

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	SP 341-14	Wellbore No.	
Well Name	SP 341-14	Common Name	SP 341-14
Project	PA 14-07S-095W	Site	SP 32-14 Pad
Vertical Section Azimuth	42.69 (°)	North Reference	True
Origin N/S	0.0 (ft)	Origin E/W	0.0 (ft)
Spud Date	12/17/2011	UWI	SP 341-14
Active Datum	KB @7,662.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	12/16/2011	Ended	12/29/2011
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 (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/16/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/18/2011	NORMAL	73.0	0.44	15.03	73.00	0.27	0.07	0.25	0.60	0.60	0.00	15.03
	NORMAL	167.0	2.64	61.26	166.96	1.66	2.06	2.62	2.51	2.34	49.18	53.97
	NORMAL	257.0	5.37	45.00	256.74	5.64	6.86	8.79	3.26	3.03	-18.07	329.16
	NORMAL	347.0	8.27	40.87	346.09	13.51	14.08	19.47	3.27	3.22	-4.59	348.34
	NORMAL	424.0	11.28	40.62	421.96	23.42	22.60	32.54	3.91	3.91	-0.32	359.07
	NORMAL	515.0	12.88	42.00	510.95	37.71	35.19	51.58	1.79	1.76	1.52	10.91
	NORMAL	607.0	15.39	42.53	600.15	54.33	50.30	74.04	2.73	2.73	0.58	3.21
	NORMAL	698.0	17.96	41.56	687.32	73.73	67.77	100.15	2.84	2.82	-1.07	353.35
	NORMAL	789.0	21.64	45.47	772.93	96.00	89.05	130.95	4.30	4.04	4.30	21.64
	NORMAL	880.0	25.30	41.41	856.39	122.36	113.89	167.16	4.39	4.02	-4.46	334.29
	NORMAL	971.0	28.08	41.79	937.69	152.92	141.02	208.02	3.06	3.05	0.42	3.68
	NORMAL	1,062.0	27.93	41.58	1,018.03	184.83	169.44	250.74	0.20	-0.16	-0.23	213.23
	NORMAL	1,157.0	27.96	42.08	1,101.95	218.00	199.13	295.26	0.25	0.03	0.53	82.92
	NORMAL	1,251.0	29.07	42.73	1,184.55	251.14	229.40	340.13	1.23	1.18	0.69	15.90
	NORMAL	1,346.0	27.84	42.99	1,268.07	284.32	260.18	385.39	1.30	-1.29	0.27	174.36
	NORMAL	1,440.0	28.14	42.77	1,351.08	316.64	290.20	429.51	0.34	0.32	-0.23	340.91
	NORMAL	1,535.0	26.99	43.05	1,435.29	348.84	320.13	473.47	1.22	-1.21	0.29	173.70
12/19/2011	NORMAL	1,629.0	25.70	43.86	1,519.53	379.16	348.78	515.18	1.42	-1.37	0.86	164.79
	NORMAL	1,724.0	27.51	44.34	1,604.46	409.71	378.39	557.71	1.92	1.91	0.51	6.99
	NORMAL	1,818.0	28.26	43.66	1,687.55	441.33	408.93	601.66	0.87	0.80	-0.72	336.72

2.1.2 Survey Stations (Continued)

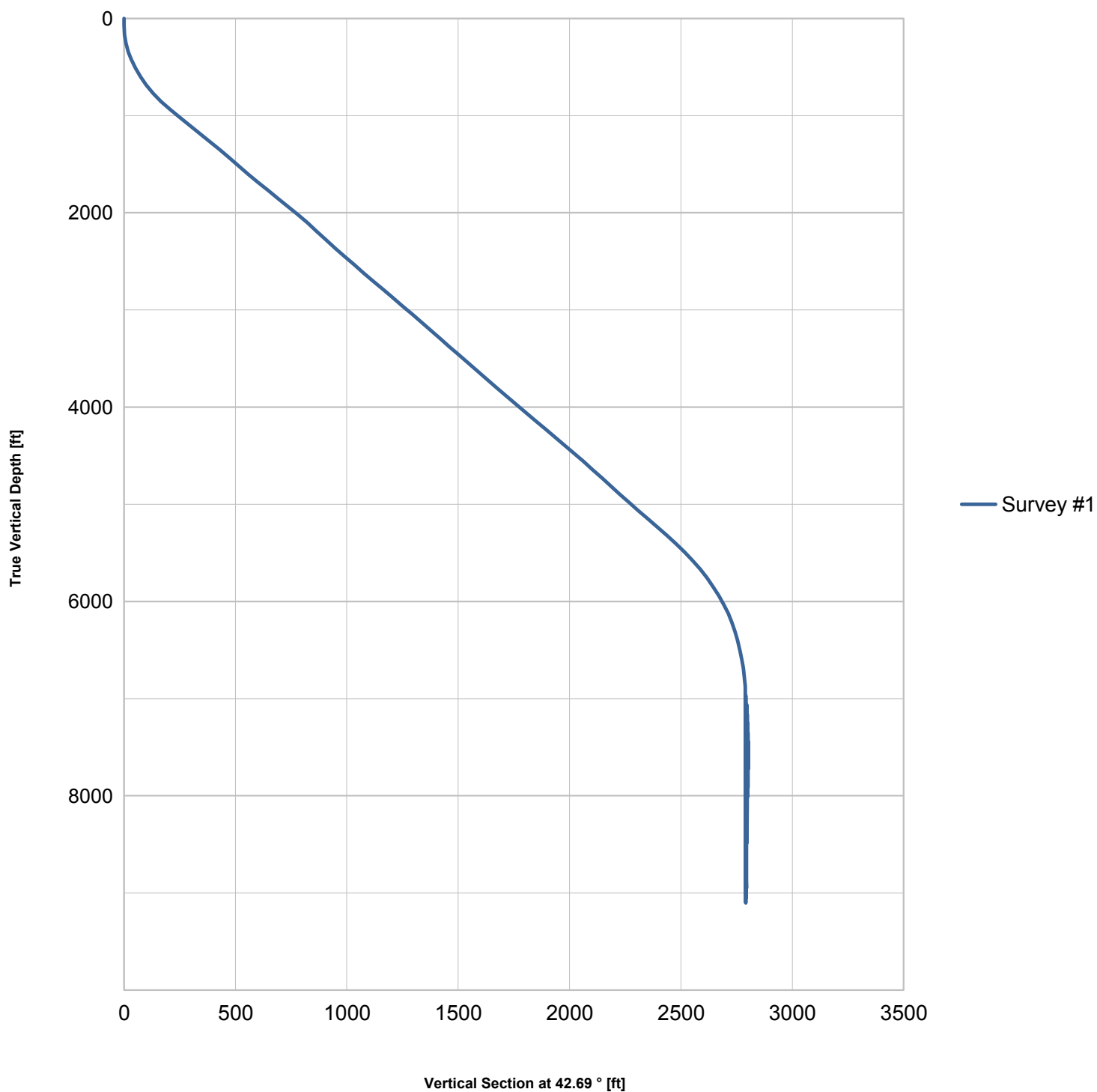
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/19/2011	NORMAL	1,913.0	29.12	42.42	1,770.89	474.67	440.05	647.26	1.10	0.91	-1.31	324.76
	NORMAL	2,007.0	27.77	42.53	1,853.54	507.69	470.28	692.04	1.44	-1.44	0.12	177.83
	NORMAL	2,102.0	28.42	42.77	1,937.34	540.60	500.59	736.77	0.69	0.68	0.25	9.97
	NORMAL	2,196.0	28.42	41.50	2,020.01	573.77	530.61	781.51	0.64	0.00	-1.35	269.44
	NORMAL	2,291.0	25.25	41.03	2,104.77	605.99	558.89	824.37	3.34	-3.34	-0.49	183.62
	NORMAL	2,385.0	25.28	40.60	2,189.78	636.36	585.12	864.47	0.20	0.03	-0.46	279.09
12/21/2011	NORMAL	2,408.0	25.29	40.87	2,210.58	643.80	591.53	874.29	0.50	0.04	1.17	85.17
	NORMAL	2,487.0	25.35	43.16	2,281.99	668.90	614.14	908.07	1.24	0.08	2.90	87.53
	NORMAL	2,581.0	26.41	42.70	2,366.56	698.94	642.08	949.10	1.15	1.13	-0.49	349.07
	NORMAL	2,676.0	26.51	43.16	2,451.61	729.93	670.91	991.43	0.24	0.11	0.48	64.20
	NORMAL	2,770.0	26.64	42.26	2,535.68	760.83	699.43	1,033.48	0.45	0.14	-0.96	287.49
	NORMAL	2,865.0	26.80	42.13	2,620.53	792.48	728.12	1,076.19	0.18	0.17	-0.14	339.87
	NORMAL	2,959.0	27.35	42.88	2,704.23	824.02	757.03	1,118.97	0.69	0.59	0.80	32.16
	NORMAL	3,054.0	27.72	42.25	2,788.47	856.37	786.74	1,162.89	0.50	0.39	-0.66	321.51
	NORMAL	3,148.0	26.85	44.50	2,872.02	887.69	816.32	1,205.97	1.44	-0.93	2.39	131.14
	NORMAL	3,243.0	26.91	44.28	2,956.75	918.38	846.36	1,248.90	0.12	0.06	-0.23	301.00
	NORMAL	3,338.0	27.29	44.58	3,041.32	949.29	876.66	1,292.16	0.43	0.40	0.32	19.91
	NORMAL	3,432.0	26.50	43.00	3,125.15	979.97	906.09	1,334.67	1.13	-0.84	-1.68	221.43
	NORMAL	3,527.0	26.41	42.89	3,210.21	1,010.95	934.92	1,376.99	0.11	-0.09	-0.12	208.52
	NORMAL	3,621.0	26.56	42.79	3,294.34	1,041.69	963.43	1,418.91	0.17	0.16	-0.11	343.40
	NORMAL	3,716.0	26.80	41.03	3,379.23	1,073.44	991.91	1,461.56	0.87	0.25	-1.85	286.11
	NORMAL	3,810.0	26.44	42.30	3,463.26	1,104.90	1,019.91	1,503.67	0.72	-0.38	1.35	122.89
	NORMAL	3,905.0	26.45	42.30	3,548.32	1,136.19	1,048.38	1,545.98	0.01	0.01	0.00	0.00
	NORMAL	3,999.0	26.76	42.53	3,632.37	1,167.27	1,076.78	1,588.07	0.35	0.33	0.24	18.48
	NORMAL	4,094.0	26.32	42.09	3,717.36	1,198.66	1,105.35	1,630.52	0.51	-0.46	-0.46	203.88
	NORMAL	4,188.0	27.22	41.38	3,801.28	1,230.26	1,133.53	1,672.85	1.02	0.96	-0.76	340.12
	NORMAL	4,283.0	27.56	41.38	3,885.63	1,263.05	1,162.42	1,716.54	0.36	0.36	0.00	0.00
	NORMAL	4,377.0	26.92	42.78	3,969.21	1,294.99	1,191.25	1,759.56	0.96	-0.68	1.49	135.58
	NORMAL	4,472.0	27.26	43.23	4,053.79	1,326.62	1,220.76	1,802.82	0.42	0.36	0.47	31.28
	NORMAL	4,566.0	27.26	42.61	4,137.35	1,358.15	1,250.08	1,845.88	0.30	0.00	-0.66	269.72
	NORMAL	4,661.0	27.44	42.00	4,221.73	1,390.43	1,279.45	1,889.52	0.35	0.19	-0.64	302.44
	NORMAL	4,755.0	27.26	41.91	4,305.22	1,422.55	1,308.32	1,932.70	0.20	-0.19	-0.10	192.90
	NORMAL	4,850.0	27.26	42.97	4,389.67	1,454.66	1,337.69	1,976.21	0.51	0.00	1.12	90.47
	NORMAL	4,944.0	27.44	42.88	4,473.16	1,486.28	1,367.10	2,019.40	0.20	0.19	-0.10	347.02
	NORMAL	5,039.0	26.29	44.81	4,557.91	1,517.25	1,396.82	2,062.31	1.52	-1.21	2.03	143.68
	NORMAL	5,133.0	25.88	45.25	4,642.33	1,546.46	1,426.06	2,103.61	0.48	-0.44	0.47	154.94
	NORMAL	5,228.0	25.76	44.11	4,727.85	1,575.88	1,455.15	2,144.96	0.54	-0.13	-1.20	255.90
	NORMAL	5,322.0	25.60	44.10	4,812.57	1,605.13	1,483.51	2,185.68	0.17	-0.17	-0.01	181.55
	NORMAL	5,417.0	25.94	41.91	4,898.12	1,635.33	1,511.67	2,226.98	1.06	0.36	-2.31	288.66
	NORMAL	5,511.0	26.06	40.97	4,982.61	1,666.22	1,538.94	2,268.17	0.46	0.13	-1.00	285.81
	NORMAL	5,606.0	26.38	41.97	5,067.83	1,697.67	1,566.73	2,310.14	0.57	0.34	1.05	54.53
	NORMAL	5,701.0	27.03	42.07	5,152.70	1,729.38	1,595.31	2,352.83	0.69	0.68	0.11	4.00
	NORMAL	5,795.0	26.91	41.56	5,236.48	1,761.16	1,623.74	2,395.45	0.28	-0.13	-0.54	242.35
12/23/2011	NORMAL	5,890.0	25.68	42.88	5,321.64	1,792.33	1,652.01	2,437.53	1.43	-1.29	1.39	155.16
	NORMAL	5,984.0	25.56	44.11	5,406.40	1,821.81	1,679.98	2,478.17	0.58	-0.13	1.31	103.27
	NORMAL	6,079.0	23.04	45.43	5,492.98	1,849.58	1,707.49	2,517.23	2.71	-2.65	1.39	168.44
	NORMAL	6,173.0	21.98	44.90	5,579.82	1,874.95	1,733.02	2,553.19	1.15	-1.13	-0.56	190.59
	NORMAL	6,268.0	19.79	43.84	5,668.57	1,899.14	1,756.71	2,587.04	2.34	-2.31	-1.12	189.30
	NORMAL	6,362.0	17.76	43.14	5,757.56	1,921.09	1,777.53	2,617.29	2.17	-2.16	-0.74	186.00
	NORMAL	6,457.0	15.75	41.77	5,848.53	1,941.28	1,796.03	2,644.67	2.16	-2.12	-1.44	190.46
	NORMAL	6,551.0	15.04	44.55	5,939.15	1,959.48	1,813.09	2,669.61	1.09	-0.76	2.96	135.23
	NORMAL	6,646.0	13.19	41.56	6,031.28	1,976.38	1,828.93	2,692.77	2.09	-1.95	-3.15	200.07
	NORMAL	6,740.0	10.90	34.44	6,123.21	1,991.74	1,841.07	2,712.29	2.90	-2.44	-7.57	209.53
12/24/2011	NORMAL	6,835.0	9.35	35.50	6,216.73	2,005.43	1,850.63	2,728.84	1.64	-1.63	1.12	173.67
	NORMAL	6,930.0	7.83	39.10	6,310.66	2,016.73	1,859.19	2,742.96	1.70	-1.60	3.79	162.29
	NORMAL	7,024.0	6.14	43.27	6,403.96	2,025.36	1,866.68	2,754.38	1.88	-1.80	4.44	165.36
	NORMAL	7,055.0	5.80	42.09	6,434.79	2,027.73	1,868.86	2,757.60	1.17	-1.10	-3.81	199.26
	NORMAL											

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/24/2011	NORMAL	7,087.0	5.63	45.95	6,466.64	2,030.02	1,871.08	2,760.78	1.31	-0.53	12.06	115.77
	NORMAL	7,118.0	5.53	44.13	6,497.49	2,032.15	1,873.21	2,763.79	0.66	-0.32	-5.87	239.63
	NORMAL	7,213.0	5.10	42.00	6,592.08	2,038.58	1,879.22	2,772.59	0.50	-0.45	-2.24	203.59
12/25/2011	NORMAL	7,307.0	4.04	36.73	6,685.78	2,044.34	1,884.00	2,780.06	1.21	-1.13	-5.61	199.00
	NORMAL	7,402.0	2.20	33.03	6,780.64	2,048.55	1,886.99	2,785.19	1.95	-1.94	-3.89	184.40
	NORMAL	7,496.0	1.93	65.11	6,874.58	2,050.73	1,889.41	2,788.43	1.24	-0.29	34.13	118.84
	NORMAL	7,591.0	2.73	80.58	6,969.50	2,051.77	1,893.10	2,791.70	1.06	0.84	16.28	46.07
	NORMAL	7,685.0	2.29	69.60	7,063.41	2,052.79	1,897.07	2,795.14	0.69	-0.47	-11.68	222.14
	NORMAL	7,780.0	1.44	54.17	7,158.36	2,054.15	1,899.81	2,798.00	1.03	-0.89	-16.24	203.02
	NORMAL	7,874.0	0.99	24.24	7,252.34	2,055.58	1,901.10	2,799.93	0.81	-0.48	-31.84	220.11
	NORMAL	7,969.0	0.88	346.46	7,347.33	2,057.04	1,901.27	2,801.11	0.65	-0.11	-39.77	241.60
	NORMAL	8,064.0	1.06	339.42	7,442.31	2,058.57	1,900.79	2,801.91	0.23	0.19	-7.41	322.94
	NORMAL	8,158.0	1.16	322.14	7,536.30	2,060.13	1,899.90	2,802.46	0.37	0.11	-18.38	277.87
	NORMAL	8,253.0	1.01	294.66	7,631.28	2,061.24	1,898.55	2,802.35	0.56	-0.16	-28.93	240.48
	NORMAL	8,347.0	1.04	284.06	7,725.26	2,061.79	1,896.97	2,801.69	0.20	0.03	-11.28	273.67
	NORMAL	8,442.0	0.62	282.14	7,820.25	2,062.11	1,895.63	2,801.01	0.44	-0.44	-2.02	182.83
	NORMAL	8,536.0	0.97	276.58	7,914.24	2,062.31	1,894.34	2,800.29	0.38	0.37	-5.91	344.78
	NORMAL	8,631.0	0.69	245.21	8,009.24	2,062.16	1,893.02	2,799.29	0.55	-0.29	-33.02	223.32
12/26/2011	NORMAL	8,725.0	1.19	213.31	8,103.22	2,061.11	1,891.97	2,797.80	0.75	0.53	-33.94	296.99
	NORMAL	8,820.0	0.70	208.11	8,198.21	2,059.77	1,891.16	2,796.26	0.52	-0.52	-5.47	187.33
	NORMAL	8,914.0	0.97	93.24	8,292.20	2,059.22	1,891.68	2,796.21	1.51	0.29	-122.20	218.46
	NORMAL	9,009.0	1.23	121.10	8,387.19	2,058.65	1,893.36	2,796.93	0.62	0.27	29.33	78.45
	NORMAL	9,103.0	1.41	174.80	8,481.17	2,056.98	1,894.33	2,796.36	1.28	0.19	57.13	109.17
	NORMAL	9,198.0	1.93	179.56	8,576.13	2,054.21	1,894.44	2,794.41	0.57	0.55	5.01	17.32
	NORMAL	9,292.0	1.23	169.26	8,670.09	2,051.64	1,894.64	2,792.65	0.80	-0.74	-10.96	196.99
	NORMAL	9,387.0	0.70	88.40	8,765.08	2,050.65	1,895.41	2,792.45	1.38	-0.56	-85.12	211.71
	NORMAL	9,481.0	0.94	71.41	8,859.07	2,050.91	1,896.72	2,793.52	0.36	0.26	-18.07	305.92
	NORMAL	9,575.0	1.06	137.89	8,953.06	2,050.52	1,898.03	2,794.12	1.17	0.13	70.72	118.00
12/27/2011	NORMAL	9,670.0	2.29	171.46	9,048.02	2,047.99	1,898.90	2,792.85	1.60	1.29	35.34	56.18
	NORMAL	9,725.0	2.29	171.46	9,102.97	2,045.81	1,899.23	2,791.48	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

