

I General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 444-23	Wellbore No.	OH
Well Name	RWF 444-23	Common Name	RWF 444-23
Project	RU 23-06S-094W	Site	RWF 33-23 Pad
Vertical Section	121.40 (°)	North Reference	True
Azimuth		Origin E/W	
Origin N/S		UWI	RWF 444-23
Spud Date	4/18/2013		
Active Datum	KB @5,525.5ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	MOSTAR
Date Started	4/18/2013	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

6350

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 (°)
4/18/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/18/2013	NORMAL	73.0	1.06	138.43	73.00	-0.51	0.45	0.65	1.45	1.45	0.00	138.43
	NORMAL	164.0	3.52	128.14	163.92	-2.86	3.20	4.23	2.73	2.70	-11.31	345.34
	NORMAL	235.0	4.66	126.77	234.73	-5.93	7.23	9.26	1.61	1.61	-1.93	354.42
	NORMAL	265.0	5.45	124.66	264.62	-7.47	9.38	11.90	2.70	2.63	-7.03	345.70
4/19/2013	NORMAL	326.0	6.80	119.15	325.28	-10.77	14.90	18.33	2.49	2.35	-8.37	336.67
	NORMAL	420.0	11.21	123.34	418.10	-18.51	27.40	33.03	4.74	4.69	4.46	10.54
	NORMAL	510.0	15.43	121.76	505.65	-29.62	44.89	53.75	4.71	4.69	-1.76	354.30
	NORMAL	602.0	18.64	119.56	593.61	-43.32	68.09	80.69	3.56	3.49	-2.39	347.56
	NORMAL	693.0	20.75	122.73	679.28	-59.21	94.31	111.35	2.60	2.32	3.48	28.35
	NORMAL	784.0	23.69	121.76	763.52	-77.56	123.42	145.75	3.26	3.23	-1.07	352.44
	NORMAL	875.0	25.58	122.99	846.23	-97.88	155.44	183.67	2.15	2.08	1.35	15.74
	NORMAL	966.0	27.34	122.73	927.69	-119.88	189.50	224.21	1.94	1.93	-0.29	356.12
	NORMAL	1,061.0	29.01	122.37	1,011.43	-144.00	227.31	269.05	1.77	1.76	-0.38	354.03
	NORMAL	1,157.0	30.55	120.62	1,094.76	-168.90	267.97	316.73	1.84	1.60	-1.82	329.80
	NORMAL	1,252.0	31.21	118.86	1,176.29	-193.07	310.31	365.46	1.18	0.69	-1.85	305.40
4/20/2013	NORMAL	1,348.0	30.02	117.36	1,258.91	-216.12	353.42	414.26	1.47	-1.24	-1.56	212.05
	NORMAL	1,443.0	28.26	119.91	1,341.88	-238.26	394.03	460.46	2.27	-1.85	2.68	145.90
	NORMAL	1,539.0	26.81	124.22	1,427.02	-261.77	431.64	504.81	2.57	-1.51	4.49	127.94
	NORMAL	1,635.0	29.01	125.01	1,511.84	-287.30	468.61	549.67	2.32	2.29	0.82	9.86
	NORMAL	1,730.0	30.33	123.25	1,594.39	-313.67	507.54	596.63	1.66	1.39	-1.85	325.87

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 (°)
4/20/2013	NORMAL	1,826.0	31.30	122.02	1,676.84	-340.18	548.95	645.80	1.20	1.01	-1.28	326.46
	NORMAL	1,921.0	28.66	120.53	1,759.12	-364.85	589.51	693.26	2.89	-2.78	-1.57	195.11
	NORMAL	2,017.0	27.87	121.32	1,843.67	-388.20	628.51	738.72	0.91	-0.82	0.82	155.01
4/21/2013	NORMAL	2,127.0	28.53	122.90	1,940.62	-415.84	672.53	790.69	0.91	0.60	1.44	49.22
	NORMAL	2,223.0	28.70	120.44	2,024.89	-439.97	711.65	836.66	1.24	0.18	-2.56	277.13
	NORMAL	2,318.0	28.84	121.23	2,108.17	-463.41	750.91	882.38	0.43	0.15	0.83	70.13
	NORMAL	2,414.0	28.84	120.97	2,192.26	-487.33	790.56	928.69	0.13	0.00	-0.27	269.89
	NORMAL	2,509.0	28.31	119.56	2,275.69	-510.23	829.80	974.11	0.90	-0.56	-1.48	231.22
4/22/2013	NORMAL	2,602.0	28.26	120.53	2,357.59	-532.29	867.95	1,018.17	0.50	-0.05	1.04	96.64
	NORMAL	2,697.0	27.39	119.21	2,441.60	-554.38	906.39	1,062.49	1.12	-0.92	-1.39	214.72
	NORMAL	2,792.0	26.99	120.00	2,526.10	-575.83	944.14	1,105.88	0.57	-0.42	0.83	138.29
	NORMAL	2,887.0	27.25	121.58	2,610.66	-597.99	981.34	1,149.18	0.81	0.27	1.66	70.86
	NORMAL	2,983.0	28.70	122.46	2,695.44	-621.88	1,019.51	1,194.21	1.57	1.51	0.92	16.28
	NORMAL	3,078.0	28.57	121.76	2,778.82	-646.08	1,058.07	1,239.73	0.38	-0.14	-0.74	248.51
	NORMAL	3,173.0	28.18	122.64	2,862.41	-670.13	1,096.28	1,284.87	0.60	-0.41	0.93	133.39
	NORMAL	3,268.0	27.34	123.34	2,946.47	-694.22	1,133.39	1,329.10	0.95	-0.88	0.74	159.10
	NORMAL	3,364.0	29.23	122.11	3,031.01	-718.80	1,171.66	1,374.58	2.06	1.97	-1.28	342.32
	NORMAL	3,460.0	29.50	121.23	3,114.67	-743.51	1,211.73	1,421.65	0.53	0.28	-0.92	301.65
	NORMAL	3,555.0	29.89	121.41	3,197.20	-767.98	1,251.93	1,468.71	0.42	0.41	0.19	12.96
	NORMAL	3,651.0	29.98	121.14	3,280.39	-792.85	1,292.88	1,516.62	0.17	0.09	-0.28	303.63
	NORMAL	3,747.0	30.68	121.32	3,363.25	-817.98	1,334.33	1,565.09	0.74	0.73	0.19	7.48
	NORMAL	3,842.0	28.97	120.62	3,445.67	-842.30	1,374.84	1,612.34	1.84	-1.80	-0.74	191.20
	NORMAL	3,938.0	28.57	119.39	3,529.82	-865.41	1,414.84	1,658.53	0.74	-0.42	-1.28	235.42
	NORMAL	4,033.0	26.81	120.27	3,613.93	-887.36	1,453.14	1,702.65	1.90	-1.85	0.93	167.3'
	NORMAL	4,129.0	24.79	120.09	3,700.36	-908.36	1,489.26	1,744.42	2.11	-2.10	-0.19	182.14
	NORMAL	4,225.0	23.74	117.01	3,787.88	-927.23	1,523.89	1,783.81	1.71	-1.09	-3.21	228.93
	NORMAL	4,320.0	22.24	117.80	3,875.33	-944.30	1,556.83	1,820.83	1.61	-1.58	0.83	168.74
	NORMAL	4,415.0	19.65	120.18	3,964.05	-960.72	1,586.55	1,854.74	2.87	-2.73	2.51	162.92
4/23/2013	NORMAL	4,511.0	19.39	120.00	4,054.53	-976.80	1,614.30	1,886.81	0.28	-0.27	-0.19	192.94
	NORMAL	4,607.0	17.58	121.14	4,145.57	-992.27	1,640.52	1,917.24	1.92	-1.89	1.19	169.25
	NORMAL	4,702.0	16.66	123.16	4,236.37	-1,007.13	1,664.20	1,945.20	1.15	-0.97	2.13	148.09
	NORMAL	4,797.0	15.47	122.20	4,327.65	-1,021.34	1,686.32	1,971.48	1.28	-1.25	-1.01	192.12
	NORMAL	4,893.0	14.86	121.94	4,420.31	-1,034.67	1,707.60	1,996.60	0.64	-0.64	-0.27	186.24
	NORMAL	4,988.0	13.85	123.69	4,512.34	-1,047.42	1,727.40	2,020.14	1.16	-1.06	1.84	157.60
	NORMAL	5,084.0	13.23	123.61	4,605.67	-1,059.88	1,746.11	2,042.60	0.65	-0.65	-0.08	181.69
	NORMAL	5,179.0	11.47	123.52	4,698.47	-1,071.11	1,763.04	2,062.90	1.85	-1.85	-0.09	180.58
	NORMAL	5,275.0	9.98	125.45	4,792.79	-1,081.21	1,777.77	2,080.74	1.60	-1.55	2.01	167.39
	NORMAL	5,370.0	7.91	118.86	4,886.64	-1,089.14	1,790.21	2,095.48	2.43	-2.18	-6.94	203.1'
	NORMAL	5,466.0	7.87	118.86	4,981.73	-1,095.50	1,801.75	2,108.65	0.04	-0.04	0.00	180.00
	NORMAL	5,562.0	6.81	116.22	5,076.94	-1,101.19	1,812.61	2,120.88	1.16	-1.10	-2.75	196.34
	NORMAL	5,658.0	6.50	109.72	5,172.29	-1,105.53	1,822.83	2,131.87	0.85	-0.32	-6.77	244.42
4/24/2013	NORMAL	5,753.0	4.84	106.73	5,266.83	-1,108.50	1,831.73	2,141.02	1.77	-1.75	-3.15	188.6'
	NORMAL	5,849.0	4.13	91.96	5,362.53	-1,109.79	1,839.06	2,147.94	1.41	-0.74	-15.39	231.20
	NORMAL	5,945.0	2.42	83.97	5,458.37	-1,109.69	1,844.54	2,152.57	1.84	-1.78	-8.32	190.98
	NORMAL	6,040.0	1.50	69.38	5,553.32	-1,109.04	1,847.69	2,154.92	1.09	-0.97	-15.36	201.3'
	NORMAL	6,136.0	0.31	344.65	5,649.31	-1,108.35	1,848.80	2,155.51	1.57	-1.24	-88.26	191.85
	NORMAL	6,232.0	0.22	298.60	5,745.31	-1,108.01	1,848.57	2,155.13	0.23	-0.09	-47.97	225.20
	NORMAL	6,327.0	0.31	308.00	5,840.30	-1,107.77	1,848.21	2,154.70	0.10	0.09	9.89	30.53
	NORMAL	6,423.0	0.35	241.47	5,936.30	-1,107.75	1,847.75	2,154.29	0.38	0.04	-69.30	242.0'
4/25/2013	NORMAL	6,518.0	0.70	234.87	6,031.30	-1,108.22	1,847.02	2,153.92	0.37	0.37	-6.95	346.89
	NORMAL	6,614.0	0.97	229.25	6,127.29	-1,109.09	1,845.92	2,153.43	0.29	0.28	-5.85	340.30
	NORMAL	6,709.0	0.57	162.28	6,222.28	-1,110.06	1,845.46	2,153.54	0.96	-0.42	-70.49	215.08
	NORMAL	6,805.0	0.75	163.33	6,318.28	-1,111.12	1,845.78	2,154.37	0.19	0.19	1.09	4.37
	NORMAL	6,900.0	0.13	243.84	6,413.27	-1,111.76	1,845.86	2,154.78	0.78	-0.65	84.75	170.02
	NORMAL	6,996.0	0.35	222.75	6,509.27	-1,112.03	1,845.57	2,154.66	0.24	0.23	-21.97	327.35
	NORMAL	7,091.0	0.79	225.91	6,604.27	-1,112.69	1,844.90	2,154.44	0.46	0.46	3.33	5.67
	NORMAL	7,186.0	0.31	105.68	6,699.26	-1,113.22	1,844.68	2,154.52	1.04	-0.51	-126.56	195.8'

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 (°)
4/25/2013	NORMAL	7,282.0	1.14	54.70	6,795.26	-1,112.74	1,845.71	2,155.15	1.02	0.86	-53.10	294.72
	NORMAL	7,378.0	0.88	61.55	6,891.24	-1,111.83	1,847.13	2,155.90	0.30	-0.27	7.14	158.49
	NORMAL	7,473.0	0.53	82.12	6,986.23	-1,111.43	1,848.21	2,156.60	0.45	-0.37	21.65	154.12
4/26/2013	NORMAL	7,569.0	0.48	167.64	7,082.23	-1,111.76	1,848.74	2,157.23	0.72	-0.05	89.08	135.82
	NORMAL	7,664.0	0.88	195.85	7,177.22	-1,112.85	1,848.62	2,157.70	0.54	0.42	29.69	54.61
	NORMAL	7,760.0	0.88	206.66	7,273.21	-1,114.22	1,848.09	2,157.96	0.17	0.00	11.26	95.40
	NORMAL	7,855.0	1.27	211.32	7,368.20	-1,115.77	1,847.21	2,158.02	0.42	0.41	4.91	14.97
	NORMAL	7,951.0	1.45	217.56	7,464.17	-1,117.64	1,845.92	2,157.89	0.24	0.19	6.50	42.59
	NORMAL	8,046.0	1.71	220.90	7,559.13	-1,119.66	1,844.26	2,157.53	0.29	0.27	3.52	21.18
	NORMAL	8,142.0	2.42	218.70	7,655.07	-1,122.33	1,842.06	2,157.03	0.74	0.74	-2.29	352.53
	NORMAL	8,237.0	2.77	223.27	7,749.97	-1,125.57	1,839.23	2,156.30	0.43	0.37	4.81	32.89
	NORMAL	8,333.0	3.34	220.99	7,845.84	-1,129.37	1,835.80	2,155.36	0.61	0.59	-2.38	346.83
	NORMAL	8,429.0	3.74	226.26	7,941.65	-1,133.64	1,831.71	2,154.09	0.54	0.42	5.49	41.78
	NORMAL	8,525.0	4.04	227.76	8,037.43	-1,138.08	1,826.94	2,152.34	0.33	0.31	1.56	19.49
	NORMAL	8,570.0	4.04	227.76	8,082.32	-1,140.21	1,824.59	2,151.44	0.00	0.00	0.00	0.00
	NORMAL	8,577.0	4.04	227.76	8,089.30	-1,140.54	1,824.23	2,151.31	0.00	0.00	0.00	0.00