

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	NER 44-32	Wellbore No.	00
Wellbore Legal Name	NER 44-32	Common Wellbore Name	NER 44-32
Project	RU 05-07S-093W	Site	RU 23-5 Pad
Vertical Section Azimuth	64.29 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	3/10/2014	UWI	NER 44-32
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	2/24/2014	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 (°)
2/24/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/24/2014	NORMAL	88.0	0.79	52.03	88.00	0.37	0.48	0.59	0.90	0.90	0.00	52.03
	NORMAL	178.0	2.02	62.14	177.97	1.50	2.37	2.78	1.39	1.37	11.23	16.48
	NORMAL	269.0	5.37	67.24	268.77	3.89	7.72	8.64	3.70	3.68	5.60	8.15
	NORMAL	361.0	8.97	64.07	360.03	8.70	18.14	20.12	3.94	3.91	-3.45	352.15
	NORMAL	452.0	11.96	62.84	449.51	16.10	32.91	36.64	3.29	3.29	-1.35	355.12
	NORMAL	544.0	15.66	63.02	538.83	26.09	52.47	58.59	4.02	4.02	0.20	0.75
	NORMAL	636.0	17.95	61.44	626.90	38.51	75.99	85.17	2.54	2.49	-1.72	347.96
	NORMAL	708.0	18.05	62.14	695.38	49.02	95.59	107.40	0.33	0.14	0.97	65.52
	NORMAL	799.0	20.05	64.15	781.39	62.41	122.10	137.09	2.31	2.20	2.21	19.11
3/11/2014	NORMAL	891.0	21.43	62.76	867.43	76.98	151.23	169.66	1.59	1.50	-1.51	339.72
	NORMAL	981.0	20.40	65.00	951.50	91.14	180.07	201.78	1.45	-1.14	2.49	143.22
	NORMAL	1,072.0	19.11	64.81	1,037.14	104.18	207.92	232.54	1.42	-1.42	-0.21	182.76
	NORMAL	1,111.0	20.01	64.27	1,073.89	109.80	219.71	245.59	2.35	2.31	-1.38	348.39
3/12/2014	NORMAL	1,213.0	20.39	65.19	1,169.61	124.83	251.56	280.81	0.49	0.37	0.90	40.33
	NORMAL	1,276.0	20.73	63.73	1,228.60	134.37	271.52	302.93	0.98	0.54	-2.32	302.86
	NORMAL	1,371.0	20.93	62.46	1,317.39	149.66	301.65	336.71	0.52	0.21	-1.34	293.29
	NORMAL	1,466.0	19.17	67.91	1,406.64	163.37	331.15	369.24	2.70	-1.85	5.74	135.83
	NORMAL	1,561.0	19.79	66.06	1,496.20	175.76	360.30	400.88	0.92	0.65	-1.95	314.27
	NORMAL	1,656.0	20.71	65.69	1,585.33	189.20	390.31	433.75	0.98	0.97	-0.39	351.90
	NORMAL	1,751.0	19.51	66.00	1,674.54	202.57	420.11	466.40	1.27	-1.26	0.33	175.07

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azl. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
3/12/2014	NORMAL	1,847.0	19.85	64.61	1,764.93	216.08	449.48	498.72	0.60	0.35	-1.45	305.34
	NORMAL	1,942.0	20.39	65.91	1,854.13	229.75	479.16	531.39	0.74	0.57	1.37	40.24
	NORMAL	2,038.0	20.93	65.10	1,943.96	243.80	509.98	565.25	0.64	0.56	-0.84	331.73
	NORMAL	2,133.0	19.39	63.10	2,033.13	258.08	539.44	597.99	1.78	-1.62	-2.11	203.16
	NORMAL	2,228.0	19.46	62.31	2,122.73	272.56	567.51	629.57	0.29	0.07	-0.83	284.55
	NORMAL	2,323.0	19.86	62.41	2,212.19	287.39	595.83	661.52	0.42	0.42	0.11	4.85
	NORMAL	2,418.0	20.23	62.60	2,301.43	302.42	624.71	694.06	0.40	0.39	0.20	10.07
	NORMAL	2,514.0	20.49	62.72	2,391.44	317.76	654.38	727.45	0.27	0.27	0.13	9.18
	NORMAL	2,609.0	20.86	62.83	2,480.32	333.11	684.21	760.98	0.39	0.39	0.12	6.04
	NORMAL	2,705.0	19.04	65.72	2,570.56	347.35	713.69	793.72	2.16	-1.90	3.01	152.90
	NORMAL	2,800.0	19.27	65.24	2,660.30	360.29	742.05	824.89	0.29	0.24	-0.51	325.37
	NORMAL	2,896.0	19.79	64.89	2,750.77	373.82	771.15	856.98	0.56	0.54	-0.36	347.15
	NORMAL	2,991.0	19.85	65.64	2,840.15	387.30	800.40	889.18	0.28	0.06	0.79	77.08
	NORMAL	3,087.0	18.90	65.31	2,930.71	400.52	829.38	921.02	1.00	-0.99	-0.34	186.42
	NORMAL	3,183.0	19.45	64.64	3,021.38	413.86	857.95	952.55	0.62	0.57	-0.70	337.88
	NORMAL	3,278.0	19.51	63.96	3,110.94	427.60	886.50	984.23	0.25	0.06	-0.72	284.50
	NORMAL	3,373.0	19.61	65.45	3,200.46	441.18	915.25	1,016.03	0.54	0.11	1.57	79.37
	NORMAL	3,468.0	19.97	63.79	3,289.85	454.97	944.31	1,048.19	0.70	0.38	-1.75	301.86
	NORMAL	3,563.0	20.20	63.56	3,379.07	469.44	973.55	1,080.82	0.26	0.24	-0.24	340.94
	NORMAL	3,658.0	20.66	63.69	3,468.10	484.17	1,003.25	1,113.98	0.49	0.48	0.14	5.69
	NORMAL	3,751.0	21.02	65.01	3,555.01	498.49	1,033.08	1,147.06	0.64	0.39	1.42	53.14
	NORMAL	3,847.0	19.90	64.86	3,644.96	512.70	1,063.48	1,180.61	1.17	-1.17	-0.16	182.61
	NORMAL	3,941.0	19.76	64.90	3,733.38	526.24	1,092.35	1,212.50	0.15	-0.15	0.04	174.48
	NORMAL	4,036.0	19.97	64.07	3,822.73	540.15	1,121.48	1,244.78	0.37	0.22	-0.87	306.28
3/13/2014	NORMAL	4,131.0	19.63	64.73	3,912.11	554.05	1,150.50	1,276.96	0.43	-0.36	0.69	146.98
	NORMAL	4,227.0	19.10	65.78	4,002.68	567.38	1,179.41	1,308.79	0.66	-0.55	1.09	147.19
	NORMAL	4,321.0	19.19	64.19	4,091.48	580.42	1,207.34	1,339.61	0.56	0.10	-1.69	279.04
	NORMAL	4,416.0	18.73	67.03	4,181.33	593.17	1,235.44	1,370.46	1.09	-0.48	2.99	117.84
	NORMAL	4,511.0	20.40	65.10	4,270.84	606.09	1,264.50	1,402.25	1.88	1.76	-2.03	337.93
	NORMAL	4,606.0	21.31	64.29	4,359.62	620.55	1,295.08	1,436.07	1.00	0.96	-0.85	342.04
	NORMAL	4,701.0	21.11	66.48	4,448.19	634.87	1,326.32	1,470.43	0.86	-0.21	2.31	105.19
	NORMAL	4,797.0	22.01	64.51	4,537.47	649.51	1,358.41	1,505.69	1.20	0.94	-2.05	320.27
	NORMAL	4,892.0	20.84	62.28	4,625.90	665.03	1,389.44	1,540.38	1.50	-1.23	-2.35	213.81
	NORMAL	4,988.0	20.40	64.48	4,715.76	680.18	1,419.65	1,574.18	0.93	-0.46	2.29	120.62
	NORMAL	5,083.0	20.80	61.14	4,804.68	695.46	1,449.37	1,607.58	1.31	0.42	-3.52	287.23
	NORMAL	5,179.0	21.06	60.75	4,894.35	712.11	1,479.35	1,641.82	0.31	0.27	-0.41	331.63
	NORMAL	5,274.0	20.98	63.59	4,983.03	728.02	1,509.47	1,675.86	1.08	-0.08	2.99	95.81
	NORMAL	5,370.0	20.46	62.57	5,072.82	743.39	1,539.76	1,709.82	0.66	-0.54	-1.06	214.28
3/14/2014	NORMAL	5,466.0	20.22	62.61	5,162.83	758.75	1,569.38	1,743.17	0.25	-0.25	0.04	176.70
	NORMAL	5,561.0	20.10	63.06	5,252.01	773.70	1,598.51	1,775.90	0.21	-0.13	0.47	127.94
	NORMAL	5,656.0	20.18	63.17	5,341.21	788.49	1,627.68	1,808.60	0.09	0.08	0.12	25.39
	NORMAL	5,751.0	20.66	62.81	5,430.24	803.55	1,657.21	1,841.74	0.52	0.51	-0.38	345.17
	NORMAL	5,847.0	19.85	62.14	5,520.30	818.90	1,686.69	1,874.96	0.88	-0.84	-0.70	195.67
	NORMAL	5,943.0	17.91	62.32	5,611.13	833.38	1,714.17	1,906.00	2.02	-2.02	0.19	178.37
	NORMAL	6,038.0	17.99	60.92	5,701.51	847.29	1,739.93	1,935.25	0.46	0.08	-1.47	279.84
	NORMAL	6,120.0	17.63	62.25	5,779.58	859.23	1,761.98	1,960.30	0.66	-0.44	1.62	132.14
3/15/2014	NORMAL	6,215.0	17.85	61.84	5,870.06	872.80	1,787.55	1,989.22	0.27	0.23	-0.43	330.21
	NORMAL	6,311.0	15.56	63.90	5,962.00	885.41	1,812.09	2,016.80	2.46	-2.39	2.15	166.49
	NORMAL	6,407.0	14.77	63.25	6,054.66	896.58	1,834.58	2,041.91	0.84	-0.82	-0.68	191.83
	NORMAL	6,503.0	14.23	64.58	6,147.60	907.15	1,856.16	2,065.94	0.66	-0.56	1.39	148.98
	NORMAL	6,598.0	11.52	63.86	6,240.20	916.35	1,875.23	2,087.11	2.86	-2.85	-0.76	183.04
	NORMAL	6,694.0	11.44	64.78	6,334.28	924.63	1,892.45	2,106.22	0.21	-0.08	0.96	114.05
	NORMAL	6,790.0	10.46	63.60	6,428.53	932.56	1,908.87	2,124.45	1.05	-1.02	-1.23	192.30
	NORMAL	6,885.0	8.69	59.25	6,522.21	940.06	1,922.76	2,140.22	2.01	-1.86	-4.58	200.10
	NORMAL	6,980.0	8.17	61.26	6,616.18	946.98	1,934.85	2,154.11	0.63	-0.55	2.12	151.45
3/16/2014	NORMAL	7,076.0	6.44	58.47	6,711.40	953.07	1,945.42	2,166.28	1.84	-1.80	-2.91	190.21

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (")	Azi. (")	TVD (ft)	N/S (ft)	EW (ft)	V. sec. (ft)	DLS ("/100usft)	Build Rate ("/100usft)	Turn ("/100usft)	Tface (")
3/16/2014	NORMAL	7,171.0	6.16	61.67	6,805.83	958.28	1,954.44	2,176.67	0.47	-0.29	3.37	130.15
	NORMAL	7,266.0	4.48	62.37	6,900.41	962.42	1,962.22	2,185.48	1.77	-1.77	0.74	178.14
	NORMAL	7,362.0	4.04	63.69	6,996.15	965.66	1,968.57	2,192.60	0.47	-0.46	1.38	168.09
	NORMAL	7,457.0	4.04	63.25	7,090.91	968.65	1,974.56	2,199.30	0.03	0.00	-0.46	269.78
	NORMAL	7,552.0	3.52	62.28	7,185.70	971.51	1,980.13	2,205.56	0.55	-0.55	-1.02	186.53
	NORMAL	7,648.0	3.60	64.85	7,281.52	974.16	1,985.47	2,211.52	0.19	0.08	2.68	64.66
3/17/2014	NORMAL	7,743.0	2.87	62.43	7,376.37	976.53	1,990.28	2,216.88	0.78	-0.77	-2.55	189.39
	NORMAL	7,838.0	2.20	62.81	7,471.27	978.46	1,994.01	2,221.08	0.71	-0.71	0.40	178.75
	NORMAL	7,933.0	1.76	66.06	7,566.22	979.89	1,996.96	2,224.36	0.48	-0.46	3.42	167.30
	NORMAL	8,028.0	1.92	73.36	7,661.17	980.94	1,999.82	2,227.39	0.30	0.17	7.68	59.37
	NORMAL	8,124.0	1.06	352.15	7,757.14	982.28	2,001.24	2,229.25	2.13	-0.90	-84.59	210.80
	NORMAL	8,219.0	1.08	353.46	7,852.13	984.04	2,001.02	2,229.81	0.03	0.02	1.38	51.39
	NORMAL	8,315.0	1.02	358.63	7,948.11	985.79	2,000.89	2,230.46	0.12	-0.06	5.39	124.91
	NORMAL	8,411.0	0.97	355.57	8,044.10	987.45	2,000.81	2,231.11	0.08	-0.05	-3.19	225.22
	NORMAL	8,506.0	0.95	0.64	8,139.08	989.04	2,000.76	2,231.75	0.09	-0.02	5.34	105.78
	NORMAL	8,601.0	0.85	20.92	8,234.07	990.49	2,001.02	2,232.61	0.35	-0.11	21.35	117.40
3/18/2014	NORMAL	8,694.0	0.75	10.35	8,327.06	991.73	2,001.37	2,233.47	0.19	-0.11	-11.37	230.67
	NORMAL	8,788.0	0.91	359.33	8,421.05	993.08	2,001.48	2,234.15	0.24	0.17	-11.72	309.47
	NORMAL	8,882.0	0.68	10.93	8,515.04	994.38	2,001.57	2,234.80	0.30	-0.24	12.34	150.72
	NORMAL	8,978.0	0.22	54.89	8,611.04	995.04	2,001.83	2,235.32	0.57	-0.48	45.79	163.68
	NORMAL	9,072.0	0.44	153.81	8,705.04	994.82	2,002.14	2,235.50	0.55	0.23	105.23	123.55
3/19/2014	NORMAL	9,167.0	0.88	167.22	8,800.03	993.78	2,002.46	2,235.34	0.49	0.46	14.12	26.13
	NORMAL	9,262.0	1.23	173.99	8,895.02	992.06	2,002.73	2,234.83	0.39	0.37	7.13	23.01
	NORMAL	9,357.0	1.41	179.87	8,989.99	989.88	2,002.84	2,233.98	0.24	0.19	6.19	39.93
	NORMAL	9,452.0	1.76	187.61	9,084.95	987.26	2,002.65	2,232.68	0.43	0.37	8.15	35.36
	NORMAL	9,547.0	2.34	197.21	9,179.89	983.96	2,001.88	2,230.56	0.71	0.61	10.11	35.49
	NORMAL	9,643.0	2.51	203.08	9,275.81	980.16	2,000.48	2,227.64	0.31	0.18	6.11	58.57
	NORMAL	9,737.0	2.81	209.50	9,369.71	976.26	1,998.53	2,224.20	0.45	0.32	6.83	48.04
	NORMAL	9,831.0	3.15	213.76	9,463.58	972.10	1,995.97	2,220.08	0.43	0.36	4.53	35.22
	NORMAL	9,927.0	3.63	215.53	9,559.41	967.44	1,992.73	2,215.15	0.51	0.50	1.84	13.19
	NORMAL	10,021.0	4.17	211.88	9,653.19	962.11	1,989.20	2,209.65	0.63	0.57	-3.88	333.48
	NORMAL	10,117.0	4.51	205.99	9,748.92	955.76	1,985.70	2,203.74	0.58	0.35	-6.14	304.38
	NORMAL	10,211.0	4.74	208.60	9,842.61	949.03	1,982.22	2,197.69	0.33	0.24	2.78	43.76
	NORMAL	10,307.0	4.79	203.36	9,938.28	941.86	1,978.73	2,191.44	0.46	0.05	-5.46	273.94
NORMAL	10,377.0	4.75	206.42	10,008.04	936.59	1,976.29	2,186.94	0.37	-0.06	4.37	100.46	