

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 524-14-298	Wellbore No.	
Well Name	FEDERAL RG 524-14-298	Common Name	RG 524-14-298
Project	RG 14-02S-098W	Site	RG 24-14-298 Pad
Vertical Section Azimuth	282.94 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	5/15/2012	UWI	RG 524-14-298
Active Datum	KB @6,708.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	5/16/2012	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 (°)
5/16/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/16/2012	NORMAL	228.0	0.96	274.97	227.99	0.17	-1.90	1.89	0.42	0.42	0.00	274.97
	NORMAL	320.0	1.41	280.63	319.97	0.44	-3.78	3.79	0.50	0.49	6.15	17.42
	NORMAL	413.0	1.61	276.71	412.94	0.80	-6.21	6.23	0.24	0.22	-4.22	330.72
	NORMAL	505.0	1.41	284.67	504.91	1.24	-8.58	8.64	0.31	-0.22	8.65	137.57
	NORMAL	597.0	1.41	290.82	596.88	1.93	-10.74	10.90	0.16	0.00	6.68	93.07
	NORMAL	689.0	1.32	286.07	688.85	2.63	-12.81	13.08	0.16	-0.10	-5.16	229.14
	NORMAL	781.0	1.67	291.96	780.82	3.42	-15.07	15.46	0.41	0.38	6.40	26.67
	NORMAL	873.0	1.23	286.25	872.79	4.20	-17.27	17.77	0.50	-0.48	-6.21	195.34
	NORMAL	971.0	1.06	251.01	970.77	4.20	-19.13	19.59	0.73	-0.17	-35.96	239.23
	NORMAL	1,066.0	1.67	236.42	1,065.74	3.15	-21.12	21.29	0.73	0.64	-15.36	322.90
	NORMAL	1,160.0	1.41	261.99	1,159.71	2.23	-23.40	23.31	0.77	-0.28	27.20	123.19
	NORMAL	1,255.0	1.41	291.26	1,254.68	2.49	-25.65	25.56	0.75	0.00	30.81	104.63
	NORMAL	1,349.0	2.90	295.57	1,348.62	3.94	-28.87	29.02	1.59	1.59	4.59	8.36
	NORMAL	1,444.0	3.25	288.36	1,443.48	5.82	-33.60	34.05	0.55	0.37	-7.59	308.51
	NORMAL	1,537.0	3.17	288.10	1,536.33	7.45	-38.54	39.23	0.09	-0.09	-0.28	190.18
	NORMAL	1,632.0	3.08	286.16	1,631.19	8.98	-43.49	44.40	0.15	-0.09	-2.04	228.64
	NORMAL	1,726.0	2.90	285.55	1,725.06	10.32	-48.21	49.29	0.19	-0.19	-0.65	189.72
	NORMAL	1,820.0	2.99	290.03	1,818.94	11.79	-52.80	54.10	0.26	0.10	4.77	70.89
	NORMAL	1,914.0	3.17	289.50	1,912.80	13.50	-57.55	59.12	0.19	0.19	-0.56	350.75

2.1.2 Survey Stations (Continued)

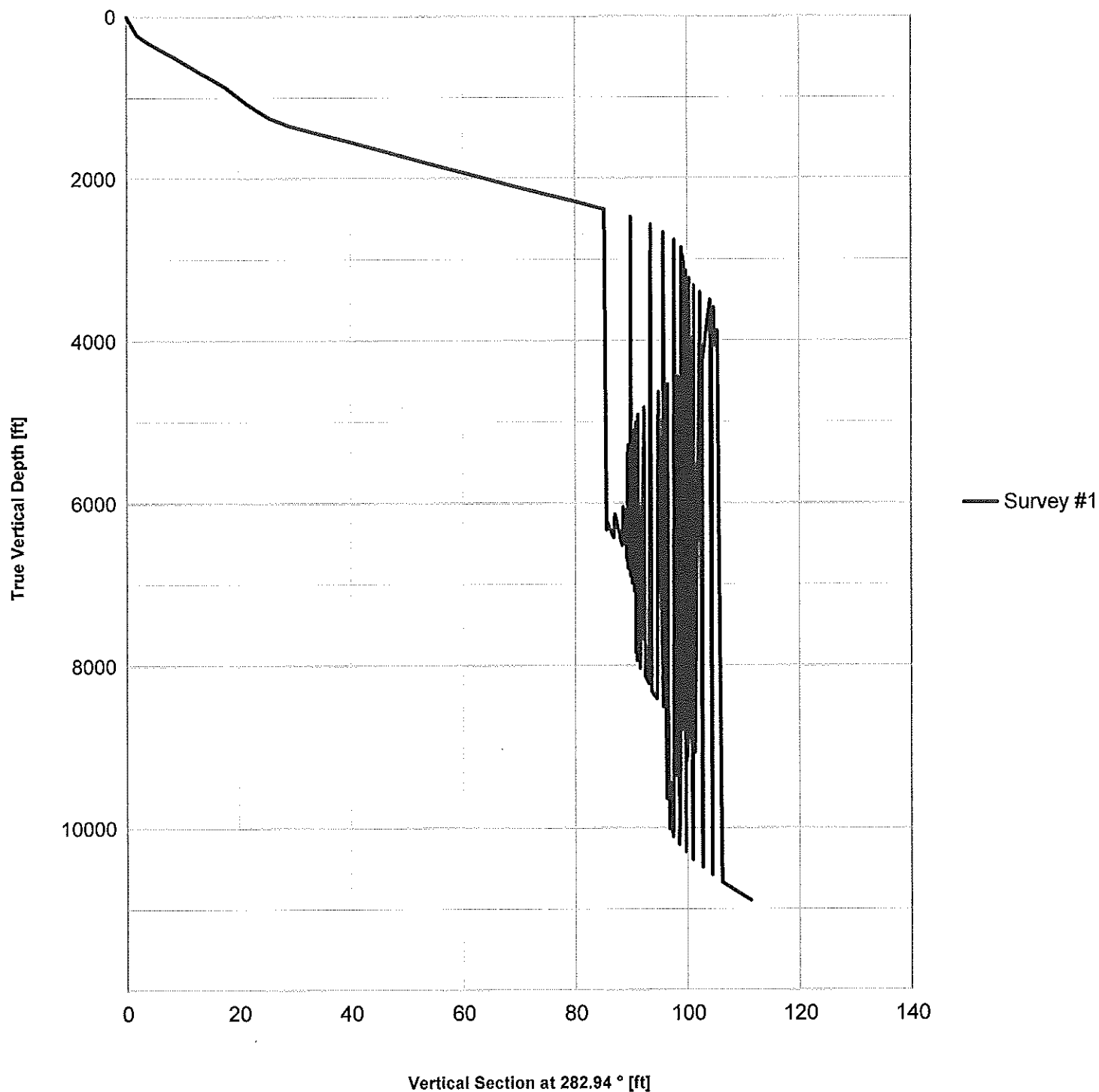
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (%/100ft)	Build Rate (%/100ft)	Turn (%/100ft)	TFace (°)
5/16/2012	NORMAL	2,009.0	3.08	291.17	2,007.66	15.30	-62.41	64.25	0.13	-0.09	1.76	135.50
5/17/2012	NORMAL	2,102.0	3.17	292.75	2,100.52	17.20	-67.11	69.26	0.13	0.10	1.70	44.53
	NORMAL	2,197.0	3.43	284.32	2,195.37	18.91	-72.29	74.69	0.58	0.27	-8.87	293.93
	NORMAL	2,291.0	3.34	279.83	2,289.20	20.08	-77.71	80.23	0.30	-0.10	-4.78	249.02
	NORMAL	2,385.0	2.90	299.96	2,383.07	21.73	-82.47	85.24	1.25	-0.47	21.41	121.73
	NORMAL	2,481.0	2.90	294.51	2,478.94	23.95	-86.78	89.94	0.29	0.00	-5.68	267.28
	NORMAL	2,576.0	1.47	286.28	2,573.87	25.29	-90.14	93.51	1.54	-1.51	-8.66	188.28
	NORMAL	2,670.0	1.23	274.03	2,667.85	25.70	-92.30	95.71	0.40	-0.26	-13.03	224.24
	NORMAL	2,763.0	1.32	274.39	2,760.82	25.85	-94.37	97.76	0.10	0.10	0.39	5.27
	NORMAL	2,858.0	0.35	227.10	2,855.81	25.74	-95.67	99.00	1.17	-1.02	-49.78	193.36
	NORMAL	2,952.0	0.26	198.80	2,949.81	25.34	-95.95	99.19	0.18	-0.10	-30.11	225.51
	NORMAL	3,047.0	0.44	217.26	3,044.81	24.85	-96.24	99.36	0.22	0.19	19.43	41.52
	NORMAL	3,142.0	0.44	241.87	3,139.81	24.38	-96.78	99.78	0.20	0.00	25.91	102.30
	NORMAL	3,236.0	0.70	230.97	3,233.80	23.85	-97.55	100.41	0.30	0.28	-11.60	331.85
	NORMAL	3,328.0	0.79	235.80	3,325.79	23.14	-98.51	101.19	0.12	0.10	5.25	37.34
6/13/2012	NORMAL	3,410.0	1.14	258.39	3,407.78	22.66	-99.77	102.31	0.62	0.43	27.55	59.05
	NORMAL	3,505.0	1.41	245.21	3,502.76	21.98	-101.76	104.10	0.42	0.28	-13.87	305.92
6/14/2012	NORMAL	3,599.0	0.35	121.63	3,596.75	21.35	-102.57	104.74	1.73	-1.13	-131.47	190.31
	NORMAL	3,694.0	0.53	6.58	3,691.75	21.63	-102.27	104.52	0.79	0.19	-121.11	219.89
	NORMAL	3,788.0	0.26	294.69	3,785.75	22.15	-102.41	104.77	0.55	-0.29	-76.48	208.82
	NORMAL	3,882.0	0.62	244.50	3,879.74	22.02	-103.07	105.38	0.53	0.38	-53.39	286.04
	NORMAL	3,976.0	0.73	54.37	3,973.74	22.15	-103.04	105.38	1.43	0.12	180.71	174.52
	NORMAL	4,069.0	0.44	180.52	4,066.74	22.14	-102.56	104.91	1.13	-0.31	135.65	160.25
	NORMAL	4,164.0	0.62	69.86	4,161.74	21.95	-102.08	104.40	0.92	0.19	-116.48	221.37
	NORMAL	4,259.0	2.46	52.37	4,256.70	23.37	-99.98	102.68	1.98	1.94	-18.41	336.82
	NORMAL	4,354.0	2.11	49.56	4,351.62	25.75	-97.04	100.34	0.39	-0.37	-2.96	196.35
	NORMAL	4,449.0	1.56	64.23	4,446.58	27.45	-94.54	98.29	0.76	-0.58	15.44	146.68
	NORMAL	4,544.0	1.06	72.85	4,541.55	28.27	-92.54	96.52	0.56	-0.53	9.07	162.76
	NORMAL	4,639.0	1.49	58.00	4,636.53	29.18	-90.65	94.88	0.57	0.45	-15.63	314.88
	NORMAL	4,732.0	1.07	47.95	4,729.50	30.41	-88.98	93.53	0.51	-0.45	-10.81	203.16
	NORMAL	4,828.0	1.58	47.28	4,825.48	31.90	-87.34	92.27	0.53	0.53	-0.70	357.93
	NORMAL	4,918.0	1.32	33.57	4,915.45	33.61	-85.86	91.20	0.48	-0.29	-15.23	226.43
	NORMAL	5,012.0	0.88	13.44	5,009.43	35.21	-85.09	90.82	0.62	-0.47	-21.41	211.52
	NORMAL	5,106.0	1.41	30.23	5,103.41	36.91	-84.34	90.47	0.66	0.56	17.86	40.92
	NORMAL	5,200.0	1.06	28.12	5,197.39	38.68	-83.35	89.89	0.38	-0.37	-2.24	186.35
	NORMAL	5,295.0	0.62	30.23	5,292.38	39.90	-82.68	89.51	0.46	-0.46	2.22	177.03
	NORMAL	5,387.0	0.42	7.07	5,384.38	40.66	-82.38	89.40	0.31	-0.22	-25.17	215.24
	NORMAL	5,482.0	0.07	302.65	5,479.38	41.04	-82.39	89.49	0.42	-0.37	-67.81	189.20
	NORMAL	5,576.0	0.35	234.57	5,573.38	40.91	-82.67	89.73	0.35	0.30	-72.43	280.58
	NORMAL	5,670.0	0.70	242.22	5,667.37	40.47	-83.41	90.36	0.38	0.37	8.14	15.17
	NORMAL	5,764.0	0.97	230.62	5,761.36	39.70	-84.54	91.28	0.34	0.29	-12.34	322.06
	NORMAL	5,859.0	0.62	100.01	5,856.36	39.10	-84.65	91.26	1.53	-0.37	-137.48	198.92
6/15/2012	NORMAL	5,954.0	0.86	103.94	5,951.35	38.84	-83.45	90.03	0.26	0.25	4.14	13.91
	NORMAL	6,049.0	0.87	108.38	6,046.34	38.44	-82.08	88.60	0.07	0.01	4.67	83.74
	NORMAL	6,143.0	0.97	96.14	6,140.33	38.13	-80.61	87.10	0.23	0.11	-13.02	290.76
	NORMAL	6,238.0	0.70	105.74	6,235.32	37.89	-79.25	85.72	0.32	-0.28	10.11	157.35
	NORMAL	6,332.0	0.62	308.93	6,329.31	38.05	-79.09	85.61	1.38	-0.09	-166.82	190.88
	NORMAL	6,427.0	0.97	292.67	6,424.30	38.68	-80.24	86.86	0.43	0.37	-17.12	318.89
	NORMAL	6,522.0	0.88	280.27	6,519.29	39.12	-81.70	88.38	0.23	-0.09	-13.05	239.68
	NORMAL	6,617.0	0.18	215.85	6,614.29	39.13	-82.50	89.17	0.86	-0.74	-67.81	191.44
	NORMAL	6,711.0	0.26	199.85	6,708.29	38.81	-82.66	89.25	0.11	0.09	-17.02	314.30
	NORMAL	6,806.0	0.44	225.78	6,803.29	38.35	-83.00	89.48	0.25	0.19	27.29	54.80
	NORMAL	6,899.0	0.62	221.04	6,896.28	37.73	-83.58	89.91	0.20	0.19	-5.10	343.93
	NORMAL	6,994.0	0.62	205.04	6,991.28	36.87	-84.14	90.26	0.18	0.00	-16.84	262.00
	NORMAL	7,089.0	1.14	208.20	7,086.26	35.57	-84.80	90.61	0.55	0.55	3.33	6.91
	NORMAL	7,183.0	0.70	235.63	7,180.25	34.43	-85.72	91.25	0.65	-0.47	29.18	148.13
	NORMAL	7,277.0	0.44	154.59	7,274.25	33.78	-86.04	91.41	0.82	-0.28	-86.21	214.54

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 (°)
6/15/2012	NORMAL	7,372.0	0.53	169.27	7,369.25	33.01	-85.80	91.01	0.16	0.09	15.45	61.57
6/16/2012	NORMAL	7,466.0	0.62	199.94	7,463.24	32.11	-85.89	90.90	0.34	0.10	32.63	89.41
	NORMAL	7,560.0	0.70	212.51	7,557.23	31.15	-86.37	91.15	0.18	0.09	13.37	67.46
	NORMAL	7,655.0	0.26	32.42	7,652.23	30.84	-86.57	91.28	1.01	-0.46	189.38	179.98
	NORMAL	7,750.0	0.53	37.52	7,747.23	31.37	-86.19	91.02	0.29	0.28	5.37	9.97
	NORMAL	7,845.0	0.79	10.80	7,842.22	32.36	-85.79	90.86	0.42	0.27	-28.13	296.31
	NORMAL	7,940.0	0.70	355.86	7,937.22	33.58	-85.71	91.06	0.22	-0.09	-15.73	237.80
	NORMAL	8,034.0	0.62	321.85	8,031.21	34.56	-86.07	91.62	0.42	-0.09	-36.18	241.79
	NORMAL	8,129.0	0.97	341.71	8,126.20	35.72	-86.64	92.44	0.46	0.37	20.91	48.42
	NORMAL	8,223.0	1.05	352.64	8,220.19	37.33	-87.00	93.15	0.22	0.09	11.63	72.98
	NORMAL	8,318.0	0.88	355.77	8,315.17	38.92	-87.16	93.67	0.19	-0.18	3.29	164.33
	NORMAL	8,413.0	0.97	313.15	8,410.16	40.20	-87.81	94.58	0.71	0.09	-44.86	255.80
	NORMAL	8,508.0	0.79	230.35	8,505.15	40.33	-88.90	95.67	1.23	-0.19	-87.16	221.99
	NORMAL	8,602.0	1.32	222.09	8,599.14	39.12	-90.12	96.59	0.59	0.56	-8.79	339.83
	NORMAL	8,697.0	1.41	229.47	8,694.11	37.55	-91.74	97.82	0.21	0.09	7.77	66.61
6/17/2012	NORMAL	8,792.0	0.75	281.24	8,789.10	36.91	-93.24	99.14	1.17	-0.69	54.49	148.08
	NORMAL	8,886.0	0.53	256.98	8,883.09	36.93	-94.27	100.14	0.37	-0.23	-25.81	219.22
	NORMAL	8,980.0	1.06	246.17	8,977.08	36.48	-95.49	101.23	0.58	0.56	-11.50	338.75
	NORMAL	9,074.0	1.12	150.97	9,071.07	35.33	-95.84	101.31	1.71	0.06	-101.28	223.84
	NORMAL	9,168.0	1.32	146.68	9,165.05	33.62	-94.80	99.92	0.23	0.21	-4.56	333.30
6/18/2012	NORMAL	9,262.0	1.53	176.84	9,259.02	31.46	-94.13	98.79	0.82	0.22	32.09	89.78
	NORMAL	9,357.0	1.76	176.65	9,353.98	28.74	-93.98	98.03	0.24	0.24	-0.20	358.55
	NORMAL	9,451.0	0.70	105.99	9,447.96	27.14	-93.34	97.05	1.77	-1.13	-75.17	203.38
	NORMAL	9,545.0	0.18	59.23	9,541.96	27.06	-92.66	96.37	0.63	-0.55	-49.74	192.81
	NORMAL	9,639.0	0.26	214.97	9,635.96	26.96	-92.66	96.34	0.46	0.09	165.68	165.63
	NORMAL	9,734.0	0.65	239.64	9,730.96	26.51	-93.25	96.81	0.45	0.41	25.97	39.37
	NORMAL	9,828.0	0.70	229.82	9,824.95	25.87	-94.14	97.55	0.13	0.05	-10.45	288.41
	NORMAL	9,922.0	0.79	73.82	9,918.95	25.68	-93.96	97.32	1.55	0.10	-165.96	192.74
	NORMAL	10,017.0	0.18	243.10	10,013.94	25.79	-93.46	96.87	1.02	-0.64	178.19	178.02
	NORMAL	10,111.0	0.53	276.41	10,107.94	25.77	-94.03	97.41	0.42	0.37	35.44	47.91
	NORMAL	10,205.0	0.88	263.22	10,201.94	25.74	-95.18	98.52	0.41	0.37	-14.03	328.43
	NORMAL	10,299.0	0.97	232.11	10,295.92	25.16	-96.52	99.71	0.54	0.10	-33.10	264.36
	NORMAL	10,394.0	1.49	230.35	10,390.90	23.88	-98.11	100.96	0.55	0.55	-1.85	354.96
	NORMAL	10,488.0	1.93	230.62	10,484.86	22.10	-100.27	102.67	0.47	0.47	0.29	1.18
6/19/2012	NORMAL	10,582.0	1.93	220.95	10,578.81	19.90	-102.53	104.38	0.35	0.00	-10.29	265.17
	NORMAL	10,676.0	2.02	230.35	10,672.75	17.64	-104.85	106.13	0.36	0.10	10.00	79.20
	NORMAL	10,771.0	2.46	226.66	10,767.68	15.18	-107.62	108.28	0.49	0.46	-3.88	340.00
	NORMAL	10,837.0	2.55	225.78	10,833.61	13.18	-109.70	109.87	0.15	0.14	-1.33	336.42
	NORMAL	10,894.0	2.55	225.78	10,890.56	11.41	-111.52	111.24	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

