

I General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 514-29	Wellbore No.	OH
Well Name	RWF 514-29	Common Name	RWF 514-29
Project	RU 29-06S-094W	Site	RWF 14-29 Pad
Vertical Section Azimuth	150.30 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	6/28/2013	UWI	RWF 514-29
Active Datum	KB @5,445.2ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	MOSTAR
Date Started	6/28/2013	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

5697

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 (°)
6/28/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/28/2013	NORMAL	102.0	0.35	83.85	102.00	0.03	0.31	0.12	0.34	0.34	0.00	83.85
	NORMAL	130.0	0.53	127.44	130.00	-0.04	0.50	0.28	1.31	0.64	155.68	84.70
	NORMAL	160.0	0.79	136.32	160.00	-0.27	0.75	0.61	0.93	0.87	29.60	25.95
	NORMAL	221.0	1.50	178.95	220.98	-1.37	1.06	1.72	1.74	1.16	69.89	72.84
	NORMAL	251.0	1.67	174.73	250.97	-2.20	1.10	2.46	0.69	0.57	-14.07	323.40
	NORMAL	282.0	2.55	168.75	281.95	-3.33	1.28	3.52	2.92	2.84	-19.29	342.95
	NORMAL	343.0	3.34	162.77	342.87	-6.35	2.07	6.55	1.39	1.30	-9.80	335.74
	NORMAL	373.0	3.43	163.65	372.82	-8.05	2.58	8.27	0.35	0.30	2.93	30.44
	NORMAL	403.0	3.70	166.46	402.76	-9.85	3.06	10.08	1.07	0.90	9.37	34.32
	NORMAL	403.0	3.70	166.46	402.75	-10.01	3.02	10.19	0.54	0.45	4.68	34.32
	NORMAL	414.0	3.85	159.48	413.74	-10.54	3.27	10.78	4.39	1.36	-63.45	284.57
	NORMAL	414.0	3.85	159.48	413.73	-10.70	3.23	10.90	4.39	1.36	-63.45	284.57
	NORMAL	444.0	4.31	157.79	443.66	-12.53	4.05	12.89	1.58	1.53	-5.63	344.5'
	NORMAL	444.0	4.31	157.79	443.65	-12.69	4.01	13.01	1.58	1.53	-5.63	344.5'
	NORMAL	504.0	4.56	157.73	503.48	-16.83	5.81	17.49	0.42	0.42	-0.10	358.9'
	NORMAL	504.0	4.56	157.73	503.47	-16.99	5.76	17.61	0.42	0.42	-0.10	358.9'
	NORMAL	595.0	4.31	141.97	594.20	-23.03	9.24	24.58	1.36	-0.27	-17.32	250.62
	NORMAL	595.0	4.31	141.97	594.21	-22.87	9.29	24.46	1.36	-0.27	-17.32	250.62
	NORMAL	686.0	5.61	144.14	684.87	-29.17	14.00	32.27	1.44	1.43	2.38	9.28
	NORMAL	686.0	5.61	144.14	684.86	-29.33	13.95	32.39	1.44	1.43	2.38	9.28

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 (°)
6/28/2013	NORMAL	776.0	5.00	143.14	774.48	-36.03	18.88	40.65	0.69	-0.68	-1.11	188.12
	NORMAL	776.0	5.00	143.14	774.48	-35.87	18.93	40.53	0.69	-0.68	-1.11	188.12
	NORMAL	866.0	4.04	149.97	864.19	-41.91	22.82	47.71	1.22	-1.07	7.59	154.10
	NORMAL	866.0	4.04	149.97	864.20	-41.75	22.87	47.60	1.22	-1.07	7.59	154.10
	NORMAL	957.0	5.19	144.43	954.91	-47.87	26.87	54.90	1.35	1.26	-6.09	336.04
	NORMAL	957.0	5.19	144.43	954.90	-48.03	26.82	55.01	1.35	1.26	-6.09	336.04
	NORMAL	1,052.0	4.92	150.06	1,049.53	-55.06	31.35	63.36	0.59	-0.28	5.93	121.34
	NORMAL	1,052.0	4.92	150.06	1,049.54	-54.90	31.40	63.24	0.59	-0.28	5.93	121.34
	NORMAL	1,090.0	5.19	146.19	1,087.39	-57.74	33.17	66.59	1.14	0.71	-10.18	306.43
6/29/2013	NORMAL	1,090.0	5.19	146.19	1,087.38	-57.90	33.12	66.71	1.14	0.71	-10.18	306.43
	NORMAL	1,155.0	5.28	150.94	1,152.12	-62.80	36.26	72.51	0.68	0.14	7.31	80.64
	NORMAL	1,250.0	4.18	155.51	1,246.80	-69.77	39.82	80.33	1.22	-1.16	4.81	163.36
6/30/2013	NORMAL	1,345.0	4.26	153.84	1,341.54	-76.09	42.81	87.30	0.15	0.08	-1.76	302.23
	NORMAL	1,440.0	3.60	161.49	1,436.31	-82.08	45.31	93.75	0.89	-0.69	8.05	145.31
	NORMAL	1,536.0	3.34	160.61	1,532.14	-87.58	47.19	99.46	0.28	-0.27	-0.92	191.14
	NORMAL	1,631.0	3.17	140.57	1,626.99	-92.22	49.78	104.77	1.20	-0.18	-21.09	251.58
	NORMAL	1,726.0	2.46	132.83	1,721.87	-95.63	52.95	109.30	0.85	-0.75	-8.15	204.33
	NORMAL	1,821.0	2.90	152.08	1,816.77	-99.14	55.57	113.65	1.05	0.46	20.26	73.78
	NORMAL	1,917.0	3.87	152.26	1,912.60	-104.16	58.21	119.31	1.01	1.01	0.19	0.72
	NORMAL	2,012.0	4.13	151.99	2,007.37	-110.01	61.31	125.94	0.27	0.27	-0.28	355.72
	NORMAL	2,107.0	4.00	148.21	2,102.13	-115.85	64.66	132.67	0.31	-0.14	-3.98	242.24
	NORMAL	2,203.0	4.04	146.37	2,197.90	-121.51	68.30	139.39	0.14	0.04	-1.92	286.37
	NORMAL	2,298.0	4.04	142.77	2,292.66	-126.96	72.18	146.04	0.27	0.00	-3.79	268.20
	NORMAL	2,393.0	4.57	145.31	2,387.39	-132.74	76.36	153.13	0.59	0.56	2.67	21.06
	NORMAL	2,489.0	4.04	148.39	2,483.12	-138.76	80.30	160.32	0.60	-0.55	3.21	157.96
	NORMAL	2,584.0	3.65	150.15	2,577.91	-144.24	83.56	166.69	0.43	-0.41	1.85	164.04
	NORMAL	2,679.0	3.52	149.01	2,672.72	-149.36	86.57	172.63	0.16	-0.14	-1.20	208.17
	NORMAL	2,774.0	3.52	149.27	2,767.54	-154.37	89.56	178.46	0.02	0.00	0.27	90.13
	NORMAL	2,870.0	3.25	147.34	2,863.37	-159.19	92.54	184.13	0.31	-0.28	-2.01	201.92
	NORMAL	2,965.0	2.81	143.38	2,958.24	-163.33	95.38	189.13	0.51	-0.46	-4.17	203.47
	NORMAL	3,060.0	2.73	144.26	3,053.13	-167.03	98.09	193.69	0.10	-0.08	0.93	152.44
	NORMAL	3,155.0	3.74	147.86	3,147.98	-171.49	101.06	199.03	1.08	1.06	3.79	13.17
	NORMAL	3,250.0	3.78	146.46	3,242.77	-176.73	104.44	205.25	0.11	0.04	-1.47	292.84
	NORMAL	3,345.0	3.78	145.31	3,337.57	-181.91	107.95	211.50	0.08	0.00	-1.21	269.43
	NORMAL	3,441.0	3.65	143.73	3,433.36	-186.98	111.56	217.69	0.17	-0.14	-1.65	217.43
	NORMAL	3,536.0	4.18	151.82	3,528.14	-192.47	114.98	224.15	0.80	0.56	8.52	50.27
	NORMAL	3,632.0	4.40	151.47	3,623.87	-198.79	118.39	231.33	0.23	0.23	-0.36	353.04
	NORMAL	3,727.0	3.78	153.75	3,718.63	-204.80	121.52	238.10	0.67	-0.65	2.40	166.44
	NORMAL	3,822.0	3.60	153.40	3,813.43	-210.27	124.24	244.20	0.19	-0.19	-0.37	186.96
	NORMAL	3,918.0	3.34	153.84	3,909.26	-215.48	126.82	250.00	0.27	-0.27	0.46	174.37
7/1/2013	NORMAL	4,013.0	3.17	153.40	4,004.11	-220.31	129.22	255.39	0.18	-0.18	-0.46	188.14
	NORMAL	4,108.0	2.33	152.78	4,099.00	-224.37	131.28	259.94	0.88	-0.88	-0.65	181.72
	NORMAL	4,203.0	1.14	130.20	4,193.95	-226.70	132.88	262.76	1.42	-1.25	-23.77	198.92
	NORMAL	4,298.0	1.14	120.00	4,288.93	-227.78	134.42	264.46	0.21	0.00	-10.74	264.90
	NORMAL	4,394.0	0.31	93.02	4,384.92	-228.28	135.51	265.43	0.91	-0.86	-28.10	189.25
	NORMAL	4,489.0	0.40	64.10	4,479.92	-228.14	136.07	265.59	0.21	0.09	-30.44	281.72
	NORMAL	4,584.0	0.57	77.02	4,574.92	-227.89	136.82	265.75	0.21	0.18	13.60	39.32
	NORMAL	4,680.0	0.66	84.58	4,670.91	-227.73	137.84	266.11	0.13	0.09	7.88	45.86
	NORMAL	4,775.0	0.79	76.23	4,765.91	-227.53	139.02	266.52	0.18	0.14	-8.79	316.67
	NORMAL	4,870.0	1.01	72.28	4,860.89	-227.12	140.45	266.87	0.24	0.23	-4.16	342.27
	NORMAL	4,965.0	1.32	63.31	4,955.87	-226.37	142.23	267.10	0.38	0.33	-9.44	325.00
	NORMAL	5,061.0	1.23	63.93	5,051.85	-225.42	144.14	267.22	0.09	-0.09	0.65	171.60
	NORMAL	5,156.0	1.14	67.71	5,146.83	-224.61	145.93	267.41	0.13	-0.09	3.98	140.90
	NORMAL	5,251.0	1.05	79.31	5,241.81	-224.09	147.66	267.82	0.25	-0.09	12.21	117.83
	NORMAL	5,346.0	1.32	86.34	5,336.79	-223.86	149.61	268.58	0.32	0.28	7.40	31.85
7/2/2013	NORMAL	5,441.0	1.41	91.26	5,431.77	-223.82	151.87	269.66	0.16	0.09	5.18	54.96
	NORMAL	5,537.0	1.41	89.41	5,527.74	-223.83	154.23	270.84	0.05	0.00	-1.93	269.08

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 (°)
7/2/2013	NORMAL	5,632.0	1.14	150.76	5,622.72	-224.64	155.86	272.36	1.39	-0.28	64.58	130.79
	NORMAL	5,727.0	1.23	161.93	5,717.70	-226.44	156.64	274.30	0.26	0.09	11.76	74.36
	NORMAL	5,822.0	1.32	162.72	5,812.67	-228.45	157.28	276.37	0.10	0.09	0.83	11.45
	NORMAL	5,917.0	1.36	168.78	5,907.65	-230.60	157.83	278.51	0.15	0.04	6.38	77.28
	NORMAL	6,013.0	1.10	173.97	6,003.63	-232.64	158.15	280.43	0.29	-0.27	5.41	159.39
	NORMAL	6,108.0	1.14	187.24	6,098.61	-234.48	158.12	282.02	0.28	0.04	13.97	87.91
	NORMAL	6,203.0	1.19	182.14	6,193.59	-236.40	157.97	283.61	0.12	0.05	-5.37	293.18
	NORMAL	6,298.0	1.54	174.85	6,288.56	-238.66	158.04	285.61	0.41	0.37	-7.67	329.94
7/3/2013	NORMAL	6,394.0	1.01	211.85	6,384.54	-240.67	157.71	287.19	0.99	-0.55	38.54	140.35
	NORMAL	6,489.0	0.92	222.22	6,479.52	-241.94	156.76	287.83	0.21	-0.09	10.92	122.38
	NORMAL	6,584.0	0.88	215.89	6,574.51	-243.10	155.82	288.36	0.11	-0.04	-6.66	244.94
	NORMAL	6,679.0	1.01	213.08	6,669.50	-244.39	154.93	289.05	0.15	0.14	-2.96	338.97
	NORMAL	6,775.0	1.19	202.79	6,765.48	-246.02	154.09	290.04	0.28	0.19	-10.72	307.12
	NORMAL	6,870.0	1.10	191.87	6,860.46	-247.82	153.52	291.32	0.25	-0.09	-11.49	242.19
	NORMAL	6,965.0	1.14	188.47	6,955.45	-249.65	153.19	292.75	0.08	0.04	-3.58	299.34
	NORMAL	7,060.0	0.83	182.49	7,050.43	-251.27	153.02	294.08	0.34	-0.33	-6.29	195.37
	NORMAL	7,156.0	0.97	162.80	7,146.42	-252.74	153.23	295.46	0.35	0.15	-20.51	284.30
	NORMAL	7,251.0	0.97	152.52	7,241.41	-254.22	153.84	297.05	0.18	0.00	-10.82	264.86
7/4/2013	NORMAL	7,346.0	1.27	159.29	7,336.39	-255.92	154.58	298.89	0.34	0.32	7.13	27.27
	NORMAL	7,442.0	1.50	155.86	7,432.36	-258.06	155.47	301.19	0.25	0.24	-3.57	338.46
	NORMAL	7,537.0	1.58	144.96	7,527.33	-260.27	156.73	303.73	0.32	0.08	-11.47	279.78
	NORMAL	7,632.0	1.14	151.11	7,622.30	-262.17	157.94	305.98	0.49	-0.46	6.47	164.70
	NORMAL	7,728.0	1.10	157.44	7,718.28	-263.85	158.76	307.85	0.14	-0.04	6.59	111.06
	NORMAL	7,823.0	1.10	155.51	7,813.26	-265.53	159.48	309.66	0.04	0.00	-2.03	269.04
	NORMAL	7,885.0	1.23	152.17	7,875.25	-266.66	160.04	310.92	0.24	0.21	-5.39	330.74
	NORMAL	7,930.0	1.23	152.17	7,920.24	-267.51	160.49	311.89	0.00	0.00	0.00	0.00