

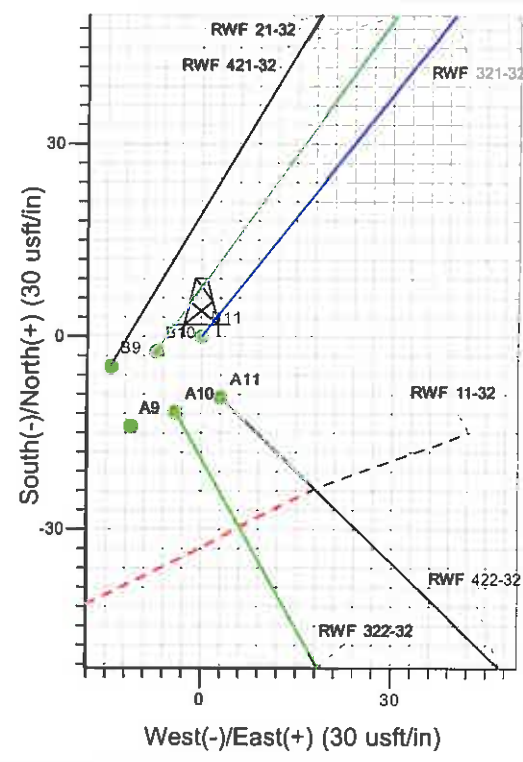
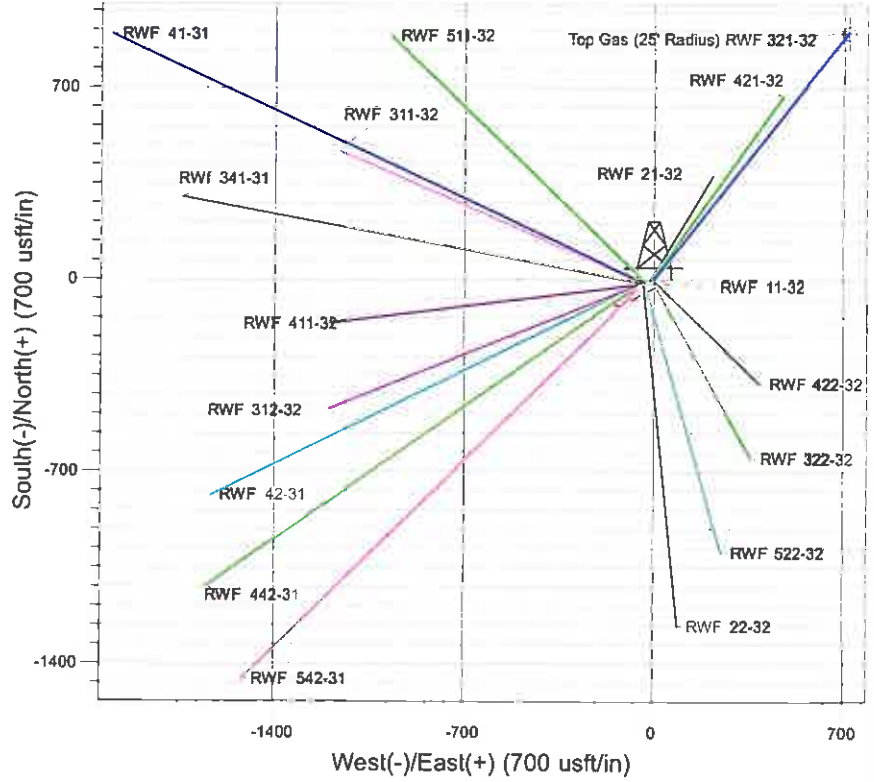
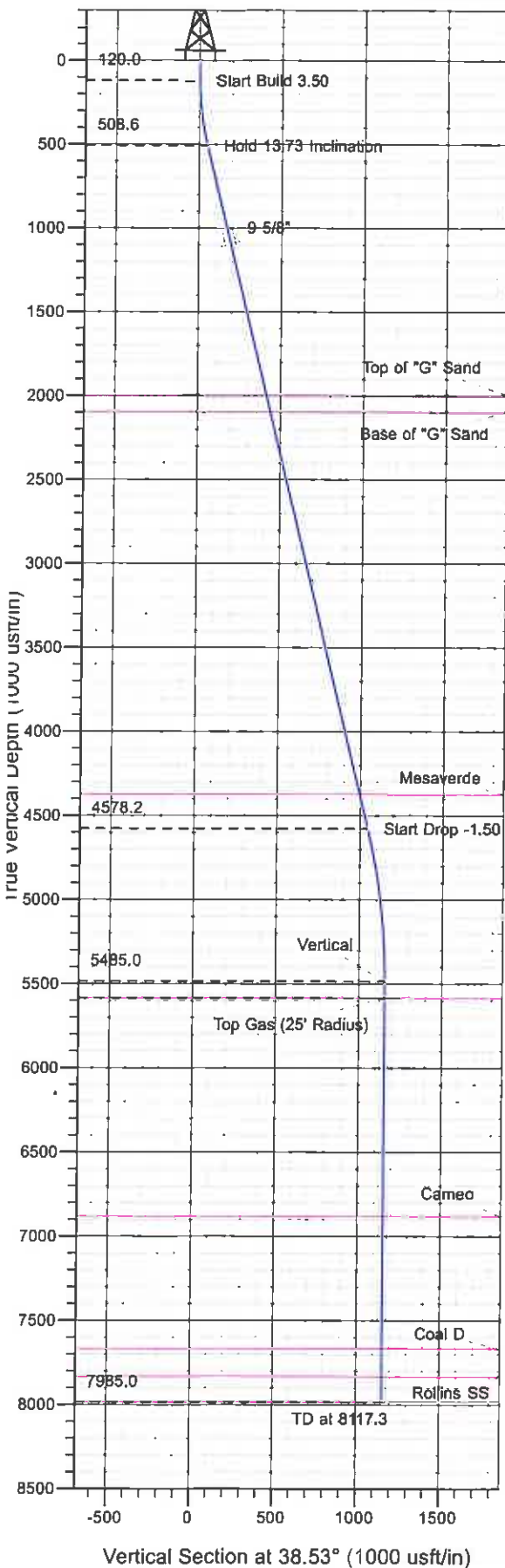


RWF 321-32

Surface Location: RWF 11-32 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 5539.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1610879.10	2318269.50	39° 29' 8.712 N	107° 54' 56.519 W	B 11

KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs)



Project: RU 32-06S-094W
 Site: RWF 11-32 Pad
 Well: RWF 321-32
 Design #1 06Jun11 kjs

Azimuths to True North
 Magnetic North: 10.32°

Magnetic Field
 Strength: 52261.0snT
 Dip Angle: 65.75°
 Date: 6/6/2011
 Model: IGRF2010

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation	
120.0	120.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	Start Build 3.50
508.6	512.4	13.73	38.53	36.6	29.2	46.8	46.8	46.8	Hold 13.73 Inclination
4578.2	4701.7	13.73	38.53	814.6	648.7	1041.3	1041.3	1041.3	Start Drop -1.50
5485.0	5617.3	0.00	0.00	900.0	716.8	1150.5	1150.5	1150.5	Vertical
5585.0	5717.3	0.00	0.00	900.0	716.8	1150.5	1150.5	1150.5	Top Gas
7985.0	8117.3	0.00	0.00	900.0	716.8	1150.5	1150.5	1150.5	TD at 8117.3

PICEANCE VLY NAD 83

RU 32-06S-094W

RWF 11-32 Pad

RWF 321-32 - Slot B11

Wellbore #1

Plan: Design #1 06Jun11 kjs

Standard Planning Report - Geographic

26 July, 2011

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well RWF 321-32 - Slot B11
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs)
Project:	RU 32-06S-094W	MD Reference:	KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs)
Site:	RWF 11-32 Pad	North Reference:	True
Well:	RWF 321-32	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Jun11 kjs		

Project	RU 32-06S-094W, Garfield County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		Using geodetic scale factor

Site	RWF 11-32 Pad		
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Site Position:		Northing:	1,610,858.10 usft	Latitude:	39° 29' 8.495 N
From:	Map	Easting:	2,318,234.00 usft	Longitude:	107° 54' 56.965 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.524 °

Well	RWF 321-32 - Slot B11				
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Well Position	+N/-S	0.0 usft	Northing:	1,610,879.10 usft	Latitude:	39° 29' 8.712 N
	+E/-W	0.0 usft	Easting:	2,318,269.50 usft	Longitude:	107° 54' 56.519 W
Position Uncertainty	0.0 usft		Wellhead Elevation:		Ground Level:	5,539.0 usft

Wellbore	Wellbore #1				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/6/2011	10.319	65.746	52,261

Design	Design #1 06Jun11 kjs				
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Audit Notes:

Version:	Phase:	PLAN	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	38.53

Plan Sections										
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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.000	
120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.00	0.000	
512.4	13.73	38.53	508.6	36.6	29.2	3.50	3.50	0.00	38.533	
4,701.7	13.73	38.53	4,578.2	814.6	648.7	0.00	0.00	0.00	0.000	
5,617.3	0.00	0.00	5,485.0	900.0	716.8	1.50	-1.50	0.00	180.000	
5,717.3	0.00	0.00	5,585.0	900.0	716.8	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
8,117.3	0.00	0.00	7,985.0	900.0	716.8	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well RWF 321-32 - Slot B11
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs)
Project:	RU 32-06S-094W	MD Reference:	KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs)
Site:	RWF 11-32 Pad	North Reference:	True
Well:	RWF 321-32	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Jun11 kjs		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	1,610,879.10	2,318,269.50	39° 29' 8.712 N	107° 54' 56.519 W
120.0	0.00	0.00	120.0	0.0	0.0	1,610,879.10	2,318,269.50	39° 29' 8.712 N	107° 54' 56.519 W
Start Build 3.50									
512.4	13.73	38.53	508.6	36.6	29.2	1,610,914.92	2,318,299.62	39° 29' 9.074 N	107° 54' 56.147 W
Hold 13.73 Inclination									
1,121.1	13.73	38.53	1,100.0	149.7	119.2	1,611,025.53	2,318,392.62	39° 29' 10.191 N	107° 54' 54.999 W
9 5/8"									
2,042.5	13.73	38.53	1,995.0	320.8	255.4	1,611,192.94	2,318,533.38	39° 29' 11.882 N	107° 54' 53.261 W
Top of "G" Sand									
2,145.4	13.73	38.53	2,095.0	339.9	270.7	1,611,211.64	2,318,549.10	39° 29' 12.071 N	107° 54' 53.067 W
Base of "G" Sand									
4,492.5	13.73	38.53	4,375.0	775.7	617.8	1,611,638.11	2,318,907.67	39° 29' 16.379 N	107° 54' 48.639 W
Mesaverde									
4,701.7	13.73	38.53	4,578.2	814.6	648.7	1,611,676.12	2,318,939.63	39° 29' 16.763 N	107° 54' 48.245 W
Start Drop -1.50									
5,617.3	0.00	0.00	5,485.0	900.0	716.8	1,611,759.70	2,319,009.90	39° 29' 17.607 N	107° 54' 47.377 W
Vertical									
5,717.3	0.00	0.00	5,585.0	900.0	716.8	1,611,759.70	2,319,009.90	39° 29' 17.607 N	107° 54' 47.377 W
Top Gas - Approx. Top Gas - Top Gas (25' Radius) RWF 321-32									
7,017.3	0.00	0.00	6,885.0	900.0	716.8	1,611,759.70	2,319,009.90	39° 29' 17.607 N	107° 54' 47.377 W
Cameo									
7,802.3	0.00	0.00	7,670.0	900.0	716.8	1,611,759.70	2,319,009.90	39° 29' 17.607 N	107° 54' 47.377 W
Coal D									
7,967.3	0.00	0.00	7,835.0	900.0	716.8	1,611,759.70	2,319,009.90	39° 29' 17.607 N	107° 54' 47.377 W
Rollins SS									
8,117.3	0.00	0.00	7,985.0	900.0	716.8	1,611,759.70	2,319,009.90	39° 29' 17.607 N	107° 54' 47.377 W
TD at 8117.3 - TD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Top Gas (25' Radius) R1 - plan hits target center - Circle (radius 25.0)	0.00	0.00	5,585.0	900.0	716.8	1,611,759.70	2,319,009.90	39° 29' 17.607 N	107° 54' 47.377 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,121.1	1,100.0	9 5/8"	9.625	12.250

Williams
Planning Report - Geographic

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Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs)
Project:	RU 32-06S-094W	MD Reference:	KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs)
Site:	RWF 11-32 Pad	North Reference:	True
Well:	RWF 321-32	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Jun11 kjs		

Formations:

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,042.5	1,995.0	Top of "G" Sand			
2,145.4	2,095.0	Base of "G" Sand			
4,492.5	4,375.0	Mesaverde			
5,717.3	5,585.0	Approx. Top Gas			
7,017.3	6,885.0	Cameo			
7,802.3	7,670.0	Coal D			
7,967.3	7,835.0	Rollins SS			
8,117.3	7,985.0	TD			

Plan Annotations:

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.0	120.0	0.0	0.0	Start Build 3.50
512.4	508.6	36.6	29.2	Hold 13.73 inclination
4,701.7	4,578.2	814.6	648.7	Start Drop -1.50
5,617.3	5,485.0	900.0	716.8	Vertical
5,717.3	5,585.0	900.0	716.8	Top Gas
8,117.3	7,985.0	900.0	716.8	TD at 8117.3