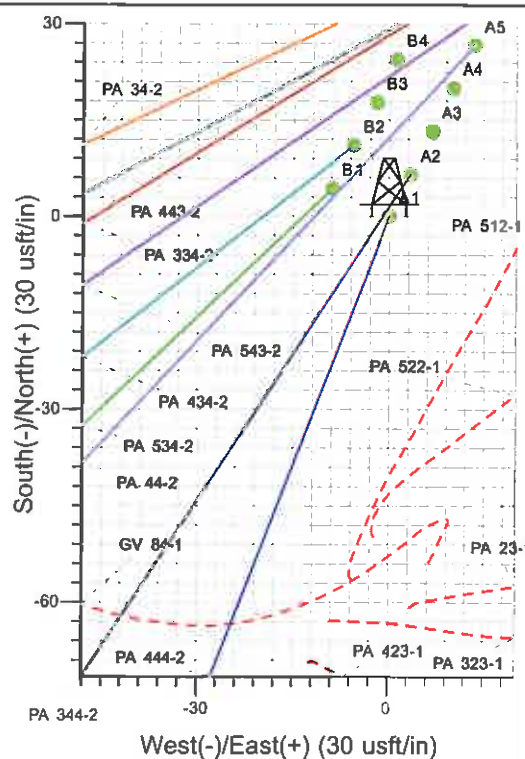
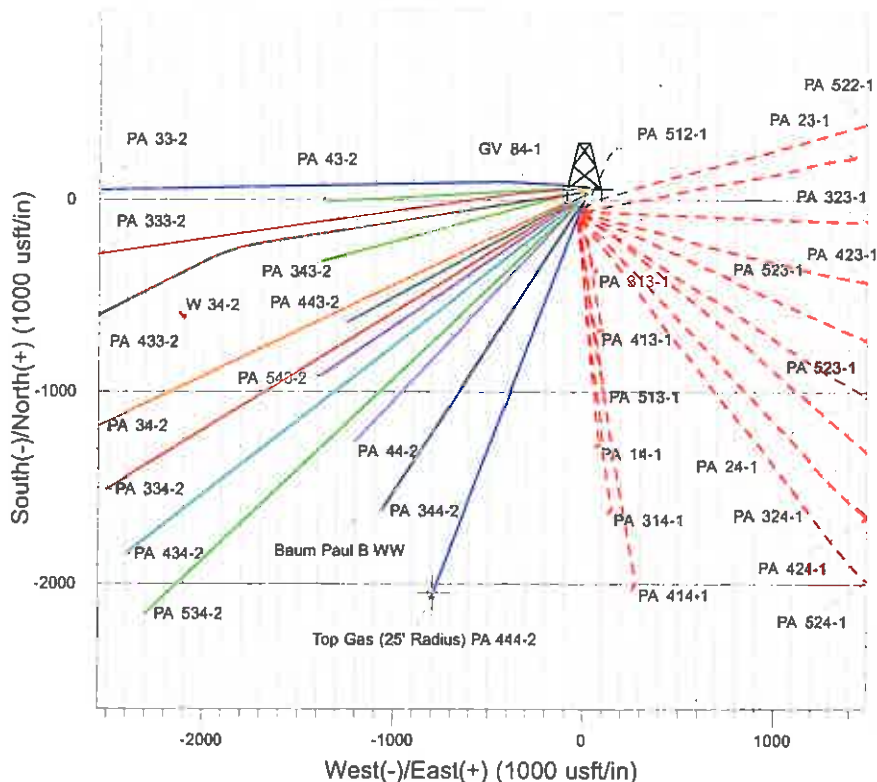
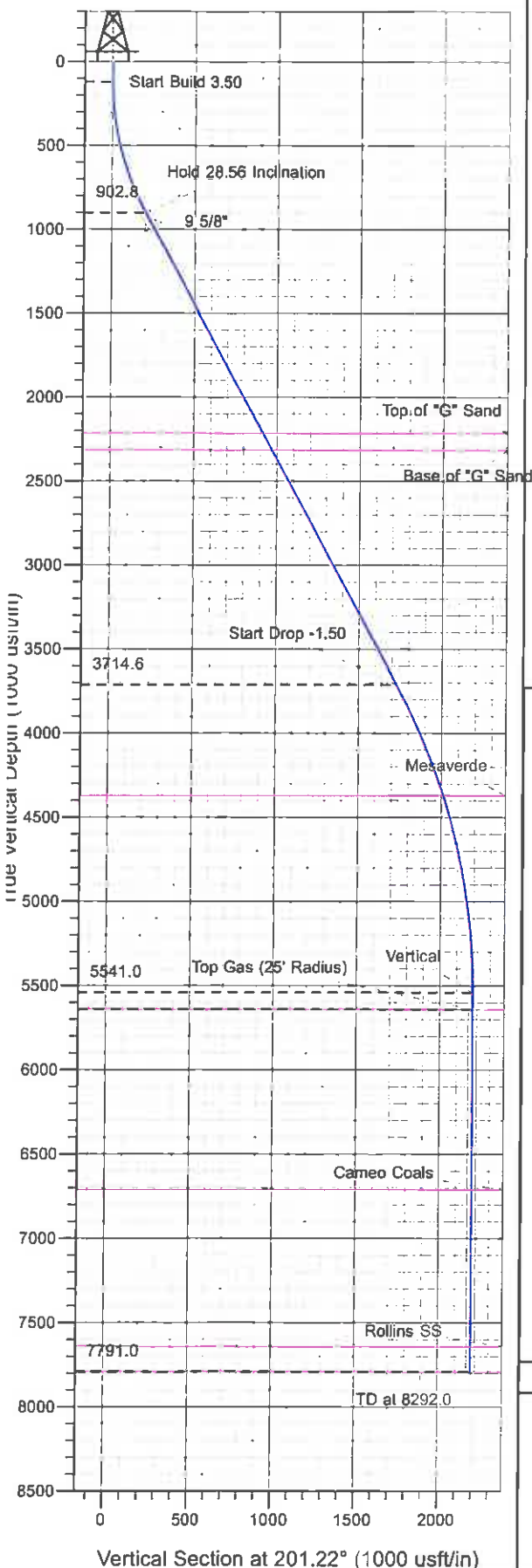




PA 444-2
 Surface Location: GV 84-1 Pad - West Cellar
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 6027.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1603941.10 2307245.30 39° 27' 57.244 N 107° 57' 14.692 W A1
 WELL @ 6051.0usft (Original Well Elev)



Project: PA 01-07S-095W
 Site: GV 84-1 Pad - West Cellar
 Well: PA 444-2
 Design #1 22Mar11 kjs

Azimuths to True North
 Magnetic North: 10.36°
 Magnetic Field
 Strength: 52262.3snT
 Dip Angle: 65.73°
 Date: 3/22/2011
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSDeparture	Annotation
120.0	120.0	0.00	0.00	0.0	0.0	0.0	Start Build 3.50
902.8	936.1	28.56	201.22	-185.8	-72.1	199.3	Hold 28.56 Inclination
3714.6	4137.7	28.56	201.22	-1612.8	-626.3	1730.1	Start Drop -1.50
5541.0	6042.0	0.00	0.00	-2046.2	-794.6	2195.0	Vertical
5641.0	6142.0	0.00	0.00	-2046.2	-794.6	2195.0	Top Gas
7791.0	8292.0	0.00	0.00	-2046.2	-794.6	2195.0	TD at 8292.0

PICEANCE VLY NAD 83

PA 01-07S-095W

GV 84-1 Pad - West Cellar

PA 444-2 - Slot A1

Wellbore #1

Plan: Design #1 22Mar11 kjs

Standard Planning Report - Geographic

16 May, 2011

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well PA 444-2 - Slot A1
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 6051.0usft (Original Well Elev)
Project:	PA 01-07S-095W	MD Reference:	WELL @ 6051.0usft (Original Well Elev)
Site:	GV 84-1 Pad - West Cellar	North Reference:	True
Well:	PA 444-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 22Mar11 kjs		

Project	PA 01-07S-095W, 01-07S-095W		
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	GV 84-1 Pad - West Cellar		
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Site Position:		Northing:	1,603,932.89 usft	Latitude:	39° 27' 57.156 N
From:	Map	Easting:	2,307,221.63 usft	Longitude:	107° 57' 14.990 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.548 °

Well	PA 444-2 - Slot A1				
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Well Position	+N/-S	0.0 usft	Northing:	1,603,941.10 usft	Latitude:	39° 27' 57.244 N
	+E/-W	0.0 usft	Easting:	2,307,245.30 usft	Longitude:	107° 57' 14.692 W
Position Uncertainty	0.0 usft		Wellhead Elevation:		Ground Level:	6,027.0 usft

Wellbore	Wellbore #1				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/22/2011	10.360	65.729	52,262

Design	Design #1 22Mar11 kjs				
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Audit Notes:					
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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	201.22

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	
936.1	28.56	201.22	902.8	-185.8	-72.1	3.50	3.50	0.00	201.222	
4,137.7	28.56	201.22	3,714.6	-1,612.8	-626.3	0.00	0.00	0.00	0.000	
6,042.0	0.00	0.00	5,541.0	-2,046.2	-794.6	1.50	-1.50	0.00	180.000	
6,142.0	0.00	0.00	5,641.0	-2,046.2	-794.6	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
8,292.0	0.00	0.00	7,791.0	-2,046.2	-794.6	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well PA 444-2 - Slot A1
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 6051.0usft (Original Well Elev)
Project:	PA 01-07S-095W	MD Reference:	WELL @ 6051.0usft (Original Well Elev)
Site:	GV 84-1 Pad - West Cellar	North Reference:	True
Well:	PA 444-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 22Mar11 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	1,603,941.10	2,307,245.30	39° 27' 57.244 N	107° 57' 14.692 W
120.0	0.00	0.00	120.0	0.0	0.0	1,603,941.10	2,307,245.30	39° 27' 57.244 N	107° 57' 14.692 W
Start Build 3.50									
936.1	28.56	201.22	902.8	-185.8	-72.1	1,603,757.37	2,307,168.18	39° 27' 55.408 N	107° 57' 15.611 W
Hold 28.56 Inclination									
1,036.0	28.56	201.22	990.5	-230.3	-89.4	1,603,713.34	2,307,149.71	39° 27' 54.968 N	107° 57' 15.832 W
9 5/8"									
2,431.4	28.56	201.22	2,216.0	-852.2	-330.9	1,603,098.15	2,306,891.49	39° 27' 48.821 N	107° 57' 18.911 W
Top of "G" Sand									
2,545.3	28.56	201.22	2,316.0	-903.0	-350.6	1,603,047.95	2,306,870.42	39° 27' 48.319 N	107° 57' 19.162 W
Base of "G" Sand									
4,137.7	28.56	201.22	3,714.6	-1,612.8	-626.3	1,602,345.90	2,306,575.74	39° 27' 41.304 N	107° 57' 22.676 W
Start Drop -1.50									
4,852.9	17.84	201.22	4,371.0	-1,875.0	-728.1	1,602,086.48	2,306,466.86	39° 27' 38.712 N	107° 57' 23.975 W
Mesaverde									
6,042.0	0.00	0.00	5,541.0	-2,046.2	-794.6	1,601,917.20	2,306,395.80	39° 27' 37.020 N	107° 57' 24.822 W
Vertical									
6,142.0	0.00	0.00	5,641.0	-2,046.2	-794.6	1,601,917.20	2,306,395.80	39° 27' 37.020 N	107° 57' 24.822 W
Top Gas - Approx. Top Gas									
7,212.0	0.00	0.00	6,711.0	-2,046.2	-794.6	1,601,917.20	2,306,395.80	39° 27' 37.020 N	107° 57' 24.822 W
Cameo Coals									
8,142.0	0.00	0.00	7,641.0	-2,046.2	-794.6	1,601,917.20	2,306,395.80	39° 27' 37.020 N	107° 57' 24.822 W
Rollins SS									
8,292.0	0.00	0.00	7,791.0	-2,046.2	-794.6	1,601,917.20	2,306,395.80	39° 27' 37.020 N	107° 57' 24.822 W
TD at 8292.0 - TD									

Design Targets

Target Name	Dip Angle (")	Dip Dir. (")	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Top Gas (25' Radius) P/	0.00	0.00	5,641.0	-2,046.2	-794.6	1,601,917.20	2,306,395.80	39° 27' 37.020 N	107° 57' 24.822 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,036.0	990.5	9 5/8"	9.625	12.250

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well PA 444-2 - Slot A1
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 6051.0usft (Original Well Elev)
Project:	PA 01-07S-095W	MD Reference:	WELL @ 6051.0usft (Original Well Elev)
Site:	GV 84-1 Pad - West Cellar	North Reference:	True
Well:	PA 444-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 22Mar11 kjs		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,431.4	2,216.0	Top of "G" Sand			
2,545.3	2,316.0	Base of "G" Sand			
4,852.9	4,371.0	Mesaverde			
6,142.0	5,641.0	Approx. Top Gas			
7,212.0	6,711.0	Cameo Coals			
8,142.0	7,641.0	Rollins SS			
8,292.0	7,791.0	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
936.1	902.8	-185.8	-72.1	Hold 28.56 Inclination
4,137.7	3,714.6	-1,612.8	-626.3	Start Drop -1.50
6,042.0	5,541.0	-2,046.2	-794.6	Vertical
6,142.0	5,641.0	-2,046.2	-794.6	Top Gas
8,292.0	7,791.0	-2,046.2	-794.6	TD at 8292.0