



K.P. KAUFFMAN

SURVEY REPORT

ROBERT G BURGE #1

KPK 2

1/2/2015



The **Ultimate Partner** In Wellbore Placement

CUSTOMER K.P. Kauffman
PROJECT ROBERT G BURGE #1
FIELD Spindle

SDI JOB NO. 240937
SDI DISTRICT Casper
SDI KIT/UNIT

SITE INFORMATION

Site Name Weld County, Colorado
Lat/Long 40.07457° N, 104.85576° W
Northing
Easting

Section 2
Township 1N
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

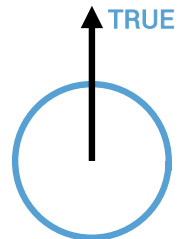
Lat/Long 40.07457° N, 104.85576° W
Northing
Easting
UWI 05-123-07566

DEPTH AND ELEVATION REFERENCE

Ground Level 4984 ft above Mean Sea Level
Reference Datum Ground Level
Reference Height 0 ft above G.L.
Reference Elevation 4984 ft

VERTICAL SECTION REFERENCE

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



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity 999.038 mG [computed]

WELL NOTES

Survey run in 4.5" casing from surface to 4766'

OPERATORS

J 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
87.20	0.56	28.87	87.20	-0.33	0.37	0.20	0.64	0.42	28.87
99.68	0.61	22.36	99.68	-0.42	0.48	0.26	0.68	0.55	28.09
122.15	0.48	19.37	122.15	-0.57	0.68	0.34	0.60	0.76	26.12
146.99	0.38	20.40	146.99	-0.69	0.86	0.40	0.39	0.95	24.89
173.51	0.16	40.55	173.51	-0.78	0.97	0.45	0.88	1.07	25.06
197.99	0.08	106.33	197.98	-0.83	0.99	0.49	0.61	1.11	26.45
224.28	0.11	174.71	224.28	-0.84	0.96	0.51	0.42	1.09	28.14
247.00	0.11	207.18	247.00	-0.81	0.92	0.50	0.28	1.05	28.82
274.61	0.24	193.11	274.60	-0.76	0.84	0.48	0.48	0.96	29.80
298.32	0.29	164.18	298.32	-0.72	0.73	0.48	0.60	0.88	33.57
322.09	0.25	168.10	322.08	-0.71	0.62	0.51	0.20	0.80	39.50
349.90	0.15	195.15	349.89	-0.67	0.53	0.51	0.49	0.74	44.34
374.19	0.33	188.15	374.19	-0.62	0.43	0.50	0.74	0.66	49.26
397.75	0.34	177.97	397.75	-0.56	0.29	0.49	0.26	0.57	59.29
422.19	0.32	169.12	422.19	-0.52	0.15	0.51	0.23	0.53	73.42
445.95	0.21	171.56	445.94	-0.50	0.04	0.52	0.48	0.53	85.36
470.49	0.21	181.34	470.48	-0.47	-0.05	0.53	0.14	0.53	94.90
499.84	0.35	171.78	499.83	-0.43	-0.19	0.54	0.50	0.57	108.96
523.59	0.34	161.80	523.58	-0.41	-0.32	0.57	0.25	0.66	119.46
548.11	0.35	138.07	548.10	-0.43	-0.45	0.65	0.58	0.79	124.76
571.06	0.34	129.73	571.05	-0.49	-0.54	0.74	0.22	0.92	126.12
596.35	0.34	146.93	596.35	-0.53	-0.65	0.84	0.40	1.07	127.80
624.90	0.43	149.13	624.90	-0.57	-0.82	0.94	0.33	1.25	130.86
649.40	0.47	135.57	649.39	-0.62	-0.97	1.06	0.46	1.43	132.34
673.63	0.49	123.10	673.62	-0.72	-1.09	1.22	0.44	1.64	131.95
697.33	0.41	110.84	697.32	-0.84	-1.18	1.38	0.54	1.82	130.50
722.07	0.36	135.72	722.06	-0.93	-1.27	1.52	0.69	1.98	129.85
745.77	0.37	130.18	745.76	-0.99	-1.37	1.63	0.15	2.13	130.06
770.24	0.60	135.57	770.22	-1.08	-1.51	1.78	0.96	2.33	130.37
798.73	0.55	125.84	798.71	-1.21	-1.70	1.99	0.38	2.62	130.43
823.05	0.53	134.54	823.04	-1.31	-1.84	2.17	0.35	2.84	130.40

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DISTANCE	CLOSURE DIRECTION
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
847.64	0.46	132.44	847.63	-1.40	-1.99	2.32	0.26	3.06	130.62
871.44	0.65	148.91	871.42	-1.46	-2.17	2.46	1.01	3.28	131.41
895.89	0.65	141.29	895.87	-1.52	-2.40	2.62	0.35	3.55	132.46
924.23	0.57	135.83	924.21	-1.62	-2.62	2.82	0.33	3.85	132.95
948.68	0.61	154.65	948.66	-1.68	-2.83	2.96	0.81	4.09	133.71
972.35	0.57	163.54	972.33	-1.67	-3.05	3.04	0.43	4.31	135.08
996.50	0.76	163.09	996.47	-1.65	-3.32	3.12	0.80	4.56	136.74
1020.52	0.78	150.70	1020.50	-1.65	-3.61	3.25	0.70	4.86	138.04
1048.29	0.72	154.73	1048.26	-1.69	-3.94	3.42	0.28	5.21	139.04
1072.21	0.61	154.55	1072.18	-1.70	-4.19	3.54	0.48	5.48	139.82
1095.50	0.61	161.92	1095.47	-1.70	-4.42	3.63	0.34	5.72	140.61
1124.01	0.74	161.36	1123.98	-1.68	-4.74	3.73	0.45	6.03	141.76
1147.93	0.84	158.72	1147.90	-1.67	-5.05	3.85	0.44	6.35	142.69
1171.08	0.67	147.98	1171.04	-1.69	-5.32	3.98	0.94	6.65	143.20
1199.71	0.69	156.98	1199.67	-1.72	-5.62	4.14	0.38	6.98	143.65
1222.87	0.72	163.87	1222.82	-1.71	-5.89	4.23	0.38	7.25	144.30
1246.79	0.88	167.59	1246.75	-1.66	-6.22	4.31	0.73	7.57	145.23
1270.71	0.81	157.51	1270.67	-1.63	-6.55	4.42	0.70	7.90	146.00
1298.58	0.73	154.40	1298.53	-1.64	-6.89	4.57	0.31	8.27	146.45
1322.51	0.69	164.18	1322.45	-1.64	-7.17	4.68	0.53	8.56	146.89
1345.66	0.91	172.68	1345.61	-1.58	-7.48	4.74	1.09	8.86	147.67
1374.30	0.79	170.57	1374.24	-1.47	-7.91	4.80	0.42	9.25	148.75
1397.46	0.78	160.88	1397.40	-1.43	-8.21	4.88	0.58	9.55	149.30
1421.38	0.68	157.37	1421.32	-1.42	-8.50	4.98	0.44	9.85	149.61
1449.89	0.50	156.04	1449.83	-1.43	-8.77	5.10	0.65	10.14	149.82
1473.07	0.48	161.22	1473.01	-1.43	-8.95	5.17	0.21	10.34	149.98
1497.11	0.31	153.73	1497.05	-1.43	-9.11	5.23	0.75	10.50	150.11
1520.29	0.39	152.68	1520.22	-1.44	-9.23	5.30	0.37	10.65	150.16
1548.79	0.40	143.94	1548.73	-1.47	-9.40	5.40	0.21	10.84	150.12
1572.73	0.29	133.85	1572.66	-1.52	-9.51	5.49	0.50	10.98	149.99
1596.02	0.18	138.86	1595.95	-1.55	-9.58	5.56	0.48	11.08	149.86
1624.49	0.31	176.13	1624.43	-1.54	-9.69	5.60	0.71	11.19	150.00

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DISTANCE ft	CLOSURE DIRECTION deg
1647.63	0.40	164.51	1647.56	-1.51	-9.83	5.62	0.47	11.32	150.24
1671.53	0.37	154.18	1671.46	-1.51	-9.98	5.68	0.31	11.48	150.37
1695.45	0.39	149.63	1695.38	-1.53	-10.12	5.75	0.16	11.64	150.39
1723.29	0.28	152.00	1723.22	-1.55	-10.26	5.83	0.38	11.80	150.39
1746.84	0.26	185.63	1746.77	-1.53	-10.36	5.85	0.67	11.90	150.55
1774.05	0.19	181.05	1773.98	-1.48	-10.47	5.85	0.28	11.99	150.82
1797.46	0.29	193.49	1797.39	-1.43	-10.57	5.83	0.51	12.07	151.11
1820.11	0.32	182.19	1820.04	-1.37	-10.69	5.82	0.30	12.17	151.45
1847.98	0.30	172.77	1847.91	-1.32	-10.84	5.82	0.20	12.30	151.76
1871.50	0.22	174.06	1871.43	-1.29	-10.94	5.83	0.34	12.40	151.94
1898.60	0.21	214.97	1898.53	-1.24	-11.04	5.81	0.55	12.47	152.23
1921.98	0.24	235.05	1921.91	-1.15	-11.10	5.75	0.35	12.50	152.62
1949.95	0.29	232.99	1949.88	-1.03	-11.17	5.65	0.18	12.52	153.20
1972.55	0.27	227.36	1972.48	-0.93	-11.24	5.56	0.14	12.54	153.69
1995.91	0.35	224.73	1995.84	-0.81	-11.33	5.47	0.36	12.58	154.24
2023.00	0.30	236.73	2022.93	-0.66	-11.43	5.35	0.33	12.62	154.91
2046.05	0.30	257.96	2045.98	-0.54	-11.48	5.24	0.48	12.62	155.44
2073.50	0.43	254.36	2073.43	-0.37	-11.52	5.07	0.47	12.59	156.23
2095.80	0.60	259.96	2095.73	-0.18	-11.56	4.88	0.79	12.55	157.12
2123.24	0.63	256.24	2123.16	0.11	-11.62	4.59	0.19	12.50	158.44
2145.52	0.57	242.75	2145.44	0.34	-11.70	4.38	0.69	12.49	159.50
2172.95	0.55	252.62	2172.87	0.61	-11.80	4.13	0.35	12.50	160.72
2196.21	0.43	252.35	2196.14	0.81	-11.86	3.94	0.52	12.50	161.63
2222.90	0.55	262.50	2222.82	1.03	-11.91	3.72	0.54	12.48	162.67
2246.03	0.48	263.17	2245.95	1.23	-11.94	3.51	0.31	12.44	163.61
2273.43	0.64	260.53	2273.35	1.50	-11.98	3.24	0.61	12.41	164.84
2295.69	0.61	262.72	2295.60	1.73	-12.01	3.00	0.20	12.38	165.95
2323.20	0.67	262.39	2323.12	2.03	-12.05	2.70	0.22	12.35	167.36
2345.81	0.61	264.32	2345.73	2.27	-12.08	2.45	0.27	12.33	168.53
2374.45	0.62	252.33	2374.36	2.57	-12.14	2.15	0.45	12.33	169.94
2397.89	0.58	253.80	2397.80	2.81	-12.21	1.92	0.17	12.36	171.07
2422.09	0.60	262.11	2422.00	3.06	-12.26	1.68	0.36	12.38	172.22

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DISTANCE ft	CLOSURE DIRECTION deg
2446.12	0.66	264.93	2446.03	3.31	-12.29	1.42	0.28	12.37	173.43
2473.63	0.69	265.26	2473.54	3.62	-12.32	1.09	0.12	12.37	174.93
2497.32	0.77	260.60	2497.22	3.91	-12.36	0.79	0.43	12.38	176.32
2520.06	0.79	253.65	2519.96	4.22	-12.43	0.49	0.43	12.44	177.73
2548.11	0.78	250.75	2548.01	4.60	-12.55	0.13	0.15	12.55	179.42
2571.42	0.75	263.23	2571.32	4.90	-12.62	-0.17	0.72	12.62	180.79
2599.04	0.66	244.23	2598.94	5.24	-12.71	-0.50	0.90	12.72	182.24
2622.58	0.68	241.46	2622.48	5.51	-12.83	-0.74	0.16	12.85	183.31
2649.96	0.71	235.54	2649.85	5.84	-13.01	-1.03	0.29	13.05	184.51
2673.50	0.77	239.04	2673.39	6.14	-13.17	-1.28	0.32	13.23	185.56
2697.09	0.83	237.87	2696.97	6.46	-13.34	-1.56	0.24	13.43	186.68
2724.39	1.05	235.49	2724.27	6.90	-13.59	-1.93	0.83	13.73	188.10
2748.05	1.10	236.58	2747.93	7.33	-13.84	-2.30	0.22	14.03	189.44
2770.81	1.37	229.08	2770.68	7.80	-14.13	-2.69	1.38	14.39	190.77
2798.89	1.36	230.77	2798.76	8.44	-14.56	-3.20	0.15	14.91	192.39
2822.45	1.36	229.98	2822.31	8.97	-14.92	-3.63	0.08	15.35	193.67
2849.85	1.40	226.06	2849.70	9.59	-15.36	-4.12	0.38	15.90	195.01
2873.40	1.37	226.67	2873.25	10.12	-15.75	-4.53	0.15	16.39	196.04
2896.20	1.41	226.56	2896.04	10.63	-16.13	-4.93	0.17	16.87	197.00
2924.40	1.38	230.29	2924.23	11.28	-16.59	-5.44	0.33	17.46	198.17
2947.98	1.20	229.10	2947.81	11.79	-16.93	-5.85	0.77	17.91	199.06
2970.77	1.29	233.90	2970.58	12.26	-17.24	-6.24	0.59	18.33	199.89
2998.93	1.20	238.87	2998.75	12.86	-17.58	-6.75	0.49	18.83	201.00
3021.73	1.25	238.15	3021.53	13.34	-17.83	-7.16	0.23	19.22	201.88
3049.05	1.31	229.38	3048.85	13.93	-18.19	-7.65	0.75	19.74	202.81
3073.35	1.25	229.64	3073.14	14.45	-18.55	-8.06	0.28	20.22	203.50
3096.12	1.17	232.03	3095.91	14.90	-18.85	-8.44	0.40	20.65	204.11
3124.29	1.11	228.51	3124.07	15.44	-19.21	-8.87	0.32	21.16	204.78
3147.11	1.07	224.83	3146.89	15.84	-19.51	-9.19	0.35	21.56	205.22
3170.61	1.12	228.07	3170.38	16.26	-19.82	-9.51	0.33	21.98	205.64
3198.17	1.04	234.85	3197.94	16.76	-20.14	-9.92	0.55	22.45	206.21
3224.89	1.08	231.71	3224.66	17.24	-20.43	-10.31	0.27	22.89	206.77

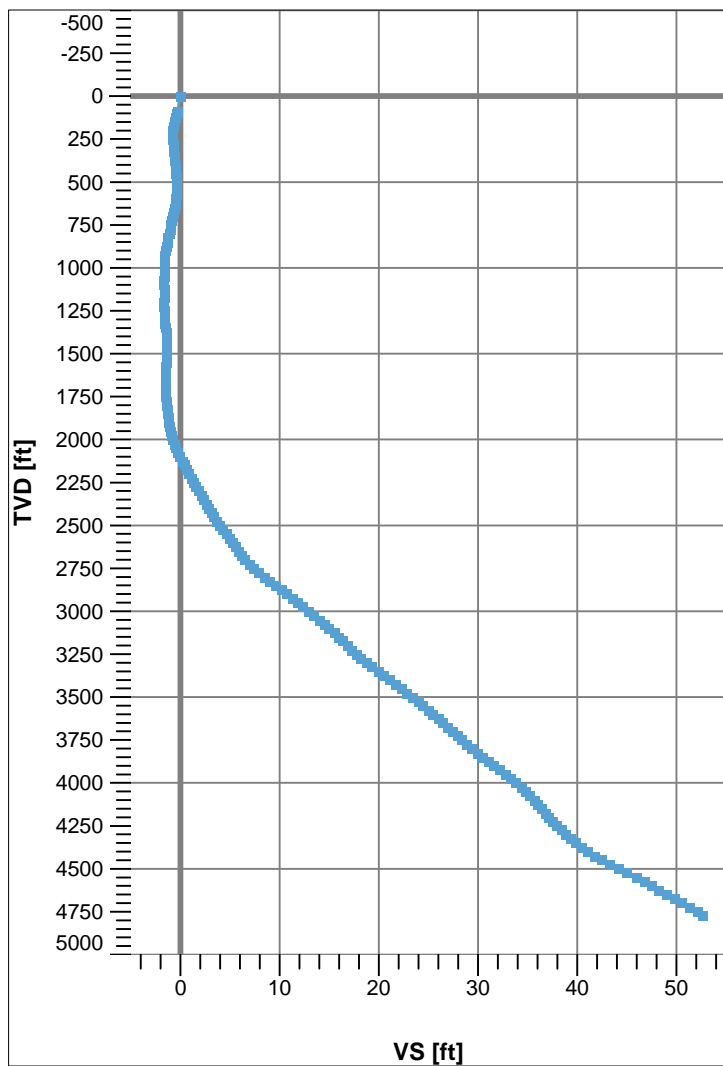
MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DISTANCE	CLOSURE DIRECTION
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
3248.05	1.15	233.12	3247.81	17.67	-20.71	-10.67	0.33	23.29	207.25
3270.34	1.22	237.47	3270.10	18.12	-20.97	-11.05	0.51	23.70	207.78
3297.86	1.28	238.40	3297.61	18.71	-21.29	-11.55	0.23	24.22	208.49
3320.89	1.37	236.96	3320.63	19.23	-21.57	-12.00	0.44	24.69	209.09
3347.69	1.43	234.98	3347.43	19.87	-21.94	-12.55	0.28	25.27	209.76
3370.71	1.34	238.85	3370.44	20.42	-22.24	-13.01	0.57	25.77	210.33
3397.38	1.35	237.07	3397.10	21.04	-22.58	-13.54	0.16	26.33	210.96
3424.81	1.34	236.38	3424.52	21.67	-22.93	-14.08	0.07	26.91	211.56
3447.86	1.29	241.17	3447.57	22.19	-23.21	-14.54	0.53	27.38	212.06
3474.42	1.30	241.32	3474.12	22.79	-23.49	-15.06	0.04	27.91	212.66
3497.65	1.30	241.14	3497.35	23.31	-23.75	-15.52	0.02	28.37	213.17
3525.00	1.19	245.76	3524.68	23.91	-24.01	-16.06	0.54	28.89	213.77
3547.36	1.17	249.17	3547.05	24.37	-24.19	-16.48	0.33	29.27	214.27
3574.77	1.24	251.16	3574.45	24.94	-24.39	-17.02	0.30	29.74	214.92
3597.01	1.11	250.86	3596.68	25.40	-24.53	-17.46	0.58	30.11	215.43
3624.49	1.17	254.67	3624.16	25.94	-24.70	-17.98	0.35	30.55	216.05
3647.16	1.16	252.50	3646.82	26.40	-24.83	-18.42	0.20	30.91	216.57
3673.29	1.05	255.33	3672.95	26.91	-24.97	-18.91	0.48	31.32	217.13
3697.13	1.08	260.58	3696.78	27.34	-25.06	-19.34	0.42	31.65	217.66
3723.73	1.07	262.84	3723.38	27.83	-25.13	-19.83	0.17	32.01	218.28
3746.62	1.21	260.99	3746.27	28.27	-25.20	-20.28	0.64	32.35	218.83
3774.07	1.18	259.97	3773.71	28.83	-25.29	-20.85	0.12	32.78	219.50
3796.29	1.27	260.54	3795.92	29.29	-25.37	-21.32	0.39	33.14	220.04
3823.74	1.31	269.00	3823.37	29.88	-25.43	-21.93	0.71	33.58	220.78
3846.67	1.47	267.32	3846.29	30.40	-25.45	-22.49	0.72	33.96	221.47
3873.23	1.34	271.28	3872.84	31.01	-25.45	-23.14	0.61	34.40	222.27
3895.67	1.49	271.92	3895.28	31.52	-25.44	-23.69	0.69	34.76	222.96
3921.79	1.49	276.08	3921.39	32.13	-25.39	-24.37	0.42	35.19	223.82
3948.53	1.51	282.49	3948.12	32.72	-25.28	-25.06	0.63	35.59	224.75
3971.01	1.59	284.24	3970.59	33.22	-25.14	-25.65	0.42	35.91	225.58
3997.20	1.52	286.84	3996.77	33.78	-24.95	-26.33	0.38	36.27	226.55
4024.05	1.58	295.44	4023.61	34.31	-24.69	-27.01	0.89	36.59	227.57

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DISTANCE ft	CLOSURE DIRECTION deg
4045.78	1.46	294.14	4045.33	34.70	-24.44	-27.53	0.55	36.82	228.40
4072.52	1.38	295.11	4072.06	35.15	-24.17	-28.13	0.33	37.09	229.33
4099.39	1.53	298.28	4098.92	35.60	-23.86	-28.74	0.64	37.35	230.30
4121.14	1.48	300.73	4120.66	35.96	-23.58	-29.24	0.38	37.56	231.11
4147.86	1.26	293.26	4147.38	36.37	-23.29	-29.80	1.05	37.82	231.99
4174.73	1.20	297.22	4174.25	36.76	-23.04	-30.32	0.38	38.09	232.77
4196.47	1.23	297.84	4195.98	37.06	-22.83	-30.73	0.14	38.29	233.39
4223.30	1.25	289.35	4222.81	37.47	-22.60	-31.26	0.69	38.58	234.14
4245.77	1.38	285.54	4245.26	37.87	-22.44	-31.76	0.71	38.89	234.75
4271.84	1.31	285.59	4271.33	38.35	-22.28	-32.35	0.26	39.28	235.44
4298.25	1.25	290.97	4297.73	38.80	-22.10	-32.91	0.51	39.64	236.12
4324.77	1.34	282.65	4324.24	39.27	-21.92	-33.48	0.78	40.02	236.78
4346.19	1.59	277.51	4345.66	39.73	-21.83	-34.02	1.34	40.42	237.31
4372.53	1.50	274.69	4371.99	40.36	-21.75	-34.73	0.45	40.98	237.94
4398.03	1.61	273.22	4397.49	40.98	-21.71	-35.42	0.43	41.54	238.50
4424.07	1.97	272.91	4423.51	41.72	-21.66	-36.23	1.42	42.21	239.12
4445.75	2.00	271.28	4445.17	42.40	-21.64	-36.98	0.28	42.85	239.67
4470.96	2.13	274.74	4470.36	43.22	-21.59	-37.89	0.72	43.60	240.33
4496.64	2.10	275.34	4496.03	44.07	-21.50	-38.83	0.12	44.39	241.02
4521.42	2.29	271.88	4520.79	44.92	-21.45	-39.78	0.91	45.19	241.67
4549.34	2.28	278.82	4548.69	45.91	-21.34	-40.88	0.99	46.12	242.43
4573.57	2.18	282.17	4572.91	46.70	-21.17	-41.81	0.68	46.86	243.14
4596.54	2.19	283.79	4595.86	47.42	-20.97	-42.66	0.27	47.54	243.82
4621.71	2.14	288.42	4621.00	48.17	-20.71	-43.58	0.72	48.25	244.58
4648.21	2.08	280.29	4647.49	48.95	-20.47	-44.52	1.16	49.00	245.31
4673.14	2.14	277.43	4672.40	49.74	-20.33	-45.43	0.49	49.77	245.89
4697.62	1.79	287.06	4696.87	50.43	-20.16	-46.25	1.96	50.45	246.45
4724.32	2.35	276.66	4723.55	51.23	-19.97	-47.19	2.51	51.24	247.06
4748.10	2.00	277.30	4747.32	52.02	-19.86	-48.08	1.44	52.02	247.56
4766.97	1.99	278.54	4766.17	52.59	-19.77	-48.73	0.25	52.59	247.92



Name : Keeper Wireline Survey: Outrun
Generated : 1/6/2015 10:15:32 Mountain Standard Time

VS View



Plan View

