

Deviation Summary

PICEANCE HL

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	
Address	

1.2 Well/Wellbore Information

Well	AP 524-17-695	Wellbore No.	00
Wellbore Legal Name	AP 524-17-695	Common Wellbore Name	AP 524-17-695
Project	AP 20-06S-095W	Site	AP 21-20-695 Pad
Vertical Section Azimuth	314.98 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	8/3/2014	UWI	AP 524-17-695
Active datum	KB @6,935.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	8/3/2014	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	0.00	0.00	0.00	0.00

2.1.2 Survey Stations

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
8/3/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/3/2014	NORMAL	73.0	0.26	156.27	73.00	-0.15	0.07	-0.15	0.36	0.36	0.00	156.27
	NORMAL	104.0	0.18	240.73	104.00	-0.24	0.05	-0.21	0.97	-0.26	272.45	143.56
	NORMAL	134.0	0.70	325.46	134.00	-0.11	-0.09	-0.01	2.36	1.73	282.43	99.42
	NORMAL	164.0	0.70	303.05	164.00	0.14	-0.35	0.35	0.91	0.00	-74.70	258.80
	NORMAL	195.0	1.32	317.72	194.99	0.51	-0.75	0.89	2.15	2.00	47.32	30.09
	NORMAL	225.0	1.41	300.32	224.98	0.95	-1.30	1.59	1.41	0.30	-58.00	273.46
	NORMAL	255.0	2.11	301.55	254.97	1.42	-2.09	2.48	2.34	2.33	4.10	3.70
	NORMAL	285.0	2.55	308.06	284.94	2.12	-3.09	3.68	1.71	1.47	21.70	34.31
	NORMAL	345.0	2.82	318.43	344.88	4.05	-5.12	6.48	0.92	0.45	17.28	66.18
	NORMAL	436.0	2.20	322.38	435.79	7.11	-7.67	10.45	0.71	-0.68	4.34	166.38
8/4/2014	NORMAL	509.0	2.99	328.12	508.72	9.84	-9.53	13.69	1.14	1.08	7.86	21.09
	NORMAL	599.0	3.52	326.28	598.57	14.13	-12.30	18.69	0.60	0.59	-2.04	347.93
	NORMAL	690.0	3.74	314.59	689.39	18.53	-15.97	24.40	0.85	0.24	-12.85	280.67
	NORMAL	781.0	4.48	313.62	780.16	23.07	-20.65	30.92	0.82	0.81	-1.07	354.15
	NORMAL	871.0	4.84	311.95	869.86	28.03	-26.02	38.22	0.43	0.40	-1.85	338.56
	NORMAL	962.0	5.28	306.06	960.50	33.06	-32.26	46.19	0.75	0.48	-6.48	307.28
	NORMAL	1,058.0	4.62	317.58	1,056.15	38.52	-38.44	54.42	1.24	-0.69	12.00	129.23
	NORMAL	1,153.0	5.10	313.97	1,150.81	44.27	-44.06	62.46	0.60	0.51	-3.80	325.69
	NORMAL	1,249.0	4.75	321.18	1,246.45	50.33	-49.62	70.68	0.74	-0.36	7.51	123.04
	NORMAL	1,344.0	5.28	317.23	1,341.09	56.61	-55.06	78.96	0.67	0.56	-4.16	324.94

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (")	Azl. (")	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS ("/100usft)	Build Rate ("/100usft)	Turn ("/100usft)	Tface (")
8/4/2014	NORMAL	1,440.0	4.97	319.69	1,436.71	63.02	-60.75	87.52	0.40	-0.32	2.56	145.89
	NORMAL	1,536.0	5.89	318.02	1,532.27	69.85	-66.73	96.58	0.97	0.96	-1.74	349.42
8/5/2014	NORMAL	1,631.0	4.48	310.81	1,626.88	75.90	-72.80	105.15	1.63	-1.48	-7.59	201.24
	NORMAL	1,731.0	3.60	305.89	1,726.64	80.30	-78.30	112.14	0.95	-0.88	-4.92	199.06
	NORMAL	1,826.0	2.77	303.78	1,821.49	83.32	-82.62	117.34	0.88	-0.87	-2.22	186.99
	NORMAL	1,922.0	3.08	308.35	1,917.36	86.21	-86.57	122.18	0.40	0.32	4.76	39.25
	NORMAL	2,017.0	2.99	312.74	2,012.23	89.48	-90.40	127.19	0.26	-0.09	4.62	113.35
	NORMAL	2,111.0	2.68	326.72	2,106.12	92.98	-93.40	131.79	0.80	-0.33	14.87	121.02
	NORMAL	2,207.0	2.90	328.48	2,202.00	96.92	-95.90	136.35	0.25	0.23	1.83	22.16
	NORMAL	2,301.0	3.12	317.14	2,295.87	100.83	-98.89	141.22	0.67	0.23	-12.06	284.55
	NORMAL	2,396.0	3.43	316.44	2,390.72	104.78	-102.60	146.64	0.33	0.33	-0.74	352.30
	NORMAL	2,492.0	3.82	311.95	2,486.53	109.00	-106.96	152.71	0.50	0.41	-4.68	321.69
8/7/2014	NORMAL	2,580.0	3.96	310.02	2,574.32	112.91	-111.47	158.66	0.22	0.16	-2.19	315.95
	NORMAL	2,677.0	3.30	305.98	2,671.13	116.71	-116.29	164.76	0.73	-0.68	-4.16	199.18
	NORMAL	2,774.0	3.12	309.49	2,767.98	120.03	-120.59	170.14	0.27	-0.19	3.62	134.23
	NORMAL	2,870.0	3.25	306.50	2,863.83	123.31	-124.79	175.43	0.22	0.14	-3.11	306.55
	NORMAL	2,967.0	2.02	304.57	2,960.73	125.91	-128.41	179.83	1.27	-1.27	-1.99	183.16
	NORMAL	3,063.0	1.71	321.80	3,056.68	128.00	-130.69	182.92	0.66	-0.32	17.95	127.36
	NORMAL	3,160.0	2.46	326.45	3,153.61	130.87	-132.74	186.40	0.79	0.77	4.79	15.04
	NORMAL	3,256.0	2.02	320.57	3,249.54	133.89	-134.95	190.10	0.52	-0.46	-6.12	204.66
	NORMAL	3,353.0	2.11	316.35	3,346.48	136.51	-137.27	193.59	0.18	0.09	-4.35	298.50
	NORMAL	3,450.0	1.67	313.27	3,443.42	138.77	-139.53	196.78	0.47	-0.45	-3.18	191.46
	NORMAL	3,546.0	2.59	318.98	3,539.36	141.36	-141.97	200.35	0.98	0.96	5.95	15.85
	NORMAL	3,643.0	2.11	313.62	3,636.27	144.25	-144.70	204.32	0.54	-0.49	-5.53	201.94
	NORMAL	3,739.0	2.86	328.74	3,732.18	147.51	-147.22	208.41	1.03	0.78	15.75	48.88
	NORMAL	3,835.0	2.46	328.04	3,828.08	151.31	-149.56	212.74	0.42	-0.42	-0.73	184.29
	NORMAL	3,932.0	2.42	321.97	3,924.99	154.69	-151.92	216.81	0.27	-0.04	-6.26	258.18
	NORMAL	4,028.0	2.29	320.48	4,020.91	157.76	-154.39	220.73	0.15	-0.14	-1.55	204.48
	NORMAL	4,125.0	1.01	318.54	4,117.87	159.90	-156.19	223.51	1.32	-1.32	-2.00	181.53
8/8/2014	NORMAL	4,221.0	3.43	320.13	4,213.79	162.74	-158.59	227.21	2.52	2.52	1.66	2.25
	NORMAL	4,318.0	3.25	315.91	4,310.63	166.94	-162.36	232.85	0.31	-0.19	-4.35	231.70
	NORMAL	4,412.0	2.94	313.45	4,404.49	170.51	-165.97	237.93	0.36	-0.33	-2.62	201.97
	NORMAL	4,507.0	2.90	308.44	4,499.37	173.68	-169.62	242.75	0.27	-0.04	-5.27	258.60
	NORMAL	4,603.0	2.59	309.49	4,595.26	176.57	-173.20	247.32	0.33	-0.32	1.09	171.31
	NORMAL	4,699.0	2.73	305.89	4,691.15	179.29	-176.72	251.74	0.23	0.15	-3.75	308.15
	NORMAL	4,794.0	2.77	294.55	4,786.04	181.57	-180.64	256.12	0.57	0.04	-11.94	268.53
	NORMAL	4,889.0	2.64	311.51	4,880.94	183.97	-184.37	260.46	0.85	-0.14	17.85	107.63
	NORMAL	4,985.0	2.64	311.60	4,976.84	186.91	-187.68	264.87	0.00	0.00	0.09	90.04
	NORMAL	5,079.0	2.46	305.10	5,070.75	189.51	-190.95	269.02	0.36	-0.19	-6.91	234.88
	NORMAL	5,174.0	2.50	300.53	5,165.66	191.73	-194.40	273.04	0.21	0.04	-4.81	279.15
	NORMAL	5,270.0	2.77	321.53	5,261.56	194.61	-197.65	277.37	1.04	0.28	21.88	85.03
	NORMAL	5,365.0	2.73	319.51	5,356.45	198.13	-200.54	281.90	0.11	-0.04	-2.13	246.57
	NORMAL	5,461.0	2.50	316.00	5,452.35	201.37	-203.48	286.28	0.29	-0.24	-3.66	213.10
	NORMAL	5,557.0	2.29	314.15	5,548.27	204.21	-206.31	290.29	0.23	-0.22	-1.93	199.29
	NORMAL	5,652.0	2.42	305.62	5,643.19	206.70	-209.31	294.16	0.39	0.14	-8.98	286.05
	NORMAL	5,748.0	2.50	301.49	5,739.10	208.98	-212.74	298.20	0.20	0.08	-4.30	292.22
	NORMAL	5,843.0	2.20	297.89	5,834.02	210.91	-216.12	301.96	0.35	-0.32	-3.79	204.41
	NORMAL	5,939.0	2.11	299.30	5,929.95	212.64	-219.29	305.42	0.11	-0.09	1.47	150.20
	NORMAL	6,034.0	2.20	313.89	6,024.88	214.76	-222.13	308.93	0.58	0.09	15.36	88.02
	NORMAL	6,130.0	2.94	332.17	6,120.79	218.22	-224.60	313.12	1.14	0.77	19.04	57.30
8/9/2014	NORMAL	6,226.0	2.81	338.94	6,216.67	222.59	-226.60	317.62	0.38	-0.14	7.05	114.31
	NORMAL	6,321.0	3.34	1.61	6,311.53	227.53	-227.36	321.65	1.38	0.56	23.86	78.05
	NORMAL	6,416.0	3.12	1.00	6,406.38	232.88	-227.23	325.35	0.23	-0.23	-0.64	188.57
	NORMAL	6,512.0	2.59	359.50	6,502.26	237.66	-227.21	328.71	0.56	-0.55	-1.56	187.28
	NORMAL	6,607.0	2.24	350.89	6,597.18	241.64	-227.52	331.74	0.53	-0.37	-9.06	221.78
	NORMAL	6,702.0	1.45	9.43	6,692.13	244.66	-227.62	333.95	1.03	-0.83	19.52	151.95

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (")	Azi. (")	TVD (ft)	N/S (ft)	EW (ft)	V. sec. (ft)	DLS ("/100usft)	Build Rate ("/100usft)	Turn ("/100usft)	Tface (")
8/9/2014	NORMAL	6,796.0	1.23	2.75	6,786.11	246.84	-227.37	335.32	0.29	-0.23	-7.11	212.07
	NORMAL	6,890.0	0.61	337.79	6,880.09	248.31	-227.52	336.46	0.77	-0.66	-26.55	200.82
8/10/2014	NORMAL	6,956.0	0.57	301.76	6,946.09	248.81	-227.93	337.10	0.56	-0.06	-54.59	246.04
	NORMAL	7,051.0	0.75	341.48	7,041.09	249.65	-228.53	338.11	0.50	0.19	41.81	89.18
	NORMAL	7,147.0	0.88	21.74	7,137.08	250.93	-228.45	338.97	0.60	0.14	41.94	97.85
	NORMAL	7,242.0	0.35	7.76	7,232.07	251.89	-228.14	339.43	0.58	-0.56	-14.72	188.89
	NORMAL	7,338.0	0.83	51.97	7,328.07	252.61	-227.56	339.52	0.65	0.50	46.05	67.06
	NORMAL	7,433.0	1.71	31.49	7,423.04	254.24	-226.27	339.77	1.03	0.93	-21.56	322.23
	NORMAL	7,528.0	1.41	23.14	7,518.01	256.53	-225.07	340.54	0.40	-0.32	-8.79	213.03
	NORMAL	7,623.0	0.88	15.15	7,612.99	258.31	-224.42	341.33	0.58	-0.56	-8.41	192.80
	NORMAL	7,719.0	0.31	317.66	7,708.98	259.21	-224.41	341.96	0.79	-0.59	-59.89	200.13
8/11/2014	NORMAL	7,814.0	0.40	46.26	7,803.98	259.63	-224.34	342.21	0.53	0.09	93.26	126.90
	NORMAL	7,909.0	0.04	302.99	7,898.98	259.88	-224.13	342.23	0.43	-0.38	-108.71	185.44
	NORMAL	8,004.0	0.53	76.23	7,993.98	260.00	-223.73	342.04	0.59	0.52	140.25	136.23
	NORMAL	8,099.0	0.40	132.04	8,088.98	259.88	-223.06	341.48	0.47	-0.14	58.75	132.69
	NORMAL	8,194.0	0.75	199.28	8,183.97	259.07	-223.02	340.88	0.74	0.37	70.78	99.02
	NORMAL	8,289.0	0.35	106.64	8,278.97	258.40	-222.94	340.35	0.89	-0.42	-97.52	204.53
	NORMAL	8,384.0	0.57	161.66	8,373.97	257.87	-222.52	339.68	0.49	0.23	57.92	92.85
	NORMAL	8,479.0	1.50	178.97	8,468.95	256.18	-222.34	338.36	1.02	0.98	18.22	27.37
	NORMAL	8,574.0	1.41	173.09	8,563.92	253.78	-222.18	336.55	0.18	-0.09	-6.19	236.00
	NORMAL	8,669.0	1.41	163.68	8,658.89	251.49	-221.71	334.60	0.24	0.00	-9.91	265.30
	NORMAL	8,765.0	2.02	183.54	8,754.85	248.67	-221.49	332.44	0.88	0.64	20.69	54.47
	NORMAL	8,861.0	2.64	200.77	8,850.77	244.92	-222.37	330.42	0.97	0.65	17.95	57.31
8/12/2014	NORMAL	8,956.0	3.30	215.19	8,945.65	240.64	-224.73	328.06	1.04	0.69	15.18	55.90
	NORMAL	9,051.0	4.22	211.93	9,040.44	235.43	-228.15	327.80	0.99	0.97	-3.43	345.29
	NORMAL	9,147.0	4.44	223.80	9,136.17	229.75	-232.59	326.93	0.96	0.23	12.36	82.17
	NORMAL	9,242.0	5.14	224.77	9,230.84	224.08	-238.13	326.84	0.74	0.74	1.02	7.08
	NORMAL	9,338.0	5.36	224.24	9,326.43	217.81	-244.29	326.76	0.23	0.23	-0.55	347.30
	NORMAL	9,433.0	5.71	226.17	9,420.99	211.36	-250.79	326.80	0.42	0.37	2.03	28.97
	NORMAL	9,465.0	5.54	226.26	9,452.84	209.19	-253.06	326.87	0.53	-0.53	0.28	177.07
	NORMAL	9,515.0	5.54	226.26	9,502.60	205.85	-256.55	326.98	0.00	0.00	0.00	0.00