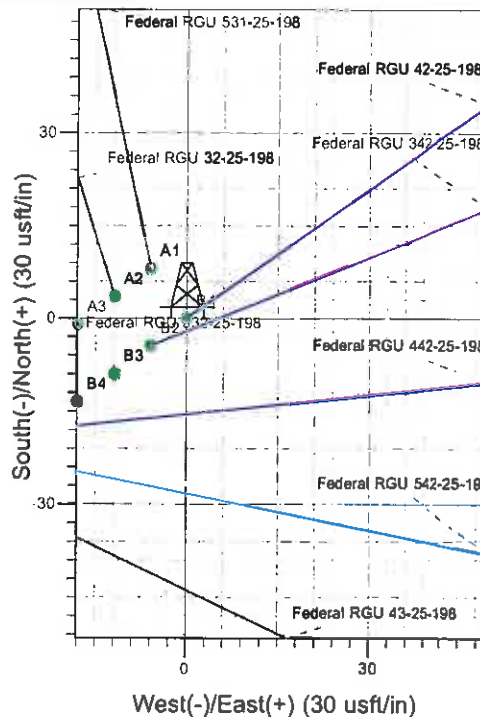
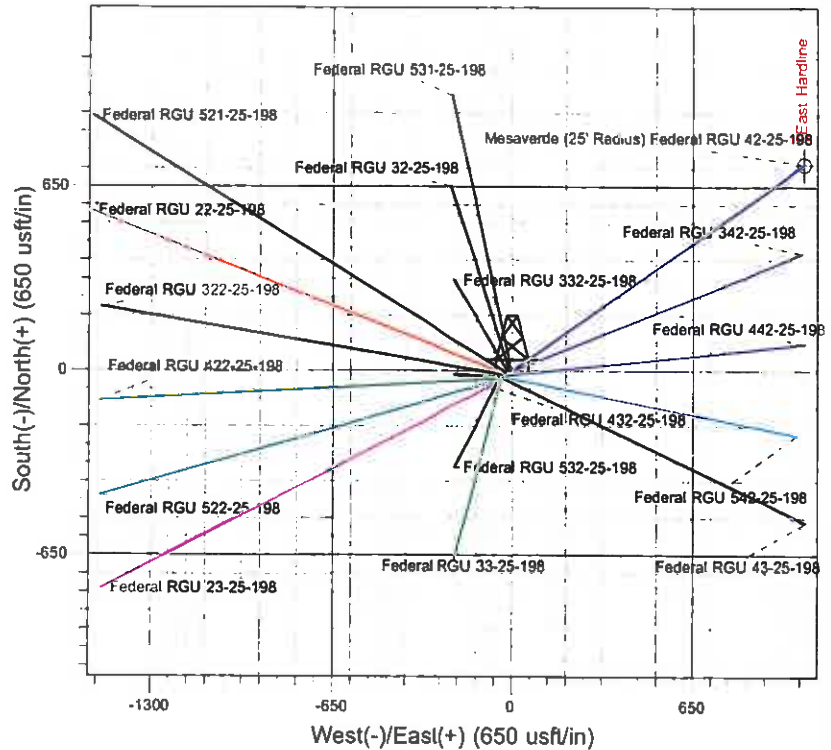
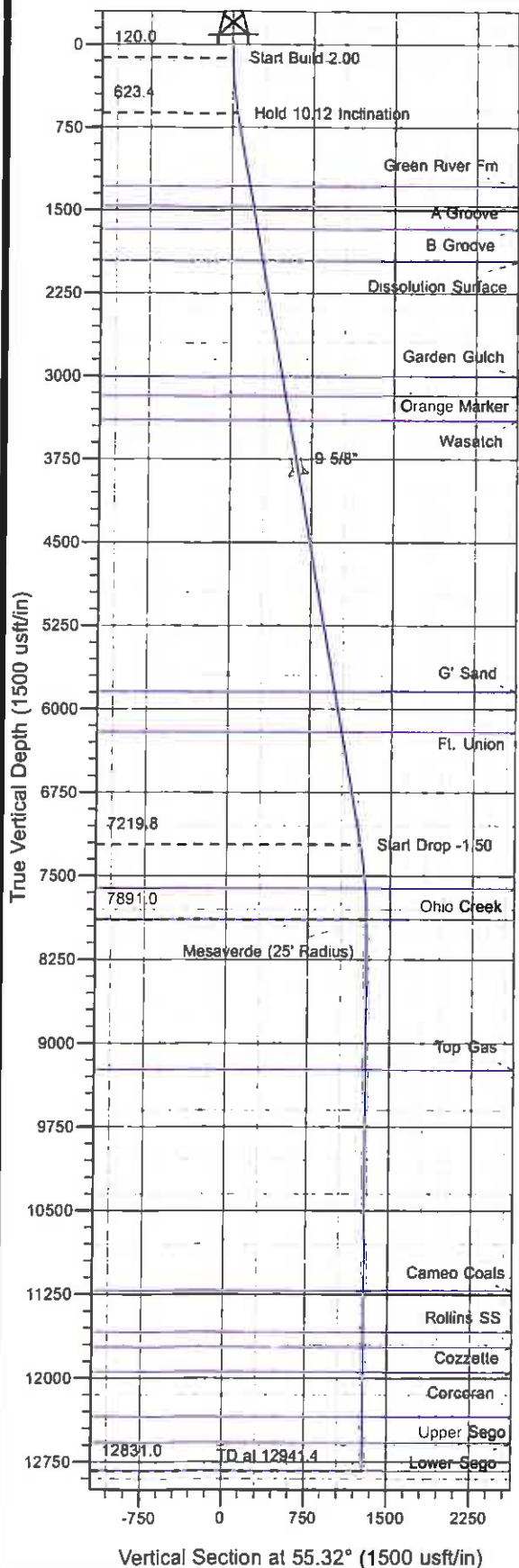




Well Name: Federal RGU 42-25-198
 Surface Location: RGU 32-25-198 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 6670.0
 +N/-S 0.0 +E/-W 0.0 Northing 1778149.80 Easting 2203887.10 Latitude 39° 56' 8.452 N Longitude 108° 20' 21.434 W Slot B1
 KELLY BUSHING @ 6691.0usft



Project RG 25-01S-098W
 Site RGU 32-25-198 Pad
 Well Federal RGU 42-25-198
 Plan #2 14Jan11 kjs



Azimuths to True North
 Magnetic North: 10.61°
 Magnetic Field
 Strength: 52476.6nT
 Dip Angle: 66.05°
 Date: 1/26/2011
 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
623.4	626.0	10.12	55.32	25.4	36.7	44.6	44.6	Hold 10.12 Inclination
7219.8	7326.7	10.12	55.32	695.3	1004.8	1221.9	1221.9	Start Drop -1.50
7891.0	8001.4	0.00	0.00	729.2	1053.7	1281.4	1281.4	Mesaverde
12831.0	12941.4	0.00	0.00	729.2	1053.7	1281.4	1281.4	TD at 12941.4

PICEANCE HL NAD 83

RG 25-01S-098W

RGU 32-25-198 Pad

Federal RGU 42-25-198 - Slot B1

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 42-25-198 - Slot B1
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 42-25-198	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	Latitude: 39° 56' 8.487 N
From:	Map	Easting:	2,203,875.30 usft	Longitude: 108° 20' 21.587 W
Position Uncertainty:	0.0 usft	Slot Radius:	0.000 in	Grid Convergence: -1.791 °

Well	Federal RGU 42-25-198 - Slot B1			
Well Position	+N/-S	0.0 usft	Northing:	1,778,149.80 usft
	+E/-W	0.0 usft	Easting:	2,203,887.10 usft
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	1/26/2011	10.614	66.047	52,477

Design	Plan #2 14Jan11 kjs			
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	55.32

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	
626.0	10.12	55.32	623.4	25.4	36.7	2.00	2.00	0.00	55.317	
7,326.7	10.12	55.32	7,219.8	695.3	1,004.8	0.00	0.00	0.00	0.000	
8,001.4	0.00	0.00	7,891.0	729.2	1,053.7	1.50	-1.50	0.00	180.000	Mesaverde (25' Radial)
12,941.4	0.00	0.00	12,831.0	729.2	1,053.7	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 42-25-198 - Stot B1
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 42-25-198	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	1,778,149.80	2,203,887.10	39° 56' 8.452 N	108° 20' 21.434 W
120.0	0.00	0.00	120.0	0.0	0.0	1,778,149.80	2,203,887.10	39° 56' 8.452 N	108° 20' 21.434 W
Start Build 2.00									
626.0	10.12	55.32	623.4	25.4	36.7	1,778,174.01	2,203,924.53	39° 56' 8.702 N	108° 20' 20.963 W
Hold 10.12 Inclination									
1,299.1	10.12	55.32	1,286.0	92.7	133.9	1,778,238.24	2,204,023.84	39° 56' 9.368 N	108° 20' 19.715 W
Green River Fm									
1,481.9	10.12	55.32	1,466.0	110.9	160.3	1,778,255.68	2,204,050.82	39° 56' 9.548 N	108° 20' 19.375 W
A Groove									
1,695.3	10.12	55.32	1,676.0	132.3	191.1	1,778,276.04	2,204,082.29	39° 56' 9.759 N	108° 20' 18.980 W
B Groove									
1,984.8	10.12	55.32	1,961.0	161.2	233.0	1,778,303.67	2,204,125.01	39° 56' 10.045 N	108° 20' 18.443 W
Dissolution Surface									
3,046.3	10.12	55.32	3,006.0	267.4	386.4	1,778,404.96	2,204,281.63	39° 56' 11.094 N	108° 20' 16.474 W
Garden Gulch									
3,224.0	10.12	55.32	3,181.0	285.1	412.0	1,778,421.93	2,204,307.86	39° 56' 11.270 N	108° 20' 16.144 W
Orange Marker									
3,447.5	10.12	55.32	3,401.0	307.5	444.3	1,778,443.25	2,204,340.83	39° 56' 11.490 N	108° 20' 15.729 W
Wasatch									
3,948.0	10.12	55.32	3,893.7	357.5	516.6	1,778,491.01	2,204,414.68	39° 56' 11.985 N	108° 20' 14.801 W
9 5/8"									
5,931.2	10.12	55.32	5,846.0	555.8	803.2	1,778,680.25	2,204,707.29	39° 56' 13.944 N	108° 20' 11.122 W
G' Sand									
6,301.9	10.12	55.32	6,211.0	592.9	856.7	1,778,715.64	2,204,761.99	39° 56' 14.311 N	108° 20' 10.435 W
Ft. Union									
7,326.7	10.12	55.32	7,219.8	695.3	1,004.8	1,778,813.43	2,204,913.20	39° 56' 15.323 N	108° 20' 8.534 W
Start Drop -1.50									
7,726.1	4.13	55.32	7,616.0	723.5	1,045.5	1,778,840.32	2,204,954.78	39° 56' 15.602 N	108° 20' 8.011 W
Ohio Creek									
8,001.4	0.00	0.00	7,891.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Mesaverde - Mesaverde									
9,351.4	0.00	0.00	9,241.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Top Gas									
11,331.4	0.00	0.00	11,221.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Cameo Coals									
11,701.4	0.00	0.00	11,591.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Rollins SS									
11,836.4	0.00	0.00	11,726.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Cozzetta									
12,056.4	0.00	0.00	11,946.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Corcoran									
12,461.4	0.00	0.00	12,351.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Upper Sego									
12,691.4	0.00	0.00	12,581.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Lower Sego									
12,941.4	0.00	0.00	12,831.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
TD at 12941.4 - TD									

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 42-25-198 - Slot B1
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 42-25-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 14Jan11 kis		

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
Mesaverde (25' Radius) - plan hits target center - Circle (radius 25.0)	0.00	0.00	7,891.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
East Hardline Federal R - plan hits target center - Polygon	0.00	0.00	7,891.0	729.2	1,053.7	1,778,845.70	2,204,963.10	39° 56' 15.657 N	108° 20' 7.906 W
Point 1			7,891.0	200.0	44.0	1,779,044.24	2,205,013.33		True
Point 2			7,891.0	-200.0	44.0	1,778,644.41	2,205,000.83		True

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
3,948.0	3,893.7	9 5/8"	9.625	13.500

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,299.1	1,286.0	Green River Fm			
1,481.9	1,466.0	A Groove			
1,695.3	1,676.0	B Groove			
1,984.8	1,961.0	Dissolution Surface			
3,046.3	3,006.0	Garden Gulch			
3,224.0	3,181.0	Orange Marker			
3,447.5	3,401.0	Wasatch			
5,931.2	5,846.0	G' Sand			
6,301.9	6,211.0	Fl. Union			
7,726.1	7,616.0	Ohio Creek			
8,001.4	7,891.0	Mesaverde			
9,351.4	9,241.0	Top Gas			
11,331.4	11,221.0	Cameo Coals			
11,701.4	11,591.0	Rollins SS			
11,836.4	11,726.0	Cozzette			
12,056.4	11,946.0	Corcoran			
12,461.4	12,351.0	Upper Sego			
12,691.4	12,581.0	Lower Sego			
12,941.4	12,831.0	TD		0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 42-25-198 - Slot B1
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 42-25-198	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
626.0	623.4	25.4	36.7	Hold 10.12 Inclination
7,326.7	7,219.8	695.3	1,004.8	Start Drop -1.50
8,001.4	7,891.0	729.2	1,053.7	Mesaverde
12,941.4	12,831.0	729.2	1,053.7	TD at 12941.4