



K.P. KAUFFMAN

# SURVEY REPORT

MUSICK MCCLINTOCK #5

4/19/2018



The **Ultimate Partner** In Wellbore Placement

CUSTOMER K.P. Kauffman  
PROJECT Musick McClintock #5  
FIELD Hambert

SDI JOB NO. OP.009587  
SDI DISTRICT Casper  
SDI KIT/UNIT

### SITE INFORMATION

Site Name Musick McClintock #5  
Lat/Long 40.274471° N, 104.689979° 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

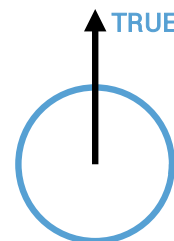
Lat/Long 40.274471° N, 104.689979° W  
Northing  
Easting  
UWI 05-123-09910 UWBI 05-123-09910

### DEPTH AND ELEVATION REFERENCE

Ground Level 4894 ft above Mean Sea Level  
Reference Datum Ground  
Reference Height 0 ft above G.L.  
Reference Elevation 4894 ft

### VERTICAL SECTION REFERENCE

+N/-S 0 ft  
+E/-W 0 ft  
Proposal Direction 308.20°  
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	0.11	300.89	25.00	0.02	0.01	-0.02	0.42	0.02	300.89
50.00	0.21	300.89	50.00	0.09	0.05	-0.08	0.42	0.09	300.89
75.00	0.32	300.89	75.00	0.21	0.11	-0.18	0.42	0.21	300.89
100.00	0.58	314.11	100.00	0.40	0.23	-0.33	1.11	0.40	305.02
125.00	0.32	325.52	125.00	0.59	0.38	-0.46	1.07	0.59	309.33
150.00	0.30	328.18	150.00	0.72	0.49	-0.53	0.12	0.72	312.55
175.00	0.27	349.82	175.00	0.83	0.60	-0.58	0.44	0.83	316.24
200.00	0.37	19.47	200.00	0.90	0.74	-0.56	0.77	0.93	322.79
225.00	0.38	23.70	225.00	0.94	0.89	-0.50	0.11	1.02	330.70
250.00	0.39	33.32	250.00	0.97	1.04	-0.42	0.26	1.12	337.94
275.00	0.41	46.98	275.00	0.96	1.17	-0.31	0.40	1.21	345.25
300.00	0.46	39.27	299.99	0.95	1.31	-0.18	0.30	1.32	352.27
325.00	0.46	43.62	324.99	0.94	1.46	-0.04	0.14	1.46	358.25
350.00	0.46	45.30	349.99	0.92	1.60	0.10	0.05	1.61	3.43
375.00	0.44	51.43	374.99	0.88	1.73	0.24	0.20	1.75	7.99
400.00	0.45	56.34	399.99	0.83	1.85	0.40	0.15	1.89	12.24
425.00	0.43	38.13	424.99	0.80	1.98	0.54	0.56	2.05	15.28
450.00	0.49	359.28	449.99	0.87	2.16	0.60	1.25	2.24	15.45
475.00	0.48	0.89	474.99	1.00	2.37	0.60	0.08	2.44	14.13
500.00	0.48	5.84	499.99	1.12	2.58	0.61	0.17	2.65	13.29
525.00	0.49	7.18	524.99	1.23	2.79	0.63	0.06	2.86	12.79
550.00	0.51	10.49	549.99	1.33	3.00	0.67	0.15	3.08	12.51
575.00	0.54	11.91	574.99	1.44	3.23	0.71	0.12	3.30	12.42
600.00	0.59	11.22	599.98	1.55	3.47	0.76	0.22	3.55	12.36
625.00	0.63	9.57	624.98	1.67	3.73	0.81	0.16	3.82	12.22
650.00	0.66	6.38	649.98	1.81	4.01	0.85	0.18	4.10	11.93
675.00	0.73	7.55	674.98	1.97	4.31	0.88	0.29	4.40	11.59
700.00	0.67	9.83	699.98	2.12	4.61	0.93	0.24	4.70	11.40
725.00	0.61	6.88	724.98	2.26	4.89	0.97	0.29	4.98	11.24
750.00	0.63	3.64	749.97	2.41	5.15	1.00	0.16	5.25	10.93
775.00	0.68	357.39	774.97	2.58	5.44	1.00	0.36	5.53	10.39

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
800.00	0.64	0.03	799.97	2.76	5.73	0.99	0.21	5.81	9.81
825.00	0.63	4.06	824.97	2.93	6.01	1.00	0.18	6.09	9.46
850.00	0.63	5.12	849.97	3.08	6.28	1.02	0.05	6.36	9.25
875.00	0.65	358.09	874.97	3.25	6.56	1.03	0.33	6.64	8.92
900.00	0.66	355.67	899.96	3.44	6.84	1.01	0.12	6.92	8.43
925.00	0.69	352.41	924.96	3.64	7.14	0.98	0.18	7.21	7.85
950.00	0.66	352.85	949.96	3.85	7.43	0.95	0.13	7.49	7.26
975.00	0.66	350.97	974.96	4.06	7.71	0.91	0.09	7.76	6.70
1000.00	0.57	353.61	999.96	4.25	7.98	0.87	0.37	8.02	6.22
1025.00	0.61	342.35	1024.96	4.45	8.23	0.82	0.48	8.27	5.66
1050.00	0.63	346.05	1049.96	4.66	8.48	0.74	0.18	8.52	5.00
1075.00	0.65	346.63	1074.95	4.88	8.75	0.68	0.08	8.78	4.42
1100.00	0.54	320.69	1099.95	5.11	8.98	0.57	1.15	9.00	3.63
1125.00	0.59	315.05	1124.95	5.35	9.16	0.41	0.30	9.17	2.53
1150.00	0.63	324.61	1149.95	5.61	9.37	0.23	0.45	9.37	1.43
1175.00	0.54	320.94	1174.95	5.86	9.57	0.08	0.40	9.57	0.48
1200.00	0.54	321.11	1199.95	6.09	9.76	-0.07	0.01	9.76	359.60
1225.00	0.48	318.57	1224.95	6.31	9.93	-0.21	0.25	9.93	358.77
1250.00	0.49	311.77	1249.95	6.51	10.08	-0.36	0.23	10.08	357.95
1275.00	0.51	312.77	1274.94	6.73	10.22	-0.52	0.11	10.24	357.07
1300.00	0.50	304.59	1299.94	6.95	10.36	-0.69	0.29	10.38	356.17
1325.00	0.41	300.63	1324.94	7.15	10.47	-0.86	0.38	10.50	355.30
1350.00	0.39	315.83	1349.94	7.32	10.57	-1.00	0.43	10.62	354.62
1375.00	0.41	307.79	1374.94	7.50	10.69	-1.13	0.25	10.75	353.99
1400.00	0.46	303.20	1399.94	7.69	10.80	-1.28	0.22	10.88	353.23
1425.00	0.51	309.24	1424.94	7.90	10.93	-1.45	0.30	11.02	352.43
1450.00	0.46	306.52	1449.94	8.11	11.06	-1.62	0.22	11.17	351.66
1475.00	0.46	309.17	1474.94	8.31	11.18	-1.78	0.09	11.32	350.96
1500.00	0.41	308.41	1499.94	8.50	11.30	-1.93	0.19	11.46	350.33
1525.00	0.44	307.20	1524.94	8.69	11.41	-2.07	0.13	11.60	349.71
1550.00	0.36	303.44	1549.94	8.86	11.51	-2.21	0.32	11.72	349.11
1575.00	0.31	296.47	1574.94	9.01	11.59	-2.34	0.26	11.82	348.57

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	0.43	298.94	1599.94	9.17	11.66	-2.49	0.49	11.93	347.97
1625.00	0.29	297.37	1624.93	9.32	11.74	-2.63	0.57	12.03	347.39
1650.00	0.36	287.29	1649.93	9.46	11.79	-2.76	0.37	12.11	346.84
1675.00	0.40	278.19	1674.93	9.61	11.83	-2.92	0.29	12.18	346.13
1700.00	0.38	246.96	1699.93	9.73	11.81	-3.08	0.85	12.20	345.36
1725.00	0.45	259.51	1724.93	9.83	11.76	-3.26	0.45	12.20	344.52
1750.00	0.44	257.48	1749.93	9.95	11.72	-3.45	0.08	12.21	343.61
1775.00	0.55	263.41	1774.93	10.10	11.68	-3.66	0.50	12.24	342.62
1800.00	0.56	265.17	1799.93	10.28	11.66	-3.90	0.09	12.30	341.51
1825.00	0.53	255.03	1824.93	10.43	11.62	-4.13	0.41	12.33	340.42
1850.00	0.63	245.44	1849.93	10.57	11.53	-4.37	0.58	12.33	339.25
1875.00	0.68	243.62	1874.93	10.69	11.41	-4.63	0.20	12.31	337.92
1900.00	0.66	246.98	1899.92	10.83	11.29	-4.89	0.17	12.30	336.56
1925.00	0.61	238.05	1924.92	10.94	11.16	-5.14	0.46	12.29	335.27
1950.00	0.76	251.91	1949.92	11.08	11.04	-5.41	0.89	12.29	333.90
1975.00	1.02	259.58	1974.92	11.32	10.95	-5.78	1.14	12.38	332.15
2000.00	0.88	259.61	1999.91	11.59	10.87	-6.19	0.57	12.51	330.35
2025.00	0.82	256.70	2024.91	11.83	10.80	-6.55	0.27	12.63	328.75
2050.00	0.87	271.35	2049.91	12.09	10.76	-6.92	0.88	12.79	327.27
2075.00	0.86	281.70	2074.91	12.41	10.80	-7.29	0.63	13.03	325.99
2100.00	0.89	286.17	2099.90	12.76	10.90	-7.66	0.30	13.32	324.88
2125.00	0.94	290.40	2124.90	13.13	11.02	-8.04	0.32	13.64	323.89
2150.00	0.86	300.37	2149.90	13.51	11.19	-8.39	0.70	13.99	323.12
2175.00	0.92	299.63	2174.89	13.90	11.38	-8.73	0.27	14.34	322.51
2200.00	0.95	295.56	2199.89	14.30	11.57	-9.09	0.30	14.71	321.84
2225.00	0.88	290.88	2224.89	14.69	11.73	-9.46	0.41	15.07	321.11
2250.00	0.85	295.19	2249.88	15.05	11.88	-9.81	0.30	15.40	320.45
2275.00	0.67	272.66	2274.88	15.35	11.96	-10.12	1.37	15.67	319.77
2300.00	0.60	275.60	2299.88	15.58	11.98	-10.40	0.31	15.86	319.05
2325.00	0.61	280.20	2324.88	15.81	12.02	-10.66	0.20	16.06	318.42
2350.00	0.46	265.23	2349.88	16.00	12.03	-10.89	0.83	16.23	317.85
2375.00	0.53	250.86	2374.88	16.14	11.99	-11.10	0.57	16.34	317.19

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	0.41	253.94	2399.88	16.25	11.92	-11.30	0.50	16.43	316.54
2425.00	0.46	236.19	2424.88	16.34	11.84	-11.47	0.57	16.49	315.92
2450.00	0.64	223.82	2449.87	16.38	11.69	-11.65	0.85	16.50	315.10
2475.00	0.74	226.35	2474.87	16.42	11.48	-11.86	0.44	16.50	314.06
2500.00	0.66	219.99	2499.87	16.44	11.25	-12.07	0.44	16.50	313.00
2525.00	0.71	212.63	2524.87	16.43	11.01	-12.25	0.41	16.47	311.96
2550.00	0.63	222.13	2549.87	16.43	10.78	-12.42	0.56	16.45	310.95
2575.00	0.69	214.08	2574.87	16.43	10.55	-12.60	0.43	16.43	309.95
2600.00	0.70	208.19	2599.86	16.39	10.29	-12.75	0.29	16.39	308.91
2625.00	0.64	211.16	2624.86	16.35	10.04	-12.90	0.28	16.35	307.90
2650.00	0.64	208.15	2649.86	16.30	9.80	-13.04	0.14	16.31	306.92
2675.00	0.64	211.55	2674.86	16.26	9.56	-13.18	0.15	16.28	305.95
2700.00	0.49	223.29	2699.86	16.26	9.36	-13.32	0.73	16.28	305.09
2725.00	0.38	224.19	2724.86	16.28	9.22	-13.45	0.47	16.31	304.43
2750.00	0.45	218.46	2749.86	16.28	9.08	-13.57	0.35	16.33	303.80
2775.00	0.43	238.29	2774.86	16.32	8.96	-13.71	0.62	16.38	303.15
2800.00	0.38	230.97	2799.86	16.37	8.86	-13.86	0.29	16.45	302.58
2825.00	0.24	264.91	2824.86	16.42	8.80	-13.97	0.90	16.51	302.20
2850.00	0.27	272.23	2849.85	16.51	8.80	-14.08	0.17	16.60	301.99
2875.00	0.27	257.62	2874.85	16.59	8.79	-14.20	0.28	16.70	301.75
2900.00	0.27	236.62	2899.85	16.65	8.74	-14.31	0.40	16.77	301.43
2925.00	0.24	253.89	2924.85	16.70	8.69	-14.41	0.33	16.83	301.11
2950.00	0.28	276.60	2949.85	16.78	8.69	-14.52	0.43	16.92	300.89
2975.00	0.30	280.44	2974.85	16.89	8.71	-14.64	0.13	17.03	300.73
3000.00	0.37	272.10	2999.85	17.01	8.72	-14.79	0.34	17.17	300.53
3025.00	0.22	292.67	3024.85	17.12	8.74	-14.91	0.72	17.29	300.38
3050.00	0.29	286.97	3049.85	17.23	8.78	-15.02	0.30	17.40	300.31
3075.00	0.53	288.82	3074.85	17.40	8.83	-15.19	0.94	17.57	300.19
3100.00	0.52	297.41	3099.85	17.62	8.92	-15.40	0.32	17.80	300.10
3125.00	0.31	262.49	3124.85	17.78	8.97	-15.56	1.27	17.96	299.95
3150.00	0.39	258.60	3149.85	17.88	8.94	-15.72	0.34	18.08	299.64
3175.00	0.60	290.43	3174.85	18.06	8.97	-15.92	1.35	18.27	299.40



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	0.50	306.48	3199.85	18.29	9.08	-16.13	0.73	18.51	299.37
3225.00	0.43	301.72	3224.85	18.49	9.19	-16.30	0.30	18.71	299.43
3250.00	0.32	317.17	3249.85	18.66	9.29	-16.43	0.60	18.87	299.50
3275.00	0.45	296.14	3274.85	18.82	9.39	-16.56	0.75	19.04	299.55
3300.00	0.30	284.11	3299.85	18.98	9.45	-16.71	0.67	19.20	299.48
3325.00	0.24	321.98	3324.84	19.09	9.50	-16.81	0.73	19.31	299.49
3350.00	0.39	302.16	3349.84	19.22	9.59	-16.91	0.75	19.44	299.56
3375.00	0.54	307.87	3374.84	19.42	9.71	-17.08	0.60	19.64	299.62
3400.00	0.64	319.57	3399.84	19.68	9.89	-17.26	0.64	19.89	299.81
3425.00	0.47	349.41	3424.84	19.89	10.10	-17.37	1.32	20.09	300.17
3450.00	0.33	349.56	3449.84	20.03	10.27	-17.40	0.58	20.21	300.54
3475.00	0.19	342.16	3474.84	20.11	10.38	-17.43	0.58	20.28	300.77
3500.00	0.34	298.10	3499.84	20.22	10.45	-17.51	0.97	20.39	300.84
3525.00	0.59	312.36	3524.84	20.42	10.57	-17.67	1.10	20.59	300.90
3550.00	0.78	346.40	3549.84	20.68	10.83	-17.80	1.76	20.84	301.31
3575.00	0.50	355.59	3574.84	20.89	11.10	-17.85	1.21	21.02	301.88
3600.00	0.36	317.85	3599.84	21.04	11.27	-17.91	1.22	21.16	302.17
3625.00	0.49	291.70	3624.83	21.22	11.36	-18.06	0.93	21.34	302.18
3650.00	0.59	256.35	3649.83	21.41	11.37	-18.29	1.37	21.54	301.88
3675.00	0.35	338.82	3674.83	21.55	11.41	-18.44	2.59	21.69	301.75
3700.00	0.48	332.02	3699.83	21.71	11.58	-18.52	0.55	21.84	302.01
3725.00	0.61	273.21	3724.83	21.92	11.68	-18.70	2.20	22.05	301.98
3750.00	0.70	263.44	3749.83	22.14	11.67	-18.99	0.56	22.29	301.57
3775.00	0.50	263.08	3774.83	22.32	11.63	-19.25	0.78	22.49	301.15
3800.00	0.49	273.19	3799.83	22.49	11.63	-19.46	0.36	22.67	300.85
3825.00	0.45	259.80	3824.83	22.64	11.62	-19.67	0.46	22.84	300.57
3850.00	0.46	260.26	3849.83	22.77	11.58	-19.86	0.04	22.99	300.24
3875.00	0.43	261.55	3874.82	22.91	11.55	-20.06	0.12	23.15	299.94
3900.00	0.51	266.33	3899.82	23.05	11.53	-20.26	0.33	23.31	299.64
3925.00	0.46	255.82	3924.82	23.20	11.50	-20.47	0.40	23.48	299.33
3950.00	0.32	261.23	3949.82	23.30	11.46	-20.63	0.56	23.60	299.05
3975.00	0.27	253.47	3974.82	23.39	11.44	-20.76	0.26	23.70	298.85

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	0.28	265.51	3999.82	23.47	11.41	-20.88	0.23	23.79	298.67
4025.00	0.40	288.96	4024.82	23.59	11.44	-21.02	0.72	23.93	298.55
4050.00	0.35	311.78	4049.82	23.75	11.52	-21.16	0.62	24.09	298.56
4075.00	0.35	333.74	4074.82	23.89	11.63	-21.25	0.53	24.23	298.70
4100.00	0.20	310.62	4099.82	24.01	11.73	-21.32	0.72	24.33	298.82
4125.00	0.26	338.87	4124.82	24.10	11.81	-21.37	0.49	24.42	298.93
4150.00	0.34	335.66	4149.82	24.21	11.93	-21.42	0.36	24.52	299.12
4175.00	0.44	339.47	4174.82	24.36	12.09	-21.48	0.40	24.65	299.37
4200.00	0.22	33.26	4199.82	24.45	12.22	-21.49	1.43	24.72	299.62
4225.00	0.24	43.78	4224.82	24.45	12.30	-21.43	0.18	24.71	299.85
4250.00	0.41	5.58	4249.82	24.49	12.42	-21.39	1.07	24.73	300.15
4275.00	0.39	19.40	4274.82	24.56	12.59	-21.35	0.39	24.79	300.53
4300.00	0.37	39.58	4299.82	24.59	12.73	-21.27	0.54	24.79	300.91
4325.00	0.47	25.80	4324.82	24.61	12.89	-21.17	0.56	24.79	301.33
4350.00	0.52	31.72	4349.82	24.64	13.08	-21.07	0.28	24.80	301.83
4375.00	0.45	48.01	4374.81	24.64	13.24	-20.94	0.61	24.77	302.31
4400.00	0.56	69.70	4399.81	24.56	13.35	-20.75	0.89	24.67	302.76
4425.00	0.68	57.38	4424.81	24.45	13.47	-20.51	0.71	24.54	303.30
4450.00	0.55	46.51	4449.81	24.38	13.63	-20.29	0.69	24.45	303.90
4475.00	0.50	56.14	4474.81	24.33	13.78	-20.11	0.41	24.38	304.41
4500.00	0.60	57.44	4499.81	24.25	13.91	-19.91	0.38	24.29	304.94
4525.00	0.63	42.88	4524.81	24.20	14.08	-19.71	0.64	24.22	305.55
4550.00	0.57	51.50	4549.81	24.16	14.26	-19.52	0.44	24.17	306.16
4575.00	0.21	9.10	4574.81	24.15	14.38	-19.41	1.76	24.16	306.54
4600.00	0.44	30.50	4599.80	24.19	14.51	-19.36	1.02	24.19	306.86
4625.00	0.78	21.31	4624.80	24.25	14.75	-19.25	1.41	24.25	307.47
4650.00	0.47	38.53	4649.80	24.30	14.99	-19.12	1.44	24.30	308.10
4655.06	0.49	29.33	4654.86	24.30	15.03	-19.10	1.60	24.30	308.20



