64
225.00	1.27	203.36	224.97	-3.13	-3.15	-0.56	0.80	3.20	190.12
250.00	1.30	201.00	249.97	-3.65	-3.67	-0.77	0.24	3.75	191.91
275.00	1.35	196.73	274.96	-4.19	-4.22	-0.96	0.45	4.33	192.83
300.00	1.21	197.09	299.95	-4.72	-4.75	-1.12	0.59	4.89	193.29
325.00	1.15	195.39	324.95	-5.20	-5.25	-1.27	0.28	5.40	193.58
350.00	1.17	203.59	349.94	-5.67	-5.72	-1.44	0.67	5.90	194.08
375.00	0.95	211.04	374.94	-6.08	-6.13	-1.64	1.04	6.35	195.01
400.00	1.04	207.08	399.93	-6.45	-6.51	-1.85	0.45	6.77	195.90
425.00	1.46	197.49	424.93	-6.95	-7.02	-2.05	1.86	7.31	196.31
450.00	1.49	198.25	449.92	-7.55	-7.63	-2.25	0.17	7.95	196.44
475.00	1.36	202.07	474.91	-8.13	-8.21	-2.46	0.66	8.57	196.70
500.00	1.36	204.14	499.91	-8.67	-8.76	-2.70	0.20	9.16	197.11
525.00	1.42	202.71	524.90	-9.22	-9.32	-2.94	0.28	9.77	197.50
550.00	1.46	205.61	549.89	-9.78	-9.89	-3.19	0.32	10.39	197.90
575.00	1.30	209.24	574.88	-10.31	-10.42	-3.47	0.71	10.98	198.42
600.00	1.24	210.29	599.88	-10.78	-10.90	-3.75	0.25	11.53	198.96
625.00	1.22	217.28	624.87	-11.21	-11.35	-4.04	0.61	12.05	199.61
650.00	1.19	219.75	649.87	-11.61	-11.76	-4.37	0.23	12.54	200.38
675.00	1.14	219.46	674.86	-12.00	-12.15	-4.69	0.21	13.03	201.12
700.00	1.00	238.64	699.86	-12.29	-12.46	-5.04	1.53	13.44	202.02
725.00	1.11	239.41	724.85	-12.51	-12.69	-5.43	0.47	13.81	203.17
750.00	1.13	234.50	749.85	-12.77	-12.96	-5.84	0.40	14.22	204.27
775.00	1.02	236.64	774.84	-13.02	-13.23	-6.23	0.49	14.62	205.22
800.00	0.99	248.41	799.84	-13.21	-13.43	-6.62	0.83	14.97	206.23
825.00	1.15	249.36	824.83	-13.37	-13.60	-7.05	0.63	15.32	207.42
850.00	1.16	245.74	849.83	-13.54	-13.79	-7.52	0.29	15.70	208.60

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
875.00	1.07	252.38	874.82	-13.70	-13.96	-7.97	0.61	16.08	209.72
900.00	1.21	248.35	899.82	-13.86	-14.13	-8.44	0.65	16.46	210.84
925.00	1.27	241.51	924.81	-14.07	-14.36	-8.93	0.64	16.91	211.87
950.00	1.25	246.03	949.81	-14.30	-14.60	-9.42	0.41	17.38	212.83
975.00	1.27	250.11	974.80	-14.49	-14.81	-9.93	0.37	17.83	213.85
1000.00	1.34	248.61	999.80	-14.67	-15.01	-10.47	0.31	18.30	214.89
1025.00	1.37	243.61	1024.79	-14.89	-15.25	-11.01	0.49	18.81	215.82
1050.00	1.41	241.72	1049.78	-15.16	-15.53	-11.55	0.24	19.35	216.63
1075.00	1.15	239.19	1074.77	-15.42	-15.80	-12.03	1.07	19.86	217.29
1100.00	1.00	232.37	1099.77	-15.67	-16.07	-12.42	0.78	20.31	217.71
1125.00	1.12	215.70	1124.77	-15.99	-16.40	-12.74	1.32	20.77	217.84
1150.00	0.82	210.89	1149.76	-16.33	-16.75	-12.98	1.24	21.19	217.76
1175.00	0.77	193.93	1174.76	-16.65	-17.07	-13.11	0.96	21.52	217.52
1200.00	0.82	168.68	1199.76	-16.98	-17.41	-13.11	1.40	21.79	216.99
1225.00	1.18	149.82	1224.75	-17.39	-17.80	-12.95	1.96	22.02	216.03
1250.00	1.44	142.45	1249.75	-17.87	-18.28	-12.63	1.24	22.22	214.64
1275.00	1.60	133.73	1274.74	-18.37	-18.77	-12.18	1.11	22.38	212.99
1300.00	1.70	127.96	1299.73	-18.86	-19.24	-11.64	0.78	22.48	211.18
1325.00	1.63	124.92	1324.72	-19.31	-19.67	-11.05	0.44	22.56	209.34
1350.00	1.57	120.05	1349.71	-19.70	-20.05	-10.47	0.60	22.61	207.57
1375.00	1.69	121.18	1374.70	-20.09	-20.41	-9.85	0.49	22.66	205.77
1400.00	1.83	119.43	1399.69	-20.49	-20.80	-9.19	0.60	22.74	203.84
1425.00	2.23	117.80	1424.67	-20.94	-21.22	-8.41	1.62	22.82	201.62
1450.00	2.30	112.18	1449.65	-21.39	-21.63	-7.52	0.93	22.90	199.16
1475.00	2.47	104.06	1474.63	-21.74	-21.95	-6.53	1.50	22.91	196.56
1500.00	2.66	102.32	1499.60	-22.03	-22.21	-5.44	0.85	22.87	193.76
1525.00	2.78	103.07	1524.58	-22.32	-22.47	-4.28	0.48	22.87	190.79
1550.00	2.74	101.44	1549.55	-22.62	-22.73	-3.11	0.35	22.94	187.78
1575.00	2.78	94.55	1574.52	-22.82	-22.89	-1.92	1.34	22.97	184.78
1600.00	2.87	91.00	1599.49	-22.92	-22.95	-0.69	0.77	22.96	181.71
1625.00	2.91	87.36	1624.46	-22.94	-22.93	0.57	0.75	22.94	178.57
1650.00	2.88	87.27	1649.42	-22.92	-22.87	1.83	0.12	22.95	175.42

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
1675.00	1.96	81.95	1674.40	-22.86	-22.78	2.88	3.79	22.97	172.79
1700.00	0.56	44.42	1699.39	-22.73	-22.64	3.39	6.19	22.89	171.48
1725.00	0.67	323.39	1724.39	-22.53	-22.43	3.39	3.22	22.69	171.41
1750.00	0.93	310.23	1749.39	-22.27	-22.18	3.15	1.28	22.41	171.93
1775.00	0.85	304.95	1774.39	-22.02	-21.95	2.84	0.47	22.13	172.63
1800.00	0.91	310.08	1799.39	-21.78	-21.71	2.53	0.41	21.86	173.34
1825.00	0.85	313.29	1824.38	-21.52	-21.46	2.25	0.33	21.57	174.02
1850.00	0.75	310.76	1849.38	-21.28	-21.22	1.99	0.43	21.32	174.65
1875.00	0.66	324.68	1874.38	-21.05	-21.00	1.78	0.76	21.08	175.15
1900.00	0.65	334.80	1899.38	-20.79	-20.75	1.64	0.46	20.82	175.49
1925.00	0.62	320.92	1924.37	-20.56	-20.52	1.49	0.63	20.57	175.84
1950.00	0.66	331.85	1949.37	-20.32	-20.29	1.34	0.51	20.33	176.22
1975.00	0.48	330.51	1974.37	-20.10	-20.07	1.22	0.71	20.10	176.52
2000.00	0.54	328.54	1999.37	-19.90	-19.87	1.11	0.25	19.91	176.82
2025.00	0.50	332.78	2024.37	-19.70	-19.68	0.99	0.23	19.70	177.11
2050.00	0.46	347.41	2049.37	-19.50	-19.48	0.92	0.52	19.50	177.29
2075.00	0.54	344.18	2074.37	-19.29	-19.27	0.87	0.37	19.29	177.42
2100.00	0.57	345.24	2099.37	-19.05	-19.04	0.80	0.13	19.05	177.58
2125.00	0.52	338.17	2124.37	-18.82	-18.81	0.73	0.34	18.82	177.78
2150.00	0.55	336.65	2149.36	-18.60	-18.59	0.64	0.12	18.60	178.03
2175.00	0.42	317.81	2174.36	-18.42	-18.41	0.53	0.81	18.42	178.35
2200.00	0.49	325.91	2199.36	-18.26	-18.26	0.41	0.38	18.26	178.72
2225.00	0.48	333.91	2224.36	-18.07	-18.07	0.30	0.28	18.07	179.05
2250.00	0.37	315.66	2249.36	-17.92	-17.92	0.20	0.71	17.92	179.37
2275.00	0.32	317.66	2274.36	-17.80	-17.81	0.09	0.21	17.81	179.70
2300.00	0.39	340.48	2299.36	-17.67	-17.68	0.02	0.62	17.68	179.94
2325.00	0.39	354.36	2324.36	-17.51	-17.51	-0.02	0.38	17.52	180.05
2350.00	0.45	347.14	2349.36	-17.32	-17.33	-0.05	0.30	17.33	180.15
2375.00	0.53	342.47	2374.36	-17.12	-17.13	-0.10	0.37	17.13	180.35
2400.00	0.46	320.29	2399.36	-16.93	-16.94	-0.20	0.82	16.94	180.68
2425.00	0.32	311.41	2424.36	-16.80	-16.82	-0.32	0.60	16.82	181.09
2450.00	0.50	324.27	2449.36	-16.66	-16.68	-0.43	0.80	16.69	181.49

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
2475.00	0.29	328.14	2474.36	-16.52	-16.54	-0.53	0.84	16.55	181.84
2500.00	0.21	354.18	2499.36	-16.42	-16.44	-0.57	0.56	16.45	181.99
2525.00	0.19	28.84	2524.36	-16.34	-16.36	-0.55	0.47	16.37	181.94
2550.00	0.15	51.67	2549.36	-16.28	-16.30	-0.51	0.31	16.31	181.79
2575.00	0.31	29.90	2574.36	-16.20	-16.23	-0.45	0.73	16.23	181.59
2600.00	0.16	34.03	2599.35	-16.12	-16.14	-0.40	0.62	16.14	181.41
2625.00	0.30	21.55	2624.35	-16.03	-16.05	-0.35	0.61	16.05	181.26
2650.00	0.36	15.07	2649.35	-15.89	-15.91	-0.31	0.28	15.91	181.11
2675.00	0.26	356.06	2674.35	-15.76	-15.78	-0.29	0.57	15.78	181.06
2700.00	0.15	319.89	2699.35	-15.68	-15.69	-0.32	0.67	15.70	181.16
2725.00	0.20	355.39	2724.35	-15.61	-15.62	-0.34	0.47	15.63	181.26
2750.00	0.16	353.94	2749.35	-15.53	-15.55	-0.35	0.18	15.55	181.29
2775.00	0.16	310.44	2774.35	-15.47	-15.49	-0.38	0.47	15.49	181.40
2800.00	0.20	297.25	2799.35	-15.43	-15.45	-0.44	0.24	15.45	181.65
2825.00	0.14	238.86	2824.35	-15.42	-15.44	-0.51	0.70	15.45	181.89
2850.00	0.19	263.41	2849.35	-15.44	-15.46	-0.58	0.35	15.47	182.14
2875.00	0.15	263.65	2874.35	-15.44	-15.47	-0.65	0.15	15.49	182.41
2900.00	0.16	297.72	2899.35	-15.43	-15.46	-0.72	0.37	15.48	182.65
2925.00	0.13	278.19	2924.35	-15.41	-15.44	-0.78	0.23	15.46	182.88
2950.00	0.08	243.02	2949.35	-15.41	-15.44	-0.82	0.32	15.47	183.04
2975.00	0.14	289.53	2974.35	-15.41	-15.44	-0.87	0.41	15.47	183.21
3000.00	0.20	256.01	2999.35	-15.40	-15.44	-0.94	0.45	15.47	183.47
3025.00	0.15	249.89	3024.35	-15.42	-15.46	-1.01	0.22	15.50	183.74
3050.00	0.20	257.88	3049.35	-15.44	-15.48	-1.08	0.22	15.52	184.00
3075.00	0.36	237.68	3074.35	-15.49	-15.53	-1.19	0.75	15.58	184.38
3100.00	0.92	230.01	3099.35	-15.65	-15.70	-1.41	2.25	15.77	185.13
3125.00	1.29	228.54	3124.35	-15.96	-16.02	-1.78	1.51	16.12	186.32
3150.00	1.36	226.09	3149.34	-16.34	-16.41	-2.20	0.36	16.56	187.64
3175.00	1.40	230.55	3174.33	-16.72	-16.81	-2.65	0.45	17.02	188.96
3200.00	1.96	232.10	3199.32	-17.16	-17.27	-3.22	2.24	17.57	190.57
3225.00	2.34	227.36	3224.30	-17.74	-17.88	-3.94	1.70	18.31	192.41
3250.00	2.34	230.38	3249.28	-18.39	-18.55	-4.70	0.49	19.14	194.23

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
3275.00	2.40	229.39	3274.26	-19.03	-19.21	-5.49	0.28	19.98	195.96
3300.00	2.45	229.81	3299.24	-19.69	-19.90	-6.30	0.22	20.87	197.57
3325.00	2.30	230.38	3324.22	-20.33	-20.56	-7.09	0.62	21.75	199.03
3350.00	2.29	230.35	3349.20	-20.94	-21.20	-7.86	0.04	22.61	200.35
3375.00	2.24	228.76	3374.18	-21.56	-21.84	-8.61	0.32	23.48	201.52
3400.00	2.11	229.04	3399.16	-22.16	-22.46	-9.33	0.50	24.32	202.55
3425.00	2.15	230.78	3424.14	-22.73	-23.06	-10.04	0.29	25.15	203.52
3450.00	2.07	231.60	3449.13	-23.29	-23.64	-10.76	0.32	25.97	204.47
3475.00	2.04	235.17	3474.11	-23.80	-24.17	-11.48	0.53	26.76	205.39
3500.00	1.74	239.10	3499.10	-24.23	-24.62	-12.17	1.31	27.47	206.30
3525.00	1.92	237.14	3524.08	-24.63	-25.05	-12.85	0.74	28.15	207.15
3550.00	1.95	230.36	3549.07	-25.11	-25.55	-13.52	0.93	28.90	207.90
3575.00	1.95	228.85	3574.05	-25.64	-26.10	-14.17	0.21	29.70	208.51
3600.00	1.92	227.98	3599.04	-26.18	-26.66	-14.80	0.17	30.49	209.05
3625.00	1.96	232.34	3624.03	-26.70	-27.20	-15.45	0.61	31.28	209.60
3650.00	2.03	231.44	3649.01	-27.21	-27.73	-16.14	0.30	32.09	210.19
3675.00	2.60	233.04	3673.99	-27.80	-28.35	-16.93	2.32	33.02	210.85
3700.00	2.77	233.43	3698.96	-28.47	-29.05	-17.87	0.68	34.11	211.60
3725.00	2.81	231.68	3723.93	-29.18	-29.79	-18.84	0.37	35.25	212.31
3750.00	2.89	232.23	3748.90	-29.92	-30.56	-19.82	0.34	36.42	212.97
3775.00	2.88	233.59	3773.87	-30.64	-31.32	-20.82	0.27	37.61	213.62
3800.00	2.87	234.24	3798.84	-31.35	-32.05	-21.84	0.14	38.79	214.26
3825.00	2.80	234.90	3823.81	-32.03	-32.77	-22.84	0.33	39.95	214.88
3850.00	2.63	232.31	3848.78	-32.70	-33.47	-23.80	0.83	41.07	215.41
3875.00	2.60	232.57	3873.75	-33.37	-34.17	-24.70	0.14	42.16	215.86
3900.00	2.50	232.45	3898.73	-34.02	-34.84	-25.58	0.39	43.23	216.29
3925.00	2.44	230.76	3923.71	-34.66	-35.51	-26.43	0.38	44.27	216.65
3950.00	2.42	227.91	3948.68	-35.33	-36.20	-27.23	0.49	45.30	216.95
3975.00	2.37	227.68	3973.66	-36.00	-36.91	-28.01	0.20	46.33	217.19
4000.00	2.45	224.17	3998.64	-36.71	-37.64	-28.76	0.66	47.37	217.38
4025.00	2.49	222.84	4023.62	-37.47	-38.42	-29.50	0.29	48.44	217.52
4050.00	2.80	226.84	4048.59	-38.26	-39.24	-30.32	1.43	49.58	217.69

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft	CLOSURE DIST ft	CLOSURE DIR deg
4075.00	2.96	227.62	4073.56	-39.08	-40.09	-31.24	0.64	50.82	217.93
4100.00	2.93	229.51	4098.53	-39.90	-40.94	-32.20	0.41	52.08	218.19
4125.00	3.08	230.30	4123.49	-40.71	-41.78	-33.20	0.63	53.36	218.47
4150.00	2.87	231.15	4148.46	-41.50	-42.60	-34.20	0.83	54.63	218.76
4175.00	2.84	231.30	4173.43	-42.25	-43.38	-35.18	0.12	55.85	219.04
4200.00	2.85	231.24	4198.40	-42.99	-44.16	-36.15	0.02	57.06	219.30
4225.00	2.88	231.48	4223.36	-43.74	-44.94	-37.12	0.14	58.29	219.56
4250.00	2.83	230.82	4248.33	-44.49	-45.72	-38.09	0.23	59.51	219.80
4275.00	2.57	229.44	4273.31	-45.22	-46.47	-39.00	1.08	60.67	220.00
4300.00	2.36	227.36	4298.28	-45.91	-47.19	-39.80	0.92	61.73	220.15
4325.00	2.31	225.60	4323.26	-46.58	-47.89	-40.54	0.35	62.74	220.25
4350.00	2.25	222.14	4348.24	-47.28	-48.60	-41.23	0.60	63.73	220.31
4375.00	2.21	221.97	4373.22	-47.98	-49.33	-41.88	0.14	64.71	220.33
4400.00	2.22	220.36	4398.20	-48.69	-50.05	-42.52	0.25	65.67	220.34
4425.00	2.34	222.57	4423.18	-49.41	-50.80	-43.17	0.61	66.67	220.36
4450.00	2.72	227.57	4448.16	-50.16	-51.58	-43.96	1.76	67.77	220.44
4475.00	2.76	228.20	4473.13	-50.93	-52.38	-44.84	0.19	68.95	220.57
4500.00	2.81	228.19	4498.10	-51.72	-53.19	-45.75	0.22	70.16	220.70
4525.00	2.78	226.19	4523.07	-52.52	-54.02	-46.65	0.41	71.37	220.81
4550.00	2.71	227.47	4548.04	-53.31	-54.84	-47.52	0.37	72.56	220.91
4575.00	2.77	226.86	4573.01	-54.09	-55.65	-48.40	0.27	73.75	221.01
4600.00	2.73	229.76	4597.99	-54.86	-56.45	-49.29	0.58	74.94	221.13
4625.00	2.68	230.00	4622.96	-55.60	-57.21	-50.20	0.21	76.11	221.26
4650.00	2.77	237.23	4647.93	-56.27	-57.91	-51.15	1.42	77.27	221.45
4675.00	2.63	238.25	4672.90	-56.87	-58.54	-52.15	0.59	78.40	221.69
4700.00	2.86	241.77	4697.87	-57.43	-59.14	-53.19	1.14	79.54	221.97
4725.00	2.74	240.75	4722.84	-57.98	-59.73	-54.26	0.51	80.69	222.25
4750.00	2.67	238.49	4747.82	-58.55	-60.32	-55.27	0.51	81.82	222.50
4775.00	2.62	238.13	4772.79	-59.12	-60.93	-56.26	0.22	82.93	222.72
4800.00	2.62	238.21	4797.76	-59.69	-61.53	-57.23	0.03	84.03	222.92
4825.00	2.76	241.23	4822.74	-60.25	-62.12	-58.24	0.78	85.15	223.15
4850.00	2.59	237.60	4847.71	-60.81	-62.71	-59.24	0.96	86.27	223.37

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	2.55	236.74	4872.68	-61.39	-63.32	-60.18	0.23	87.36	223.55
4900.00	2.51	233.77	4897.66	-61.99	-63.95	-61.09	0.55	88.44	223.69
4925.00	2.50	233.23	4922.64	-62.61	-64.60	-61.97	0.10	89.51	223.81
4950.00	2.56	228.43	4947.61	-63.28	-65.29	-62.82	0.89	90.61	223.89
4975.00	2.54	231.46	4972.59	-63.97	-66.01	-63.67	0.54	91.72	223.97
5000.00	2.74	229.68	4997.56	-64.67	-66.74	-64.56	0.86	92.86	224.05
5025.00	3.31	230.00	5022.52	-65.49	-67.59	-65.57	2.26	94.17	224.13
5050.00	3.66	232.45	5047.48	-66.40	-68.54	-66.76	1.52	95.68	224.24
5075.00	3.58	230.47	5072.43	-67.34	-69.53	-67.99	0.60	97.25	224.36
5100.00	3.58	230.06	5097.38	-68.30	-70.52	-69.19	0.10	98.80	224.45
5125.00	3.66	230.80	5122.33	-69.27	-71.53	-70.41	0.37	100.36	224.55
5150.00	3.56	228.85	5147.28	-70.24	-72.54	-71.61	0.63	101.93	224.63
5175.00	3.59	229.20	5172.23	-71.23	-73.56	-72.79	0.17	103.49	224.70
5200.00	3.42	228.29	5197.18	-72.20	-74.57	-73.94	0.72	105.01	224.75
5225.00	3.29	227.04	5222.14	-73.15	-75.56	-75.02	0.62	106.47	224.79
5250.00	3.20	228.57	5247.10	-74.07	-76.51	-76.06	0.49	107.89	224.83
5275.00	3.18	228.40	5272.06	-74.96	-77.43	-77.11	0.10	109.27	224.88
5300.00	3.16	225.07	5297.02	-75.87	-78.38	-78.11	0.74	110.66	224.90
5325.00	2.93	226.26	5321.99	-76.77	-79.30	-79.06	0.98	111.98	224.91
5350.00	2.93	225.00	5346.96	-77.63	-80.20	-79.97	0.26	113.26	224.92
5375.00	2.79	225.33	5371.93	-78.48	-81.08	-80.86	0.56	114.51	224.92
5400.00	2.65	225.65	5396.90	-79.29	-81.91	-81.70	0.58	115.69	224.93
5425.00	2.76	226.92	5421.87	-80.07	-82.72	-82.56	0.50	116.87	224.94
5450.00	2.77	226.39	5446.84	-80.87	-83.55	-83.43	0.11	118.07	224.96
5475.00	2.94	232.78	5471.81	-81.65	-84.35	-84.38	1.44	119.31	225.01
5500.00	3.21	239.00	5496.77	-82.36	-85.10	-85.49	1.71	120.62	225.13
5525.00	3.37	242.15	5521.73	-83.02	-85.80	-86.74	0.97	122.01	225.31
5550.00	3.43	241.17	5546.69	-83.68	-86.51	-88.04	0.33	123.43	225.50
5575.00	3.50	240.21	5571.64	-84.38	-87.25	-89.36	0.37	124.89	225.69
5600.00	3.40	241.48	5596.60	-85.07	-87.98	-90.67	0.51	126.34	225.86
5625.00	3.21	241.86	5621.56	-85.72	-88.66	-91.94	0.76	127.73	226.04
5650.00	2.85	242.68	5646.52	-86.29	-89.28	-93.11	1.44	129.00	226.20

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
5675.00	2.55	243.29	5671.49	-86.80	-89.82	-94.16	1.20	130.13	226.35
5700.00	2.33	242.45	5696.47	-87.25	-90.30	-95.11	0.92	131.15	226.49
5725.00	1.98	240.51	5721.45	-87.67	-90.75	-95.94	1.41	132.06	226.59
5750.00	1.82	240.23	5746.44	-88.06	-91.16	-96.66	0.67	132.86	226.68
5775.00	1.88	240.79	5771.43	-88.43	-91.56	-97.36	0.27	133.65	226.76
5800.00	1.83	240.70	5796.41	-88.81	-91.95	-98.07	0.20	134.43	226.84
5825.00	1.72	235.37	5821.40	-89.20	-92.36	-98.72	0.79	135.19	226.91
5850.00	1.97	225.66	5846.39	-89.69	-92.87	-99.34	1.60	135.99	226.93
5875.00	2.46	218.73	5871.37	-90.39	-93.59	-99.98	2.23	136.95	226.89
5900.00	2.74	213.54	5896.34	-91.28	-94.51	-100.65	1.46	138.07	226.80
5925.00	2.89	212.34	5921.31	-92.29	-95.54	-101.32	0.66	139.26	226.68
5950.00	3.27	211.74	5946.28	-93.41	-96.68	-102.03	1.49	140.56	226.54
5975.00	3.97	211.78	5971.23	-94.72	-98.02	-102.86	2.80	142.09	226.38
6000.00	4.03	209.88	5996.17	-96.19	-99.52	-103.75	0.58	143.77	226.19
6025.00	3.87	207.70	6021.11	-97.67	-101.03	-104.58	0.86	145.41	225.99
6050.00	3.70	200.50	6046.05	-99.16	-102.53	-105.26	2.02	146.94	225.75
6075.00	3.64	195.36	6071.00	-100.66	-104.05	-105.75	1.34	148.36	225.46
6100.00	3.73	191.45	6095.95	-102.21	-105.62	-106.12	1.06	149.72	225.14
6125.00	3.71	189.90	6120.90	-103.80	-107.21	-106.42	0.40	151.06	224.79
6150.00	3.71	198.28	6145.84	-105.35	-108.78	-106.82	2.17	152.45	224.48
6175.00	3.66	206.47	6170.79	-106.81	-110.26	-107.43	2.11	153.94	224.26
6200.00	3.34	215.50	6195.75	-108.09	-111.56	-108.21	2.53	155.42	224.12
6225.00	2.93	229.04	6220.71	-109.07	-112.58	-109.11	3.38	156.78	224.10
6250.00	3.17	252.73	6245.68	-109.66	-113.20	-110.25	5.09	158.02	224.24
6275.00	3.46	258.87	6270.63	-109.97	-113.55	-111.65	1.83	159.25	224.52
6300.00	3.43	259.85	6295.59	-110.20	-113.83	-113.13	0.25	160.49	224.82
6325.00	3.34	263.28	6320.54	-110.37	-114.05	-114.59	0.90	161.67	225.14
6350.00	3.25	268.92	6345.50	-110.42	-114.14	-116.02	1.35	162.76	225.47
6375.00	3.27	275.30	6370.46	-110.33	-114.09	-117.44	1.45	163.73	225.83
6400.00	3.39	277.36	6395.42	-110.12	-113.93	-118.88	0.70	164.66	226.22
6425.00	3.45	276.43	6420.38	-109.89	-113.75	-120.36	0.32	165.61	226.62
6450.00	3.23	278.37	6445.33	-109.66	-113.57	-121.81	0.99	166.54	227.01

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
6475.00	2.97	281.87	6470.30	-109.38	-113.33	-123.14	1.29	167.35	227.38
6500.00	2.73	282.39	6495.27	-109.08	-113.07	-124.35	0.97	168.07	227.72
6525.00	2.81	282.70	6520.24	-108.78	-112.81	-125.53	0.33	168.77	228.06
6550.00	2.65	277.54	6545.21	-108.54	-112.60	-126.71	1.18	169.51	228.37
6575.00	2.71	278.13	6570.18	-108.34	-112.44	-127.86	0.28	170.27	228.67
6600.00	2.71	281.04	6595.15	-108.11	-112.24	-129.03	0.55	171.02	228.98
6625.00	2.47	277.48	6620.13	-107.89	-112.06	-130.14	1.15	171.74	229.27
6650.00	2.37	276.33	6645.11	-107.73	-111.93	-131.19	0.44	172.45	229.53
6675.00	2.48	272.33	6670.08	-107.62	-111.85	-132.24	0.81	173.20	229.78
6700.00	2.42	271.98	6695.06	-107.54	-111.81	-133.31	0.24	173.99	230.01
6725.00	2.56	269.46	6720.04	-107.50	-111.80	-134.40	0.71	174.82	230.25
6750.00	2.86	259.03	6745.01	-107.58	-111.92	-135.57	2.29	175.80	230.46
6775.00	2.95	252.73	6769.98	-107.85	-112.23	-136.80	1.33	176.94	230.63
6800.00	3.03	247.82	6794.94	-108.26	-112.67	-138.02	1.07	178.17	230.77
6825.00	2.93	243.08	6819.91	-108.76	-113.21	-139.21	1.06	179.43	230.88
6850.00	2.59	241.66	6844.88	-109.28	-113.77	-140.27	1.39	180.61	230.96
6875.00	2.11	237.14	6869.86	-109.77	-114.29	-141.16	2.04	181.62	231.01
6900.00	1.55	235.31	6894.85	-110.19	-114.73	-141.82	2.26	182.42	231.03
6925.00	1.22	234.64	6919.84	-110.52	-115.08	-142.32	1.33	183.02	231.04
6950.00	0.62	245.17	6944.84	-110.72	-115.29	-142.66	2.49	183.42	231.06
6975.00	0.64	240.99	6969.83	-110.84	-115.41	-142.90	0.20	183.68	231.07
7000.00	1.11	235.47	6994.83	-111.03	-115.61	-143.22	1.91	184.06	231.09
7025.00	1.49	228.84	7019.82	-111.37	-115.97	-143.67	1.64	184.63	231.09
7050.00	1.87	230.14	7044.81	-111.83	-116.44	-144.22	1.51	185.36	231.08
7075.00	2.23	227.23	7069.80	-112.40	-117.03	-144.89	1.50	186.25	231.07
7100.00	2.45	223.44	7094.78	-113.09	-117.75	-145.62	1.07	187.27	231.04
7125.00	2.27	224.59	7119.76	-113.81	-118.49	-146.33	0.73	188.29	231.00
7130.00	2.24	224.85	7124.75	-113.94	-118.63	-146.47	0.73	188.48	231.00