

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	SG 531-27	Wellbore No.	
Well Name	SG 531-27	Common Name	SG 531-27
Project	SG 27-07S-096W	Site	SG 41-27 Pad
Vertical Section	233.82 (°)	North Reference	
Azimuth		Origin E/W	
Origin N/S		UWI	SG 531-27
Spud Date	10/16/2011		
Active Datum	KB @5,109.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Started	10/15/2011	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)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
10/15/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/15/2011	NORMAL	103.0	0.44	281.34	103.00	0.08	-0.39	0.27	0.43	0.43	0.00	281.34
	NORMAL	165.0	1.50	266.04	164.99	0.07	-1.43	1.11	1.74	1.71	-24.68	338.54
	NORMAL	257.0	4.05	250.93	256.87	-1.08	-5.70	5.24	2.86	2.77	-16.42	336.36

2.2 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Started	10/16/2011	Ended	
Tool Name	MWD	Engineer	

2.2.1 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

2.2.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
10/16/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/16/2011	NORMAL	103.0	0.44	281.34	103.00	0.08	-0.39	0.27	0.43	0.43	0.00	281.34
	NORMAL	165.0	1.50	266.04	164.99	0.07	-1.43	1.11	1.74	1.71	-24.68	338.54
	NORMAL	257.0	4.05	250.93	256.87	-1.08	-5.70	5.24	2.86	2.77	-16.42	336.36
	NORMAL	348.0	7.04	238.89	347.44	-5.01	-13.52	13.87	3.51	3.29	-13.23	332.67
	NORMAL	430.0	10.63	234.79	428.46	-11.97	-24.00	26.44	4.44	4.38	-5.00	348.02
	NORMAL	517.0	13.59	235.00	513.51	-22.46	-38.93	44.69	3.40	3.40	0.24	0.96
	NORMAL	609.0	16.87	235.37	602.27	-36.25	-58.78	68.84	3.57	3.57	0.40	1.88
	NORMAL	700.0	18.95	234.99	688.85	-52.23	-81.75	96.82	2.29	2.29	-0.42	356.60
	NORMAL	791.0	22.36	232.10	773.99	-71.35	-107.52	128.90	3.91	3.75	-3.18	342.00
	NORMAL	883.0	25.58	234.82	858.05	-93.55	-137.57	166.26	3.70	3.50	2.96	20.19
	NORMAL	974.0	28.68	236.39	939.03	-116.96	-171.82	207.73	3.50	3.41	1.73	13.71
	NORMAL	1,068.0	32.40	234.87	1,019.98	-143.95	-211.22	255.46	4.04	3.96	-1.62	347.61
10/17/2011	NORMAL	1,162.0	36.61	234.81	1,097.40	-174.62	-254.79	308.69	4.48	4.48	-0.06	359.51
	NORMAL	1,200.0	37.81	234.10	1,127.66	-187.98	-273.48	331.72	3.35	3.16	-1.87	340.03
10/18/2011	NORMAL	1,249.0	39.20	235.26	1,166.01	-205.61	-298.38	362.22	3.20	2.84	2.37	27.91
	NORMAL	1,343.0	38.60	234.80	1,239.16	-239.44	-346.75	421.23	0.71	-0.64	-0.49	205.53
	NORMAL	1,437.0	40.70	230.30	1,311.55	-275.93	-394.31	481.16	3.78	2.23	-4.79	304.43
	NORMAL	1,531.0	39.10	230.07	1,383.66	-314.54	-440.62	541.33	1.71	-1.70	-0.24	185.18
	NORMAL	1,625.0	39.90	229.80	1,456.19	-353.03	-486.38	600.99	0.87	0.85	-0.29	347.78
	NORMAL	1,720.0	40.80	232.35	1,528.60	-391.65	-534.23	662.41	1.98	0.95	2.68	62.38
	NORMAL	1,814.0	41.66	234.46	1,599.29	-428.58	-583.97	724.36	1.74	0.91	2.24	59.06
	NORMAL	1,908.0	40.21	233.32	1,670.30	-464.86	-633.73	785.94	1.74	-1.54	-1.21	206.82
	NORMAL	2,002.0	39.90	233.05	1,742.26	-501.11	-682.16	846.43	0.38	-0.33	-0.29	209.17
	NORMAL	2,097.0	38.36	232.97	1,815.95	-537.18	-730.04	906.38	1.62	-1.62	-0.08	181.85
	NORMAL	2,191.0	36.56	233.32	1,890.56	-571.47	-775.78	963.54	1.93	-1.91	0.37	173.39
	NORMAL	2,285.0	35.42	234.20	1,966.61	-604.13	-820.33	1,018.78	1.33	-1.21	0.94	155.96
	NORMAL	2,379.0	32.26	235.78	2,044.68	-634.18	-863.18	1,071.10	3.49	-3.36	1.68	165.09
	NORMAL	2,474.0	30.06	234.46	2,125.97	-662.28	-903.51	1,120.24	2.42	-2.32	-1.39	196.68
	NORMAL	2,568.0	27.69	233.76	2,208.28	-688.88	-940.29	1,165.63	2.55	-2.52	-0.74	187.81
	NORMAL	2,662.0	26.54	233.41	2,291.95	-714.31	-974.77	1,208.47	1.24	-1.22	-0.37	187.74
	NORMAL	2,757.0	25.88	232.26	2,377.18	-739.65	-1,008.20	1,250.42	0.88	-0.69	-1.21	217.07
	NORMAL	2,851.0	25.36	233.49	2,461.94	-764.18	-1,040.61	1,291.06	0.79	-0.55	1.31	134.91
	NORMAL	2,945.0	23.42	235.43	2,547.55	-786.76	-1,072.17	1,329.87	2.23	-2.06	2.06	158.44
	NORMAL	3,039.0	21.09	234.81	2,634.54	-807.11	-1,101.38	1,365.45	2.49	-2.48	-0.66	185.47
	NORMAL	3,133.0	18.68	234.46	2,722.93	-825.61	-1,127.45	1,397.42	2.57	-2.56	-0.37	182.66
	NORMAL	3,228.0	17.27	231.65	2,813.29	-843.20	-1,150.89	1,426.73	1.74	-1.48	-2.96	210.26
	NORMAL	3,322.0	16.66	231.03	2,903.20	-860.33	-1,172.31	1,454.13	0.68	-0.65	-0.66	196.22
	NORMAL	3,416.0	13.97	232.70	2,993.85	-875.69	-1,191.82	1,478.94	2.90	-2.86	1.78	171.49
	NORMAL	3,510.0	12.08	231.91	3,085.43	-888.63	-1,208.59	1,500.11	2.02	-2.01	-0.84	185.00
	NORMAL	3,604.0	9.93	235.69	3,177.70	-899.27	-1,223.03	1,518.05	2.41	-2.29	4.02	163.30
	NORMAL	3,699.0	8.09	235.69	3,271.52	-907.66	-1,235.31	1,532.92	1.94	-1.94	0.00	180.00
	NORMAL	3,793.0	6.64	242.11	3,364.74	-913.93	-1,245.58	1,544.90	1.77	-1.54	6.83	153.58
	NORMAL	3,887.0	4.97	237.45	3,458.26	-918.66	-1,253.82	1,554.35	1.84	-1.78	-4.96	193.45
	NORMAL	3,981.0	3.38	241.76	3,552.01	-922.16	-1,259.69	1,561.16	1.72	-1.69	4.59	170.98
	NORMAL	4,075.0	2.20	261.97	3,645.90	-923.73	-1,263.92	1,565.49	1.62	-1.26	21.50	149.98
	NORMAL	4,169.0	2.50	277.80	3,739.82	-923.70	-1,267.74	1,568.56	0.76	0.32	16.84	73.24
	NORMAL	4,263.0	1.50	284.38	3,833.76	-923.12	-1,270.96	1,570.81	1.09	-1.06	7.00	170.34
10/19/2011	NORMAL	4,358.0	0.35	128.90	3,928.75	-922.99	-1,271.94	1,571.53	1.92	-1.21	-163.66	184.57
	NORMAL	4,452.0	0.40	150.90	4,022.75	-923.46	-1,271.56	1,571.50	0.16	0.05	23.40	82.07
	NORMAL	4,546.0	0.62	169.33	4,116.75	-924.24	-1,271.30	1,571.75	0.29	0.23	19.61	46.16
	NORMAL	4,640.0	0.80	185.90	4,210.74	-925.39	-1,271.28	1,572.41	0.29	0.19	17.63	57.24
	NORMAL	4,734.0	0.44	192.54	4,304.73	-926.40	-1,271.42	1,573.12	0.39	-0.38	7.06	172.02
	NORMAL	4,829.0	1.41	327.45	4,399.72	-925.77	-1,272.13	1,573.32	1.84	1.02	142.01	145.17
	NORMAL	4,923.0	1.23	328.06	4,493.70	-923.94	-1,273.29	1,573.18	0.19	-0.19	0.65	175.84
	NORMAL	5,017.0	0.97	314.71	4,587.68	-922.52	-1,274.38	1,573.23	0.39	-0.28	-14.20	218.04
	NORMAL	5,111.0	1.05	280.34	4,681.67	-921.81	-1,275.80	1,573.95	0.64	0.09	-36.56	260.12

2.2.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
10/19/2011	NORMAL	5,205.0	1.67	260.13	4,775.64	-921.89	-1,277.99	1,575.77	0.82	0.66	-21.50	311.88
	NORMAL	5,299.0	2.37	245.18	4,869.58	-922.94	-1,281.11	1,578.90	0.93	0.74	-15.90	315.40
	NORMAL	5,394.0	2.50	239.73	4,964.50	-924.81	-1,284.68	1,582.89	0.28	0.14	-5.74	296.57
10/20/2011	NORMAL	5,511.0	2.50	239.73	5,081.39	-927.38	-1,289.09	1,587.96	0.00	0.00	0.00	0.00
	NORMAL	5,564.0	2.50	239.73	5,134.34	-928.55	-1,291.08	1,590.26	0.00	0.00	0.00	0.00