

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	NER 344-32	Wellbore No.	00
Wellbore Legal Name	NER 344-32	Common Wellbore Name	NER 344-32
Project	RU 05-07S-093W	Site	RU 23-5 Pad
Vertical Section Azimuth	72.50 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	2/25/2014	UWI	NER 344-32
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	2/25/2014	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 (°)
2/25/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/25/2014	NORMAL	85.0	0.35	183.78	85.00	-0.26	-0.02	-0.09	0.41	0.41	0.00	183.78
	NORMAL	178.0	2.38	71.63	177.97	0.07	1.80	1.73	2.72	2.18	-120.59	240.50
	NORMAL	269.0	6.16	68.91	268.70	2.42	8.15	8.50	4.16	4.15	-2.99	355.58
	NORMAL	360.0	9.77	66.71	358.81	7.23	19.80	21.06	3.98	3.97	-2.42	354.08
	NORMAL	452.0	12.05	69.17	449.14	13.73	35.95	38.41	2.53	2.48	2.67	12.75
	NORMAL	524.0	13.54	72.58	519.35	18.93	51.01	54.34	2.32	2.07	4.74	28.55
	NORMAL	615.0	16.00	75.04	607.34	25.36	73.30	77.53	2.79	2.70	2.70	15.50
	NORMAL	711.0	17.94	74.86	699.16	32.63	100.35	105.52	2.02	2.02	-0.19	358.36
	NORMAL	806.0	19.22	75.08	789.20	40.48	129.59	135.76	1.35	1.35	0.23	3.24
	NORMAL	901.0	17.55	70.35	879.36	49.33	158.19	165.70	2.36	-1.76	-4.98	219.55
	NORMAL	996.0	18.91	68.90	969.59	59.68	186.04	195.38	1.51	1.43	-1.53	340.86
	NORMAL	1,091.0	18.44	72.22	1,059.59	69.81	214.71	225.77	1.22	-0.49	3.49	115.42
	NORMAL	1,113.0	18.20	73.54	1,080.47	71.85	221.32	232.68	2.18	-1.09	6.00	120.67
2/27/2014	NORMAL	1,263.0	18.95	72.64	1,222.63	86.85	268.74	282.42	0.54	0.50	-0.60	338.65
	NORMAL	1,358.0	18.49	73.30	1,312.61	95.79	297.90	312.91	0.53	-0.48	0.69	155.59
	NORMAL	1,453.0	18.59	73.82	1,402.68	104.33	326.87	343.11	0.20	0.11	0.55	59.08
	NORMAL	1,548.0	19.01	73.70	1,492.61	112.90	356.26	373.72	0.44	0.44	-0.13	354.68
	NORMAL	1,643.0	19.14	74.75	1,582.39	121.33	386.14	404.75	0.39	0.14	1.11	69.75
	NORMAL	1,738.0	19.57	69.37	1,672.03	131.04	416.06	436.20	1.93	0.45	-5.66	281.01
	NORMAL	1,834.0	19.28	70.11	1,762.57	142.09	446.01	468.09	0.40	-0.30	0.77	140.03

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 (")
2/27/2014	NORMAL	1,929.0	19.52	69.99	1,852.17	152.86	475.67	499.62	0.26	0.25	-0.13	350.51
	NORMAL	2,024.0	19.82	68.28	1,941.63	164.25	505.54	531.54	0.68	0.32	-1.80	296.72
	NORMAL	2,120.0	19.26	70.73	2,032.10	175.50	535.61	563.60	1.03	-0.58	2.55	125.50
	NORMAL	2,215.0	19.95	70.12	2,121.59	186.18	565.64	595.45	0.76	0.73	-0.64	343.19
	NORMAL	2,310.0	19.42	73.09	2,211.04	196.29	595.99	627.44	1.19	-0.56	3.13	119.31
2/28/2014	NORMAL	2,405.0	19.21	74.87	2,300.70	204.96	626.19	658.84	0.66	-0.22	1.87	110.47
	NORMAL	2,501.0	19.51	74.83	2,391.27	213.28	656.91	690.64	0.31	0.31	-0.04	357.45
	NORMAL	2,596.0	19.78	72.99	2,480.74	222.13	687.59	722.57	0.71	0.28	-1.94	292.71
	NORMAL	2,691.0	19.91	72.33	2,570.10	231.75	718.38	754.82	0.27	0.14	-0.69	299.81
	NORMAL	2,787.0	18.59	72.34	2,660.73	241.35	748.53	786.47	1.38	-1.38	0.01	179.86
	NORMAL	2,882.0	18.70	71.44	2,750.74	250.79	777.40	816.83	0.32	0.12	-0.95	290.50
	NORMAL	2,978.0	16.98	74.24	2,842.13	259.50	805.48	846.24	2.00	-1.79	2.92	154.82
	NORMAL	3,074.0	16.80	75.48	2,933.99	266.78	832.40	874.10	0.42	-0.19	1.29	117.14
	NORMAL	3,169.0	16.97	74.69	3,024.89	273.89	859.07	901.67	0.30	0.18	-0.83	306.16
	NORMAL	3,264.0	17.06	74.33	3,115.73	281.31	885.86	929.45	0.15	0.09	-0.38	310.34
	NORMAL	3,359.0	16.88	74.60	3,206.60	288.74	912.57	957.16	0.21	-0.19	0.28	156.48
	NORMAL	3,455.0	16.53	76.00	3,298.54	295.74	939.26	984.72	0.56	-0.36	1.46	131.68
	NORMAL	3,550.0	17.85	71.61	3,389.30	303.61	966.19	1,012.77	1.95	1.39	-4.62	313.38
	NORMAL	3,645.0	17.85	70.64	3,479.73	313.03	993.74	1,041.88	0.31	0.00	-1.02	269.54
	NORMAL	3,738.0	17.67	71.26	3,568.30	322.29	1,020.56	1,070.24	0.28	-0.19	0.67	133.88
	NORMAL	3,834.0	17.41	72.05	3,659.83	331.39	1,048.02	1,099.16	0.37	-0.27	0.82	137.90
	NORMAL	3,928.0	17.06	72.14	3,749.61	339.96	1,074.52	1,127.02	0.37	-0.37	0.10	175.69
	NORMAL	4,023.0	18.11	70.82	3,840.17	349.08	1,101.73	1,155.71	1.18	1.11	-1.39	338.57
	NORMAL	4,118.0	18.38	70.24	3,930.40	358.99	1,129.77	1,185.43	0.34	0.28	-0.61	325.80
	NORMAL	4,213.0	17.67	72.58	4,020.73	368.38	1,157.62	1,214.82	1.07	-0.75	2.46	135.55
	NORMAL	4,308.0	19.03	69.14	4,110.90	378.21	1,185.86	1,244.70	1.83	1.43	-3.62	319.83
	NORMAL	4,403.0	19.43	68.36	4,200.60	389.55	1,215.02	1,275.92	0.50	0.42	-0.82	326.92
	NORMAL	4,498.0	19.26	67.31	4,290.24	401.42	1,244.16	1,307.29	0.41	-0.18	-1.11	243.46
	NORMAL	4,593.0	19.04	67.80	4,379.98	413.32	1,272.96	1,338.33	0.29	-0.23	0.52	144.08
3/1/2014	NORMAL	4,688.0	18.78	71.39	4,469.86	424.05	1,301.80	1,369.07	1.25	-0.27	3.78	104.29
	NORMAL	4,784.0	19.70	71.61	4,560.50	434.09	1,331.80	1,400.70	0.96	0.96	0.23	4.61
	NORMAL	4,879.0	20.40	70.08	4,649.74	444.78	1,362.56	1,433.25	0.92	0.74	-1.61	322.43
	NORMAL	4,975.0	19.41	72.50	4,740.00	455.28	1,393.51	1,465.92	1.34	-1.03	2.52	141.36
	NORMAL	5,070.0	19.24	74.29	4,829.65	464.27	1,423.63	1,497.35	0.65	-0.18	1.88	106.86
	NORMAL	5,166.0	19.43	73.81	4,920.24	473.00	1,454.19	1,529.12	0.26	0.20	-0.50	319.86
	NORMAL	5,261.0	19.43	73.63	5,009.83	481.86	1,484.53	1,560.72	0.06	0.00	-0.19	269.92
	NORMAL	5,357.0	19.43	73.54	5,100.36	490.89	1,515.16	1,592.65	0.03	0.00	-0.09	269.96
	NORMAL	5,452.0	19.52	73.72	5,189.93	499.81	1,545.55	1,624.31	0.11	0.09	0.19	33.78
	NORMAL	5,548.0	19.87	74.33	5,280.31	508.71	1,576.65	1,656.65	0.42	0.36	0.64	30.72
	NORMAL	5,643.0	19.08	75.12	5,369.87	517.06	1,607.21	1,688.30	0.88	-0.83	0.83	161.93
	NORMAL	5,738.0	19.06	74.15	5,459.66	525.29	1,637.13	1,719.32	0.33	-0.02	-1.02	265.93
	NORMAL	5,834.0	20.01	73.52	5,550.13	534.23	1,667.96	1,751.41	1.01	0.99	-0.66	347.20
	NORMAL	5,930.0	20.56	74.24	5,640.18	543.47	1,699.94	1,784.68	0.63	0.57	0.75	24.75
3/2/2014	NORMAL	6,025.0	19.71	74.50	5,729.37	552.28	1,731.43	1,817.37	0.90	-0.89	0.27	174.11
	NORMAL	6,120.0	18.56	74.37	5,819.12	560.63	1,761.43	1,848.49	1.21	-1.21	-0.14	182.06
	NORMAL	6,216.0	16.80	74.64	5,910.58	568.42	1,789.52	1,877.62	1.84	-1.83	0.28	177.46
	NORMAL	6,311.0	16.19	67.24	6,001.68	577.19	1,814.98	1,904.54	2.30	-0.64	-7.79	250.28
3/3/2014	NORMAL	6,407.0	15.93	67.83	6,093.94	587.33	1,839.52	1,930.99	0.32	-0.27	0.61	148.16
	NORMAL	6,503.0	14.50	68.39	6,186.57	596.73	1,862.89	1,956.11	1.50	-1.49	0.58	174.40
	NORMAL	6,599.0	12.22	70.12	6,279.97	604.61	1,883.62	1,978.25	2.41	-2.38	1.80	170.90
	NORMAL	6,694.0	12.31	67.65	6,372.80	611.88	1,902.44	1,998.39	0.56	0.09	-2.60	278.52
	NORMAL	6,790.0	11.17	70.82	6,466.79	618.83	1,920.69	2,017.88	1.36	-1.19	3.30	152.04
	NORMAL	6,885.0	8.79	73.81	6,560.35	623.88	1,936.36	2,034.34	2.56	-2.51	3.15	169.19
	NORMAL	6,980.0	7.83	72.49	6,654.35	627.85	1,949.50	2,048.07	1.03	-1.01	-1.39	190.59
	NORMAL	7,076.0	6.77	65.37	6,749.57	632.18	1,960.88	2,060.22	1.45	-1.10	-7.42	216.99
	NORMAL	7,172.0	5.38	70.62	6,845.03	636.03	1,970.27	2,070.34	1.56	-1.45	5.47	160.81

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 (")
3/3/2014	NORMAL	7,266.0	4.92	78.46	6,938.85	638.30	1,978.38	2,078.75	0.89	-0.49	8.34	127.03
	NORMAL	7,362.0	4.28	68.55	7,034.34	640.43	1,985.74	2,086.42	1.06	-0.67	-10.32	226.29
3/4/2014	NORMAL	7,457.0	3.25	75.39	7,129.14	642.41	1,991.65	2,092.64	1.18	-1.08	7.20	159.83
	NORMAL	7,552.0	2.64	77.28	7,224.01	643.57	1,996.39	2,097.51	0.65	-0.64	1.99	171.90
	NORMAL	7,647.0	2.51	89.91	7,318.92	644.05	2,000.60	2,101.68	0.61	-0.14	13.29	109.16
	NORMAL	7,743.0	1.58	77.59	7,414.85	644.34	2,004.00	2,105.00	1.07	-0.97	-12.83	199.23
	NORMAL	7,838.0	0.70	82.86	7,509.83	644.69	2,005.85	2,106.88	0.93	-0.93	5.55	175.84
	NORMAL	7,933.0	0.97	93.23	7,604.82	644.72	2,007.23	2,108.20	0.32	0.28	10.92	34.49
	NORMAL	8,028.0	0.81	123.23	7,699.81	644.30	2,008.59	2,109.38	0.52	-0.17	32.01	123.50
	NORMAL	8,123.0	0.44	327.37	7,794.81	644.24	2,008.96	2,109.70	1.29	-0.39	-164.50	188.31
	NORMAL	8,219.0	0.89	337.96	7,890.80	645.24	2,008.48	2,109.55	0.48	0.47	11.03	20.61
	NORMAL	8,314.0	0.24	320.58	7,985.80	646.08	2,008.07	2,109.41	0.70	-0.68	-18.29	186.19
	NORMAL	8,410.0	0.10	265.67	8,081.80	646.23	2,007.86	2,109.26	0.21	-0.15	-57.20	204.15
	NORMAL	8,506.0	0.91	9.65	8,177.79	646.97	2,007.91	2,109.52	0.98	0.84	108.31	109.91
3/5/2014	NORMAL	8,601.0	1.14	13.16	8,272.78	648.63	2,008.25	2,110.35	0.25	0.24	3.69	17.03
	NORMAL	8,696.0	0.68	353.54	8,367.77	650.12	2,008.40	2,110.94	0.58	-0.48	-20.65	204.57
	NORMAL	8,791.0	0.70	10.96	8,462.76	651.25	2,008.45	2,111.32	0.22	0.02	18.34	93.31
	NORMAL	8,886.0	0.44	19.49	8,557.76	652.16	2,008.68	2,111.82	0.29	-0.27	8.98	166.16
	NORMAL	8,981.0	0.47	37.94	8,652.75	652.81	2,009.04	2,112.36	0.16	0.03	19.42	87.75
	NORMAL	9,076.0	0.26	5.08	8,747.75	653.33	2,009.30	2,112.76	0.30	-0.22	-34.59	209.28
3/7/2014	NORMAL	9,167.0	0.44	239.30	8,838.75	653.36	2,009.02	2,112.50	0.69	0.20	-138.22	214.61
	NORMAL	9,262.0	0.51	276.43	8,933.75	653.22	2,008.28	2,111.76	0.33	0.07	39.08	96.19
	NORMAL	9,357.0	0.70	253.98	9,028.74	653.11	2,007.31	2,110.79	0.32	0.20	-23.63	297.13
	NORMAL	9,452.0	0.91	202.97	9,123.73	652.25	2,006.45	2,109.72	0.76	0.22	-53.69	259.79
	NORMAL	9,547.0	1.41	234.65	9,218.71	650.88	2,005.21	2,108.12	0.84	0.53	33.35	68.62
	NORMAL	9,642.0	1.73	235.11	9,313.68	649.39	2,003.08	2,105.64	0.34	0.34	0.48	2.49
	NORMAL	9,737.0	1.88	237.99	9,408.63	647.74	2,000.58	2,102.77	0.18	0.16	2.98	32.14
	NORMAL	9,831.0	1.73	223.35	9,502.59	645.89	1,998.30	2,100.03	0.51	-0.16	-15.52	244.72
	NORMAL	9,926.0	1.73	219.03	9,597.54	643.73	1,996.41	2,097.58	0.14	0.00	-4.55	267.84
3/8/2014	NORMAL	10,021.0	1.31	245.85	9,692.51	642.17	1,994.52	2,095.31	0.86	-0.44	28.23	133.50
	NORMAL	10,116.0	1.31	235.30	9,787.48	641.11	1,992.63	2,093.19	0.25	0.00	-11.11	264.73
	NORMAL	10,211.0	1.78	228.87	9,882.45	639.52	1,990.63	2,090.80	0.53	0.49	-6.77	336.52
	NORMAL	10,298.0	1.67	224.71	9,969.41	637.73	1,988.72	2,088.45	0.19	-0.13	-4.78	226.64
	NORMAL	10,355.0	1.67	224.71	10,026.39	636.55	1,987.55	2,086.98	0.00	0.00	0.00	0.00