

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	NER 34-32	Wellbore No.	00
Wellbore Legal Name	NER 34-32	Common Wellbore Name	NER 34-32
Project	RU 05-07S-093W	Site	RU 23-5 Pad
Vertical Section Azimuth	29.38 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	6/29/2014	UWI	NER 34-32
Active datum	KB @7,627.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	6/29/2014	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 (°)
6/29/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/29/2014	NORMAL	92.0	0.79	104.25	92.00	-0.16	0.61	0.17	0.86	0.86	0.00	104.25
	NORMAL	177.0	2.11	64.07	176.97	0.38	2.59	1.61	1.87	1.55	-47.27	301.13
6/30/2014	NORMAL	267.0	2.82	27.77	266.89	3.07	5.11	5.18	1.86	0.79	-40.33	275.59
	NORMAL	359.0	3.08	23.29	358.77	7.34	7.14	9.90	0.38	0.28	-4.87	316.18
	NORMAL	451.0	3.96	19.42	450.59	12.61	9.18	15.49	0.99	0.96	-4.21	342.95
	NORMAL	525.0	2.95	42.03	524.46	16.43	11.30	19.86	2.27	-1.36	30.55	137.47
	NORMAL	617.0	3.24	38.40	616.33	20.23	14.50	24.74	0.38	0.32	-3.95	324.13
	NORMAL	709.0	3.20	34.88	708.18	24.37	17.58	29.86	0.22	-0.04	-3.83	256.81
	NORMAL	800.0	3.31	33.58	799.04	28.64	20.49	35.01	0.15	0.12	-1.43	325.49
	NORMAL	891.0	3.19	25.94	889.89	33.11	23.05	40.16	0.49	-0.13	-8.40	250.72
	NORMAL	982.0	3.41	19.30	980.74	37.94	25.05	45.35	0.48	0.24	-7.30	296.58
	NORMAL	1,088.0	2.67	40.80	1,086.59	42.78	27.71	50.88	1.27	-0.70	20.28	133.41
7/1/2014	NORMAL	1,168.0	2.35	33.54	1,166.52	45.56	29.83	54.34	0.56	-0.40	-9.08	221.23
	NORMAL	1,264.0	3.14	33.46	1,262.41	49.40	32.37	58.92	0.82	0.82	-0.08	359.68
	NORMAL	1,359.0	5.54	25.84	1,357.13	55.69	35.80	66.10	2.59	2.53	-8.02	342.67
	NORMAL	1,454.0	9.34	19.59	1,451.31	67.09	40.39	78.27	4.08	4.00	-6.58	344.86
	NORMAL	1,549.0	13.34	28.67	1,544.45	83.98	48.23	96.84	4.60	4.21	9.56	28.56
	NORMAL	1,649.0	13.41	26.82	1,641.73	104.45	59.00	119.96	0.43	0.07	-1.85	278.39
	NORMAL	1,739.0	13.59	30.48	1,729.25	122.87	69.07	140.96	0.97	0.20	4.07	79.89
	NORMAL	1,834.0	13.24	32.52	1,821.66	141.67	80.58	162.98	0.62	-0.37	2.15	127.47

2.1.2 Survey Stations (Continued)

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 (°)
7/1/2014	NORMAL	1,929.0	13.53	28.96	1,914.08	160.56	91.81	184.95	0.92	0.31	-3.75	287.65
	NORMAL	2,025.0	13.10	29.30	2,007.50	179.88	102.57	207.06	0.46	-0.45	0.35	169.84
	NORMAL	2,121.0	14.12	28.91	2,100.80	199.61	113.56	229.65	1.07	1.06	-0.41	354.67
	NORMAL	2,216.0	13.91	29.85	2,192.97	219.66	124.85	252.66	0.33	-0.22	0.99	133.15
	NORMAL	2,310.0	13.52	30.82	2,284.29	238.90	136.10	274.94	0.48	-0.41	1.03	149.94
	NORMAL	2,406.0	13.95	30.13	2,377.55	258.54	147.66	297.73	0.48	0.45	-0.72	338.81
	NORMAL	2,502.0	15.45	28.05	2,470.40	279.84	159.48	322.09	1.66	1.56	-2.17	339.61
	NORMAL	2,596.0	15.47	27.56	2,561.00	302.00	171.17	347.13	0.14	0.02	-0.52	278.47
	NORMAL	2,692.0	15.15	27.57	2,653.59	324.47	182.90	372.47	0.33	-0.33	0.01	179.53
	NORMAL	2,788.0	14.68	27.17	2,746.36	346.41	194.26	397.16	0.50	-0.49	-0.42	192.16
	NORMAL	2,883.0	14.06	27.35	2,838.39	367.37	205.06	420.72	0.65	-0.85	0.19	175.97
7/2/2014	NORMAL	2,978.0	13.30	26.18	2,930.69	387.43	215.18	443.17	0.85	-0.80	-1.23	199.44
	NORMAL	3,074.0	14.49	26.90	3,023.88	408.05	225.49	466.19	1.25	1.24	0.75	8.62
	NORMAL	3,170.0	14.57	30.10	3,116.81	429.21	236.97	490.27	0.84	0.08	3.33	85.86
	NORMAL	3,265.0	14.12	28.71	3,208.85	449.71	248.53	513.80	0.60	-0.47	-1.46	216.76
	NORMAL	3,360.0	13.92	29.08	3,301.02	469.86	259.65	536.81	0.23	-0.21	0.39	156.04
	NORMAL	3,455.0	13.89	28.77	3,393.24	489.84	270.70	559.64	0.08	-0.03	-0.33	247.91
	NORMAL	3,551.0	13.79	27.46	3,486.45	510.09	281.52	582.60	0.34	-0.10	-1.36	251.67
	NORMAL	3,646.0	13.97	30.48	3,578.68	530.02	292.56	605.38	0.79	0.19	3.18	77.52
	NORMAL	3,739.0	13.43	30.06	3,669.03	549.04	303.66	627.40	0.59	-0.58	-0.45	190.23
	NORMAL	3,835.0	12.78	29.60	3,762.53	567.93	314.49	649.17	0.69	-0.68	-0.48	188.89
	NORMAL	3,929.0	13.75	30.05	3,854.02	586.64	325.22	670.74	1.04	1.03	0.48	6.30
	NORMAL	4,024.0	13.40	29.47	3,946.37	605.99	336.29	693.04	0.40	-0.37	-0.61	200.97
	NORMAL	4,119.0	14.47	28.16	4,038.57	626.04	347.31	715.91	1.17	1.13	-1.38	342.94
	NORMAL	4,214.0	14.43	27.66	4,130.56	646.99	358.40	739.61	0.14	-0.04	-0.53	251.98
	NORMAL	4,309.0	15.00	31.08	4,222.45	668.00	370.24	763.73	1.09	0.60	3.60	58.39
	NORMAL	4,404.0	14.65	31.79	4,314.29	688.74	382.92	788.02	0.42	-0.37	0.75	152.91
	NORMAL	4,499.0	14.11	31.23	4,406.31	708.86	395.25	811.60	0.59	-0.57	-0.59	194.17
	NORMAL	4,594.0	13.51	30.92	4,498.56	728.28	406.96	834.26	0.64	-0.63	-0.33	186.88
	NORMAL	4,689.0	14.59	28.99	4,590.72	748.26	418.46	857.32	1.24	1.14	-2.03	335.61
	NORMAL	4,784.0	14.14	29.42	4,682.75	768.84	429.96	880.89	0.49	-0.47	0.45	166.87
	NORMAL	4,880.0	13.76	28.07	4,775.92	789.13	441.09	904.03	0.52	-0.40	-1.41	219.92
	NORMAL	4,975.0	14.90	27.01	4,867.96	809.98	451.95	927.53	1.23	1.20	-1.12	346.53
	NORMAL	5,071.0	14.60	25.95	4,960.80	831.85	462.85	951.94	0.42	-0.31	-1.10	221.46
	NORMAL	5,166.0	14.94	28.98	5,052.66	853.33	474.03	976.14	0.89	0.36	3.19	67.71
	NORMAL	5,262.0	14.38	29.35	5,145.54	874.55	485.86	1,000.43	0.59	-0.58	0.39	170.69
7/3/2014	NORMAL	5,358.0	13.88	27.83	5,238.63	895.12	497.08	1,023.87	0.65	-0.52	-1.58	215.85
	NORMAL	5,453.0	14.71	30.66	5,330.69	915.58	508.55	1,047.32	1.14	0.87	2.98	41.47
	NORMAL	5,549.0	14.25	30.35	5,423.64	936.26	520.74	1,071.31	0.49	-0.48	-0.32	189.41
	NORMAL	5,643.0	13.86	32.12	5,514.83	955.78	532.57	1,094.13	0.62	-0.41	1.88	133.07
	NORMAL	5,739.0	13.44	32.76	5,608.11	974.90	544.72	1,116.75	0.46	-0.44	0.67	160.53
	NORMAL	5,835.0	12.79	31.85	5,701.61	993.30	556.37	1,138.50	0.71	-0.68	-0.95	197.18
7/4/2014	NORMAL	5,930.0	13.96	30.23	5,794.03	1,012.14	567.69	1,160.47	1.29	1.23	-1.71	341.45
	NORMAL	6,025.0	13.70	31.13	5,886.28	1,031.67	579.27	1,183.17	0.36	-0.27	0.95	140.83
	NORMAL	6,121.0	14.18	27.82	5,979.45	1,051.80	590.64	1,206.29	0.97	0.50	-3.45	299.43
	NORMAL	6,216.0	14.14	28.19	6,071.57	1,072.32	601.55	1,229.52	0.10	-0.04	0.39	114.02
	NORMAL	6,312.0	13.74	28.71	6,164.74	1,092.65	612.56	1,252.65	0.44	-0.42	0.54	162.86
	NORMAL	6,408.0	13.17	29.11	6,258.10	1,112.21	623.36	1,274.98	0.60	-0.59	0.42	170.92
	NORMAL	6,503.0	12.80	29.13	6,350.67	1,130.86	633.75	1,298.33	0.39	-0.39	0.02	179.31
	NORMAL	6,599.0	12.61	29.30	6,444.32	1,149.28	644.05	1,317.44	0.20	-0.20	0.18	168.95
	NORMAL	6,695.0	11.34	34.74	6,538.23	1,166.18	654.56	1,337.32	1.77	-1.32	5.67	141.01
7/5/2014	NORMAL	6,791.0	10.14	38.36	6,632.55	1,180.56	665.19	1,355.06	1.43	-1.25	3.77	152.43
	NORMAL	6,886.0	8.86	38.59	6,726.25	1,192.84	674.94	1,370.55	1.35	-1.35	0.24	178.41
	NORMAL	6,981.0	8.54	37.48	6,820.15	1,204.15	683.79	1,384.75	0.38	-0.34	-1.17	207.14
	NORMAL	7,076.0	7.84	42.02	6,914.19	1,214.57	692.42	1,398.06	1.00	-0.74	4.78	139.50
	NORMAL	7,172.0	7.17	43.04	7,009.36	1,223.81	700.90	1,410.27	0.71	-0.70	1.06	169.26

2.1.2 Survey Stations (Continued)

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 (°)
7/5/2014	NORMAL	7,267.0	5.77	45.27	7,103.76	1,231.50	708.33	1,420.62	1.50	-1.47	2.35	170.93
	NORMAL	7,363.0	4.60	45.17	7,199.36	1,237.61	714.49	1,428.97	1.22	-1.22	-0.10	180.39
	NORMAL	7,458.0	3.88	49.22	7,294.10	1,242.40	719.63	1,435.66	0.82	-0.76	4.26	159.43
7/6/2014	NORMAL	7,553.0	2.73	49.96	7,388.94	1,245.85	723.80	1,440.80	1.21	-1.21	0.78	178.24
	NORMAL	7,649.0	1.87	63.87	7,484.86	1,248.11	726.95	1,444.23	1.06	-0.90	14.49	153.83
	NORMAL	7,744.0	1.06	68.03	7,579.83	1,249.13	729.16	1,446.19	0.86	-0.85	4.38	174.60
	NORMAL	7,839.0	0.45	94.16	7,674.82	1,249.43	730.35	1,447.04	0.72	-0.64	27.51	163.19
	NORMAL	7,934.0	0.18	201.47	7,769.82	1,249.26	730.66	1,447.05	0.56	-0.28	112.96	161.16
	NORMAL	8,029.0	1.33	258.22	7,864.81	1,248.90	729.53	1,446.18	1.31	1.21	59.74	63.72
	NORMAL	8,125.0	1.12	299.83	7,960.79	1,249.14	727.62	1,445.45	0.93	-0.22	43.34	123.51
	NORMAL	8,220.0	1.21	273.30	8,055.77	1,249.66	725.82	1,445.02	0.57	0.09	-27.93	266.04
7/7/2014	NORMAL	8,316.0	0.44	350.36	8,151.77	1,250.08	724.74	1,444.86	1.24	-0.80	80.27	158.90
	NORMAL	8,411.0	0.61	1.63	8,246.76	1,250.94	724.70	1,445.59	0.21	0.18	11.86	38.99
	NORMAL	8,507.0	1.78	9.23	8,342.74	1,252.93	724.95	1,447.44	1.23	1.22	7.92	11.53
	NORMAL	8,602.0	1.28	15.04	8,437.70	1,255.41	725.46	1,449.85	0.55	-0.53	6.12	165.65
	NORMAL	8,695.0	0.70	37.00	8,530.69	1,256.86	726.07	1,451.42	0.73	-0.62	23.61	157.46
	NORMAL	8,789.0	0.76	344.64	8,624.68	1,257.92	726.25	1,452.44	0.69	0.06	-55.70	248.60
	NORMAL	8,883.0	0.20	183.62	8,718.68	1,258.36	726.08	1,452.73	1.01	-0.60	-171.30	183.92
	NORMAL	8,978.0	0.36	216.56	8,813.68	1,257.96	725.89	1,452.29	0.23	0.17	34.67	62.45
7/8/2014	NORMAL	9,073.0	0.62	233.55	8,908.68	1,257.41	725.30	1,451.52	0.31	0.27	17.88	37.87
	NORMAL	9,168.0	0.35	219.66	9,003.67	1,256.88	724.70	1,450.77	0.31	-0.28	-14.62	166.69
	NORMAL	9,263.0	0.97	197.47	9,098.67	1,255.89	724.27	1,449.69	0.69	0.65	-23.36	326.25
	NORMAL	9,358.0	0.44	146.36	9,193.66	1,254.82	724.24	1,448.74	0.81	-0.56	-53.80	206.27
	NORMAL	9,453.0	1.23	171.41	9,288.65	1,253.51	724.59	1,447.77	0.90	0.83	26.37	37.68
	NORMAL	9,548.0	2.19	193.17	9,383.61	1,250.73	724.33	1,445.22	1.20	1.01	22.91	45.27
	NORMAL	9,643.0	2.79	208.09	9,478.52	1,246.93	722.83	1,441.17	0.92	0.63	15.71	54.83
	NORMAL	9,738.0	3.48	213.43	9,573.38	1,242.48	720.15	1,435.98	0.79	0.73	5.62	25.62
	NORMAL	9,832.0	3.78	214.22	9,667.19	1,237.54	716.83	1,430.05	0.32	0.32	0.84	9.86
7/9/2014	NORMAL	9,927.0	4.08	207.69	9,761.96	1,231.95	713.50	1,423.55	0.57	0.32	-6.87	300.55
	NORMAL	10,022.0	4.30	202.48	9,856.71	1,225.67	710.57	1,416.64	0.46	0.23	-5.48	297.41
	NORMAL	10,118.0	4.51	201.67	9,952.43	1,218.84	707.80	1,409.32	0.23	0.22	-0.84	343.09
	NORMAL	10,183.0	4.40	204.81	10,017.23	1,214.20	705.81	1,404.31	0.41	-0.17	4.83	115.84
	NORMAL	10,240.0	4.40	204.81	10,074.06	1,210.23	703.98	1,399.95	0.00	0.00	0.00	0.00