



Gyroscopic Survey Report
for
KPK

Well Location	WELD
Well Name	ALICE PEHR UNIT D #2
Rig Number	
Survey Date	12/18/2014
Latitude	40.0751600°N
Longitude	104.8416600°W
North Reference	True North
Grid Correction	None
Depth Reference	GL (4902.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 309.18Azim (deg)
Definitive Survey	ALICE PEHR UNIT D #2
Operator(s)	T CELLAN

Well Notes

API-05-123-10352

Survey Report

Well Name:		ALICE PEHR UNIT D #2							
Survey:		ALICE PEHR UNIT D #2							
Survey Date:		12/18/2014							
MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS %/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
89.09	0.51	233.88	89.09	0.10	-0.24	-0.32	0.40	233.88	0.58
99.78	0.71	252.16	99.77	0.15	-0.28	-0.42	0.51	236.19	2.53
123.00	0.60	240.21	123.00	0.27	-0.39	-0.67	0.77	239.75	0.73
149.53	0.66	251.31	149.52	0.40	-0.51	-0.93	1.06	241.47	0.52
173.52	0.37	190.62	173.51	0.44	-0.63	-1.08	1.25	239.82	2.42
199.05	0.32	193.47	199.04	0.37	-0.78	-1.11	1.36	235.00	0.19
224.59	0.40	163.09	224.58	0.26	-0.93	-1.10	1.44	229.72	0.80
249.59	0.39	175.34	249.58	0.13	-1.10	-1.07	1.54	224.12	0.34
273.62	0.36	194.88	273.61	0.04	-1.26	-1.08	1.66	220.70	0.55
298.56	0.44	159.60	298.56	-0.07	-1.42	-1.07	1.78	216.91	1.01
323.39	0.41	162.59	323.38	-0.23	-1.60	-1.01	1.89	212.30	0.14
347.37	0.43	179.15	347.36	-0.36	-1.77	-0.98	2.02	209.06	0.51
372.17	0.39	164.21	372.16	-0.48	-1.94	-0.96	2.17	206.26	0.46
396.96	0.41	173.10	396.95	-0.62	-2.11	-0.92	2.31	203.64	0.27
421.03	0.35	171.32	421.02	-0.74	-2.27	-0.90	2.44	201.68	0.27
449.95	0.36	172.76	449.94	-0.87	-2.45	-0.88	2.60	199.75	0.04
474.92	0.47	181.82	474.91	-0.98	-2.63	-0.87	2.77	198.37	0.53
499.03	0.38	178.81	499.02	-1.09	-2.81	-0.87	2.94	197.30	0.39
524.45	0.39	169.56	524.43	-1.21	-2.97	-0.86	3.09	196.07	0.24
549.27	0.37	161.99	549.25	-1.35	-3.13	-0.82	3.24	194.61	0.21
574.20	0.39	159.27	574.18	-1.49	-3.29	-0.76	3.38	193.02	0.11
598.06	0.34	163.68	598.04	-1.62	-3.43	-0.71	3.51	191.71	0.25
622.97	0.36	164.28	622.95	-1.74	-3.58	-0.67	3.64	190.59	0.07
647.86	0.44	179.62	647.84	-1.87	-3.75	-0.65	3.81	189.79	0.54
671.79	0.37	184.83	671.77	-1.97	-3.92	-0.65	3.98	189.46	0.33
696.47	0.41	184.89	696.46	-2.07	-4.09	-0.67	4.14	189.28	0.14
724.63	0.39	183.91	724.62	-2.18	-4.28	-0.68	4.34	189.06	0.07
748.25	0.41	195.89	748.23	-2.26	-4.45	-0.71	4.50	189.09	0.37
772.47	0.46	198.76	772.45	-2.32	-4.62	-0.77	4.68	189.42	0.22
796.87	0.47	205.30	796.85	-2.38	-4.80	-0.84	4.88	189.93	0.23
820.49	0.49	205.10	820.47	-2.43	-4.98	-0.93	5.07	190.52	0.08
848.79	0.59	220.60	848.77	-2.46	-5.20	-1.07	5.31	191.63	0.61
872.97	0.57	213.69	872.95	-2.47	-5.40	-1.22	5.53	192.72	0.29
897.38	0.55	219.95	897.35	-2.48	-5.59	-1.36	5.75	193.69	0.27
921.55	0.60	218.20	921.52	-2.48	-5.78	-1.51	5.97	194.69	0.24



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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS %/100ft
949.81	0.58	219.97	949.78	-2.48	-6.00	-1.70	6.24	195.80	0.11
974.08	0.56	222.71	974.05	-2.47	-6.19	-1.86	6.46	196.72	0.14
998.47	0.61	225.16	998.44	-2.45	-6.37	-2.03	6.68	197.70	0.22
1022.02	0.57	222.03	1021.98	-2.43	-6.54	-2.20	6.90	198.58	0.23
1046.16	0.57	211.36	1046.12	-2.44	-6.73	-2.34	7.13	199.17	0.44
1074.26	0.51	217.15	1074.22	-2.46	-6.95	-2.49	7.38	199.70	0.30
1098.01	0.51	230.41	1097.98	-2.45	-7.10	-2.64	7.58	200.35	0.50
1122.11	0.62	232.53	1122.08	-2.39	-7.25	-2.82	7.78	201.26	0.44
1146.32	0.65	223.48	1146.28	-2.35	-7.43	-3.02	8.02	202.12	0.43
1173.79	0.64	225.03	1173.75	-2.33	-7.65	-3.24	8.31	202.92	0.07
1197.96	0.79	240.40	1197.92	-2.25	-7.83	-3.48	8.57	203.94	0.98
1223.40	0.79	238.78	1223.36	-2.13	-8.01	-3.78	8.85	205.26	0.09
1247.43	0.90	243.90	1247.39	-2.00	-8.18	-4.09	9.14	206.57	0.58
1271.66	0.48	214.30	1271.61	-1.92	-8.35	-4.32	9.40	207.36	2.24
1298.78	0.42	216.90	1298.73	-1.94	-8.52	-4.44	9.61	207.54	0.23
1322.23	0.37	231.44	1322.18	-1.93	-8.64	-4.55	9.76	207.80	0.48
1349.81	0.28	224.28	1349.76	-1.90	-8.74	-4.67	9.91	208.12	0.34
1373.44	0.91	276.88	1373.39	-1.74	-8.76	-4.90	10.04	209.21	3.25
1395.70	0.44	265.93	1395.65	-1.53	-8.74	-5.16	10.15	210.54	2.17
1422.05	0.40	252.63	1422.00	-1.40	-8.78	-5.35	10.28	211.34	0.40
1448.06	0.27	256.56	1448.00	-1.32	-8.82	-5.49	10.39	211.91	0.47
1473.72	0.23	266.60	1473.66	-1.24	-8.84	-5.60	10.46	212.37	0.25
1499.75	0.23	263.14	1499.69	-1.17	-8.85	-5.71	10.53	212.82	0.05
1521.87	0.26	259.01	1521.82	-1.10	-8.86	-5.80	10.59	213.19	0.14
1547.02	0.25	260.68	1546.97	-1.03	-8.88	-5.91	10.67	213.63	0.04
1573.06	0.28	261.28	1573.00	-0.95	-8.90	-6.02	10.75	214.10	0.12
1599.47	0.35	274.14	1599.42	-0.84	-8.90	-6.17	10.83	214.71	0.37
1624.78	0.40	268.23	1624.72	-0.71	-8.90	-6.33	10.92	215.44	0.26
1647.02	0.48	273.89	1646.96	-0.58	-8.90	-6.50	11.02	216.17	0.39
1672.31	0.25	259.39	1672.25	-0.46	-8.90	-6.66	11.12	216.83	0.95
1699.23	0.52	265.39	1699.17	-0.33	-8.92	-6.84	11.24	217.50	0.99
1721.13	0.31	267.61	1721.07	-0.21	-8.93	-7.00	11.35	218.10	0.97
1747.28	0.40	269.22	1747.22	-0.09	-8.94	-7.16	11.45	218.72	0.36
1772.79	0.36	278.46	1772.73	0.05	-8.92	-7.33	11.55	219.41	0.29
1798.73	0.51	280.99	1798.67	0.22	-8.89	-7.53	11.65	220.26	0.59
1824.85	0.41	266.09	1824.79	0.39	-8.87	-7.74	11.77	221.08	0.61

Survey Report

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Survey: ALICE PEHR UNIT D #2
Survey Date: 12/18/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS %/100ft
1845.95	0.46	260.12	1845.89	0.50	-8.89	-7.89	11.89	221.59	0.33
1872.09	0.43	270.58	1872.03	0.65	-8.91	-8.10	12.04	222.25	0.34
1898.34	0.46	275.76	1898.28	0.81	-8.90	-8.30	12.17	223.00	0.21
1920.70	0.39	260.18	1920.63	0.94	-8.90	-8.47	12.29	223.55	0.61
1946.93	0.44	280.17	1946.87	1.08	-8.90	-8.65	12.41	224.19	0.58
1973.19	0.54	280.88	1973.12	1.28	-8.86	-8.87	12.54	225.04	0.37
1998.32	0.43	275.19	1998.26	1.46	-8.83	-9.08	12.67	225.81	0.47
2024.58	0.38	277.52	2024.51	1.62	-8.81	-9.27	12.79	226.45	0.19
2046.44	0.59	273.96	2046.37	1.77	-8.79	-9.45	12.91	227.07	0.94
2073.19	0.53	279.33	2073.12	1.99	-8.76	-9.71	13.08	227.93	0.29
2098.79	0.36	261.64	2098.72	2.15	-8.75	-9.90	13.22	228.52	0.85
2121.08	0.48	273.48	2121.01	2.27	-8.76	-10.06	13.34	228.97	0.69
2147.54	0.59	281.98	2147.46	2.48	-8.72	-10.31	13.51	229.76	0.51
2173.15	0.47	281.72	2173.08	2.69	-8.68	-10.54	13.65	230.55	0.49
2197.78	0.63	280.80	2197.71	2.90	-8.63	-10.77	13.80	231.30	0.64
2223.65	0.71	285.02	2223.58	3.17	-8.56	-11.07	13.99	232.27	0.39
2245.83	0.52	304.20	2245.76	3.40	-8.47	-11.28	14.11	233.11	1.27
2274.79	0.53	283.59	2274.71	3.65	-8.36	-11.52	14.24	234.02	0.65
2296.47	0.81	287.57	2296.39	3.88	-8.29	-11.77	14.40	234.82	1.31
2322.59	0.23	305.22	2322.51	4.11	-8.21	-11.99	14.53	235.60	2.29
2348.22	0.28	290.36	2348.14	4.22	-8.16	-12.09	14.58	235.99	0.33
2373.23	0.33	284.45	2373.15	4.34	-8.12	-12.22	14.67	236.40	0.22
2398.73	0.29	305.09	2398.65	4.47	-8.06	-12.34	14.74	236.85	0.46
2424.36	0.32	308.66	2424.27	4.61	-7.98	-12.45	14.79	237.34	0.12
2449.37	0.44	304.57	2449.29	4.77	-7.88	-12.58	14.85	237.94	0.52
2470.70	0.05	290.05	2470.61	4.86	-7.83	-12.66	14.88	238.26	1.86
2496.22	0.23	352.85	2496.14	4.91	-7.78	-12.67	14.87	238.47	0.83
2521.37	0.16	309.15	2521.29	4.98	-7.70	-12.71	14.86	238.77	0.63
2546.90	0.22	277.74	2546.81	5.06	-7.68	-12.78	14.91	239.02	0.47
2573.40	0.31	328.41	2573.31	5.17	-7.61	-12.87	14.95	239.42	0.91
2598.05	0.10	263.40	2597.97	5.25	-7.55	-12.93	14.97	239.71	1.15
2623.81	0.20	313.47	2623.72	5.31	-7.52	-12.98	15.01	239.91	0.62
2649.57	0.13	291.15	2649.48	5.38	-7.48	-13.05	15.04	240.16	0.38
2674.34	0.07	282.18	2674.25	5.43	-7.47	-13.09	15.07	240.29	0.24
2699.83	0.18	283.87	2699.75	5.48	-7.46	-13.14	15.11	240.43	0.41
2721.64	0.18	292.61	2721.56	5.54	-7.43	-13.20	15.15	240.62	0.12

Survey Report

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS %/100ft
2746.27	0.26	279.48	2746.19	5.62	-7.41	-13.29	15.22	240.86	0.40
2772.64	0.39	297.93	2772.56	5.76	-7.36	-13.43	15.32	241.28	0.62
2798.15	0.46	280.40	2798.07	5.94	-7.30	-13.61	15.44	241.79	0.57
2822.96	0.60	271.75	2822.87	6.13	-7.28	-13.84	15.63	242.25	0.66
2848.11	0.55	291.94	2848.02	6.35	-7.23	-14.08	15.83	242.82	0.83
2873.36	0.46	284.37	2873.27	6.55	-7.16	-14.29	15.98	243.39	0.44
2899.12	0.54	283.02	2899.03	6.76	-7.11	-14.51	16.15	243.90	0.30
2922.81	0.60	289.01	2922.72	6.97	-7.04	-14.73	16.33	244.46	0.38
2948.06	0.51	294.42	2947.96	7.21	-6.95	-14.96	16.50	245.08	0.42
2972.35	0.45	298.97	2972.26	7.41	-6.86	-15.15	16.63	245.63	0.30
2997.65	0.48	296.87	2997.56	7.61	-6.76	-15.33	16.75	246.19	0.13
3022.90	0.44	314.06	3022.80	7.81	-6.65	-15.49	16.86	246.78	0.57
3048.66	0.58	318.12	3048.56	8.04	-6.48	-15.65	16.94	247.51	0.56
3073.10	0.59	328.51	3073.01	8.28	-6.28	-15.80	17.00	248.32	0.43
3098.13	0.65	344.00	3098.03	8.52	-6.04	-15.91	17.01	249.22	0.71
3124.12	0.72	331.80	3124.02	8.79	-5.75	-16.02	17.02	250.26	0.62
3148.88	0.78	333.10	3148.78	9.09	-5.46	-16.17	17.07	251.34	0.26
3173.56	0.69	336.26	3173.46	9.37	-5.18	-16.31	17.11	252.39	0.40
3198.68	1.02	341.40	3198.57	9.70	-4.83	-16.44	17.14	253.64	1.33
3223.67	0.95	337.31	3223.56	10.07	-4.42	-16.59	17.17	255.07	0.39
3248.91	0.94	343.48	3248.79	10.42	-4.03	-16.73	17.21	256.45	0.40
3273.28	0.90	337.23	3273.16	10.76	-3.66	-16.86	17.26	257.74	0.45
3298.25	0.95	342.62	3298.13	11.10	-3.29	-17.00	17.32	259.06	0.39
3322.74	0.95	336.53	3322.61	11.45	-2.91	-17.14	17.39	260.38	0.41
3347.84	0.92	347.13	3347.71	11.80	-2.52	-17.27	17.45	261.71	0.70
3373.54	0.78	350.67	3373.41	12.09	-2.14	-17.34	17.48	262.96	0.57
3398.03	0.88	358.48	3397.90	12.34	-1.79	-17.38	17.47	264.11	0.60
3423.74	0.72	6.14	3423.60	12.55	-1.43	-17.36	17.42	265.28	0.73
3448.71	0.83	10.47	3448.57	12.73	-1.10	-17.32	17.35	266.36	0.49
3473.90	0.72	16.78	3473.76	12.87	-0.77	-17.24	17.25	267.45	0.54
3498.20	0.71	24.71	3498.06	12.97	-0.49	-17.13	17.14	268.38	0.41
3522.66	0.82	19.70	3522.51	13.07	-0.18	-17.01	17.01	269.38	0.53
3547.34	0.74	15.44	3547.19	13.19	0.14	-16.90	16.91	270.47	0.40
3571.22	0.66	17.23	3571.08	13.30	0.42	-16.82	16.83	271.42	0.35
3599.84	0.76	9.34	3599.69	13.46	0.76	-16.74	16.76	272.61	0.49
3624.20	0.72	359.65	3624.05	13.64	1.08	-16.72	16.75	273.68	0.54

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3649.03	0.67	14.09	3648.87	13.80	1.37	-16.68	16.74	274.71	0.74
3672.90	0.71	18.15	3672.74	13.91	1.65	-16.60	16.69	275.67	0.28
3697.36	0.84	2.89	3697.20	14.07	1.97	-16.55	16.66	276.80	0.99
3722.66	0.61	8.39	3722.50	14.25	2.29	-16.52	16.68	277.90	0.93
3748.06	0.72	0.13	3747.90	14.42	2.59	-16.50	16.70	278.91	0.57
3771.47	0.58	355.77	3771.31	14.60	2.85	-16.51	16.75	279.80	0.64
3797.00	0.64	346.89	3796.83	14.80	3.12	-16.55	16.84	280.67	0.43
3821.70	0.57	342.91	3821.53	15.01	3.37	-16.62	16.95	281.46	0.31
3845.45	0.68	348.81	3845.28	15.22	3.62	-16.68	17.07	282.25	0.54
3873.92	0.62	351.33	3873.75	15.46	3.94	-16.73	17.19	283.25	0.24
3898.62	0.66	343.79	3898.45	15.68	4.21	-16.79	17.31	284.07	0.38
3923.31	0.59	358.78	3923.14	15.88	4.47	-16.84	17.42	284.88	0.73
3946.81	0.63	356.59	3946.64	16.04	4.72	-16.85	17.50	285.66	0.22
3971.61	0.65	10.50	3971.43	16.20	5.00	-16.83	17.56	286.54	0.63
3996.28	0.59	7.70	3996.10	16.34	5.26	-16.79	17.59	287.40	0.29
4024.00	0.66	9.89	4023.83	16.49	5.56	-16.74	17.64	288.37	0.26
4048.41	0.66	19.99	4048.23	16.60	5.83	-16.67	17.66	289.28	0.48
4073.05	0.68	8.59	4072.87	16.72	6.11	-16.60	17.69	290.20	0.55
4096.85	0.67	22.49	4096.67	16.84	6.38	-16.52	17.71	291.10	0.69
4121.26	0.61	4.55	4121.07	16.95	6.64	-16.46	17.75	291.97	0.86
4149.78	0.62	11.27	4149.60	17.11	6.94	-16.42	17.82	292.92	0.26
4174.26	0.59	21.43	4174.08	17.21	7.19	-16.34	17.86	293.75	0.45
4197.61	0.65	32.68	4197.42	17.26	7.41	-16.23	17.84	294.56	0.58
4221.42	0.56	22.73	4221.23	17.31	7.64	-16.11	17.83	295.36	0.58
4249.49	0.63	13.90	4249.30	17.42	7.91	-16.02	17.87	296.29	0.39
4274.21	0.63	17.14	4274.02	17.52	8.17	-15.95	17.92	297.14	0.14
4297.44	0.67	15.84	4297.25	17.63	8.43	-15.87	17.97	297.96	0.21
4321.47	0.63	26.94	4321.27	17.71	8.68	-15.77	18.00	298.82	0.56
4345.61	0.57	33.23	4345.42	17.75	8.90	-15.65	18.00	299.62	0.37
4374.85	0.59	26.28	4374.65	17.80	9.15	-15.50	18.00	300.56	0.25
4398.29	0.42	25.08	4398.09	17.85	9.34	-15.41	18.02	301.21	0.71
4422.06	0.52	39.53	4421.86	17.87	9.50	-15.31	18.02	301.83	0.63
4446.64	0.45	23.80	4446.43	17.89	9.67	-15.20	18.02	302.48	0.60
4472.23	0.36	20.02	4472.03	17.95	9.84	-15.13	18.05	303.05	0.39
4496.26	0.50	29.30	4496.06	17.99	10.00	-15.05	18.07	303.61	0.65
4524.98	0.61	10.12	4524.77	18.08	10.26	-14.96	18.15	304.44	0.75



Well Name: ALICE PEHR UNIT D #2

Survey: ALICE PEHR UNIT D #2

Survey Date: 12/18/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS °/100ft
4549.85	0.43	0.75	4549.65	18.21	10.49	-14.94	18.25	305.07	0.79
4570.23	0.57	354.75	4570.02	18.33	10.67	-14.95	18.36	305.51	0.73
4599.27	0.22	44.20	4599.07	18.42	10.85	-14.92	18.45	306.03	1.59
4624.12	0.37	34.24	4623.92	18.43	10.95	-14.84	18.45	306.42	0.62
4648.59	0.60	331.20	4648.38	18.55	11.13	-14.86	18.57	306.83	2.24
4671.93	0.61	5.22	4671.72	18.74	11.36	-14.91	18.75	307.32	1.53
4697.06	0.47	22.13	4696.85	18.84	11.59	-14.86	18.85	307.97	0.85
4724.03	0.55	70.06	4723.82	18.81	11.74	-14.70	18.81	308.62	1.56
4748.45	0.22	54.71	4748.24	18.74	11.81	-14.55	18.74	309.07	1.38
4758.92	0.22	11.97	4758.70	18.74	11.84	-14.53	18.74	309.18	1.54