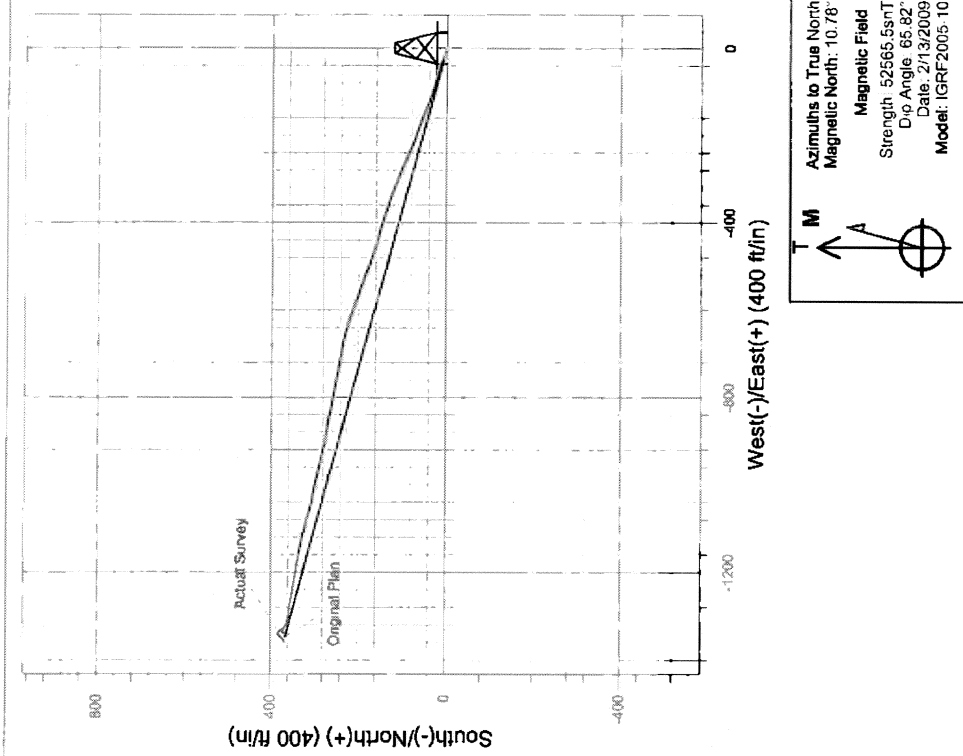
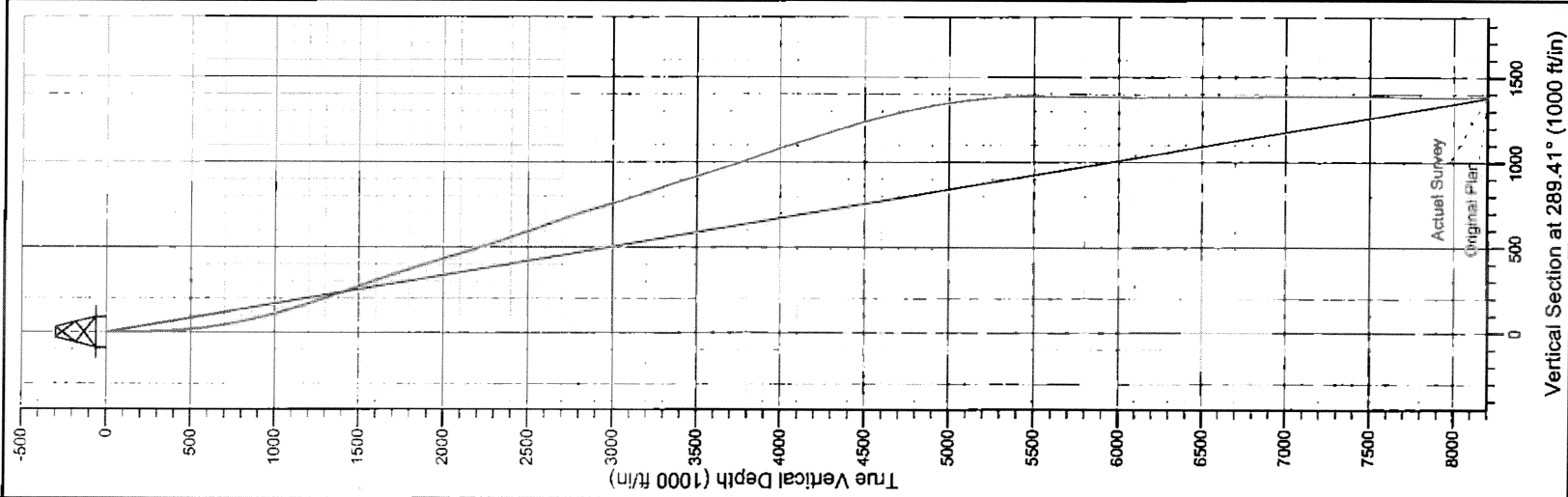


PICEANCE HL



Well Name: TR 513-28-597
Surface Location: Chevron TR 24-28-597 Pad
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) . Colorado Central 502
Ground Elevation: 8377.0
+N/-S 0.0 +E/-W 0.0 Northing 648231.21 Easting 1215201.47 Latitude 39° 34' 48.708 N Longitude 108° 17' 4.887 W
KELLY BUSHING @ 8400.0ft (Nabors 109 (23' RKB)) Slot B9



PICEANCE HL

TR 28-05S-097W

Chevron TR 24-28-597 Pad

TR 513-28-597 - Slot B9

Wellbore #1

Design: Wellbore #1

Standard Survey Report

15 June, 2009

Williams Production RMT Company
Survey Report

Company:	PICEANCE HL	Local Co-ordinate Reference:	Well TR 513-28-597 (B9) - Slot B9
Project:	TR 28-05S-097W	TVD Reference:	KELLY BUSHING @ 8400.0ft (Nabors 109 (23' RK(B))
Site:	Chevron TR 24-28-597 Pad	MD Reference:	KELLY BUSHING @ 8400.0ft (Nabors 109 (23' RK(B))
Well:	TR 513-28-597	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDB_COMPASS

Project	TR 28-05S-097W, Garfield County, CO		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado Central 502		Using geodetic scale factor

Site	Chevron TR 24-28-597 Pad		
Site Position:	Northings:	648,202.80 ft	Latitude:
From:	Eastings:	1,215,191.80 ft	Longitude:
Position Uncertainty:	Slot Radius:	0.0 ft	Grid Convergence:
			-1.76 "

Well	TR 513-28-597 - Slot B9		
Well Position	+N-S	0.0 ft	Northings:
	+E-W	0.0 ft	Eastings:
Position Uncertainty	Wellhead Elevation:	0.0 ft	Wellhead Elevation:
			8,377.0 ft

Wellbore	Wellbore #1		
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Magnetics	Model Name	Sample Date	Declination (")	Dip Angle (")	Field Strength (nT)
	IGRF2005-10	2/13/2009	10.78	65.82	52,565

Design	Wellbore #1		
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Audit Notes:			
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Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E-W (ft)	Direction (")
	0.0	0.0	0.0	289.41

Survey Program	Date	5/15/2009
From (ft)	To (ft)	Survey (Wellbore)
136.0	9,300.0	Survey #1 MWD 22Jan09 lc (Wellbore #1)
		MWD
		MWD - Standard

Survey	Measured Depth (ft)	Inclination (")	Azimuth (")	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate ("/100ft)	Build Rate ("/100ft)	Turn Rate ("/100ft)
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	136.0	0.94	240.81	136.0	-0.5	-1.0	0.7	0.69	0.69	0.00
	198.0	1.27	271.91	198.0	-0.8	-2.1	1.7	1.08	0.53	50.16
	288.0	1.94	291.66	287.9	-0.2	-4.5	4.2	0.95	0.74	21.94
	380.0	2.94	293.71	379.9	1.3	-8.1	8.1	1.09	1.09	2.23
	472.0	4.38	292.28	471.7	3.6	-13.5	14.0	1.57	1.57	-1.55
	564.0	6.75	295.63	563.2	7.3	-21.7	22.9	2.60	2.58	3.53
	656.0	9.00	289.41	654.4	12.0	-33.3	35.4	2.61	2.45	-6.65
	747.0	10.81	286.28	744.0	16.8	-48.2	51.1	2.07	1.99	-3.44
	842.0	12.38	285.16	837.1	21.9	-66.6	70.1	1.67	1.65	-1.18
	938.0	13.46	286.95	930.6	27.9	-87.2	81.6	1.20	1.12	1.86
	1,033.0	14.56	289.65	1,022.8	35.1	-109.1	114.5	1.35	1.16	2.84
	1,129.0	16.69	290.78	1,115.2	44.1	-133.3	140.4	2.24	2.22	1.18

Williams Production RMT Company
Survey Report

Company:
Project:
Site:
Well:
Wellbore:
Design:

PICEANCE HL
TR 28-05S-097W
Chevron TR 24-28-597 Pad
TR 513-28-597
Wellbore #1
Wellbore #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well TR 513-28-597 (B9) - Slot B9
KELLY BUSHING @ 8400.0ft (Nabors 109 (23' RKB))
KELLY BUSHING @ 8400.0ft (Nabors 109 (23' RKB))
True
Minimum Curvature
EDMDB_COMPASS

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,225.0	17.63	293.28	1,207.0	54.7	-159.6	166.7	1.24	0.98	2.60
1,321.0	19.56	287.28	1,298.0	65.2	-186.3	196.2	2.83	2.01	-6.25
1,417.0	19.38	290.41	1,388.5	75.6	-218.5	231.2	1.10	-0.19	3.26
1,512.0	19.25	292.91	1,478.1	87.2	-247.7	262.6	0.88	-0.14	2.63
1,608.0	19.25	294.16	1,568.8	99.8	-276.8	294.2	0.43	0.00	1.30
1,704.0	18.81	292.16	1,659.5	112.1	-305.5	325.4	0.82	-0.46	-2.08
1,800.0	18.06	290.28	1,750.6	123.1	-333.8	355.8	1.00	-0.78	-1.96
1,870.0	17.31	289.29	1,817.3	130.3	-353.8	377.0	1.15	-1.07	-1.41
1,991.0	16.86	286.92	1,932.9	141.4	-387.6	412.6	0.68	-0.36	-1.96
2,087.0	17.31	285.41	2,024.7	149.2	-414.7	440.7	0.64	0.45	-1.57
2,182.0	16.88	285.66	2,115.5	156.7	-441.6	468.6	0.46	0.45	0.26
2,278.0	16.63	288.28	2,207.4	164.8	-468.1	496.3	0.83	-0.26	2.73
2,373.0	17.56	288.03	2,298.2	173.7	-494.6	524.2	1.01	0.98	0.79
2,469.0	18.81	290.66	2,398.4	183.9	-522.7	554.1	1.41	1.30	1.70
2,565.0	19.50	289.66	2,480.1	194.7	-552.3	585.6	0.80	0.72	-1.04
2,645.0	20.22	288.62	2,555.4	203.6	-578.0	612.8	1.00	0.90	-1.30
2,698.0	19.40	291.00	2,605.2	209.7	-594.9	630.8	2.17	-1.55	4.49
2,794.0	19.10	288.30	2,695.9	220.4	-624.7	662.4	0.98	-0.31	-2.81
2,890.0	18.10	283.90	2,786.9	228.9	-654.1	693.0	1.79	-1.04	-4.58
2,986.0	16.50	280.40	2,878.5	234.9	-681.9	721.3	1.99	-1.67	-3.65
3,050.0	16.00	279.20	2,940.0	238.0	-698.6	738.9	0.94	-0.78	-1.87
3,113.0	16.80	282.20	3,000.4	241.3	-717.1	756.5	1.85	1.27	4.76
3,177.0	17.40	281.90	3,061.6	245.2	-735.5	775.2	0.95	0.94	-0.47
3,273.0	17.80	280.20	3,153.1	250.8	-764.0	803.9	0.68	0.42	-1.77
3,368.0	18.60	280.30	3,243.3	256.1	-793.2	833.2	0.84	0.84	0.11
3,464.0	18.50	281.50	3,334.3	261.8	-823.1	863.4	0.41	-0.10	1.25
3,560.0	17.80	279.20	3,425.5	267.2	-852.6	892.9	1.04	-0.73	-2.40
3,655.0	17.00	279.30	3,516.2	271.8	-880.6	920.9	0.84	-0.84	0.11
3,751.0	17.30	281.70	3,607.9	276.9	-908.4	948.8	0.80	0.31	2.50
3,847.0	17.60	284.20	3,699.5	283.4	-936.5	977.4	0.84	0.31	2.60
3,942.0	19.50	283.00	3,789.6	290.5	-965.8	1,007.5	2.04	2.00	-1.26
4,038.0	19.00	281.90	3,880.2	297.3	-996.7	1,036.9	0.64	-0.52	-1.15
4,134.0	18.60	281.40	3,971.1	303.6	-1,027.0	1,069.6	0.45	-0.42	-0.52
4,230.0	17.50	284.90	4,062.4	310.3	-1,056.0	1,098.1	1.61	-1.15	3.65
4,325.0	17.80	285.80	4,152.9	317.9	-1,083.8	1,127.8	0.43	0.32	0.95
4,421.0	16.30	285.10	4,244.2	325.8	-1,112.5	1,157.5	0.57	0.52	-0.73
4,517.0	17.80	280.80	4,335.4	332.5	-1,141.4	1,187.1	1.48	-0.52	-4.48
4,612.0	16.60	280.50	4,426.2	337.7	-1,169.0	1,214.8	1.27	-1.26	-0.32
4,708.0	15.50	278.50	4,518.5	342.1	-1,195.2	1,241.0	1.28	-1.15	-2.08
4,804.0	14.90	281.80	4,611.1	346.5	-1,220.0	1,265.8	1.10	-0.62	3.44
4,900.0	13.20	278.90	4,704.2	350.9	-1,242.8	1,288.8	1.83	-1.77	-1.98
4,995.0	11.80	277.80	4,797.0	354.1	-1,263.2	1,308.1	1.55	-1.47	-2.21
5,091.0	10.60	276.10	4,891.1	356.4	-1,281.7	1,327.3	1.30	-1.25	-1.77
5,187.0	9.20	279.90	4,985.7	358.7	-1,298.0	1,343.4	1.61	-1.46	3.96
5,282.0	7.50	285.40	5,079.7	361.6	-1,311.5	1,357.1	1.86	-1.79	5.79
5,378.0	5.90	294.00	5,175.0	365.3	-1,322.0	1,368.3	1.96	-1.67	8.96
5,474.0	4.70	304.40	5,270.6	368.5	-1,328.8	1,377.0	1.60	-1.25	10.83
5,569.0	2.40	297.50	5,365.4	372.6	-1,334.7	1,382.7	2.46	-2.42	-7.26
5,665.0	1.10	252.60	5,461.4	373.3	-1,337.4	1,385.4	1.87	-1.35	-46.77
5,761.0	1.10	95.30	5,557.4	372.9	-1,337.4	1,385.3	2.25	0.00	-163.85
5,819.4	1.04	95.24	5,615.8	372.8	-1,336.3	1,384.2	0.11	-0.11	-0.10
Measure (25' Radius) TR 513-28-597-2									
5,856.0	1.00	95.20	5,652.4	372.8	-1,335.6	1,383.6	0.11	-0.11	-0.11
5,952.0	0.80	108.70	5,748.4	372.5	-1,334.2	1,382.1	0.30	-0.21	14.06

Williams Production RMT Company
Survey Report

Company:	PIECANCE HL	Local Co-ordinate Reference:	Well TR 513-28-597 (B9) - Slot B9
Project:	TR 28-05S-097W	TVD Reference:	KELLY BUSHING @ 8400.0ft (Nabors 109 (23' RK8))
Site:	Chevron TR 24-28-597 Pad	MD Reference:	KELLY BUSHING @ 8400.0ft (Nabors 109 (23' RK8))
Well:	TR 513-28-597	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDB_COMPASS

Survey	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
	6,047.0	0.70	100.80	5,843.4	372.1	-1,333.0	1,380.8	0.15	-0.11	-8.32
	6,143.0	0.60	88.30	5,939.4	372.0	-1,331.9	1,379.8	0.18	-0.10	-13.02
	6,238.0	0.40	76.50	6,034.3	372.1	-1,331.1	1,379.1	0.24	-0.21	-12.42
	6,334.0	0.30	93.70	6,130.3	372.2	-1,330.5	1,378.6	0.15	-0.10	17.92
	6,430.0	0.40	114.20	6,226.3	372.0	-1,329.9	1,378.0	0.17	0.10	21.35
	6,526.0	0.10	173.80	6,322.3	371.8	-1,329.6	1,377.6	0.37	-0.31	62.08
	6,621.0	0.30	232.90	6,417.3	371.6	-1,329.8	1,377.7	0.28	0.21	62.21
	6,717.0	0.40	263.70	6,513.3	371.4	-1,330.3	1,378.2	0.22	0.10	32.08
	6,812.0	0.60	280.80	6,608.3	371.5	-1,331.2	1,379.0	0.26	0.21	18.00
	6,908.0	0.60	268.80	6,704.3	371.5	-1,332.2	1,379.9	0.13	0.00	-12.50
	7,004.0	0.90	264.70	6,800.3	371.5	-1,333.4	1,381.1	0.32	0.31	-4.27
	7,099.0	0.90	254.90	6,895.3	371.2	-1,334.9	1,382.4	0.16	0.00	-10.32
	7,195.0	1.20	248.60	6,991.3	370.6	-1,336.5	1,383.7	0.33	0.31	-6.56
	7,290.0	1.50	244.80	7,086.3	369.7	-1,338.6	1,385.4	0.33	0.32	-4.00
	7,386.0	1.10	158.50	7,182.3	368.4	-1,339.4	1,385.7	1.88	-0.42	-89.90
	7,482.0	0.50	23.30	7,278.2	367.9	-1,338.9	1,385.0	1.56	-0.62	-140.83
	7,578.0	1.10	63.00	7,374.2	368.7	-1,337.9	1,384.4	0.82	0.62	41.35
	7,673.0	0.70	49.70	7,469.2	369.5	-1,336.6	1,383.5	0.47	-0.42	-14.00
	7,769.0	0.70	58.90	7,565.2	370.2	-1,335.7	1,382.8	0.12	0.00	9.58
	7,865.0	1.70	71.60	7,661.2	370.9	-1,333.8	1,381.3	1.07	1.04	13.23
	7,961.0	0.90	59.60	7,757.2	371.7	-1,331.8	1,379.7	0.88	-0.83	-12.50
	8,057.0	0.30	100.80	7,853.2	372.1	-1,330.8	1,378.9	0.73	-0.82	42.92
	8,153.0	1.10	26.70	7,949.2	372.9	-1,330.3	1,378.6	1.10	0.83	-77.19
	8,248.0	1.30	336.10	8,044.1	374.7	-1,330.3	1,379.2	1.10	0.21	-53.26
	8,344.0	1.80	316.30	8,140.1	376.7	-1,331.8	1,381.3	0.76	0.52	-20.62
	8,440.0	2.30	312.90	8,236.0	378.1	-1,334.2	1,384.4	0.54	0.52	-3.54
	8,536.0	2.30	300.60	8,332.0	381.4	-1,337.3	1,388.1	0.51	0.00	-12.81
	8,631.0	1.10	263.60	8,426.9	382.3	-1,339.9	1,390.8	1.65	-1.26	-38.95
	8,727.0	1.10	263.40	8,522.9	382.1	-1,341.7	1,392.4	0.00	0.00	-0.21
	8,823.0	1.80	218.10	8,618.9	380.8	-1,343.5	1,393.7	1.34	0.73	-47.19
	8,919.0	1.60	224.90	8,714.8	378.7	-1,345.4	1,394.8	0.30	-0.21	7.08
	9,014.0	2.20	222.40	8,809.8	376.4	-1,347.6	1,396.1	0.64	0.63	-2.63
	9,110.0	2.60	226.20	8,905.7	373.5	-1,350.4	1,397.8	0.45	0.42	3.96
	9,206.0	2.30	231.60	9,001.6	370.8	-1,353.5	1,399.8	0.39	-0.31	5.62
	9,250.0	2.20	232.20	9,045.6	369.7	-1,354.8	1,400.7	0.23	-0.23	1.36
	9,300.0	2.20	232.20	9,095.5	368.6	-1,356.3	1,401.7	0.00	0.00	0.00
TD / PBHL TR 513-28-597										

Williams Production RMT Company
Survey Report

Company: Project: Site: Well: Wellbore: Design:	PICEANCE HL TR 28-05S-087W Chevron TR 24-28-597 Pad TR 513-28-597 Wellbore #1 Wellbore #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:	Well TR 513-28-597 (B9) - Slot B9 KELLY BUSHING @ 8400.0ft (Nabors 108 (23' RK8)) KELLY BUSHING @ 8400.0ft (Nabors 109 (23' RK8)) True Minimum Curvature EDMDB_COMPASS
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Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Mesaverde (25' Radius) - actual wellpath misses by 12.9ft at 5619.4ft MD (5615.8 TVD, 372.8 N, -1347.2 E) - Circle (radius 25.0)	0.00	0.00	5,616.0	365.9	-1,347.2	648,638.20	1,213,866.20	39° 34' 52.324 N	108° 17' 22.093 W
Mesaverde (25' Radius) - actual wellpath misses by 113.8ft at 5820.1ft MD (5816.5 TVD, 372.8 N, -1336.3 E) - Circle (radius 25.0)	0.00	0.00	5,816.0	479.9	-1,297.5	648,750.60	1,213,919.30	39° 34' 53.450 N	108° 17' 21.459 W
TD / PBHL TR 513-28-5 - actual wellpath misses by 39.6ft at 9300.0ft MD (9095.5 TVD, 368.6 N, -1356.3 E) - Point	0.00	0.00	9,134.0	365.9	-1,347.2	648,638.20	1,213,866.20	39° 34' 52.324 N	108° 17' 22.093 W

Checked By: _____	Approved By: _____	Date: _____
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