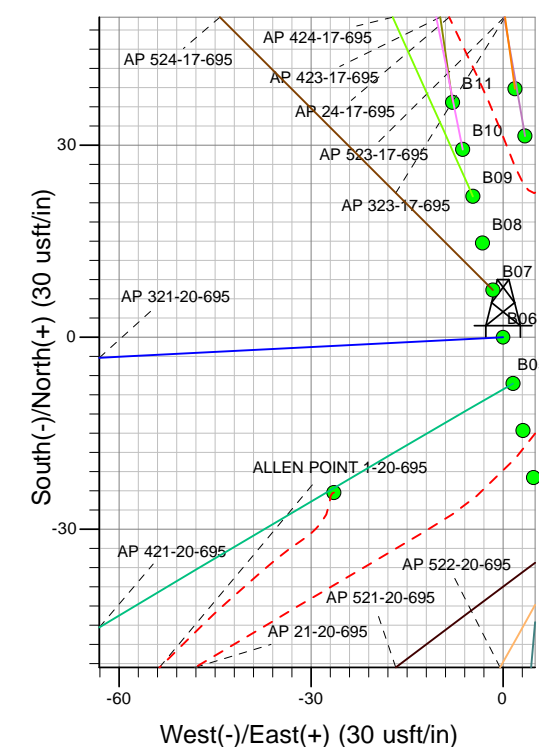
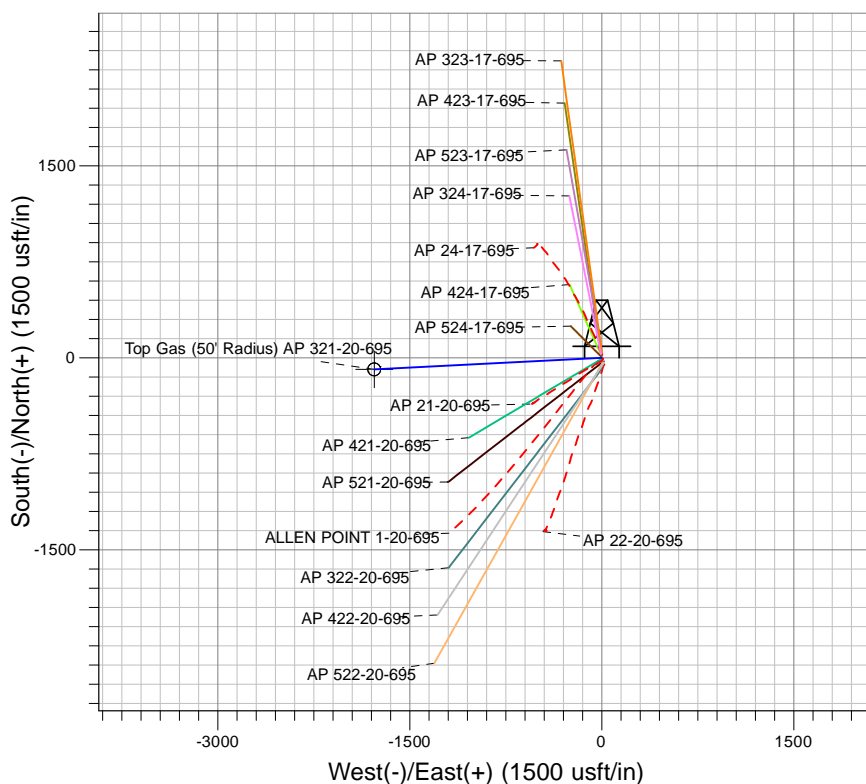
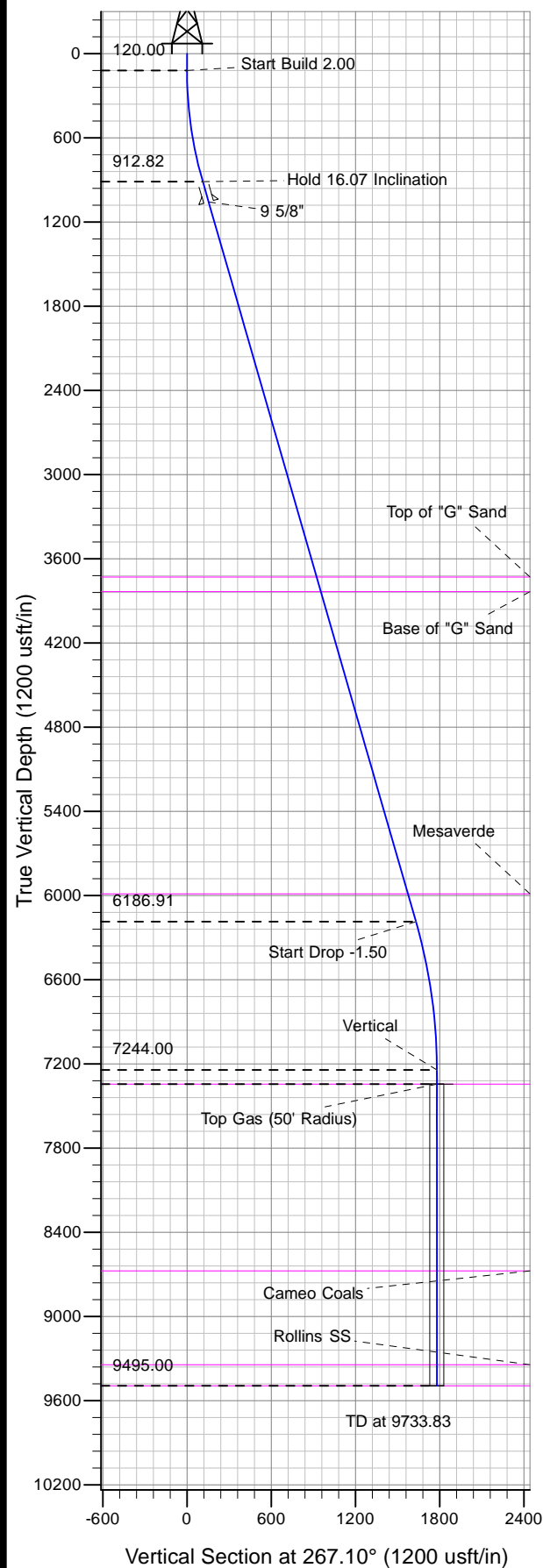




Well Name: AP 321-20-695
Surface Location: AP 21-20-695 Pad
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
Ground Elevation: 6909.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1623264.50	2288330.84	39.51751	-108.02295	B06

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



Project: AP 20-06S-095W
Site: AP 21-20-695 Pad
Well: AP 321-20-695
Plan 3 29Aug13 kjs

Azimuths to True North
Magnetic North: 10.46°
Magnetic Field
Strength: 52373.1snT
Dip Angle: 65.79°
Date: 7/16/2010
Model: IGRF2005-10

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation	
120.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00	
912.82	923.30	16.07	267.10	-5.65	-111.75	111.89	111.89	Hold 16.07 Inclination	
6186.91	6411.76	16.07	267.10	-82.40	-1628.71	1630.80	1630.80	Start Drop -1.50	
7244.00	7482.83	0.00	0.00	-89.94	-1777.71	1779.98	1779.98	Vertical	
7344.00	7582.83	0.00	0.00	-89.94	-1777.71	1779.98	1779.98	Top Gas	
9495.00	9733.83	0.00	0.00	-89.94	-1777.71	1779.98	1779.98	TD at 9733.83	



PICEANCE VLY NAD 83

AP 20-06S-095W

AP 21-20-695 Pad

AP 321-20-695 - Slot B06

Wellbore #1

Plan: Plan 3 29Aug13 kjs

Standard Planning Report - Geographic

28 October, 2013



IBM Global Services
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well AP 321-20-695 - Slot B06
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 321-20-695	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 3 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 321-20-695 - Slot B06			
Well Position	+N/-S	0.00 usft	Northing:	1,623,264.50 usft
	+E/-W	0.00 usft	Easting:	2,288,330.84 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	7/16/2010	10.46	65.79	52,373

Design	Plan 3 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	267.10

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	
923.30	16.07	267.10	912.82	-5.65	-111.75	2.00	2.00	0.00	267.10	
6,411.76	16.07	267.10	6,186.91	-82.40	-1,628.71	0.00	0.00	0.00	0.00	
7,482.83	0.00	0.00	7,244.00	-89.94	-1,777.71	1.50	-1.50	0.00	180.00	
7,582.83	0.00	0.00	7,344.00	-89.94	-1,777.71	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
9,733.83	0.00	0.00	9,495.00	-89.94	-1,777.71	0.00	0.00	0.00	0.00	

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well AP 321-20-695 - Slot B06
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 321-20-695	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 3 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	1,623,264.50	2,288,330.84	39.51751	-108.02295	
120.00	0.00	0.00	120.00	0.00	0.00	1,623,264.50	2,288,330.84	39.51751	-108.02295	
Start Build 2.00										
500.00	7.60	267.10	498.89	-1.27	-25.13	1,623,263.92	2,288,305.68	39.51751	-108.02304	
923.30	16.07	267.10	912.82	-5.65	-111.75	1,623,261.95	2,288,218.98	39.51750	-108.02335	
Hold 16.07 Inclination										
1,000.00	16.07	267.10	986.52	-6.73	-132.94	1,623,261.46	2,288,197.77	39.51749	-108.02343	
1,074.00	16.07	267.10	1,057.63	-7.76	-153.40	1,623,261.00	2,288,177.29	39.51749	-108.02350	
9 5/8"										
1,500.00	16.07	267.10	1,466.99	-13.72	-271.14	1,623,258.31	2,288,059.43	39.51747	-108.02392	
2,000.00	16.07	267.10	1,947.46	-20.71	-409.34	1,623,255.16	2,287,921.10	39.51745	-108.02441	
2,500.00	16.07	267.10	2,427.93	-27.70	-547.53	1,623,252.01	2,287,782.77	39.51744	-108.02490	
3,000.00	16.07	267.10	2,908.41	-34.69	-685.73	1,623,248.86	2,287,644.44	39.51742	-108.02539	
3,500.00	16.07	267.10	3,388.88	-41.68	-823.93	1,623,245.71	2,287,506.11	39.51740	-108.02588	
3,854.99	16.07	267.10	3,730.00	-46.65	-922.04	1,623,243.47	2,287,407.89	39.51738	-108.02622	
Top of "G" Sand										
3,963.22	16.07	267.10	3,834.00	-48.16	-951.96	1,623,242.79	2,287,377.95	39.51738	-108.02633	
Base of "G" Sand										
4,000.00	16.07	267.10	3,869.35	-48.68	-962.12	1,623,242.56	2,287,367.77	39.51738	-108.02636	
4,500.00	16.07	267.10	4,349.82	-55.67	-1,100.32	1,623,239.41	2,287,229.44	39.51736	-108.02685	
5,000.00	16.07	267.10	4,830.29	-62.66	-1,238.52	1,623,236.25	2,287,091.11	39.51734	-108.02734	
5,500.00	16.07	267.10	5,310.76	-69.65	-1,376.71	1,623,233.10	2,286,952.78	39.51732	-108.02783	
6,000.00	16.07	267.10	5,791.23	-76.64	-1,514.91	1,623,229.95	2,286,814.45	39.51730	-108.02832	
6,204.76	16.07	267.10	5,988.00	-79.51	-1,571.50	1,623,228.66	2,286,757.80	39.51729	-108.02852	
Mesaverde										
6,411.76	16.07	267.10	6,186.91	-82.40	-1,628.71	1,623,227.36	2,286,700.53	39.51728	-108.02873	
Start Drop -1.50										
6,500.00	14.74	267.10	6,271.98	-83.58	-1,652.12	1,623,226.82	2,286,677.10	39.51728	-108.02881	
7,000.00	7.24	267.10	6,762.46	-88.40	-1,747.27	1,623,224.65	2,286,581.85	39.51727	-108.02915	
7,482.83	0.00	0.00	7,244.00	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
Vertical										
7,500.00	0.00	0.00	7,261.17	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
7,582.83	0.00	0.00	7,344.00	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
Top Gas - Approx. Top Gas										
8,000.00	0.00	0.00	7,761.17	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
8,500.00	0.00	0.00	8,261.17	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
8,913.83	0.00	0.00	8,675.00	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
Cameo Coals										
9,000.00	0.00	0.00	8,761.17	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
9,500.00	0.00	0.00	9,261.17	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
9,583.83	0.00	0.00	9,345.00	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
Rollins SS										
9,733.83	0.00	0.00	9,495.00	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926	
TD at 9733.83 - TD										



Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well AP 321-20-695 - Slot B06
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 321-20-695	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 3 29Aug13 kjs		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Top Gas (50' Radius) AF	0.00	0.00	7,344.00	-89.94	-1,777.71	1,623,223.96	2,286,551.39	39.51726	-108.02926
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(in)	(in)
	1,074.00	1,057.63	9 5/8"	9.625	12.250

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(usft)	(usft)	Name	Lithology	(°)	(°)
	3,854.99	3,730.00	Top of "G" Sand			
	3,963.22	3,834.00	Base of "G" Sand			
	6,204.76	5,988.00	Mesaverde			
	7,582.83	7,344.00	Approx. Top Gas			
	8,913.83	8,675.00	Cameo Coals			
	9,583.83	9,345.00	Rollins SS			
	9,733.83	9,495.00	TD			

Plan Annotations					
	Measured Depth	Vertical Depth	Local Coordinates		
	(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	Comment
	120.00	120.00	0.00	0.00	Start Build 2.00
	923.30	912.82	-5.65	-111.75	Hold 16.07 Inclination
	6,411.76	6,186.91	-82.40	-1,628.71	Start Drop -1.50
	7,482.83	7,244.00	-89.94	-1,777.71	Vertical
	7,582.83	7,344.00	-89.94	-1,777.71	Top Gas
	9,733.83	9,495.00	-89.94	-1,777.71	TD at 9733.83