



KP KAUFFMAN

# SURVEY REPORT

LANSON FARMS #15

4/3/2019



The **Ultimate Partner** In Wellbore Placement

CUSTOMER  
PROJECT  
FIELD

KP Kauffman  
Lanson Farms #15  
Spindle

SDI JOB NO.  
SDI DISTRICT  
SDI KIT/UNIT

OP.017708  
Casper

### SITE INFORMATION

Site Name  
Lat/Long  
Northing  
Easting

Lanson Farms #15  
40.1005° N, 104.97719° W

Section  
Township  
Range

NWNW 35  
2N  
68W

### MAP INFORMATION

North Reference  
Grid Correction  
System  
Datum  
Map Zone

True North  
US State Plane 1983  
North American Datum 1983 (GRS 1980)  
Colorado North: 0501



### WELL INFORMATION

Lat/Long  
Northing  
Easting  
UWI

40.1005° N, 104.97719° W  
05-123-08738 UWBI 05-123-08738

### DEPTH AND ELEVATION REFERENCE

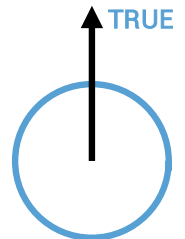
Ground Level  
Reference Datum  
Reference Height  
Reference Elevation

4963 ft above Mean Sea Level  
GL  
0 ft above G.L.  
4963 ft

### VERTICAL SECTION REFERENCE

+N/-S  
+E/-W  
Proposal Direction  
Calculation Method

0 ft  
0 ft  
301.25°  
Minimum Curvature



### LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity

999.042 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
94.47	0.21	78.12	94.47	-0.13	0.04	0.17	0.23	0.18	78.12
100.00	0.24	70.19	100.00	-0.14	0.04	0.19	0.70	0.20	77.66
125.00	0.29	59.50	125.00	-0.20	0.09	0.29	0.28	0.31	72.81
150.00	0.18	85.55	150.00	-0.27	0.13	0.39	0.59	0.41	71.99
175.00	0.10	113.60	175.00	-0.32	0.12	0.45	0.39	0.46	75.00
200.00	0.06	61.53	200.00	-0.35	0.12	0.48	0.33	0.49	76.29
225.00	0.04	92.96	225.00	-0.36	0.12	0.50	0.15	0.51	76.16
250.00	0.07	78.59	250.00	-0.38	0.13	0.52	0.14	0.54	76.47
275.00	0.08	104.76	275.00	-0.41	0.12	0.55	0.14	0.57	77.34
300.00	0.13	141.69	300.00	-0.45	0.10	0.59	0.33	0.59	80.57
325.00	0.13	158.27	325.00	-0.50	0.05	0.61	0.15	0.62	85.53
350.00	0.13	199.76	350.00	-0.53	0.00	0.62	0.37	0.62	90.46
375.00	0.19	233.70	375.00	-0.52	-0.06	0.57	0.44	0.58	95.52
400.00	0.24	246.81	400.00	-0.47	-0.10	0.49	0.27	0.50	101.52
425.00	0.21	255.11	425.00	-0.41	-0.13	0.40	0.17	0.42	108.34
450.00	0.18	252.54	450.00	-0.35	-0.16	0.32	0.13	0.35	116.13
475.00	0.18	235.49	475.00	-0.31	-0.19	0.25	0.21	0.31	127.26
500.00	0.21	221.50	500.00	-0.29	-0.25	0.19	0.24	0.31	142.89
525.00	0.26	223.68	525.00	-0.27	-0.32	0.12	0.17	0.34	160.05
550.00	0.28	230.72	550.00	-0.23	-0.40	0.03	0.15	0.40	175.50
575.00	0.27	252.85	575.00	-0.18	-0.46	-0.07	0.42	0.46	188.97
600.00	0.33	261.22	600.00	-0.08	-0.48	-0.20	0.30	0.52	202.48
625.00	0.37	287.98	625.00	0.05	-0.47	-0.35	0.67	0.59	216.54
650.00	0.31	292.57	650.00	0.20	-0.42	-0.49	0.25	0.64	229.35
675.00	0.28	287.45	675.00	0.33	-0.38	-0.61	0.18	0.72	238.42
700.00	0.27	274.87	700.00	0.44	-0.35	-0.73	0.24	0.81	244.18
725.00	0.28	274.63	725.00	0.55	-0.34	-0.85	0.02	0.91	248.01
750.00	0.36	282.67	749.99	0.68	-0.32	-0.98	0.37	1.03	251.98
775.00	0.40	288.51	774.99	0.83	-0.27	-1.14	0.24	1.18	256.48
800.00	0.39	293.32	799.99	1.00	-0.21	-1.30	0.14	1.32	260.71
825.00	0.36	297.58	824.99	1.17	-0.14	-1.45	0.17	1.46	264.33

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
850.00	0.31	293.55	849.99	1.31	-0.08	-1.58	0.20	1.58	267.07
875.00	0.26	284.67	874.99	1.43	-0.04	-1.70	0.27	1.70	268.66
900.00	0.28	272.33	899.99	1.54	-0.02	-1.81	0.25	1.81	269.27
925.00	0.38	267.97	924.99	1.66	-0.02	-1.96	0.41	1.96	269.31
950.00	0.43	272.62	949.99	1.81	-0.02	-2.13	0.22	2.13	269.40
975.00	0.47	275.16	974.99	1.99	-0.01	-2.33	0.18	2.33	269.78
1000.00	0.44	287.37	999.99	2.17	0.03	-2.52	0.40	2.52	270.66
1025.00	0.42	279.73	1024.99	2.35	0.07	-2.70	0.25	2.71	271.56
1050.00	0.41	261.43	1049.99	2.50	0.08	-2.88	0.52	2.88	271.50
1075.00	0.50	250.38	1074.99	2.64	0.03	-3.07	0.51	3.07	270.48
1100.00	0.51	258.79	1099.99	2.79	-0.03	-3.28	0.30	3.28	269.43
1125.00	0.56	259.29	1124.99	2.96	-0.08	-3.51	0.18	3.51	268.75
1150.00	0.62	259.34	1149.98	3.16	-0.12	-3.77	0.26	3.77	268.10
1175.00	0.57	275.93	1174.98	3.37	-0.14	-4.02	0.72	4.03	268.05
1200.00	0.54	269.48	1199.98	3.58	-0.13	-4.26	0.26	4.27	268.32
1225.00	0.61	254.83	1224.98	3.77	-0.16	-4.51	0.65	4.52	267.95
1250.00	0.71	246.76	1249.98	3.96	-0.26	-4.78	0.56	4.79	266.92
1275.00	0.75	252.96	1274.98	4.16	-0.37	-5.08	0.35	5.10	265.87
1300.00	0.86	253.31	1299.97	4.39	-0.47	-5.42	0.42	5.44	265.05
1325.00	0.87	254.36	1324.97	4.64	-0.57	-5.78	0.08	5.81	264.33
1350.00	0.81	261.74	1349.97	4.91	-0.65	-6.14	0.50	6.17	263.95
1375.00	0.75	262.28	1374.97	5.17	-0.70	-6.47	0.21	6.51	263.85
1400.00	0.75	256.47	1399.96	5.42	-0.76	-6.80	0.31	6.84	263.64
1425.00	0.78	251.11	1424.96	5.64	-0.85	-7.12	0.31	7.17	263.18
1450.00	0.81	252.53	1449.96	5.87	-0.96	-7.45	0.12	7.51	262.66
1475.00	0.84	254.93	1474.96	6.11	-1.06	-7.79	0.20	7.87	262.25
1500.00	0.87	255.33	1499.95	6.37	-1.16	-8.16	0.11	8.24	261.93
1525.00	0.83	256.19	1524.95	6.63	-1.25	-8.51	0.16	8.61	261.66
1550.00	0.78	259.74	1549.95	6.89	-1.32	-8.86	0.29	8.96	261.52
1575.00	0.76	259.98	1574.95	7.14	-1.38	-9.19	0.06	9.29	261.46
1600.00	0.76	257.63	1599.94	7.38	-1.44	-9.51	0.13	9.62	261.37
1625.00	0.80	261.08	1624.94	7.64	-1.51	-9.85	0.24	9.96	261.30

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
1650.00	0.88	259.17	1649.94	7.91	-1.57	-10.21	0.36	10.33	261.25
1675.00	0.85	266.71	1674.94	8.21	-1.62	-10.58	0.48	10.71	261.31
1700.00	0.78	284.35	1699.93	8.52	-1.59	-10.93	1.03	11.05	261.74
1725.00	0.73	283.77	1724.93	8.84	-1.51	-11.25	0.17	11.35	262.38
1750.00	0.72	269.12	1749.93	9.12	-1.47	-11.56	0.74	11.66	262.75
1775.00	0.71	263.97	1774.93	9.38	-1.49	-11.87	0.26	11.97	262.85
1800.00	0.76	270.15	1799.93	9.65	-1.51	-12.20	0.38	12.29	262.96
1825.00	0.77	279.09	1824.92	9.94	-1.48	-12.53	0.48	12.61	263.27
1850.00	0.72	291.53	1849.92	10.25	-1.39	-12.84	0.67	12.91	263.80
1875.00	0.65	291.82	1874.92	10.55	-1.28	-13.12	0.26	13.18	264.41
1900.00	0.61	293.05	1899.92	10.82	-1.18	-13.37	0.20	13.42	264.96
1925.00	0.63	293.04	1924.92	11.09	-1.07	-13.62	0.09	13.66	265.49
1950.00	0.66	293.45	1949.92	11.36	-0.96	-13.88	0.12	13.91	266.03
1975.00	0.67	300.63	1974.91	11.65	-0.83	-14.13	0.34	14.16	266.63
2000.00	0.60	311.42	1999.91	11.93	-0.67	-14.36	0.55	14.37	267.33
2025.00	0.60	329.21	2024.91	12.17	-0.47	-14.52	0.74	14.53	268.14
2050.00	0.55	323.08	2049.91	12.40	-0.26	-14.66	0.32	14.67	268.97
2075.00	0.49	337.33	2074.91	12.60	-0.07	-14.78	0.56	14.78	269.74
2100.00	0.48	351.71	2099.91	12.75	0.14	-14.83	0.49	14.83	270.52
2125.00	0.49	348.98	2124.91	12.89	0.34	-14.87	0.10	14.87	271.33
2150.00	0.54	345.65	2149.91	13.05	0.56	-14.92	0.23	14.93	272.16
2175.00	0.53	352.27	2174.90	13.20	0.79	-14.96	0.25	14.98	273.02
2200.00	0.53	355.40	2199.90	13.34	1.02	-14.99	0.12	15.02	273.89
2225.00	0.56	352.71	2224.90	13.48	1.26	-15.01	0.18	15.06	274.78
2250.00	0.50	359.28	2249.90	13.62	1.49	-15.03	0.34	15.10	275.65
2275.00	0.48	351.42	2274.90	13.75	1.70	-15.05	0.28	15.14	276.45
2300.00	0.51	350.35	2299.90	13.88	1.91	-15.08	0.09	15.20	277.23
2325.00	0.51	346.15	2324.90	14.04	2.13	-15.13	0.15	15.27	278.01
2350.00	0.50	345.75	2349.90	14.19	2.34	-15.18	0.02	15.36	278.77
2375.00	0.51	353.30	2374.90	14.34	2.56	-15.22	0.27	15.43	279.55
2400.00	0.59	0.50	2399.90	14.47	2.80	-15.23	0.41	15.49	280.41
2425.00	0.52	355.92	2424.89	14.60	3.04	-15.24	0.31	15.54	281.28

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
2450.00	0.52	347.44	2449.89	14.75	3.26	-15.27	0.31	15.61	282.06
2475.00	0.63	344.60	2474.89	14.92	3.51	-15.33	0.46	15.73	282.88
2500.00	0.61	337.24	2499.89	15.13	3.76	-15.42	0.33	15.87	283.70
2525.00	0.56	333.92	2524.89	15.34	3.99	-15.52	0.24	16.03	284.42
2550.00	0.52	317.75	2549.89	15.55	4.18	-15.65	0.63	16.20	284.97
2575.00	0.59	300.75	2574.89	15.79	4.33	-15.84	0.72	16.42	285.30
2600.00	0.69	293.21	2599.89	16.07	4.46	-16.09	0.51	16.69	285.49
2625.00	0.73	293.53	2624.88	16.37	4.58	-16.37	0.16	17.00	285.63
2650.00	0.73	292.32	2649.88	16.69	4.70	-16.66	0.07	17.31	285.77
2675.00	0.73	290.68	2674.88	17.00	4.82	-16.96	0.08	17.63	285.87
2700.00	0.75	286.77	2699.88	17.32	4.92	-17.27	0.22	17.95	285.92
2725.00	0.79	282.60	2724.88	17.64	5.01	-17.59	0.26	18.29	285.90
2750.00	0.87	283.56	2749.87	17.98	5.09	-17.94	0.34	18.65	285.84
2775.00	0.97	284.17	2774.87	18.36	5.19	-18.33	0.40	19.05	285.80
2800.00	1.00	283.27	2799.87	18.77	5.29	-18.75	0.13	19.48	285.75
2825.00	1.04	282.71	2824.86	19.20	5.39	-19.18	0.18	19.93	285.69
2850.00	1.05	279.84	2849.86	19.62	5.48	-19.63	0.21	20.38	285.59
2875.00	1.10	279.11	2874.85	20.06	5.56	-20.09	0.24	20.85	285.46
2900.00	1.22	278.18	2899.85	20.53	5.63	-20.59	0.47	21.35	285.29
2925.00	1.32	278.35	2924.84	21.04	5.71	-21.14	0.40	21.90	285.12
2950.00	1.41	279.79	2949.83	21.59	5.81	-21.73	0.39	22.49	284.96
2975.00	1.53	282.85	2974.83	22.19	5.93	-22.36	0.56	23.13	284.86
3000.00	1.62	284.28	2999.82	22.85	6.09	-23.03	0.42	23.82	284.82
3025.00	1.62	284.42	3024.81	23.52	6.27	-23.71	0.03	24.52	284.81
3050.00	1.60	286.48	3049.80	24.20	6.45	-24.38	0.24	25.22	284.83
3075.00	1.68	286.13	3074.79	24.89	6.66	-25.07	0.32	25.94	284.87
3100.00	1.77	288.69	3099.78	25.61	6.88	-25.79	0.47	26.69	284.94
3125.00	1.77	289.52	3124.76	26.37	7.13	-26.51	0.10	27.46	285.06
3150.00	1.79	289.51	3149.75	27.13	7.39	-27.24	0.07	28.23	285.18
3175.00	1.84	288.74	3174.74	27.90	7.65	-27.99	0.25	29.02	285.29
3200.00	1.84	289.27	3199.73	28.69	7.91	-28.75	0.07	29.82	285.39
3225.00	1.86	288.18	3224.71	29.47	8.17	-29.52	0.17	30.63	285.47



MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
3250.00	1.94	290.64	3249.70	30.28	8.45	-30.30	0.45	31.45	285.58
3275.00	1.86	291.36	3274.69	31.10	8.74	-31.07	0.31	32.28	285.72
3300.00	1.88	292.44	3299.67	31.90	9.05	-31.83	0.17	33.09	285.87
3325.00	1.92	293.40	3324.66	32.73	9.37	-32.59	0.18	33.91	286.04
3350.00	1.92	293.66	3349.64	33.56	9.71	-33.36	0.04	34.74	286.22
3375.00	1.92	293.64	3374.63	34.39	10.04	-34.13	0.00	35.58	286.40
3400.00	1.94	292.73	3399.62	35.22	10.37	-34.90	0.13	36.41	286.55
3425.00	1.93	294.10	3424.60	36.06	10.71	-35.68	0.18	37.25	286.71
3450.00	1.85	294.18	3449.59	36.88	11.05	-36.43	0.32	38.07	286.87
3475.00	1.69	294.75	3474.58	37.64	11.37	-37.13	0.67	38.84	287.02
3500.00	1.47	295.93	3499.57	38.33	11.66	-37.76	0.88	39.52	287.16
3525.00	1.26	296.54	3524.56	38.92	11.92	-38.29	0.86	40.10	287.30
3550.00	1.12	301.61	3549.55	39.44	12.17	-38.74	0.69	40.61	287.44
3575.00	1.05	306.00	3574.55	39.91	12.44	-39.14	0.44	41.06	287.63
3600.00	1.01	308.49	3599.55	40.36	12.71	-39.49	0.24	41.49	287.84
3625.00	0.99	313.92	3624.54	40.78	12.99	-39.82	0.38	41.89	288.07
3650.00	1.05	317.56	3649.54	41.22	13.31	-40.13	0.36	42.28	288.35
3675.00	1.07	325.74	3674.53	41.65	13.68	-40.42	0.61	42.67	288.69
3700.00	0.98	329.50	3699.53	42.05	14.05	-40.66	0.43	43.02	289.07
3725.00	1.02	329.63	3724.53	42.44	14.43	-40.88	0.13	43.35	289.44
3750.00	0.97	330.39	3749.52	42.81	14.81	-41.10	0.21	43.68	289.81
3775.00	0.98	333.10	3774.52	43.18	15.18	-41.30	0.19	44.00	290.18
3800.00	0.99	333.03	3799.52	43.55	15.56	-41.49	0.04	44.31	290.56
3825.00	1.01	333.41	3824.51	43.92	15.95	-41.69	0.09	44.64	290.94
3850.00	1.05	331.97	3849.51	44.30	16.35	-41.90	0.19	44.97	291.32
3875.00	1.06	329.94	3874.50	44.70	16.75	-42.12	0.15	45.33	291.69
3900.00	1.11	328.34	3899.50	45.12	17.16	-42.36	0.25	45.71	292.05
3925.00	1.14	330.98	3924.49	45.55	17.58	-42.61	0.24	46.10	292.43
3950.00	1.10	329.34	3949.49	45.98	18.01	-42.85	0.19	46.48	292.80
3975.00	1.10	328.29	3974.48	46.41	18.42	-43.10	0.08	46.87	293.14
4000.00	1.14	328.50	3999.48	46.84	18.84	-43.36	0.16	47.28	293.48
4025.00	1.12	326.05	4024.47	47.29	19.26	-43.63	0.21	47.69	293.82

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
4050.00	1.10	322.99	4049.47	47.73	19.65	-43.91	0.26	48.10	294.11
4075.00	1.09	320.86	4074.47	48.18	20.02	-44.20	0.17	48.53	294.37
4100.00	1.12	315.96	4099.46	48.63	20.38	-44.52	0.40	48.96	294.60
4125.00	1.05	312.90	4124.46	49.09	20.71	-44.86	0.35	49.41	294.79
4150.00	0.98	317.10	4149.45	49.52	21.03	-45.17	0.41	49.82	294.96
4175.00	1.05	314.86	4174.45	49.95	21.34	-45.48	0.33	50.24	295.14
4200.00	0.99	310.89	4199.44	50.39	21.65	-45.80	0.38	50.66	295.30
4225.00	1.01	309.89	4224.44	50.82	21.93	-46.13	0.12	51.08	295.42
4250.00	1.04	308.87	4249.44	51.26	22.21	-46.48	0.12	51.51	295.54
4275.00	1.04	308.40	4274.43	51.71	22.49	-46.83	0.05	51.96	295.66
4300.00	1.09	304.09	4299.43	52.17	22.77	-47.21	0.36	52.41	295.75
4325.00	1.15	307.69	4324.42	52.66	23.06	-47.60	0.39	52.89	295.84
4350.00	1.16	308.26	4349.42	53.16	23.37	-48.00	0.05	53.39	295.96
4375.00	1.16	306.07	4374.41	53.66	23.67	-48.40	0.18	53.88	296.06
4400.00	1.19	306.11	4399.41	54.17	23.97	-48.82	0.09	54.39	296.15
4425.00	1.24	306.50	4424.40	54.70	24.29	-49.25	0.23	54.91	296.25
4450.00	1.29	306.71	4449.40	55.25	24.62	-49.69	0.18	55.45	296.35
4475.00	1.31	305.16	4474.39	55.82	24.95	-50.15	0.16	56.01	296.45
4500.00	1.32	305.43	4499.38	56.39	25.28	-50.62	0.06	56.58	296.54
4525.00	1.40	309.09	4524.38	56.98	25.64	-51.09	0.45	57.16	296.65
4550.00	1.37	308.12	4549.37	57.58	26.02	-51.56	0.14	57.76	296.78
4575.00	1.28	303.57	4574.36	58.16	26.36	-52.03	0.55	58.33	296.87
4600.00	1.31	303.25	4599.36	58.72	26.67	-52.50	0.11	58.89	296.93
4625.00	1.37	308.22	4624.35	59.30	27.01	-52.98	0.53	59.47	297.02
4650.00	1.34	311.65	4649.34	59.89	27.39	-53.43	0.35	60.04	297.14
4675.00	1.38	315.03	4674.34	60.47	27.80	-53.86	0.36	60.61	297.30
4700.00	1.40	314.32	4699.33	61.06	28.23	-54.29	0.09	61.19	297.47
4725.00	1.39	313.70	4724.32	61.65	28.65	-54.73	0.06	61.78	297.63
4750.00	1.35	313.37	4749.31	62.24	29.06	-55.17	0.16	62.35	297.78
4775.00	1.38	315.17	4774.31	62.82	29.48	-55.59	0.20	62.92	297.93
4800.00	1.43	316.59	4799.30	63.41	29.92	-56.02	0.27	63.51	298.10
4825.00	1.48	318.01	4824.29	64.02	30.39	-56.45	0.23	64.11	298.29



MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
4850.00	1.43	322.04	4849.28	64.62	30.87	-56.86	0.46	64.70	298.50
4875.00	1.34	328.12	4874.28	65.18	31.36	-57.20	0.69	65.24	298.74
4900.00	1.37	339.87	4899.27	65.67	31.89	-57.46	1.12	65.72	299.03
4925.00	1.42	347.19	4924.26	66.12	32.48	-57.63	0.74	66.15	299.40
4950.00	1.44	345.88	4949.25	66.56	33.08	-57.78	0.14	66.58	299.80
4975.00	1.53	343.75	4974.24	67.03	33.71	-57.95	0.42	67.04	300.19
5000.00	1.55	340.23	4999.24	67.54	34.35	-58.16	0.40	67.54	300.57
5025.00	1.34	333.37	5024.23	68.05	34.93	-58.40	1.12	68.05	300.88
5050.00	1.27	331.96	5049.22	68.53	35.43	-58.66	0.30	68.53	301.13
5060.72	1.47	337.56	5059.93	68.74	35.66	-58.77	2.25	68.74	301.25

