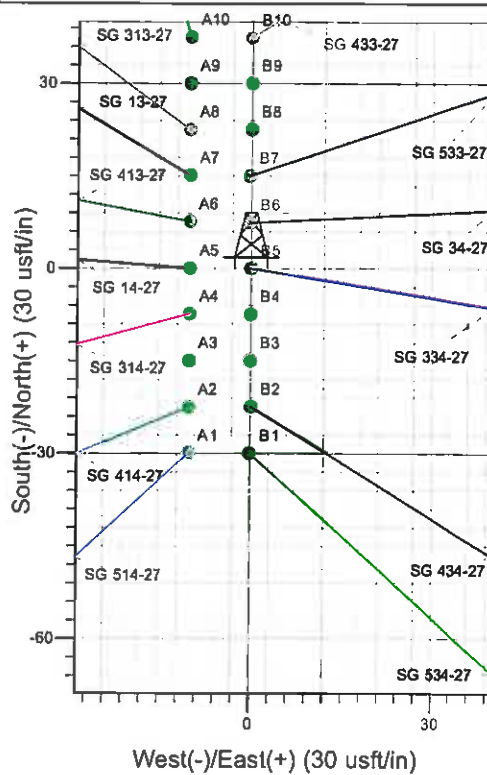
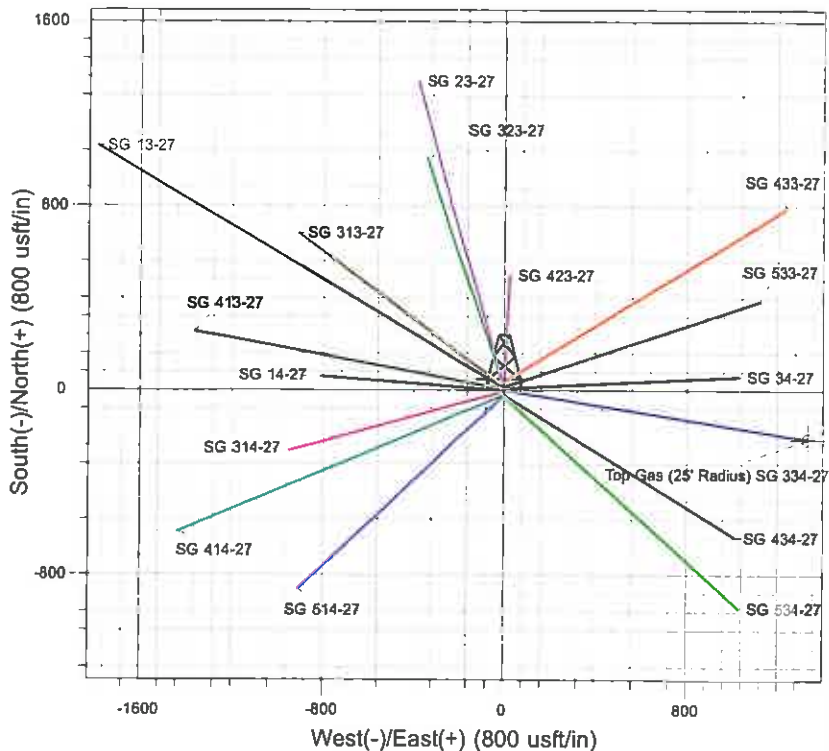
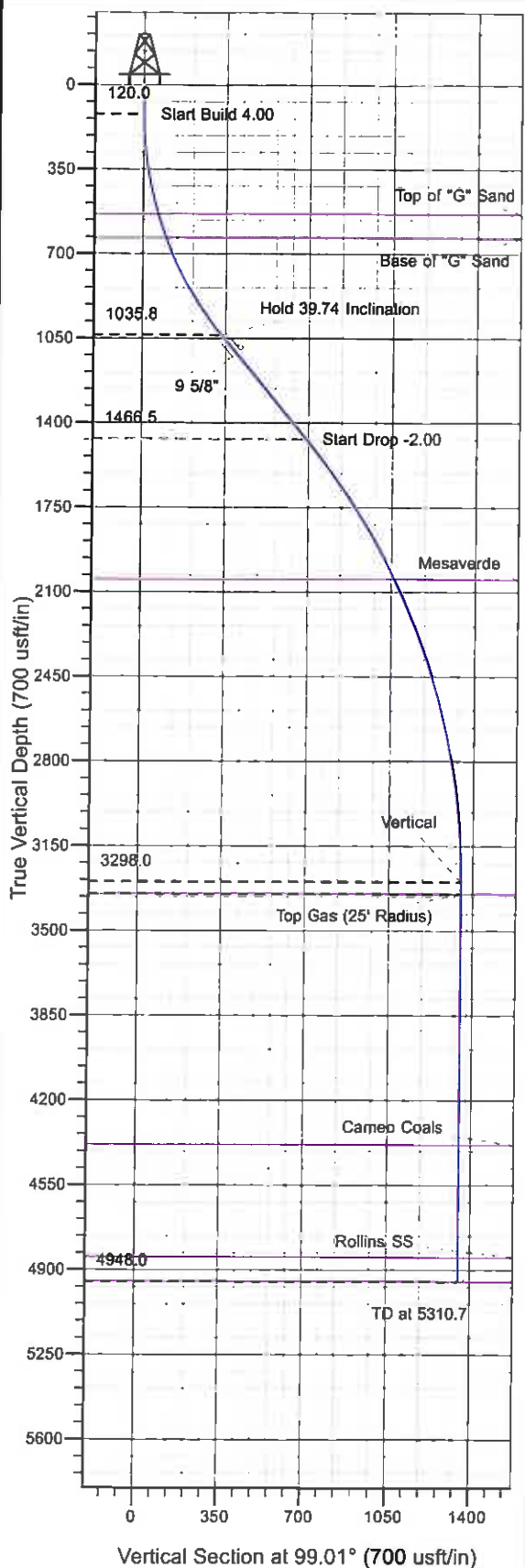




Well Name: SG 334-27
 Surface Location: SG 24-27 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 5012.0
 Northing 1582677.30 Easting 2265832.90 Latitude 39° 24' 15.777 N Longitude 108° 5' 54.789 W Slot B5
 KELLY BUSHING @ 5036.0usft (H&P 280 (24' RKB) kjs)



Project: SG 27-07S-096W
 Site: SG 24-27 Pad
 Well: SG 334-27
 Plan #2 29Apr11 kjs



Azimuths to True North
 Magnetic North: 10.51°
 Magnetic Field
 Strength: 52338.1nT
 Dip Angle: 65.69°
 Date: 4/27/2010
 Model: IGRF2005-10

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	Start Build 4.00
1035.8	1113.5	39.74	99.01	-51.8	326.9	331.0	331.0	Hold 39.74 Inclination
1466.5	1673.7	39.74	99.01	-107.9	680.6	689.1	689.1	Start Drop -2.00
3298.0	3660.7	0.00	0.00	-211.5	1334.4	1351.0	1351.0	Vertical
3348.0	3710.7	0.00	0.00	-211.5	1334.4	1351.0	1351.0	Top Gas
4948.0	5310.7	0.00	0.00	-211.5	1334.4	1351.0	1351.0	TD at 5310.7

PICEANCE VLY NAD 83

SG 27-07S-096W

SG 24-27 Pad

SG 334-27 - Slot B5

Wellbore #1

Plan: Plan #2 29Apr11 kjs

Standard Planning Report - Geographic

06 July, 2011

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 334-27 - Slot B5
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5036.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 27-07S-096W	MD Reference:	KELLY BUSHING @ 5036.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 24-27 Pad	North Reference:	True
Well:	SG 334-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 29Apr11 kjs		

Project	SG 27-07S-096W, Garfield County, CO, 27-07S-096W		
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	SG 24-27 Pad					
Site Position:		Northing:	1,582,647.63 usft	Latitude:	39° 24' 15.481 N	
From:	Map	Easting:	2,265,822.00 usft	Longitude:	108° 5' 54.917 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.639 °

Well	SG 334-27 - Slot B5					
Well Position	+N/-S	0.0 usft	Northing:	1,582,677.30 usft	Latitude:	39° 24' 15.777 N
	+E/-W	0.0 usft	Easting:	2,265,832.90 usft	Longitude:	108° 5' 54.789 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,012.0 usft

Wellbore	Wellbore #1			
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	4/27/2010	10.510	65.686	52,338

Design	Plan #2 29Apr11 kjs			
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Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	99.01

Plan Sections										
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	
1,113.5	39.74	99.01	1,035.8	-51.8	326.9	4.00	4.00	0.00	99.008	
1,673.7	39.74	99.01	1,466.5	-107.9	680.6	0.00	0.00	0.00	0.000	
3,660.7	0.00	0.00	3,298.0	-211.5	1,334.4	2.00	-2.00	0.00	180.000	
3,710.7	0.00	0.00	3,348.0	-211.5	1,334.4	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
5,310.7	0.00	0.00	4,948.0	-211.5	1,334.4	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 334-27 - Slot B5
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5036.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 27-07S-096W	MD Reference:	KELLY BUSHING @ 5036.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 24-27 Pad	North Reference:	True
Well:	SG 334-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 29Apr11 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	1,582,677.30	2,265,832.90	39° 24' 15.777 N	108° 5' 54.789 W
120.0	0.00	0.00	120.0	0.0	0.0	1,582,677.30	2,265,832.90	39° 24' 15.777 N	108° 5' 54.789 W
Start Build 4.00									
541.0	16.84	99.01	535.0	-9.6	60.7	1,582,665.95	2,265,893.28	39° 24' 15.682 N	108° 5' 54.016 W
Top of "G" Sand									
646.8	21.07	99.01	635.0	-15.0	94.6	1,582,659.60	2,265,927.03	39° 24' 15.629 N	108° 5' 53.583 W
Base of "G" Sand									
1,113.5	39.74	99.01	1,035.8	-51.8	326.9	1,582,616.15	2,266,158.16	39° 24' 15.265 N	108° 5' 50.624 W
Hold 39.74 Inclination									
1,214.0	39.74	99.01	1,113.0	-61.9	390.3	1,582,604.28	2,266,221.28	39° 24' 15.166 N	108° 5' 49.816 W
9 5/8"									
1,673.7	39.74	99.01	1,466.5	-107.9	680.6	1,582,549.99	2,266,510.08	39° 24' 14.711 N	108° 5' 46.118 W
Start Drop -2.00									
2,367.2	25.87	99.01	2,048.0	-166.6	1,050.8	1,582,480.74	2,266,878.46	39° 24' 14.131 N	108° 5' 41.402 W
Mesaverde									
3,660.7	0.00	0.00	3,298.0	-211.5	1,334.4	1,582,427.70	2,267,160.60	39° 24' 13.686 N	108° 5' 37.789 W
Vertical									
3,710.7	0.00	0.00	3,348.0	-211.5	1,334.4	1,582,427.70	2,267,160.60	39° 24' 13.686 N	108° 5' 37.789 W
Top Gas - Approx. Top Gas - Top Gas (25' Radius) SG 334-27									
4,746.7	0.00	0.00	4,384.0	-211.5	1,334.4	1,582,427.70	2,267,160.60	39° 24' 13.686 N	108° 5' 37.789 W
Cameo Coals									
5,210.7	0.00	0.00	4,848.0	-211.5	1,334.4	1,582,427.70	2,267,160.60	39° 24' 13.686 N	108° 5' 37.789 W
Rollins SS									
5,310.7	0.00	0.00	4,948.0	-211.5	1,334.4	1,582,427.70	2,267,160.60	39° 24' 13.686 N	108° 5' 37.789 W
TD at 5310.7 - 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) SC	0.00	0.00	3,348.0	-211.5	1,334.4	1,582,427.70	2,267,160.60	39° 24' 13.686 N	108° 5' 37.789 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,214.0	1,113.0	9 5/8"	9.625	12.250	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 334-27 - Slot B5
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5036.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 27-07S-096W	MD Reference:	KELLY BUSHING @ 5036.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 24-27 Pad	North Reference:	True
Well:	SG 334-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 29Apr11 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
541.0	535.0	Top of "G" Sand				
646.8	635.0	Base of "G" Sand				
2,367.2	2,048.0	Mesaverde				
3,710.7	3,348.0	Approx. Top Gas				
4,746.7	4,384.0	Cameo Coals				
5,210.7	4,848.0	Rollins SS				
5,310.7	4,948.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.0	120.0	0.0	0.0	Start Build 4.00	
1,113.5	1,035.8	-51.8	326.9	Hold 39.74 Inclination	
1,673.7	1,466.5	-107.9	680.6	Start Drop -2.00	
3,660.7	3,298.0	-211.5	1,334.4	Vertical	
3,710.7	3,348.0	-211.5	1,334.4	Top Gas	
5,310.7	4,948.0	-211.5	1,334.4	TD at 5310.7	