

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	NER 443-32	Wellbore No.	00
Wellbore Legal Name	NER 443-32	Common Wellbore Name	NER 443-32
Project	RU 05-07S-093W	Site	RU 23-5 Pad
Vertical Section Azimuth	50.62 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	4/20/2014	UWI	NER 443-32
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	4/20/2014	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 (°)
4/20/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/20/2014	NORMAL	87.0	0.26	97.65	87.00	-0.03	0.20	0.13	0.30	0.30	0.00	97.65
	NORMAL	179.0	3.08	42.28	178.95	1.77	2.07	2.72	3.20	3.07	-60.18	300.46
	NORMAL	269.0	5.54	45.70	268.69	6.60	6.80	9.44	2.75	2.73	3.80	7.67
	NORMAL	361.0	8.09	53.44	360.04	13.56	15.18	20.34	2.94	2.77	8.41	23.68
4/21/2014	NORMAL	453.0	11.96	51.86	450.61	23.30	27.88	36.34	4.22	4.21	-1.72	355.16
	NORMAL	545.0	15.48	50.63	539.98	36.98	44.88	58.15	3.84	3.83	-1.34	354.66
	NORMAL	617.0	17.59	48.39	608.99	50.31	60.44	78.64	3.06	2.93	-3.11	342.11
	NORMAL	709.0	19.73	47.92	696.15	69.95	82.36	108.04	2.33	2.33	-0.51	355.76
	NORMAL	800.0	20.79	50.08	781.52	90.60	106.15	139.54	1.43	1.16	2.37	36.22
	NORMAL	892.0	22.42	50.49	867.06	112.25	132.21	173.41	1.78	1.77	0.45	5.48
	NORMAL	982.0	23.21	50.36	950.02	134.48	159.11	208.31	0.88	0.88	-0.14	356.29
	NORMAL	1,073.0	24.35	49.96	1,033.29	157.99	187.28	245.00	1.27	1.25	-0.44	351.76
	NORMAL	1,138.0	25.50	49.35	1,092.23	175.72	208.16	272.39	1.81	1.77	-0.94	347.12
4/22/2014	NORMAL	1,264.0	26.53	47.91	1,205.47	212.26	249.62	327.61	0.96	0.82	-1.14	327.83
	NORMAL	1,359.0	24.92	50.21	1,291.05	239.29	280.75	368.82	1.99	-1.69	2.42	149.23
	NORMAL	1,454.0	23.10	50.14	1,377.83	264.04	310.43	407.47	1.92	-1.92	-0.07	180.86
	NORMAL	1,549.0	23.13	49.75	1,465.20	288.04	338.98	444.77	0.16	0.03	-0.41	280.91
	NORMAL	1,644.0	23.19	52.75	1,552.55	311.42	368.11	482.12	1.24	0.06	3.16	88.47
	NORMAL	1,739.0	22.88	50.88	1,639.97	334.40	397.33	519.28	0.84	-0.33	-1.97	246.18
	NORMAL	1,834.0	23.75	53.15	1,727.22	357.52	426.96	556.86	1.32	0.92	2.39	46.97

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 (°)
4/22/2014	NORMAL	1,929.0	23.79	52.86	1,814.16	380.56	457.55	595.12	0.13	0.04	-0.31	288.76
	NORMAL	2,025.0	23.64	53.12	1,902.05	403.81	488.38	633.69	0.19	-0.16	0.27	145.24
	NORMAL	2,121.0	23.47	52.69	1,990.05	426.94	518.98	672.03	0.25	-0.18	-0.45	225.11
	NORMAL	2,216.0	24.85	51.76	2,076.73	450.77	549.71	710.89	1.51	1.45	-0.98	344.15
	NORMAL	2,310.0	24.71	51.01	2,162.07	475.35	580.49	750.29	0.37	-0.15	-0.80	245.65
	NORMAL	2,406.0	24.92	50.86	2,249.21	500.75	611.77	790.58	0.23	0.22	-0.16	343.24
	NORMAL	2,502.0	24.71	50.14	2,336.35	526.37	642.86	830.87	0.38	-0.22	-0.75	234.88
4/23/2014	NORMAL	2,598.0	24.71	50.33	2,421.74	551.51	673.07	870.16	0.08	0.00	0.20	90.09
	NORMAL	2,692.0	24.52	50.38	2,509.02	577.02	703.86	910.14	0.20	-0.20	0.05	173.77
	NORMAL	2,788.0	23.50	50.16	2,596.71	601.98	733.90	949.20	1.07	-1.06	-0.23	184.92
	NORMAL	2,883.0	23.16	51.17	2,683.94	625.83	762.99	986.83	0.55	-0.36	1.06	130.83
	NORMAL	2,978.0	23.61	49.93	2,771.14	649.79	792.11	1,024.53	0.70	0.47	-1.31	311.87
	NORMAL	3,074.0	24.10	50.36	2,858.94	674.67	821.91	1,063.35	0.54	0.51	0.45	19.74
	NORMAL	3,170.0	24.14	49.38	2,946.56	699.96	851.90	1,102.58	0.42	0.04	-1.02	275.26
	NORMAL	3,265.0	23.56	49.64	3,033.44	724.90	881.12	1,140.98	0.62	-0.61	0.27	169.85
	NORMAL	3,360.0	23.18	50.64	3,120.65	749.05	910.04	1,178.66	0.58	-0.40	1.05	134.23
	NORMAL	3,455.0	23.86	49.11	3,207.76	773.49	939.02	1,216.57	0.96	0.72	-1.61	317.38
	NORMAL	3,551.0	23.85	49.18	3,295.56	798.88	968.39	1,255.38	0.03	-0.01	0.07	109.49
	NORMAL	3,646.0	23.04	48.95	3,382.71	823.65	996.94	1,293.16	0.86	-0.85	-0.24	186.34
	NORMAL	3,739.0	23.49	51.16	3,468.15	847.22	1,025.10	1,329.89	1.06	0.48	2.38	63.75
	NORMAL	3,835.0	23.47	51.51	3,556.20	871.12	1,054.97	1,368.14	0.15	-0.02	0.36	98.32
	NORMAL	3,929.0	22.63	50.95	3,642.70	894.16	1,083.67	1,404.94	0.92	-0.89	-0.60	194.37
	NORMAL	4,024.0	23.53	52.08	3,730.09	917.33	1,112.82	1,442.17	1.06	0.95	1.19	26.73
	NORMAL	4,119.0	23.27	51.82	3,817.28	940.59	1,142.53	1,479.89	0.29	-0.27	-0.27	201.54
	NORMAL	4,214.0	24.69	52.34	3,904.08	964.31	1,172.99	1,518.49	1.51	1.49	0.55	8.70
	NORMAL	4,309.0	23.88	52.74	3,990.67	988.08	1,204.00	1,557.54	0.87	-0.85	0.42	168.70
	NORMAL	4,404.0	22.99	51.79	4,077.83	1,011.19	1,233.89	1,595.30	1.02	-0.94	-1.00	202.57
	NORMAL	4,499.0	24.19	51.99	4,164.89	1,034.66	1,263.80	1,633.31	1.27	1.26	0.21	3.91
	NORMAL	4,594.0	23.08	51.92	4,251.92	1,058.13	1,293.79	1,671.38	1.17	-1.17	-0.07	181.42
	NORMAL	4,689.0	23.84	49.91	4,339.07	1,081.98	1,323.14	1,709.20	1.16	0.80	-2.12	312.60
	NORMAL	4,784.0	25.49	50.48	4,425.40	1,107.35	1,353.60	1,748.84	1.75	1.74	0.60	8.46
	NORMAL	4,880.0	24.78	50.95	4,512.31	1,133.17	1,385.16	1,789.62	0.77	-0.74	0.49	164.51
	NORMAL	4,975.0	23.36	50.85	4,599.05	1,157.60	1,415.23	1,828.36	1.50	-1.49	-0.11	181.60
4/24/2014	NORMAL	5,070.0	24.22	49.05	4,685.98	1,182.27	1,444.55	1,866.67	1.18	0.91	-1.89	319.00
	NORMAL	5,166.0	23.84	49.17	4,773.66	1,207.86	1,474.10	1,905.75	0.40	-0.40	0.13	172.73
	NORMAL	5,262.0	22.81	48.73	4,861.81	1,232.82	1,502.77	1,943.75	1.09	-1.07	-0.46	189.40
	NORMAL	5,358.0	23.57	49.47	4,950.05	1,257.56	1,531.35	1,981.54	0.85	0.79	0.77	21.32
	NORMAL	5,453.0	25.01	49.69	5,036.64	1,282.90	1,561.10	2,020.61	1.52	1.52	0.23	3.70
	NORMAL	5,549.0	24.36	49.17	5,123.87	1,308.97	1,591.55	2,060.69	0.71	-0.68	-0.54	198.24
	NORMAL	5,643.0	23.91	49.06	5,209.65	1,334.13	1,620.61	2,099.11	0.48	-0.48	-0.12	185.66
	NORMAL	5,739.0	24.73	51.28	5,297.13	1,359.44	1,650.97	2,138.64	1.28	0.85	2.31	49.13
	NORMAL	5,835.0	24.28	51.77	5,384.48	1,384.22	1,682.15	2,178.45	0.51	-0.47	0.51	155.92
	NORMAL	5,930.0	23.31	51.99	5,471.41	1,407.88	1,712.30	2,216.77	1.03	-1.02	0.23	174.87
	NORMAL	6,026.0	22.98	52.38	5,559.68	1,431.01	1,742.11	2,254.49	0.38	-0.34	0.41	155.26
	NORMAL	6,121.0	21.78	50.77	5,647.52	1,453.48	1,770.45	2,290.65	1.42	-1.26	-1.69	206.32
	NORMAL	6,216.0	20.31	50.81	5,736.19	1,475.05	1,796.88	2,324.77	1.55	-1.55	0.04	179.46
4/25/2014	NORMAL	6,312.0	19.65	49.80	5,826.41	1,495.99	1,822.12	2,357.57	0.78	-0.69	-1.05	207.13
	NORMAL	6,408.0	18.47	49.00	5,917.14	1,516.39	1,845.93	2,388.91	1.26	-1.23	-0.83	192.11
	NORMAL	6,504.0	16.69	50.37	6,008.66	1,535.16	1,868.03	2,417.90	1.90	-1.85	1.43	167.57
	NORMAL	6,599.0	15.54	49.49	6,099.92	1,552.13	1,888.21	2,444.26	1.24	-1.21	-0.93	191.57
	NORMAL	6,695.0	14.83	50.64	6,192.57	1,568.27	1,907.49	2,469.41	0.80	-0.74	1.20	157.56
	NORMAL	6,791.0	13.44	49.95	6,285.66	1,583.24	1,925.53	2,492.85	1.46	-1.45	-0.72	186.58
	NORMAL	6,886.0	12.20	50.12	6,378.29	1,596.78	1,941.68	2,513.93	1.31	-1.31	0.18	178.34
	NORMAL	6,981.0	10.24	50.22	6,471.47	1,608.62	1,955.87	2,532.41	2.06	-2.06	0.11	179.48
	NORMAL	7,077.0	9.61	51.31	6,566.03	1,619.09	1,968.69	2,548.96	0.68	-0.66	1.14	163.93
	NORMAL	7,172.0	8.75	52.56	6,659.82	1,628.44	1,980.61	2,564.11	0.93	-0.91	1.32	167.56

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 (°)
4/25/2014	NORMAL	7,267.0	8.22	54.94	6,753.78	1,636.74	1,991.91	2,578.10	0.67	-0.56	2.51	147.65
	NORMAL	7,363.0	6.88	55.01	6,848.94	1,643.98	2,002.24	2,590.68	1.40	-1.40	0.07	179.64
	NORMAL	7,458.0	5.66	54.66	6,943.37	1,649.95	2,010.72	2,601.03	1.28	-1.28	-0.37	181.62
4/26/2014	NORMAL	7,553.0	4.54	54.35	7,037.99	1,654.85	2,017.60	2,609.45	1.18	-1.18	-0.33	181.26
	NORMAL	7,649.0	4.37	57.50	7,133.70	1,659.03	2,023.77	2,616.87	0.31	-0.18	3.28	126.35
	NORMAL	7,744.0	3.36	51.28	7,228.49	1,662.72	2,029.00	2,623.25	1.15	-1.06	-6.55	199.46
	NORMAL	7,839.0	2.81	47.86	7,323.35	1,666.02	2,032.89	2,628.36	0.61	-0.58	-3.60	196.80
	NORMAL	7,934.0	1.14	78.68	7,418.29	1,667.77	2,035.55	2,631.52	2.02	-1.76	32.44	162.30
	NORMAL	8,029.0	0.98	99.31	7,513.28	1,667.82	2,037.28	2,632.89	0.43	-0.17	21.72	122.84
4/27/2014	NORMAL	8,125.0	0.88	101.77	7,609.26	1,667.54	2,038.81	2,633.89	0.11	-0.10	2.56	159.46
	NORMAL	8,220.0	0.29	66.45	7,704.26	1,667.49	2,039.74	2,634.58	0.70	-0.62	-37.18	194.61
	NORMAL	8,316.0	0.48	340.14	7,800.26	1,667.96	2,039.83	2,634.95	0.57	0.20	-89.91	241.59
	NORMAL	8,412.0	0.51	342.22	7,896.25	1,668.75	2,039.56	2,635.24	0.04	0.03	2.17	31.96
	NORMAL	8,507.0	0.22	329.44	7,991.25	1,669.31	2,039.34	2,635.43	0.32	-0.31	-13.45	189.35
	NORMAL	8,602.0	0.45	8.39	8,086.25	1,669.83	2,039.30	2,635.73	0.33	0.24	41.00	65.32
	NORMAL	8,695.0	0.34	7.96	8,179.25	1,670.47	2,039.39	2,636.20	0.12	-0.12	-0.46	181.33
	NORMAL	8,789.0	0.48	13.25	8,273.24	1,671.13	2,039.52	2,636.72	0.15	0.15	5.63	17.79
	NORMAL	8,883.0	0.65	13.43	8,367.24	1,672.03	2,039.74	2,637.46	0.18	0.18	0.19	0.69
	NORMAL	8,979.0	0.61	4.98	8,463.23	1,673.07	2,039.91	2,638.25	0.11	-0.04	-8.80	242.52
	NORMAL	9,073.0	0.53	329.44	8,557.23	1,673.94	2,039.73	2,638.67	0.38	-0.09	-37.81	239.88
	NORMAL	9,168.0	0.40	328.17	8,652.23	1,674.60	2,039.33	2,638.78	0.14	-0.14	-1.34	183.90
4/28/2014	NORMAL	9,263.0	0.18	231.99	8,747.23	1,674.79	2,039.04	2,638.67	0.48	-0.23	-101.24	203.11
	NORMAL	9,358.0	0.56	142.81	8,842.22	1,674.33	2,039.20	2,638.51	0.62	0.40	-93.87	252.93
	NORMAL	9,453.0	0.96	158.29	8,937.22	1,673.22	2,039.78	2,638.25	0.47	0.42	16.29	35.05
	NORMAL	9,548.0	1.14	169.18	9,032.20	1,671.55	2,040.25	2,637.55	0.28	0.19	11.46	53.48
	NORMAL	9,644.0	1.52	176.71	9,128.17	1,669.34	2,040.50	2,636.35	0.43	0.40	7.84	28.50
	NORMAL	9,738.0	1.88	188.54	9,222.13	1,666.57	2,040.34	2,634.47	0.53	0.38	12.59	50.29
	NORMAL	9,832.0	2.09	186.69	9,316.08	1,663.35	2,039.91	2,632.09	0.23	0.22	-1.97	342.10
	NORMAL	9,927.0	2.44	193.17	9,411.00	1,659.66	2,039.25	2,629.24	0.46	0.37	6.82	39.46
	NORMAL	10,022.0	3.17	196.13	9,505.89	1,655.16	2,038.06	2,625.47	0.78	0.77	3.12	12.70
	NORMAL	10,118.0	3.96	194.72	9,601.70	1,649.41	2,036.48	2,620.59	0.83	0.82	-1.47	352.96
	NORMAL	10,212.0	4.51	192.61	9,695.44	1,642.66	2,034.85	2,615.05	0.61	0.59	-2.24	343.13
	NORMAL	10,308.0	3.97	198.82	9,791.18	1,635.83	2,032.95	2,609.25	0.74	-0.56	6.47	142.70
4/29/2014	NORMAL	10,403.0	3.92	196.63	9,885.96	1,629.61	2,030.96	2,603.77	0.17	-0.05	-2.31	250.55
	NORMAL	10,498.0	3.87	197.01	9,980.74	1,623.43	2,029.10	2,598.40	0.06	-0.05	0.40	152.88
	NORMAL	10,624.0	3.80	195.49	10,106.45	1,615.34	2,026.74	2,591.45	0.10	-0.06	-1.21	234.69