

# Deviation Summary

PICEANCE VLY

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	SG 33-28	Wellbore No.	00
Wellbore Legal Name	SG 33-28	Common Wellbore Name	SG 33-28
Project	SG 28-07S-096W	Site	SG 43-28 Pad
Vertical Section Azimuth	269.78 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	9/20/2014	UWI	SG 33-28
Active datum	KB @5,143.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	MOSTAR
Date Started	9/20/2014	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 (°)
9/20/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/20/2014	NORMAL	107.0	0.88	309.90	107.00	0.53	-0.63	0.63	0.82	0.82	0.00	309.90
	NORMAL	132.0	1.85	309.38	131.99	0.91	-1.09	1.09	3.88	3.88	-2.08	359.01
	NORMAL	162.0	2.29	296.63	161.97	1.48	-2.00	1.99	2.11	1.47	-42.50	307.20
	NORMAL	192.0	2.46	292.41	191.94	2.00	-3.13	3.12	0.81	0.57	-14.07	312.07
	NORMAL	223.0	3.52	276.94	222.90	2.36	-4.69	4.68	4.27	3.42	-49.90	314.83
	NORMAL	253.0	4.05	276.33	252.84	2.59	-6.66	6.65	1.77	1.77	-2.03	355.35
	NORMAL	283.0	4.75	269.47	282.75	2.70	-8.95	8.94	2.92	2.33	-22.87	319.61
	NORMAL	313.0	6.16	275.62	312.61	2.84	-11.80	11.79	5.08	4.70	20.50	25.60
	NORMAL	343.0	7.30	272.72	342.40	3.09	-15.30	15.29	3.96	3.80	-9.67	341.96
	NORMAL	374.0	8.62	270.26	373.10	3.20	-19.59	19.58	4.40	4.26	-7.94	344.31
	NORMAL	404.0	10.38	270.97	402.69	3.25	-24.54	24.53	5.88	5.87	2.37	4.16
	NORMAL	435.0	11.88	270.26	433.11	3.31	-30.53	30.51	4.86	4.84	-2.29	354.43
	NORMAL	464.0	13.99	268.07	461.37	3.21	-37.02	37.00	7.47	7.28	-7.55	345.85
	NORMAL	494.0	16.01	268.15	490.35	2.95	-44.78	44.76	6.73	6.73	0.27	0.63
	NORMAL	524.0	18.30	266.92	519.01	2.57	-53.62	53.61	7.73	7.63	-4.10	350.41
	NORMAL	555.0	19.88	267.10	548.30	2.04	-63.74	63.73	5.10	5.10	0.58	2.22
	NORMAL	585.0	20.23	267.54	576.49	1.56	-74.02	74.01	1.27	1.17	1.47	23.53
	NORMAL	615.0	20.50	266.40	604.61	1.01	-84.44	84.44	1.60	0.90	-3.80	303.70
	NORMAL	645.0	21.47	266.66	632.62	0.36	-95.17	95.16	3.25	3.23	0.87	5.60
	NORMAL	676.0	22.43	266.66	661.37	-0.32	-106.73	106.73	3.10	3.10	0.00	0.00

## 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 (°)
9/20/2014	NORMAL	705.0	23.40	268.15	688.08	-0.83	-118.01	118.01	3.90	3.34	5.14	31.57
	NORMAL	736.0	24.55	268.24	716.41	-1.22	-130.60	130.61	3.71	3.71	0.29	1.86
	NORMAL	766.0	25.78	269.82	743.56	-1.44	-143.36	143.36	4.67	4.10	5.27	29.36
	NORMAL	797.0	27.36	271.14	771.29	-1.32	-157.22	157.22	5.44	5.10	4.26	21.08
	NORMAL	827.0	28.68	270.18	797.77	-1.16	-171.31	171.32	4.65	4.40	-3.20	340.71
	NORMAL	857.0	29.47	270.62	823.99	-1.05	-185.89	185.89	2.73	2.63	1.47	15.34
9/21/2014	NORMAL	888.0	30.00	270.62	850.91	-0.89	-201.27	201.27	1.71	1.71	0.00	0.00
	NORMAL	918.0	31.23	270.53	876.73	-0.73	-216.54	216.54	4.10	4.10	-0.30	357.83
	NORMAL	949.0	32.82	270.44	903.01	-0.59	-232.98	232.98	5.13	5.13	-0.29	358.24
	NORMAL	979.0	34.31	270.79	928.00	-0.42	-249.56	249.56	5.01	4.97	1.17	7.55
	NORMAL	1,054.0	37.08	269.40	988.91	-0.36	-293.32	293.32	3.85	3.69	-1.85	343.11
	NORMAL	1,148.0	41.24	267.64	1,061.78	-1.93	-352.64	352.64	4.58	4.43	-1.87	344.35
	NORMAL	1,242.0	45.49	268.27	1,130.10	-4.22	-417.13	417.14	4.54	4.52	0.67	6.04
	NORMAL	1,337.0	49.69	270.33	1,194.16	-5.04	-487.24	487.26	4.70	4.42	2.17	20.61
	NORMAL	1,431.0	52.14	270.66	1,253.42	-4.40	-560.20	560.21	2.62	2.61	0.35	6.07
	NORMAL	1,525.0	57.06	271.49	1,307.86	-2.95	-636.78	636.79	5.28	5.23	0.88	8.07
	NORMAL	1,619.0	59.60	270.75	1,357.21	-1.39	-716.76	716.76	2.78	2.70	-0.79	345.88
	NORMAL	1,652.0	59.78	270.62	1,373.86	-1.05	-745.25	745.25	0.64	0.55	-0.39	328.02
9/22/2014	NORMAL	1,652.0	59.78	270.62	1,373.86	-1.05	-745.25	745.25	0.00	0.00	0.00	0.00
	NORMAL	1,719.0	60.04	270.04	1,407.45	-0.72	-803.22	803.21	0.84	0.39	-0.87	297.24
	NORMAL	1,813.0	61.14	269.60	1,453.61	-0.98	-885.10	885.10	1.24	1.17	-0.47	340.68
	NORMAL	1,907.0	60.75	270.83	1,499.27	-0.67	-967.27	967.26	1.22	-0.41	1.31	110.23
	NORMAL	2,002.0	61.67	271.45	1,545.02	0.99	-1,050.51	1,050.50	1.12	0.97	0.65	30.72
	NORMAL	2,096.0	60.00	270.92	1,590.82	2.69	-1,132.57	1,132.55	1.84	-1.78	-0.56	195.36
	NORMAL	2,190.0	58.64	270.39	1,638.79	3.61	-1,213.40	1,213.38	1.53	-1.45	-0.56	198.39
	NORMAL	2,284.0	57.06	269.33	1,688.81	3.43	-1,292.99	1,292.96	1.93	-1.68	-1.13	209.32
9/23/2014	NORMAL	2,379.0	54.77	267.40	1,742.05	1.20	-1,371.62	1,371.61	2.94	-2.41	-2.03	214.38
	NORMAL	2,473.0	53.76	267.93	1,796.95	-1.91	-1,447.86	1,447.86	1.17	-1.07	0.56	157.08
	NORMAL	2,567.0	52.62	268.81	1,853.27	-4.06	-1,523.09	1,523.09	1.43	-1.21	0.94	148.55
	NORMAL	2,661.0	50.42	270.13	1,911.76	-4.75	-1,596.66	1,596.67	2.59	-2.34	1.40	155.25
	NORMAL	2,756.0	48.92	270.13	1,973.24	-4.59	-1,669.08	1,669.09	1.58	-1.58	0.00	180.00
	NORMAL	2,850.0	46.51	270.21	2,036.48	-4.38	-1,738.62	1,738.62	2.56	-2.56	0.09	178.62
	NORMAL	2,944.0	43.96	269.42	2,102.67	-4.59	-1,805.35	1,805.35	2.78	-2.71	-0.84	192.13
	NORMAL	3,038.0	42.20	269.77	2,171.32	-5.04	-1,869.55	1,869.55	1.89	-1.87	0.37	172.39
	NORMAL	3,133.0	41.10	269.16	2,242.31	-5.63	-1,932.68	1,932.69	1.23	-1.16	-0.64	200.00
	NORMAL	3,227.0	39.43	270.48	2,314.03	-5.83	-1,993.43	1,993.44	1.99	-1.78	1.40	153.44
	NORMAL	3,321.0	36.79	270.48	2,387.99	-5.34	-2,051.44	2,051.44	2.81	-2.81	0.00	180.00
	NORMAL	3,415.0	34.02	269.95	2,464.60	-5.13	-2,105.89	2,105.89	2.96	-2.95	-0.56	186.11
	NORMAL	3,510.0	31.87	269.16	2,544.32	-5.52	-2,157.55	2,157.55	2.31	-2.26	-0.83	190.97
	NORMAL	3,604.0	29.93	270.04	2,624.97	-5.87	-2,205.82	2,205.82	2.12	-2.06	0.94	167.26
	NORMAL	3,698.0	27.96	269.16	2,707.23	-6.18	-2,251.30	2,251.31	2.14	-2.10	-0.94	191.81
	NORMAL	3,792.0	25.80	270.21	2,791.07	-6.43	-2,293.80	2,293.81	2.35	-2.30	1.12	168.07
	NORMAL	3,886.0	24.26	269.33	2,876.24	-6.58	-2,333.57	2,333.58	1.69	-1.64	-0.94	193.19
	NORMAL	3,980.0	22.81	268.02	2,962.42	-7.43	-2,371.09	2,371.10	1.64	-1.54	-1.39	199.24
	NORMAL	4,073.0	20.97	267.49	3,048.71	-8.78	-2,405.73	2,405.75	1.99	-1.98	-0.57	185.88
9/24/2014	NORMAL	4,167.0	18.90	269.07	3,137.07	-9.77	-2,437.76	2,437.78	2.28	-2.20	1.68	166.15
	NORMAL	4,262.0	17.45	267.49	3,227.33	-10.64	-2,467.38	2,467.40	1.61	-1.53	-1.66	198.02
	NORMAL	4,356.0	15.74	268.98	3,317.41	-11.48	-2,494.21	2,494.24	1.87	-1.82	1.59	166.74
	NORMAL	4,450.0	13.10	270.04	3,408.44	-11.70	-2,517.62	2,517.64	2.82	-2.81	1.13	174.80
	NORMAL	4,545.0	11.08	268.81	3,501.33	-11.89	-2,537.51	2,537.54	2.14	-2.13	-1.29	186.67
	NORMAL	4,639.0	8.57	273.29	3,593.94	-11.67	-2,553.54	2,553.56	2.79	-2.67	4.77	165.26
	NORMAL	4,733.0	6.20	278.39	3,687.16	-10.53	-2,565.55	2,565.57	2.61	-2.52	5.43	167.06
	NORMAL	4,827.0	2.77	267.05	3,780.86	-9.91	-2,572.84	2,572.86	3.75	-3.65	-12.06	188.89
	NORMAL	4,922.0	0.70	269.07	3,875.81	-10.03	-2,575.72	2,575.74	2.18	-2.18	2.13	179.32
9/25/2014	NORMAL	5,016.0	0.44	29.92	3,969.81	-9.73	-2,576.11	2,576.13	1.06	-0.28	128.56	157.80
	NORMAL	5,110.0	0.40	7.33	4,063.81	-9.09	-2,575.89	2,575.90	0.18	-0.04	-24.03	245.30

## 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)	Bulld Rate (%/100usft)	Turn (%/100usft)	Tface (°)
9/25/2014	NORMAL	5,204.0	0.35	348.35	4,157.80	-8.48	-2,575.91	2,575.92	0.14	-0.05	-20.19	238.77
	NORMAL	5,294.0	0.31	349.32	4,247.80	-7.98	-2,576.01	2,576.02	0.04	-0.04	1.08	172.53
	NORMAL	5,392.0	0.18	8.56	4,345.80	-7.56	-2,576.03	2,576.04	0.16	-0.13	19.63	157.05
	NORMAL	5,486.0	0.22	147.61	4,439.80	-7.57	-2,575.91	2,575.92	0.40	0.04	147.93	157.39
	NORMAL	5,580.0	0.40	166.94	4,533.80	-8.04	-2,575.74	2,575.75	0.22	0.19	20.56	40.06
	NORMAL	5,675.0	0.48	202.45	4,628.80	-8.73	-2,575.82	2,575.83	0.29	0.08	37.38	91.90
	NORMAL	5,769.0	0.57	228.12	4,722.79	-9.41	-2,576.32	2,576.34	0.27	0.10	27.31	82.22
	NORMAL	5,863.0	0.83	243.23	4,816.79	-10.03	-2,577.27	2,577.29	0.34	0.28	16.07	43.09
	NORMAL	5,957.0	1.05	249.74	4,910.77	-10.63	-2,578.69	2,578.71	0.26	0.23	6.93	29.17
	NORMAL	6,051.0	1.14	273.11	5,004.76	-10.88	-2,580.43	2,580.45	0.48	0.10	24.86	90.44
	NORMAL	6,115.0	1.14	273.11	5,068.74	-10.81	-2,581.70	2,581.73	0.00	0.00	0.00	0.00