

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	SP 431-14	Wellbore No.	
Well Name	SP 431-14	Common Name	SP 431-14
Project	PA 14-07S-095W	Site	SP 32-14 Pad
Vertical Section Azimuth	20.48 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	11/16/2011	UWI	SP 431-14
Active Datum	KB @7,663.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	11/16/2011	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

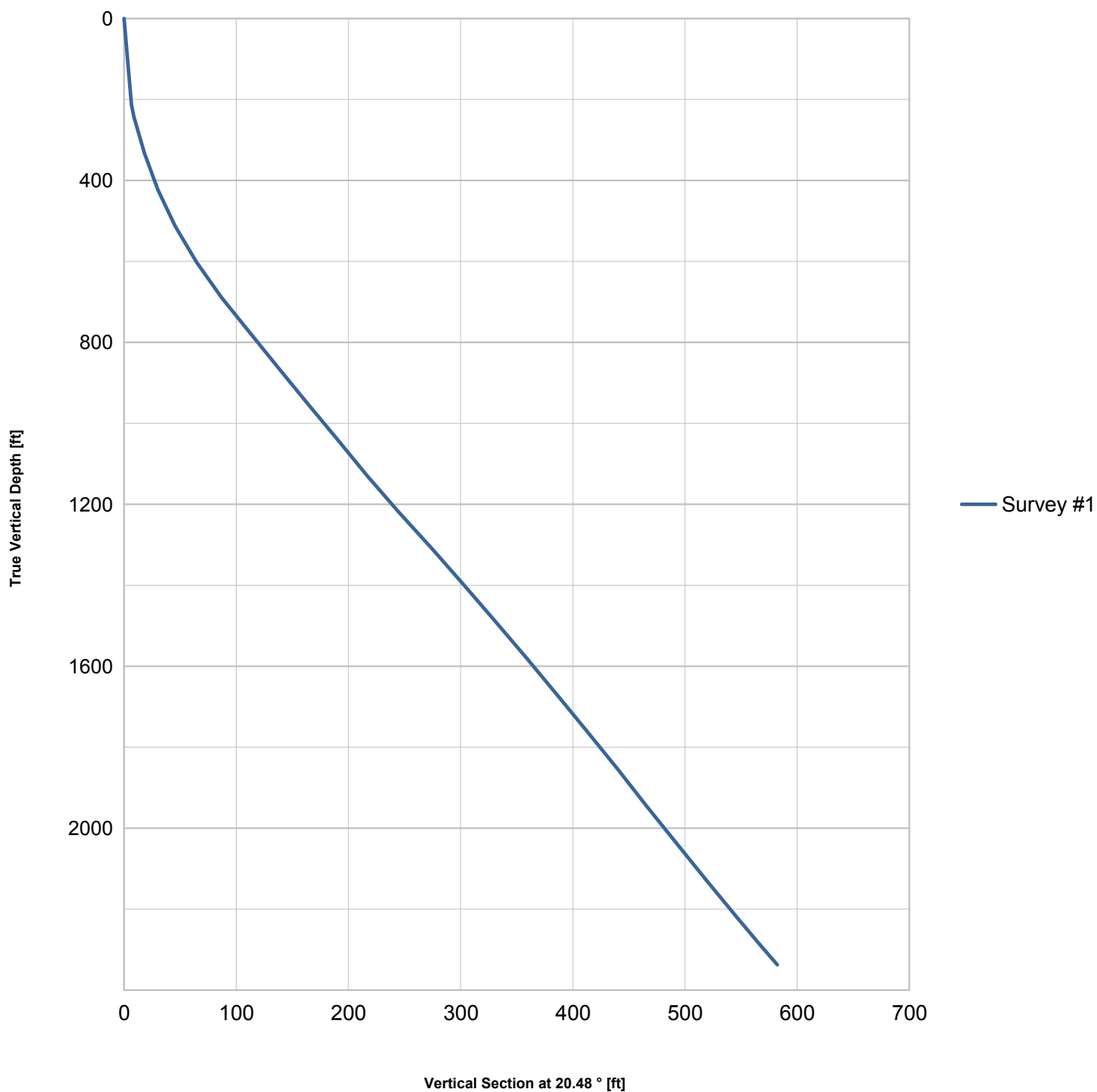
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/16/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/16/2011	NORMAL	213.0	3.69	32.50	212.85	5.78	3.68	6.71	1.73	1.73	0.00	32.50
	NORMAL	243.0	4.84	26.41	242.77	7.73	4.77	8.91	4.11	3.83	-20.30	335.45
	NORMAL	333.0	6.88	18.08	332.30	16.26	8.13	18.07	2.45	2.27	-9.26	333.19
	NORMAL	424.0	8.33	20.67	422.49	27.61	12.15	30.11	1.64	1.59	2.85	14.59
	NORMAL	515.0	11.00	22.05	512.19	41.82	17.73	45.38	2.94	2.93	1.52	5.64
	NORMAL	607.0	13.02	20.10	602.18	59.69	24.59	64.52	2.24	2.20	-2.12	347.69
	NORMAL	698.0	15.94	19.63	690.28	81.09	32.31	87.27	3.21	3.21	-0.52	357.47
	NORMAL	790.0	16.53	19.69	778.61	105.31	40.97	112.99	0.64	0.64	0.07	1.66
	NORMAL	880.0	15.88	19.69	865.03	128.96	49.43	138.11	0.72	-0.72	0.00	180.00
11/18/2011	NORMAL	971.0	17.08	20.28	952.29	153.22	58.26	163.92	1.33	1.32	0.65	8.22
	NORMAL	1,062.0	16.38	21.00	1,039.44	177.73	67.49	190.11	0.80	-0.77	0.79	163.85
	NORMAL	1,157.0	16.59	20.47	1,130.53	202.95	77.03	217.07	0.27	0.22	-0.56	324.14
	NORMAL	1,251.0	18.10	20.26	1,220.26	229.22	86.78	245.09	1.61	1.61	-0.22	357.53
	NORMAL	1,346.0	18.15	20.34	1,310.54	256.94	97.03	274.65	0.06	0.05	0.08	26.50
	NORMAL	1,441.0	17.13	20.19	1,401.07	283.94	107.01	303.43	1.07	-1.07	-0.16	182.48
11/19/2011	NORMAL	1,535.0	17.44	19.58	1,490.83	310.21	116.50	331.36	0.38	0.33	-0.65	329.40
	NORMAL	1,630.0	16.95	19.85	1,581.58	336.64	125.98	359.44	0.52	-0.52	0.28	170.88
	NORMAL	1,724.0	16.28	20.36	1,671.66	361.89	135.21	386.32	0.73	-0.71	0.54	167.97
	NORMAL	1,819.0	16.75	20.73	1,762.74	387.17	144.69	413.33	0.51	0.49	0.39	12.79
	NORMAL	1,913.0	15.72	18.80	1,852.99	411.90	153.59	439.60	1.24	-1.10	-2.05	206.72

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 (°)
11/19/2011	NORMAL	2,008.0	16.02	17.74	1,944.37	436.57	161.73	465.56	0.44	0.32	-1.12	315.47
	NORMAL	2,102.0	16.30	19.90	2,034.65	461.32	170.17	491.71	0.71	0.30	2.30	66.07
	NORMAL	2,197.0	16.20	19.56	2,125.86	486.35	179.15	518.29	0.15	-0.11	-0.36	223.41
	NORMAL	2,291.0	16.69	19.26	2,216.01	511.44	187.99	544.89	0.53	0.52	-0.32	350.02
	NORMAL	2,359.0	17.32	19.43	2,281.04	530.21	194.58	564.78	0.93	0.93	0.25	4.59
	NORMAL	2,418.0	17.32	19.43	2,337.37	546.77	200.42	582.34	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

