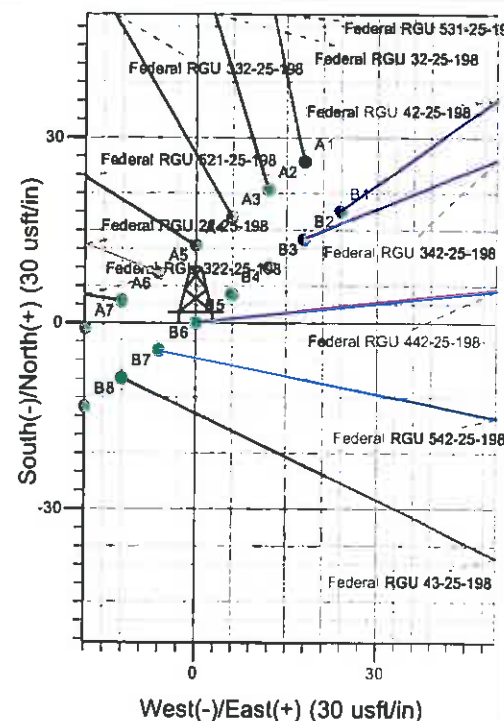
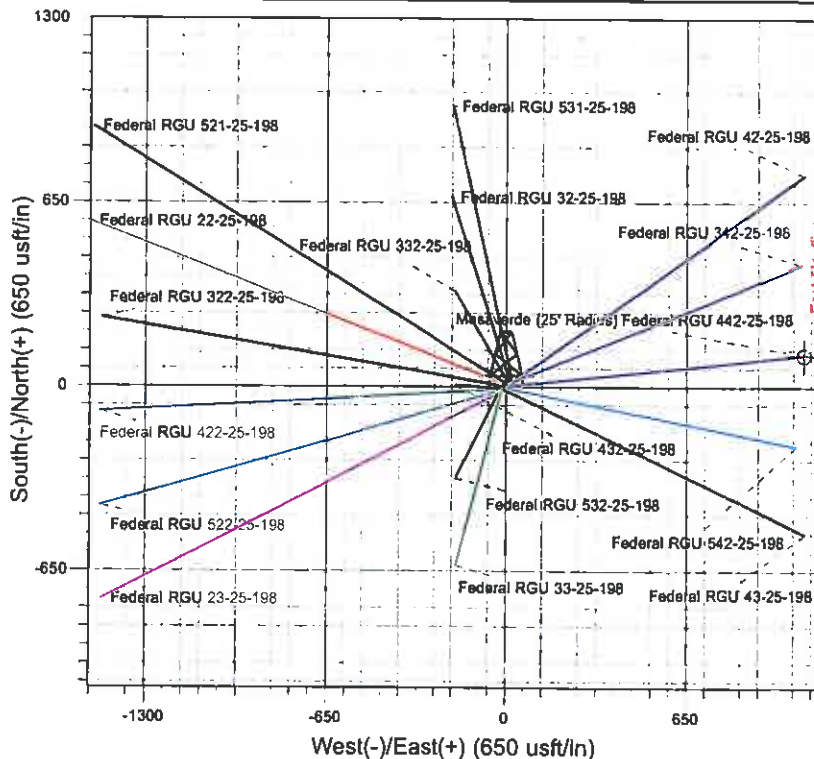
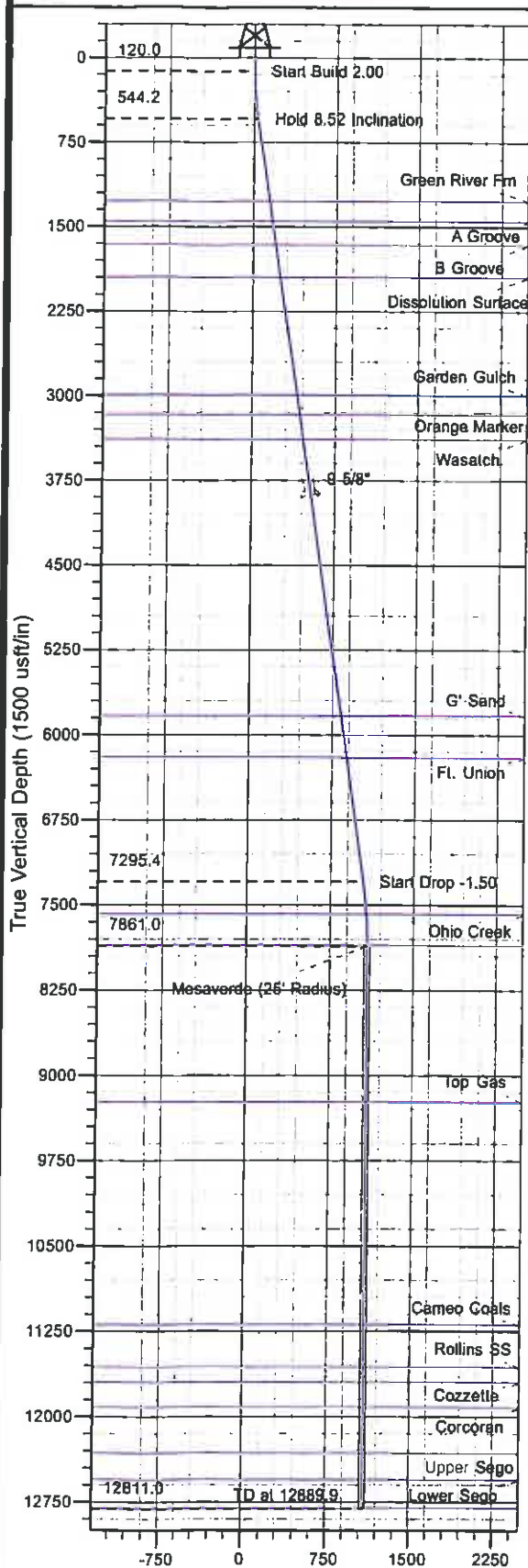




Well Name: Federal RGU 442-25-198
 Surface Location: RGU 32-25-198 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 6670.0
 Northing 1778132.50 Easting 2203862.60 Latitude 39° 56' 8.273 N Longitude 108° 20' 21.741 W Slot B5
 KELLY BUSHING @ 6691.0usft



Project: RG 25-01S-098W
 Site: RGU 32-25-198 Pad
 Well: Federal RGU 442-25-198
 Plan #2 14Jan11 kjs



Azimuths to True North
 Magnetic North: 10.60°
 Magnetic Field
 Strength: 52468.0snT
 Dip Angle: 66.04°
 Date: 2/26/2011
 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
544.2	545.8	8.52	84.04	3.3	31.4	31.8	31.6	Hold 8.52 Inclination
7295.4	7372.2	8.52	84.04	108.2	1036.8	1042.4	1042.4	Start Drop -1.50
7861.0	7939.9	0.00	0.00	112.6	1078.7	1084.5	1084.5	Mesaverde
12811.0	12889.9	0.00	0.00	112.6	1078.7	1084.5	1084.5	TD at 12889.9

PICEANCE HL NAD 83

RG 25-01S-098W

RGU 32-25-198 Pad

Federal RGU 442-25-198 - Slot B5

Wellbore #1

Plan: Plan #2 14Jan11 kjs

Standard Planning Report - Geographic

18 January, 2011

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 442-25-198 - Slot B5
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 442-25-198	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 442-25-198 - Slot B5		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:
			6,670.0 usft

Wellbore	Wellbore #1				
Magnetics:	Model Name	Sample Date	Declination (")	Dip Angle (")	Field Strength (nT)
	IGRF2010	2/26/2011	10.603	66.045	52,468

Design	Plan #2 14Jan11 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(")
	0.0	0.0	0.0	84.04

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	
545.8	8.52	84.04	544.2	3.3	31.4	2.00	2.00	0.00	84.043	
7,372.2	8.52	84.04	7,295.4	108.2	1,036.8	0.00	0.00	0.00	0.000	
7,939.9	0.00	0.00	7,861.0	112.6	1,078.7	1.50	-1.50	0.00	180.000	Mesaverde (25' Radi
12,889.9	0.00	0.00	12,811.0	112.6	1,078.7	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 442-25-198 - Slot B5
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 442-25-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 14Jan11 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	1,778,132.50	2,203,862.60	39° 56' 8.273 N	108° 20' 21.741 W
120.0	0.00	0.00	120.0	0.0	0.0	1,778,132.50	2,203,862.60	39° 56' 8.273 N	108° 20' 21.741 W
Start Build 2.00									
545.8	8.52	84.04	544.2	3.3	31.4	1,778,134.79	2,203,894.10	39° 56' 8.306 N	108° 20' 21.338 W
Hold 8.52 Inclination									
1,285.7	8.52	84.04	1,276.0	14.6	140.4	1,778,142.76	2,204,003.38	39° 56' 8.418 N	108° 20' 19.939 W
Green River Fm									
1,467.7	8.52	84.04	1,456.0	17.4	167.2	1,778,144.71	2,204,030.26	39° 56' 8.446 N	108° 20' 19.595 W
A Groove									
1,680.1	8.52	84.04	1,666.0	20.7	198.5	1,778,147.00	2,204,061.62	39° 56' 8.478 N	108° 20' 19.193 W
B Groove									
1,968.2	8.52	84.04	1,951.0	25.1	240.9	1,778,150.10	2,204,104.18	39° 56' 8.522 N	108° 20' 18.648 W
Dissolution Surface									
3,024.9	8.52	84.04	2,996.0	41.4	396.5	1,778,161.47	2,204,260.24	39° 56' 8.682 N	108° 20' 16.651 W
Garden Gulch									
3,201.8	8.52	84.04	3,171.0	44.1	422.6	1,778,163.37	2,204,286.38	39° 56' 8.709 N	108° 20' 16.316 W
Orange Marker									
3,424.3	8.52	84.04	3,391.0	47.5	455.3	1,778,165.76	2,204,319.23	39° 56' 8.743 N	108° 20' 15.895 W
Wasatch									
3,924.0	8.52	84.04	3,885.2	55.2	528.9	1,778,171.14	2,204,393.03	39° 56' 8.819 N	108° 20' 14.951 W
8 5/8"									
5,896.6	8.52	84.04	5,836.0	85.5	819.5	1,778,192.36	2,204,684.36	39° 56' 9.118 N	108° 20' 11.221 W
G' Sand									
6,265.6	8.52	84.04	6,201.0	91.2	873.8	1,778,196.33	2,204,738.87	39° 56' 9.174 N	108° 20' 10.523 W
Ft. Union									
7,372.2	8.52	84.04	7,295.4	108.2	1,036.8	1,778,208.24	2,204,902.30	39° 56' 9.342 N	108° 20' 8.431 W
Start Drop -1.60									
7,664.7	4.13	84.04	7,586.0	111.5	1,068.8	1,778,210.58	2,204,934.41	39° 56' 9.375 N	108° 20' 8.020 W
Ohio Creek									
7,939.9	0.00	0.00	7,861.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Mesaverde - Mesaverde									
9,319.9	0.00	0.00	9,241.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Top Gas									
11,279.9	0.00	0.00	11,201.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Carneo Coals									
11,649.9	0.00	0.00	11,571.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Rollins SS									
11,784.9	0.00	0.00	11,706.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Cozzette									
12,004.9	0.00	0.00	11,926.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Corcoran									
12,409.9	0.00	0.00	12,331.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Upper Sego									
12,639.9	0.00	0.00	12,561.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Lower Sego									
12,889.9	0.00	0.00	12,811.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
TD at 12889.9 - TD									

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 442-25-198 - Slot B5
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 442-25-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 14Jan11 kjs		

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
East Hardline Federal R- - plan hits target center - Polygon	0.00	0.00	7,861.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W
Point 1			7,861.0	200.0	45.0	1,778,409.80	2,204,995.53		True
Point 2			7,861.0	-200.0	45.0	1,778,009.98	2,204,983.03		True
Mesaverde (25' Radius) - plan hits target center - Circle (radius 25.0)	0.00	0.00	7,861.0	112.6	1,078.7	1,778,211.30	2,204,944.30	39° 56' 9.386 N	108° 20' 7.893 W

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
3,924.0	3,885.2	9 5/8"	9.625	13.500

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,285.7	1,276.0	Green River Fm				
1,467.7	1,456.0	A Groove				
1,680.1	1,666.0	B Groove				
1,968.2	1,951.0	Dissolution Surface				
3,024.9	2,996.0	Garden Gulch				
3,201.8	3,171.0	Orange Marker				
3,424.3	3,391.0	Wasatch				
5,896.6	5,836.0	G' Sand				
6,265.6	6,201.0	Fl. Union				
7,664.7	7,586.0	Ohio Creek				
7,939.9	7,861.0	Mesaverde				
9,319.9	9,241.0	Top Gas				
11,279.9	11,201.0	Cameo Coals				
11,649.9	11,571.0	Rollins SS				
11,784.9	11,706.0	Cozzette				
12,004.9	11,926.0	Corcoran				
12,409.9	12,331.0	Upper Sego				
12,639.9	12,561.0	Lower Sego				
12,889.9	12,811.0	TD		0.000		

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 442-25-198 - Slot B5
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 442-25-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 14Jan11 kjs		

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 2.00
545.8	544.2	3.3	31.4	Hold 8.52 Inclination
7,372.2	7,295.4	108.2	1,036.8	Start Drop -1.50
7,939.9	7,861.0	112.6	1,078.7	Mesaverde
12,889.9	12,811.0	112.6	1,078.7	TD at 12889.9