

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	RWF 342-4	Wellbore No.	00
Wellbore Legal Name	RWF 342-4	Common Wellbore Name	RWF 342-4
Project	RU 04-07S-094W	Site	RMV 108-4 Pad
Vertical Section Azimuth	144.78 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	9/13/2013	UWI	RWF 342-4
Active datum	KB @5,820.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	MOSTAR
Date Started	9/13/2013	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 (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
9/13/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/13/2013	NORMAL	87.0	0.61	142.56	87.00	-0.37	0.28	0.46	0.70	0.70	0.00	142.56
	NORMAL	118.0	1.14	130.70	117.99	-0.70	0.62	0.93	1.80	1.71	-38.26	335.14
	NORMAL	148.0	1.67	132.98	147.99	-1.19	1.16	1.64	1.78	1.77	7.60	7.16
	NORMAL	240.0	3.78	147.04	239.88	-4.65	3.79	5.99	2.39	2.29	15.28	24.69
	NORMAL	331.0	6.15	147.83	330.53	-11.30	8.02	13.85	2.61	2.60	0.87	2.05
	NORMAL	422.0	8.79	141.77	420.75	-20.89	14.92	25.67	3.02	2.90	-6.66	340.36
	NORMAL	513.0	12.70	138.43	510.14	-33.84	25.86	42.56	4.35	4.30	-3.67	349.31
	NORMAL	604.0	16.79	141.33	598.13	-51.59	40.72	65.63	4.57	4.49	3.19	11.64
	NORMAL	694.0	21.36	139.31	683.16	-74.18	59.54	94.94	5.13	5.08	-2.24	350.82
	NORMAL	785.0	25.45	142.47	766.66	-102.26	82.26	130.99	4.70	4.49	3.47	18.52
	NORMAL	876.0	30.11	142.74	847.15	-135.95	108.01	173.36	5.12	5.12	0.30	1.67
	NORMAL	967.0	34.59	142.82	924.01	-174.72	137.45	222.01	4.92	4.92	0.09	0.58
	NORMAL	1,062.0	32.92	141.59	1,002.99	-216.44	169.79	274.74	1.90	-1.76	-1.29	201.75
9/14/2013	NORMAL	1,158.0	34.59	141.86	1,082.80	-258.31	202.83	328.00	1.75	1.74	0.28	5.25
	NORMAL	1,253.0	34.07	140.71	1,161.26	-300.12	236.33	381.48	0.88	-0.55	-1.21	230.80
	NORMAL	1,349.0	33.80	140.10	1,240.90	-341.41	270.49	434.91	0.45	-0.28	-0.64	231.34
	NORMAL	1,445.0	35.60	140.63	1,319.83	-383.50	305.35	489.40	1.90	1.88	0.55	9.73
	NORMAL	1,540.0	34.11	141.86	1,397.78	-425.83	339.34	543.58	1.73	-1.57	1.29	155.25
	NORMAL	1,635.0	34.55	141.42	1,476.24	-467.84	372.59	597.08	0.53	0.46	-0.46	330.40
	NORMAL	1,730.0	36.13	142.03	1,553.73	-510.98	406.62	651.95	1.70	1.66	0.64	12.84

2.1.2 Survey Stations (Continued)

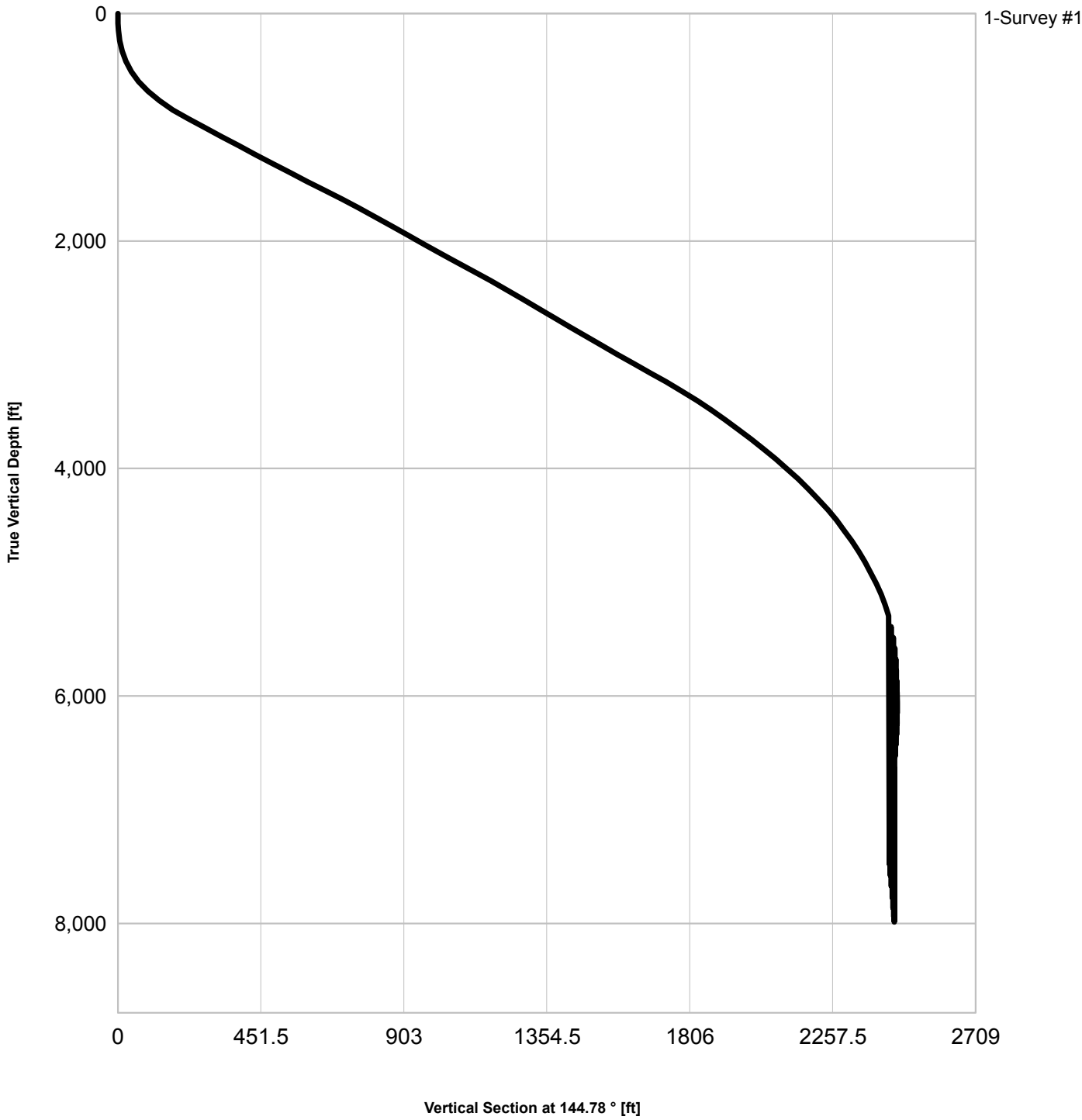
Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
9/14/2013	NORMAL	1,825.0	35.03	140.45	1,630.99	-554.09	441.22	707.11	1.51	-1.16	-1.66	219.25
	NORMAL	1,921.0	33.58	142.21	1,710.29	-596.32	475.03	761.11	1.83	-1.51	1.83	146.35
	NORMAL	2,016.0	32.97	138.34	1,789.73	-636.40	508.32	813.05	2.33	-0.64	-4.07	252.36
	NORMAL	2,112.0	33.85	138.34	1,869.86	-675.89	543.45	865.58	0.92	0.92	0.00	0.00
	NORMAL	2,208.0	32.26	140.41	1,950.32	-715.61	577.56	917.70	2.03	-1.66	2.16	145.48
	NORMAL	2,303.0	32.22	139.48	2,030.68	-754.40	610.17	968.20	0.52	-0.04	-0.98	265.00
	NORMAL	2,398.0	32.84	140.27	2,110.77	-793.46	643.09	1,019.09	0.79	0.65	0.83	34.75
	NORMAL	2,455.0	33.89	140.54	2,158.38	-817.62	663.07	1,050.35	1.86	1.84	0.47	8.16
9/16/2013	NORMAL	2,588.0	33.80	142.12	2,268.84	-875.45	709.35	1,124.29	0.67	-0.07	1.19	96.50
	NORMAL	2,684.0	32.92	142.38	2,349.03	-917.19	741.67	1,177.02	0.93	-0.92	0.27	170.88
	NORMAL	2,779.0	31.47	142.21	2,429.42	-957.23	772.62	1,227.59	1.53	-1.53	-0.18	183.50
	NORMAL	2,874.0	31.87	141.94	2,510.27	-996.58	803.28	1,277.41	0.45	0.42	-0.28	340.37
	NORMAL	2,970.0	31.30	143.44	2,592.05	-1,036.56	833.76	1,327.66	1.01	-0.59	1.56	126.60
	NORMAL	3,065.0	31.52	143.17	2,673.13	-1,076.26	863.34	1,377.15	0.27	0.23	-0.28	327.28
9/17/2013	NORMAL	3,161.0	31.43	145.37	2,755.01	-1,116.94	892.61	1,427.26	1.20	-0.09	2.29	95.42
	NORMAL	3,256.0	31.74	145.11	2,835.93	-1,157.82	920.98	1,477.02	0.36	0.33	-0.27	336.17
	NORMAL	3,352.0	32.18	144.49	2,917.38	-1,199.34	950.27	1,527.84	0.57	0.46	-0.65	323.02
	NORMAL	3,447.0	31.96	146.34	2,997.89	-1,240.87	978.90	1,578.27	1.06	-0.23	1.95	103.41
	NORMAL	3,547.0	32.57	146.97	3,082.45	-1,285.46	1,008.24	1,631.62	0.70	0.61	0.63	29.14
	NORMAL	3,638.0	32.75	148.80	3,159.06	-1,327.05	1,034.35	1,680.65	1.10	0.20	2.01	80.44
	NORMAL	3,733.0	32.70	149.99	3,238.98	-1,371.25	1,060.49	1,731.84	0.68	-0.05	1.25	94.94
	NORMAL	3,828.0	30.86	151.96	3,319.74	-1,414.99	1,084.78	1,781.58	2.22	-1.94	2.07	151.42
	NORMAL	3,924.0	29.36	151.17	3,402.78	-1,457.34	1,107.71	1,829.40	1.62	-1.56	-0.82	194.46
	NORMAL	4,019.0	27.39	151.17	3,486.36	-1,496.89	1,129.48	1,874.26	2.07	-2.07	0.00	180.00
	NORMAL	4,114.0	26.99	151.00	3,570.87	-1,534.88	1,150.47	1,917.41	0.43	-0.42	-0.18	190.91
	NORMAL	4,210.0	25.58	150.91	3,656.94	-1,572.05	1,171.10	1,959.67	1.47	-1.47	-0.09	181.58
	NORMAL	4,305.0	25.27	150.73	3,742.74	-1,607.66	1,190.99	2,000.23	0.34	-0.33	-0.19	193.92
	NORMAL	4,400.0	23.65	151.17	3,829.21	-1,642.04	1,210.09	2,039.34	1.72	-1.71	0.46	173.78
	NORMAL	4,496.0	23.69	149.15	3,917.13	-1,675.47	1,229.27	2,077.71	0.85	0.04	-2.10	271.90
	NORMAL	4,591.0	21.98	152.84	4,004.69	-1,707.68	1,247.17	2,114.34	2.35	-1.80	3.88	141.75
	NORMAL	4,687.0	21.23	151.70	4,093.95	-1,738.97	1,263.61	2,149.39	0.90	-0.78	-1.19	208.71
9/18/2013	NORMAL	4,782.0	19.25	151.35	4,183.08	-1,767.86	1,279.28	2,182.02	2.09	-2.08	-0.37	183.34
	NORMAL	4,877.0	18.90	150.38	4,272.86	-1,794.98	1,294.39	2,212.89	0.50	-0.37	-1.02	221.71
	NORMAL	4,973.0	17.80	151.79	4,363.98	-1,821.42	1,309.01	2,242.93	1.24	-1.15	1.47	158.69
	NORMAL	5,068.0	15.56	151.52	4,454.97	-1,845.42	1,321.96	2,270.00	2.36	-2.36	-0.28	181.85
	NORMAL	5,163.0	14.55	151.17	4,546.71	-1,867.08	1,333.79	2,294.51	1.07	-1.06	-0.37	184.97
	NORMAL	5,258.0	14.33	149.33	4,638.71	-1,887.64	1,345.54	2,318.09	0.54	-0.23	-1.94	243.49
	NORMAL	5,353.0	12.92	153.37	4,731.04	-1,907.25	1,356.30	2,340.31	1.79	-1.48	4.25	147.93
	NORMAL	5,448.0	11.16	151.61	4,823.95	-1,924.83	1,365.43	2,359.95	1.89	-1.85	-1.85	190.92
	NORMAL	5,544.0	10.81	152.05	4,918.19	-1,940.96	1,374.06	2,378.10	0.37	-0.36	0.46	166.74
	NORMAL	5,639.0	10.51	151.26	5,011.55	-1,956.43	1,382.41	2,395.55	0.35	-0.32	-0.83	205.58
	NORMAL	5,734.0	8.18	149.94	5,105.28	-1,969.87	1,389.96	2,410.89	2.46	-2.45	-1.39	184.61
	NORMAL	5,830.0	7.08	150.73	5,200.43	-1,980.95	1,396.27	2,423.58	1.15	-1.15	0.82	174.94
9/19/2013	NORMAL	5,926.0	5.63	156.89	5,295.84	-1,990.44	1,401.01	2,434.07	1.67	-1.51	6.42	157.85
	NORMAL	6,021.0	4.62	137.55	5,390.46	-1,997.55	1,405.43	2,442.42	2.09	-1.06	-20.36	230.29
	NORMAL	6,117.0	3.82	127.97	5,486.20	-2,002.37	1,410.56	2,449.31	1.11	-0.83	-9.98	216.68
	NORMAL	6,212.0	3.08	98.70	5,581.04	-2,004.70	1,415.57	2,454.11	1.98	-0.78	-30.81	233.05
	NORMAL	6,308.0	3.60	71.54	5,676.88	-2,004.14	1,420.98	2,456.77	1.72	0.54	-28.29	274.31
9/20/2013	NORMAL	6,404.0	3.43	68.73	5,772.70	-2,002.14	1,426.52	2,458.33	0.25	-0.18	-2.93	223.99
	NORMAL	6,498.0	3.34	73.21	5,866.54	-2,000.33	1,431.76	2,459.88	0.30	-0.10	4.77	111.02
	NORMAL	6,594.0	3.17	59.42	5,962.38	-1,998.17	1,436.72	2,460.98	0.83	-0.18	-14.36	250.92
	NORMAL	6,687.0	3.47	65.66	6,055.23	-1,995.70	1,441.50	2,461.72	0.50	0.32	6.71	53.44
	NORMAL	6,783.0	3.25	50.19	6,151.07	-1,992.76	1,446.24	2,462.05	0.97	-0.23	-16.11	248.72
	NORMAL	6,878.0	2.59	30.32	6,245.94	-1,989.19	1,449.39	2,460.94	1.26	-0.69	-20.92	227.24
	NORMAL	6,973.0	1.98	17.67	6,340.87	-1,985.77	1,450.97	2,459.06	0.83	-0.64	-13.32	213.38
	NORMAL	7,068.0	1.85	10.11	6,435.82	-1,982.70	1,451.74	2,457.00	0.30	-0.14	-7.96	239.03

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
9/20/2013	NORMAL	7,164.0	1.80	341.98	6,531.77	-1,979.74	1,451.55	2,454.47	0.93	-0.05	-29.30	252.81
	NORMAL	7,259.0	2.24	306.74	6,626.71	-1,977.21	1,449.60	2,451.28	1.36	0.46	-37.09	271.32
9/21/2013	NORMAL	7,354.0	2.07	304.89	6,721.65	-1,975.12	1,446.70	2,447.90	0.19	-0.18	-1.95	201.33
	NORMAL	7,450.0	1.67	308.67	6,817.60	-1,973.25	1,444.19	2,444.92	0.44	-0.42	3.94	164.74
	NORMAL	7,545.0	1.27	318.43	6,912.57	-1,971.60	1,442.41	2,442.55	0.50	-0.42	10.27	152.77
	NORMAL	7,640.0	0.97	322.73	7,007.55	-1,970.17	1,441.22	2,440.70	0.33	-0.32	4.53	166.49
	NORMAL	7,734.0	0.97	349.45	7,101.53	-1,968.76	1,440.59	2,439.18	0.48	0.00	28.43	103.36
	NORMAL	7,830.0	0.44	338.64	7,197.53	-1,967.61	1,440.31	2,438.08	0.57	-0.55	-11.26	188.72
	NORMAL	7,926.0	0.57	335.92	7,293.52	-1,966.83	1,439.98	2,437.25	0.14	0.14	-2.83	348.19
	NORMAL	8,021.0	0.92	46.50	7,388.52	-1,965.88	1,440.34	2,436.68	0.95	0.37	74.29	106.93
9/22/2013	NORMAL	8,117.0	1.23	111.09	7,484.50	-1,965.72	1,441.86	2,437.43	1.23	0.32	67.28	109.44
	NORMAL	8,212.0	2.15	150.12	7,579.46	-1,967.63	1,443.70	2,440.05	1.50	0.97	41.08	71.98
	NORMAL	8,308.0	1.67	156.71	7,675.41	-1,970.48	1,445.15	2,443.21	0.55	-0.50	6.86	158.68
9/23/2013	NORMAL	8,408.0	1.67	160.84	7,775.37	-1,973.19	1,446.21	2,446.04	0.12	0.00	4.13	92.06
	NORMAL	8,498.0	1.63	146.08	7,865.33	-1,975.49	1,447.35	2,448.58	0.47	-0.04	-16.40	257.28
	NORMAL	8,575.0	1.93	153.90	7,942.30	-1,977.56	1,448.53	2,450.95	0.50	0.39	10.16	42.95
	NORMAL	8,620.0	1.93	153.90	7,987.27	-1,978.93	1,449.20	2,452.45	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

