

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	NER 314-32	Wellbore No.	00
Wellbore Legal Name	NER 314-32	Common Wellbore Name	NER 314-32
Project	RU 05-07S-093W	Site	RU 23-5 Pad
Vertical Section Azimuth	296.37 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	4/1/2014	UWI	NER 314-32
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	4/1/2014	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 (°)
4/1/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/1/2014	NORMAL	85.0	0.35	204.52	85.00	-0.24	-0.11	-0.01	0.41	0.41	0.00	204.52
	NORMAL	179.0	2.64	294.79	178.97	0.41	-2.19	2.15	2.83	2.44	96.03	97.81
	NORMAL	270.0	4.93	305.95	269.76	3.59	-7.26	8.10	2.63	2.52	12.26	23.46
	NORMAL	362.0	6.33	294.35	361.32	8.00	-15.08	17.07	1.95	1.52	-12.61	315.02
	NORMAL	453.0	9.15	294.70	451.48	13.09	-26.23	29.31	3.10	3.10	0.38	1.13
	NORMAL	545.0	12.40	296.89	541.85	20.62	-41.69	46.51	3.56	3.53	2.38	8.26
	NORMAL	637.0	14.78	294.35	631.27	29.92	-61.19	68.12	2.67	2.59	-2.76	344.68
	NORMAL	729.0	17.42	296.28	719.65	40.86	-84.24	93.62	2.93	2.87	2.10	12.39
	NORMAL	800.0	17.99	296.72	787.29	50.50	-103.56	115.21	0.82	0.80	0.62	13.42
	NORMAL	892.0	18.94	295.49	874.55	63.31	-129.73	144.35	1.12	1.03	-1.34	337.12
	NORMAL	982.0	19.48	295.29	959.54	76.01	-156.48	173.96	0.60	0.60	-0.22	352.96
	NORMAL	1,073.0	20.85	296.58	1,044.96	89.74	-184.68	205.32	1.58	1.51	1.42	18.59
	NORMAL	1,123.0	21.63	295.45	1,091.56	97.68	-200.96	223.44	1.76	1.56	-2.26	331.78
4/2/2014	NORMAL	1,263.0	22.08	295.88	1,221.50	120.25	-247.93	275.55	0.34	0.32	0.31	19.78
	NORMAL	1,358.0	20.79	296.30	1,309.93	135.52	-279.12	310.26	1.37	-1.36	0.44	173.41
	NORMAL	1,453.0	20.75	296.33	1,398.75	150.45	-309.31	343.95	0.04	-0.04	0.03	165.12
	NORMAL	1,548.0	20.69	296.21	1,487.61	165.33	-339.45	377.56	0.08	-0.06	-0.13	215.23
	NORMAL	1,643.0	20.18	294.15	1,576.63	179.44	-369.46	410.72	0.93	-0.54	-2.17	233.70
	NORMAL	1,738.0	19.87	293.07	1,665.89	192.47	-399.27	443.21	0.51	-0.33	-1.14	229.52
	NORMAL	1,834.0	20.22	295.73	1,756.07	206.07	-429.22	476.09	1.02	0.36	2.77	70.25

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 (°)
4/2/2014	NORMAL	1,929.0	20.43	294.10	1,845.16	219.97	-459.15	509.07	0.64	0.22	-1.72	289.58
	NORMAL	2,025.0	20.19	297.79	1,935.20	234.53	-489.10	542.38	1.36	-0.25	3.84	102.34
	NORMAL	2,120.0	19.94	296.52	2,024.43	249.41	-518.10	574.97	0.53	-0.26	-1.34	239.56
	NORMAL	2,215.0	19.79	295.53	2,113.78	263.57	-547.10	607.25	0.39	-0.16	-1.04	245.50
	NORMAL	2,310.0	19.42	299.13	2,203.27	278.19	-575.41	639.10	1.33	-0.39	3.79	108.72
	NORMAL	2,405.0	18.91	298.43	2,293.01	293.21	-602.75	670.26	0.59	-0.54	-0.74	203.93
4/3/2014	NORMAL	2,501.0	18.11	297.91	2,384.04	307.60	-629.61	700.72	0.85	-0.83	-0.54	191.41
	NORMAL	2,596.0	19.84	297.67	2,473.88	322.00	-656.94	731.60	1.82	1.82	-0.25	357.30
	NORMAL	2,692.0	19.87	296.41	2,564.17	336.82	-685.98	764.20	0.45	0.03	-1.31	273.42
	NORMAL	2,787.0	19.96	298.79	2,653.49	351.81	-714.65	796.55	0.86	0.09	2.51	84.78
	NORMAL	2,882.0	19.96	299.40	2,742.78	367.58	-742.99	828.94	0.22	0.00	0.64	90.29
	NORMAL	2,978.0	19.35	298.87	2,833.19	383.30	-771.19	861.19	0.66	-0.64	-0.55	196.04
	NORMAL	3,074.0	19.17	299.05	2,923.82	398.64	-798.90	892.83	0.20	-0.19	0.19	161.83
	NORMAL	3,170.0	18.73	298.43	3,014.61	413.63	-826.23	923.98	0.50	-0.46	-0.65	204.30
	NORMAL	3,265.0	20.40	298.35	3,104.12	428.75	-854.22	955.77	1.76	1.76	-0.08	359.04
	NORMAL	3,360.0	19.70	297.20	3,193.37	443.93	-883.03	988.33	0.85	-0.74	-1.21	208.85
	NORMAL	3,455.0	19.46	297.06	3,282.87	458.45	-911.36	1,020.16	0.26	-0.25	-0.15	191.00
	NORMAL	3,550.0	19.05	297.03	3,372.56	472.70	-939.27	1,051.49	0.43	-0.43	-0.03	181.37
	NORMAL	3,645.0	20.45	298.64	3,461.97	487.70	-967.64	1,083.57	1.58	1.47	1.69	22.00
	NORMAL	3,738.0	19.87	297.67	3,549.27	502.82	-995.90	1,115.61	0.72	-0.62	-1.04	209.50
	NORMAL	3,834.0	19.43	298.00	3,639.68	517.90	-1,024.45	1,147.88	0.47	-0.46	0.34	166.00
	NORMAL	3,928.0	18.77	297.65	3,728.51	532.26	-1,051.65	1,178.63	0.71	-0.70	-0.37	189.68
	NORMAL	4,023.0	19.46	299.18	3,818.27	547.06	-1,079.00	1,209.71	0.90	0.73	1.61	36.71
	NORMAL	4,118.0	18.89	298.88	3,908.00	562.21	-1,106.29	1,240.88	0.61	-0.60	-0.32	189.67
	NORMAL	4,213.0	19.77	297.46	3,997.64	577.04	-1,134.01	1,272.31	1.05	0.93	-1.49	331.22
	NORMAL	4,308.0	19.46	297.11	4,087.13	591.66	-1,162.35	1,304.20	0.35	-0.33	-0.37	200.59
	NORMAL	4,403.0	18.80	295.74	4,176.88	605.52	-1,190.23	1,335.33	0.84	-0.69	-1.44	213.58
	NORMAL	4,498.0	20.98	294.45	4,266.21	619.21	-1,219.50	1,367.64	2.34	2.29	-1.36	348.01
	NORMAL	4,593.0	20.70	295.56	4,354.99	633.50	-1,250.13	1,401.42	0.51	-0.29	1.17	125.86
	NORMAL	4,688.0	19.89	294.79	4,444.10	647.52	-1,279.95	1,434.37	0.90	-0.85	-0.81	197.89
	NORMAL	4,784.0	20.75	295.01	4,534.12	661.55	-1,310.19	1,467.69	0.90	0.90	0.23	5.18
	NORMAL	4,879.0	20.31	294.48	4,623.09	675.50	-1,340.44	1,501.00	0.50	-0.46	-0.56	202.65
	NORMAL	4,975.0	20.88	299.15	4,712.96	690.74	-1,370.55	1,534.74	1.81	0.59	4.86	73.06
	NORMAL	5,070.0	20.19	298.80	4,801.92	706.88	-1,399.70	1,568.03	0.74	-0.73	-0.37	189.93
	NORMAL	5,166.0	19.26	298.64	4,892.29	722.45	-1,428.11	1,600.40	0.97	-0.97	-0.17	183.25
	NORMAL	5,261.0	18.38	298.70	4,982.21	737.15	-1,455.00	1,631.02	0.93	-0.93	0.06	178.77
	NORMAL	5,357.0	19.70	297.03	5,072.95	751.78	-1,482.69	1,662.32	1.49	1.38	-1.74	336.78
4/4/2014	NORMAL	5,452.0	19.72	296.13	5,162.39	766.11	-1,511.35	1,694.36	0.32	0.02	-0.95	273.35
	NORMAL	5,548.0	19.26	296.06	5,252.89	780.20	-1,540.11	1,726.39	0.48	-0.48	-0.07	182.87
	NORMAL	5,643.0	19.01	295.79	5,342.64	793.82	-1,568.12	1,757.53	0.28	-0.26	-0.28	199.37
	NORMAL	5,738.0	19.43	296.59	5,432.34	807.62	-1,596.18	1,788.80	0.52	0.44	0.84	32.47
	NORMAL	5,834.0	18.86	296.82	5,523.03	821.77	-1,624.30	1,820.29	0.60	-0.59	0.24	172.57
	NORMAL	5,930.0	18.40	296.73	5,614.00	835.58	-1,651.68	1,850.95	0.48	-0.48	-0.09	183.53
	NORMAL	6,025.0	17.83	296.87	5,704.29	848.90	-1,678.05	1,880.49	0.60	-0.60	0.15	175.70
	NORMAL	6,120.0	17.96	296.66	5,794.70	862.05	-1,704.11	1,909.68	0.15	0.14	-0.22	333.50
	NORMAL	6,216.0	16.36	297.73	5,886.42	874.98	-1,729.31	1,938.00	1.70	-1.67	1.11	169.35
	NORMAL	6,311.0	15.48	298.08	5,977.78	887.17	-1,752.34	1,964.05	0.93	-0.93	0.37	173.94
4/5/2014	NORMAL	6,407.0	13.89	297.95	6,070.64	898.61	-1,773.82	1,988.38	1.66	-1.66	-0.14	181.12
	NORMAL	6,503.0	13.28	297.29	6,163.95	908.92	-1,793.87	2,010.92	0.66	-0.64	-0.69	193.94
	NORMAL	6,599.0	11.53	297.56	6,257.71	918.42	-1,812.18	2,031.54	1.82	-1.82	0.28	178.23
	NORMAL	6,694.0	11.32	298.50	6,350.82	927.26	-1,828.79	2,050.35	0.30	-0.22	0.99	138.90
	NORMAL	6,790.0	10.95	296.96	6,445.02	935.89	-1,845.19	2,068.88	0.49	-0.39	-1.60	218.04
	NORMAL	6,885.0	8.91	298.23	6,538.59	943.46	-1,859.72	2,085.26	2.16	-2.15	1.34	174.50
	NORMAL	6,980.0	8.18	299.41	6,632.53	950.26	-1,872.09	2,099.36	0.79	-0.77	1.24	167.08
	NORMAL	7,076.0	7.70	297.87	6,727.61	956.62	-1,883.72	2,112.61	0.55	-0.50	-1.60	203.14
4/6/2014	NORMAL	7,172.0	6.15	300.50	6,822.91	962.23	-1,893.84	2,124.17	1.65	-1.61	2.74	169.74

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 (°)
4/6/2014	NORMAL	7,266.0	5.69	298.28	6,916.41	967.00	-1,902.28	2,133.85	0.55	-0.49	-2.36	205.36
	NORMAL	7,362.0	4.89	296.62	7,012.00	971.09	-1,910.13	2,142.69	0.85	-0.83	-1.73	190.00
	NORMAL	7,457.0	3.96	307.34	7,106.72	974.89	-1,916.36	2,149.96	1.31	-0.98	11.28	143.61
	NORMAL	7,553.0	3.72	305.10	7,202.50	978.69	-1,921.54	2,156.30	0.29	-0.25	-2.33	210.89
	NORMAL	7,648.0	2.81	304.86	7,297.35	981.79	-1,925.98	2,161.65	0.96	-0.96	-0.25	180.74
	NORMAL	7,744.0	1.12	308.18	7,393.29	983.72	-1,928.64	2,164.89	1.76	-1.76	3.46	177.80
	NORMAL	7,839.0	0.83	3.18	7,488.27	984.98	-1,929.34	2,166.07	0.99	-0.31	57.89	133.44
4/7/2014	NORMAL	7,934.0	0.65	7.59	7,583.27	986.20	-1,929.23	2,166.52	0.20	-0.19	4.64	164.64
	NORMAL	8,029.0	0.68	0.07	7,678.26	987.30	-1,929.15	2,166.94	0.10	0.03	-7.92	285.18
	NORMAL	8,125.0	0.91	84.37	7,774.25	987.94	-1,928.39	2,166.55	1.13	0.24	87.81	123.07
	NORMAL	8,220.0	0.62	74.31	7,869.24	988.16	-1,927.15	2,165.52	0.34	-0.31	-10.59	199.88
	NORMAL	8,316.0	0.69	109.92	7,965.24	988.10	-1,926.11	2,164.56	0.42	0.07	37.09	98.36
	NORMAL	8,411.0	0.63	149.03	8,060.23	987.46	-1,925.30	2,163.56	0.47	-0.06	41.17	116.85
	NORMAL	8,507.0	0.97	11.56	8,156.23	987.80	-1,924.86	2,163.32	1.56	0.35	-143.20	205.99
4/8/2014	NORMAL	8,602.0	0.86	11.63	8,251.22	989.29	-1,924.56	2,163.71	0.12	-0.12	0.07	179.45
	NORMAL	8,695.0	0.44	12.26	8,344.21	990.32	-1,924.34	2,163.97	0.45	-0.45	0.68	179.34
	NORMAL	8,789.0	0.57	280.15	8,438.21	990.75	-1,924.73	2,164.51	0.78	0.14	-97.99	231.02
	NORMAL	8,883.0	0.79	257.21	8,532.20	990.69	-1,925.82	2,165.46	0.37	0.23	-24.40	297.09
	NORMAL	8,979.0	0.62	254.75	8,628.19	990.41	-1,926.97	2,166.36	0.18	-0.18	-2.56	188.87
	NORMAL	9,073.0	0.15	294.00	8,722.19	990.33	-1,927.57	2,166.86	0.55	-0.50	41.76	169.33
	NORMAL	9,168.0	0.34	273.84	8,817.19	990.40	-1,927.96	2,167.25	0.22	0.20	-21.22	325.29
4/9/2014	NORMAL	9,263.0	0.44	247.81	8,912.19	990.28	-1,928.58	2,167.75	0.21	0.11	-27.40	286.00
	NORMAL	9,358.0	0.34	269.63	9,007.19	990.14	-1,929.20	2,168.24	0.19	-0.11	22.97	134.54
	NORMAL	9,453.0	0.42	94.64	9,102.19	990.11	-1,929.14	2,168.17	0.80	0.08	-184.20	182.77
	NORMAL	9,548.0	0.26	82.77	9,197.18	990.11	-1,928.58	2,167.67	0.18	-0.17	-12.49	197.90
	NORMAL	9,644.0	0.15	156.44	9,293.18	990.02	-1,928.31	2,167.39	0.27	-0.11	76.74	146.54
	NORMAL	9,738.0	0.09	245.70	9,387.18	989.88	-1,928.33	2,167.34	0.19	-0.06	94.96	148.84
	NORMAL	9,832.0	0.17	224.07	9,481.18	989.75	-1,928.49	2,167.43	0.10	0.09	-23.01	317.35
	NORMAL	9,927.0	0.29	230.38	9,576.18	989.49	-1,928.78	2,167.57	0.13	0.13	6.64	15.09
	NORMAL	10,022.0	0.69	269.51	9,671.18	989.33	-1,929.53	2,168.18	0.53	0.42	41.19	60.61
	NORMAL	10,118.0	0.98	237.51	9,767.17	988.89	-1,930.80	2,169.12	0.56	0.30	-33.33	285.20
	NORMAL	10,212.0	1.45	213.28	9,861.15	987.46	-1,932.13	2,169.68	0.73	0.50	-25.78	299.91
	NORMAL	10,301.0	1.58	210.37	9,950.12	985.46	-1,933.37	2,169.90	0.17	0.15	-3.27	327.92