

1 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 521-14-298	Wellbore No.	OH
Well Name	FEDERAL 521-14-298	Common Name	RG 521-14-298
Project	RG 14-02S-098W	Site	RG 32-14-298 Pad
Vertical Section Azimuth	301.39 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	11/24/2010	UWI	RG 521-14-298
Active Datum	KELLY BUSHING @6,568.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	11/24/2010	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 (°)
11/24/2010	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/24/2010	NORMAL	115.0	0.50	257.30	115.00	-0.11	-0.49	0.36	0.43	0.43	0.00	257.30
	NORMAL	146.0	1.40	274.20	145.99	-0.11	-1.00	0.79	3.01	2.90	54.52	25.86
	NORMAL	177.0	1.90	265.10	176.98	-0.13	-1.89	1.55	1.82	1.61	-29.35	327.75
	NORMAL	209.0	2.00	285.50	208.96	-0.02	-2.96	2.51	2.18	0.31	63.75	92.08
	NORMAL	240.0	2.30	280.10	239.94	0.23	-4.09	3.61	1.17	0.97	-17.42	323.25
	NORMAL	271.0	2.80	301.40	270.91	0.73	-5.35	4.95	3.43	1.61	68.71	73.10
	NORMAL	298.0	3.50	303.30	297.87	1.53	-6.60	6.43	2.62	2.59	7.04	9.43
	NORMAL	333.0	4.10	305.50	332.79	2.84	-8.51	8.75	1.76	1.71	6.29	14.76
	NORMAL	364.0	5.00	306.80	363.69	4.29	-10.50	11.20	2.92	2.90	4.19	7.19
	NORMAL	395.0	5.40	314.30	394.57	6.12	-12.62	13.96	2.54	1.29	24.19	63.30
	NORMAL	426.0	5.90	308.50	425.42	8.13	-14.91	16.97	2.45	1.61	-18.71	308.30
	NORMAL	496.0	7.50	314.00	494.94	13.55	-21.01	24.99	2.46	2.29	7.86	24.60
	NORMAL	527.0	8.10	312.00	525.65	16.41	-24.09	29.12	2.12	1.94	-6.45	334.67
	NORMAL	557.0	8.80	310.30	555.32	19.31	-27.41	33.46	2.48	2.33	-5.67	339.52
	NORMAL	588.0	9.40	310.60	585.93	22.49	-31.14	38.30	1.94	1.94	0.97	4.67
	NORMAL	619.0	9.50	305.20	616.51	25.62	-35.16	43.35	2.88	0.32	-17.42	273.77
	NORMAL	712.0	11.50	299.80	707.95	34.65	-49.47	60.28	2.39	2.15	-5.81	331.13
	NORMAL	807.0	12.50	298.30	800.88	44.23	-66.74	80.01	1.10	1.05	-1.58	341.94
	NORMAL	899.0	10.90	298.70	890.96	53.13	-83.14	98.64	1.74	-1.74	0.43	177.29

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 (°)
11/24/2010	NORMAL	994.0	11.20	298.40	984.20	61.83	-99.14	116.83	0.32	0.32	-0.32	349.00
	NORMAL	1,089.0	9.80	298.50	1,077.61	70.07	-114.36	134.12	1.47	-1.47	0.11	179.30
	NORMAL	1,180.0	9.30	295.90	1,167.35	76.98	-127.78	149.17	0.73	-0.55	-2.86	219.51
11/25/2010	NORMAL	1,276.0	9.40	302.10	1,262.08	84.54	-141.40	164.73	1.05	0.10	6.46	87.39
	NORMAL	1,370.0	10.10	302.20	1,354.72	93.01	-154.88	180.65	0.74	0.74	0.11	1.44
	NORMAL	1,465.0	9.20	309.00	1,448.37	102.23	-167.83	196.51	1.53	-0.95	7.16	131.61
	NORMAL	1,560.0	9.30	309.90	1,542.14	111.93	-179.62	211.63	0.19	0.11	0.95	55.79
	NORMAL	1,654.0	9.10	303.80	1,634.93	120.94	-191.62	226.57	1.06	-0.21	-6.49	255.41
	NORMAL	1,748.0	9.40	297.10	1,727.71	128.57	-204.63	241.65	1.19	0.32	-7.13	282.24
	NORMAL	1,843.0	9.20	294.90	1,821.46	135.30	-218.43	256.93	0.43	-0.21	-2.32	239.56
	NORMAL	1,936.0	10.20	300.90	1,913.14	142.66	-232.24	272.55	1.53	1.08	6.45	48.30
	NORMAL	2,029.0	10.00	300.60	2,004.69	151.00	-246.25	288.86	0.22	-0.22	-0.32	194.59
	NORMAL	2,123.0	10.20	302.70	2,097.24	159.65	-260.28	305.34	0.45	0.21	2.23	62.53
	NORMAL	2,217.0	10.20	300.20	2,189.75	168.33	-274.48	321.99	0.47	0.00	-2.66	268.77
	NORMAL	2,310.0	10.00	299.20	2,281.31	176.41	-288.64	338.29	0.29	-0.22	-1.08	220.75
	NORMAL	2,404.0	9.80	295.20	2,373.91	183.80	-303.01	354.40	0.76	-0.21	-4.26	251.82
	NORMAL	2,499.0	10.30	295.60	2,467.46	190.91	-317.98	370.88	0.53	0.53	0.42	8.14
	NORMAL	2,592.0	10.20	299.20	2,558.97	198.52	-332.67	387.38	0.70	-0.11	3.87	100.64
	NORMAL	2,688.0	9.90	299.20	2,653.50	206.70	-347.29	404.12	0.31	-0.31	0.00	180.00
	NORMAL	2,780.0	10.20	302.80	2,744.09	214.97	-361.04	420.17	0.76	0.33	3.91	66.25
11/26/2010	NORMAL	2,875.0	10.30	301.60	2,837.57	223.98	-375.35	437.07	0.25	0.11	-1.26	294.50
	NORMAL	2,969.0	9.40	305.00	2,930.19	232.78	-388.79	453.14	1.14	-0.96	3.62	148.79
	NORMAL	3,064.0	9.40	301.30	3,023.91	241.26	-401.78	468.64	0.64	0.00	-3.89	268.17
	NORMAL	3,158.0	9.40	303.20	3,116.65	249.45	-414.76	483.99	0.33	0.00	2.02	90.94
	NORMAL	3,235.0	9.40	303.30	3,192.62	256.35	-425.28	496.56	0.02	0.00	0.13	90.05
12/31/2010	NORMAL	3,343.0	8.50	299.30	3,299.30	265.10	-439.61	513.35	1.01	-0.83	-3.70	212.70
	NORMAL	3,437.0	8.00	295.90	3,392.33	271.35	-451.55	526.80	0.74	-0.53	-3.62	222.62
	NORMAL	3,531.0	8.40	291.40	3,485.37	276.72	-463.83	540.08	0.80	0.43	-4.79	299.69
	NORMAL	3,626.0	9.20	300.80	3,579.25	283.14	-476.81	554.50	1.73	0.84	9.89	65.61
	NORMAL	3,720.0	10.00	300.70	3,671.94	291.15	-490.29	570.18	0.85	0.85	-0.11	358.76
1/1/2011	NORMAL	3,814.0	10.90	303.20	3,764.38	300.19	-504.74	587.22	1.07	0.96	2.66	27.97
	NORMAL	3,908.0	11.00	302.20	3,856.67	309.83	-519.77	605.07	0.23	0.11	-1.06	297.27
	NORMAL	4,003.0	10.50	303.50	3,950.00	319.44	-534.65	622.79	0.58	-0.53	1.37	154.77
	NORMAL	4,096.0	9.80	303.30	4,041.54	328.46	-548.34	639.17	0.75	-0.75	-0.22	182.78
	NORMAL	4,192.0	10.30	304.40	4,136.07	337.80	-562.25	655.90	0.56	0.52	1.15	21.54
	NORMAL	4,285.0	8.90	300.70	4,227.76	346.17	-575.29	671.40	1.64	-1.51	-3.98	201.97
	NORMAL	4,380.0	9.80	305.80	4,321.50	354.65	-588.17	686.81	1.29	0.95	5.37	45.17
	NORMAL	4,474.0	10.50	304.50	4,414.03	364.18	-601.72	703.34	0.78	0.74	-1.38	341.24
	NORMAL	4,569.0	10.10	300.80	4,507.50	373.35	-616.01	720.31	0.81	-0.42	-3.89	237.03
	NORMAL	4,663.0	10.10	302.00	4,600.05	381.94	-630.08	736.79	0.22	0.00	1.28	90.59
	NORMAL	4,757.0	11.00	304.10	4,692.46	391.33	-644.49	753.99	1.04	0.96	2.23	24.17
	NORMAL	4,851.0	11.60	304.00	4,784.63	401.64	-659.75	772.39	0.64	0.64	-0.11	358.08
	NORMAL	4,944.0	12.10	304.90	4,875.65	412.45	-675.50	791.46	0.57	0.54	0.97	20.73
	NORMAL	5,038.0	12.10	305.10	4,967.56	423.75	-691.64	811.13	0.04	0.00	0.21	90.10
	NORMAL	5,133.0	10.60	299.40	5,060.70	433.77	-707.40	829.80	1.97	-1.58	-6.00	214.02
	NORMAL	5,228.0	10.90	301.20	5,154.04	442.71	-722.70	847.51	0.47	0.32	1.89	49.10
	NORMAL	5,322.0	11.80	302.70	5,246.20	452.51	-738.39	866.01	1.01	0.96	1.60	18.90
1/2/2011	NORMAL	5,416.0	10.70	301.50	5,338.39	462.26	-753.92	884.35	1.20	-1.17	-1.28	191.43
	NORMAL	5,510.0	10.90	304.80	5,430.73	471.89	-768.65	901.94	0.69	0.21	3.51	73.70
	NORMAL	5,604.0	10.50	304.10	5,523.09	481.76	-783.04	919.37	0.45	-0.43	-0.74	197.66
	NORMAL	5,699.0	9.70	300.80	5,616.62	490.72	-797.09	936.02	1.04	-0.84	-3.47	214.26
	NORMAL	5,793.0	9.30	306.40	5,709.33	499.28	-810.00	951.51	1.07	-0.43	5.96	116.15
	NORMAL	5,887.0	9.30	306.00	5,802.10	508.25	-822.26	966.64	0.07	0.00	-0.43	269.80
	NORMAL	5,981.0	8.20	308.50	5,895.00	516.89	-833.65	980.87	1.24	-1.17	2.66	162.16
	NORMAL	6,075.0	5.60	314.00	5,988.31	524.25	-842.20	992.00	2.85	-2.77	5.85	168.46
	NORMAL	6,169.0	5.20	306.50	6,081.90	529.97	-848.92	1,000.71	0.86	-0.43	-7.98	236.76
	NORMAL	6,263.0	5.10	304.70	6,175.52	534.88	-855.78	1,009.13	0.20	-0.11	-1.91	237.35

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 (°)
1/2/2011	NORMAL	6,357.0	5.40	301.90	6,269.12	539.60	-862.97	1,017.72	0.42	0.32	-2.98	318.10
	NORMAL	6,545.0	3.30	318.10	6,456.58	548.30	-874.10	1,031.75	1.28	-1.12	8.62	157.58
1/3/2011	NORMAL	6,640.0	1.50	337.90	6,551.49	551.49	-876.39	1,035.37	2.06	-1.89	20.84	164.94
	NORMAL	6,734.0	1.40	357.60	6,645.46	553.77	-876.90	1,037.00	0.54	-0.11	20.96	111.08
	NORMAL	6,828.0	1.20	338.70	6,739.44	555.84	-877.31	1,038.42	0.50	-0.21	-20.11	235.75
	NORMAL	6,923.0	0.90	42.90	6,834.43	557.31	-877.16	1,039.06	1.20	-0.32	67.58	134.93
	NORMAL	7,016.0	0.70	46.00	6,927.42	558.24	-876.26	1,038.77	0.22	-0.22	3.33	169.34
	NORMAL	7,111.0	0.20	280.60	7,022.42	558.67	-876.00	1,038.78	0.88	-0.53	-132.00	191.30
	NORMAL	7,205.0	0.40	294.50	7,116.41	558.84	-876.46	1,039.26	0.22	0.21	14.79	27.04
	NORMAL	7,299.0	1.10	272.80	7,210.41	559.02	-877.66	1,040.38	0.79	0.74	-23.09	326.82
	NORMAL	7,393.0	0.50	198.90	7,304.40	558.68	-878.70	1,041.08	1.14	-0.64	-78.62	206.55
	NORMAL	7,487.0	1.20	190.00	7,398.39	557.32	-879.00	1,040.64	0.76	0.74	-9.47	344.85
	NORMAL	7,581.0	1.40	193.80	7,492.36	555.24	-879.44	1,039.93	0.23	0.21	4.04	25.23
	NORMAL	7,676.0	1.70	196.40	7,587.33	552.76	-880.12	1,039.21	0.32	0.32	2.74	14.50
	NORMAL	7,771.0	1.50	186.80	7,682.29	550.17	-880.66	1,038.33	0.35	-0.21	-10.11	228.54
	NORMAL	7,865.0	0.70	197.30	7,776.27	548.40	-880.98	1,037.68	0.87	-0.85	11.17	171.07
1/4/2011	NORMAL	7,959.0	1.00	235.60	7,870.26	547.39	-881.83	1,037.88	0.67	0.32	40.74	82.21
	NORMAL	8,052.0	0.80	252.70	7,963.25	546.74	-883.12	1,038.64	0.36	-0.22	18.39	135.02
	NORMAL	8,146.0	0.70	287.30	8,057.24	546.71	-884.29	1,039.63	0.49	-0.11	36.81	119.38
	NORMAL	8,240.0	0.80	253.00	8,151.24	546.69	-885.47	1,040.62	0.48	0.11	-36.49	265.04
	NORMAL	8,334.0	0.70	245.60	8,245.23	546.26	-886.62	1,041.38	0.15	-0.11	-7.87	220.43
	NORMAL	8,428.0	0.60	318.00	8,339.22	546.39	-887.47	1,042.17	0.82	-0.11	77.02	132.20
	NORMAL	8,523.0	0.50	307.50	8,434.22	547.01	-888.13	1,043.66	0.15	-0.11	-11.05	220.06
	NORMAL	8,619.0	0.50	233.30	8,530.22	547.02	-888.80	1,043.64	0.63	0.00	-77.29	232.90
	NORMAL	8,712.0	0.70	162.70	8,623.21	546.23	-888.96	1,043.36	0.77	0.22	-75.91	247.95
1/5/2011	NORMAL	8,806.0	1.10	131.90	8,717.20	545.08	-888.11	1,042.04	0.65	0.43	-32.77	293.50
	NORMAL	8,900.0	1.30	138.10	8,811.18	543.69	-886.73	1,040.13	0.25	0.21	6.60	36.12
1/6/2011	NORMAL	8,993.0	1.80	174.00	8,904.15	541.45	-885.87	1,038.24	1.15	0.54	38.60	81.47
	NORMAL	9,087.0	2.00	185.70	8,998.10	538.35	-885.88	1,036.63	0.46	0.21	12.45	68.65
	NORMAL	9,181.0	1.70	204.90	9,092.05	535.45	-886.63	1,035.76	0.73	-0.32	20.43	125.21
	NORMAL	9,274.0	1.30	229.60	9,185.02	533.52	-888.02	1,035.93	0.81	-0.43	26.56	133.69
	NORMAL	9,368.0	1.20	227.20	9,279.00	532.16	-889.55	1,036.54	0.12	-0.11	-2.55	206.44
	NORMAL	9,462.0	1.60	223.60	9,372.97	530.54	-891.18	1,037.08	0.44	0.43	-3.83	345.80
	NORMAL	9,556.0	1.40	221.20	9,466.94	528.72	-892.84	1,037.55	0.22	-0.21	-2.55	196.24
	NORMAL	9,649.0	1.10	225.00	9,559.91	527.24	-894.22	1,037.96	0.33	-0.32	4.09	166.45
1/7/2011	NORMAL	9,742.0	0.90	203.40	9,652.90	525.93	-895.14	1,038.07	0.45	-0.22	-23.23	231.54
	NORMAL	9,835.0	0.40	131.70	9,745.89	525.05	-895.19	1,037.65	0.93	-0.54	-77.10	206.12
	NORMAL	9,928.0	0.70	89.00	9,838.89	524.84	-894.38	1,036.85	0.53	0.32	-45.91	283.56
	NORMAL	10,021.0	1.10	64.20	9,931.88	525.24	-893.01	1,035.88	0.59	0.43	-26.67	302.91
	NORMAL	10,114.0	1.00	70.10	10,024.86	525.91	-891.44	1,034.89	0.16	-0.11	6.34	135.69
1/8/2011	NORMAL	10,207.0	0.60	103.70	10,117.85	526.07	-890.20	1,033.92	0.65	-0.43	36.13	146.43
	NORMAL	10,300.0	0.60	95.70	10,210.85	525.90	-889.24	1,033.02	0.09	0.00	-8.60	266.00
1/9/2011	NORMAL	10,394.0	0.30	20.70	10,304.85	526.08	-888.67	1,032.62	0.64	-0.32	-79.79	209.02
	NORMAL	10,487.0	0.60	300.80	10,397.84	526.56	-889.00	1,033.15	0.67	0.32	-85.91	251.75
	NORMAL	10,580.0	0.80	220.50	10,490.84	526.32	-889.84	1,033.74	0.98	0.22	-86.34	239.46
	NORMAL	10,673.0	1.50	231.40	10,583.82	525.06	-891.21	1,034.26	0.79	0.75	11.72	22.85
	NORMAL	10,767.0	1.10	172.30	10,677.80	523.40	-892.05	1,034.11	1.41	-0.43	-62.87	225.27
	NORMAL	10,860.0	1.60	200.20	10,770.77	521.30	-892.38	1,033.30	0.87	0.54	30.00	67.24
	NORMAL	10,953.0	0.80	179.20	10,863.75	519.43	-892.82	1,032.70	0.97	-0.86	-22.58	198.58
	NORMAL	11,044.0	1.70	217.60	10,954.73	517.73	-893.64	1,032.51	1.30	0.99	42.20	63.24
	NORMAL	11,130.0	2.30	217.90	11,040.68	515.35	-895.47	1,032.84	0.70	0.70	0.35	1.15
	NORMAL	11,180.0	2.30	217.90	11,090.64	513.77	-896.71	1,033.07	0.00	0.00	0.00	0.00