



K.P KAUFFMAN

SURVEY REPORT

MUSICK MCCLINTOCK #1

4/17/2018



The **Ultimate Partner** In Wellbore Placement

CUSTOMER K.P Kauffman
PROJECT Musick McClintock #1
FIELD Wattenberg

SDI JOB NO. OP.009554
SDI DISTRICT Casper
SDI KIT/UNIT

SITE INFORMATION

Site Name Musick McClintock #1
Lat/Long 40.274318° N, 104.6854554° W
Northing
Easting

Section 32
Township 4
Range 65

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

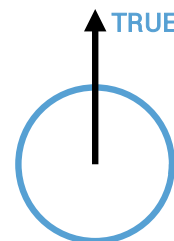
Lat/Long 40.274318° N, 104.6854554° W
Northing
Easting
UWI 05-123-08670 UWBI 05-123-08670

DEPTH AND ELEVATION REFERENCE

Ground Level 4900 ft above Mean Sea Level
Reference Datum GL
Reference Height 0 ft above G.L.
Reference Elevation 4900 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 287.26°
Calculation Method Minimum Curvature



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity 999.064 mG [computed]

WELL NOTES

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

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	0.12	227.58	25.00	0.01	-0.02	-0.02	0.48	0.03	227.58
50.00	0.24	227.58	50.00	0.05	-0.07	-0.08	0.48	0.11	227.58
75.00	0.36	227.58	75.00	0.12	-0.16	-0.17	0.48	0.24	227.58
100.00	0.46	225.29	100.00	0.21	-0.28	-0.30	0.38	0.42	227.03
125.00	0.44	226.83	125.00	0.30	-0.42	-0.44	0.08	0.61	226.72
150.00	0.39	245.39	150.00	0.41	-0.52	-0.59	0.57	0.79	228.73
175.00	0.40	226.29	175.00	0.52	-0.62	-0.73	0.53	0.96	229.98
200.00	0.39	220.01	200.00	0.59	-0.74	-0.85	0.18	1.13	228.94
225.00	0.38	215.82	225.00	0.65	-0.88	-0.96	0.13	1.30	227.52
250.00	0.30	220.64	250.00	0.71	-0.99	-1.05	0.35	1.44	226.55
275.00	0.30	187.07	274.99	0.72	-1.11	-1.10	0.69	1.56	224.76
300.00	0.14	177.74	299.99	0.70	-1.20	-1.10	0.68	1.63	222.59
325.00	0.05	193.66	324.99	0.69	-1.24	-1.11	0.36	1.66	221.70
350.00	0.06	211.28	349.99	0.69	-1.26	-1.11	0.08	1.68	221.46
375.00	0.18	299.81	374.99	0.73	-1.25	-1.16	0.75	1.70	222.68
400.00	0.31	308.23	399.99	0.83	-1.19	-1.24	0.53	1.72	226.19
425.00	0.27	302.49	424.99	0.95	-1.12	-1.34	0.19	1.75	230.26
450.00	0.38	308.26	449.99	1.09	-1.04	-1.46	0.44	1.79	234.65
475.00	0.37	301.75	474.99	1.24	-0.94	-1.59	0.18	1.85	239.38
500.00	0.36	290.82	499.99	1.40	-0.87	-1.73	0.28	1.94	243.29
525.00	0.44	298.30	524.99	1.57	-0.80	-1.89	0.38	2.05	247.10
550.00	0.38	293.89	549.99	1.75	-0.72	-2.05	0.26	2.17	250.69
575.00	0.37	274.05	574.99	1.91	-0.68	-2.21	0.52	2.31	252.90
600.00	0.35	274.44	599.99	2.06	-0.67	-2.37	0.05	2.46	254.23
625.00	0.39	280.37	624.99	2.22	-0.65	-2.53	0.22	2.61	255.65
650.00	0.44	286.88	649.99	2.40	-0.60	-2.70	0.27	2.77	257.42
675.00	0.30	264.43	674.99	2.56	-0.58	-2.86	0.80	2.92	258.51
700.00	0.26	251.60	699.99	2.66	-0.61	-2.98	0.30	3.04	258.51
725.00	0.29	248.19	724.99	2.76	-0.65	-3.09	0.14	3.16	258.18
750.00	0.29	272.54	749.99	2.87	-0.67	-3.21	0.48	3.28	258.26
775.00	0.22	245.88	774.99	2.96	-0.68	-3.32	0.53	3.39	258.34

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	0.25	240.37	799.99	3.04	-0.73	-3.41	0.14	3.49	257.90
825.00	0.30	212.79	824.99	3.09	-0.81	-3.49	0.55	3.58	256.90
850.00	0.31	207.32	849.99	3.12	-0.93	-3.56	0.13	3.68	255.39
875.00	0.27	210.64	874.99	3.15	-1.04	-3.62	0.18	3.76	253.99
900.00	0.29	207.83	899.99	3.17	-1.15	-3.68	0.11	3.85	252.69
925.00	0.37	198.73	924.99	3.19	-1.28	-3.73	0.36	3.95	251.09
950.00	0.34	204.63	949.99	3.20	-1.42	-3.79	0.19	4.05	249.44
975.00	0.36	193.06	974.98	3.20	-1.56	-3.84	0.29	4.14	247.83
1000.00	0.32	198.47	999.98	3.20	-1.71	-3.88	0.19	4.24	246.25
1025.00	0.33	203.53	1024.98	3.21	-1.84	-3.93	0.12	4.34	244.92
1050.00	0.35	198.18	1049.98	3.22	-1.98	-3.98	0.16	4.45	243.58
1075.00	0.32	194.60	1074.98	3.21	-2.12	-4.02	0.16	4.55	242.22
1100.00	0.32	225.01	1099.98	3.24	-2.24	-4.09	0.67	4.66	241.34
1125.00	0.37	225.94	1124.98	3.31	-2.34	-4.20	0.21	4.81	240.84
1150.00	0.35	216.57	1149.98	3.38	-2.46	-4.30	0.25	4.96	240.24
1175.00	0.34	212.08	1174.98	3.42	-2.58	-4.39	0.13	5.09	239.50
1200.00	0.27	232.29	1199.98	3.48	-2.68	-4.47	0.49	5.22	239.05
1225.00	0.32	218.35	1224.98	3.54	-2.77	-4.56	0.34	5.34	238.71
1250.00	0.33	210.93	1249.98	3.58	-2.89	-4.64	0.18	5.47	238.10
1275.00	0.33	220.98	1274.98	3.62	-3.01	-4.73	0.23	5.60	237.55
1300.00	0.34	214.19	1299.98	3.67	-3.12	-4.82	0.17	5.74	237.04
1325.00	0.46	193.48	1324.98	3.69	-3.28	-4.88	0.74	5.89	236.08
1350.00	0.32	231.54	1349.98	3.72	-3.43	-4.96	1.16	6.03	235.38
1375.00	0.36	222.51	1374.98	3.79	-3.53	-5.07	0.27	6.17	235.18
1400.00	0.39	245.06	1399.98	3.89	-3.62	-5.20	0.61	6.33	235.16
1425.00	0.45	225.13	1424.98	4.00	-3.72	-5.35	0.62	6.52	235.14
1450.00	0.40	236.73	1449.98	4.10	-3.84	-5.49	0.40	6.70	235.01
1475.00	0.45	237.67	1474.98	4.22	-3.94	-5.64	0.23	6.88	235.07
1500.00	0.44	251.03	1499.97	4.36	-4.02	-5.82	0.42	7.07	235.32
1525.00	0.46	255.31	1524.97	4.52	-4.08	-6.01	0.17	7.26	235.80
1550.00	0.49	267.30	1549.97	4.71	-4.11	-6.21	0.41	7.45	236.49
1575.00	0.46	266.12	1574.97	4.90	-4.12	-6.42	0.14	7.63	237.28

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	0.49	271.35	1599.97	5.10	-4.13	-6.62	0.20	7.80	238.07
1625.00	0.52	275.56	1624.97	5.31	-4.11	-6.84	0.20	7.98	238.98
1650.00	0.53	273.32	1649.97	5.54	-4.10	-7.07	0.09	8.17	239.91
1675.00	0.49	261.82	1674.97	5.74	-4.11	-7.29	0.43	8.37	240.62
1700.00	0.53	274.70	1699.97	5.95	-4.11	-7.51	0.48	8.56	241.31
1725.00	0.57	276.84	1724.97	6.19	-4.09	-7.75	0.17	8.76	242.20
1750.00	0.50	279.47	1749.96	6.42	-4.05	-7.98	0.27	8.95	243.08
1775.00	0.52	282.05	1774.96	6.64	-4.01	-8.20	0.11	9.13	243.94
1800.00	0.55	281.32	1799.96	6.87	-3.97	-8.43	0.11	9.32	244.81
1825.00	0.54	281.78	1824.96	7.11	-3.92	-8.66	0.03	9.51	245.66
1850.00	0.58	285.91	1849.96	7.35	-3.86	-8.90	0.22	9.70	246.56
1875.00	0.59	288.44	1874.96	7.61	-3.78	-9.14	0.12	9.90	247.52
1900.00	0.60	289.16	1899.96	7.87	-3.70	-9.39	0.04	10.09	248.50
1925.00	0.59	291.68	1924.96	8.13	-3.61	-9.64	0.11	10.29	249.47
1950.00	0.57	304.14	1949.96	8.38	-3.49	-9.86	0.52	10.46	250.50
1975.00	0.60	306.90	1974.95	8.62	-3.34	-10.07	0.16	10.61	251.63
2000.00	0.62	308.08	1999.95	8.87	-3.18	-10.28	0.08	10.76	252.80
2025.00	0.59	304.49	2024.95	9.12	-3.03	-10.49	0.18	10.92	253.91
2050.00	0.63	302.17	2049.95	9.37	-2.88	-10.71	0.17	11.09	254.95
2075.00	0.77	306.89	2074.95	9.66	-2.71	-10.96	0.64	11.29	256.13
2100.00	0.85	305.93	2099.95	10.00	-2.50	-11.24	0.30	11.52	257.48
2125.00	0.85	303.95	2124.94	10.35	-2.28	-11.55	0.12	11.77	258.81
2150.00	0.77	306.04	2149.94	10.69	-2.08	-11.84	0.31	12.02	260.02
2175.00	0.71	303.98	2174.94	10.99	-1.90	-12.10	0.29	12.25	261.09
2200.00	0.73	305.32	2199.94	11.29	-1.72	-12.36	0.10	12.48	262.08
2225.00	0.78	303.94	2224.93	11.61	-1.53	-12.63	0.23	12.72	263.08
2250.00	0.77	305.24	2249.93	11.93	-1.34	-12.91	0.09	12.98	264.07
2275.00	0.71	311.46	2274.93	12.23	-1.14	-13.16	0.39	13.21	265.04
2300.00	0.71	314.93	2299.93	12.51	-0.93	-13.39	0.17	13.42	266.03
2325.00	0.56	316.73	2324.93	12.75	-0.73	-13.58	0.61	13.60	266.91
2350.00	0.56	312.00	2349.92	12.97	-0.56	-13.75	0.19	13.76	267.66
2375.00	0.51	310.08	2374.92	13.18	-0.41	-13.93	0.23	13.93	268.32

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
2400.00	0.50	307.81	2399.92	13.38	-0.27	-14.10	0.09	14.10	268.90
2425.00	0.50	312.36	2424.92	13.58	-0.13	-14.26	0.16	14.26	269.47
2450.00	0.36	314.81	2449.92	13.75	0.00	-14.40	0.55	14.40	269.99
2475.00	0.31	300.79	2474.92	13.89	0.09	-14.52	0.38	14.52	270.35
2500.00	0.28	299.96	2499.92	14.01	0.15	-14.63	0.14	14.63	270.60
2525.00	0.20	306.20	2524.92	14.11	0.21	-14.71	0.36	14.72	270.82
2550.00	0.16	312.70	2549.92	14.19	0.26	-14.77	0.18	14.78	271.00
2575.00	0.15	329.65	2574.92	14.24	0.31	-14.82	0.18	14.82	271.19
2600.00	0.16	340.74	2599.92	14.29	0.37	-14.84	0.13	14.85	271.43
2625.00	0.19	333.90	2624.92	14.33	0.44	-14.87	0.12	14.88	271.70
2650.00	0.19	340.81	2649.92	14.39	0.52	-14.90	0.09	14.91	271.98
2675.00	0.24	346.92	2674.92	14.44	0.61	-14.93	0.24	14.94	272.33
2700.00	0.28	338.99	2699.92	14.50	0.72	-14.96	0.21	14.98	272.74
2725.00	0.34	336.30	2724.92	14.59	0.84	-15.02	0.24	15.04	273.20
2750.00	0.31	340.78	2749.92	14.68	0.97	-15.07	0.14	15.10	273.69
2775.00	0.29	330.88	2774.92	14.76	1.09	-15.12	0.23	15.16	274.13
2800.00	0.30	322.98	2799.92	14.86	1.20	-15.19	0.17	15.24	274.52
2825.00	0.33	327.66	2824.92	14.97	1.31	-15.27	0.16	15.33	274.92
2850.00	0.35	325.83	2849.92	15.09	1.44	-15.35	0.08	15.42	275.35
2875.00	0.40	315.78	2874.92	15.22	1.56	-15.46	0.32	15.53	275.78
2900.00	0.33	303.84	2899.92	15.37	1.67	-15.58	0.40	15.66	276.10
2925.00	0.37	294.47	2924.92	15.52	1.74	-15.71	0.28	15.80	276.32
2950.00	0.39	286.23	2949.91	15.68	1.80	-15.86	0.24	15.97	276.46
2975.00	0.35	290.78	2974.91	15.84	1.85	-16.02	0.21	16.12	276.58
3000.00	0.39	290.49	2999.91	16.01	1.90	-16.17	0.18	16.28	276.72
3025.00	0.33	277.46	3024.91	16.16	1.94	-16.32	0.42	16.44	276.79
3050.00	0.25	277.06	3049.91	16.29	1.96	-16.45	0.32	16.56	276.80
3075.00	0.24	281.24	3074.91	16.39	1.98	-16.55	0.08	16.67	276.81
3100.00	0.19	276.82	3099.91	16.48	1.99	-16.64	0.18	16.76	276.83
3125.00	0.13	235.02	3124.91	16.54	1.98	-16.71	0.52	16.83	276.76
3150.00	0.03	300.93	3149.91	16.57	1.97	-16.74	0.50	16.85	276.70
3175.00	0.05	35.06	3174.91	16.57	1.98	-16.74	0.22	16.85	276.74

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
3200.00	0.09	74.30	3199.91	16.55	1.99	-16.71	0.24	16.83	276.80
3225.00	0.19	55.27	3224.91	16.51	2.02	-16.66	0.43	16.78	276.92
3250.00	0.23	37.65	3249.91	16.47	2.08	-16.59	0.31	16.73	277.16
3275.00	0.06	55.39	3274.91	16.44	2.13	-16.55	0.72	16.69	277.34
3300.00	0.07	220.76	3299.91	16.44	2.13	-16.55	0.49	16.69	277.32
3325.00	0.07	202.25	3324.91	16.45	2.10	-16.57	0.09	16.70	277.23
3350.00	0.11	183.74	3349.91	16.44	2.07	-16.58	0.20	16.70	277.10
3375.00	0.23	202.18	3374.91	16.44	2.00	-16.60	0.51	16.71	276.86
3400.00	0.36	219.19	3399.91	16.47	1.89	-16.66	0.62	16.77	276.47
3425.00	0.33	232.11	3424.91	16.54	1.79	-16.77	0.32	16.86	276.08
3450.00	0.44	254.40	3449.91	16.67	1.71	-16.92	0.74	17.01	275.79
3475.00	0.59	261.13	3474.91	16.86	1.67	-17.14	0.63	17.22	275.56
3500.00	0.51	256.82	3499.91	17.08	1.62	-17.38	0.37	17.45	275.34
3525.00	0.55	268.22	3524.91	17.28	1.59	-17.60	0.45	17.68	275.17
3550.00	0.63	272.57	3549.91	17.53	1.60	-17.86	0.36	17.93	275.11
3575.00	0.53	282.11	3574.90	17.78	1.63	-18.11	0.54	18.18	275.13
3600.00	0.52	300.07	3599.90	18.00	1.71	-18.32	0.66	18.40	275.33
3625.00	0.62	296.02	3624.90	18.24	1.82	-18.54	0.44	18.63	275.62
3650.00	0.55	298.41	3649.90	18.49	1.94	-18.76	0.30	18.86	275.90
3675.00	0.48	307.06	3674.90	18.71	2.06	-18.95	0.40	19.06	276.20
3700.00	0.52	309.23	3699.90	18.91	2.19	-19.13	0.18	19.25	276.54
3725.00	0.55	316.75	3724.90	19.12	2.35	-19.30	0.30	19.44	276.95
3750.00	0.57	319.23	3749.90	19.33	2.53	-19.46	0.14	19.62	277.42
3775.00	0.59	318.21	3774.90	19.55	2.73	-19.63	0.07	19.81	277.90
3800.00	0.57	322.29	3799.89	19.76	2.92	-19.79	0.18	20.00	278.39
3825.00	0.56	329.20	3824.89	19.95	3.12	-19.93	0.28	20.17	278.90
3850.00	0.63	332.73	3849.89	20.14	3.35	-20.05	0.34	20.33	279.48
3875.00	0.65	335.80	3874.89	20.33	3.60	-20.17	0.16	20.49	280.12
3900.00	0.58	340.90	3899.89	20.50	3.85	-20.27	0.35	20.63	280.76
3925.00	0.61	349.30	3924.89	20.64	4.10	-20.34	0.36	20.75	281.40
3950.00	0.67	356.29	3949.89	20.75	4.38	-20.37	0.40	20.84	282.13
3975.00	0.63	354.21	3974.88	20.86	4.66	-20.40	0.18	20.92	282.87

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
4000.00	0.61	346.91	3999.88	20.98	4.93	-20.44	0.33	21.02	283.55
4025.00	0.60	339.32	4024.88	21.13	5.18	-20.52	0.32	21.16	284.16
4050.00	0.49	339.16	4049.88	21.27	5.40	-20.60	0.42	21.30	284.69
4075.00	0.54	335.23	4074.88	21.42	5.61	-20.69	0.23	21.43	285.17
4100.00	0.47	338.07	4099.88	21.56	5.81	-20.78	0.29	21.57	285.62
4125.00	0.41	329.12	4124.88	21.70	5.98	-20.86	0.36	21.70	286.00
4150.00	0.39	315.42	4149.88	21.84	6.12	-20.97	0.39	21.84	286.28
4175.00	0.32	297.54	4174.88	21.98	6.22	-21.09	0.52	21.99	286.42
4200.00	0.42	296.00	4199.88	22.14	6.29	-21.23	0.37	22.15	286.50
4225.00	0.50	286.36	4224.88	22.34	6.36	-21.42	0.44	22.34	286.53
4250.00	0.62	284.94	4249.87	22.58	6.42	-21.65	0.50	22.59	286.52
4275.00	0.60	271.40	4274.87	22.85	6.46	-21.91	0.58	22.85	286.43
4300.00	0.60	253.51	4299.87	23.08	6.43	-22.17	0.74	23.08	286.17
4325.00	0.72	258.38	4324.87	23.32	6.36	-22.45	0.53	23.33	285.82
4350.00	0.82	267.69	4349.87	23.63	6.32	-22.78	0.65	23.64	285.51
4375.00	0.74	273.20	4374.87	23.95	6.32	-23.12	0.43	23.97	285.29
4400.00	0.68	274.27	4399.86	24.26	6.34	-23.43	0.24	24.27	285.15
4425.00	0.71	282.05	4424.86	24.56	6.39	-23.73	0.39	24.58	285.06
4450.00	0.79	299.63	4449.86	24.88	6.50	-24.03	0.97	24.90	285.14
4475.00	0.82	309.07	4474.86	25.22	6.70	-24.32	0.55	25.23	285.41
4500.00	0.77	310.25	4499.85	25.54	6.92	-24.59	0.22	25.55	285.73
4525.00	0.79	311.18	4524.85	25.85	7.15	-24.85	0.11	25.86	286.05
4550.00	0.80	312.97	4549.85	26.17	7.38	-25.11	0.10	26.17	286.38
4575.00	0.75	315.47	4574.85	26.47	7.61	-25.35	0.26	26.47	286.72
4600.00	0.75	307.41	4599.85	26.76	7.83	-25.59	0.42	26.76	287.01
4625.00	0.60	297.14	4624.84	27.05	7.99	-25.84	0.78	27.05	287.18
4647.81	0.41	300.37	4647.66	27.24	8.09	-26.02	0.86	27.24	287.26

