

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	GM 534-22	Wellbore No.	
Well Name	GM 534-22	Common Name	GM 534-22
Project	GV 27-06S-096W	Site	MV 23-27 Pad
Vertical Section Azimuth	307.53 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	8/8/2011	UWI	GM 534-22
Active Datum	KB @5,794.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SCIENTIFIC
Date Started	8/7/2011	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 (°)
8/7/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/7/2011	NORMAL	81.0	0.62	306.30	81.00	0.26	-0.35	0.44	0.77	0.77	0.00	306.30
	NORMAL	110.0	0.44	288.54	110.00	0.39	-0.59	0.70	0.83	-0.62	-61.24	213.74
	NORMAL	141.0	1.41	308.41	140.99	0.66	-1.00	1.19	3.25	3.13	64.10	28.41
	NORMAL	171.0	1.41	295.66	170.98	1.05	-1.62	1.92	1.04	0.00	-42.50	263.63
	NORMAL	202.0	1.94	305.68	201.97	1.52	-2.39	2.82	1.95	1.71	32.32	34.00
	NORMAL	232.0	1.94	320.19	231.95	2.21	-3.13	3.83	1.63	0.00	48.37	97.25
	NORMAL	263.0	2.90	312.71	262.93	3.14	-4.04	5.12	3.25	3.10	-24.13	338.03
	NORMAL	293.0	2.99	312.89	292.89	4.19	-5.17	6.65	0.30	0.30	0.60	5.96
8/8/2011	NORMAL	323.0	3.61	319.75	322.84	5.44	-6.35	8.36	2.45	2.07	22.87	35.95
	NORMAL	354.0	4.13	311.13	353.77	6.92	-7.82	10.42	2.51	1.68	-27.81	307.44
	NORMAL	399.0	4.49	309.46	398.64	9.11	-10.40	13.80	0.85	0.80	-3.71	339.95
	NORMAL	445.0	5.37	306.83	444.47	11.54	-13.52	17.75	1.97	1.91	-5.72	344.28
	NORMAL	494.0	6.16	305.86	493.22	14.46	-17.48	22.67	1.62	1.61	-1.98	352.49
	NORMAL	536.0	7.13	302.26	534.94	17.17	-21.51	27.52	2.51	2.31	-8.57	334.96
	NORMAL	581.0	8.27	301.38	579.53	20.35	-26.64	33.52	2.55	2.53	-1.96	353.66
	NORMAL	627.0	9.06	301.73	625.01	23.97	-32.54	40.41	1.72	1.72	0.76	3.99
	NORMAL	672.0	10.03	306.30	669.38	28.16	-38.72	47.86	2.73	2.16	10.16	40.27
	NORMAL	718.0	11.35	306.91	714.58	33.25	-45.56	56.39	2.88	2.87	1.33	5.20
	NORMAL	749.0	11.78	307.54	744.95	37.01	-50.51	62.60	1.45	1.39	2.03	16.68
	NORMAL	793.0	13.23	309.13	787.91	42.92	-57.98	72.13	3.39	3.30	3.61	14.13

2.1.2 Survey Stations (Continued)

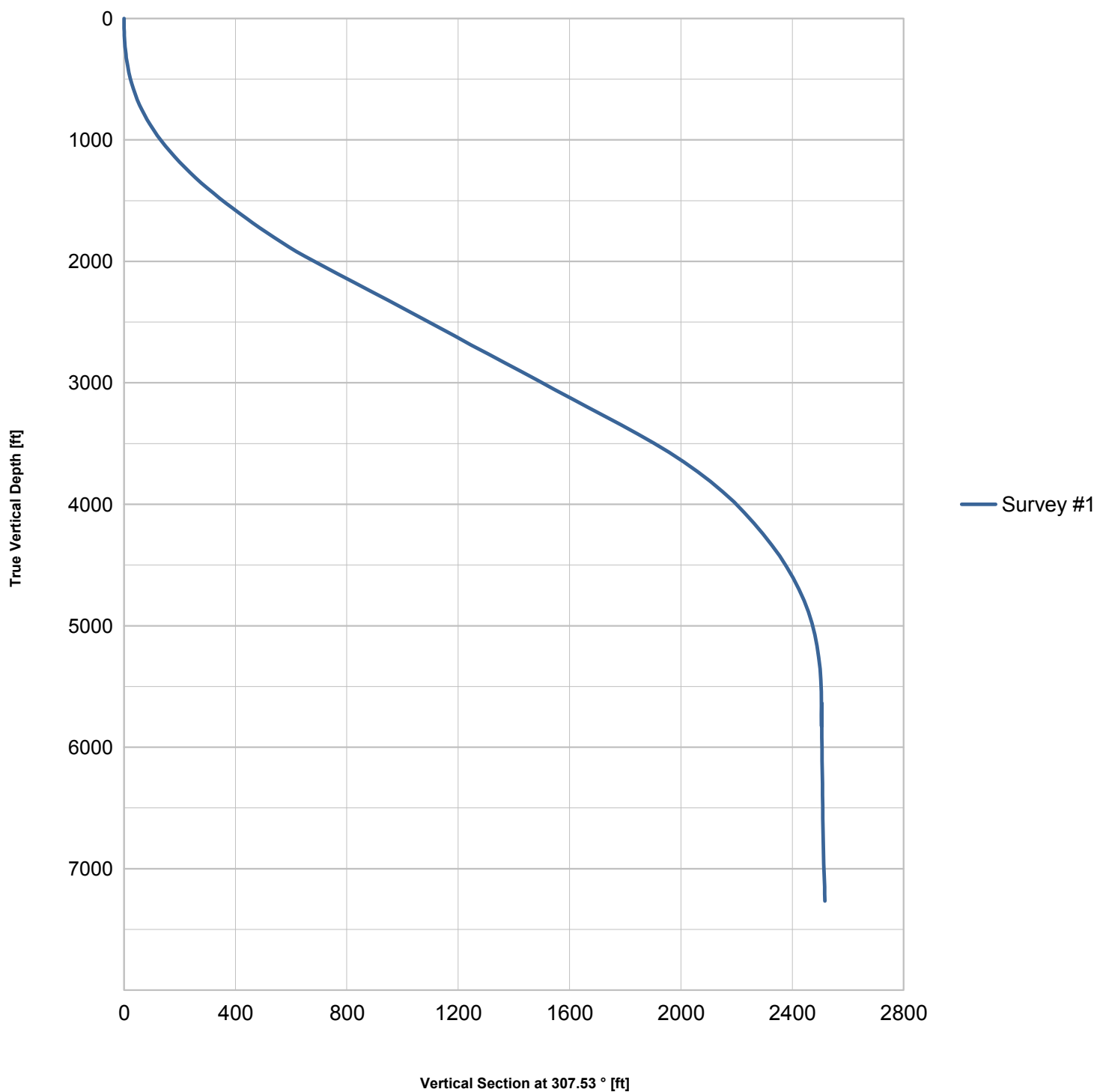
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
8/8/2011	NORMAL	839.0	14.04	307.24	832.61	49.62	-66.51	82.97	2.01	1.76	-4.11	330.27
	NORMAL	882.0	15.04	307.98	874.23	56.21	-75.06	93.76	2.37	2.33	1.72	10.88
	NORMAL	929.0	16.18	307.36	919.50	63.94	-85.07	106.41	2.45	2.43	-1.32	351.38
	NORMAL	975.0	17.58	310.08	963.52	72.30	-95.48	119.76	3.49	3.04	5.91	30.74
	NORMAL	1,020.0	18.73	308.94	1,006.28	81.22	-106.30	133.77	2.67	2.56	-2.53	342.29
	NORMAL	1,067.0	19.66	308.86	1,050.66	90.92	-118.32	149.22	1.98	1.98	-0.17	358.34
	NORMAL	1,114.0	20.58	307.98	1,094.80	100.96	-130.99	165.39	2.06	1.96	-1.87	341.37
	NORMAL	1,161.0	21.41	308.15	1,138.67	111.35	-144.25	182.22	1.77	1.77	0.36	4.28
	NORMAL	1,208.0	21.98	306.40	1,182.35	121.87	-158.08	199.60	1.83	1.21	-3.72	310.57
	NORMAL	1,256.0	23.37	305.54	1,226.63	132.73	-173.05	218.09	2.98	2.90	-1.79	346.19
	NORMAL	1,303.0	24.36	305.34	1,269.62	143.76	-188.54	237.10	2.11	2.11	-0.43	355.24
	NORMAL	1,351.0	25.66	305.85	1,313.11	155.57	-205.04	257.38	2.75	2.71	1.06	9.65
	NORMAL	1,397.0	26.56	306.22	1,354.42	167.48	-221.41	277.61	1.99	1.96	0.80	10.42
	NORMAL	1,445.0	27.20	307.64	1,397.23	180.52	-238.76	299.31	1.89	1.33	2.96	45.72
	NORMAL	1,492.0	28.23	308.24	1,438.84	193.96	-256.00	321.17	2.27	2.19	1.28	15.42
	NORMAL	1,540.0	28.91	308.62	1,481.00	208.23	-273.98	344.12	1.47	1.42	0.79	15.13
	NORMAL	1,587.0	29.63	309.03	1,521.99	222.64	-291.88	367.10	1.59	1.53	0.87	15.74
	NORMAL	1,634.0	30.02	308.70	1,562.77	237.30	-310.08	390.46	0.90	0.83	-0.70	337.03
	NORMAL	1,681.0	30.78	308.94	1,603.31	252.21	-328.61	414.24	1.64	1.62	0.51	9.18
	NORMAL	1,729.0	30.96	308.78	1,644.51	267.67	-347.79	438.86	0.41	0.38	-0.33	335.41
	NORMAL	1,774.0	31.57	308.42	1,682.97	282.24	-366.04	462.21	1.42	1.36	-0.80	342.82
	NORMAL	1,823.0	32.40	308.83	1,724.53	298.44	-386.32	488.16	1.75	1.69	0.84	14.84
	NORMAL	1,870.0	32.89	308.77	1,764.11	314.32	-406.08	513.51	1.04	1.04	-0.13	356.20
	NORMAL	1,918.0	33.37	308.28	1,804.30	330.66	-426.60	539.74	1.15	1.00	-1.02	330.64
8/9/2011	NORMAL	1,965.0	33.85	307.10	1,843.45	346.57	-447.19	565.76	1.72	1.02	-2.51	305.82
	NORMAL	2,012.0	35.35	306.92	1,882.13	362.63	-468.50	592.44	3.20	3.19	-0.38	356.03
	NORMAL	2,058.0	37.02	306.48	1,919.26	378.86	-490.27	619.60	3.67	3.63	-0.96	350.98
	NORMAL	2,108.0	38.69	305.99	1,958.74	396.99	-515.02	650.27	3.39	3.34	-0.98	349.60
8/10/2011	NORMAL	2,200.0	38.69	305.96	2,030.55	430.78	-561.57	707.76	0.02	0.00	-0.03	269.99
	NORMAL	2,294.0	40.01	305.65	2,103.23	465.64	-609.90	767.33	1.42	1.40	-0.33	351.41
	NORMAL	2,389.0	39.57	307.20	2,176.23	501.74	-658.82	828.11	1.14	-0.46	1.63	114.51
	NORMAL	2,483.0	39.83	309.03	2,248.56	538.80	-706.06	888.15	1.27	0.28	1.95	78.17
	NORMAL	2,578.0	39.53	308.12	2,321.67	576.62	-753.48	948.80	0.69	-0.32	-0.96	242.34
	NORMAL	2,672.0	39.64	307.93	2,394.12	613.52	-800.66	1,008.69	0.17	0.12	-0.20	312.18
	NORMAL	2,767.0	39.09	307.35	2,467.56	650.32	-848.37	1,068.95	0.70	-0.58	-0.61	213.55
	NORMAL	2,861.0	39.07	308.51	2,540.53	686.74	-895.11	1,128.20	0.78	-0.02	1.23	92.02
	NORMAL	2,956.0	38.59	307.94	2,614.54	723.60	-941.90	1,187.76	0.63	-0.51	-0.60	216.45
	NORMAL	3,050.0	38.89	308.16	2,687.86	759.85	-988.23	1,246.58	0.35	0.32	0.23	24.74
	NORMAL	3,145.0	39.75	308.64	2,761.35	797.25	-1,035.40	1,306.77	0.96	0.91	0.51	19.66
	NORMAL	3,239.0	39.13	307.10	2,833.95	833.91	-1,082.53	1,366.48	1.23	-0.66	-1.64	237.04
	NORMAL	3,334.0	39.57	308.50	2,907.41	870.82	-1,130.12	1,426.71	1.04	0.46	1.47	64.18
	NORMAL	3,428.0	38.61	307.76	2,980.37	907.42	-1,176.74	1,485.98	1.14	-1.02	-0.79	205.64
	NORMAL	3,522.0	38.95	307.88	3,053.65	943.52	-1,223.25	1,544.85	0.37	0.36	0.13	12.51
	NORMAL	3,617.0	39.31	306.66	3,127.34	979.83	-1,270.96	1,604.80	0.89	0.38	-1.28	294.59
	NORMAL	3,711.0	39.31	305.87	3,200.08	1,015.05	-1,318.97	1,664.34	0.53	0.00	-0.84	269.69
	NORMAL	3,806.0	39.89	305.50	3,273.27	1,050.37	-1,368.16	1,724.86	0.66	0.61	-0.39	337.73
	NORMAL	3,900.0	38.69	307.19	3,346.03	1,085.64	-1,416.11	1,784.37	1.71	-1.28	1.80	138.92
	NORMAL	3,995.0	38.74	307.28	3,420.15	1,121.59	-1,463.41	1,843.78	0.08	0.05	0.09	48.42
	NORMAL	4,089.0	37.13	309.17	3,494.29	1,157.33	-1,508.81	1,901.56	2.11	-1.71	2.01	144.92
8/11/2011	NORMAL	4,184.0	34.85	309.41	3,571.15	1,192.68	-1,552.02	1,957.36	2.40	-2.40	0.25	176.56
	NORMAL	4,278.0	32.99	307.78	3,649.15	1,225.41	-1,593.00	2,009.80	2.20	-1.98	-1.73	205.39
	NORMAL	4,373.0	30.55	309.25	3,729.91	1,256.53	-1,632.15	2,059.80	2.69	-2.57	1.55	163.02
	NORMAL	4,467.0	28.14	308.15	3,811.85	1,285.35	-1,668.08	2,105.85	2.63	-2.56	-1.17	192.13
	NORMAL	4,562.0	27.08	307.63	3,896.03	1,312.39	-1,702.83	2,149.88	1.14	-1.12	-0.55	192.58
	NORMAL	4,656.0	24.52	308.51	3,980.65	1,337.60	-1,735.04	2,190.78	2.75	-2.72	0.94	171.89
	NORMAL	4,751.0	21.77	309.39	4,068.00	1,361.06	-1,764.09	2,228.11	2.92	-2.89	0.93	173.23
	NORMAL	4,845.0	21.02	309.73	4,155.52	1,382.90	-1,790.52	2,262.38	0.81	-0.80	0.36	170.77

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 (°)
8/11/2011	NORMAL	4,940.0	19.14	307.96	4,244.74	1,403.37	-1,815.91	2,294.98	2.08	-1.98	-1.86	197.08
	NORMAL	5,034.0	19.26	307.47	4,333.51	1,422.28	-1,840.36	2,325.89	0.21	0.13	-0.52	306.44
	NORMAL	5,129.0	15.94	307.23	4,424.05	1,439.71	-1,863.19	2,354.61	3.50	-3.49	-0.25	181.14
	NORMAL	5,223.0	15.30	307.36	4,514.58	1,455.04	-1,883.33	2,379.92	0.68	-0.68	0.14	176.93
	NORMAL	5,318.0	13.06	309.83	4,606.68	1,469.53	-1,901.54	2,403.19	2.44	-2.36	2.60	166.08
	NORMAL	5,412.0	12.22	310.18	4,698.40	1,482.75	-1,917.29	2,423.74	0.90	-0.89	0.37	174.96
8/12/2011	NORMAL	5,507.0	10.52	310.65	4,791.53	1,494.89	-1,931.55	2,442.44	1.79	-1.79	0.49	177.11
	NORMAL	5,601.0	8.87	311.92	4,884.19	1,505.32	-1,943.46	2,458.23	1.77	-1.76	1.35	173.24
	NORMAL	5,696.0	6.51	311.41	4,978.33	1,513.78	-1,952.95	2,470.91	2.49	-2.48	-0.54	181.40
	NORMAL	5,791.0	5.54	317.38	5,072.80	1,520.71	-1,960.09	2,480.80	1.21	-1.02	6.28	150.08
	NORMAL	5,885.0	4.36	310.63	5,166.45	1,526.38	-1,965.88	2,488.84	1.40	-1.26	-7.18	202.93
	NORMAL	5,979.0	3.29	306.56	5,260.24	1,530.31	-1,970.76	2,495.11	1.17	-1.14	-4.33	192.21
	NORMAL	6,074.0	2.46	318.00	5,355.12	1,533.45	-1,974.31	2,499.84	1.06	-0.87	12.04	150.97
	NORMAL	6,169.0	1.01	328.85	5,450.07	1,535.68	-1,976.11	2,502.62	1.56	-1.53	11.42	172.62
	NORMAL	6,263.0	1.41	315.45	5,544.05	1,537.22	-1,977.35	2,504.54	0.52	0.43	-14.26	317.90
	NORMAL	6,357.0	0.29	231.43	5,638.04	1,537.89	-1,978.34	2,505.74	1.50	-1.19	-89.38	191.81
8/13/2011	NORMAL	6,452.0	0.70	132.90	5,733.04	1,537.35	-1,978.11	2,505.22	0.84	0.43	-103.72	240.37
	NORMAL	6,546.0	0.54	297.33	5,827.04	1,537.16	-1,978.08	2,505.09	1.31	-0.17	174.93	173.23
	NORMAL	6,641.0	0.39	306.66	5,922.04	1,537.56	-1,978.74	2,505.85	0.18	-0.16	9.82	157.83
	NORMAL	6,735.0	0.70	270.45	6,016.03	1,537.75	-1,979.57	2,506.63	0.48	0.33	-38.52	292.92
	NORMAL	6,830.0	0.62	22.07	6,111.03	1,538.23	-1,979.96	2,507.23	1.15	-0.08	117.49	148.17
	NORMAL	6,924.0	0.70	351.69	6,205.02	1,539.27	-1,979.85	2,507.78	0.38	0.09	-32.32	267.39
	NORMAL	7,018.0	0.44	254.45	6,299.02	1,539.74	-1,980.28	2,508.41	0.93	-0.28	-103.45	210.02
	NORMAL	7,113.0	1.00	225.32	6,394.01	1,539.06	-1,981.22	2,508.74	0.69	0.59	-30.66	311.69
	NORMAL	7,207.0	0.61	254.13	6,488.00	1,538.35	-1,982.28	2,509.15	0.59	-0.41	30.65	147.73
	NORMAL	7,302.0	1.06	236.08	6,582.99	1,537.72	-1,983.50	2,509.73	0.54	0.47	-19.00	320.46
	NORMAL	7,396.0	1.03	245.20	6,676.98	1,536.88	-1,984.99	2,510.40	0.18	-0.03	9.70	104.76
	NORMAL	7,491.0	1.32	243.82	6,771.96	1,536.04	-1,986.74	2,511.28	0.31	0.31	-1.45	353.74
	NORMAL	7,585.0	1.06	246.28	6,865.94	1,535.21	-1,988.51	2,512.18	0.28	-0.28	2.62	170.11
	NORMAL	7,680.0	1.41	251.20	6,960.91	1,534.48	-1,990.42	2,513.25	0.38	0.37	5.18	19.32
8/14/2011	NORMAL	7,774.0	1.83	242.82	7,054.88	1,533.43	-1,992.85	2,514.53	0.51	0.45	-8.91	326.34
	NORMAL	7,869.0	1.76	245.75	7,149.83	1,532.13	-1,995.53	2,515.87	0.12	-0.07	3.08	128.79
	NORMAL	7,928.0	1.34	235.60	7,208.81	1,531.37	-1,996.93	2,516.51	0.85	-0.71	-17.20	208.17
	NORMAL	7,985.0	1.34	235.60	7,265.79	1,530.62	-1,998.03	2,516.92	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

