



K.P. KAUFFMAN

SURVEY REPORT

SPADE 1-12

9/28/2018



The **Ultimate Partner** In Wellbore Placement

CUSTOMER **K.P. Kauffman**
PROJECT **Spade 1-12**
FIELD **Wattenberg**

SDI JOB NO.
SDI DISTRICT **Casper**
SDI KIT/UNIT

SITE INFORMATION

Site Name **Spade 1-12**
Lat/Long **40.401277° N, 104.938032° W**
Northing
Easting

Section **SENW 18**
Township **5N**
Range **67W**

MAP INFORMATION

North Reference **True North**
Grid Correction
System **US State Plane 1983**
Datum **North American Datum 1983 (GRS 1980)**
Map Zone **Colorado North: 0501**



WELL INFORMATION

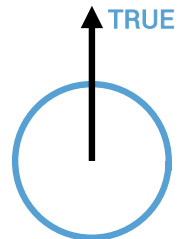
Lat/Long **40.401277° N, 104.938032° W**
Northing
Easting
UWI **05-123-11567 UWBI 05-123-11567**

DEPTH AND ELEVATION REFERENCE

Ground Level **4922 ft above Mean Sea Level**
Reference Datum **GL**
Reference Height **0 ft above G.L.**
Reference Elevation **4922 ft**

VERTICAL SECTION REFERENCE

+N/-S **0 ft**
+E/-W **0 ft**
Proposal Direction **256.77°**
Calculation Method **Minimum Curvature**



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity **999.073 mG [computed]**

WELL NOTES

Keeper gyro wireline survey in 4.5" casing. All depths reference RKB

OPERATORS

P Holbrook

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
25.00	0.07	219.74	25.00	0.01	-0.01	-0.01	0.29	0.02	219.74
50.00	0.14	219.74	50.00	0.05	-0.05	-0.04	0.29	0.06	219.74
75.00	0.22	219.74	75.00	0.11	-0.11	-0.09	0.29	0.14	219.74
100.00	0.29	211.60	100.00	0.19	-0.20	-0.15	0.32	0.25	217.71
125.00	0.36	192.04	125.00	0.27	-0.33	-0.20	0.52	0.39	211.67
150.00	0.30	201.74	150.00	0.34	-0.47	-0.24	0.33	0.53	207.57
175.00	0.28	228.79	175.00	0.43	-0.57	-0.31	0.54	0.65	208.93
200.00	0.29	223.41	200.00	0.54	-0.65	-0.40	0.11	0.76	211.63
225.00	0.26	215.90	225.00	0.63	-0.74	-0.48	0.17	0.88	212.74
250.00	0.32	230.08	250.00	0.74	-0.83	-0.56	0.36	1.01	214.10
275.00	0.38	246.09	275.00	0.88	-0.91	-0.69	0.47	1.15	217.27
300.00	0.38	235.65	300.00	1.04	-0.99	-0.84	0.28	1.30	220.19
325.00	0.41	228.93	325.00	1.20	-1.10	-0.97	0.22	1.47	221.58
350.00	0.42	232.26	350.00	1.36	-1.21	-1.11	0.11	1.65	222.57
375.00	0.47	221.48	374.99	1.53	-1.34	-1.25	0.39	1.84	222.99
400.00	0.50	218.90	399.99	1.70	-1.51	-1.39	0.16	2.05	222.69
425.00	0.47	222.94	424.99	1.87	-1.67	-1.53	0.19	2.26	222.52
450.00	0.48	219.95	449.99	2.04	-1.82	-1.67	0.10	2.47	222.43
475.00	0.50	220.32	474.99	2.21	-1.99	-1.80	0.09	2.68	222.25
500.00	0.48	221.43	499.99	2.39	-2.15	-1.95	0.08	2.90	222.15
525.00	0.50	225.41	524.99	2.56	-2.31	-2.09	0.15	3.11	222.24
550.00	0.49	226.16	549.99	2.75	-2.46	-2.25	0.05	3.33	222.47
575.00	0.49	226.41	574.99	2.93	-2.60	-2.40	0.02	3.54	222.70
600.00	0.59	229.79	599.99	3.14	-2.76	-2.58	0.40	3.78	223.04
625.00	0.61	231.00	624.98	3.38	-2.93	-2.78	0.09	4.04	223.52
650.00	0.60	230.98	649.98	3.61	-3.09	-2.98	0.01	4.30	223.97
675.00	0.65	229.79	674.98	3.86	-3.27	-3.20	0.21	4.57	224.36
700.00	0.68	232.14	699.98	4.12	-3.45	-3.42	0.16	4.86	224.75
725.00	0.67	231.72	724.98	4.39	-3.63	-3.65	0.06	5.15	225.16
750.00	0.71	234.38	749.98	4.66	-3.81	-3.89	0.22	5.45	225.60
775.00	0.71	238.56	774.97	4.96	-3.99	-4.15	0.21	5.76	226.18

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
800.00	0.67	235.91	799.97	5.24	-4.15	-4.41	0.23	6.05	226.73
825.00	0.68	228.42	824.97	5.51	-4.33	-4.64	0.36	6.34	226.98
850.00	0.71	233.14	849.97	5.78	-4.52	-4.87	0.24	6.65	227.15
875.00	0.70	236.18	874.97	6.06	-4.70	-5.12	0.15	6.95	227.48
900.00	0.72	233.73	899.97	6.35	-4.88	-5.38	0.14	7.26	227.80
925.00	0.71	229.97	924.96	6.63	-5.07	-5.62	0.19	7.57	227.97
950.00	0.71	226.79	949.96	6.91	-5.27	-5.85	0.16	7.88	227.98
975.00	0.73	231.40	974.96	7.19	-5.48	-6.09	0.25	8.19	228.03
1000.00	0.72	240.16	999.96	7.48	-5.66	-6.35	0.45	8.51	228.32
1025.00	0.70	236.08	1024.96	7.77	-5.82	-6.62	0.23	8.81	228.66
1050.00	0.73	236.12	1049.95	8.07	-6.00	-6.88	0.11	9.12	228.91
1075.00	0.73	236.55	1074.95	8.36	-6.17	-7.14	0.02	9.44	229.16
1100.00	0.70	228.00	1099.95	8.64	-6.36	-7.38	0.44	9.75	229.26
1125.00	0.72	237.58	1124.95	8.93	-6.55	-7.63	0.48	10.06	229.37
1150.00	0.72	244.07	1149.95	9.23	-6.70	-7.91	0.33	10.36	229.72
1175.00	0.72	238.44	1174.94	9.53	-6.85	-8.18	0.28	10.67	230.05
1200.00	0.75	230.14	1199.94	9.83	-7.04	-8.44	0.44	10.99	230.18
1225.00	0.73	230.26	1224.94	10.12	-7.24	-8.69	0.05	11.31	230.18
1250.00	0.74	236.14	1249.94	10.41	-7.44	-8.94	0.30	11.63	230.26
1275.00	0.73	235.50	1274.94	10.71	-7.62	-9.21	0.04	11.95	230.41
1300.00	0.72	234.42	1299.93	11.00	-7.80	-9.47	0.08	12.26	230.52
1325.00	0.71	232.03	1324.93	11.29	-7.98	-9.72	0.12	12.58	230.59
1350.00	0.74	237.28	1349.93	11.58	-8.17	-9.98	0.29	12.89	230.69
1375.00	0.76	245.88	1374.93	11.90	-8.32	-10.26	0.45	13.21	230.96
1400.00	0.77	243.37	1399.93	12.22	-8.47	-10.56	0.15	13.54	231.29
1425.00	0.80	239.26	1424.92	12.55	-8.63	-10.86	0.24	13.87	231.54
1450.00	0.76	232.73	1449.92	12.87	-8.82	-11.15	0.38	14.21	231.65
1475.00	0.75	227.22	1474.92	13.16	-9.03	-11.40	0.30	14.54	231.61
1500.00	0.76	233.35	1499.92	13.46	-9.24	-11.65	0.32	14.87	231.58
1525.00	0.74	238.56	1524.91	13.76	-9.42	-11.92	0.28	15.20	231.67
1550.00	0.73	236.39	1549.91	14.07	-9.60	-12.19	0.12	15.52	231.79
1575.00	0.75	234.85	1574.91	14.37	-9.78	-12.46	0.12	15.84	231.87

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
1600.00	0.75	243.35	1599.91	14.68	-9.95	-12.74	0.45	16.16	232.02
1625.00	0.79	251.32	1624.91	15.01	-10.08	-13.05	0.46	16.49	232.33
1650.00	0.82	251.05	1649.90	15.36	-10.19	-13.38	0.11	16.82	232.72
1675.00	0.78	225.25	1674.90	15.68	-10.37	-13.67	1.44	17.16	232.83
1700.00	0.84	221.29	1699.90	15.98	-10.63	-13.92	0.33	17.51	232.64
1725.00	0.88	220.18	1724.90	16.28	-10.91	-14.16	0.16	17.88	232.39
1750.00	0.88	217.21	1749.89	16.58	-11.21	-14.40	0.18	18.25	232.10
1775.00	0.88	219.47	1774.89	16.88	-11.51	-14.64	0.14	18.62	231.82
1800.00	0.87	224.71	1799.89	17.20	-11.79	-14.89	0.32	19.00	231.63
1825.00	0.88	232.60	1824.88	17.53	-12.04	-15.18	0.48	19.38	231.57
1850.00	0.95	233.07	1849.88	17.90	-12.29	-15.50	0.29	19.78	231.60
1875.00	0.87	230.08	1874.88	18.26	-12.53	-15.81	0.37	20.17	231.60
1900.00	0.78	224.48	1899.87	18.57	-12.78	-16.08	0.48	20.53	231.52
1925.00	0.82	217.03	1924.87	18.86	-13.04	-16.30	0.45	20.88	231.34
1950.00	0.83	214.32	1949.87	19.13	-13.33	-16.51	0.16	21.22	231.08
1975.00	0.84	209.16	1974.87	19.38	-13.64	-16.70	0.30	21.57	230.76
2000.00	0.83	209.57	1999.86	19.63	-13.96	-16.88	0.05	21.91	230.42
2025.00	0.78	219.63	2024.86	19.89	-14.25	-17.08	0.59	22.24	230.17
2050.00	0.77	219.09	2049.86	20.16	-14.51	-17.29	0.06	22.57	230.01
2075.00	0.73	217.79	2074.86	20.41	-14.76	-17.50	0.18	22.89	229.84
2100.00	0.72	217.06	2099.86	20.66	-15.01	-17.69	0.05	23.20	229.68
2125.00	0.63	210.00	2124.85	20.87	-15.26	-17.85	0.49	23.48	229.48
2150.00	0.64	205.91	2149.85	21.05	-15.50	-17.98	0.19	23.74	229.24
2175.00	0.66	203.08	2174.85	21.23	-15.76	-18.10	0.17	24.00	228.95
2200.00	0.67	202.69	2199.85	21.40	-16.03	-18.21	0.03	24.26	228.65
2225.00	0.66	210.57	2224.85	21.58	-16.29	-18.34	0.37	24.53	228.40
2250.00	0.64	214.26	2249.85	21.79	-16.53	-18.49	0.18	24.80	228.21
2275.00	0.66	211.79	2274.84	21.99	-16.77	-18.65	0.13	25.08	228.04
2300.00	0.69	211.78	2299.84	22.20	-17.02	-18.80	0.12	25.36	227.86
2325.00	0.65	214.88	2324.84	22.41	-17.26	-18.96	0.20	25.64	227.69
2350.00	0.66	220.35	2349.84	22.63	-17.49	-19.14	0.25	25.92	227.58
2375.00	0.66	223.47	2374.84	22.87	-17.70	-19.33	0.15	26.21	227.52

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
2400.00	0.65	228.48	2399.84	23.11	-17.90	-19.54	0.24	26.50	227.50
2425.00	0.67	232.82	2424.83	23.37	-18.08	-19.76	0.22	26.78	227.54
2450.00	0.68	236.26	2449.83	23.65	-18.25	-20.00	0.17	27.08	227.61
2475.00	0.68	233.58	2474.83	23.92	-18.42	-20.24	0.13	27.37	227.69
2500.00	0.69	239.98	2499.83	24.20	-18.59	-20.49	0.31	27.67	227.79
2525.00	0.67	238.67	2524.83	24.49	-18.74	-20.75	0.12	27.96	227.91
2550.00	0.69	241.50	2549.83	24.77	-18.89	-21.00	0.16	28.25	228.04
2575.00	0.83	249.84	2574.82	25.09	-19.02	-21.30	0.70	28.56	228.24
2600.00	0.87	250.30	2599.82	25.46	-19.15	-21.65	0.19	28.90	228.52
2625.00	0.97	251.24	2624.82	25.86	-19.28	-22.03	0.39	29.27	228.81
2650.00	1.01	252.32	2649.81	26.29	-19.41	-22.44	0.18	29.67	229.14
2675.00	1.06	255.87	2674.81	26.74	-19.54	-22.88	0.34	30.08	229.50
2700.00	1.16	257.26	2699.80	27.22	-19.65	-23.35	0.39	30.51	229.92
2725.00	1.21	258.17	2724.80	27.74	-19.76	-23.85	0.22	30.97	230.36
2750.00	1.27	257.58	2749.79	28.28	-19.87	-24.38	0.26	31.45	230.82
2775.00	1.37	260.43	2774.79	28.86	-19.98	-24.95	0.46	31.96	231.31
2800.00	1.37	261.93	2799.78	29.45	-20.07	-25.54	0.14	32.48	231.83
2825.00	1.42	264.41	2824.77	30.06	-20.14	-26.14	0.32	33.00	232.38
2850.00	1.45	266.43	2849.76	30.68	-20.19	-26.77	0.23	33.53	232.97
2875.00	1.43	266.36	2874.76	31.30	-20.23	-27.39	0.09	34.06	233.55
2900.00	1.53	275.64	2899.75	31.92	-20.22	-28.04	1.04	34.57	234.20
2925.00	1.57	278.28	2924.74	32.55	-20.14	-28.71	0.33	35.07	234.95
2950.00	1.57	278.61	2949.73	33.19	-20.04	-29.38	0.04	35.57	235.71
2975.00	1.57	277.93	2974.72	33.83	-19.94	-30.06	0.08	36.07	236.44
3000.00	1.58	278.51	2999.71	34.47	-19.84	-30.74	0.08	36.59	237.16
3025.00	1.56	277.57	3024.70	35.11	-19.75	-31.42	0.14	37.11	237.85
3050.00	1.58	277.32	3049.69	35.75	-19.66	-32.10	0.10	37.64	238.52
3075.00	1.63	274.36	3074.68	36.41	-19.59	-32.80	0.39	38.20	239.15
3100.00	1.78	271.45	3099.67	37.13	-19.55	-33.54	0.69	38.82	239.76
3125.00	1.87	269.52	3124.66	37.90	-19.54	-34.34	0.44	39.51	240.35
3150.00	1.91	268.16	3149.65	38.71	-19.56	-35.16	0.22	40.24	240.91
3175.00	2.01	269.52	3174.63	39.54	-19.58	-36.02	0.44	40.99	241.47

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
3200.00	2.13	272.45	3199.61	40.41	-19.56	-36.92	0.64	41.78	242.08
3225.00	2.19	277.56	3224.60	41.31	-19.48	-37.85	0.81	42.57	242.77
3250.00	2.24	284.99	3249.58	42.18	-19.29	-38.80	1.16	43.33	243.57
3275.00	2.27	290.94	3274.56	43.02	-18.99	-39.73	0.95	44.04	244.46
3300.00	2.37	297.09	3299.54	43.83	-18.57	-40.66	1.08	44.70	245.45
3325.00	1.80	296.33	3324.52	44.53	-18.16	-41.47	2.29	45.27	246.35
3350.00	1.52	306.70	3349.51	45.04	-17.79	-42.09	1.65	45.69	247.09
3375.00	1.43	312.73	3374.50	45.43	-17.38	-42.58	0.71	45.99	247.80
3400.00	1.40	318.91	3399.50	45.75	-16.94	-43.01	0.62	46.23	248.50
3425.00	1.43	322.26	3424.49	46.02	-16.46	-43.40	0.34	46.42	249.23
3450.00	1.44	324.48	3449.48	46.27	-15.96	-43.78	0.23	46.59	249.97
3475.00	1.39	322.57	3474.47	46.51	-15.46	-44.14	0.26	46.77	250.69
3500.00	1.42	322.24	3499.46	46.76	-14.98	-44.52	0.11	46.97	251.41
3525.00	1.45	323.43	3524.46	47.02	-14.48	-44.90	0.19	47.17	252.13
3550.00	1.47	321.51	3549.45	47.28	-13.97	-45.28	0.20	47.39	252.85
3575.00	1.47	320.37	3574.44	47.56	-13.47	-45.69	0.12	47.63	253.57
3600.00	1.42	319.33	3599.43	47.84	-12.99	-46.09	0.23	47.89	254.26
3625.00	1.45	316.86	3624.42	48.15	-12.53	-46.51	0.28	48.17	254.93
3650.00	1.48	319.01	3649.42	48.45	-12.05	-46.94	0.24	48.46	255.60
3675.00	1.49	320.41	3674.41	48.75	-11.56	-47.36	0.16	48.75	256.29
3700.00	1.54	320.19	3699.40	49.04	-11.05	-47.78	0.18	49.04	256.98
3725.00	1.52	320.56	3724.39	49.34	-10.54	-48.21	0.09	49.35	257.67
3750.00	1.49	320.25	3749.38	49.63	-10.03	-48.63	0.12	49.65	258.34
3775.00	1.40	317.28	3774.37	49.93	-9.56	-49.04	0.47	49.96	258.97
3800.00	1.26	313.66	3799.37	50.23	-9.14	-49.45	0.64	50.28	259.53
3825.00	1.17	313.12	3824.36	50.52	-8.78	-49.83	0.40	50.60	260.01
3850.00	0.98	307.78	3849.36	50.79	-8.47	-50.19	0.84	50.90	260.42
3875.00	0.77	297.15	3874.35	51.06	-8.27	-50.51	1.05	51.18	260.71
3900.00	0.62	278.81	3899.35	51.31	-8.17	-50.79	1.07	51.44	260.86
3925.00	0.68	257.49	3924.35	51.58	-8.18	-51.07	1.00	51.72	260.90
3950.00	0.67	248.52	3949.35	51.88	-8.27	-51.35	0.43	52.01	260.86
3975.00	0.70	244.53	3974.35	52.17	-8.38	-51.62	0.23	52.30	260.77

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
4000.00	0.69	244.32	3999.35	52.47	-8.52	-51.90	0.06	52.59	260.68
4025.00	0.67	241.85	4024.34	52.76	-8.65	-52.16	0.14	52.87	260.59
4050.00	0.66	243.16	4049.34	53.04	-8.78	-52.42	0.07	53.15	260.49
4075.00	0.63	239.61	4074.34	53.31	-8.92	-52.66	0.20	53.41	260.39
4100.00	0.69	238.61	4099.34	53.58	-9.06	-52.91	0.27	53.68	260.28
4125.00	0.61	236.37	4124.34	53.85	-9.22	-53.15	0.35	53.94	260.16
4150.00	0.56	227.81	4149.34	54.08	-9.37	-53.35	0.41	54.17	260.04
4175.00	0.57	225.61	4174.33	54.29	-9.54	-53.53	0.10	54.37	259.89
4200.00	0.50	225.88	4199.33	54.49	-9.70	-53.70	0.26	54.57	259.76
4225.00	0.50	221.98	4224.33	54.68	-9.86	-53.85	0.14	54.74	259.62
4250.00	0.44	217.54	4249.33	54.84	-10.02	-53.98	0.27	54.90	259.49
4275.00	0.43	217.79	4274.33	54.99	-10.17	-54.10	0.07	55.04	259.35
4300.00	0.38	223.34	4299.33	55.13	-10.30	-54.21	0.25	55.18	259.24
4325.00	0.20	213.60	4324.33	55.23	-10.40	-54.29	0.74	55.28	259.16
4350.00	0.10	221.32	4349.33	55.28	-10.45	-54.33	0.43	55.33	259.11
4375.00	0.05	220.25	4374.33	55.31	-10.48	-54.35	0.17	55.35	259.09
4400.00	0.04	267.59	4399.33	55.32	-10.49	-54.37	0.16	55.37	259.08
4425.00	0.13	306.82	4424.33	55.35	-10.47	-54.40	0.42	55.40	259.11
4450.00	0.18	336.44	4449.33	55.38	-10.42	-54.44	0.36	55.43	259.17
4475.00	0.20	347.02	4474.33	55.38	-10.34	-54.46	0.16	55.44	259.25
4500.00	0.27	354.85	4499.33	55.38	-10.24	-54.48	0.31	55.43	259.35
4525.00	0.25	346.17	4524.33	55.37	-10.13	-54.50	0.17	55.43	259.47
4550.00	0.25	341.45	4549.33	55.37	-10.03	-54.53	0.08	55.44	259.58
4575.00	0.29	348.10	4574.33	55.38	-9.91	-54.56	0.20	55.45	259.70
4600.00	0.30	325.26	4599.33	55.40	-9.79	-54.61	0.47	55.48	259.83
4625.00	0.30	325.71	4624.33	55.45	-9.69	-54.68	0.03	55.53	259.96
4650.00	0.35	327.79	4649.33	55.50	-9.57	-54.76	0.17	55.59	260.09
4675.00	0.39	331.51	4674.33	55.54	-9.43	-54.84	0.20	55.65	260.25
4700.00	0.39	327.17	4699.33	55.59	-9.28	-54.93	0.12	55.71	260.41
4725.00	0.34	319.64	4724.33	55.66	-9.15	-55.02	0.28	55.78	260.55
4750.00	0.32	335.55	4749.33	55.70	-9.03	-55.10	0.37	55.83	260.69
4775.00	0.36	329.11	4774.32	55.74	-8.90	-55.17	0.21	55.88	260.83

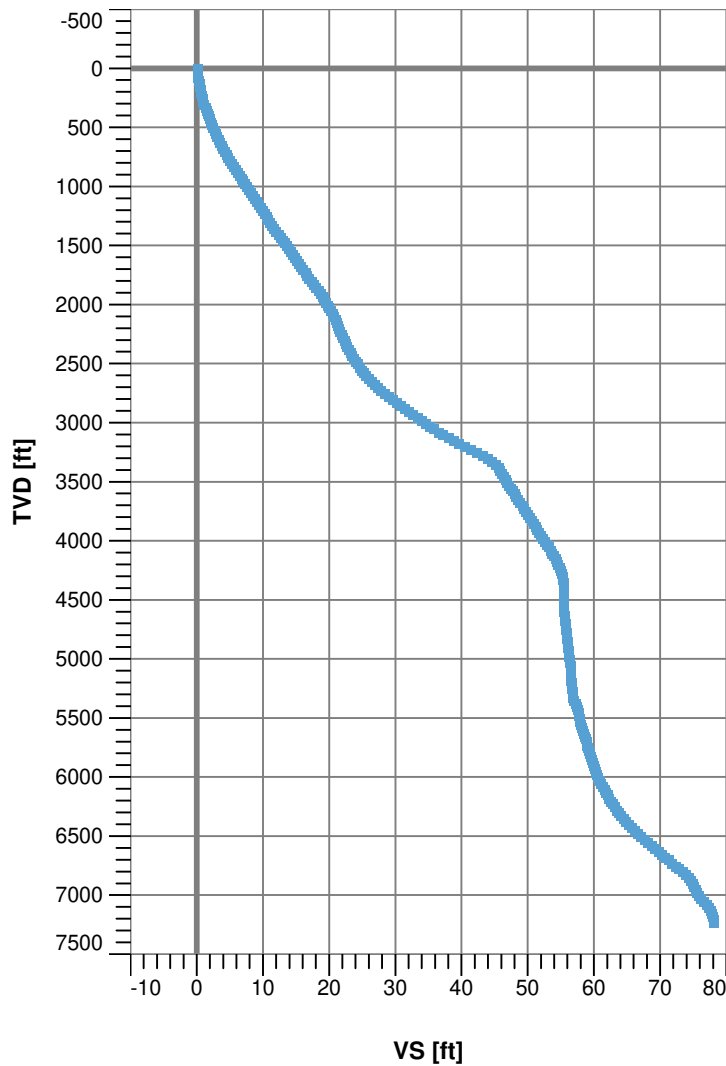
MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
4800.00	0.39	328.00	4799.32	55.79	-8.76	-55.25	0.13	55.94	260.99
4825.00	0.36	327.59	4824.32	55.85	-8.62	-55.34	0.12	56.01	261.14
4850.00	0.37	330.14	4849.32	55.89	-8.49	-55.42	0.08	56.07	261.29
4875.00	0.34	332.37	4874.32	55.94	-8.35	-55.50	0.14	56.12	261.44
4900.00	0.32	326.59	4899.32	55.98	-8.23	-55.57	0.14	56.18	261.58
4925.00	0.35	332.98	4924.32	56.02	-8.10	-55.64	0.19	56.23	261.72
4950.00	0.31	321.95	4949.32	56.07	-7.98	-55.72	0.29	56.29	261.85
4975.00	0.26	313.71	4974.32	56.13	-7.88	-55.80	0.27	56.36	261.96
5000.00	0.24	300.32	4999.32	56.20	-7.82	-55.89	0.25	56.44	262.04
5025.00	0.34	304.28	5024.32	56.29	-7.75	-56.00	0.42	56.53	262.12
5050.00	0.27	328.35	5049.32	56.35	-7.66	-56.09	0.58	56.61	262.23
5075.00	0.17	308.30	5074.32	56.40	-7.58	-56.15	0.49	56.66	262.31
5100.00	0.14	329.80	5099.32	56.43	-7.53	-56.20	0.26	56.70	262.36
5125.00	0.13	0.08	5124.32	56.43	-7.48	-56.21	0.29	56.71	262.42
5150.00	0.19	338.76	5149.32	56.43	-7.41	-56.23	0.34	56.71	262.49
5175.00	0.19	335.19	5174.32	56.44	-7.33	-56.26	0.05	56.74	262.57
5200.00	0.29	306.27	5199.32	56.49	-7.26	-56.33	0.60	56.79	262.66
5225.00	0.24	323.00	5224.32	56.56	-7.18	-56.41	0.36	56.86	262.74
5250.00	0.20	328.00	5249.32	56.59	-7.10	-56.46	0.18	56.91	262.83
5275.00	0.20	300.10	5274.32	56.64	-7.04	-56.52	0.38	56.96	262.90
5300.00	0.16	305.56	5299.32	56.69	-7.00	-56.59	0.19	57.02	262.95
5325.00	0.31	291.99	5324.32	56.77	-6.96	-56.68	0.65	57.11	263.00
5350.00	0.48	285.49	5349.32	56.91	-6.90	-56.84	0.70	57.26	263.07
5375.00	0.52	285.97	5374.32	57.11	-6.84	-57.05	0.18	57.46	263.16
5400.00	0.45	282.81	5399.32	57.30	-6.79	-57.26	0.31	57.66	263.24
5425.00	0.45	287.09	5424.32	57.47	-6.74	-57.45	0.14	57.84	263.31
5450.00	0.41	303.14	5449.31	57.61	-6.66	-57.62	0.50	58.00	263.40
5475.00	0.09	311.27	5474.31	57.69	-6.60	-57.71	1.28	58.09	263.48
5500.00	0.23	192.60	5499.31	57.72	-6.64	-57.74	1.15	58.12	263.44
5525.00	0.20	242.72	5524.31	57.79	-6.70	-57.79	0.74	58.18	263.38
5550.00	0.30	250.59	5549.31	57.90	-6.75	-57.89	0.41	58.28	263.35
5575.00	0.38	254.05	5574.31	58.05	-6.79	-58.03	0.34	58.43	263.32

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
5600.00	0.22	260.19	5599.31	58.18	-6.82	-58.16	0.67	58.56	263.31
5625.00	0.34	247.70	5624.31	58.30	-6.86	-58.27	0.54	58.68	263.29
5650.00	0.33	253.27	5649.31	58.44	-6.91	-58.41	0.14	58.82	263.26
5675.00	0.34	246.56	5674.31	58.58	-6.96	-58.55	0.16	58.96	263.22
5700.00	0.35	250.23	5699.31	58.73	-7.01	-58.69	0.10	59.10	263.19
5725.00	0.26	232.24	5724.31	58.86	-7.07	-58.80	0.52	59.23	263.14
5750.00	0.36	227.84	5749.31	58.98	-7.16	-58.90	0.41	59.34	263.07
5775.00	0.32	231.43	5774.31	59.11	-7.26	-59.02	0.19	59.46	262.99
5800.00	0.29	235.52	5799.31	59.23	-7.33	-59.12	0.13	59.58	262.93
5825.00	0.30	242.48	5824.31	59.35	-7.40	-59.23	0.14	59.69	262.88
5850.00	0.38	224.77	5849.31	59.49	-7.49	-59.35	0.53	59.82	262.81
5875.00	0.38	225.92	5874.31	59.63	-7.61	-59.47	0.04	59.95	262.71
5900.00	0.39	227.80	5899.31	59.78	-7.72	-59.59	0.06	60.09	262.62
5925.00	0.46	231.10	5924.31	59.94	-7.84	-59.73	0.28	60.24	262.52
5950.00	0.48	232.03	5949.31	60.13	-7.97	-59.89	0.07	60.42	262.42
5975.00	0.55	223.06	5974.31	60.32	-8.12	-60.05	0.42	60.60	262.30
6000.00	0.63	227.45	5999.30	60.54	-8.30	-60.24	0.38	60.81	262.16
6025.00	0.54	222.19	6024.30	60.75	-8.48	-60.42	0.43	61.01	262.01
6050.00	0.68	221.70	6049.30	60.97	-8.68	-60.59	0.57	61.21	261.85
6075.00	0.74	221.45	6074.30	61.22	-8.91	-60.80	0.23	61.45	261.67
6100.00	0.64	230.07	6099.30	61.48	-9.12	-61.01	0.56	61.69	261.50
6125.00	0.62	228.32	6124.30	61.72	-9.30	-61.22	0.12	61.92	261.37
6150.00	0.56	224.95	6149.30	61.95	-9.47	-61.41	0.27	62.14	261.23
6175.00	0.64	228.84	6174.29	62.17	-9.65	-61.60	0.34	62.35	261.09
6200.00	0.76	230.39	6199.29	62.44	-9.85	-61.83	0.48	62.61	260.95
6225.00	0.76	229.79	6224.29	62.74	-10.06	-62.09	0.03	62.90	260.80
6250.00	0.76	227.70	6249.29	63.03	-10.28	-62.33	0.11	63.18	260.64
6275.00	0.83	227.25	6274.29	63.34	-10.51	-62.59	0.29	63.47	260.46
6300.00	0.93	226.26	6299.28	63.67	-10.78	-62.87	0.38	63.79	260.27
6325.00	0.93	228.26	6324.28	64.02	-11.05	-63.17	0.13	64.13	260.07
6350.00	0.92	231.30	6349.28	64.38	-11.32	-63.48	0.20	64.48	259.89
6375.00	0.90	233.69	6374.27	64.75	-11.56	-63.79	0.17	64.83	259.73

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
6400.00	1.04	232.99	6399.27	65.13	-11.81	-64.13	0.57	65.21	259.57
6425.00	1.14	235.97	6424.26	65.58	-12.09	-64.52	0.45	65.64	259.39
6450.00	1.12	235.41	6449.26	66.04	-12.37	-64.93	0.11	66.10	259.22
6475.00	1.18	234.53	6474.25	66.50	-12.65	-65.34	0.28	66.55	259.04
6500.00	1.22	236.39	6499.25	66.99	-12.95	-65.77	0.20	67.03	258.86
6525.00	1.32	235.80	6524.24	67.51	-13.26	-66.23	0.42	67.55	258.68
6550.00	1.30	237.54	6549.24	68.05	-13.57	-66.71	0.17	68.08	258.50
6575.00	1.29	238.57	6574.23	68.58	-13.87	-67.19	0.12	68.61	258.33
6600.00	1.29	237.50	6599.22	69.11	-14.17	-67.67	0.10	69.13	258.17
6625.00	1.28	237.98	6624.22	69.64	-14.47	-68.14	0.08	69.66	258.01
6650.00	1.22	234.20	6649.21	70.15	-14.77	-68.59	0.39	70.16	257.85
6675.00	1.21	233.93	6674.21	70.64	-15.08	-69.02	0.05	70.65	257.67
6700.00	1.29	244.77	6699.20	71.16	-15.36	-69.49	0.99	71.17	257.54
6725.00	1.29	243.58	6724.19	71.71	-15.60	-69.99	0.11	71.71	257.43
6750.00	1.26	246.47	6749.19	72.25	-15.84	-70.50	0.28	72.25	257.34
6775.00	1.15	244.54	6774.18	72.77	-16.06	-70.98	0.47	72.77	257.25
6800.00	1.11	246.02	6799.18	73.25	-16.26	-71.42	0.20	73.25	257.17
6825.00	1.08	246.11	6824.17	73.72	-16.46	-71.86	0.11	73.72	257.10
6850.00	0.92	246.94	6849.17	74.15	-16.63	-72.26	0.67	74.15	257.04
6875.00	0.68	247.70	6874.17	74.49	-16.77	-72.58	0.96	74.49	256.99
6900.00	0.66	246.41	6899.16	74.78	-16.88	-72.85	0.09	74.78	256.96
6925.00	0.51	252.90	6924.16	75.03	-16.97	-73.09	0.66	75.03	256.93
6950.00	0.47	252.95	6949.16	75.25	-17.03	-73.29	0.16	75.25	256.92
6975.00	0.56	253.15	6974.16	75.47	-17.10	-73.51	0.37	75.47	256.91
7000.00	0.66	258.20	6999.16	75.74	-17.16	-73.77	0.46	75.74	256.90
7025.00	0.79	259.78	7024.16	76.06	-17.22	-74.08	0.53	76.06	256.91
7050.00	0.97	259.02	7049.15	76.44	-17.29	-74.46	0.72	76.44	256.92
7075.00	0.95	262.81	7074.15	76.86	-17.36	-74.87	0.27	76.86	256.95
7100.00	0.76	252.39	7099.15	77.23	-17.44	-75.24	0.97	77.23	256.95
7125.00	0.53	245.38	7124.15	77.51	-17.54	-75.50	1.00	77.51	256.92
7150.00	0.39	234.96	7149.15	77.70	-17.63	-75.67	0.64	77.70	256.88
7175.00	0.43	229.01	7174.15	77.86	-17.74	-75.81	0.25	77.86	256.83

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
7200.00	0.10	205.81	7199.14	77.96	-17.82	-75.90	1.39	77.96	256.78
7225.00	0.20	70.28	7224.14	77.93	-17.83	-75.86	1.12	77.93	256.78
7231.81	0.35	221.25	7230.95	77.93	-17.84	-75.87	7.81	77.93	256.77

VS View



Plan View

