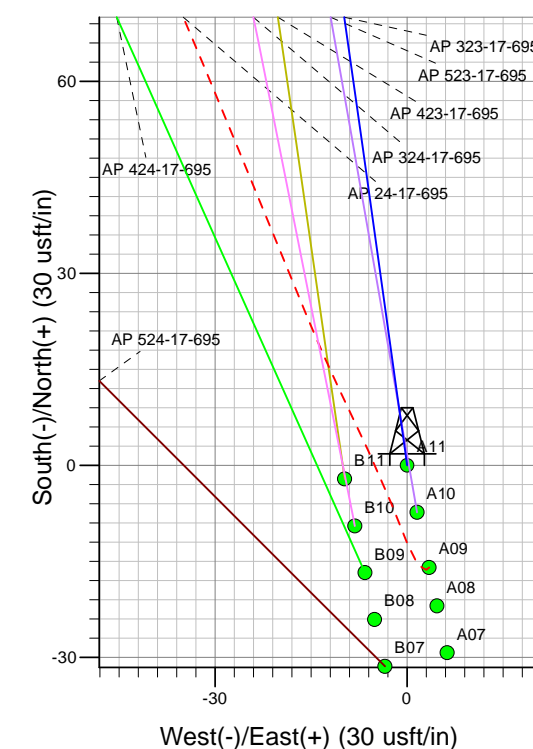
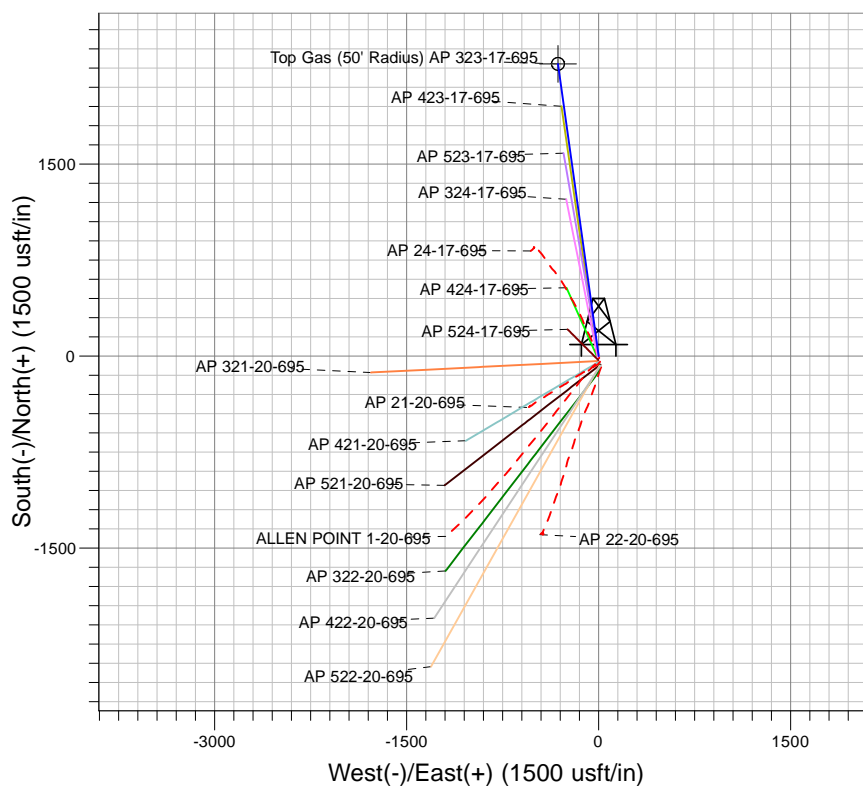
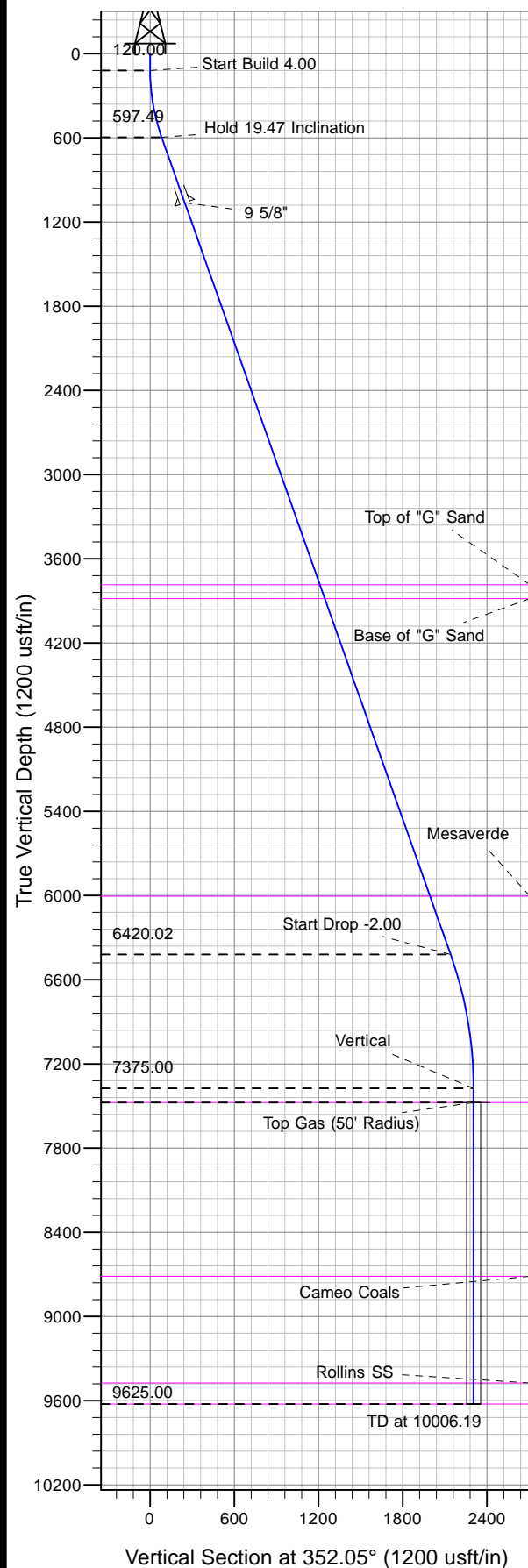




Well Name: AP 323-17-695
Surface Location: AP 21-20-695 Pad
North American Datum 1983 , US State Plane 1983, Colorado Central Zone
Ground Elevation: 6909.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1623303.25	2288333.78	39.51762	-108.02295	A11

KELLY BUSHING @ 6935.00usft (Nabors 573 (26' RKB) kjs)



Project: AP 20-06S-095W
Site: AP 21-20-695 Pad
Well: AP 323-17-695
Plan 2 29Aug13 kjs

Azimuths to True North
Magnetic North: 10.46°
Magnetic Field
Strength: 52373.9snT
Dip Angle: 65.79°
Date: 7/13/2010
Model: IGRF2005-10

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure	Annotation
120.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 4.00
597.49	606.81	19.47	352.05	81.14	-11.33	81.93	81.93	Hold 19.47 Inclination
6420.02	6782.57	19.47	352.05	2120.05	-296.09	2140.62	2140.62	Start Drop -2.00
7375.00	7756.19	0.00	0.00	2282.33	-318.75	2304.48	2304.48	Vertical
7475.00	7856.19	0.00	0.00	2282.33	-318.75	2304.48	2304.48	Top Gas
9625.00	10006.19	0.00	0.00	2282.33	-318.75	2304.48	2304.48	TD at 10006.19



PICEANCE VLY NAD 83

AP 20-06S-095W

AP 21-20-695 Pad

AP 323-17-695 - Slot A11

Wellbore #1

Plan: Plan 2 29Aug13 kjs

Standard Planning Report - Geographic

28 October, 2013



IBM Global Services
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well AP 323-17-695 - Slot A11
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6935.00usft (Nabors 573 (26' RKB) kjs)
Project:	AP 20-06S-095W	MD Reference:	KELLY BUSHING @ 6935.00usft (Nabors 573 (26' RKB) kjs)
Site:	AP 21-20-695 Pad	North Reference:	True
Well:	AP 323-17-695	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2 29Aug13 kjs		

Project	AP 20-06S-095W, Garfield County, CO, 20-06S-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	AP 21-20-695 Pad			
Site Position:		Northing:	1,623,258.80 usft	Latitude: 39.51750
From: Map		Easting:	2,288,342.20 usft	Longitude: -108.02291
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.59 °

Well	AP 323-17-695 - Slot A11			
Well Position	+N/-S	0.00 usft	Northing:	1,623,303.25 usft
	+E/-W	0.00 usft	Easting:	2,288,333.78 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	
			Ground Level:	6,909.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	7/13/2010	10.46	65.79	52,374

Design	Plan 2 29Aug13 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	352.05

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
606.81	19.47	352.05	597.49	81.14	-11.33	4.00	4.00	0.00	352.05	
6,782.57	19.47	352.05	6,420.02	2,120.05	-296.09	0.00	0.00	0.00	0.00	
7,756.19	0.00	0.00	7,375.00	2,282.33	-318.75	2.00	-2.00	0.00	180.00	
7,856.19	0.00	0.00	7,475.00	2,282.33	-318.75	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
10,006.19	0.00	0.00	9,625.00	2,282.33	-318.75	0.00	0.00	0.00	0.00	

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well AP 323-17-695 - Slot A11
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6935.00usft (Nabors 573 (26' RKB) kjs)
Project:	AP 20-06S-095W	MD Reference:	KELLY BUSHING @ 6935.00usft (Nabors 573 (26' RKB) kjs)
Site:	AP 21-20-695 Pad	North Reference:	True
Well:	AP 323-17-695	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2 29Aug13 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
0.00	0.00	0.00	0.00	0.00	0.00	1,623,303.25	2,288,333.78	39.51762	-108.02295
120.00	0.00	0.00	120.00	0.00	0.00	1,623,303.25	2,288,333.78	39.51762	-108.02295
Start Build 4.00									
500.00	15.20	352.05	495.56	49.63	-6.93	1,623,353.05	2,288,328.23	39.51775	-108.02297
606.81	19.47	352.05	597.49	81.14	-11.33	1,623,384.67	2,288,324.71	39.51784	-108.02299
Hold 19.47 Inclination									
1,000.00	19.47	352.05	968.19	210.95	-29.46	1,623,514.93	2,288,310.19	39.51820	-108.02305
1,101.00	19.47	352.05	1,063.42	244.30	-34.12	1,623,548.39	2,288,306.46	39.51829	-108.02307
9 5/8"									
1,500.00	19.47	352.05	1,439.59	376.03	-52.52	1,623,680.57	2,288,291.73	39.51865	-108.02313
2,000.00	19.47	352.05	1,911.00	541.10	-75.57	1,623,846.21	2,288,273.27	39.51910	-108.02322
2,500.00	19.47	352.05	2,382.40	706.17	-98.62	1,624,011.86	2,288,254.81	39.51956	-108.02330
3,000.00	19.47	352.05	2,853.80	871.24	-121.68	1,624,177.50	2,288,236.35	39.52001	-108.02338
3,500.00	19.47	352.05	3,325.20	1,036.32	-144.73	1,624,343.14	2,288,217.88	39.52046	-108.02346
3,987.69	19.47	352.05	3,785.00	1,197.33	-167.22	1,624,504.71	2,288,199.88	39.52090	-108.02354
Top of "G" Sand									
4,000.00	19.47	352.05	3,796.60	1,201.39	-167.79	1,624,508.79	2,288,199.42	39.52092	-108.02354
4,093.76	19.47	352.05	3,885.00	1,232.34	-172.11	1,624,539.85	2,288,195.96	39.52100	-108.02356
Base of "G" Sand									
4,500.00	19.47	352.05	4,268.00	1,366.46	-190.84	1,624,674.43	2,288,180.96	39.52137	-108.02362
5,000.00	19.47	352.05	4,739.41	1,531.54	-213.90	1,624,840.07	2,288,162.50	39.52182	-108.02371
5,500.00	19.47	352.05	5,210.81	1,696.61	-236.95	1,625,005.72	2,288,144.04	39.52228	-108.02379
6,000.00	19.47	352.05	5,682.21	1,861.68	-260.00	1,625,171.36	2,288,125.58	39.52273	-108.02387
6,342.37	19.47	352.05	6,005.00	1,974.71	-275.79	1,625,284.78	2,288,112.94	39.52304	-108.02393
Mesaverde									
6,500.00	19.47	352.05	6,153.61	2,026.75	-283.06	1,625,337.00	2,288,107.12	39.52318	-108.02395
6,782.57	19.47	352.05	6,420.02	2,120.05	-296.09	1,625,430.62	2,288,096.69	39.52344	-108.02400
Start Drop -2.00									
7,000.00	15.12	352.05	6,627.56	2,184.06	-305.03	1,625,494.85	2,288,089.53	39.52361	-108.02403
7,500.00	5.12	352.05	7,119.16	2,270.99	-317.17	1,625,582.08	2,288,079.81	39.52385	-108.02407
7,756.19	0.00	0.00	7,375.00	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
Vertical									
7,856.19	0.00	0.00	7,475.00	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
Top Gas - Approx. Top Gas									
8,000.00	0.00	0.00	7,618.81	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
8,500.00	0.00	0.00	8,118.81	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
9,000.00	0.00	0.00	8,618.81	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
9,096.19	0.00	0.00	8,715.00	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
Cameo Coals									
9,500.00	0.00	0.00	9,118.81	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
9,856.19	0.00	0.00	9,475.00	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
Rollins SS									
10,000.00	0.00	0.00	9,618.81	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
10,006.19	0.00	0.00	9,625.00	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
TD at 10006.19 - TD									



IBM Global Services
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well AP 323-17-695 - Slot A11
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6935.00usft (Nabors 573 (26' RKB) kjs)
Project:	AP 20-06S-095W	MD Reference:	KELLY BUSHING @ 6935.00usft (Nabors 573 (26' RKB) kjs)
Site:	AP 21-20-695 Pad	North Reference:	True
Well:	AP 323-17-695	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2 29Aug13 kjs		

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									
Top Gas (50' Radius) AF	0.00	0.00	7,475.00	2,282.33	-318.75	1,625,593.46	2,288,078.54	39.52388	-108.02408
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
1,101.00	1,063.42	9 5/8"		9.625	12.250

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(usft)	(usft)				(°)	(°)
3,987.69	3,785.00	Top of "G" Sand				
4,093.76	3,885.00	Base of "G" Sand				
6,342.37	6,005.00	Mesaverde				
7,856.19	7,475.00	Approx. Top Gas				
9,096.19	8,715.00	Cameo Coals				
9,856.19	9,475.00	Rollins SS				
10,006.19	9,625.00	TD				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)		
120.00	120.00	0.00	0.00	Start Build 4.00	
606.81	597.49	81.14	-11.33	Hold 19.47 Inclination	
6,782.57	6,420.02	2,120.05	-296.09	Start Drop -2.00	
7,756.19	7,375.00	2,282.33	-318.75	Vertical	
7,856.19	7,475.00	2,282.33	-318.75	Top Gas	
10,006.19	9,625.00	2,282.33	-318.75	TD at 10006.19	