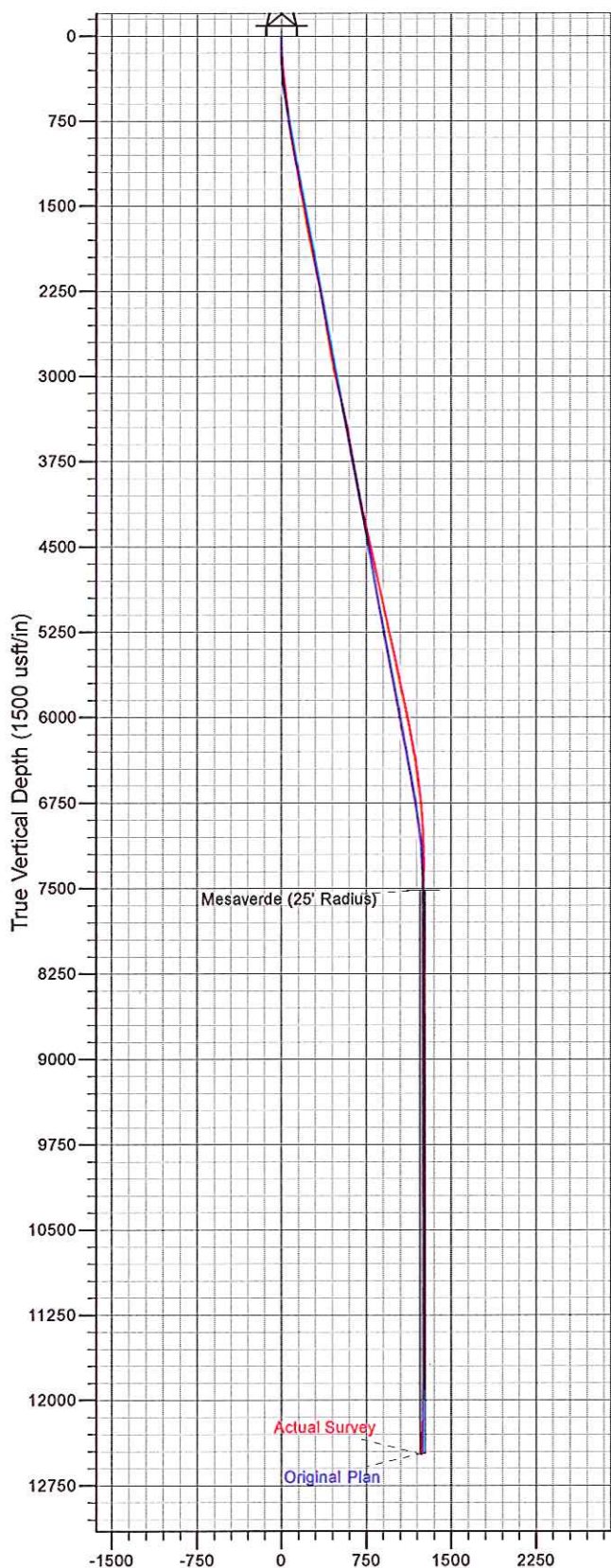


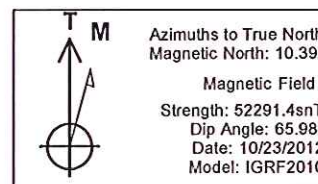
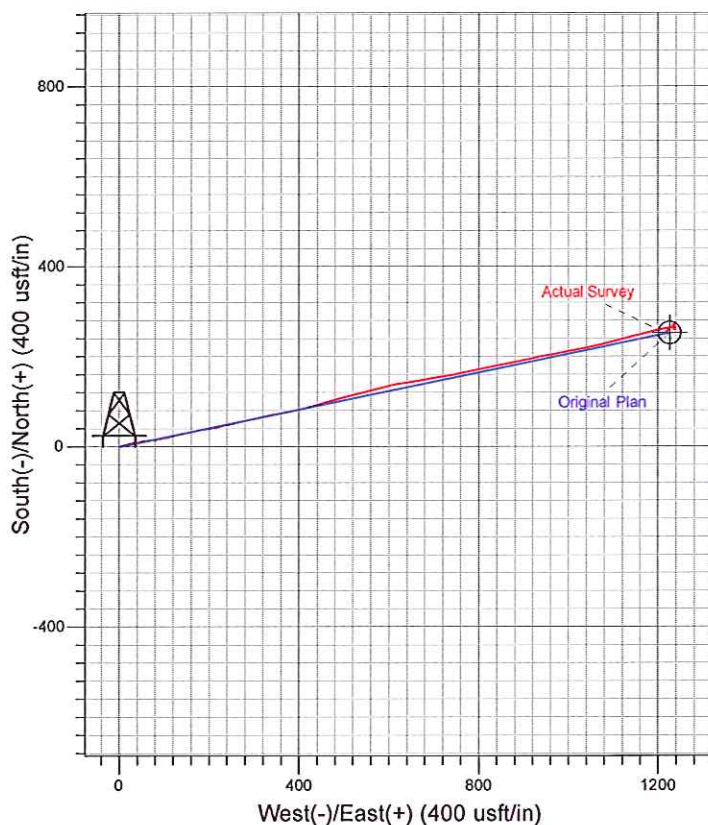


Well Name: RG 543-36-198  
 Surface Location: RGU 33-36-198 Pad  
 North American Datum 1983 , US State Plane 1983 . Colorado Central Zone  
 Ground Elevation: 6574.00  
 WELL @ 6595.00usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1771053.10	2203545.60	39.91618	-108.33971	B2



Vertical Section at 78.36° (1500 usft/in)



## I General

### 1.1 Customer Information

Company	PICEANCE HL
Representative	Eric Kolstad
Address	1515 Arapahoe St., Suite 1000 Denver, CO 80202

### 1.2 Well Information

Well	RG 543-36-198	Wellbore No.	
Well Name	FEDERAL RG 543-36-198	Common Name	RG 543-36-198
Project	RG 36-01S-098W	Site	RGU 33-36-198 Pad
Vertical Section Azimuth	78.36 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	10/24/2012	UWI	RG 543-36-198
Active Datum	KB @6,595.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	10/24/2012	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 (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
10/24/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/24/2012	NORMAL	341.0	6.68	75.87	340.23	4.85	19.25	19.84	1.96	1.96	0.00	75.87
	NORMAL	433.0	7.83	80.18	431.49	7.22	30.62	31.45	1.38	1.25	4.68	27.48
	NORMAL	525.0	5.63	79.12	522.85	9.14	41.23	42.22	2.40	-2.39	-1.15	182.7'
	NORMAL	617.0	6.03	75.83	614.38	11.18	50.34	51.56	0.57	0.43	-3.58	318.48
	NORMAL	709.0	6.77	83.69	705.80	12.96	60.42	61.79	1.24	0.80	8.54	53.77
	NORMAL	804.0	7.69	82.21	800.05	14.43	72.28	73.71	0.99	0.97	-1.56	347.82
	NORMAL	898.0	10.00	78.80	892.92	16.87	86.52	88.15	2.52	2.46	-3.63	345.52
	NORMAL	991.0	11.26	78.15	984.33	20.31	103.33	105.30	1.36	1.35	-0.70	354.24
	NORMAL	1,085.0	11.34	77.45	1,076.50	24.20	121.33	123.72	0.17	0.09	-0.74	299.9'
	NORMAL	1,180.0	10.29	77.80	1,169.81	28.02	138.74	141.54	1.11	-1.11	0.37	176.59
	NORMAL	1,273.0	10.20	78.94	1,261.33	31.36	154.94	158.08	0.24	-0.10	1.23	114.50
	NORMAL	1,367.0	10.16	77.18	1,353.85	34.79	171.20	174.69	0.33	-0.04	-1.87	261.8'
10/25/2012	NORMAL	1,462.0	10.64	80.61	1,447.29	38.08	188.02	191.84	0.82	0.51	3.61	53.9'
	NORMAL	1,557.0	10.29	80.88	1,540.71	40.86	205.05	209.08	0.37	-0.37	0.28	172.16
	NORMAL	1,651.0	9.37	75.74	1,633.33	44.07	220.76	225.11	1.35	-0.98	-5.47	221.13
	NORMAL	1,745.0	10.55	78.51	1,725.91	47.67	236.61	241.36	1.35	1.26	2.95	23.47
	NORMAL	1,839.0	12.31	77.36	1,818.05	51.58	254.82	259.98	1.89	1.87	-1.22	352.06
	NORMAL	2,311.0	10.64	78.42	2,280.60	71.34	346.61	353.87	0.36	-0.35	0.22	173.32
	NORMAL	2,405.0	10.20	78.77	2,373.05	74.70	363.27	370.87	0.47	-0.47	0.37	171.99

## 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 (°)
10/25/2012	NORMAL	2,595.0	9.41	79.65	2,560.27	80.77	395.05	403.23	0.42	-0.42	0.46	169.69
	NORMAL	2,689.0	9.06	76.13	2,653.05	83.92	409.80	418.30	0.71	-0.37	-3.74	236.49
	NORMAL	2,783.0	8.71	74.81	2,745.92	87.56	423.85	432.80	0.43	-0.37	-1.40	209.57
	NORMAL	2,878.0	10.73	72.70	2,839.56	92.08	439.24	448.78	2.16	2.13	-2.22	348.96
	NORMAL	2,972.0	12.66	75.34	2,931.60	97.29	457.56	467.78	2.13	2.05	2.81	16.79
	NORMAL	3,066.0	13.10	74.20	3,023.24	102.79	477.78	488.69	0.54	0.47	-1.21	329.44
	NORMAL	3,158.0	12.13	72.62	3,113.01	108.52	497.03	508.71	1.12	-1.05	-1.72	198.81
	NORMAL	3,252.0	12.84	76.66	3,204.79	113.88	516.62	528.98	1.20	0.76	4.30	52.88
	NORMAL	3,347.0	12.57	76.57	3,297.47	118.72	536.95	549.86	0.28	-0.28	-0.09	184.15
	NORMAL	3,442.0	12.13	75.78	3,390.27	123.57	556.68	570.16	0.50	-0.46	-0.83	200.62
	NORMAL	3,536.0	11.51	75.44	3,482.27	128.35	575.33	589.40	0.66	-0.66	-0.36	186.24
11/13/2012	NORMAL	3,721.0	8.98	76.37	3,664.31	136.40	607.23	622.26	1.37	-1.37	0.50	176.72
	NORMAL	3,815.0	10.90	80.61	3,756.90	139.58	623.13	638.48	2.18	2.04	4.51	22.96
	NORMAL	3,910.0	10.73	80.61	3,850.21	142.49	640.72	656.29	0.18	-0.18	0.00	180.00
	NORMAL	4,004.0	10.55	80.70	3,942.59	145.30	657.84	673.63	0.19	-0.19	0.10	174.77
	NORMAL	4,099.0	11.52	80.18	4,035.83	148.33	675.77	691.80	1.03	1.02	-0.55	353.89
	NORMAL	4,194.0	12.61	78.92	4,128.73	151.94	695.30	711.65	1.18	1.15	-1.33	345.80
	NORMAL	4,288.0	12.40	83.52	4,220.51	155.05	715.40	731.97	1.08	-0.22	4.89	104.15
	NORMAL	4,383.0	12.91	78.30	4,313.20	158.35	735.92	752.74	1.32	0.54	-5.49	291.47
	NORMAL	4,477.0	14.20	78.67	4,404.58	162.75	757.51	774.77	1.38	1.37	0.39	4.03
	NORMAL	4,571.0	11.57	76.96	4,496.21	167.14	778.00	795.73	2.83	-2.80	-1.82	187.42
	NORMAL	4,665.0	11.51	79.24	4,588.31	171.02	796.40	814.53	0.49	-0.06	2.43	98.6'
	NORMAL	4,760.0	12.81	80.70	4,681.17	174.49	816.11	834.53	1.41	1.37	1.54	14.02
	NORMAL	4,854.0	12.84	77.43	4,772.83	178.45	836.59	855.38	0.77	0.03	-3.48	270.77
	NORMAL	4,948.0	12.65	76.81	4,864.51	183.07	856.80	876.12	0.25	-0.20	-0.66	215.45
11/14/2012	NORMAL	5,043.0	11.87	80.68	4,957.35	187.02	876.57	896.28	1.19	-0.82	4.07	135.39
	NORMAL	5,138.0	12.73	77.24	5,050.17	190.92	896.42	916.51	1.19	0.91	-3.62	317.88
	NORMAL	5,232.0	13.17	76.52	5,141.78	195.70	916.94	937.56	0.50	0.47	-0.77	339.5'
	NORMAL	5,326.0	12.88	80.06	5,233.36	200.01	937.67	958.74	0.90	-0.31	3.77	111.66
	NORMAL	5,421.0	11.33	80.15	5,326.24	203.43	957.29	978.65	1.63	-1.63	0.09	179.35
	NORMAL	5,514.0	12.05	80.17	5,417.32	206.65	975.86	997.49	0.77	0.77	0.02	0.33
	NORMAL	5,608.0	10.82	78.15	5,509.45	210.14	994.16	1,016.12	1.38	-1.31	-2.15	197.05
	NORMAL	5,702.0	11.49	77.90	5,601.67	213.91	1,011.95	1,034.30	0.71	0.71	-0.27	355.75
	NORMAL	5,797.0	12.35	79.49	5,694.62	217.75	1,031.19	1,053.92	0.97	0.91	1.67	21.68
	NORMAL	5,891.0	12.66	77.54	5,786.39	221.81	1,051.14	1,074.27	0.56	0.33	-2.07	305.33
	NORMAL	5,986.0	13.06	77.49	5,879.01	226.38	1,071.78	1,095.41	0.42	0.42	-0.05	358.38
	NORMAL	6,080.0	11.51	74.55	5,970.86	231.18	1,091.19	1,115.39	1.78	-1.65	-3.13	200.55
	NORMAL	6,175.0	11.05	76.37	6,064.02	235.85	1,109.17	1,133.95	0.61	-0.48	1.92	143.15
	NORMAL	6,269.0	10.55	74.99	6,156.36	240.20	1,126.24	1,151.54	0.60	-0.53	-1.47	206.67
	NORMAL	6,363.0	11.08	74.99	6,248.69	244.77	1,143.28	1,169.15	0.56	0.56	0.00	0.00
	NORMAL	6,456.0	10.55	75.17	6,340.03	249.26	1,160.14	1,186.57	0.57	-0.57	0.19	176.44
	NORMAL	6,550.0	8.27	76.57	6,432.76	253.03	1,175.03	1,201.92	2.44	-2.43	1.49	174.96
	NORMAL	6,645.0	7.45	76.91	6,526.87	256.01	1,187.68	1,214.91	0.86	-0.86	0.36	176.92
	NORMAL	6,739.0	7.14	77.12	6,620.11	258.70	1,199.31	1,226.84	0.33	-0.33	0.22	175.19
	NORMAL	6,834.0	6.30	81.63	6,714.45	260.77	1,210.22	1,237.95	1.04	-0.88	4.75	150.09
	NORMAL	6,929.0	5.09	77.49	6,808.98	262.44	1,219.49	1,247.36	1.34	-1.27	-4.36	196.70
	NORMAL	7,023.0	3.17	78.15	6,902.74	263.88	1,226.11	1,254.13	2.04	-2.04	0.70	178.9'
	NORMAL	7,117.0	2.55	82.46	6,996.62	264.69	1,230.73	1,258.82	0.70	-0.66	4.59	163.0'
	NORMAL	7,212.0	2.34	94.89	7,091.53	264.80	1,234.75	1,262.79	0.60	-0.22	13.08	117.74
	NORMAL	7,306.0	0.44	180.19	7,185.51	264.28	1,236.66	1,264.55	2.49	-2.02	90.74	169.22
	NORMAL	7,400.0	1.49	200.85	7,279.49	262.77	1,236.23	1,263.82	1.16	1.12	21.98	28.85
11/15/2012	NORMAL	7,494.0	0.97	314.40	7,373.48	262.19	1,235.22	1,262.72	2.21	-0.55	120.80	154.65
	NORMAL	7,588.0	2.11	268.52	7,467.45	262.70	1,232.93	1,260.57	1.70	1.21	-48.81	288.24
	NORMAL	7,683.0	1.67	129.31	7,562.42	261.78	1,232.25	1,259.72	3.73	-0.46	-146.54	197.93
	NORMAL	7,777.0	2.25	118.59	7,656.37	260.03	1,234.93	1,261.99	0.73	0.62	-11.40	322.27
	NORMAL	7,872.0	0.88	35.26	7,751.34	259.73	1,236.99	1,263.95	2.44	-1.44	-87.72	202.15
	NORMAL	7,966.0	0.79	38.78	7,845.33	260.82	1,237.81	1,264.98	0.11	-0.10	3.74	152.07

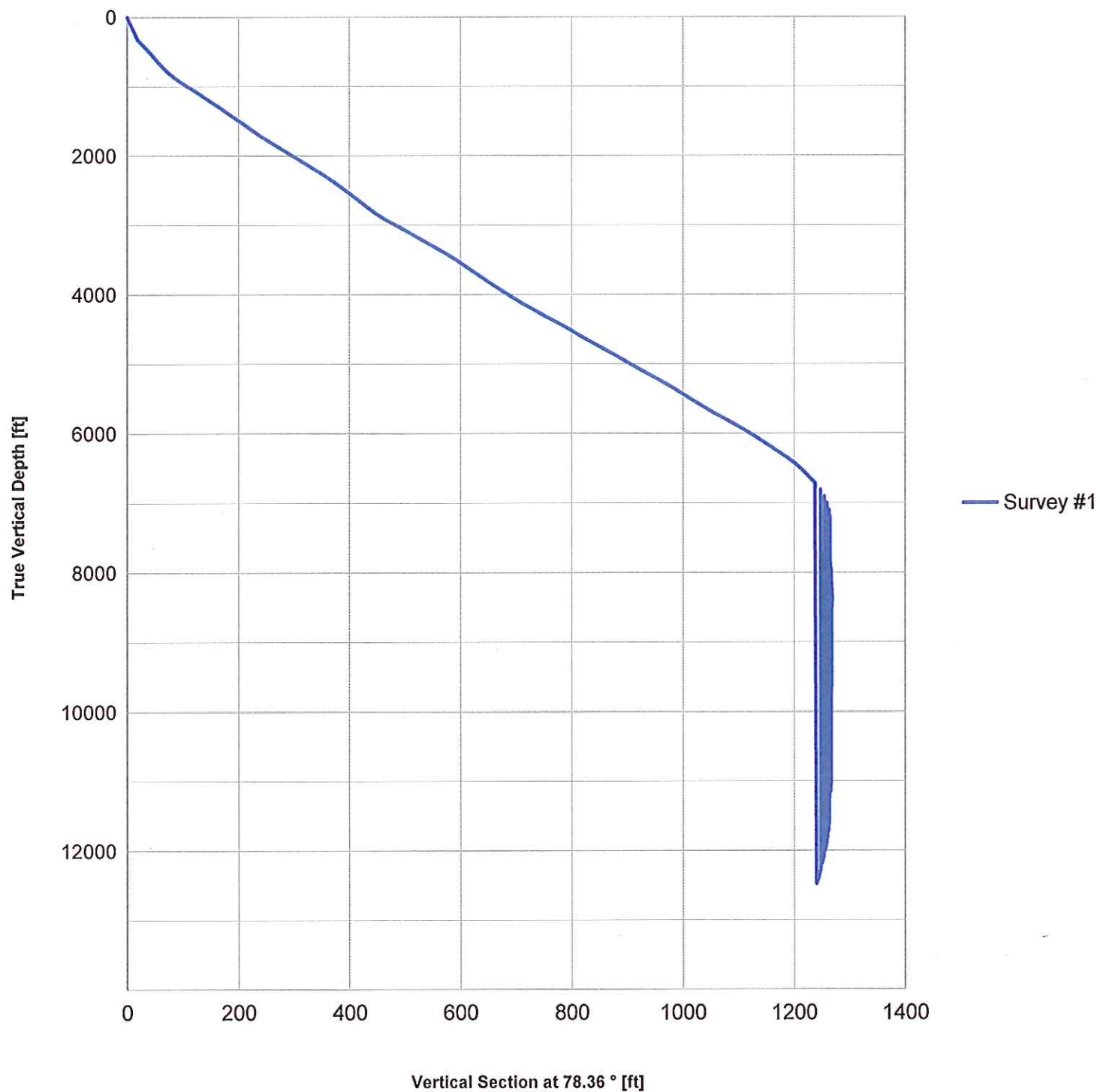
## 2.1.2 Survey Stations (Continued)

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 (°)
11/15/2012	NORMAL	8,061.0	0.97	35.97	7,940.32	261.99	1,238.69	1,266.08	0.19	0.19	-2.96	345.11
	NORMAL	8,155.0	0.43	6.50	8,034.31	262.98	1,239.20	1,266.77	0.67	-0.57	-31.35	199.55
	NORMAL	8,249.0	0.62	58.99	8,128.31	263.59	1,239.68	1,267.36	0.53	0.20	55.84	96.09
	NORMAL	8,344.0	0.26	83.43	8,223.31	263.88	1,240.33	1,268.06	0.42	-0.38	25.73	164.32
	NORMAL	8,439.0	0.35	132.03	8,318.30	263.71	1,240.76	1,268.45	0.28	0.09	51.16	96.20
	NORMAL	8,533.0	0.26	246.38	8,412.30	263.43	1,240.78	1,268.41	0.55	-0.10	121.65	152.61
	NORMAL	8,628.0	0.78	237.22	8,507.30	263.00	1,240.04	1,267.60	0.55	0.55	-9.64	346.32
	NORMAL	8,723.0	0.62	230.56	8,602.29	262.32	1,239.10	1,266.54	0.19	-0.17	-7.01	203.65
	NORMAL	8,816.0	0.07	199.36	8,695.29	261.95	1,238.69	1,266.07	0.60	-0.59	-33.55	183.70
	NORMAL	8,910.0	0.62	125.53	8,789.29	261.60	1,239.08	1,266.38	0.64	0.59	-78.54	279.78
	NORMAL	9,005.0	0.70	350.26	8,884.29	261.87	1,239.40	1,266.75	1.29	0.08	-142.39	203.79
	NORMAL	9,099.0	0.59	335.59	8,978.28	262.88	1,239.11	1,266.66	0.21	-0.12	-15.61	229.14
11/16/2012	NORMAL	9,193.0	0.44	286.19	9,072.28	263.42	1,238.56	1,266.24	0.48	-0.16	-52.55	227.73
	NORMAL	9,288.0	0.79	269.58	9,167.27	263.52	1,237.55	1,265.27	0.41	0.37	-17.48	324.54
	NORMAL	9,382.0	0.57	267.87	9,261.26	263.49	1,236.44	1,264.17	0.24	-0.23	-1.82	184.42
	NORMAL	9,477.0	1.14	34.91	9,356.26	264.25	1,236.51	1,264.39	1.63	0.60	133.73	144.09
	NORMAL	9,572.0	0.98	45.12	9,451.24	265.60	1,237.62	1,265.76	0.26	-0.17	10.75	135.30
	NORMAL	9,667.0	0.35	45.99	9,546.23	266.37	1,238.41	1,266.68	0.66	-0.66	0.92	179.52
	NORMAL	9,761.0	0.18	69.10	9,640.23	266.63	1,238.75	1,267.07	0.21	-0.18	24.59	159.04
	NORMAL	9,856.0	0.79	211.66	9,735.23	266.12	1,238.55	1,266.77	0.99	0.64	150.06	149.25
	NORMAL	9,950.0	1.02	201.34	9,829.22	264.79	1,237.90	1,265.87	0.30	0.24	-10.98	319.44
	NORMAL	10,044.0	0.18	161.65	9,923.21	263.87	1,237.65	1,265.43	0.95	-0.89	-42.22	187.43
	NORMAL	10,138.0	0.88	173.51	10,017.21	263.02	1,237.77	1,265.38	0.75	0.74	12.62	14.87
	NORMAL	10,233.0	0.88	194.08	10,112.20	261.58	1,237.68	1,265.00	0.33	0.00	21.65	100.28
11/17/2012	NORMAL	10,327.0	0.88	188.54	10,206.19	260.17	1,237.40	1,264.44	0.09	0.00	-5.89	267.23
	NORMAL	10,420.0	0.88	226.51	10,299.18	258.97	1,236.77	1,263.59	0.62	0.00	40.83	108.98
	NORMAL	10,514.0	0.97	13.03	10,393.17	259.25	1,236.43	1,263.31	1.88	0.10	155.87	162.42
	NORMAL	10,608.0	0.97	343.06	10,487.16	260.79	1,236.38	1,263.57	0.53	0.00	-31.88	255.02
	NORMAL	10,702.0	0.88	338.31	10,581.15	262.22	1,235.88	1,263.37	0.13	-0.10	-5.05	218.07
	NORMAL	10,797.0	0.97	318.10	10,676.13	263.49	1,235.07	1,262.83	0.35	0.09	-21.27	275.17
	NORMAL	10,891.0	1.23	19.71	10,770.12	265.04	1,234.88	1,262.96	1.22	0.28	65.54	109.59
	NORMAL	10,985.0	1.32	24.89	10,864.10	266.97	1,235.67	1,264.13	0.16	0.10	5.51	54.62
	NORMAL	11,080.0	1.14	24.54	10,959.08	268.82	1,236.53	1,265.34	0.19	-0.19	-0.37	182.22
	NORMAL	11,174.0	0.35	350.88	11,053.07	269.95	1,236.87	1,265.90	0.93	-0.84	-35.81	192.88
	NORMAL	11,268.0	0.88	278.46	11,147.06	270.34	1,236.11	1,265.24	0.90	0.56	-77.04	264.27
	NORMAL	11,362.0	1.58	246.20	11,241.04	269.93	1,234.21	1,263.29	1.02	0.74	-34.32	298.41
11/18/2012	NORMAL	11,457.0	0.62	264.48	11,336.02	269.35	1,232.50	1,261.50	1.06	-1.01	19.24	168.90
	NORMAL	11,551.0	0.70	111.64	11,430.02	269.09	1,232.53	1,261.47	1.37	0.09	-162.60	194.42
	NORMAL	11,645.0	0.70	119.99	11,524.01	268.59	1,233.56	1,262.38	0.11	0.00	8.88	94.17
	NORMAL	11,739.0	0.53	215.97	11,618.01	267.95	1,233.80	1,262.49	0.98	-0.18	102.11	145.08
	NORMAL	11,833.0	1.06	233.28	11,712.00	267.08	1,232.85	1,261.38	0.61	0.56	18.41	33.20
	NORMAL	11,927.0	1.23	231.52	11,805.98	265.93	1,231.36	1,259.69	0.18	0.18	-1.87	347.43
	NORMAL	12,022.0	1.49	232.84	11,900.95	264.55	1,229.58	1,257.67	0.28	0.27	1.39	7.53
	NORMAL	12,116.0	1.76	234.51	11,994.92	262.97	1,227.43	1,255.25	0.29	0.29	1.78	10.78
	NORMAL	12,210.0	1.85	231.43	12,088.87	261.19	1,225.07	1,252.57	0.14	0.10	-3.28	311.31
	NORMAL	12,304.0	2.02	227.22	12,182.82	259.12	1,222.67	1,249.80	0.24	0.18	-4.48	317.98
	NORMAL	12,399.0	1.85	222.91	12,277.76	256.86	1,220.39	1,247.12	0.24	-0.18	-4.54	218.43
	NORMAL	12,493.0	2.46	224.32	12,371.70	254.30	1,217.95	1,244.21	0.65	0.65	1.50	5.67
	NORMAL	12,596.0	2.46	224.32	12,474.60	251.14	1,214.86	1,240.55	0.00	0.00	0.00	0.00



### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

