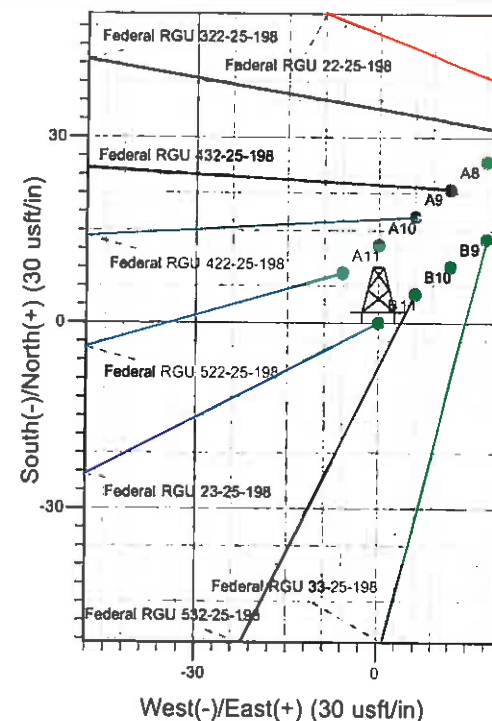
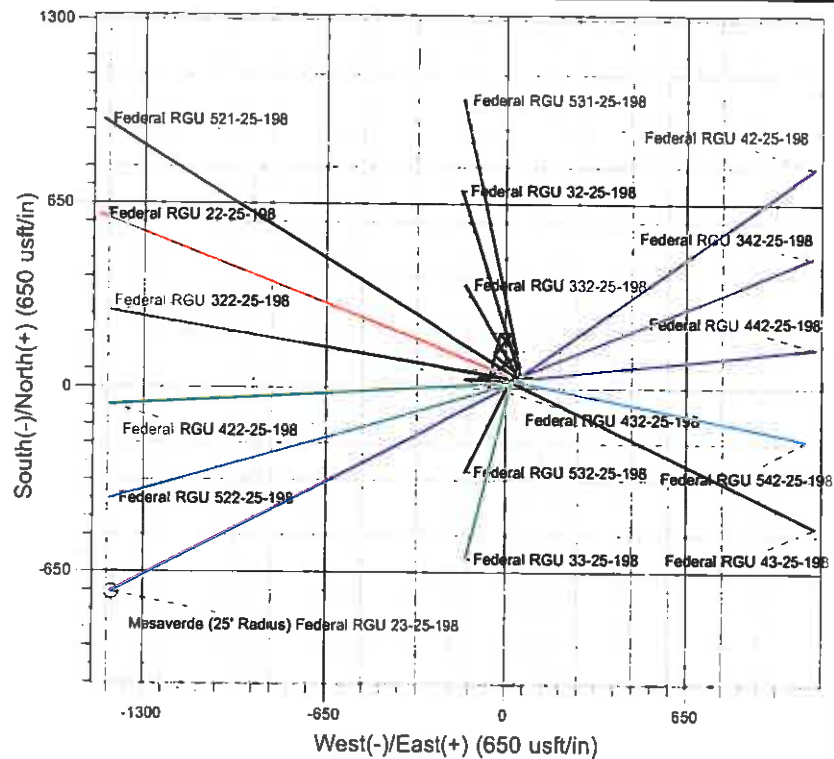
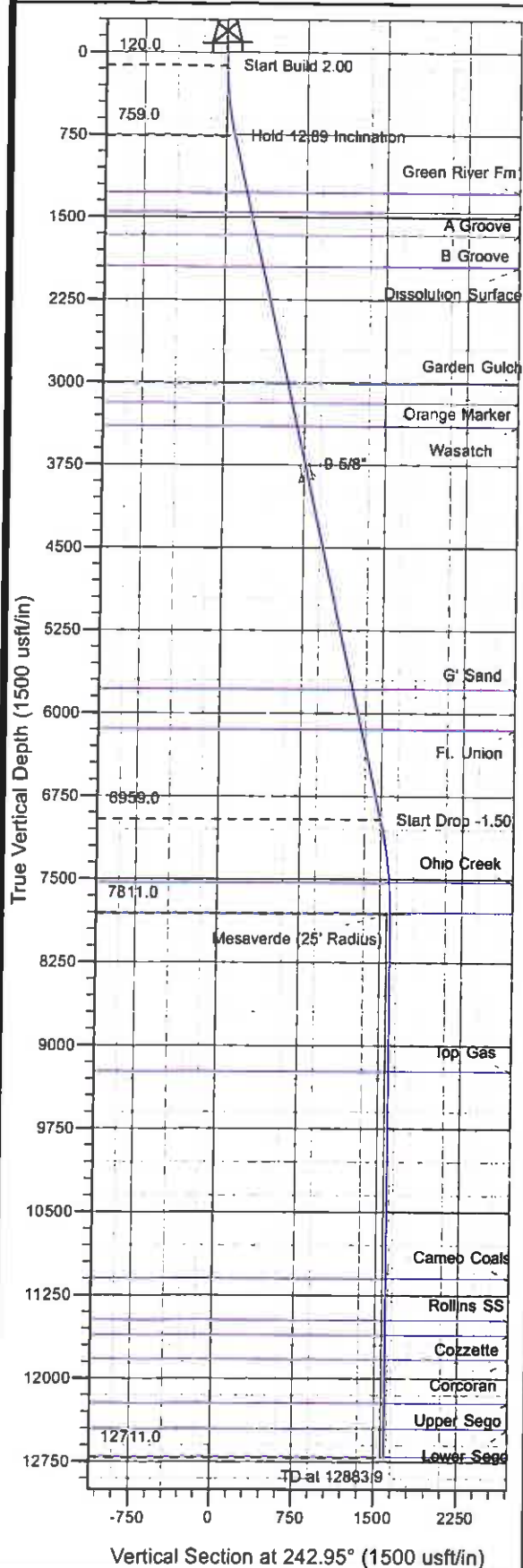




Well Name: Federal RGU 23-25-198
 Surface Location: RGU 32-25-198 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 6670.0
 Northing 1778106.60 Easting 2203825.80 Latitude 39° 56' 8.006 N Longitude 108° 20' 22.203 W Slot B 11
 KELLY BUSHING @ 6691.0usft



Project RG 25-01S-098W
 Site RGU 32-25-198 Pad
 Well: Federal RGU 23-25-198
 Plan #2 14Jan11 kjs



Azimuths to True North
 Magnetic North: 10.60°
 Magnetic Field
 Strength: 52467.4nT
 Dip Angle: 66.04°
 Date: 2/28/2011
 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	Start Build 2.00
759.0	764.5	12.89	242.95	-32.8	-64.3	72.2	72.2	Hold 12.89 Inclination
6959.0	7124.6	12.89	242.95	-678.1	-1327.8	1490.9	1490.9	Start Drop -1.50
7811.0	7983.9	0.00	0.00	-721.9	-1413.5	1587.1	1587.1	Mesaverde
12711.0	12883.9	0.00	0.00	-721.9	-1413.5	1587.1	1587.1	TD at 12883.9

PICEANCE HL NAD 83

RG 25-01S-098W

RGU 32-25-198 Pad

Federal RGU 23-25-198 - Slot B11

Wellbore #1

Plan: Plan #2 14Jan11 kjs

Standard Planning Report - Geographic

17 January, 2011

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 23-25-198 - Slot B11
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6691.0usft
Project:	RG 25-01S-098W	MD Reference:	KELLY BUSHING @ 6691.0usft
Site:	RGU 32-25-198 Pad	North Reference:	True
Well:	Federal RGU 23-25-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 14Jan11 kjs		

Project	RG 25-01S-098W, Rio Blanco County, CO, RG 25-01S-098W		
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	RGU 32-25-198 Pad		
Site Position:		Northing:	1,778,153.70 usft
From:	Map	Easting:	2,203,875.30 usft
Position Uncertainty:	0.0 usft	Slot Radius:	0.000 in
		Latitude:	39° 56' 8.487 N
		Longitude:	108° 20' 21.587 W
		Grid Convergence:	-1.791 °

Well	Federal RGU 23-25-198 - Slot B11		
Well Position	+N/-S	0.0 usft	Northing: 1,778,106.60 usft
	+E/-W	0.0 usft	Easting: 2,203,825.80 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level: 6,670.0 usft
		Latitude:	39° 56' 8.006 N
		Longitude:	108° 20' 22.203 W

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	2/28/2011	10.602
			Dip Angle (°)
			66.045
			Field Strength (nT)
			52,467

Design	Plan #2 14Jan11 kjs		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			242.95

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	
764.5	12.89	242.95	759.0	-32.8	-64.3	2.00	2.00	0.00	242.945	
7,124.6	12.89	242.95	6,959.0	-678.1	-1,327.8	0.00	0.00	0.00	0.000	
7,983.9	0.00	0.00	7,811.0	-721.9	-1,413.5	1.50	-1.50	0.00	180.000	Mesaverde (25' Radit.
12,683.9	0.00	0.00	12,711.0	-721.9	-1,413.5	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Databse: Compass R5000 WIN AUTH
Company: PICEANCE HL NAD 83
Project: RG 25-01S-098W
Site: RGU 32-25-198 Pad
Well: Federal RGU 23-25-198
Wellbore: Wellbore #1
Design: Plan #2 14Jan11 kjs

Local Co-ordinate Reference: Well Federal RGU 23-25-198 - Slot B11
TVD Reference: KELLY BUSHING @ 6691.0usft
MD Reference: KELLY BUSHING @ 6691.0usft
North Reference: True
Survey Calculation Method: Minimum Curvature

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	1,778,106.60	2,203,825.80	39° 56' 8.006 N	108° 20' 22.203 W
120.0	0.00	0.00	120.0	0.0	0.0	1,778,106.60	2,203,825.80	39° 56' 8.006 N	108° 20' 22.203 W
Start Build 2.00									
764.5	12.89	242.95	759.0	-32.8	-64.3	1,778,075.79	2,203,760.52	39° 56' 7.682 N	108° 20' 23.028 W
Hold 12.89 Inclination									
1,294.8	12.89	242.95	1,276.0	-86.6	-169.6	1,778,025.30	2,203,653.53	39° 56' 7.150 N	108° 20' 24.381 W
Green River Fm									
1,479.4	12.89	242.95	1,456.0	-105.4	-206.3	1,778,007.72	2,203,616.28	39° 56' 6.965 N	108° 20' 24.851 W
A Groove									
1,694.9	12.89	242.95	1,666.0	-127.2	-249.1	1,777,987.21	2,203,572.82	39° 56' 6.749 N	108° 20' 25.401 W
B Groove									
1,987.2	12.89	242.95	1,951.0	-156.9	-307.2	1,777,959.38	2,203,513.84	39° 56' 6.456 N	108° 20' 26.146 W
Dissolution Surface									
3,079.8	12.89	242.95	3,016.0	-267.7	-524.2	1,777,855.37	2,203,293.44	39° 56' 5.360 N	108° 20' 28.933 W
Garden Gulch									
3,259.3	12.89	242.95	3,191.0	-286.0	-559.9	1,777,838.27	2,203,257.22	39° 56' 5.180 N	108° 20' 29.390 W
Orange Marker									
3,474.7	12.89	242.95	3,401.0	-307.8	-602.7	1,777,817.76	2,203,213.76	39° 56' 4.964 N	108° 20' 29.940 W
Wasatch									
3,975.0	12.89	242.95	3,888.7	-358.6	-702.1	1,777,770.13	2,203,112.83	39° 56' 4.463 N	108° 20' 31.216 W
g 5/8"									
5,921.4	12.89	242.95	5,786.0	-556.0	-1,088.7	1,777,584.83	2,202,720.18	39° 56' 2.511 N	108° 20' 36.179 W
G Sand									
6,295.8	12.89	242.95	6,151.0	-594.0	-1,163.1	1,777,549.19	2,202,644.65	39° 56' 2.135 N	108° 20' 37.134 W
Fl. Union									
7,124.6	12.89	242.95	6,959.0	-678.1	-1,327.8	1,777,470.28	2,202,477.44	39° 56' 1.304 N	108° 20' 39.248 W
Start Drop -1.50									
7,708.7	4.13	242.95	7,536.0	-717.4	-1,404.6	1,777,433.43	2,202,399.36	39° 56' 0.916 N	108° 20' 40.235 W
Ohio Creek									
7,983.9	0.00	0.00	7,811.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
Mesaverde - Mesaverde									
9,413.9	0.00	0.00	9,241.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
Top Gas									
11,283.9	0.00	0.00	11,111.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
Cameo Coals									
11,653.9	0.00	0.00	11,481.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
Rollins SS									
11,788.9	0.00	0.00	11,616.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
Cozzetta									
12,008.9	0.00	0.00	11,836.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
Corcoran									
12,403.9	0.00	0.00	12,231.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
Upper Sego									
12,633.9	0.00	0.00	12,461.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
Lower Sego									
12,883.9	0.00	0.00	12,711.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
TD at 12883.9 - TD									

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 23-25-198 - Slot B11
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6691.0usft
Project:	RG 25-01S-098W	MD Reference:	KELLY BUSHING @ 6691.0usft
Site:	RGU 32-25-198 Pad	North Reference:	True
Well:	Federal RGU 23-25-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 14Jan11 kis		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Mesaverde (25' Radius)	0.00	0.00	7,811.0	-721.9	-1,413.5	1,777,429.20	2,202,390.40	39° 56' 0.872 N	108° 20' 40.348 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(in)	(in)
3,975.0	3,888.7	9 5/8"	9.625	13.500

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
1,294.8	1,276.0	Green River Fm			
1,479.4	1,456.0	A Groove			
1,694.9	1,666.0	B Groove			
1,987.2	1,951.0	Dissolution Surface			
3,079.8	3,016.0	Garden Gulch			
3,259.3	3,191.0	Orange Marker			
3,474.7	3,401.0	Wasatch			
5,921.4	5,786.0	G' Sand			
6,295.8	6,151.0	Ft. Union			
7,708.7	7,536.0	Ohio Creek			
7,983.9	7,811.0	Mesaverde			
9,413.9	9,241.0	Top Gas			
11,283.9	11,111.0	Cameo Coals			
11,653.9	11,481.0	Rollins SS			
11,788.9	11,616.0	Cozzette			
12,008.9	11,836.0	Corcoran			
12,403.9	12,231.0	Upper Sego			
12,633.9	12,461.0	Lower Sego			
12,883.9	12,711.0	TD		0.000	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
(usft)	(usft)	(usft)	(usft)	
120.0	120.0	0.0	0.0	Start Build 2.00
764.5	759.0	-32.8	-64.3	Hold 12.89 Inclination
7,124.6	6,959.0	-678.1	-1,327.8	Start Drop -1.50
7,983.9	7,811.0	-721.9	-1,413.5	Mesaverde
12,883.9	12,711.0	-721.9	-1,413.5	TD at 12883.9