

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	NER 523-32	Wellbore No.	00
Wellbore Legal Name	NER 523-32	Common Wellbore Name	NER 523-32
Project	RU 05-07S-093W	Site	RU 23-5 Pad
Vertical Section Azimuth	340.56 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	8/28/2014	UWI	NER 523-32
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	8/28/2014	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 (°)
8/28/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/28/2014	NORMAL	86.0	0.97	2.72	86.00	0.73	0.03	0.67	1.13	1.13	0.00	2.72
	NORMAL	181.0	4.57	351.30	180.87	5.27	-0.50	5.14	3.82	3.79	-12.02	345.55
	NORMAL	267.0	5.98	343.83	266.50	12.96	-2.27	12.98	1.82	1.64	-8.69	330.28
	NORMAL	359.0	8.01	340.22	357.82	23.60	-5.77	24.17	2.26	2.21	-3.92	345.98
	NORMAL	451.0	10.91	339.61	448.55	37.79	-10.97	39.29	3.15	3.15	-0.66	357.72
	NORMAL	525.0	13.33	339.56	520.90	52.35	-16.39	54.83	3.27	3.27	-0.07	359.73
	NORMAL	617.0	16.62	341.16	609.76	74.75	-24.35	78.59	3.60	3.58	1.74	7.94
	NORMAL	709.0	17.41	337.67	697.74	99.93	-33.83	105.50	1.40	0.86	-3.79	306.05
	NORMAL	800.0	18.31	335.96	784.35	125.58	-44.82	133.34	1.14	0.99	-1.88	328.95
	NORMAL	892.0	18.98	335.65	871.52	152.41	-56.88	162.65	0.74	0.73	-0.34	351.44
	NORMAL	982.0	17.75	336.72	956.94	178.35	-68.34	190.92	1.42	-1.37	1.19	165.18
	NORMAL	1,073.0	16.94	338.50	1,043.80	203.43	-78.68	218.01	1.06	-0.89	1.96	147.62
	NORMAL	1,133.0	17.06	337.85	1,101.18	219.71	-85.20	235.54	0.37	0.20	-1.08	301.96
8/29/2014	NORMAL	1,263.0	17.95	337.04	1,225.16	255.82	-100.20	274.58	0.71	0.68	-0.62	344.30
	NORMAL	1,358.0	17.64	341.84	1,315.62	282.98	-110.40	303.59	1.58	-0.33	5.05	104.21
	NORMAL	1,453.0	17.70	342.22	1,406.13	310.40	-119.30	332.41	0.14	0.06	0.40	62.70
	NORMAL	1,548.0	17.42	343.04	1,496.71	337.76	-127.85	361.06	0.39	-0.29	0.86	138.93
	NORMAL	1,643.0	17.50	341.67	1,587.33	364.92	-136.49	389.54	0.44	0.08	-1.44	280.36
	NORMAL	1,738.0	16.97	341.27	1,678.07	391.61	-145.44	417.69	0.57	-0.56	-0.42	192.41
	NORMAL	1,834.0	18.20	340.83	1,769.58	419.04	-154.86	446.69	1.29	1.28	-0.46	353.62

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 (°)
8/29/2014	NORMAL	1,929.0	17.67	339.78	1,859.96	446.58	-164.72	475.94	0.65	-0.56	-1.11	210.89
	NORMAL	2,025.0	16.81	339.01	1,951.65	473.21	-174.72	504.39	0.93	-0.90	-0.80	194.49
8/30/2014	NORMAL	2,120.0	17.48	342.62	2,042.43	499.66	-183.91	532.38	1.32	0.71	3.80	59.54
	NORMAL	2,215.0	17.06	343.03	2,133.14	526.60	-192.24	560.56	0.46	-0.44	0.43	164.03
	NORMAL	2,310.0	17.06	342.86	2,223.96	553.25	-200.41	588.41	0.05	0.00	-0.18	269.92
	NORMAL	2,405.0	16.55	342.94	2,314.91	579.50	-208.49	615.85	0.54	-0.54	0.08	177.44
	NORMAL	2,501.0	18.05	343.01	2,406.56	606.79	-216.84	644.37	1.56	1.56	0.07	0.83
	NORMAL	2,596.0	17.77	342.80	2,496.96	634.72	-225.43	673.56	0.30	-0.29	-0.22	192.89
	NORMAL	2,691.0	17.51	342.42	2,587.49	662.19	-234.03	702.33	0.30	-0.27	-0.40	203.71
	NORMAL	2,787.0	17.12	341.92	2,679.14	689.39	-242.78	730.89	0.43	-0.41	-0.52	200.65
	NORMAL	2,882.0	18.35	340.60	2,769.62	716.79	-252.09	759.82	1.36	1.29	-1.39	341.27
	NORMAL	2,978.0	17.81	340.20	2,860.88	744.86	-262.08	789.62	0.58	-0.56	-0.42	192.76
	NORMAL	3,074.0	17.19	341.06	2,952.44	772.09	-271.66	818.48	0.70	-0.65	0.90	157.77
	NORMAL	3,169.0	18.85	341.09	3,042.78	799.89	-281.19	847.87	1.75	1.75	0.03	0.33
	NORMAL	3,264.0	19.27	340.74	3,132.57	829.20	-291.33	878.89	0.46	0.44	-0.37	344.61
	NORMAL	3,359.0	18.91	341.01	3,222.34	858.56	-301.51	909.96	0.39	-0.38	0.28	166.35
	NORMAL	3,455.0	18.57	340.47	3,313.25	887.67	-311.69	940.80	0.40	-0.35	-0.56	206.78
	NORMAL	3,550.0	17.67	341.10	3,403.54	915.57	-321.41	970.35	0.97	-0.95	0.66	168.02
	NORMAL	3,645.0	18.94	340.19	3,493.73	943.72	-331.31	1,000.18	1.37	1.34	-0.96	346.88
	NORMAL	3,738.0	18.60	340.38	3,581.79	971.89	-341.41	1,030.11	0.37	-0.37	0.20	169.90
	NORMAL	3,834.0	18.38	340.12	3,672.83	1,000.54	-351.69	1,060.55	0.24	-0.23	-0.27	200.42
	NORMAL	3,928.0	17.47	339.38	3,762.27	1,027.69	-361.70	1,089.48	1.00	-0.97	-0.79	193.70
	NORMAL	4,023.0	16.84	338.80	3,853.04	1,053.86	-371.70	1,117.49	0.69	-0.66	-0.61	194.92
	NORMAL	4,118.0	18.26	341.52	3,943.62	1,080.81	-381.39	1,146.13	1.73	1.49	2.86	31.31
	NORMAL	4,213.0	18.23	341.29	4,033.84	1,109.00	-390.88	1,175.87	0.08	-0.03	-0.24	247.27
	NORMAL	4,308.0	17.62	340.93	4,124.23	1,136.66	-400.34	1,205.10	0.65	-0.64	-0.38	190.12
	NORMAL	4,403.0	16.98	341.14	4,214.93	1,163.38	-409.52	1,233.35	0.68	-0.67	0.22	174.53
	NORMAL	4,498.0	16.38	341.08	4,305.94	1,189.18	-418.35	1,260.62	0.63	-0.63	-0.06	181.62
	NORMAL	4,593.0	18.09	342.03	4,396.67	1,215.88	-427.25	1,288.76	1.82	1.80	1.00	9.80
	NORMAL	4,688.0	17.55	342.36	4,487.11	1,243.56	-436.14	1,317.82	0.58	-0.57	0.35	169.56
	NORMAL	4,784.0	18.73	342.45	4,578.34	1,272.05	-445.17	1,347.69	1.23	1.23	0.09	1.40
	NORMAL	4,879.0	18.29	342.90	4,668.42	1,300.84	-454.15	1,377.83	0.49	-0.46	0.47	162.23
	NORMAL	4,975.0	18.03	342.10	4,759.64	1,329.38	-463.15	1,407.74	0.38	-0.27	-0.83	223.42
	NORMAL	5,070.0	17.11	342.09	4,850.21	1,356.67	-471.97	1,436.40	0.97	-0.97	-0.01	180.18
	NORMAL	5,166.0	15.98	342.85	4,942.23	1,382.73	-480.21	1,463.72	1.20	-1.18	0.79	169.52
8/31/2014	NORMAL	5,261.0	17.47	341.95	5,033.21	1,408.79	-488.48	1,491.05	1.59	1.57	-0.95	349.71
	NORMAL	5,357.0	16.83	342.35	5,124.94	1,435.73	-497.16	1,519.35	0.68	-0.67	0.42	169.75
	NORMAL	5,452.0	16.30	342.87	5,216.00	1,461.58	-505.26	1,546.41	0.58	-0.56	0.55	164.62
	NORMAL	5,548.0	15.31	342.12	5,308.37	1,486.51	-513.12	1,572.54	1.05	-1.03	-0.78	191.30
	NORMAL	5,643.0	16.40	343.09	5,399.75	1,511.28	-520.87	1,598.48	1.18	1.15	1.02	14.13
	NORMAL	5,738.0	16.44	342.50	5,490.88	1,536.93	-528.81	1,625.31	0.18	0.04	-0.62	283.20
9/1/2014	NORMAL	5,834.0	16.21	343.57	5,583.01	1,562.74	-536.69	1,652.27	0.39	-0.24	1.11	127.92
	NORMAL	5,930.0	15.74	343.20	5,675.30	1,588.06	-544.24	1,678.66	0.50	-0.49	-0.39	192.05
	NORMAL	6,025.0	15.18	342.86	5,766.86	1,612.28	-551.63	1,703.96	0.60	-0.59	-0.36	189.03
	NORMAL	6,120.0	15.10	342.08	5,858.56	1,635.94	-559.10	1,728.76	0.23	-0.08	-0.82	248.18
	NORMAL	6,216.0	15.34	341.97	5,951.20	1,659.91	-566.88	1,753.95	0.25	0.25	-0.11	353.09
	NORMAL	6,311.0	15.65	341.75	6,042.74	1,684.03	-574.78	1,779.32	0.33	0.33	-0.23	349.16
	NORMAL	6,407.0	15.62	342.21	6,135.19	1,708.63	-582.79	1,805.19	0.13	-0.03	0.48	103.82
	NORMAL	6,503.0	13.54	338.46	6,228.10	1,731.40	-590.86	1,829.34	2.38	-2.17	-3.91	202.60
	NORMAL	6,599.0	13.74	336.57	6,321.39	1,752.31	-599.52	1,851.95	0.51	0.21	-1.97	293.25
	NORMAL	6,694.0	12.03	336.88	6,413.99	1,771.77	-607.90	1,873.08	1.80	-1.80	0.33	177.84
	NORMAL	6,790.0	10.58	338.97	6,508.13	1,789.20	-614.99	1,891.88	1.57	-1.51	2.18	165.24
	NORMAL	6,885.0	8.94	341.30	6,601.75	1,804.33	-620.48	1,907.98	1.78	-1.73	2.45	167.60
	NORMAL	6,980.0	8.39	338.81	6,695.67	1,817.79	-625.36	1,922.28	0.70	-0.58	-2.62	213.07
	NORMAL	7,076.0	7.17	340.78	6,790.78	1,829.97	-629.86	1,935.28	1.30	-1.27	2.05	168.64
9/2/2014	NORMAL	7,172.0	5.58	348.97	6,886.19	1,840.21	-632.72	1,945.89	1.90	-1.66	8.53	154.26

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 (°)
9/2/2014	NORMAL	7,266.0	5.19	349.81	6,979.77	1,848.88	-634.35	1,954.60	0.42	-0.41	0.89	168.99
	NORMAL	7,362.0	5.09	349.86	7,075.39	1,857.35	-635.87	1,963.09	0.10	-0.10	0.05	177.46
	NORMAL	7,457.0	4.00	344.98	7,170.09	1,864.70	-637.47	1,970.55	1.22	-1.15	-5.14	197.11
	NORMAL	7,552.0	3.52	347.34	7,264.88	1,870.74	-638.97	1,976.75	0.53	-0.51	2.48	163.30
	NORMAL	7,648.0	3.22	346.09	7,360.72	1,876.23	-640.26	1,982.36	0.32	-0.31	-1.30	193.14
	NORMAL	7,743.0	2.29	338.20	7,455.60	1,880.59	-641.61	1,986.92	1.05	-0.98	-8.31	198.28
	NORMAL	7,838.0	1.92	326.68	7,550.54	1,883.68	-643.19	1,990.36	0.59	-0.39	-12.13	223.17
	NORMAL	7,933.0	1.43	321.21	7,645.50	1,885.93	-644.80	1,993.02	0.54	-0.52	-5.76	195.35
	NORMAL	8,028.0	1.41	309.02	7,740.47	1,887.59	-646.45	1,995.13	0.32	-0.02	-12.83	260.13
	NORMAL	8,124.0	0.88	302.46	7,836.45	1,888.73	-647.99	1,996.72	0.57	-0.55	-6.83	190.63
	NORMAL	8,219.0	0.39	13.28	7,931.45	1,889.44	-648.54	1,997.57	0.88	-0.52	74.55	153.90
	NORMAL	8,315.0	0.32	71.21	8,027.45	1,889.84	-648.21	1,997.84	0.36	-0.07	60.34	129.06
9/3/2014	NORMAL	8,411.0	0.17	121.92	8,123.44	1,889.85	-647.83	1,997.73	0.26	-0.16	52.82	148.22
	NORMAL	8,507.0	0.48	132.92	8,219.44	1,889.50	-647.42	1,997.26	0.33	0.32	11.46	16.91
	NORMAL	8,601.0	0.41	132.89	8,313.44	1,889.01	-646.88	1,996.61	0.07	-0.07	-0.03	180.18
	NORMAL	8,694.0	0.47	130.32	8,406.44	1,888.53	-646.35	1,995.99	0.07	0.06	-2.76	340.50
	NORMAL	8,788.0	0.20	73.75	8,500.44	1,888.33	-645.90	1,995.64	0.42	-0.29	-60.18	204.89
	NORMAL	8,883.0	0.18	163.82	8,595.44	1,888.23	-645.70	1,995.49	0.28	-0.02	94.81	138.04
9/4/2014	NORMAL	8,978.0	0.45	158.17	8,690.43	1,887.74	-645.51	1,994.96	0.29	0.28	-5.95	350.61
	NORMAL	9,073.0	0.97	186.94	8,785.43	1,886.60	-645.47	1,993.87	0.65	0.55	30.28	49.39
	NORMAL	9,167.0	1.29	187.66	8,879.41	1,884.76	-645.71	1,992.22	0.34	0.34	0.77	2.90
	NORMAL	9,262.0	1.31	183.27	8,974.38	1,882.62	-645.91	1,990.26	0.11	0.02	-4.62	279.15
	NORMAL	9,357.0	1.56	193.77	9,069.35	1,880.28	-646.28	1,988.18	0.38	0.26	11.05	51.77
	NORMAL	9,453.0	1.63	199.65	9,165.32	1,877.72	-647.05	1,986.03	0.19	0.07	6.13	69.80
	NORMAL	9,547.0	2.13	200.36	9,259.27	1,874.83	-648.11	1,983.65	0.53	0.53	0.76	3.02
	NORMAL	9,643.0	3.40	207.01	9,355.15	1,870.62	-650.03	1,980.31	1.36	1.32	6.93	17.51
	NORMAL	9,737.0	4.13	209.00	9,448.95	1,865.17	-652.93	1,976.15	0.79	0.78	2.12	11.14
	NORMAL	9,832.0	4.56	205.49	9,543.68	1,858.77	-656.22	1,971.21	0.53	0.45	-3.69	326.51
	NORMAL	9,927.0	4.84	203.21	9,638.36	1,851.68	-659.42	1,965.58	0.35	0.29	-2.40	325.15
	NORMAL	10,021.0	3.71	198.62	9,732.09	1,845.15	-661.95	1,960.27	1.26	-1.20	-4.88	194.57
	NORMAL	10,117.0	4.41	199.45	9,827.85	1,838.73	-664.18	1,954.95	0.73	0.73	0.86	5.21
	NORMAL	10,212.0	4.53	201.53	9,922.56	1,831.79	-666.77	1,949.28	0.21	0.13	2.19	54.53
	NORMAL	10,308.0	4.75	203.90	10,018.25	1,824.63	-669.77	1,943.53	0.30	0.23	2.47	42.26
9/5/2014	NORMAL	10,383.0	4.75	203.90	10,092.99	1,818.96	-672.29	1,939.01	0.00	0.00	0.00	0.00