



K.P. KAUFFMAN

# SURVEY REPORT

SERAFINI B #2

2/25/2015



The **Ultimate Partner** In Wellbore Placement

CUSTOMER K.P. Kauffman  
PROJECT Serafini B #2  
FIELD Spindle

SDI JOB NO. 257121  
SDI DISTRICT Casper  
SDI KIT/UNIT

### SITE INFORMATION

Site Name Weld County, Colorado  
Lat/Long 40.11143° N, 105.01537° W  
Northing  
Easting

Section SWNW 28  
Township 2N  
Range 68W 6 PM

### MAP INFORMATION

North Reference True North  
Grid Correction  
System  
Datum  
Map Zone



### WELL INFORMATION

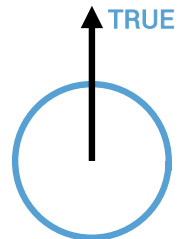
Lat/Long 40.11143° N, 105.01537° W  
Northing  
Easting  
UWI 05-123-09515 UWBI 05-123-09515

### DEPTH AND ELEVATION REFERENCE

Ground Level 4926 ft above Mean Sea Level  
Reference Datum Ground Level  
Reference Height 0 ft above G.L.  
Reference Elevation 4926 ft

### VERTICAL SECTION REFERENCE

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



### LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity 999.046 mG [computed]

### WELL NOTES

Keeper gyro survey run in 4.5" casing from surface to

### OPERATORS

Jon Valenzuela

SDI Operator Name (Printed)

SIGNATURE

DATE

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DISTANCE ft	CLOSURE DIRECTION deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
29.76	0.29	226.22	29.76	0.05	-0.05	-0.06	0.99	0.08	226.22
47.96	0.63	229.84	47.96	0.15	-0.15	-0.17	1.84	0.22	227.84
73.24	0.31	232.16	73.24	0.29	-0.28	-0.33	1.25	0.43	229.17
98.69	0.33	235.57	98.69	0.39	-0.36	-0.44	0.09	0.57	230.34
123.44	0.30	234.58	123.44	0.49	-0.44	-0.55	0.09	0.71	231.26
148.78	0.37	218.26	148.78	0.59	-0.55	-0.66	0.46	0.85	230.28
174.21	0.47	212.15	174.21	0.67	-0.70	-0.76	0.44	1.03	227.53
198.86	0.56	210.79	198.86	0.76	-0.89	-0.88	0.34	1.25	224.71
224.19	0.61	212.78	224.19	0.87	-1.11	-1.01	0.24	1.50	222.51
249.04	0.57	217.56	249.04	0.99	-1.32	-1.16	0.25	1.76	221.43
273.33	0.60	222.42	273.32	1.13	-1.51	-1.32	0.24	2.01	221.26
298.21	0.52	219.22	298.20	1.27	-1.69	-1.48	0.35	2.25	221.22
323.20	0.55	217.47	323.19	1.39	-1.88	-1.63	0.12	2.48	220.95
347.50	0.53	208.80	347.48	1.49	-2.07	-1.75	0.35	2.71	220.30
372.32	0.54	211.43	372.31	1.58	-2.27	-1.87	0.12	2.94	219.50
397.23	0.53	215.53	397.22	1.69	-2.46	-2.00	0.16	3.17	219.06
421.37	0.50	221.94	421.35	1.80	-2.63	-2.13	0.27	3.39	219.03
446.25	0.41	228.01	446.24	1.92	-2.77	-2.27	0.41	3.59	219.35
471.04	0.39	232.79	471.02	2.04	-2.88	-2.41	0.17	3.76	219.85
499.90	0.37	230.92	499.88	2.17	-3.00	-2.56	0.07	3.94	220.42
524.11	0.28	222.57	524.10	2.26	-3.10	-2.66	0.42	4.08	220.66
548.84	0.25	240.34	548.82	2.34	-3.17	-2.75	0.36	4.19	220.93
573.58	0.27	242.26	573.56	2.43	-3.22	-2.84	0.10	4.30	221.45
597.74	0.28	240.27	597.72	2.53	-3.28	-2.94	0.05	4.40	221.96
622.56	0.32	241.65	622.54	2.63	-3.34	-3.06	0.17	4.53	222.49
647.28	0.33	257.19	647.26	2.75	-3.39	-3.19	0.35	4.65	223.26
671.42	0.27	258.47	671.40	2.87	-3.41	-3.31	0.21	4.75	224.12
696.21	0.18	266.56	696.19	2.97	-3.43	-3.41	0.40	4.83	224.83
724.96	0.17	250.77	724.94	3.05	-3.44	-3.49	0.17	4.90	225.39
748.96	0.24	239.64	748.94	3.12	-3.48	-3.57	0.33	4.98	225.71
773.73	0.23	250.42	773.71	3.20	-3.52	-3.66	0.18	5.08	226.08

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DISTANCE	CLOSURE DIRECTION
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
798.39	0.27	269.55	798.37	3.31	-3.54	-3.76	0.37	5.17	226.76
822.48	0.34	269.57	822.46	3.43	-3.54	-3.89	0.27	5.26	227.70
847.09	0.38	271.61	847.07	3.59	-3.54	-4.04	0.18	5.37	228.81
871.84	0.29	282.43	871.82	3.73	-3.52	-4.19	0.42	5.47	229.93
895.88	0.29	277.32	895.86	3.85	-3.50	-4.31	0.11	5.55	230.89
924.52	0.23	271.79	924.49	3.98	-3.49	-4.44	0.20	5.65	231.81
949.10	0.20	271.17	949.08	4.07	-3.49	-4.53	0.13	5.72	232.41
973.72	0.23	266.93	973.70	4.17	-3.49	-4.62	0.13	5.79	232.96
997.51	0.30	258.27	997.49	4.27	-3.51	-4.73	0.34	5.89	233.48
1021.96	0.22	280.55	1021.94	4.38	-3.51	-4.84	0.53	5.98	234.07
1048.11	0.60	39.57	1048.09	4.36	-3.40	-4.81	2.80	5.88	234.75
1072.99	0.34	279.67	1072.97	4.36	-3.28	-4.80	3.30	5.81	235.60
1095.87	0.30	271.88	1095.84	4.49	-3.27	-4.92	0.25	5.91	236.39
1122.12	0.36	266.20	1122.09	4.64	-3.27	-5.07	0.25	6.03	237.15
1149.44	0.25	269.53	1149.41	4.78	-3.28	-5.21	0.39	6.16	237.83
1171.54	0.40	252.77	1171.52	4.90	-3.30	-5.34	0.79	6.28	238.24
1198.63	0.39	259.31	1198.60	5.07	-3.35	-5.52	0.17	6.45	238.75
1221.35	0.49	262.94	1221.32	5.24	-3.37	-5.69	0.49	6.61	239.33
1247.21	0.48	266.77	1247.18	5.45	-3.39	-5.91	0.13	6.81	240.13
1274.41	0.46	270.91	1274.38	5.67	-3.40	-6.13	0.15	7.01	241.00
1296.41	0.38	276.90	1296.39	5.83	-3.39	-6.29	0.42	7.15	241.70
1323.46	0.28	277.44	1323.43	5.99	-3.37	-6.45	0.35	7.27	242.41
1345.44	0.38	257.77	1345.41	6.11	-3.38	-6.57	0.68	7.39	242.80
1372.48	0.37	259.25	1372.45	6.28	-3.41	-6.75	0.05	7.56	243.16
1399.51	0.53	255.88	1399.48	6.48	-3.46	-6.95	0.61	7.77	243.55
1422.46	0.51	262.74	1422.43	6.68	-3.50	-7.16	0.29	7.97	243.95
1448.71	0.56	262.65	1448.68	6.92	-3.53	-7.40	0.18	8.20	244.50
1471.39	0.41	272.49	1471.36	7.11	-3.54	-7.59	0.75	8.38	244.99
1497.79	0.47	272.74	1497.76	7.31	-3.53	-7.79	0.24	8.55	245.62
1524.92	0.45	262.50	1524.88	7.52	-3.54	-8.01	0.31	8.76	246.15
1547.60	0.42	257.30	1547.56	7.68	-3.57	-8.18	0.21	8.92	246.42
1573.89	0.54	256.53	1573.85	7.89	-3.62	-8.39	0.43	9.14	246.67

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DISTANCE ft	CLOSURE DIRECTION deg
1596.55	0.48	252.74	1596.51	8.08	-3.67	-8.58	0.30	9.34	246.84
1622.94	0.58	265.43	1622.90	8.31	-3.72	-8.82	0.60	9.57	247.16
1645.59	0.51	260.03	1645.55	8.52	-3.74	-9.04	0.41	9.78	247.51
1672.70	0.54	268.01	1672.66	8.76	-3.77	-9.28	0.30	10.02	247.91
1698.99	0.47	276.71	1698.95	8.99	-3.76	-9.52	0.40	10.23	248.44
1721.65	0.49	277.64	1721.61	9.18	-3.74	-9.70	0.10	10.40	248.95
1748.06	0.46	270.96	1748.02	9.40	-3.72	-9.92	0.25	10.60	249.46
1770.71	0.52	266.88	1770.66	9.59	-3.72	-10.12	0.31	10.78	249.80
1797.77	0.58	252.04	1797.72	9.83	-3.77	-10.37	0.58	11.03	250.01
1823.63	0.42	277.24	1823.59	10.05	-3.80	-10.59	1.05	11.25	250.26
1845.85	0.58	269.47	1845.80	10.24	-3.79	-10.78	0.78	11.43	250.63
1872.35	0.61	275.90	1872.30	10.52	-3.78	-11.06	0.27	11.68	251.13
1898.26	0.61	278.11	1898.21	10.79	-3.74	-11.33	0.09	11.93	251.71
1924.86	0.49	280.80	1924.80	11.04	-3.70	-11.58	0.43	12.16	252.27
1946.81	0.45	278.77	1946.76	11.23	-3.67	-11.76	0.19	12.32	252.66
1972.90	0.54	270.94	1972.85	11.45	-3.65	-11.98	0.41	12.53	253.04
1999.34	0.31	255.48	1999.28	11.64	-3.67	-12.18	0.96	12.72	253.22
2020.81	0.43	270.84	2020.76	11.77	-3.68	-12.31	0.74	12.85	253.34
2047.36	0.34	258.64	2047.30	11.95	-3.70	-12.49	0.45	13.03	253.51
2073.80	0.32	258.78	2073.74	12.09	-3.73	-12.64	0.11	13.18	253.57
2099.64	0.29	268.38	2099.58	12.23	-3.74	-12.77	0.22	13.31	253.67
2121.81	0.37	279.27	2121.75	12.35	-3.73	-12.90	0.47	13.43	253.86
2148.22	0.40	284.69	2148.16	12.53	-3.70	-13.07	0.17	13.59	254.21
2174.04	0.30	240.82	2173.98	12.67	-3.71	-13.22	1.07	13.73	254.34
2196.91	0.27	302.10	2196.85	12.77	-3.71	-13.32	1.28	13.83	254.45
2221.99	0.25	260.50	2221.93	12.88	-3.68	-13.42	0.74	13.92	254.65
2248.40	0.25	285.05	2248.34	12.99	-3.68	-13.53	0.40	14.03	254.79
2274.92	0.28	254.01	2274.86	13.10	-3.68	-13.65	0.55	14.14	254.91
2296.35	0.36	248.70	2296.29	13.21	-3.72	-13.77	0.39	14.26	254.87
2322.72	0.52	248.81	2322.66	13.39	-3.79	-13.95	0.59	14.46	254.79
2349.22	0.52	248.06	2349.15	13.60	-3.88	-14.18	0.03	14.70	254.68
2375.00	0.51	258.19	2374.94	13.81	-3.95	-14.39	0.35	14.93	254.66

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DISTANCE ft	CLOSURE DIRECTION deg
2397.13	0.56	260.91	2397.07	14.01	-3.99	-14.60	0.27	15.13	254.73
2423.50	0.47	262.29	2423.43	14.23	-4.02	-14.83	0.35	15.37	254.83
2449.27	0.56	261.29	2449.21	14.46	-4.05	-15.06	0.35	15.60	254.93
2471.40	0.45	260.63	2471.34	14.64	-4.08	-15.25	0.48	15.79	255.01
2497.75	0.58	260.81	2497.69	14.87	-4.12	-15.49	0.48	16.03	255.09
2524.46	0.61	257.36	2524.40	15.14	-4.18	-15.76	0.19	16.30	255.16
2547.68	0.56	256.08	2547.61	15.36	-4.23	-15.99	0.25	16.54	255.18
2574.69	0.62	255.09	2574.62	15.62	-4.30	-16.26	0.25	16.82	255.19
2597.42	0.64	253.15	2597.35	15.85	-4.37	-16.50	0.12	17.07	255.17
2624.58	0.70	257.96	2624.50	16.15	-4.45	-16.81	0.30	17.39	255.18
2647.63	0.71	258.39	2647.55	16.42	-4.51	-17.09	0.03	17.67	255.23
2673.81	0.69	262.35	2673.73	16.72	-4.56	-17.40	0.20	17.99	255.32
2695.86	0.67	264.70	2695.78	16.97	-4.59	-17.66	0.16	18.25	255.44
2723.37	0.67	272.13	2723.28	17.29	-4.60	-17.98	0.32	18.56	255.66
2746.14	0.67	270.70	2746.06	17.56	-4.59	-18.25	0.08	18.82	255.88
2772.53	0.61	268.49	2772.45	17.85	-4.59	-18.54	0.23	19.10	256.09
2799.78	0.61	263.30	2799.69	18.13	-4.61	-18.83	0.20	19.39	256.24
2822.54	0.63	264.29	2822.46	18.37	-4.64	-19.08	0.10	19.63	256.33
2849.05	0.61	272.39	2848.96	18.66	-4.65	-19.36	0.34	19.91	256.50
2871.07	0.63	269.30	2870.98	18.89	-4.65	-19.60	0.19	20.15	256.67
2897.45	0.70	265.77	2897.36	19.20	-4.66	-19.91	0.29	20.45	256.83
2924.68	0.64	269.08	2924.59	19.51	-4.67	-20.23	0.24	20.76	256.99
2946.69	0.69	272.81	2946.60	19.76	-4.67	-20.48	0.28	21.01	257.16
2973.79	0.77	276.03	2973.69	20.11	-4.64	-20.82	0.34	21.34	257.43
2996.53	0.74	284.88	2996.43	20.41	-4.59	-21.12	0.53	21.61	257.74
3022.90	0.76	284.31	3022.79	20.75	-4.50	-21.45	0.10	21.92	258.15
3049.98	0.79	284.79	3049.87	21.11	-4.41	-21.81	0.10	22.25	258.57
3071.99	0.80	281.44	3071.89	21.42	-4.34	-22.11	0.22	22.53	258.89
3099.07	0.74	282.18	3098.96	21.78	-4.26	-22.46	0.23	22.86	259.25
3122.15	0.76	279.43	3122.04	22.08	-4.21	-22.76	0.17	23.15	259.52
3148.50	0.73	284.50	3148.39	22.42	-4.14	-23.10	0.27	23.46	259.84
3171.23	0.73	285.05	3171.11	22.71	-4.06	-23.38	0.03	23.73	260.14



MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DISTANCE	CLOSURE DIRECTION
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
3198.41	0.74	299.61	3198.30	23.04	-3.93	-23.70	0.69	24.02	260.58
3224.76	0.73	298.23	3224.64	23.36	-3.77	-23.99	0.08	24.29	261.07
3247.49	0.79	293.66	3247.37	23.64	-3.64	-24.26	0.37	24.53	261.47
3274.68	0.73	300.11	3274.56	23.98	-3.48	-24.58	0.39	24.83	261.95
3296.68	0.81	298.83	3296.55	24.25	-3.33	-24.84	0.41	25.06	262.36
3323.81	0.94	292.25	3323.68	24.65	-3.15	-25.22	0.59	25.41	262.87
3349.88	1.03	290.97	3349.75	25.08	-2.99	-25.63	0.35	25.81	263.35
3372.13	1.13	290.19	3372.00	25.49	-2.84	-26.02	0.45	26.18	263.77
3398.88	1.26	288.20	3398.73	26.03	-2.66	-26.55	0.51	26.68	264.28
3424.73	1.34	285.47	3424.58	26.61	-2.49	-27.11	0.39	27.22	264.75
3446.99	1.42	285.54	3446.84	27.14	-2.35	-27.62	0.39	27.72	265.14
3472.93	1.51	283.50	3472.76	27.79	-2.18	-28.27	0.39	28.35	265.59
3499.46	1.58	284.84	3499.28	28.50	-2.01	-28.96	0.29	29.03	266.04
3521.71	1.54	284.23	3521.53	29.10	-1.85	-29.54	0.19	29.60	266.41
3547.61	1.48	285.14	3547.42	29.78	-1.68	-30.20	0.22	30.25	266.81
3574.23	1.51	283.42	3574.03	30.46	-1.51	-30.88	0.19	30.91	267.20
3596.23	1.57	283.23	3596.03	31.05	-1.37	-31.45	0.30	31.48	267.50
3622.26	1.49	285.75	3622.04	31.74	-1.20	-32.12	0.40	32.15	267.86
3648.87	1.39	288.57	3648.65	32.40	-1.00	-32.76	0.46	32.78	268.24
3671.10	1.28	292.46	3670.87	32.90	-0.82	-33.25	0.65	33.26	268.58
3696.98	1.20	293.12	3696.74	33.44	-0.61	-33.76	0.33	33.77	268.97
3723.45	0.89	296.69	3723.21	33.90	-0.41	-34.20	1.17	34.21	269.32
3744.94	0.72	294.71	3744.70	34.19	-0.27	-34.48	0.79	34.48	269.54
3771.51	0.78	298.07	3771.26	34.52	-0.12	-34.79	0.28	34.79	269.81
3797.97	0.79	296.81	3797.72	34.86	0.05	-35.11	0.07	35.11	270.08
3823.81	0.81	292.64	3823.56	35.20	0.20	-35.44	0.24	35.44	270.32
3845.99	0.84	300.15	3845.73	35.50	0.34	-35.72	0.50	35.72	270.55
3872.75	0.78	294.59	3872.49	35.85	0.52	-36.06	0.35	36.06	270.82
3899.82	0.83	293.69	3899.56	36.22	0.67	-36.41	0.17	36.41	271.06
3922.94	0.86	291.11	3922.68	36.55	0.80	-36.72	0.23	36.73	271.25
3945.44	0.87	294.28	3945.18	36.87	0.93	-37.03	0.21	37.05	271.44
3973.12	0.86	292.36	3972.85	37.28	1.10	-37.42	0.11	37.44	271.68

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DISTANCE ft	CLOSURE DIRECTION deg
3996.59	0.89	295.07	3996.32	37.62	1.24	-37.75	0.22	37.77	271.89
4023.62	0.86	292.64	4023.34	38.02	1.41	-38.13	0.20	38.15	272.12
4046.82	0.90	297.10	4046.54	38.35	1.56	-38.45	0.34	38.48	272.32
4074.42	0.91	297.87	4074.14	38.76	1.76	-38.83	0.06	38.87	272.60
4096.62	1.00	294.13	4096.33	39.11	1.92	-39.16	0.49	39.21	272.81
4123.87	1.11	293.80	4123.58	39.59	2.13	-39.62	0.42	39.68	273.07
4145.91	1.27	293.19	4145.62	40.03	2.31	-40.04	0.72	40.11	273.30
4173.16	1.35	293.16	4172.86	40.63	2.55	-40.62	0.29	40.70	273.60
4195.17	1.50	291.67	4194.86	41.15	2.76	-41.12	0.69	41.21	273.84
4222.24	1.73	290.26	4221.92	41.89	3.03	-41.83	0.87	41.94	274.15
4249.41	1.78	288.05	4249.08	42.70	3.30	-42.62	0.32	42.74	274.43
4272.09	2.01	284.92	4271.75	43.44	3.52	-43.34	1.09	43.48	274.64
4298.38	2.13	283.98	4298.02	44.38	3.75	-44.25	0.47	44.41	274.85
4321.17	2.28	280.53	4320.79	45.25	3.94	-45.11	0.91	45.28	274.99
4347.49	2.47	280.13	4347.09	46.34	4.13	-46.18	0.69	46.37	275.11
4374.71	2.75	277.54	4374.28	47.58	4.32	-47.41	1.13	47.60	275.21
4397.45	2.63	280.05	4397.00	48.65	4.48	-48.46	0.73	48.67	275.29
4423.79	2.80	279.90	4423.31	49.89	4.70	-49.69	0.62	49.91	275.40
4446.64	2.67	280.51	4446.13	50.98	4.89	-50.76	0.58	51.00	275.51
4472.87	2.73	280.79	4472.33	52.21	5.12	-51.98	0.24	52.23	275.63
4499.94	2.58	282.73	4499.38	53.46	5.38	-53.20	0.65	53.47	275.77
4522.88	2.55	281.20	4522.29	54.48	5.59	-54.21	0.32	54.49	275.89
4549.22	2.53	281.96	4548.60	55.65	5.82	-55.35	0.15	55.66	276.01
4571.90	2.55	281.47	4571.27	56.65	6.03	-56.34	0.13	56.66	276.11
4598.32	2.45	281.69	4597.66	57.80	6.26	-57.47	0.38	57.81	276.22
4621.00	2.41	281.37	4620.32	58.76	6.45	-58.41	0.19	58.77	276.30
4648.10	2.29	280.90	4647.40	59.87	6.67	-59.50	0.44	59.88	276.39
4674.35	2.22	280.83	4673.63	60.90	6.86	-60.52	0.28	60.91	276.47
4697.10	2.12	281.14	4696.36	61.76	7.03	-61.36	0.46	61.77	276.53
4724.03	2.11	281.09	4723.27	62.75	7.22	-62.34	0.05	62.75	276.60
4745.92	2.19	278.59	4745.14	63.57	7.36	-63.15	0.57	63.57	276.65
4772.03	2.14	278.87	4771.23	64.56	7.51	-64.12	0.17	64.56	276.68

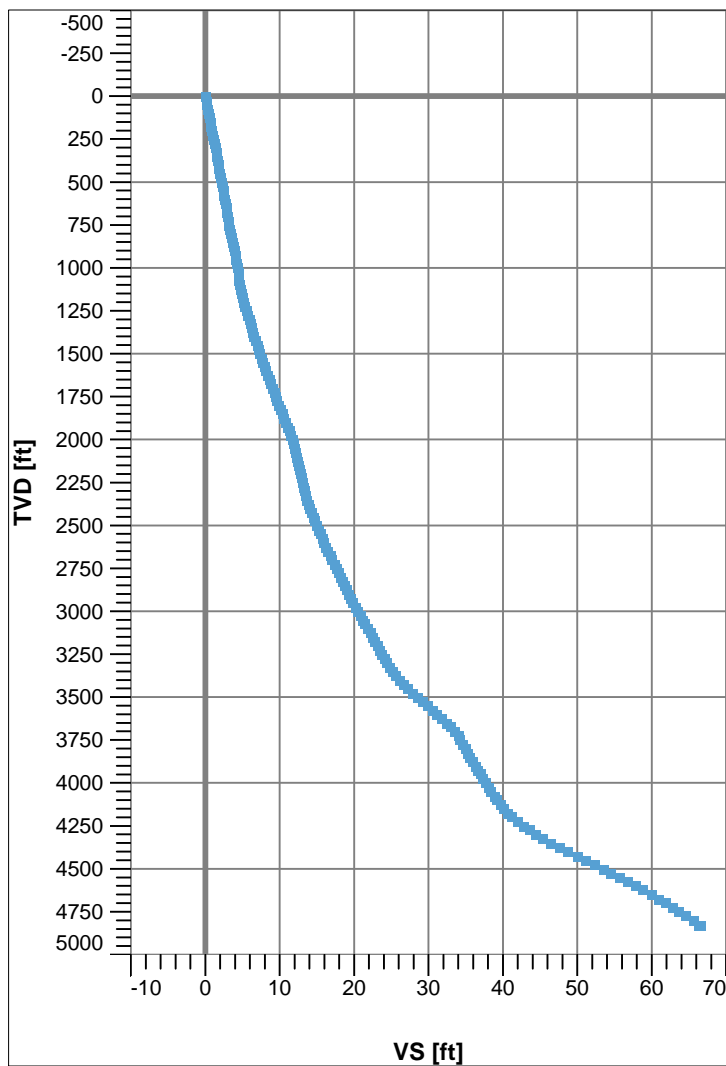


MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DISTANCE	CLOSURE DIRECTION
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
4799.87	2.01	284.37	4799.05	65.56	7.71	-65.11	0.85	65.56	276.75
4825.00	1.61	302.56	4824.17	66.32	8.01	-65.83	2.78	66.32	276.94
4829.75	2.10	281.39	4828.92	66.47	8.06	-65.98	17.61	66.47	276.97



Name : Keeper Gyro Wireline Survey: Outrun  
Generated : 2/25/2015 22:04:26 Mountain Standard Time

VS View



Plan View

