

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	GM 421-26	Wellbore No.	
Well Name	GM 421-26	Common Name	GM 421-26
Project	GV 27-06S-096W	Site	MV 23-27 Pad
Vertical Section Azimuth	104.60 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	9/7/2011	UWI	GM 421-26
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
Started	9/7/2011	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)	DLeg (%/100ft)	Build (%/100ft)	Turn (%/100ft)	TFace (°)
9/7/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/7/2011	NORMAL	83.0	0.53	243.28	83.00	-0.17	-0.34	-0.29	0.64	0.64	0.00	243.28
	NORMAL	124.0	0.44	150.73	124.00	-0.40	-0.44	-0.32	1.72	-0.22	-225.73	218.65
	NORMAL	170.0	1.58	109.25	169.99	-0.76	0.25	0.43	2.79	2.48	-90.17	305.40
	NORMAL	219.0	2.55	102.48	218.96	-1.22	1.95	2.20	2.04	1.98	-13.82	342.48
	NORMAL	263.0	3.78	101.07	262.89	-1.71	4.33	4.62	2.80	2.80	-3.20	355.67
	NORMAL	308.0	4.31	101.07	307.78	-2.32	7.45	7.79	1.18	1.18	0.00	0.00
	NORMAL	355.0	5.37	101.34	354.61	-3.09	11.34	11.75	2.26	2.26	0.57	1.37
	NORMAL	400.0	6.51	96.68	399.37	-3.80	15.93	16.38	2.75	2.53	-10.36	334.74
	NORMAL	447.0	7.30	100.99	446.03	-4.68	21.51	22.00	2.01	1.68	9.17	35.41
	NORMAL	492.0	8.27	108.63	490.61	-6.26	27.39	28.08	3.15	2.16	16.98	50.68
	NORMAL	536.0	9.59	105.56	534.08	-8.25	33.92	34.90	3.19	3.00	-6.98	338.63
	NORMAL	581.0	10.65	106.61	578.38	-10.45	41.51	42.80	2.39	2.36	2.33	10.39
	NORMAL	627.0	11.52	104.33	623.52	-12.80	50.04	51.65	2.12	1.89	-4.96	332.14
	NORMAL	658.0	12.57	104.84	653.84	-14.43	56.30	58.11	3.40	3.39	1.65	6.04
	NORMAL	703.0	13.72	104.75	697.66	-17.04	66.19	68.35	2.56	2.56	-0.20	358.94
	NORMAL	748.0	15.29	104.86	741.22	-19.92	77.09	79.62	3.49	3.49	0.24	1.06
	NORMAL	793.0	16.88	103.79	784.46	-23.00	89.17	92.08	3.59	3.53	-2.38	348.92
9/8/2011	NORMAL	838.0	18.38	104.84	827.34	-26.37	102.37	105.71	3.41	3.33	2.33	12.47
	NORMAL	883.0	19.52	104.49	869.90	-30.07	116.51	120.33	2.55	2.53	-0.78	354.14
	NORMAL	928.0	20.58	104.93	912.18	-33.99	131.43	135.75	2.38	2.36	0.98	8.31

2.1.2 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 (°)
9/8/2011	NORMAL	975.0	21.42	106.68	956.05	-38.58	147.63	152.59	2.23	1.79	3.72	37.56
	NORMAL	1,021.0	22.57	105.34	998.71	-43.33	164.19	169.81	2.73	2.50	-2.91	335.80
	NORMAL	1,067.0	23.69	105.59	1,041.01	-48.15	181.61	187.88	2.44	2.43	0.54	5.13
	NORMAL	1,112.0	25.15	105.02	1,081.98	-53.06	199.55	206.48	3.29	3.24	-1.27	350.57
	NORMAL	1,159.0	26.12	103.39	1,124.35	-58.04	219.26	226.81	2.55	2.06	-3.47	323.25
	NORMAL	1,206.0	27.26	103.08	1,166.35	-62.87	239.81	247.92	2.44	2.43	-0.66	352.90
	NORMAL	1,253.0	28.43	103.83	1,207.90	-67.98	261.16	269.87	2.60	2.49	1.60	17.00
9/9/2011	NORMAL	1,278.0	28.88	103.61	1,229.84	-70.83	272.81	281.85	1.85	1.80	-0.88	346.71
	NORMAL	1,349.0	28.52	103.60	1,292.12	-78.85	305.95	315.94	0.51	-0.51	-0.01	180.76
	NORMAL	1,443.0	29.19	105.11	1,374.45	-90.10	349.89	361.30	1.05	0.71	1.61	48.07
	NORMAL	1,539.0	29.53	104.52	1,458.12	-102.13	395.39	408.37	0.47	0.35	-0.61	319.35
	NORMAL	1,633.0	29.24	104.77	1,540.02	-113.79	440.02	454.49	0.33	-0.31	0.27	157.18
	NORMAL	1,727.0	28.47	104.40	1,622.35	-125.22	483.92	499.86	0.84	-0.82	-0.39	192.89
	NORMAL	1,822.0	28.90	103.19	1,705.69	-136.09	528.20	545.45	0.76	0.45	-1.27	305.98
	NORMAL	1,916.0	27.95	105.46	1,788.36	-147.14	571.55	590.19	1.53	-1.01	2.41	132.32
	NORMAL	2,011.0	27.97	103.17	1,872.28	-158.16	614.70	634.72	1.13	0.02	-2.41	270.06
	NORMAL	2,105.0	27.26	103.79	1,955.57	-168.31	657.07	678.28	0.81	-0.76	0.66	158.24
	NORMAL	2,200.0	26.10	107.76	2,040.46	-179.87	698.11	720.91	2.24	-1.22	4.18	124.82
	NORMAL	2,294.0	24.55	107.30	2,125.42	-191.99	736.45	761.06	1.66	-1.65	-0.49	187.03
	NORMAL	2,389.0	25.19	106.51	2,211.61	-203.60	774.67	800.98	0.76	0.67	-0.83	332.21
	NORMAL	2,483.0	25.39	105.14	2,296.60	-214.55	813.31	841.13	0.66	0.21	-1.46	288.25
	NORMAL	2,577.0	27.64	104.56	2,380.71	-225.29	853.87	883.09	2.41	2.39	-0.62	353.18
	NORMAL	2,672.0	28.88	102.55	2,464.39	-235.82	897.59	928.05	1.65	1.31	-2.12	321.61
	NORMAL	2,767.0	29.34	103.22	2,547.39	-246.13	942.64	974.25	0.59	0.48	0.71	35.61
	NORMAL	2,861.0	28.58	104.05	2,629.63	-256.85	986.88	1,019.75	0.91	-0.81	0.88	152.49
	NORMAL	2,956.0	29.22	103.62	2,712.80	-267.83	1,031.46	1,065.66	0.71	0.67	-0.45	341.82
	NORMAL	3,050.0	28.88	106.11	2,794.98	-279.53	1,075.56	1,111.29	1.34	-0.36	2.65	106.79
	NORMAL	3,145.0	28.72	105.01	2,878.23	-291.81	1,119.65	1,157.05	0.58	-0.17	-1.16	252.72
	NORMAL	3,239.0	27.42	105.45	2,961.17	-303.42	1,162.33	1,201.28	1.40	-1.38	0.47	171.14
	NORMAL	3,334.0	27.99	104.74	3,045.28	-314.92	1,204.97	1,245.45	0.69	0.60	-0.75	329.61
	NORMAL	3,428.0	27.00	104.93	3,128.66	-326.03	1,246.92	1,288.84	1.06	-1.05	0.20	175.02
	NORMAL	3,522.0	28.31	103.17	3,211.92	-336.61	1,289.25	1,332.46	1.64	1.39	-1.87	327.27
	NORMAL	3,617.0	27.17	103.35	3,296.00	-346.75	1,332.29	1,376.67	1.20	-1.20	0.19	175.88
	NORMAL	3,711.0	27.70	104.49	3,379.43	-357.17	1,374.32	1,419.97	0.79	0.56	1.21	45.25
	NORMAL	3,806.0	27.26	105.81	3,463.71	-368.63	1,416.63	1,463.81	0.79	-0.46	1.39	126.43
	NORMAL	3,900.0	26.10	101.77	3,547.71	-378.71	1,457.59	1,505.99	2.29	-1.23	-4.30	235.61
9/10/2011	NORMAL	3,995.0	25.90	102.91	3,633.10	-387.61	1,498.27	1,547.60	0.57	-0.21	1.20	112.32
	NORMAL	4,089.0	25.58	103.03	3,717.77	-396.77	1,538.06	1,588.40	0.34	-0.34	0.13	170.80
	NORMAL	4,184.0	25.75	102.89	3,803.40	-406.00	1,578.15	1,629.53	0.19	0.18	-0.15	340.31
	NORMAL	4,278.0	24.34	104.91	3,888.56	-415.54	1,616.78	1,669.32	1.75	-1.50	2.15	149.68
	NORMAL	4,373.0	22.85	104.83	3,975.61	-425.30	1,653.53	1,707.34	1.57	-1.57	-0.08	181.19
	NORMAL	4,467.0	22.26	103.36	4,062.42	-434.08	1,688.50	1,743.39	0.87	-0.63	-1.56	223.02
	NORMAL	4,562.0	20.75	106.55	4,150.81	-443.03	1,722.14	1,778.20	2.01	-1.59	3.36	143.72
	NORMAL	4,656.0	20.47	106.57	4,238.79	-452.47	1,753.85	1,811.27	0.30	-0.30	0.02	178.57
	NORMAL	4,751.0	18.21	106.88	4,328.43	-461.51	1,783.98	1,842.71	2.38	-2.38	0.33	177.55
	NORMAL	4,845.0	16.61	105.39	4,418.12	-469.34	1,810.99	1,870.82	1.77	-1.70	-1.59	194.86
	NORMAL	4,940.0	15.50	101.99	4,509.41	-475.59	1,836.50	1,897.08	1.53	-1.17	-3.58	218.64
	NORMAL	5,034.0	13.45	101.94	4,600.43	-480.46	1,859.49	1,920.55	2.18	-2.18	-0.05	180.33
	NORMAL	5,129.0	11.68	98.46	4,693.15	-484.16	1,879.81	1,941.15	2.03	-1.86	-3.66	201.47
	NORMAL	5,223.0	9.82	100.39	4,785.49	-487.00	1,897.11	1,958.61	2.02	-1.98	2.05	169.99
	NORMAL	5,318.0	8.30	101.41	4,879.31	-489.82	1,911.80	1,973.53	1.61	-1.60	1.07	174.47
9/11/2011	NORMAL	5,412.0	7.39	99.08	4,972.43	-492.12	1,924.42	1,986.32	1.03	-0.97	-2.48	198.11
	NORMAL	5,507.0	6.40	91.85	5,066.74	-493.25	1,935.74	1,997.57	1.38	-1.04	-7.61	217.69
	NORMAL	5,601.0	5.80	92.27	5,160.21	-493.61	1,945.73	2,007.32	0.64	-0.64	0.45	175.95
	NORMAL	5,696.0	3.80	103.18	5,254.87	-494.52	1,953.59	2,015.16	2.30	-2.11	11.48	160.84
	NORMAL	5,791.0	2.15	98.27	5,349.74	-495.49	1,958.42	2,020.08	1.76	-1.74	-5.17	186.33
	NORMAL	5,885.0	2.15	89.69	5,443.67	-495.74	1,961.92	2,023.53	0.34	0.00	-9.13	265.71

2.1.2 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 (°)
9/11/2011	NORMAL	5,979.0	1.28	119.31	5,537.63	-496.24	1,964.60	2,026.25	1.29	-0.93	31.51	148.62
	NORMAL	6,074.0	1.45	126.30	5,632.61	-497.47	1,966.50	2,028.40	0.25	0.18	7.36	47.94
	NORMAL	6,169.0	0.03	193.68	5,727.60	-498.21	1,967.46	2,029.51	1.51	-1.49	70.93	178.90
9/12/2011	NORMAL	6,262.0	0.03	126.64	5,820.60	-498.25	1,967.47	2,029.54	0.04	0.00	-72.09	236.48
	NORMAL	6,357.0	0.26	94.41	5,915.60	-498.28	1,967.71	2,029.77	0.25	0.24	-33.93	323.87
	NORMAL	6,452.0	0.70	137.33	6,010.59	-498.72	1,968.32	2,030.47	0.57	0.46	45.18	62.08
	NORMAL	6,546.0	0.74	165.13	6,104.58	-499.73	1,968.86	2,031.25	0.37	0.04	29.57	97.49
	NORMAL	6,641.0	1.04	181.70	6,199.57	-501.18	1,968.99	2,031.75	0.41	0.32	17.44	49.11
	NORMAL	6,735.0	0.18	272.80	6,293.57	-502.03	1,968.82	2,031.79	1.13	-0.91	96.91	170.21
	NORMAL	6,829.0	0.24	191.26	6,387.57	-502.22	1,968.64	2,031.66	0.30	0.06	-86.74	238.64
	NORMAL	6,924.0	0.44	122.68	6,482.57	-502.61	1,968.90	2,032.02	0.44	0.21	-72.19	259.04
	NORMAL	7,018.0	0.53	178.93	6,576.56	-503.24	1,969.22	2,032.48	0.49	0.10	59.84	108.28
	NORMAL	7,113.0	0.70	167.07	6,671.56	-504.24	1,969.35	2,032.87	0.22	0.18	-12.48	317.15
	NORMAL	7,207.0	0.79	197.65	6,765.55	-505.42	1,969.29	2,033.10	0.43	0.10	32.53	92.83
	NORMAL	7,302.0	0.62	181.13	6,860.54	-506.56	1,969.08	2,033.18	0.28	-0.18	-17.39	222.03
	NORMAL	7,396.0	0.44	180.08	6,954.54	-507.43	1,969.07	2,033.39	0.19	-0.19	-1.12	182.56
	NORMAL	7,491.0	0.62	186.14	7,049.53	-508.30	1,969.01	2,033.56	0.20	0.19	6.38	20.34
	NORMAL	7,585.0	1.23	178.06	7,143.52	-509.82	1,968.99	2,033.92	0.66	0.65	-8.60	343.87
9/13/2011	NORMAL	7,667.0	1.32	176.30	7,225.50	-511.64	1,969.08	2,034.47	0.12	0.11	-2.15	335.60
	NORMAL	7,726.0	1.32	176.30	7,284.49	-512.99	1,969.17	2,034.89	0.00	0.00	0.00	0.00