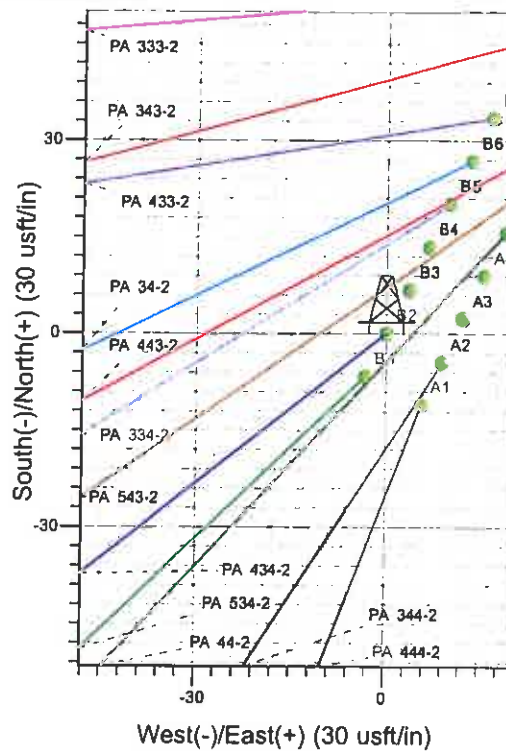
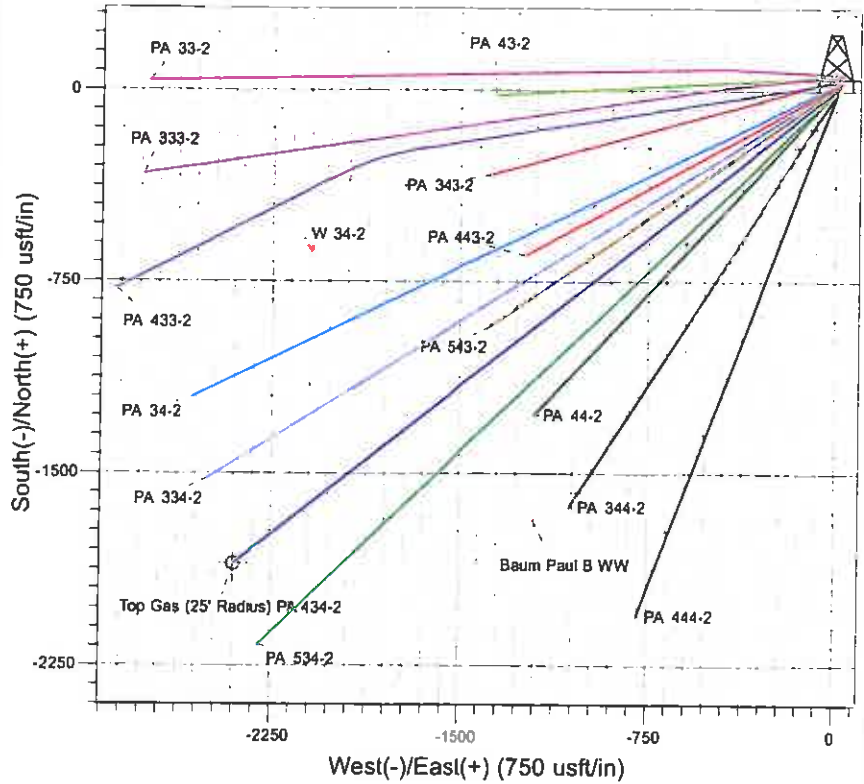
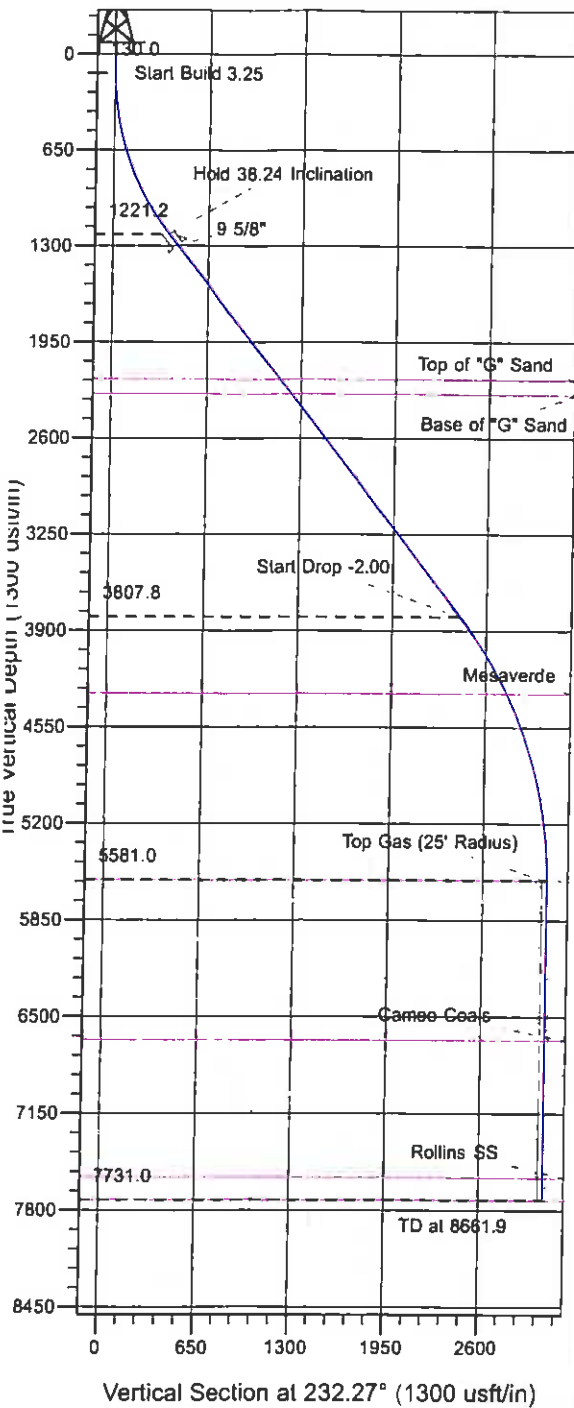




Surface Location: GV 84-1 Pad - West Cellar
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 6027.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1603952.30 2307240.00 39° 27' 57.353 N 107° 57' 14.763 W B2
 WELL @ 6051.0usft (Original Well Elev)



Project PA 01-07S-095W
 Site GV 84-1 Pad - West Cellar
 Well PA 434-2
 Design #1 22Mar11 kjs

Azimuths to True North
 Magnetic North: 10.36°
 Magnetic Field
 Strength: 52262.3snT
 Dip Angle: 65.73°
 Date: 3/22/2011
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	V	Sed	Departure	Annotation
130.0	130.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	Start Build 3.25
1221.2	1306.6	38.24	232.27	-231.5	-299.2	378.3	378.3	0.0	Hold 38.24 Inclination
3807.8	4599.9	38.24	232.27	-1478.9	-1911.4	2416.7	2416.7	0.0	Start Drop -2.00
5581.0	6511.9	0.00	0.00	-1855.0	-2397.6	3031.4	3031.4	0.0	Top Gas
7731.0	8661.9	0.00	0.00	-1855.0	-2397.6	3031.4	3031.4	0.0	TD at 8661.9

PICEANCE VLY NAD 83

PA 01-07S-095W

GV 84-1 Pad - West Cellar

PA 434-2 - Slot B2

Wellbore #1

Plan: Design #1 22Mar11 kjs

Standard Planning Report - Geographic

16 May, 2011

Williams
Planning Report - Geographic

Database: Compass R5000 WIN AUTH
Company: PICEANCE VLY NAD 83
Project: PA 01-07S-095W
Site: GV 84-1 Pad - West Cellar
Well: PA 434-2
Wellbore: Wellbore #1
Design: Design #1 22Mar11 kjs

Local Co-ordinate Reference: Well PA 434-2 - Slot B2
TVD Reference: WELL @ 6051.0usft (Original Well Elev)
MD Reference: WELL @ 6051.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project PA 01-07S-095W, 01-07S-095W

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: Colorado Central Zone

System Datum: Mean Sea Level
Using geodetic scale factor

Site GV 84-1 Pad - West Cellar

Site Position:
From: Map
Position Uncertainty: 0.0 usft

Northing: 1,603,932.89 usft
Easting: 2,307,221.63 usft
Slot Radius: 13.200 in

Latitude: 39° 27' 57.156 N
Longitude: 107° 57' 14.990 W
Grid Convergence: -1.548 °

Well PA 434-2 - Slot B2

Well Position +N/-S 0.0 usft
+E/-W 0.0 usft
Position Uncertainty 0.0 usft

Northing: 1,603,952.30 usft
Easting: 2,307,240.00 usft
Wellhead Elevation:

Latitude: 39° 27' 57.353 N
Longitude: 107° 57' 14.763 W
Ground Level: 6,027.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/22/2011	10.360	65.729	52,262

Design Design #1 22Mar11 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	232.27

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	
130.0	0.00	0.00	130.0	0.0	0.0	0.00	0.00	0.00	0.000	
1,306.6	38.24	232.27	1,221.2	-231.5	-299.2	3.25	3.25	0.00	232.271	
4,599.9	38.24	232.27	3,807.8	-1,478.9	-1,911.4	0.00	0.00	0.00	0.000	
6,511.9	0.00	0.00	5,581.0	-1,855.0	-2,397.6	2.00	-2.00	0.00	180.000	Top Gas (25' Radius)
8,661.9	0.00	0.00	7,731.0	-1,855.0	-2,397.6	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database: Compass R5000 WIN AUTH
Company: PICEANCE VLY NAD 83
Project: PA 01-07S-095W
Site: GV 84-1 Pad - West Cellar
Well: PA 434-2
Wellbore: Wellbore #1
Design: Design #1 22Mar11 kjs

Local Co-ordinate Reference: Well PA 434-2 - Slot B2
TVD Reference: WELL @ 6051.0usft (Original Well Elev)
MD Reference: WELL @ 6051.0usft (Original Well Elev)
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	1,603,952.30	2,307,240.00	39° 27' 57.353 N	107° 57' 14.763 W
130.0	0.00	0.00	130.0	0.0	0.0	1,603,952.30	2,307,240.00	39° 27' 57.353 N	107° 57' 14.763 W
Start Build 3.25									
1,306.6	38.24	232.27	1,221.2	-231.5	-299.2	1,603,728.99	2,306,934.68	39° 27' 55.065 N	107° 57' 18.578 W
Hold 38.24 Inclination									
1,407.0	38.24	232.27	1,300.0	-269.5	-348.3	1,603,692.31	2,306,884.53	39° 27' 54.689 N	107° 57' 19.204 W
9 5/8"									
2,560.5	38.24	232.27	2,206.0	-706.4	-913.0	1,603,270.85	2,306,308.29	39° 27' 50.371 N	107° 57' 26.404 W
Top of "G" Sand									
2,687.8	38.24	232.27	2,306.0	-754.6	-975.3	1,603,224.33	2,306,244.68	39° 27' 49.895 N	107° 57' 27.199 W
Base of "G" Sand									
4,599.9	38.24	232.27	3,807.8	-1,478.9	-1,911.4	1,602,525.68	2,305,289.45	39° 27' 42.736 N	107° 57' 39.133 W
Start Drop -2.00									
5,212.8	25.98	232.27	4,326.0	-1,677.8	-2,168.6	1,602,333.71	2,305,026.98	39° 27' 40.769 N	107° 57' 42.413 W
Mesaverde									
6,511.9	0.00	0.00	5,581.0	-1,855.0	-2,397.6	1,602,162.80	2,304,793.30	39° 27' 39.018 N	107° 57' 45.332 W
Top Gas - Approx. Top Gas									
7,586.9	0.00	0.00	6,656.0	-1,855.0	-2,397.6	1,602,162.80	2,304,793.30	39° 27' 39.018 N	107° 57' 45.332 W
Cameo Coals									
8,511.9	0.00	0.00	7,581.0	-1,855.0	-2,397.6	1,602,162.80	2,304,793.30	39° 27' 39.018 N	107° 57' 45.332 W
Rollins SS									
8,661.9	0.00	0.00	7,731.0	-1,855.0	-2,397.6	1,602,162.80	2,304,793.30	39° 27' 39.018 N	107° 57' 45.332 W
TD at 8661.9 - TD									

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
Top Gas (25' Radius) P/ - plan hits target center - Circle (radius 25.0)	0.00	0.00	5,581.0	-1,855.0	-2,397.6	1,602,162.80	2,304,793.30	39° 27' 39.018 N	107° 57' 45.332 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,407.0	1,300.0	9 5/8"	9.625	12.250

Williams
Planning Report - Geographic

Database: Compass R5000 WIN AUTH
Company: PICEANCE VLY NAD 83
Project: PA 01-07S-095W
Site: GV 84-1 Pad - West Cellar
Well: PA 434-2
Wellbore: Wellbore #1
Design: Design #1 22Mar11 kjs

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well PA 434-2 - Slot B2
 WELL @ 6051.0usft (Original Well Elev)
 WELL @ 6051.0usft (Original Well Elev)
 True
 Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,560.5	2,206.0	Top of "G" Sand			
2,687.8	2,306.0	Base of "G" Sand			
5,212.8	4,326.0	Mesaverde			
6,511.9	5,581.0	Approx Top Gas			
7,586.9	6,656.0	Cameo Coals			
8,511.9	7,581.0	Rollins SS			
8,661.9	7,731.0	TD			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
130.0	130.0	0.0	0.0	Start Build 3.25
1,306.6	1,221.2	-231.5	-299.2	Hold 38.24 Inclination
4,599.9	3,807.8	-1,478.9	-1,911.4	Start Drop -2.00
6,511.9	5,581.0	-1,855.0	-2,397.6	Top Gas
8,661.9	7,731.0	-1,855.0	-2,397.6	TD at 8661.9