



Piceance Energy, LLC

**Mesa County, CO
Gunderson
Gunderson 29-08E**

Wellbore #1

Plan: Design #1

Standard Planning Report

03 October, 2014

Archer



Project: Mesa County, CO
Site: Gunderson
Well: Gunderson 29-08E
Wellbore: Wellbore #1
Design: Design #1
Latitude: 39.248837
Longitude: -107.787835
Ground Level: 7536.00
WELL @ 7560.00usft (Original Well Elev)

Archer

PROJECT DETAILS: Mesa County, CO

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone
System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Gunderson 29-08E, True North
Vertical (TVD) Reference: WELL @ 7560.00usft (Original Well Elev)
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: WELL @ 7560.00usft (Original Well Elev)
Calculation Method: Minimum Curvature

WELL DETAILS: Gunderson 29-08E

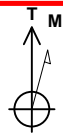
+N/-S	+E/-W	North	Ground Level	Latitude	Longitude	Slot
0.00	0.00	1523681.143	7536.00	39.248837	-107.787835	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	North	Easting	Latitude	Longitude	Shape
Gunderson 29-08E tgt	7680.00	500.24	298.17	1524173.721	2352483.980	39.250211	-107.786782	Circle (Radius: 50.00)

SECTION DETAILS

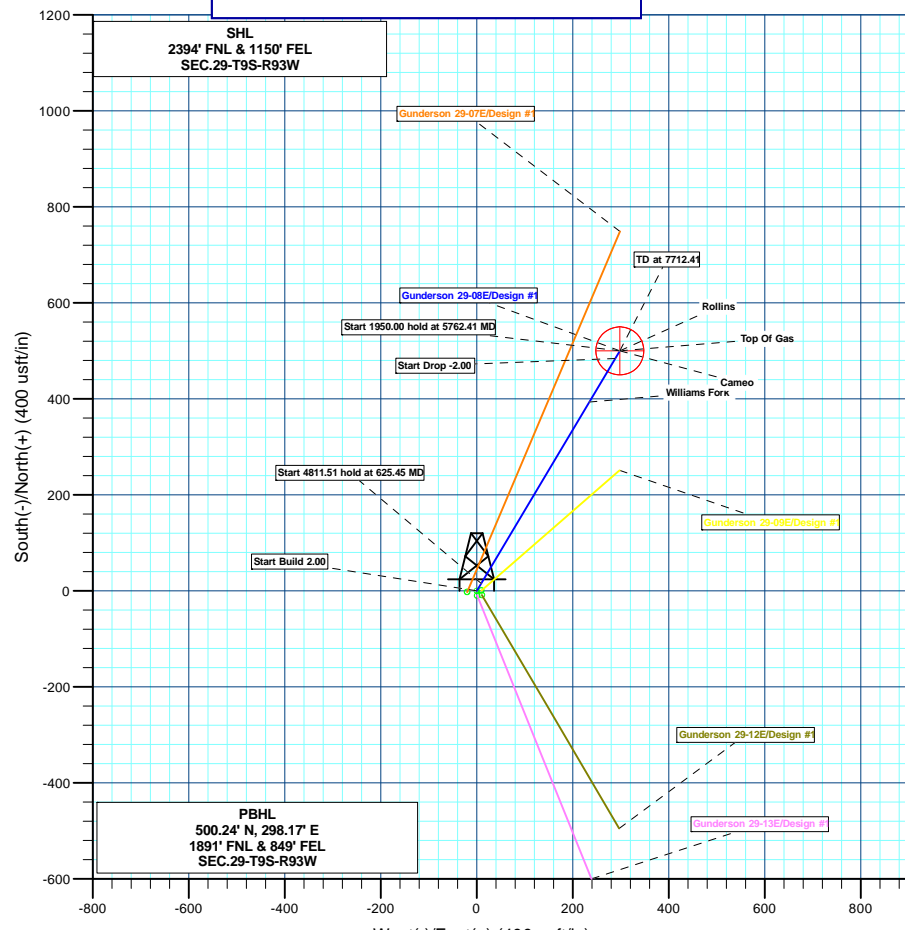
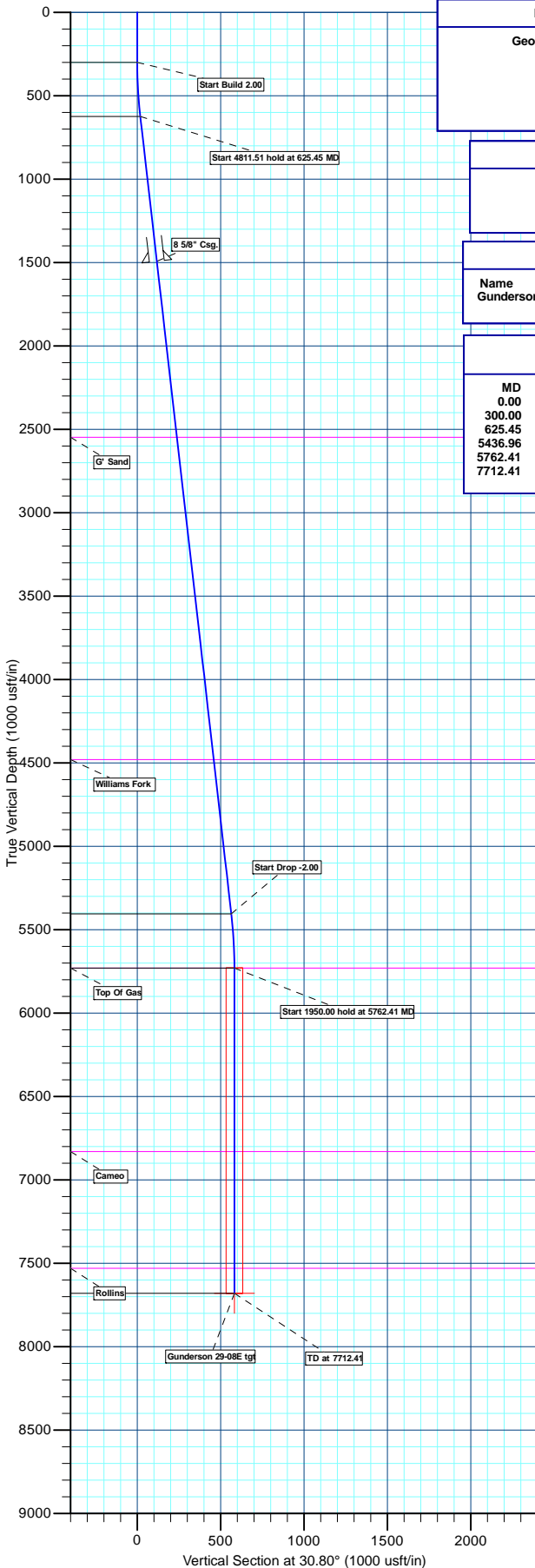
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	Start 4811.51 hold at 625.45 MD
625.45	6.51	30.80	624.75	15.86	9.45	2.00	30.80	18.47	Start 4811.51 hold at 625.45 MD
5436.96	6.51	30.80	5405.25	484.38	288.71	0.00	0.00	563.90	Start Drop -2.00
5762.41	0.00	0.00	5730.00	500.24	298.17	2.00	180.00	582.36	Start 1950.00 hold at 5762.41 MD
7712.41	0.00	0.00	7680.00	500.24	298.17	0.00	0.00	582.36	TD at 7712.41



Azimuths to True North
Magnetic North: 9.80°
Magnetic Field
Strength: 51797.5snT
Dip Angle: 65.48°
Date: 09/30/2014
Model: IGRF2010

FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
2548.00	2561.18	G' Sand
4480.00	4505.71	Williams Fork
5730.00	5762.41	Top Of Gas
6830.00	6862.41	Cameo
7530.00	7562.41	Rollins



Plan: Design #1 (Gunderson 29-08E/Wellbore #1)

Created By: Ricky Osburn Date: 6:49, October 03 2014



Database:	EDMDBBW	Local Co-ordinate Reference:	Well Gunderson 29-08E
Company:	Piceance Energy, LLC	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Project:	Mesa County, CO	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site:	Gunderson	North Reference:	True
Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Mesa County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		Gunderson			
Site Position:		Northing:	1,523,671.416 usft	Latitude:	39.248803
From:	Lat/Long	Easting:	2,352,063.747 usft	Longitude:	-107.788221
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	-1.44 °

Well	Gunderson 29-08E					
Well Position	+N/-S	12.48 usft	Northing:	1,523,681.143 usft	Latitude:	39.248837
	+E/-W	109.28 usft	Easting:	2,352,173.311 usft	Longitude:	-107.787835
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	7,536.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	09/30/14	9.80	65.48	51,797

Design	Design #1			
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	30.80

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
625.45	6.51	30.80	624.75	15.86	9.45	2.00	2.00	0.00	30.80	
5,436.96	6.51	30.80	5,405.25	484.38	288.71	0.00	0.00	0.00	0.00	
5,762.41	0.00	0.00	5,730.00	500.24	298.17	2.00	-2.00	0.00	180.00	
7,712.41	0.00	0.00	7,680.00	500.24	298.17	0.00	0.00	0.00	0.00	Gunderson 29-08E tg



Database:	EDMDBBW	Local Co-ordinate Reference:	Well Gunderson 29-08E
Company:	Piceance Energy, LLC	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Project:	Mesa County, CO	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site:	Gunderson	North Reference:	True
Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	30.80	399.98	1.50	0.89	1.75	2.00	2.00	0.00
500.00	4.00	30.80	499.84	5.99	3.57	6.98	2.00	2.00	0.00
600.00	6.00	30.80	599.45	13.48	8.04	15.69	2.00	2.00	0.00
Start 4811.51 hold at 625.45 MD									
625.45	6.51	30.80	624.75	15.86	9.45	18.47	2.00	2.00	0.00
700.00	6.51	30.80	698.82	23.12	13.78	26.92	0.00	0.00	0.00
800.00	6.51	30.80	798.18	32.86	19.59	38.25	0.00	0.00	0.00
900.00	6.51	30.80	897.53	42.60	25.39	49.59	0.00	0.00	0.00
1,000.00	6.51	30.80	996.89	52.33	31.19	60.93	0.00	0.00	0.00
1,100.00	6.51	30.80	1,096.24	62.07	37.00	72.26	0.00	0.00	0.00
1,200.00	6.51	30.80	1,195.60	71.81	42.80	83.60	0.00	0.00	0.00
1,300.00	6.51	30.80	1,294.95	81.55	48.61	94.93	0.00	0.00	0.00
1,400.00	6.51	30.80	1,394.31	91.28	54.41	106.27	0.00	0.00	0.00
8 5/8" Csg.									
1,500.00	6.51	30.80	1,493.66	101.02	60.21	117.61	0.00	0.00	0.00
1,600.00	6.51	30.80	1,593.02	110.76	66.02	128.94	0.00	0.00	0.00
1,700.00	6.51	30.80	1,692.37	120.50	71.82	140.28	0.00	0.00	0.00
1,800.00	6.51	30.80	1,791.73	130.23	77.63	151.61	0.00	0.00	0.00
1,900.00	6.51	30.80	1,891.08	139.97	83.43	162.95	0.00	0.00	0.00
2,000.00	6.51	30.80	1,990.44	149.71	89.23	174.29	0.00	0.00	0.00
2,100.00	6.51	30.80	2,089.80	159.45	95.04	185.62	0.00	0.00	0.00
2,200.00	6.51	30.80	2,189.15	169.18	100.84	196.96	0.00	0.00	0.00
2,300.00	6.51	30.80	2,288.51	178.92	106.64	208.29	0.00	0.00	0.00
2,400.00	6.51	30.80	2,387.86	188.66	112.45	219.63	0.00	0.00	0.00
2,500.00	6.51	30.80	2,487.22	198.40	118.25	230.96	0.00	0.00	0.00
G' Sand									
2,561.18	6.51	30.80	2,548.00	204.35	121.80	237.90	0.00	0.00	0.00
2,600.00	6.51	30.80	2,586.57	208.13	124.06	242.30	0.00	0.00	0.00
2,700.00	6.51	30.80	2,685.93	217.87	129.86	253.64	0.00	0.00	0.00
2,800.00	6.51	30.80	2,785.28	227.61	135.66	264.97	0.00	0.00	0.00
2,900.00	6.51	30.80	2,884.64	237.35	141.47	276.31	0.00	0.00	0.00
3,000.00	6.51	30.80	2,983.99	247.08	147.27	287.64	0.00	0.00	0.00
3,100.00	6.51	30.80	3,083.35	256.82	153.08	298.98	0.00	0.00	0.00
3,200.00	6.51	30.80	3,182.70	266.56	158.88	310.32	0.00	0.00	0.00
3,300.00	6.51	30.80	3,282.06	276.30	164.68	321.65	0.00	0.00	0.00
3,400.00	6.51	30.80	3,381.42	286.03	170.49	332.99	0.00	0.00	0.00
3,500.00	6.51	30.80	3,480.77	295.77	176.29	344.32	0.00	0.00	0.00
3,600.00	6.51	30.80	3,580.13	305.51	182.10	355.66	0.00	0.00	0.00
3,700.00	6.51	30.80	3,679.48	315.25	187.90	367.00	0.00	0.00	0.00
3,800.00	6.51	30.80	3,778.84	324.98	193.70	378.33	0.00	0.00	0.00
3,900.00	6.51	30.80	3,878.19	334.72	199.51	389.67	0.00	0.00	0.00
4,000.00	6.51	30.80	3,977.55	344.46	205.31	401.00	0.00	0.00	0.00
4,100.00	6.51	30.80	4,076.90	354.20	211.12	412.34	0.00	0.00	0.00
4,200.00	6.51	30.80	4,176.26	363.93	216.92	423.68	0.00	0.00	0.00
4,300.00	6.51	30.80	4,275.61	373.67	222.72	435.01	0.00	0.00	0.00
4,400.00	6.51	30.80	4,374.97	383.41	228.53	446.35	0.00	0.00	0.00
4,500.00	6.51	30.80	4,474.33	393.15	234.33	457.68	0.00	0.00	0.00
Williams Fork									
4,505.71	6.51	30.80	4,480.00	393.70	234.66	458.33	0.00	0.00	0.00



Database:	EDMDBBW	Local Co-ordinate Reference:	Well Gunderson 29-08E
Company:	Piceance Energy, LLC	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Project:	Mesa County, CO	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site:	Gunderson	North Reference:	True
Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.00	6.51	30.80	4,573.68	402.88	240.14	469.02	0.00	0.00	0.00
4,700.00	6.51	30.80	4,673.04	412.62	245.94	480.36	0.00	0.00	0.00
4,800.00	6.51	30.80	4,772.39	422.36	251.74	491.69	0.00	0.00	0.00
4,900.00	6.51	30.80	4,871.75	432.10	257.55	503.03	0.00	0.00	0.00
5,000.00	6.51	30.80	4,971.10	441.83	263.35	514.36	0.00	0.00	0.00
5,100.00	6.51	30.80	5,070.46	451.57	269.16	525.70	0.00	0.00	0.00
5,200.00	6.51	30.80	5,169.81	461.31	274.96	537.04	0.00	0.00	0.00
5,300.00	6.51	30.80	5,269.17	471.05	280.76	548.37	0.00	0.00	0.00
5,400.00	6.51	30.80	5,368.52	480.78	286.57	559.71	0.00	0.00	0.00
Start Drop -2.00									
5,436.96	6.51	30.80	5,405.25	484.38	288.71	563.90	0.00	0.00	0.00
5,500.00	5.25	30.80	5,467.95	489.93	292.02	570.35	2.00	-2.00	0.00
5,600.00	3.25	30.80	5,567.67	496.29	295.81	577.76	2.00	-2.00	0.00
5,700.00	1.25	30.80	5,667.59	499.66	297.82	581.69	2.00	-2.00	0.00
Start 1950.00 hold at 5762.41 MD - Top Of Gas									
5,762.41	0.00	0.00	5,730.00	500.24	298.17	582.36	2.00	-2.00	0.00
5,800.00	0.00	0.00	5,767.59	500.24	298.17	582.36	0.00	0.00	0.00
5,900.00	0.00	0.00	5,867.59	500.24	298.17	582.36	0.00	0.00	0.00
6,000.00	0.00	0.00	5,967.59	500.24	298.17	582.36	0.00	0.00	0.00
6,100.00	0.00	0.00	6,067.59	500.24	298.17	582.36	0.00	0.00	0.00
6,200.00	0.00	0.00	6,167.59	500.24	298.17	582.36	0.00	0.00	0.00
6,300.00	0.00	0.00	6,267.59	500.24	298.17	582.36	0.00	0.00	0.00
6,400.00	0.00	0.00	6,367.59	500.24	298.17	582.36	0.00	0.00	0.00
6,500.00	0.00	0.00	6,467.59	500.24	298.17	582.36	0.00	0.00	0.00
6,600.00	0.00	0.00	6,567.59	500.24	298.17	582.36	0.00	0.00	0.00
6,700.00	0.00	0.00	6,667.59	500.24	298.17	582.36	0.00	0.00	0.00
6,800.00	0.00	0.00	6,767.59	500.24	298.17	582.36	0.00	0.00	0.00
Cameo									
6,862.41	0.00	0.00	6,830.00	500.24	298.17	582.36	0.00	0.00	0.00
6,900.00	0.00	0.00	6,867.59	500.24	298.17	582.36	0.00	0.00	0.00
7,000.00	0.00	0.00	6,967.59	500.24	298.17	582.36	0.00	0.00	0.00
7,100.00	0.00	0.00	7,067.59	500.24	298.17	582.36	0.00	0.00	0.00
7,200.00	0.00	0.00	7,167.59	500.24	298.17	582.36	0.00	0.00	0.00
7,300.00	0.00	0.00	7,267.59	500.24	298.17	582.36	0.00	0.00	0.00
7,400.00	0.00	0.00	7,367.59	500.24	298.17	582.36	0.00	0.00	0.00
7,500.00	0.00	0.00	7,467.59	500.24	298.17	582.36	0.00	0.00	0.00
Rollins									
7,562.41	0.00	0.00	7,530.00	500.24	298.17	582.36	0.00	0.00	0.00
7,600.00	0.00	0.00	7,567.59	500.24	298.17	582.36	0.00	0.00	0.00
7,700.00	0.00	0.00	7,667.59	500.24	298.17	582.36	0.00	0.00	0.00
TD at 7712.41									
7,712.41	0.00	0.00	7,680.00	500.24	298.17	582.36	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Gunderson 29-08E tgt	0.00	0.00	7,680.00	500.24	298.17	1,524,173.721	2,352,483.980	39.250211	-107.786782
- plan hits target center									
- Circle (radius 50.00)									



Database:	EDMDBBW	Local Co-ordinate Reference:	Well Gunderson 29-08E
Company:	Piceance Energy, LLC	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Project:	Mesa County, CO	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site:	Gunderson	North Reference:	True
Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,500.00	1,493.66	8 5/8" Csg.	8-5/8	12-1/4	

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,561.18	2,548.00	G' Sand		0.00	
4,505.71	4,480.00	Williams Fork		0.00	
5,762.41	5,730.00	Top Of Gas		0.00	
6,862.41	6,830.00	Cameo		0.00	
7,562.41	7,530.00	Rollins		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
625.45	624.75	15.86	9.45	Start 4811.51 hold at 625.45 MD	
5,436.96	5,405.25	484.38	288.71	Start Drop -2.00	
5,762.41	5,730.00	500.24	298.17	Start 1950.00 hold at 5762.41 MD	
7,712.41	7,680.00	500.24	298.17	TD at 7712.41	

Archer

Piceance Energy, LLC

Mesa County, CO

Gunderson

Gunderson 29-08E

Wellbore #1

Design #1

Anticollision Report

03 October, 2014

Archer

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 30.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	10/03/14		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	7,712.41	Design #1 (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
	Depth	Depth	Centres	Ellipses		
Offset Well - Wellbore - Design		(usft)	(usft)	(usft)	Factor	
Gunderson						
Gunderson 29-07E - Wellbore #1 - Design #1		436.43	436.92	18.14	16.44	10.687 CC
Gunderson 29-07E - Wellbore #1 - Design #1		480.00	480.50	18.25	16.34	9.580 ES
Gunderson 29-07E - Wellbore #1 - Design #1		7,712.41	7,743.26	248.76	212.04	6.776 SF
Gunderson 29-09E - Wellbore #1 - Design #1		486.35	486.22	7.96	6.05	4.171 CC, ES
Gunderson 29-09E - Wellbore #1 - Design #1		510.00	509.81	8.13	6.11	4.027 SF
Gunderson 29-12E - Wellbore #1 - Design #1		300.00	300.00	14.13	13.06	13.207 CC, ES
Gunderson 29-12E - Wellbore #1 - Design #1		420.00	419.30	17.13	15.55	10.819 SF
Gunderson 29-13E - Wellbore #1 - Design #1		300.00	300.00	10.01	8.94	9.357 CC
Gunderson 29-13E - Wellbore #1 - Design #1		330.00	330.00	10.14	8.93	8.410 ES
Gunderson 29-13E - Wellbore #1 - Design #1		420.00	419.96	12.10	10.49	7.499 SF

Offset Design	Gunderson - Gunderson 29-07E - Wellbore #1 - Design #1												Offset Site Error:	0.00 usft
Survey Program:	0-MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-96.49	-2.26	-19.85	19.98					
30.00	30.00	30.00	30.00	0.01	0.03	-96.49	-2.26	-19.85	19.98	19.95	0.03	617.300		
60.00	60.00	60.00	60.00	0.04	0.05	-96.49	-2.26	-19.85	19.98	19.89	0.09	217.870		
90.00	90.00	90.00	90.00	0.07	0.08	-96.49	-2.26	-19.85	19.98	19.83	0.15	132.279		
120.00	120.00	120.00	120.00	0.13	0.13	-96.49	-2.26	-19.85	19.98	19.72	0.26	76.630		
150.00	150.00	150.00	150.00	0.20	0.20	-96.49	-2.26	-19.85	19.98	19.58	0.40	50.506		
180.00	180.00	180.00	180.00	0.27	0.27	-96.49	-2.26	-19.85	19.98	19.45	0.53	37.666		
210.00	210.00	210.03	210.03	0.33	0.33	-96.45	-2.24	-19.84	19.97	19.31	0.67	30.013		
240.00	240.00	240.14	240.13	0.40	0.40	-95.78	-2.00	-19.74	19.84	19.04	0.80	24.781		
270.00	270.00	270.23	270.22	0.47	0.47	-94.29	-1.47	-19.52	19.57	18.64	0.94	20.908		
300.00	300.00	300.30	300.28	0.53	0.54	-91.92	-0.64	-19.17	19.18	18.11	1.07	17.901		
330.00	330.00	330.36	330.32	0.60	0.61	-88.97	0.47	-18.69	18.78	17.58	1.21	15.573		
360.00	360.00	360.41	360.33	0.67	0.68	-85.85	1.88	-18.10	18.47	17.13	1.34	13.766		
390.00	389.99	390.45	390.31	0.74	0.75	-82.59	3.57	-17.38	18.26	16.78	1.48	12.359		
420.00	419.96	420.48	420.26	0.81	0.82	-79.23	5.55	-16.54	18.15	16.53	1.62	11.215		
436.43	436.38	436.92	436.65	0.84	0.86	-77.36	6.76	-16.03	18.14	16.44	1.70	10.687	CC	
450.00	449.93	450.49	450.17	0.88	0.90	-75.81	7.82	-15.58	18.15	16.39	1.76	10.301		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-07E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
480.00	479.88	480.50	480.05	0.95	0.97	-72.39	10.38	-14.50	18.25	16.34	1.90	9.580	ES	
510.00	509.81	510.49	509.88	1.02	1.04	-69.01	13.22	-13.29	18.46	16.40	2.05	8.988		
540.00	539.72	540.47	539.67	1.09	1.13	-65.72	16.35	-11.97	18.77	16.56	2.21	8.489		
570.00	569.60	570.44	569.41	1.16	1.21	-62.56	19.76	-10.52	19.19	16.82	2.37	8.101		
600.00	599.45	600.39	599.09	1.23	1.30	-59.56	23.46	-8.95	19.71	17.18	2.53	7.796		
630.00	629.27	630.34	628.72	1.31	1.39	-56.74	27.45	-7.27	20.32	17.62	2.70	7.529		
660.00	659.08	660.27	658.29	1.39	1.49	-53.58	31.71	-5.46	21.04	18.17	2.87	7.329		
690.00	688.88	690.23	687.87	1.47	1.58	-50.31	36.09	-3.60	21.86	18.81	3.05	7.175		
720.00	718.69	720.19	717.46	1.55	1.68	-47.29	40.48	-1.75	22.75	19.52	3.22	7.058		
750.00	748.50	750.16	747.04	1.64	1.79	-44.50	44.86	0.11	23.69	20.30	3.40	6.974		
780.00	778.30	780.12	776.62	1.72	1.89	-41.93	49.24	1.97	24.69	21.12	3.57	6.917		
810.00	808.11	810.08	806.21	1.81	1.99	-39.56	53.62	3.82	25.74	21.99	3.74	6.879		
840.00	837.92	840.05	835.79	1.89	2.09	-37.37	58.00	5.68	26.82	22.91	3.91	6.856		
870.00	867.72	870.01	865.37	1.98	2.20	-35.36	62.38	7.53	27.94	23.86	4.08	6.847		
900.00	897.53	899.97	894.95	2.07	2.30	-33.50	66.77	9.39	29.10	24.85	4.25	6.850		
930.00	927.34	929.94	924.54	2.15	2.41	-31.79	71.15	11.25	30.28	25.87	4.41	6.859		
960.00	957.14	959.90	954.12	2.24	2.51	-30.20	75.53	13.10	31.49	26.91	4.58	6.875		
990.00	986.95	989.86	983.70	2.33	2.62	-28.73	79.91	14.96	32.72	27.98	4.74	6.897		
1,020.00	1,016.76	1,019.83	1,013.29	2.41	2.72	-27.37	84.29	16.82	33.97	29.06	4.91	6.922		
1,050.00	1,046.56	1,049.79	1,042.87	2.50	2.83	-26.11	88.67	18.67	35.24	30.17	5.07	6.950		
1,080.00	1,076.37	1,079.75	1,072.45	2.59	2.94	-24.93	93.06	20.53	36.53	31.29	5.23	6.981		
1,110.00	1,106.18	1,109.72	1,102.04	2.68	3.04	-23.83	97.44	22.38	37.83	32.43	5.39	7.014		
1,140.00	1,135.98	1,139.68	1,131.62	2.77	3.15	-22.81	101.82	24.24	39.14	33.58	5.55	7.047		
1,170.00	1,165.79	1,169.64	1,161.20	2.86	3.26	-21.85	106.20	26.10	40.46	34.75	5.71	7.081		
1,200.00	1,195.60	1,199.61	1,190.79	2.95	3.36	-20.95	110.58	27.95	41.80	35.92	5.87	7.117		
1,230.00	1,225.40	1,229.57	1,220.37	3.03	3.47	-20.11	114.96	29.81	43.14	37.11	6.03	7.151		
1,260.00	1,255.21	1,259.53	1,249.95	3.12	3.58	-19.32	119.35	31.67	44.49	38.30	6.19	7.187		
1,290.00	1,285.02	1,289.50	1,279.53	3.21	3.69	-18.57	123.73	33.52	45.86	39.51	6.35	7.223		
1,320.00	1,314.82	1,319.46	1,309.12	3.30	3.79	-17.87	128.11	35.38	47.22	40.72	6.51	7.257		
1,350.00	1,344.63	1,349.43	1,338.70	3.39	3.90	-17.21	132.49	37.24	48.60	41.93	6.66	7.292		
1,380.00	1,374.44	1,379.39	1,368.28	3.48	4.01	-16.58	136.87	39.09	49.98	43.16	6.82	7.326		
1,410.00	1,404.24	1,409.35	1,397.87	3.57	4.12	-15.99	141.25	40.95	51.37	44.39	6.98	7.359		
1,440.00	1,434.05	1,439.32	1,427.45	3.66	4.23	-15.43	145.64	42.80	52.76	45.62	7.14	7.392		
1,470.00	1,463.86	1,469.28	1,457.03	3.75	4.33	-14.90	150.02	44.66	54.15	46.86	7.29	7.425		
1,500.00	1,493.66	1,499.24	1,486.62	3.84	4.44	-14.39	154.40	46.52	55.56	48.11	7.45	7.456		
1,530.00	1,523.47	1,529.21	1,516.20	3.93	4.55	-13.91	158.78	48.37	56.96	49.35	7.61	7.488		
1,560.00	1,553.28	1,559.17	1,545.78	4.02	4.66	-13.45	163.16	50.23	58.37	50.61	7.76	7.518		
1,590.00	1,583.08	1,589.13	1,575.37	4.11	4.77	-13.01	167.54	52.09	59.78	51.86	7.92	7.548		
1,620.00	1,612.89	1,619.10	1,604.95	4.20	4.87	-12.60	171.93	53.94	61.20	53.12	8.08	7.577		
1,650.00	1,642.70	1,649.06	1,634.53	4.29	4.98	-12.20	176.31	55.80	62.62	54.38	8.23	7.605		
1,680.00	1,672.50	1,679.02	1,664.11	4.38	5.09	-11.82	180.69	57.66	64.04	55.65	8.39	7.633		
1,710.00	1,702.31	1,708.99	1,693.70	4.47	5.20	-11.46	185.07	59.51	65.46	56.92	8.55	7.661		
1,740.00	1,732.12	1,738.95	1,723.28	4.56	5.31	-11.11	189.45	61.37	66.89	58.19	8.70	7.687		
1,770.00	1,761.92	1,768.91	1,752.86	4.65	5.42	-10.77	193.83	63.22	68.32	59.46	8.86	7.713		
1,800.00	1,791.73	1,798.88	1,782.45	4.74	5.53	-10.45	198.22	65.08	69.75	60.74	9.01	7.739		
1,830.00	1,821.54	1,828.84	1,812.03	4.83	5.63	-10.15	202.60	66.94	71.18	62.02	9.17	7.763		
1,860.00	1,851.34	1,858.80	1,841.61	4.92	5.74	-9.85	206.98	68.79	72.62	63.29	9.33	7.788		
1,890.00	1,881.15	1,888.77	1,871.20	5.01	5.85	-9.57	211.36	70.65	74.06	64.58	9.48	7.811		
1,920.00	1,910.96	1,918.73	1,900.78	5.10	5.96	-9.30	215.74	72.51	75.50	65.86	9.64	7.834		
1,950.00	1,940.76	1,948.69	1,930.36	5.19	6.07	-9.03	220.13	74.36	76.94	67.14	9.79	7.857		
1,980.00	1,970.57	1,978.66	1,959.95	5.28	6.18	-8.78	224.51	76.22	78.38	68.43	9.95	7.879		
2,010.00	2,000.38	2,008.62	1,989.53	5.37	6.29	-8.54	228.89	78.08	79.82	69.72	10.10	7.900		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-07E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,040.00	2,030.18	2,038.58	2,019.11	5.46	6.40	-8.30	233.27	79.93	81.27	71.01	10.26	7.921		
2,070.00	2,059.99	2,068.55	2,048.69	5.55	6.50	-8.07	237.65	81.79	82.71	72.30	10.41	7.942		
2,100.00	2,089.80	2,098.51	2,078.28	5.64	6.61	-7.85	242.03	83.64	84.16	73.59	10.57	7.962		
2,130.00	2,119.60	2,128.47	2,107.86	5.73	6.72	-7.64	246.42	85.50	85.61	74.88	10.73	7.981		
2,160.00	2,149.41	2,158.44	2,137.44	5.83	6.83	-7.44	250.80	87.36	87.06	76.18	10.88	8.001		
2,190.00	2,179.22	2,188.40	2,167.03	5.92	6.94	-7.24	255.18	89.21	88.51	77.47	11.04	8.019		
2,220.00	2,209.02	2,218.36	2,196.61	6.01	7.05	-7.05	259.56	91.07	89.96	78.77	11.19	8.038		
2,250.00	2,238.83	2,248.33	2,226.19	6.10	7.16	-6.86	263.94	92.93	91.42	80.07	11.35	8.055		
2,280.00	2,268.64	2,278.29	2,255.78	6.19	7.27	-6.68	268.32	94.78	92.87	81.37	11.50	8.073		
2,310.00	2,298.44	2,308.25	2,285.36	6.28	7.38	-6.51	272.71	96.64	94.32	82.66	11.66	8.090		
2,340.00	2,328.25	2,338.22	2,314.94	6.37	7.48	-6.34	277.09	98.49	95.78	83.96	11.81	8.107		
2,370.00	2,358.06	2,368.18	2,344.53	6.46	7.59	-6.17	281.47	100.35	97.24	85.27	11.97	8.123		
2,400.00	2,387.86	2,398.14	2,374.11	6.55	7.70	-6.02	285.85	102.21	98.69	86.57	12.13	8.139		
2,430.00	2,417.67	2,428.11	2,403.69	6.64	7.81	-5.86	290.23	104.06	100.15	87.87	12.28	8.155		
2,460.00	2,447.47	2,458.07	2,433.27	6.73	7.92	-5.71	294.61	105.92	101.61	89.17	12.44	8.170		
2,490.00	2,477.28	2,488.03	2,462.86	6.82	8.03	-5.56	299.00	107.78	103.07	90.48	12.59	8.185		
2,520.00	2,507.09	2,518.00	2,492.44	6.91	8.14	-5.42	303.38	109.63	104.53	91.78	12.75	8.200		
2,550.00	2,536.89	2,547.96	2,522.02	7.00	8.25	-5.28	307.76	111.49	105.99	93.09	12.90	8.214		
2,580.00	2,566.70	2,577.92	2,551.61	7.09	8.36	-5.15	312.14	113.35	107.45	94.39	13.06	8.229		
2,610.00	2,596.51	2,607.89	2,581.19	7.18	8.47	-5.02	316.52	115.20	108.91	95.70	13.21	8.242		
2,640.00	2,626.31	2,637.85	2,610.77	7.28	8.58	-4.89	320.90	117.06	110.37	97.00	13.37	8.256		
2,670.00	2,656.12	2,667.81	2,640.36	7.37	8.68	-4.77	325.29	118.91	111.84	98.31	13.52	8.269		
2,700.00	2,685.93	2,697.78	2,669.94	7.46	8.79	-4.65	329.67	120.77	113.30	99.62	13.68	8.282		
2,730.00	2,715.73	2,727.74	2,699.52	7.55	8.90	-4.53	334.05	122.63	114.76	100.93	13.84	8.295		
2,760.00	2,745.54	2,757.70	2,729.11	7.64	9.01	-4.42	338.43	124.48	116.23	102.24	13.99	8.307		
2,790.00	2,775.35	2,787.67	2,758.69	7.73	9.12	-4.30	342.81	126.34	117.69	103.55	14.15	8.320		
2,820.00	2,805.15	2,817.63	2,788.27	7.82	9.23	-4.20	347.19	128.20	119.16	104.86	14.30	8.332		
2,850.00	2,834.96	2,847.59	2,817.85	7.91	9.34	-4.09	351.58	130.05	120.62	106.17	14.46	8.344		
2,880.00	2,864.77	2,877.56	2,847.44	8.00	9.45	-3.99	355.96	131.91	122.09	107.48	14.61	8.355		
2,910.00	2,894.57	2,907.52	2,877.02	8.09	9.56	-3.88	360.34	133.77	123.55	108.79	14.77	8.367		
2,940.00	2,924.38	2,937.48	2,906.60	8.18	9.67	-3.78	364.72	135.62	125.02	110.10	14.92	8.378		
2,970.00	2,954.19	2,967.45	2,936.19	8.27	9.78	-3.69	369.10	137.48	126.49	111.41	15.08	8.389		
3,000.00	2,983.99	2,997.41	2,965.77	8.36	9.89	-3.59	373.49	139.33	127.95	112.72	15.23	8.399		
3,030.00	3,013.80	3,027.37	2,995.35	8.45	9.99	-3.50	377.87	141.19	129.42	114.03	15.39	8.410		
3,060.00	3,043.61	3,057.34	3,024.94	8.55	10.10	-3.41	382.25	143.05	130.89	115.35	15.54	8.420		
3,090.00	3,073.41	3,087.30	3,054.52	8.64	10.21	-3.32	386.63	144.90	132.36	116.66	15.70	8.430		
3,120.00	3,103.22	3,117.26	3,084.10	8.73	10.32	-3.24	391.01	146.76	133.83	117.97	15.86	8.440		
3,150.00	3,133.03	3,147.23	3,113.69	8.82	10.43	-3.15	395.39	148.62	135.30	119.29	16.01	8.450		
3,180.00	3,162.83	3,177.19	3,143.27	8.91	10.54	-3.07	399.78	150.47	136.76	120.60	16.17	8.460		
3,210.00	3,192.64	3,207.15	3,172.85	9.00	10.65	-2.99	404.16	152.33	138.23	121.91	16.32	8.469		
3,240.00	3,222.45	3,237.12	3,202.43	9.09	10.76	-2.91	408.54	154.19	139.70	123.23	16.48	8.479		
3,270.00	3,252.25	3,267.08	3,232.02	9.18	10.87	-2.83	412.92	156.04	141.17	124.54	16.63	8.488		
3,300.00	3,282.06	3,297.04	3,261.60	9.27	10.98	-2.76	417.30	157.90	142.64	125.86	16.79	8.497		
3,330.00	3,311.87	3,327.01	3,291.18	9.36	11.09	-2.68	421.68	159.75	144.11	127.17	16.94	8.506		
3,360.00	3,341.67	3,356.97	3,320.77	9.45	11.20	-2.61	426.07	161.61	145.59	128.49	17.10	8.514		
3,390.00	3,371.48	3,386.93	3,350.35	9.54	11.31	-2.54	430.45	163.47	147.06	129.80	17.25	8.523		
3,420.00	3,401.29	3,416.90	3,379.93	9.64	11.41	-2.47	434.83	165.32	148.53	131.12	17.41	8.531		
3,450.00	3,431.09	3,446.86	3,409.52	9.73	11.52	-2.40	439.21	167.18	150.00	132.43	17.56	8.540		
3,480.00	3,460.90	3,476.82	3,439.10	9.82	11.63	-2.33	443.59	169.04	151.47	133.75	17.72	8.548		
3,510.00	3,490.71	3,506.79	3,468.68	9.91	11.74	-2.26	447.97	170.89	152.94	135.07	17.88	8.556		
3,540.00	3,520.51	3,536.75	3,498.27	10.00	11.85	-2.20	452.36	172.75	154.41	136.38	18.03	8.564		
3,570.00	3,550.32	3,566.71	3,527.85	10.09	11.96	-2.14	456.74	174.60	155.89	137.70	18.19	8.572		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-07E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
3,600.00	3,580.13	3,596.68	3,557.43	10.18	12.07	-2.07	461.12	176.46	157.36	139.02	18.34	8.579		
3,630.00	3,609.93	3,626.64	3,587.01	10.27	12.18	-2.01	465.50	178.32	158.83	140.33	18.50	8.587		
3,660.00	3,639.74	3,656.61	3,616.60	10.36	12.29	-1.95	469.88	180.17	160.30	141.65	18.65	8.594		
3,690.00	3,669.55	3,686.57	3,646.18	10.45	12.40	-1.89	474.26	182.03	161.78	142.97	18.81	8.601		
3,720.00	3,699.35	3,716.53	3,675.76	10.54	12.51	-1.84	478.65	183.89	163.25	144.29	18.96	8.609		
3,750.00	3,729.16	3,746.50	3,705.35	10.64	12.62	-1.78	483.03	185.74	164.72	145.60	19.12	8.616		
3,780.00	3,758.97	3,776.46	3,734.93	10.73	12.73	-1.72	487.41	187.60	166.19	146.92	19.27	8.623		
3,810.00	3,788.77	3,806.42	3,764.51	10.82	12.84	-1.67	491.79	189.46	167.67	148.24	19.43	8.630		
3,840.00	3,818.58	3,836.39	3,794.10	10.91	12.94	-1.61	496.17	191.31	169.14	149.56	19.58	8.636		
3,870.00	3,848.39	3,866.35	3,823.68	11.00	13.05	-1.56	500.55	193.17	170.62	150.88	19.74	8.643		
3,900.00	3,878.19	3,896.31	3,853.26	11.09	13.16	-1.51	504.94	195.02	172.09	152.19	19.90	8.650		
3,930.00	3,908.00	3,926.28	3,882.85	11.18	13.27	-1.46	509.32	196.88	173.56	153.51	20.05	8.656		
3,960.00	3,937.81	3,956.24	3,912.43	11.27	13.38	-1.41	513.70	198.74	175.04	154.83	20.21	8.662		
3,990.00	3,967.61	3,986.20	3,942.01	11.36	13.49	-1.36	518.08	200.59	176.51	156.15	20.36	8.669		
4,020.00	3,997.42	4,016.17	3,971.59	11.45	13.60	-1.31	522.46	202.45	177.99	157.47	20.52	8.675		
4,050.00	4,027.23	4,046.13	4,001.18	11.54	13.71	-1.26	526.84	204.31	179.46	158.79	20.67	8.681		
4,080.00	4,057.03	4,076.09	4,030.76	11.64	13.82	-1.21	531.23	206.16	180.94	160.11	20.83	8.687		
4,110.00	4,086.84	4,106.06	4,060.34	11.73	13.93	-1.17	535.61	208.02	182.41	161.43	20.98	8.693		
4,140.00	4,116.65	4,136.02	4,089.93	11.82	14.04	-1.12	539.99	209.88	183.89	162.75	21.14	8.699		
4,170.00	4,146.45	4,165.98	4,119.51	11.91	14.15	-1.08	544.37	211.73	185.36	164.07	21.29	8.705		
4,200.00	4,176.26	4,195.95	4,149.09	12.00	14.26	-1.03	548.75	213.59	186.84	165.39	21.45	8.710		
4,230.00	4,206.07	4,225.91	4,178.68	12.09	14.37	-0.99	553.14	215.44	188.31	166.71	21.61	8.716		
4,260.00	4,235.87	4,255.87	4,208.26	12.18	14.48	-0.95	557.52	217.30	189.79	168.03	21.76	8.722		
4,290.00	4,265.68	4,285.84	4,237.84	12.27	14.58	-0.90	561.90	219.16	191.26	169.35	21.92	8.727		
4,320.00	4,295.49	4,315.80	4,267.43	12.36	14.69	-0.86	566.28	221.01	192.74	170.67	22.07	8.732		
4,350.00	4,325.29	4,345.76	4,297.01	12.45	14.80	-0.82	570.66	222.87	194.21	171.99	22.23	8.738		
4,380.00	4,355.10	4,375.73	4,326.59	12.54	14.91	-0.78	575.04	224.73	195.69	173.31	22.38	8.743		
4,410.00	4,384.91	4,405.69	4,356.17	12.64	15.02	-0.74	579.43	226.58	197.16	174.63	22.54	8.748		
4,440.00	4,414.71	4,435.65	4,385.76	12.73	15.13	-0.70	583.81	228.44	198.64	175.95	22.69	8.753		
4,470.00	4,444.52	4,465.62	4,415.34	12.82	15.24	-0.66	588.19	230.30	200.12	177.27	22.85	8.758		
4,500.00	4,474.33	4,495.58	4,444.92	12.91	15.35	-0.63	592.57	232.15	201.59	178.59	23.00	8.763		
4,530.00	4,504.13	4,525.54	4,474.51	13.00	15.46	-0.59	596.95	234.01	203.07	179.91	23.16	8.768		
4,560.00	4,533.94	4,555.51	4,504.09	13.09	15.57	-0.55	601.33	235.86	204.54	181.23	23.31	8.773		
4,590.00	4,563.75	4,585.47	4,533.67	13.18	15.68	-0.52	605.72	237.72	206.02	182.55	23.47	8.778		
4,620.00	4,593.55	4,615.43	4,563.26	13.27	15.79	-0.48	610.10	239.58	207.50	183.87	23.63	8.783		
4,650.00	4,623.36	4,645.40	4,592.84	13.36	15.90	-0.44	614.48	241.43	208.97	185.19	23.78	8.787		
4,680.00	4,653.16	4,675.36	4,622.42	13.45	16.01	-0.41	618.86	243.29	210.45	186.51	23.94	8.792		
4,710.00	4,682.97	4,705.32	4,652.01	13.55	16.12	-0.38	623.24	245.15	211.93	187.83	24.09	8.797		
4,740.00	4,712.78	4,735.29	4,681.59	13.64	16.22	-0.34	627.62	247.00	213.40	189.16	24.25	8.801		
4,770.00	4,742.58	4,765.25	4,711.17	13.73	16.33	-0.31	632.01	248.86	214.88	190.48	24.40	8.806		
4,800.00	4,772.39	4,795.21	4,740.75	13.82	16.44	-0.28	636.39	250.71	216.36	191.80	24.56	8.810		
4,830.00	4,802.20	4,825.18	4,770.34	13.91	16.55	-0.24	640.77	252.57	217.83	193.12	24.71	8.814		
4,860.00	4,832.00	4,855.14	4,799.92	14.00	16.66	-0.21	645.15	254.43	219.31	194.44	24.87	8.819		
4,890.00	4,861.81	4,885.10	4,829.50	14.09	16.77	-0.18	649.53	256.28	220.79	195.76	25.02	8.823		
4,920.00	4,891.62	4,915.07	4,859.09	14.18	16.88	-0.15	653.91	258.14	222.27	197.09	25.18	8.827		
4,950.00	4,921.42	4,945.03	4,888.67	14.27	16.99	-0.12	658.30	260.00	223.74	198.41	25.34	8.831		
4,980.00	4,951.23	4,974.99	4,918.25	14.36	17.10	-0.09	662.68	261.85	225.22	199.73	25.49	8.835		
5,010.00	4,981.04	5,004.96	4,947.84	14.45	17.21	-0.06	667.06	263.71	226.70	201.05	25.65	8.839		
5,040.00	5,010.84	5,034.92	4,977.42	14.55	17.32	-0.03	671.44	265.57	228.17	202.37	25.80	8.843		
5,070.00	5,040.65	5,064.88	5,007.00	14.64	17.43	0.00	675.82	267.42	229.65	203.69	25.96	8.847		
5,100.00	5,070.46	5,094.85	5,036.59	14.73	17.54	0.03	680.20	269.28	231.13	205.02	26.11	8.851		
5,130.00	5,100.26	5,124.81	5,066.17	14.82	17.65	0.06	684.59	271.13	232.61	206.34	26.27	8.855		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-07E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,160.00	5,130.07	5,154.77	5,095.75	14.91	17.76	0.09	688.97	272.99	234.08	207.66	26.42	8.859		
5,190.00	5,159.88	5,184.74	5,125.33	15.00	17.86	0.12	693.35	274.85	235.56	208.98	26.58	8.863		
5,220.00	5,189.68	5,214.70	5,154.92	15.09	17.97	0.14	697.73	276.70	237.04	210.31	26.73	8.866		
5,250.00	5,219.49	5,244.66	5,184.50	15.18	18.08	0.17	702.11	278.56	238.52	211.63	26.89	8.870		
5,280.00	5,249.30	5,274.63	5,214.08	15.27	18.19	0.20	706.49	280.42	240.00	212.95	27.05	8.874		
5,310.00	5,279.10	5,304.59	5,243.67	15.36	18.30	0.22	710.88	282.27	241.47	214.27	27.20	8.877		
5,340.00	5,308.91	5,334.55	5,273.25	15.46	18.41	0.25	715.26	284.13	242.95	215.59	27.36	8.881		
5,370.00	5,338.72	5,366.93	5,305.24	15.55	18.51	0.29	719.84	286.07	244.29	216.78	27.51	8.880		
5,400.00	5,368.52	5,399.48	5,337.46	15.64	18.62	0.31	724.12	287.88	245.31	217.65	27.67	8.867		
5,430.00	5,398.33	5,432.05	5,369.75	15.73	18.70	0.29	728.06	289.55	246.02	218.21	27.81	8.845		
5,460.00	5,428.15	5,464.64	5,402.09	15.81	18.78	0.25	731.66	291.08	246.50	218.55	27.95	8.818		
5,490.00	5,458.00	5,497.22	5,434.49	15.89	18.86	0.21	734.93	292.46	246.92	218.84	28.09	8.791		
5,520.00	5,487.88	5,529.81	5,466.92	15.96	18.93	0.18	737.85	293.70	247.30	219.10	28.21	8.767		
5,550.00	5,517.78	5,562.41	5,499.40	16.02	19.00	0.15	740.44	294.80	247.64	219.32	28.32	8.745		
5,580.00	5,547.71	5,595.01	5,531.90	16.08	19.07	0.13	742.69	295.75	247.93	219.50	28.43	8.721		
5,610.00	5,577.66	5,627.61	5,564.44	16.14	19.13	0.11	744.59	296.56	248.18	219.65	28.53	8.699		
5,640.00	5,607.62	5,660.21	5,597.00	16.19	19.18	0.09	746.16	297.22	248.38	219.76	28.62	8.678		
5,670.00	5,637.60	5,692.81	5,629.57	16.24	19.24	0.08	747.38	297.74	248.54	219.83	28.72	8.655		
5,700.00	5,667.59	5,725.42	5,662.17	16.29	19.29	0.07	748.26	298.11	248.66	219.86	28.80	8.633		
5,730.00	5,697.59	5,758.03	5,694.77	16.34	19.33	0.06	748.80	298.34	248.73	219.85	28.88	8.612		
5,760.00	5,727.59	5,790.64	5,727.38	16.38	19.37	0.06	749.00	298.42	248.76	219.80	28.96	8.590		
5,790.00	5,757.59	5,820.85	5,757.59	16.43	19.41	0.06	749.00	298.42	248.76	219.69	29.06	8.559		
5,820.00	5,787.59	5,850.85	5,787.59	16.47	19.46	0.06	749.00	298.42	248.76	219.58	29.18	8.526		
5,850.00	5,817.59	5,880.85	5,817.59	16.52	19.50	0.06	749.00	298.42	248.76	219.46	29.29	8.493		
5,880.00	5,847.59	5,910.85	5,847.59	16.57	19.54	0.06	749.00	298.42	248.76	219.35	29.41	8.459		
5,910.00	5,877.59	5,940.85	5,877.59	16.62	19.58	0.06	749.00	298.42	248.76	219.23	29.52	8.426		
5,940.00	5,907.59	5,970.85	5,907.59	16.68	19.63	0.06	749.00	298.42	248.76	219.12	29.64	8.393		
5,970.00	5,937.59	6,000.85	5,937.59	16.73	19.67	0.06	749.00	298.42	248.76	219.00	29.75	8.360		
6,000.00	5,967.59	6,030.85	5,967.59	16.78	19.71	0.06	749.00	298.42	248.76	218.89	29.87	8.328		
6,030.00	5,997.59	6,060.85	5,997.59	16.83	19.75	0.06	749.00	298.42	248.76	218.77	29.99	8.296		
6,060.00	6,027.59	6,090.85	6,027.59	16.88	19.80	0.06	749.00	298.42	248.76	218.65	30.10	8.264		
6,090.00	6,057.59	6,120.85	6,057.59	16.93	19.84	0.06	749.00	298.42	248.76	218.54	30.22	8.232		
6,120.00	6,087.59	6,150.85	6,087.59	16.98	19.88	0.06	749.00	298.42	248.76	218.42	30.34	8.200		
6,150.00	6,117.59	6,180.85	6,117.59	17.03	19.93	0.06	749.00	298.42	248.76	218.30	30.45	8.168		
6,180.00	6,147.59	6,210.85	6,147.59	17.08	19.97	0.06	749.00	298.42	248.76	218.18	30.57	8.137		
6,210.00	6,177.59	6,240.85	6,177.59	17.14	20.01	0.06	749.00	298.42	248.76	218.07	30.69	8.106		
6,240.00	6,207.59	6,270.85	6,207.59	17.19	20.06	0.06	749.00	298.42	248.76	217.95	30.80	8.075		
6,270.00	6,237.59	6,300.85	6,237.59	17.24	20.10	0.06	749.00	298.42	248.76	217.83	30.92	8.045		
6,300.00	6,267.59	6,330.85	6,267.59	17.29	20.15	0.06	749.00	298.42	248.76	217.72	31.04	8.014		
6,330.00	6,297.59	6,360.85	6,297.59	17.34	20.19	0.06	749.00	298.42	248.76	217.60	31.16	7.984		
6,360.00	6,327.59	6,390.85	6,327.59	17.40	20.23	0.06	749.00	298.42	248.76	217.48	31.28	7.954		
6,390.00	6,357.59	6,420.85	6,357.59	17.45	20.28	0.06	749.00	298.42	248.76	217.36	31.39	7.924		
6,420.00	6,387.59	6,450.85	6,387.59	17.50	20.32	0.06	749.00	298.42	248.76	217.24	31.51	7.894		
6,450.00	6,417.59	6,480.85	6,417.59	17.55	20.37	0.06	749.00	298.42	248.76	217.12	31.63	7.864		
6,480.00	6,447.59	6,510.85	6,447.59	17.61	20.41	0.06	749.00	298.42	248.76	217.01	31.75	7.835		
6,510.00	6,477.59	6,540.85	6,477.59	17.66	20.46	0.06	749.00	298.42	248.76	216.89	31.87	7.806		
6,540.00	6,507.59	6,570.85	6,507.59	17.71	20.50	0.06	749.00	298.42	248.76	216.77	31.99	7.777		
6,570.00	6,537.59	6,600.85	6,537.59	17.76	20.55	0.06	749.00	298.42	248.76	216.65	32.10	7.748		
6,600.00	6,567.59	6,630.85	6,567.59	17.82	20.59	0.06	749.00	298.42	248.76	216.53	32.22	7.720		
6,630.00	6,597.59	6,660.85	6,597.59	17.87	20.64	0.06	749.00	298.42	248.76	216.41	32.34	7.691		
6,660.00	6,627.59	6,690.85	6,627.59	17.92	20.68	0.06	749.00	298.42	248.76	216.29	32.46	7.663		
6,690.00	6,657.59	6,720.85	6,657.59	17.98	20.73	0.06	749.00	298.42	248.76	216.17	32.58	7.635		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-07E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,720.00	6,687.59	6,750.85	6,687.59	18.03	20.78	0.06	749.00	298.42	248.76	216.05	32.70	7.607		
6,750.00	6,717.59	6,780.85	6,717.59	18.08	20.82	0.06	749.00	298.42	248.76	215.93	32.82	7.579		
6,780.00	6,747.59	6,810.85	6,747.59	18.14	20.87	0.06	749.00	298.42	248.76	215.82	32.94	7.552		
6,810.00	6,777.59	6,840.85	6,777.59	18.19	20.91	0.06	749.00	298.42	248.76	215.70	33.06	7.524		
6,840.00	6,807.59	6,870.85	6,807.59	18.25	20.96	0.06	749.00	298.42	248.76	215.58	33.18	7.497		
6,870.00	6,837.59	6,900.85	6,837.59	18.30	21.01	0.06	749.00	298.42	248.76	215.46	33.30	7.470		
6,900.00	6,867.59	6,930.85	6,867.59	18.35	21.05	0.06	749.00	298.42	248.76	215.34	33.42	7.443		
6,930.00	6,897.59	6,960.85	6,897.59	18.41	21.10	0.06	749.00	298.42	248.76	215.22	33.54	7.417		
6,960.00	6,927.59	6,990.85	6,927.59	18.46	21.15	0.06	749.00	298.42	248.76	215.09	33.66	7.390		
6,990.00	6,957.59	7,020.85	6,957.59	18.52	21.19	0.06	749.00	298.42	248.76	214.97	33.78	7.364		
7,020.00	6,987.59	7,050.85	6,987.59	18.57	21.24	0.06	749.00	298.42	248.76	214.85	33.90	7.338		
7,050.00	7,017.59	7,080.85	7,017.59	18.62	21.29	0.06	749.00	298.42	248.76	214.73	34.02	7.312		
7,080.00	7,047.59	7,110.85	7,047.59	18.68	21.34	0.06	749.00	298.42	248.76	214.61	34.14	7.286		
7,110.00	7,077.59	7,140.85	7,077.59	18.73	21.38	0.06	749.00	298.42	248.76	214.49	34.26	7.260		
7,140.00	7,107.59	7,170.85	7,107.59	18.79	21.43	0.06	749.00	298.42	248.76	214.37	34.38	7.234		
7,170.00	7,137.59	7,200.85	7,137.59	18.84	21.48	0.06	749.00	298.42	248.76	214.25	34.51	7.209		
7,200.00	7,167.59	7,230.85	7,167.59	18.90	21.52	0.06	749.00	298.42	248.76	214.13	34.63	7.184		
7,230.00	7,197.59	7,260.85	7,197.59	18.95	21.57	0.06	749.00	298.42	248.76	214.01	34.75	7.159		
7,260.00	7,227.59	7,290.85	7,227.59	19.01	21.62	0.06	749.00	298.42	248.76	213.89	34.87	7.134		
7,290.00	7,257.59	7,320.85	7,257.59	19.06	21.67	0.06	749.00	298.42	248.76	213.76	34.99	7.109		
7,320.00	7,287.59	7,350.85	7,287.59	19.12	21.72	0.06	749.00	298.42	248.76	213.64	35.11	7.084		
7,350.00	7,317.59	7,380.85	7,317.59	19.17	21.76	0.06	749.00	298.42	248.76	213.52	35.23	7.060		
7,380.00	7,347.59	7,410.85	7,347.59	19.23	21.81	0.06	749.00	298.42	248.76	213.40	35.36	7.036		
7,410.00	7,377.59	7,440.85	7,377.59	19.28	21.86	0.06	749.00	298.42	248.76	213.28	35.48	7.011		
7,440.00	7,407.59	7,470.85	7,407.59	19.34	21.91	0.06	749.00	298.42	248.76	213.15	35.60	6.987		
7,470.00	7,437.59	7,500.85	7,437.59	19.39	21.96	0.06	749.00	298.42	248.76	213.03	35.72	6.964		
7,500.00	7,467.59	7,530.85	7,467.59	19.45	22.01	0.06	749.00	298.42	248.76	212.91	35.84	6.940		
7,530.00	7,497.59	7,560.85	7,497.59	19.51	22.06	0.06	749.00	298.42	248.76	212.79	35.97	6.916		
7,560.00	7,527.59	7,590.85	7,527.59	19.56	22.10	0.06	749.00	298.42	248.76	212.67	36.09	6.893		
7,590.00	7,557.59	7,620.85	7,557.59	19.62	22.15	0.06	749.00	298.42	248.76	212.54	36.21	6.869		
7,620.00	7,587.59	7,650.85	7,587.59	19.67	22.20	0.06	749.00	298.42	248.76	212.42	36.33	6.846		
7,650.00	7,617.59	7,680.85	7,617.59	19.73	22.25	0.06	749.00	298.42	248.76	212.30	36.46	6.823		
7,680.00	7,647.59	7,710.85	7,647.59	19.78	22.30	0.06	749.00	298.42	248.76	212.18	36.58	6.800		
7,710.00	7,677.59	7,740.85	7,677.59	19.84	22.35	0.06	749.00	298.42	248.76	212.05	36.70	6.778		
7,712.41	7,680.00	7,743.26	7,680.00	19.85	22.35	0.06	749.00	298.42	248.76	212.04	36.71	6.776 SF		

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-09E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	83.52	1.13	9.94	10.00					
30.00	30.00	30.00	30.00	0.01	0.03	83.52	1.13	9.94	10.00	9.97	0.03	309.085		
60.00	60.00	60.00	60.00	0.04	0.05	83.52	1.13	9.94	10.00	9.91	0.09	109.089		
90.00	90.00	90.00	90.00	0.07	0.08	83.52	1.13	9.94	10.00	9.85	0.15	66.232		
120.00	120.00	120.00	120.00	0.13	0.13	83.52	1.13	9.94	10.00	9.74	0.26	38.369		
150.00	150.00	150.00	150.00	0.20	0.20	83.52	1.13	9.94	10.00	9.61	0.40	25.289		
180.00	180.00	180.00	180.00	0.27	0.27	83.52	1.13	9.94	10.00	9.47	0.53	18.859		
210.00	210.00	210.00	210.00	0.33	0.33	83.52	1.13	9.94	10.00	9.34	0.67	15.037		
240.00	240.00	240.00	240.00	0.40	0.40	83.52	1.13	9.94	10.00	9.20	0.80	12.502		
270.00	270.00	270.00	270.00	0.47	0.47	83.52	1.13	9.94	10.00	9.07	0.94	10.699		
300.00	300.00	300.00	300.00	0.53	0.53	83.52	1.13	9.94	10.00	8.93	1.07	9.350		
330.00	330.00	330.00	330.00	0.60	0.60	84.24	1.13	9.94	9.91	8.71	1.20	8.227		
360.00	360.00	360.00	360.00	0.67	0.67	86.49	1.13	9.94	9.64	8.30	1.34	7.195		
390.00	389.99	389.99	389.99	0.74	0.74	90.53	1.13	9.94	9.22	7.74	1.47	6.254		
420.00	419.96	419.96	419.96	0.81	0.80	96.78	1.13	9.94	8.71	7.11	1.61	5.417		
450.00	449.93	449.93	449.93	0.88	0.87	105.80	1.13	9.94	8.24	6.50	1.74	4.726		
480.00	479.88	479.88	479.88	0.95	0.94	117.88	1.13	9.94	7.97	6.09	1.88	4.242		
486.35	486.22	486.22	486.22	0.96	0.95	120.80	1.13	9.94	7.96	6.05	1.91	4.171 CC, ES		
510.00	509.81	509.81	509.81	1.02	1.01	132.40	1.13	9.94	8.13	6.11	2.02	4.027 SF		
540.00	539.72	539.72	539.72	1.09	1.07	147.41	1.13	9.94	8.90	6.74	2.16	4.121		
570.00	569.60	569.60	569.60	1.16	1.14	160.69	1.13	9.94	10.38	8.07	2.30	4.509		
600.00	599.45	599.45	599.45	1.23	1.21	171.23	1.13	9.94	12.50	10.06	2.44	5.122		
630.00	629.27	629.37	629.37	1.31	1.27	178.73	1.23	10.05	15.08	12.50	2.58	5.850		
660.00	659.08	659.34	659.33	1.39	1.34	-176.58	1.53	10.40	17.73	15.01	2.71	6.534		
690.00	688.88	689.36	689.35	1.47	1.41	-173.73	2.04	10.99	20.23	17.38	2.85	7.108		
720.00	718.69	719.43	719.40	1.55	1.47	-172.03	2.76	11.82	22.54	19.55	2.98	7.560		
750.00	748.50	749.55	749.48	1.64	1.54	-171.12	3.69	12.89	24.62	21.50	3.12	7.899		
780.00	778.30	779.70	779.58	1.72	1.61	-170.78	4.83	14.19	26.46	23.21	3.25	8.137		
810.00	808.11	809.88	809.69	1.81	1.68	-170.91	6.17	15.74	28.06	24.67	3.39	8.281		
840.00	837.92	839.94	839.66	1.89	1.75	-171.34	7.68	17.48	29.46	25.93	3.53	8.350		
870.00	867.72	869.90	869.54	1.98	1.82	-171.75	9.21	19.23	30.84	27.17	3.67	8.404		
900.00	897.53	899.87	899.41	2.07	1.88	-172.13	10.73	20.98	32.22	28.41	3.81	8.454		
930.00	927.34	929.84	929.29	2.15	1.96	-172.48	12.25	22.74	33.61	29.65	3.96	8.496		
960.00	957.14	959.81	959.17	2.24	2.03	-172.79	13.78	24.49	35.00	30.90	4.10	8.535		
990.00	986.95	989.77	989.05	2.33	2.10	-173.09	15.30	26.24	36.38	32.14	4.24	8.573		
1,020.00	1,016.76	1,019.74	1,018.92	2.41	2.17	-173.36	16.83	28.00	37.77	33.38	4.39	8.605		
1,050.00	1,046.56	1,049.71	1,048.80	2.50	2.24	-173.62	18.35	29.75	39.16	34.62	4.53	8.635		
1,080.00	1,076.37	1,079.68	1,078.68	2.59	2.32	-173.85	19.88	31.50	40.55	35.87	4.68	8.663		
1,110.00	1,106.18	1,109.64	1,108.56	2.68	2.39	-174.07	21.40	33.26	41.94	37.11	4.83	8.688		
1,140.00	1,135.98	1,139.61	1,138.43	2.77	2.47	-174.28	22.92	35.01	43.33	38.35	4.97	8.711		
1,170.00	1,165.79	1,169.58	1,168.31	2.86	2.54	-174.48	24.45	36.76	44.72	39.60	5.12	8.732		
1,200.00	1,195.60	1,199.54	1,198.19	2.95	2.62	-174.66	25.97	38.51	46.11	40.84	5.27	8.753		
1,230.00	1,225.40	1,229.51	1,228.06	3.03	2.69	-174.83	27.50	40.27	47.50	42.09	5.42	8.769		
1,260.00	1,255.21	1,259.48	1,257.94	3.12	2.77	-174.99	29.02	42.02	48.89	43.33	5.57	8.786		
1,290.00	1,285.02	1,289.45	1,287.82	3.21	2.84	-175.14	30.54	43.77	50.29	44.57	5.71	8.803		
1,320.00	1,314.82	1,319.41	1,317.70	3.30	2.92	-175.29	32.07	45.53	51.68	45.82	5.86	8.818		
1,350.00	1,344.63	1,349.38	1,347.57	3.39	2.99	-175.42	33.59	47.28	53.07	47.06	6.01	8.832		
1,380.00	1,374.44	1,379.35	1,377.45	3.48	3.07	-175.55	35.12	49.03	54.47	48.31	6.16	8.845		
1,410.00	1,404.24	1,409.32	1,407.33	3.57	3.15	-175.68	36.64	50.79	55.86	49.55	6.31	8.856		
1,440.00	1,434.05	1,439.28	1,437.20	3.66	3.22	-175.80	38.16	52.54	57.26	50.80	6.46	8.867		
1,470.00	1,463.86	1,469.25	1,467.08	3.75	3.30	-175.91	39.69	54.29	58.65	52.04	6.61	8.878		
1,500.00	1,493.66	1,499.22	1,496.96	3.84	3.37	-176.01	41.21	56.05	60.04	53.29	6.76	8.888		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-09E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,530.00	1,523.47	1,529.19	1,526.84	3.93	3.45	-176.12	42.74	57.80	61.44	54.53	6.91	8.897		
1,560.00	1,553.28	1,559.15	1,556.71	4.02	3.53	-176.21	44.26	59.55	62.83	55.78	7.06	8.906		
1,590.00	1,583.08	1,589.12	1,586.59	4.11	3.61	-176.31	45.79	61.30	64.23	57.02	7.21	8.914		
1,620.00	1,612.89	1,619.09	1,616.47	4.20	3.68	-176.40	47.31	63.06	65.62	58.27	7.36	8.921		
1,650.00	1,642.70	1,649.06	1,646.34	4.29	3.76	-176.48	48.83	64.81	67.02	59.51	7.51	8.929		
1,680.00	1,672.50	1,679.02	1,676.22	4.38	3.84	-176.56	50.36	66.56	68.42	60.76	7.66	8.935		
1,710.00	1,702.31	1,708.99	1,706.10	4.47	3.91	-176.64	51.88	68.32	69.81	62.00	7.81	8.942		
1,740.00	1,732.12	1,738.96	1,735.98	4.56	3.99	-176.72	53.41	70.07	71.21	63.25	7.96	8.948		
1,770.00	1,761.92	1,768.92	1,765.85	4.65	4.07	-176.79	54.93	71.82	72.60	64.49	8.11	8.954		
1,800.00	1,791.73	1,798.89	1,795.73	4.74	4.15	-176.86	56.45	73.58	74.00	65.74	8.26	8.960		
1,830.00	1,821.54	1,828.86	1,825.61	4.83	4.22	-176.93	57.98	75.33	75.40	66.99	8.41	8.965		
1,860.00	1,851.34	1,858.83	1,855.48	4.92	4.30	-176.99	59.50	77.08	76.79	68.23	8.56	8.970		
1,890.00	1,881.15	1,888.79	1,885.36	5.01	4.38	-177.05	61.03	78.84	78.19	69.48	8.71	8.975		
1,920.00	1,910.96	1,918.76	1,915.24	5.10	4.46	-177.11	62.55	80.59	79.58	70.72	8.86	8.979		
1,950.00	1,940.76	1,948.73	1,945.12	5.19	4.53	-177.17	64.07	82.34	80.98	71.97	9.01	8.983		
1,980.00	1,970.57	1,978.70	1,974.99	5.28	4.61	-177.23	65.60	84.10	82.38	73.21	9.17	8.988		
2,010.00	2,000.38	2,008.66	2,004.87	5.37	4.69	-177.28	67.12	85.85	83.77	74.46	9.32	8.992		
2,040.00	2,030.18	2,038.63	2,034.75	5.46	4.77	-177.34	68.65	87.60	85.17	75.70	9.47	8.995		
2,070.00	2,059.99	2,068.60	2,064.63	5.55	4.85	-177.39	70.17	89.35	86.57	76.95	9.62	8.999		
2,100.00	2,089.80	2,098.57	2,094.50	5.64	4.92	-177.44	71.70	91.11	87.97	78.19	9.77	9.002		
2,130.00	2,119.60	2,128.53	2,124.38	5.73	5.00	-177.48	73.22	92.86	89.36	79.44	9.92	9.006		
2,160.00	2,149.41	2,158.50	2,154.26	5.83	5.08	-177.53	74.74	94.61	90.76	80.68	10.07	9.009		
2,190.00	2,179.22	2,188.47	2,184.13	5.92	5.16	-177.58	76.27	96.37	92.16	81.93	10.23	9.012		
2,220.00	2,209.02	2,218.44	2,214.01	6.01	5.24	-177.62	77.79	98.12	93.55	83.18	10.38	9.015		
2,250.00	2,238.83	2,248.40	2,243.89	6.10	5.31	-177.66	79.32	99.87	94.95	84.42	10.53	9.018		
2,280.00	2,268.64	2,278.37	2,273.77	6.19	5.39	-177.70	80.84	101.63	96.35	85.67	10.68	9.020		
2,310.00	2,298.44	2,308.34	2,303.64	6.28	5.47	-177.74	82.36	103.38	97.75	86.91	10.83	9.023		
2,340.00	2,328.25	2,338.30	2,333.52	6.37	5.55	-177.78	83.89	105.13	99.14	88.16	10.98	9.025		
2,370.00	2,358.06	2,368.27	2,363.40	6.46	5.63	-177.82	85.41	106.89	100.54	89.40	11.14	9.028		
2,400.00	2,387.86	2,398.24	2,393.27	6.55	5.71	-177.85	86.94	108.64	101.94	90.65	11.29	9.030		
2,430.00	2,417.67	2,428.21	2,423.15	6.64	5.78	-177.89	88.46	110.39	103.34	91.89	11.44	9.032		
2,460.00	2,447.47	2,458.17	2,453.03	6.73	5.86	-177.93	89.98	112.14	104.73	93.14	11.59	9.035		
2,490.00	2,477.28	2,488.14	2,482.91	6.82	5.94	-177.96	91.51	113.90	106.13	94.39	11.74	9.037		
2,520.00	2,507.09	2,518.11	2,512.78	6.91	6.02	-177.99	93.03	115.65	107.53	95.63	11.90	9.039		
2,550.00	2,536.89	2,548.08	2,542.66	7.00	6.10	-178.02	94.56	117.40	108.93	96.88	12.05	9.041		
2,580.00	2,566.70	2,578.04	2,572.54	7.09	6.18	-178.06	96.08	119.16	110.32	98.12	12.20	9.042		
2,610.00	2,596.51	2,608.01	2,602.41	7.18	6.25	-178.09	97.61	120.91	111.72	99.37	12.35	9.044		
2,640.00	2,626.31	2,637.98	2,632.29	7.28	6.33	-178.12	99.13	122.66	113.12	100.61	12.50	9.046		
2,670.00	2,656.12	2,667.95	2,662.17	7.37	6.41	-178.14	100.65	124.42	114.52	101.86	12.66	9.048		
2,700.00	2,685.93	2,697.91	2,692.05	7.46	6.49	-178.17	102.18	126.17	115.91	103.10	12.81	9.049		
2,730.00	2,715.73	2,727.88	2,721.92	7.55	6.57	-178.20	103.70	127.92	117.31	104.35	12.96	9.051		
2,760.00	2,745.54	2,757.85	2,751.80	7.64	6.65	-178.23	105.23	129.68	118.71	105.60	13.11	9.052		
2,790.00	2,775.35	2,787.82	2,781.68	7.73	6.73	-178.25	106.75	131.43	120.11	106.84	13.27	9.054		
2,820.00	2,805.15	2,817.78	2,811.56	7.82	6.80	-178.28	108.27	133.18	121.51	108.09	13.42	9.055		
2,850.00	2,834.96	2,847.75	2,841.43	7.91	6.88	-178.30	109.80	134.93	122.90	109.33	13.57	9.057		
2,880.00	2,864.77	2,877.72	2,871.31	8.00	6.96	-178.33	111.32	136.69	124.30	110.58	13.72	9.058		
2,910.00	2,894.57	2,907.68	2,901.19	8.09	7.04	-178.35	112.85	138.44	125.70	111.82	13.88	9.059		
2,940.00	2,924.38	2,937.65	2,931.06	8.18	7.12	-178.38	114.37	140.19	127.10	113.07	14.03	9.061		
2,970.00	2,954.19	2,967.62	2,960.94	8.27	7.20	-178.40	115.89	141.95	128.50	114.32	14.18	9.062		
3,000.00	2,983.99	2,997.59	2,990.82	8.36	7.28	-178.42	117.42	143.70	129.89	115.56	14.33	9.063		
3,030.00	3,013.80	3,027.55	3,020.70	8.45	7.36	-178.44	118.94	145.45	131.29	116.81	14.48	9.064		
3,060.00	3,043.61	3,057.52	3,050.57	8.55	7.43	-178.47	120.47	147.21	132.69	118.05	14.64	9.065		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-09E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
3,090.00	3,073.41	3,087.49	3,080.45	8.64	7.51	-178.49	121.99	148.96	134.09	119.30	14.79	9.066		
3,120.00	3,103.22	3,117.46	3,110.33	8.73	7.59	-178.51	123.52	150.71	135.49	120.54	14.94	9.067		
3,150.00	3,133.03	3,147.42	3,140.20	8.82	7.67	-178.53	125.04	152.47	136.88	121.79	15.09	9.068		
3,180.00	3,162.83	3,177.39	3,170.08	8.91	7.75	-178.55	126.56	154.22	138.28	123.04	15.25	9.069		
3,210.00	3,192.64	3,207.36	3,199.96	9.00	7.83	-178.57	128.09	155.97	139.68	124.28	15.40	9.070		
3,240.00	3,222.45	3,237.33	3,229.84	9.09	7.91	-178.59	129.61	157.73	141.08	125.53	15.55	9.071		
3,270.00	3,252.25	3,267.29	3,259.71	9.18	7.98	-178.60	131.14	159.48	142.48	126.77	15.70	9.072		
3,300.00	3,282.06	3,297.26	3,289.59	9.27	8.06	-178.62	132.66	161.23	143.87	128.02	15.86	9.073		
3,330.00	3,311.87	3,327.23	3,319.47	9.36	8.14	-178.64	134.18	162.98	145.27	129.26	16.01	9.074		
3,360.00	3,341.67	3,357.20	3,349.34	9.45	8.22	-178.66	135.71	164.74	146.67	130.51	16.16	9.075		
3,390.00	3,371.48	3,387.16	3,379.22	9.54	8.30	-178.68	137.23	166.49	148.07	131.75	16.31	9.076		
3,420.00	3,401.29	3,417.13	3,409.10	9.64	8.38	-178.69	138.76	168.24	149.47	133.00	16.47	9.077		
3,450.00	3,431.09	3,447.10	3,438.98	9.73	8.46	-178.71	140.28	170.00	150.87	134.25	16.62	9.077		
3,480.00	3,460.90	3,477.06	3,468.85	9.82	8.54	-178.73	141.80	171.75	152.26	135.49	16.77	9.078		
3,510.00	3,490.71	3,507.03	3,498.73	9.91	8.62	-178.74	143.33	173.50	153.66	136.74	16.93	9.079		
3,540.00	3,520.51	3,537.00	3,528.61	10.00	8.69	-178.76	144.85	175.26	155.06	137.98	17.08	9.080		
3,570.00	3,550.32	3,566.97	3,558.48	10.09	8.77	-178.77	146.38	177.01	156.46	139.23	17.23	9.080		
3,600.00	3,580.13	3,596.93	3,588.36	10.18	8.85	-178.79	147.90	178.76	157.86	140.47	17.38	9.081		
3,630.00	3,609.93	3,626.90	3,618.24	10.27	8.93	-178.80	149.43	180.52	159.26	141.72	17.54	9.082		
3,660.00	3,639.74	3,656.87	3,648.12	10.36	9.01	-178.82	150.95	182.27	160.65	142.97	17.69	9.082		
3,690.00	3,669.55	3,686.84	3,677.99	10.45	9.09	-178.83	152.47	184.02	162.05	144.21	17.84	9.083		
3,720.00	3,699.35	3,716.80	3,707.87	10.54	9.17	-178.85	154.00	185.77	163.45	145.46	17.99	9.084		
3,750.00	3,729.16	3,746.77	3,737.75	10.64	9.25	-178.86	155.52	187.53	164.85	146.70	18.15	9.084		
3,780.00	3,758.97	3,776.74	3,767.63	10.73	9.32	-178.87	157.05	189.28	166.25	147.95	18.30	9.085		
3,810.00	3,788.77	3,806.71	3,797.50	10.82	9.40	-178.89	158.57	191.03	167.65	149.19	18.45	9.086		
3,840.00	3,818.58	3,836.67	3,827.38	10.91	9.48	-178.90	160.09	192.79	169.04	150.44	18.60	9.086		
3,870.00	3,848.39	3,866.64	3,857.26	11.00	9.56	-178.91	161.62	194.54	170.44	151.69	18.76	9.087		
3,900.00	3,878.19	3,896.61	3,887.13	11.09	9.64	-178.93	163.14	196.29	171.84	152.93	18.91	9.087		
3,930.00	3,908.00	3,926.58	3,917.01	11.18	9.72	-178.94	164.67	198.05	173.24	154.18	19.06	9.088		
3,960.00	3,937.81	3,956.54	3,946.89	11.27	9.80	-178.95	166.19	199.80	174.64	155.42	19.22	9.088		
3,990.00	3,967.61	3,986.51	3,976.77	11.36	9.88	-178.96	167.71	201.55	176.04	156.67	19.37	9.089		
4,020.00	3,997.42	4,016.48	4,006.64	11.45	9.96	-178.98	169.24	203.31	177.44	157.91	19.52	9.089		
4,050.00	4,027.23	4,046.44	4,036.52	11.54	10.03	-178.99	170.76	205.06	178.83	159.16	19.67	9.090		
4,080.00	4,057.03	4,076.41	4,066.40	11.64	10.11	-179.00	172.29	206.81	180.23	160.41	19.83	9.090		
4,110.00	4,086.84	4,106.38	4,096.27	11.73	10.19	-179.01	173.81	208.57	181.63	161.65	19.98	9.091		
4,140.00	4,116.65	4,136.35	4,126.15	11.82	10.27	-179.02	175.34	210.32	183.03	162.90	20.13	9.091		
4,170.00	4,146.45	4,166.31	4,156.03	11.91	10.35	-179.03	176.86	212.07	184.43	164.14	20.29	9.092		
4,200.00	4,176.26	4,196.28	4,185.91	12.00	10.43	-179.04	178.38	213.82	185.83	165.39	20.44	9.092		
4,230.00	4,206.07	4,226.25	4,215.78	12.09	10.51	-179.05	179.91	215.58	187.22	166.63	20.59	9.093		
4,260.00	4,235.87	4,256.22	4,245.66	12.18	10.59	-179.07	181.43	217.33	188.62	167.88	20.74	9.093		
4,290.00	4,265.68	4,286.18	4,275.54	12.27	10.67	-179.08	182.96	219.08	190.02	169.13	20.90	9.094		
4,320.00	4,295.49	4,316.15	4,305.41	12.36	10.75	-179.09	184.48	220.84	191.42	170.37	21.05	9.094		
4,350.00	4,325.29	4,346.12	4,335.29	12.45	10.82	-179.10	186.00	222.59	192.82	171.62	21.20	9.094		
4,380.00	4,355.10	4,376.09	4,365.17	12.54	10.90	-179.11	187.53	224.34	194.22	172.86	21.35	9.095		
4,410.00	4,384.91	4,406.05	4,395.05	12.64	10.98	-179.12	189.05	226.10	195.62	174.11	21.51	9.095		
4,440.00	4,414.71	4,436.02	4,424.92	12.73	11.06	-179.13	190.58	227.85	197.01	175.35	21.66	9.095		
4,470.00	4,444.52	4,465.99	4,454.80	12.82	11.14	-179.14	192.10	229.60	198.41	176.60	21.81	9.096		
4,500.00	4,474.33	4,495.96	4,484.68	12.91	11.22	-179.15	193.62	231.36	199.81	177.85	21.97	9.096		
4,530.00	4,504.13	4,525.92	4,514.56	13.00	11.30	-179.15	195.15	233.11	201.21	179.09	22.12	9.097		
4,560.00	4,533.94	4,555.89	4,544.43	13.09	11.38	-179.16	196.67	234.86	202.61	180.34	22.27	9.097		
4,590.00	4,563.75	4,585.86	4,574.31	13.18	11.46	-179.17	198.20	236.61	204.01	181.58	22.43	9.097		
4,620.00	4,593.55	4,615.82	4,604.19	13.27	11.53	-179.18	199.72	238.37	205.41	182.83	22.58	9.098		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-09E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,650.00	4,623.36	4,645.79	4,634.06	13.36	11.61	-179.19	201.25	240.12	206.80	184.07	22.73	9.098		
4,680.00	4,653.16	4,675.76	4,663.94	13.45	11.69	-179.20	202.77	241.87	208.20	185.32	22.88	9.098		
4,710.00	4,682.97	4,705.73	4,693.82	13.55	11.77	-179.21	204.29	243.63	209.60	186.57	23.04	9.099		
4,740.00	4,712.78	4,735.69	4,723.70	13.64	11.85	-179.22	205.82	245.38	211.00	187.81	23.19	9.099		
4,770.00	4,742.58	4,765.66	4,753.57	13.73	11.93	-179.22	207.34	247.13	212.40	189.06	23.34	9.099		
4,800.00	4,772.39	4,795.63	4,783.45	13.82	12.01	-179.23	208.87	248.89	213.80	190.30	23.50	9.100		
4,830.00	4,802.20	4,825.60	4,813.33	13.91	12.09	-179.24	210.39	250.64	215.20	191.55	23.65	9.100		
4,860.00	4,832.00	4,855.56	4,843.20	14.00	12.17	-179.25	211.91	252.39	216.59	192.79	23.80	9.100		
4,890.00	4,861.81	4,885.53	4,873.08	14.09	12.25	-179.26	213.44	254.15	217.99	194.04	23.95	9.100		
4,920.00	4,891.62	4,915.50	4,902.96	14.18	12.32	-179.27	214.96	255.90	219.39	195.29	24.11	9.101		
4,950.00	4,921.42	4,945.47	4,932.84	14.27	12.40	-179.27	216.49	257.65	220.79	196.53	24.26	9.101		
4,980.00	4,951.23	4,975.43	4,962.71	14.36	12.48	-179.28	218.01	259.40	222.19	197.78	24.41	9.101		
5,010.00	4,981.04	5,005.40	4,992.59	14.45	12.56	-179.29	219.53	261.16	223.59	199.02	24.57	9.102		
5,040.00	5,010.84	5,035.37	5,022.47	14.55	12.64	-179.30	221.06	262.91	224.99	200.27	24.72	9.102		
5,070.00	5,040.65	5,065.33	5,052.34	14.64	12.72	-179.30	222.58	264.66	226.39	201.51	24.87	9.102		
5,100.00	5,070.46	5,095.30	5,082.22	14.73	12.80	-179.31	224.11	266.42	227.78	202.76	25.02	9.102		
5,130.00	5,100.26	5,125.27	5,112.10	14.82	12.88	-179.32	225.63	268.17	229.18	204.01	25.18	9.103		
5,160.00	5,130.07	5,155.24	5,141.98	14.91	12.96	-179.32	227.16	269.92	230.58	205.25	25.33	9.103		
5,190.00	5,159.88	5,185.20	5,171.85	15.00	13.04	-179.33	228.68	271.68	231.98	206.50	25.48	9.103		
5,220.00	5,189.68	5,215.17	5,201.73	15.09	13.12	-179.34	230.20	273.43	233.38	207.74	25.64	9.103		
5,250.00	5,219.49	5,245.14	5,231.61	15.18	13.19	-179.35	231.73	275.18	234.78	208.99	25.79	9.104		
5,280.00	5,249.30	5,275.11	5,261.48	15.27	13.27	-179.35	233.25	276.94	236.18	210.23	25.94	9.104		
5,310.00	5,279.10	5,305.07	5,291.36	15.36	13.35	-179.36	234.78	278.69	237.57	211.48	26.10	9.104		
5,340.00	5,308.91	5,335.04	5,321.24	15.46	13.43	-179.37	236.30	280.44	238.97	212.73	26.25	9.104		
5,370.00	5,338.72	5,365.01	5,351.12	15.55	13.51	-179.37	237.82	282.20	240.37	213.97	26.40	9.105		
5,400.00	5,368.52	5,394.98	5,380.99	15.64	13.59	-179.38	239.35	283.95	241.77	215.22	26.55	9.105		
5,430.00	5,398.33	5,424.94	5,410.87	15.73	13.67	-179.38	240.87	285.70	243.17	216.46	26.71	9.105		
5,460.00	5,428.15	5,454.91	5,440.75	15.81	13.75	-179.40	242.40	287.45	244.49	217.63	26.86	9.104		
5,490.00	5,458.00	5,484.89	5,470.64	15.89	13.83	-179.45	243.92	289.21	245.54	218.54	27.01	9.092		
5,520.00	5,487.88	5,514.88	5,500.54	15.96	13.91	-179.54	245.45	290.96	246.33	219.18	27.15	9.074		
5,550.00	5,517.78	5,543.65	5,529.23	16.02	13.97	-179.64	246.86	292.59	246.90	219.62	27.27	9.052		
5,580.00	5,547.71	5,572.03	5,557.55	16.08	14.04	-179.72	248.07	293.98	247.39	219.99	27.39	9.030		
5,610.00	5,577.66	5,600.00	5,585.47	16.14	14.10	-179.78	249.09	295.15	247.80	220.29	27.51	9.008		
5,640.00	5,607.62	5,628.78	5,614.23	16.19	14.15	-179.84	249.94	296.14	248.14	220.53	27.61	8.988		
5,670.00	5,637.60	5,657.16	5,642.59	16.24	14.20	-179.88	250.60	296.90	248.41	220.71	27.70	8.966		
5,700.00	5,667.59	5,685.54	5,670.96	16.29	14.25	-179.91	251.08	297.44	248.60	220.81	27.80	8.943		
5,730.00	5,697.59	5,713.92	5,699.34	16.34	14.30	-179.93	251.37	297.78	248.72	220.84	27.88	8.920		
5,760.00	5,727.59	5,742.30	5,727.72	16.38	14.34	-179.94	251.48	297.90	248.77	220.80	27.97	8.895		
5,790.00	5,757.59	5,772.17	5,757.59	16.43	14.39	-179.94	251.48	297.90	248.77	220.70	28.07	8.862		
5,820.00	5,787.59	5,802.17	5,787.59	16.47	14.45	-179.94	251.48	297.90	248.77	220.58	28.18	8.827		
5,850.00	5,817.59	5,832.17	5,817.59	16.52	14.50	-179.94	251.48	297.90	248.77	220.47	28.30	8.790		
5,880.00	5,847.59	5,862.17	5,847.59	16.57	14.56	-179.94	251.48	297.90	248.77	220.35	28.42	8.753		
5,910.00	5,877.59	5,892.17	5,877.59	16.62	14.62	-179.94	251.48	297.90	248.77	220.23	28.54	8.717		
5,940.00	5,907.59	5,922.17	5,907.59	16.68	14.68	-179.94	251.48	297.90	248.77	220.11	28.66	8.680		
5,970.00	5,937.59	5,952.17	5,937.59	16.73	14.73	-179.94	251.48	297.90	248.77	219.99	28.78	8.644		
6,000.00	5,967.59	5,982.17	5,967.59	16.78	14.79	-179.94	251.48	297.90	248.77	219.87	28.90	8.608		
6,030.00	5,997.59	6,012.17	5,997.59	16.83	14.85	-179.94	251.48	297.90	248.77	219.75	29.02	8.573		
6,060.00	6,027.59	6,042.17	6,027.59	16.88	14.91	-179.94	251.48	297.90	248.77	219.63	29.14	8.538		
6,090.00	6,057.59	6,072.17	6,057.59	16.93	14.97	-179.94	251.48	297.90	248.77	219.51	29.26	8.503		
6,120.00	6,087.59	6,102.17	6,087.59	16.98	15.02	-179.94	251.48	297.90	248.77	219.39	29.38	8.468		
6,150.00	6,117.59	6,132.17	6,117.59	17.03	15.08	-179.94	251.48	297.90	248.77	219.27	29.50	8.433		
6,180.00	6,147.59	6,162.17	6,147.59	17.08	15.14	-179.94	251.48	297.90	248.77	219.15	29.62	8.399		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-09E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,210.00	6,177.59	6,192.17	6,177.59	17.14	15.20	-179.94	251.48	297.90	248.77	219.03	29.74	8.365		
6,240.00	6,207.59	6,222.17	6,207.59	17.19	15.26	-179.94	251.48	297.90	248.77	218.91	29.86	8.331		
6,270.00	6,237.59	6,252.17	6,237.59	17.24	15.32	-179.94	251.48	297.90	248.77	218.78	29.98	8.297		
6,300.00	6,267.59	6,282.17	6,267.59	17.29	15.37	-179.94	251.48	297.90	248.77	218.66	30.10	8.264		
6,330.00	6,297.59	6,312.17	6,297.59	17.34	15.43	-179.94	251.48	297.90	248.77	218.54	30.22	8.231		
6,360.00	6,327.59	6,342.17	6,327.59	17.40	15.49	-179.94	251.48	297.90	248.77	218.42	30.34	8.198		
6,390.00	6,357.59	6,372.17	6,357.59	17.45	15.55	-179.94	251.48	297.90	248.77	218.30	30.47	8.165		
6,420.00	6,387.59	6,402.17	6,387.59	17.50	15.61	-179.94	251.48	297.90	248.77	218.18	30.59	8.133		
6,450.00	6,417.59	6,432.17	6,417.59	17.55	15.67	-179.94	251.48	297.90	248.77	218.06	30.71	8.101		
6,480.00	6,447.59	6,462.17	6,447.59	17.61	15.73	-179.94	251.48	297.90	248.77	217.94	30.83	8.069		
6,510.00	6,477.59	6,492.17	6,477.59	17.66	15.79	-179.94	251.48	297.90	248.77	217.81	30.95	8.037		
6,540.00	6,507.59	6,522.17	6,507.59	17.71	15.84	-179.94	251.48	297.90	248.77	217.69	31.07	8.006		
6,570.00	6,537.59	6,552.17	6,537.59	17.76	15.90	-179.94	251.48	297.90	248.77	217.57	31.20	7.974		
6,600.00	6,567.59	6,582.17	6,567.59	17.82	15.96	-179.94	251.48	297.90	248.77	217.45	31.32	7.943		
6,630.00	6,597.59	6,612.17	6,597.59	17.87	16.02	-179.94	251.48	297.90	248.77	217.33	31.44	7.912		
6,660.00	6,627.59	6,642.17	6,627.59	17.92	16.08	-179.94	251.48	297.90	248.77	217.20	31.56	7.882		
6,690.00	6,657.59	6,672.17	6,657.59	17.98	16.14	-179.94	251.48	297.90	248.77	217.08	31.68	7.851		
6,720.00	6,687.59	6,702.17	6,687.59	18.03	16.20	-179.94	251.48	297.90	248.77	216.96	31.81	7.821		
6,750.00	6,717.59	6,732.17	6,717.59	18.08	16.26	-179.94	251.48	297.90	248.77	216.84	31.93	7.791		
6,780.00	6,747.59	6,762.17	6,747.59	18.14	16.32	-179.94	251.48	297.90	248.77	216.71	32.05	7.761		
6,810.00	6,777.59	6,792.17	6,777.59	18.19	16.38	-179.94	251.48	297.90	248.77	216.59	32.18	7.732		
6,840.00	6,807.59	6,822.17	6,807.59	18.25	16.44	-179.94	251.48	297.90	248.77	216.47	32.30	7.702		
6,870.00	6,837.59	6,852.17	6,837.59	18.30	16.50	-179.94	251.48	297.90	248.77	216.34	32.42	7.673		
6,900.00	6,867.59	6,882.17	6,867.59	18.35	16.56	-179.94	251.48	297.90	248.77	216.22	32.54	7.644		
6,930.00	6,897.59	6,912.17	6,897.59	18.41	16.62	-179.94	251.48	297.90	248.77	216.10	32.67	7.615		
6,960.00	6,927.59	6,942.17	6,927.59	18.46	16.68	-179.94	251.48	297.90	248.77	215.97	32.79	7.586		
6,990.00	6,957.59	6,972.17	6,957.59	18.52	16.74	-179.94	251.48	297.90	248.77	215.85	32.91	7.558		
7,020.00	6,987.59	7,002.17	6,987.59	18.57	16.80	-179.94	251.48	297.90	248.77	215.73	33.04	7.530		
7,050.00	7,017.59	7,032.17	7,017.59	18.62	16.86	-179.94	251.48	297.90	248.77	215.60	33.16	7.502		
7,080.00	7,047.59	7,062.17	7,047.59	18.68	16.92	-179.94	251.48	297.90	248.77	215.48	33.28	7.474		
7,110.00	7,077.59	7,092.17	7,077.59	18.73	16.98	-179.94	251.48	297.90	248.77	215.36	33.41	7.446		
7,140.00	7,107.59	7,122.17	7,107.59	18.79	17.04	-179.94	251.48	297.90	248.77	215.23	33.53	7.419		
7,170.00	7,137.59	7,152.17	7,137.59	18.84	17.10	-179.94	251.48	297.90	248.77	215.11	33.66	7.391		
7,200.00	7,167.59	7,182.17	7,167.59	18.90	17.16	-179.94	251.48	297.90	248.77	214.99	33.78	7.364		
7,230.00	7,197.59	7,212.17	7,197.59	18.95	17.22	-179.94	251.48	297.90	248.77	214.86	33.90	7.337		
7,260.00	7,227.59	7,242.17	7,227.59	19.01	17.28	-179.94	251.48	297.90	248.77	214.74	34.03	7.311		
7,290.00	7,257.59	7,272.17	7,257.59	19.06	17.34	-179.94	251.48	297.90	248.77	214.61	34.15	7.284		
7,320.00	7,287.59	7,302.17	7,287.59	19.12	17.40	-179.94	251.48	297.90	248.77	214.49	34.28	7.258		
7,350.00	7,317.59	7,332.17	7,317.59	19.17	17.46	-179.94	251.48	297.90	248.77	214.36	34.40	7.231		
7,380.00	7,347.59	7,362.17	7,347.59	19.23	17.52	-179.94	251.48	297.90	248.77	214.24	34.53	7.205		
7,410.00	7,377.59	7,392.17	7,377.59	19.28	17.58	-179.94	251.48	297.90	248.77	214.12	34.65	7.179		
7,440.00	7,407.59	7,422.17	7,407.59	19.34	17.64	-179.94	251.48	297.90	248.77	213.99	34.77	7.154		
7,470.00	7,437.59	7,452.17	7,437.59	19.39	17.70	-179.94	251.48	297.90	248.77	213.87	34.90	7.128		
7,500.00	7,467.59	7,482.17	7,467.59	19.45	17.77	-179.94	251.48	297.90	248.77	213.74	35.02	7.103		
7,530.00	7,497.59	7,512.17	7,497.59	19.51	17.83	-179.94	251.48	297.90	248.77	213.62	35.15	7.077		
7,560.00	7,527.59	7,542.17	7,527.59	19.56	17.89	-179.94	251.48	297.90	248.77	213.49	35.27	7.052		
7,590.00	7,557.59	7,572.17	7,557.59	19.62	17.95	-179.94	251.48	297.90	248.77	213.37	35.40	7.028		
7,620.00	7,587.59	7,602.17	7,587.59	19.67	18.01	-179.94	251.48	297.90	248.77	213.24	35.52	7.003		
7,650.00	7,617.59	7,632.17	7,617.59	19.73	18.07	-179.94	251.48	297.90	248.77	213.12	35.65	6.978		
7,680.00	7,647.59	7,662.17	7,647.59	19.78	18.13	-179.94	251.48	297.90	248.77	212.99	35.77	6.954		
7,710.00	7,677.59	7,692.17	7,677.59	19.84	18.19	-179.94	251.48	297.90	248.77	212.87	35.90	6.930		
7,712.41	7,680.00	7,694.59	7,680.00	19.85	18.20	-179.94	251.48	297.90	248.77	212.86	35.91	6.928		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-12E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	128.40	-8.78	11.07	14.13					
30.00	30.00	30.00	30.00	0.01	0.03	128.40	-8.78	11.07	14.13	14.10	0.03	436.561		
60.00	60.00	60.00	60.00	0.04	0.05	128.40	-8.78	11.07	14.13	14.04	0.09	154.080		
90.00	90.00	90.00	90.00	0.07	0.08	128.40	-8.78	11.07	14.13	13.98	0.15	93.549		
120.00	120.00	120.00	120.00	0.13	0.13	128.40	-8.78	11.07	14.13	13.87	0.26	54.194		
150.00	150.00	150.00	150.00	0.20	0.20	128.40	-8.78	11.07	14.13	13.73	0.40	35.719		
180.00	180.00	180.00	180.00	0.27	0.27	128.40	-8.78	11.07	14.13	13.60	0.53	26.638		
210.00	210.00	210.00	210.00	0.33	0.33	128.40	-8.78	11.07	14.13	13.46	0.67	21.238		
240.00	240.00	240.00	240.00	0.40	0.40	128.40	-8.78	11.07	14.13	13.33	0.80	17.659		
270.00	270.00	270.00	270.00	0.47	0.47	128.40	-8.78	11.07	14.13	13.19	0.94	15.112		
300.00	300.00	300.00	300.00	0.53	0.53	128.40	-8.78	11.07	14.13	13.06	1.07	13.207 CC, ES		
330.00	330.00	329.86	329.86	0.60	0.60	129.25	-8.91	11.15	14.30	13.10	1.20	11.941		
360.00	360.00	359.71	359.70	0.67	0.66	131.68	-9.31	11.39	14.82	13.50	1.33	11.185		
390.00	389.99	389.52	389.51	0.74	0.72	135.36	-9.98	11.78	15.74	14.29	1.45	10.834		
420.00	419.96	419.30	419.26	0.81	0.78	139.81	-10.92	12.33	17.13	15.55	1.58	10.819 SF		
450.00	449.93	449.01	448.95	0.88	0.84	144.55	-12.12	13.04	19.04	17.32	1.72	11.099		
480.00	479.88	478.66	478.54	0.95	0.90	149.17	-13.58	13.90	21.51	19.66	1.85	11.637		
510.00	509.81	508.22	508.03	1.02	0.96	153.40	-15.30	14.91	24.56	22.58	1.98	12.374		
540.00	539.72	537.67	537.40	1.09	1.02	157.13	-17.27	16.07	28.21	26.08	2.13	13.254		
570.00	569.60	567.02	566.63	1.16	1.09	160.33	-19.49	17.38	32.44	30.17	2.27	14.292		
600.00	599.45	596.24	595.71	1.23	1.16	163.06	-21.97	18.83	37.24	34.83	2.41	15.452		
630.00	629.27	625.48	624.78	1.31	1.24	165.35	-24.68	20.43	42.60	40.03	2.56	16.611		
660.00	659.08	654.92	654.05	1.39	1.32	167.20	-27.46	22.07	48.14	45.44	2.70	17.816		
690.00	688.88	684.37	683.32	1.47	1.40	168.66	-30.24	23.70	53.72	50.88	2.84	18.920		
720.00	718.69	713.82	712.59	1.55	1.48	169.85	-33.02	25.34	59.33	56.35	2.98	19.922		
750.00	748.50	743.27	741.86	1.64	1.56	170.83	-35.80	26.98	64.96	61.84	3.12	20.832		
780.00	778.30	772.72	771.13	1.72	1.64	171.66	-38.58	28.61	70.60	67.34	3.26	21.668		
810.00	808.11	802.16	800.40	1.81	1.72	172.36	-41.36	30.25	76.26	72.86	3.40	22.437		
840.00	837.92	831.61	829.67	1.89	1.81	172.97	-44.15	31.89	81.93	78.39	3.54	23.132		
870.00	867.72	861.06	858.94	1.98	1.89	173.49	-46.93	33.52	87.60	83.92	3.68	23.775		
900.00	897.53	890.51	888.21	2.07	1.98	173.96	-49.71	35.16	93.29	89.46	3.83	24.372		
930.00	927.34	919.96	917.48	2.15	2.07	174.37	-52.49	36.80	98.97	95.00	3.97	24.917		
960.00	957.14	949.40	946.76	2.24	2.15	174.73	-55.27	38.43	104.67	100.55	4.12	25.423		
990.00	986.95	978.85	976.03	2.33	2.24	175.06	-58.05	40.07	110.36	106.10	4.26	25.895		
1,020.00	1,016.76	1,008.30	1,005.30	2.41	2.33	175.35	-60.83	41.71	116.06	111.65	4.41	26.333		
1,050.00	1,046.56	1,037.75	1,034.57	2.50	2.41	175.62	-63.61	43.34	121.76	117.21	4.55	26.739		
1,080.00	1,076.37	1,067.20	1,063.84	2.59	2.50	175.87	-66.39	44.98	127.47	122.77	4.70	27.121		
1,110.00	1,106.18	1,096.64	1,093.11	2.68	2.59	176.09	-69.18	46.62	133.17	128.33	4.85	27.478		
1,140.00	1,135.98	1,126.09	1,122.38	2.77	2.68	176.29	-71.96	48.26	138.88	133.89	4.99	27.811		
1,170.00	1,165.79	1,155.54	1,151.65	2.86	2.76	176.48	-74.74	49.89	144.59	139.45	5.14	28.125		
1,200.00	1,195.60	1,184.99	1,180.92	2.95	2.85	176.66	-77.52	51.53	150.30	145.01	5.29	28.422		
1,230.00	1,225.40	1,214.44	1,210.19	3.03	2.94	176.82	-80.30	53.17	156.01	150.58	5.44	28.696		
1,260.00	1,255.21	1,243.88	1,239.46	3.12	3.03	176.97	-83.08	54.80	161.73	156.14	5.58	28.960		
1,290.00	1,285.02	1,273.33	1,268.73	3.21	3.12	177.11	-85.86	56.44	167.44	161.71	5.73	29.212		
1,320.00	1,314.82	1,302.78	1,298.00	3.30	3.21	177.24	-88.64	58.08	173.16	167.28	5.88	29.447		
1,350.00	1,344.63	1,332.23	1,327.27	3.39	3.30	177.36	-91.43	59.71	178.87	172.85	6.03	29.669		
1,380.00	1,374.44	1,361.68	1,356.54	3.48	3.39	177.47	-94.21	61.35	184.59	178.41	6.18	29.877		
1,410.00	1,404.24	1,391.12	1,385.81	3.57	3.48	177.58	-96.99	62.99	190.31	183.98	6.33	30.079		
1,440.00	1,434.05	1,420.57	1,415.09	3.66	3.57	177.68	-99.77	64.62	196.03	189.55	6.48	30.272		
1,470.00	1,463.86	1,450.02	1,444.36	3.75	3.65	177.78	-102.55	66.26	201.75	195.12	6.62	30.453		
1,500.00	1,493.66	1,479.47	1,473.63	3.84	3.74	177.87	-105.33	67.90	207.47	200.69	6.77	30.627		
1,530.00	1,523.47	1,508.92	1,502.90	3.93	3.83	177.95	-108.11	69.53	213.19	206.26	6.92	30.793		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design		Gunderson - Gunderson 29-12E - Wellbore #1 - Design #1											Offset Site Error:		0.00 usft
Survey Program: 0-MWD													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
1,560.00	1,553.28	1,538.36	1,532.17	4.02	3.92	178.03	-110.89	71.17	218.91	211.83	7.07	30.951			
1,590.00	1,583.08	1,567.81	1,561.44	4.11	4.01	178.11	-113.68	72.81	224.63	217.40	7.22	31.102			
1,620.00	1,612.89	1,597.26	1,590.71	4.20	4.10	178.18	-116.46	74.44	230.35	222.98	7.37	31.247			
1,650.00	1,642.70	1,626.71	1,619.98	4.29	4.19	178.25	-119.24	76.08	236.07	228.55	7.52	31.386			
1,680.00	1,672.50	1,656.16	1,649.25	4.38	4.28	178.32	-122.02	77.72	241.79	234.12	7.67	31.519			
1,710.00	1,702.31	1,685.60	1,678.52	4.47	4.37	178.38	-124.80	79.35	247.51	239.69	7.82	31.646			
1,740.00	1,732.12	1,715.05	1,707.79	4.56	4.46	178.44	-127.58	80.99	253.24	245.27	7.97	31.769			
1,770.00	1,761.92	1,744.50	1,737.06	4.65	4.55	178.50	-130.36	82.63	258.96	250.84	8.12	31.887			
1,800.00	1,791.73	1,773.95	1,766.33	4.74	4.64	178.56	-133.14	84.26	264.68	256.41	8.27	32.000			
1,830.00	1,821.54	1,803.40	1,795.60	4.83	4.73	178.61	-135.92	85.90	270.41	261.98	8.42	32.109			
1,860.00	1,851.34	1,832.84	1,824.87	4.92	4.82	178.66	-138.71	87.54	276.13	267.56	8.57	32.214			
1,890.00	1,881.15	1,862.29	1,854.14	5.01	4.91	178.71	-141.49	89.17	281.85	273.13	8.72	32.315			
1,920.00	1,910.96	1,891.74	1,883.42	5.10	5.00	178.75	-144.27	90.81	287.58	278.70	8.87	32.413			
1,950.00	1,940.76	1,921.19	1,912.69	5.19	5.09	178.80	-147.05	92.45	293.30	284.28	9.02	32.507			
1,980.00	1,970.57	1,950.64	1,941.96	5.28	5.18	178.84	-149.83	94.08	299.02	289.85	9.17	32.598			
2,010.00	2,000.38	1,980.08	1,971.23	5.37	5.27	178.88	-152.61	95.72	304.75	295.43	9.32	32.686			
2,040.00	2,030.18	2,009.53	2,000.50	5.46	5.36	178.92	-155.39	97.36	310.47	301.00	9.47	32.771			
2,070.00	2,059.99	2,038.98	2,029.77	5.55	5.45	178.96	-158.17	99.00	316.20	306.57	9.62	32.853			
2,100.00	2,089.80	2,068.43	2,059.04	5.64	5.55	179.00	-160.96	100.63	321.92	312.15	9.78	32.933			
2,130.00	2,119.60	2,097.88	2,088.31	5.73	5.64	179.04	-163.74	102.27	327.65	317.72	9.93	33.010			
2,160.00	2,149.41	2,127.32	2,117.58	5.83	5.73	179.07	-166.52	103.91	333.37	323.30	10.08	33.084			
2,190.00	2,179.22	2,156.77	2,146.85	5.92	5.82	179.10	-169.30	105.54	339.10	328.87	10.23	33.156			
2,220.00	2,209.02	2,186.22	2,176.12	6.01	5.91	179.14	-172.08	107.18	344.82	334.45	10.38	33.227			
2,250.00	2,238.83	2,215.67	2,205.39	6.10	6.00	179.17	-174.86	108.82	350.55	340.02	10.53	33.295			
2,280.00	2,268.64	2,245.11	2,234.66	6.19	6.09	179.20	-177.64	110.45	356.27	345.60	10.68	33.361			
2,310.00	2,298.44	2,274.56	2,263.93	6.28	6.18	179.23	-180.42	112.09	362.00	351.17	10.83	33.425			
2,340.00	2,328.25	2,304.01	2,293.20	6.37	6.27	179.25	-183.21	113.73	367.73	356.74	10.98	33.487			
2,370.00	2,358.06	2,333.46	2,322.47	6.46	6.36	179.28	-185.99	115.36	373.45	362.32	11.13	33.547			
2,400.00	2,387.86	2,362.91	2,351.75	6.55	6.45	179.31	-188.77	117.00	379.18	367.89	11.28	33.606			
2,430.00	2,417.67	2,392.35	2,381.02	6.64	6.54	179.34	-191.55	118.64	384.90	373.47	11.43	33.663			
2,460.00	2,447.47	2,421.80	2,410.29	6.73	6.63	179.36	-194.33	120.27	390.63	379.04	11.58	33.719			
2,490.00	2,477.28	2,451.25	2,439.56	6.82	6.72	179.38	-197.11	121.91	396.36	384.62	11.74	33.773			
2,520.00	2,507.09	2,480.70	2,468.83	6.91	6.81	179.41	-199.89	123.55	402.08	390.19	11.89	33.826			
2,550.00	2,536.89	2,510.15	2,498.10	7.00	6.90	179.43	-202.67	125.18	407.81	395.77	12.04	33.877			
2,580.00	2,566.70	2,539.59	2,527.37	7.09	6.99	179.45	-205.45	126.82	413.53	401.35	12.19	33.927			
2,610.00	2,596.51	2,569.04	2,556.64	7.18	7.08	179.48	-208.24	128.46	419.26	406.92	12.34	33.975			
2,640.00	2,626.31	2,598.49	2,585.91	7.28	7.17	179.50	-211.02	130.09	424.99	412.50	12.49	34.023			
2,670.00	2,656.12	2,627.94	2,615.18	7.37	7.26	179.52	-213.80	131.73	430.71	418.07	12.64	34.069			
2,700.00	2,685.93	2,657.39	2,644.45	7.46	7.36	179.54	-216.58	133.37	436.44	423.65	12.79	34.114			
2,730.00	2,715.73	2,686.83	2,673.72	7.55	7.45	179.56	-219.36	135.00	442.17	429.22	12.94	34.158			
2,760.00	2,745.54	2,716.28	2,702.99	7.64	7.54	179.58	-222.14	136.64	447.89	434.80	13.10	34.201			
2,790.00	2,775.35	2,745.73	2,732.26	7.73	7.63	179.59	-224.92	138.28	453.62	440.37	13.25	34.243			
2,820.00	2,805.15	2,775.18	2,761.53	7.82	7.72	179.61	-227.70	139.91	459.35	445.95	13.40	34.284			
2,850.00	2,834.96	2,804.63	2,790.81	7.91	7.81	179.63	-230.49	141.55	465.07	451.52	13.55	34.324			
2,880.00	2,864.77	2,834.07	2,820.08	8.00	7.90	179.65	-233.27	143.19	470.80	457.10	13.70	34.363			
2,910.00	2,894.57	2,863.52	2,849.35	8.09	7.99	179.66	-236.05	144.83	476.53	462.68	13.85	34.402			
2,940.00	2,924.38	2,892.97	2,878.62	8.18	8.08	179.68	-238.83	146.46	482.25	468.25	14.00	34.439			
2,970.00	2,954.19	2,922.42	2,907.89	8.27	8.17	179.70	-241.61	148.10	487.98	473.83	14.15	34.475			
3,000.00	2,983.99	2,951.87	2,937.16	8.36	8.26	179.71	-244.39	149.74	493.71	479.40	14.31	34.511			
3,030.00	3,013.80	2,981.31	2,966.43	8.45	8.35	179.73	-247.17	151.37	499.43	484.98	14.46	34.546			
3,060.00	3,043.61	3,010.76	2,995.70	8.55	8.44	179.74	-249.95	153.01	505.16	490.55	14.61	34.580			
3,090.00	3,073.41	3,040.21	3,024.97	8.64	8.53	179.76	-252.73	154.65	510.89	496.13	14.76	34.614			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-12E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
3,120.00	3,103.22	3,069.66	3,054.24	8.73	8.63	179.77	-255.52	156.28	516.62	501.70	14.91	34.646		
3,150.00	3,133.03	3,099.11	3,083.51	8.82	8.72	179.79	-258.30	157.92	522.34	507.28	15.06	34.679		
3,180.00	3,162.83	3,128.55	3,112.78	8.91	8.81	179.80	-261.08	159.56	528.07	512.86	15.21	34.710		
3,210.00	3,192.64	3,158.00	3,142.05	9.00	8.90	179.81	-263.86	161.19	533.80	518.43	15.37	34.741		
3,240.00	3,222.45	3,187.45	3,171.32	9.09	8.99	179.83	-266.64	162.83	539.52	524.01	15.52	34.771		
3,270.00	3,252.25	3,216.90	3,200.59	9.18	9.08	179.84	-269.42	164.47	545.25	529.58	15.67	34.800		
3,300.00	3,282.06	3,246.35	3,229.86	9.27	9.17	179.85	-272.20	166.10	550.98	535.16	15.82	34.829		
3,330.00	3,311.87	3,275.79	3,259.14	9.36	9.26	179.86	-274.98	167.74	556.71	540.74	15.97	34.858		
3,360.00	3,341.67	3,305.24	3,288.41	9.45	9.35	179.88	-277.77	169.38	562.43	546.31	16.12	34.885		
3,390.00	3,371.48	3,334.69	3,317.68	9.54	9.44	179.89	-280.55	171.01	568.16	551.89	16.27	34.913		
3,420.00	3,401.29	3,364.14	3,346.95	9.64	9.53	179.90	-283.33	172.65	573.89	557.46	16.43	34.939		
3,450.00	3,431.09	3,393.59	3,376.22	9.73	9.62	179.91	-286.11	174.29	579.62	563.04	16.58	34.966		
3,480.00	3,460.90	3,423.03	3,405.49	9.82	9.71	179.92	-288.89	175.92	585.34	568.62	16.73	34.991		
3,510.00	3,490.71	3,452.48	3,434.76	9.91	9.81	179.93	-291.67	177.56	591.07	574.19	16.88	35.017		
3,540.00	3,520.51	3,481.93	3,464.03	10.00	9.90	179.94	-294.45	179.20	596.80	579.77	17.03	35.042		
3,570.00	3,550.32	3,511.38	3,493.30	10.09	9.99	179.95	-297.23	180.83	602.53	585.34	17.18	35.066		
3,600.00	3,580.13	3,540.83	3,522.57	10.18	10.08	179.96	-300.02	182.47	608.25	590.92	17.33	35.090		
3,630.00	3,609.93	3,570.27	3,551.84	10.27	10.17	179.97	-302.80	184.11	613.98	596.49	17.49	35.113		
3,660.00	3,639.74	3,599.72	3,581.11	10.36	10.26	179.98	-305.58	185.74	619.71	602.07	17.64	35.136		
3,690.00	3,669.55	3,629.17	3,610.38	10.45	10.35	179.99	-308.36	187.38	625.44	607.65	17.79	35.159		
3,720.00	3,699.35	3,658.62	3,639.65	10.54	10.44	-180.00	-311.14	189.02	631.16	613.22	17.94	35.181		
3,750.00	3,729.16	3,688.07	3,668.92	10.64	10.53	-179.99	-313.92	190.65	636.89	618.80	18.09	35.203		
3,780.00	3,758.97	3,717.51	3,698.19	10.73	10.62	-179.98	-316.70	192.29	642.62	624.37	18.24	35.225		
3,810.00	3,788.77	3,746.96	3,727.47	10.82	10.71	-179.97	-319.48	193.93	648.35	629.95	18.40	35.246		
3,840.00	3,818.58	3,776.41	3,756.74	10.91	10.80	-179.96	-322.26	195.57	654.07	635.53	18.55	35.266		
3,870.00	3,848.39	3,805.86	3,786.01	11.00	10.89	-179.95	-325.05	197.20	659.80	641.10	18.70	35.287		
3,900.00	3,878.19	3,835.31	3,815.28	11.09	10.99	-179.94	-327.83	198.84	665.53	646.68	18.85	35.307		
3,930.00	3,908.00	3,864.75	3,844.55	11.18	11.08	-179.93	-330.61	200.48	671.26	652.26	19.00	35.327		
3,960.00	3,937.81	3,894.20	3,873.82	11.27	11.17	-179.93	-333.39	202.11	676.98	657.83	19.15	35.346		
3,990.00	3,967.61	3,923.65	3,903.09	11.36	11.26	-179.92	-336.17	203.75	682.71	663.41	19.30	35.365		
4,020.00	3,997.42	3,953.10	3,932.36	11.45	11.35	-179.91	-338.95	205.39	688.44	668.98	19.46	35.384		
4,050.00	4,027.23	3,982.55	3,961.63	11.54	11.44	-179.90	-341.73	207.02	694.17	674.56	19.61	35.402		
4,080.00	4,057.03	4,011.99	3,990.90	11.64	11.53	-179.89	-344.51	208.66	699.90	680.14	19.76	35.420		
4,110.00	4,086.84	4,041.44	4,020.17	11.73	11.62	-179.89	-347.30	210.30	705.62	685.71	19.91	35.438		
4,140.00	4,116.65	4,070.89	4,049.44	11.82	11.71	-179.88	-350.08	211.93	711.35	691.29	20.06	35.456		
4,170.00	4,146.45	4,100.34	4,078.71	11.91	11.80	-179.87	-352.86	213.57	717.08	696.86	20.21	35.473		
4,200.00	4,176.26	4,129.79	4,107.98	12.00	11.89	-179.86	-355.64	215.21	722.81	702.44	20.37	35.490		
4,230.00	4,206.07	4,159.23	4,137.25	12.09	11.99	-179.86	-358.42	216.84	728.53	708.02	20.52	35.507		
4,260.00	4,235.87	4,188.68	4,166.52	12.18	12.08	-179.85	-361.20	218.48	734.26	713.59	20.67	35.524		
4,290.00	4,265.68	4,218.13	4,195.80	12.27	12.17	-179.84	-363.98	220.12	739.99	719.17	20.82	35.540		
4,320.00	4,295.49	4,247.58	4,225.07	12.36	12.26	-179.84	-366.76	221.75	745.72	724.74	20.97	35.556		
4,350.00	4,325.29	4,277.03	4,254.34	12.45	12.35	-179.83	-369.54	223.39	751.45	730.32	21.12	35.572		
4,380.00	4,355.10	4,306.47	4,283.61	12.54	12.44	-179.82	-372.33	225.03	757.17	735.90	21.28	35.587		
4,410.00	4,384.91	4,335.92	4,312.88	12.64	12.53	-179.82	-375.11	226.66	762.90	741.47	21.43	35.603		
4,440.00	4,414.71	4,365.37	4,342.15	12.73	12.62	-179.81	-377.89	228.30	768.63	747.05	21.58	35.618		
4,470.00	4,444.52	4,394.82	4,371.42	12.82	12.71	-179.80	-380.67	229.94	774.36	752.63	21.73	35.633		
4,500.00	4,474.33	4,424.27	4,400.69	12.91	12.80	-179.80	-383.45	231.57	780.08	758.20	21.88	35.647		
4,530.00	4,504.13	4,453.71	4,429.96	13.00	12.89	-179.79	-386.23	233.21	785.81	763.78	22.04	35.662		
4,560.00	4,533.94	4,483.16	4,459.23	13.09	12.98	-179.78	-389.01	234.85	791.54	769.35	22.19	35.676		
4,590.00	4,563.75	4,512.61	4,488.50	13.18	13.08	-179.78	-391.79	236.48	797.27	774.93	22.34	35.690		
4,620.00	4,593.55	4,542.06	4,517.77	13.27	13.17	-179.77	-394.58	238.12	803.00	780.51	22.49	35.704		
4,650.00	4,623.36	4,571.51	4,547.04	13.36	13.26	-179.77	-397.36	239.76	808.72	786.08	22.64	35.717		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-12E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,680.00	4,653.16	4,600.95	4,576.31	13.45	13.35	-179.76	-400.14	241.39	814.45	791.66	22.79	35.731		
4,710.00	4,682.97	4,630.40	4,605.58	13.55	13.44	-179.76	-402.92	243.03	820.18	797.23	22.95	35.744		
4,740.00	4,712.78	4,659.85	4,634.85	13.64	13.53	-179.75	-405.70	244.67	825.91	802.81	23.10	35.757		
4,770.00	4,742.58	4,689.30	4,664.13	13.73	13.62	-179.74	-408.48	246.31	831.64	808.39	23.25	35.770		
4,800.00	4,772.39	4,718.75	4,693.40	13.82	13.71	-179.74	-411.26	247.94	837.36	813.96	23.40	35.783		
4,830.00	4,802.20	4,748.19	4,722.67	13.91	13.80	-179.73	-414.04	249.58	843.09	819.54	23.55	35.795		
4,860.00	4,832.00	4,777.64	4,751.94	14.00	13.89	-179.73	-416.83	251.22	848.82	825.12	23.70	35.808		
4,890.00	4,861.81	4,807.09	4,781.21	14.09	13.98	-179.72	-419.61	252.85	854.55	830.69	23.86	35.820		
4,920.00	4,891.62	4,836.54	4,810.48	14.18	14.08	-179.72	-422.39	254.49	860.28	836.27	24.01	35.832		
4,950.00	4,921.42	4,865.99	4,839.75	14.27	14.17	-179.71	-425.17	256.13	866.00	841.84	24.16	35.844		
4,980.00	4,951.23	4,895.43	4,869.02	14.36	14.26	-179.71	-427.95	257.76	871.73	847.42	24.31	35.856		
5,010.00	4,981.04	4,924.88	4,898.29	14.45	14.35	-179.70	-430.73	259.40	877.46	853.00	24.46	35.867		
5,040.00	5,010.84	4,954.33	4,927.56	14.55	14.44	-179.70	-433.51	261.04	883.19	858.57	24.62	35.879		
5,070.00	5,040.65	4,983.78	4,956.83	14.64	14.53	-179.69	-436.29	262.67	888.92	864.15	24.77	35.890		
5,100.00	5,070.46	5,013.23	4,986.10	14.73	14.62	-179.69	-439.07	264.31	894.64	869.72	24.92	35.901		
5,130.00	5,100.26	5,042.67	5,015.37	14.82	14.71	-179.68	-441.86	265.95	900.37	875.30	25.07	35.912		
5,160.00	5,130.07	5,072.12	5,044.64	14.91	14.80	-179.68	-444.64	267.58	906.10	880.88	25.22	35.923		
5,190.00	5,159.88	5,101.57	5,073.91	15.00	14.89	-179.67	-447.42	269.22	911.83	886.45	25.38	35.934		
5,220.00	5,189.68	5,131.02	5,103.19	15.09	14.98	-179.67	-450.20	270.86	917.56	892.03	25.53	35.944		
5,250.00	5,219.49	5,160.47	5,132.46	15.18	15.08	-179.67	-452.98	272.49	923.28	897.61	25.68	35.955		
5,280.00	5,249.30	5,189.91	5,161.73	15.27	15.17	-179.66	-455.76	274.13	929.01	903.18	25.83	35.965		
5,310.00	5,279.10	5,219.36	5,191.00	15.36	15.26	-179.66	-458.54	275.77	934.74	908.76	25.98	35.975		
5,340.00	5,308.91	5,248.81	5,220.27	15.46	15.35	-179.65	-461.32	277.40	940.47	914.33	26.13	35.985		
5,370.00	5,338.72	5,278.26	5,249.54	15.55	15.44	-179.65	-464.11	279.04	946.20	919.91	26.29	35.995		
5,400.00	5,368.52	5,307.71	5,278.81	15.64	15.53	-179.64	-466.89	280.68	951.93	925.49	26.44	36.005		
5,430.00	5,398.33	5,337.15	5,308.08	15.73	15.62	-179.64	-469.67	282.31	957.65	931.06	26.59	36.015		
5,460.00	5,428.15	5,366.62	5,337.37	15.81	15.71	-179.64	-472.45	283.95	963.30	936.55	26.75	36.013		
5,490.00	5,458.00	5,396.13	5,366.70	15.89	15.80	-179.65	-475.24	285.59	968.70	941.79	26.91	36.001		
5,520.00	5,487.88	5,425.68	5,396.08	15.96	15.89	-179.66	-478.03	287.24	973.82	946.77	27.06	35.992		
5,550.00	5,517.78	5,455.24	5,425.43	16.02	15.99	-179.70	-481.17	289.08	978.66	951.46	27.21	35.973		
5,580.00	5,547.71	5,501.33	5,471.32	16.08	16.10	-179.76	-484.71	291.17	982.95	955.59	27.36	35.920		
5,610.00	5,577.66	5,531.62	5,503.46	16.14	16.18	-179.82	-487.73	292.95	986.59	959.09	27.51	35.869		
5,640.00	5,607.62	5,561.07	5,532.82	16.19	16.26	-179.86	-490.23	294.42	989.59	961.95	27.64	35.800		
5,670.00	5,637.60	5,591.06	5,563.35	16.24	16.33	-179.89	-492.19	295.57	991.93	964.16	27.77	35.716		
5,700.00	5,667.59	5,621.06	5,593.34	16.29	16.40	-179.92	-493.61	296.40	993.62	965.72	27.90	35.613		
5,730.00	5,697.59	5,651.06	5,623.34	16.34	16.47	-179.93	-494.48	296.91	994.66	966.64	28.02	35.493		
5,760.00	5,727.59	5,681.06	5,653.34	16.38	16.53	-179.94	-494.80	297.10	995.04	966.89	28.15	35.350		
5,790.00	5,757.59	5,711.06	5,683.34	16.43	16.58	-179.94	-494.80	297.10	995.04	966.79	28.26	35.216		
5,820.00	5,787.59	5,741.06	5,713.34	16.47	16.62	-179.94	-494.80	297.10	995.04	966.68	28.36	35.083		
5,850.00	5,817.59	5,771.06	5,743.34	16.52	16.66	-179.94	-494.80	297.10	995.04	966.57	28.47	34.950		
5,880.00	5,847.59	5,801.06	5,773.34	16.57	16.70	-179.94	-494.80	297.10	995.04	966.47	28.58	34.819		
5,910.00	5,877.59	5,831.06	5,803.34	16.62	16.74	-179.94	-494.80	297.10	995.04	966.36	28.69	34.688		
5,940.00	5,907.59	5,861.06	5,833.34	16.68	16.79	-179.94	-494.80	297.10	995.04	966.25	28.79	34.557		
5,970.00	5,937.59	5,891.06	5,863.34	16.73	16.83	-179.94	-494.80	297.10	995.04	966.14	28.90	34.428		
6,000.00	5,967.59	5,921.06	5,893.34	16.78	16.87	-179.94	-494.80	297.10	995.04	966.03	29.01	34.299		
6,030.00	5,997.59	5,951.06	5,923.34	16.83	16.91	-179.94	-494.80	297.10	995.04	965.92	29.12	34.171		
6,060.00	6,027.59	5,981.06	5,953.34	16.88	16.95	-179.94	-494.80	297.10	995.04	965.81	29.23	34.043		
6,090.00	6,057.59	6,011.06	5,983.34	16.93	16.99	-179.94	-494.80	297.10	995.04	965.71	29.34	33.917		
6,120.00	6,087.59	6,041.06	6,013.34	16.98	17.03	-179.94	-494.80	297.10	995.04	965.60	29.45	33.791		
6,150.00	6,117.59	6,071.06	6,043.34	17.03	17.08	-179.94	-494.80	297.10	995.04	965.49	29.56	33.665		
6,180.00	6,147.59	6,101.06	6,073.34	17.08	17.12	-179.94	-494.80	297.10	995.04	965.38	29.67	33.541		
6,210.00	6,177.59	6,131.06	6,103.34	17.14	17.16	-179.94	-494.80	297.10	995.04	965.27	29.78	33.417		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-12E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,240.00	6,207.59	6,237.95	6,207.59	17.19	17.20	-179.94	-494.80	297.10	995.04	965.16	29.89	33.293		
6,270.00	6,237.59	6,267.95	6,237.59	17.24	17.24	-179.94	-494.80	297.10	995.04	965.05	30.00	33.171		
6,300.00	6,267.59	6,297.95	6,267.59	17.29	17.29	-179.94	-494.80	297.10	995.04	964.93	30.11	33.049		
6,330.00	6,297.59	6,327.95	6,297.59	17.34	17.33	-179.94	-494.80	297.10	995.04	964.82	30.22	32.928		
6,360.00	6,327.59	6,357.95	6,327.59	17.40	17.37	-179.94	-494.80	297.10	995.04	964.71	30.33	32.807		
6,390.00	6,357.59	6,387.95	6,357.59	17.45	17.42	-179.94	-494.80	297.10	995.04	964.60	30.44	32.687		
6,420.00	6,387.59	6,417.95	6,387.59	17.50	17.46	-179.94	-494.80	297.10	995.04	964.49	30.55	32.568		
6,450.00	6,417.59	6,447.95	6,417.59	17.55	17.50	-179.94	-494.80	297.10	995.04	964.38	30.66	32.450		
6,480.00	6,447.59	6,477.95	6,447.59	17.61	17.55	-179.94	-494.80	297.10	995.04	964.27	30.78	32.332		
6,510.00	6,477.59	6,507.95	6,477.59	17.66	17.59	-179.94	-494.80	297.10	995.04	964.16	30.89	32.215		
6,540.00	6,507.59	6,537.95	6,507.59	17.71	17.63	-179.94	-494.80	297.10	995.04	964.04	31.00	32.098		
6,570.00	6,537.59	6,567.95	6,537.59	17.76	17.68	-179.94	-494.80	297.10	995.04	963.93	31.11	31.982		
6,600.00	6,567.59	6,597.95	6,567.59	17.82	17.72	-179.94	-494.80	297.10	995.04	963.82	31.22	31.867		
6,630.00	6,597.59	6,627.95	6,597.59	17.87	17.77	-179.94	-494.80	297.10	995.04	963.71	31.34	31.752		
6,660.00	6,627.59	6,657.95	6,627.59	17.92	17.81	-179.94	-494.80	297.10	995.04	963.59	31.45	31.638		
6,690.00	6,657.59	6,687.95	6,657.59	17.98	17.86	-179.94	-494.80	297.10	995.04	963.48	31.56	31.525		
6,720.00	6,687.59	6,717.95	6,687.59	18.03	17.90	-179.94	-494.80	297.10	995.04	963.37	31.68	31.412		
6,750.00	6,717.59	6,747.95	6,717.59	18.08	17.95	-179.94	-494.80	297.10	995.04	963.25	31.79	31.300		
6,780.00	6,747.59	6,777.95	6,747.59	18.14	17.99	-179.94	-494.80	297.10	995.04	963.14	31.90	31.189		
6,810.00	6,777.59	6,807.95	6,777.59	18.19	18.04	-179.94	-494.80	297.10	995.04	963.03	32.02	31.078		
6,840.00	6,807.59	6,837.95	6,807.59	18.25	18.08	-179.94	-494.80	297.10	995.04	962.91	32.13	30.968		
6,870.00	6,837.59	6,867.95	6,837.59	18.30	18.13	-179.94	-494.80	297.10	995.04	962.80	32.25	30.859		
6,900.00	6,867.59	6,897.95	6,867.59	18.35	18.17	-179.94	-494.80	297.10	995.04	962.68	32.36	30.750		
6,930.00	6,897.59	6,927.95	6,897.59	18.41	18.22	-179.94	-494.80	297.10	995.04	962.57	32.47	30.641		
6,960.00	6,927.59	6,957.95	6,927.59	18.46	18.27	-179.94	-494.80	297.10	995.04	962.45	32.59	30.534		
6,990.00	6,957.59	6,987.95	6,957.59	18.52	18.31	-179.94	-494.80	297.10	995.04	962.34	32.70	30.427		
7,020.00	6,987.59	7,017.95	6,987.59	18.57	18.36	-179.94	-494.80	297.10	995.04	962.23	32.82	30.320		
7,050.00	7,017.59	7,047.95	7,017.59	18.62	18.40	-179.94	-494.80	297.10	995.04	962.11	32.93	30.214		
7,080.00	7,047.59	7,077.95	7,047.59	18.68	18.45	-179.94	-494.80	297.10	995.04	962.00	33.05	30.109		
7,110.00	7,077.59	7,107.95	7,077.59	18.73	18.50	-179.94	-494.80	297.10	995.04	961.88	33.16	30.005		
7,140.00	7,107.59	7,137.95	7,107.59	18.79	18.54	-179.94	-494.80	297.10	995.04	961.76	33.28	29.901		
7,170.00	7,137.59	7,167.95	7,137.59	18.84	18.59	-179.94	-494.80	297.10	995.04	961.65	33.39	29.797		
7,200.00	7,167.59	7,197.95	7,167.59	18.90	18.64	-179.94	-494.80	297.10	995.04	961.53	33.51	29.694		
7,230.00	7,197.59	7,227.95	7,197.59	18.95	18.68	-179.94	-494.80	297.10	995.04	961.42	33.63	29.592		
7,260.00	7,227.59	7,257.95	7,227.59	19.01	18.73	-179.94	-494.80	297.10	995.04	961.30	33.74	29.490		
7,290.00	7,257.59	7,287.95	7,257.59	19.06	18.78	-179.94	-494.80	297.10	995.04	961.19	33.86	29.389		
7,320.00	7,287.59	7,317.95	7,287.59	19.12	18.83	-179.94	-494.80	297.10	995.04	961.07	33.97	29.289		
7,350.00	7,317.59	7,347.95	7,317.59	19.17	18.87	-179.94	-494.80	297.10	995.04	960.95	34.09	29.189		
7,380.00	7,347.59	7,377.95	7,347.59	19.23	18.92	-179.94	-494.80	297.10	995.04	960.84	34.21	29.089		
7,410.00	7,377.59	7,407.95	7,377.59	19.28	18.97	-179.94	-494.80	297.10	995.04	960.72	34.32	28.990		
7,440.00	7,407.59	7,437.95	7,407.59	19.34	19.02	-179.94	-494.80	297.10	995.04	960.60	34.44	28.892		
7,470.00	7,437.59	7,467.95	7,437.59	19.39	19.07	-179.94	-494.80	297.10	995.04	960.49	34.56	28.794		
7,500.00	7,467.59	7,497.95	7,467.59	19.45	19.11	-179.94	-494.80	297.10	995.04	960.37	34.67	28.697		
7,530.00	7,497.59	7,527.95	7,497.59	19.51	19.16	-179.94	-494.80	297.10	995.04	960.25	34.79	28.600		
7,560.00	7,527.59	7,557.95	7,527.59	19.56	19.21	-179.94	-494.80	297.10	995.04	960.13	34.91	28.504		
7,590.00	7,557.59	7,587.95	7,557.59	19.62	19.26	-179.94	-494.80	297.10	995.04	960.02	35.03	28.409		
7,620.00	7,587.59	7,617.95	7,587.59	19.67	19.31	-179.94	-494.80	297.10	995.04	959.90	35.14	28.314		
7,650.00	7,617.59	7,647.95	7,617.59	19.73	19.36	-179.94	-494.80	297.10	995.04	959.78	35.26	28.219		
7,680.00	7,647.59	7,677.95	7,647.59	19.78	19.41	-179.94	-494.80	297.10	995.04	959.66	35.38	28.125		
7,710.00	7,677.59	7,707.95	7,677.59	19.84	19.45	-179.94	-494.80	297.10	995.04	959.55	35.50	28.032		
7,712.41	7,680.00	7,710.36	7,680.00	19.85	19.46	-179.94	-494.80	297.10	995.04	959.54	35.51	28.025		

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-13E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	173.34	-9.94	1.16	10.01					
30.00	30.00	30.00	30.00	0.01	0.03	173.34	-9.94	1.16	10.01	9.98	0.03	309.293		
60.00	60.00	60.00	60.00	0.04	0.05	173.34	-9.94	1.16	10.01	9.92	0.09	109.162		
90.00	90.00	90.00	90.00	0.07	0.08	173.34	-9.94	1.16	10.01	9.86	0.15	66.277		
120.00	120.00	120.00	120.00	0.13	0.13	173.34	-9.94	1.16	10.01	9.75	0.26	38.395		
150.00	150.00	150.00	150.00	0.20	0.20	173.34	-9.94	1.16	10.01	9.62	0.40	25.306		
180.00	180.00	180.00	180.00	0.27	0.27	173.34	-9.94	1.16	10.01	9.48	0.53	18.872		
210.00	210.00	210.00	210.00	0.33	0.33	173.34	-9.94	1.16	10.01	9.35	0.67	15.047		
240.00	240.00	240.00	240.00	0.40	0.40	173.34	-9.94	1.16	10.01	9.21	0.80	12.511		
270.00	270.00	270.00	270.00	0.47	0.47	173.34	-9.94	1.16	10.01	9.08	0.94	10.706		
300.00	300.00	300.00	300.00	0.53	0.53	173.34	-9.94	1.16	10.01	8.94	1.07	9.357 CC		
330.00	330.00	330.00	330.00	0.60	0.60	173.88	-9.94	1.16	10.14	8.93	1.21	8.410 ES		
360.00	360.00	360.00	360.00	0.67	0.67	175.42	-9.94	1.16	10.52	9.18	1.34	7.842		
390.00	389.99	389.99	389.99	0.74	0.74	177.76	-9.94	1.16	11.17	9.69	1.48	7.561		
420.00	419.96	419.96	419.96	0.81	0.80	-179.41	-9.94	1.16	12.10	10.49	1.61	7.499 SF		
450.00	449.93	449.93	449.93	0.88	0.87	-176.35	-9.94	1.16	13.34	11.59	1.75	7.618		
480.00	479.88	479.88	479.88	0.95	0.94	-173.32	-9.94	1.16	14.90	13.01	1.89	7.891		
510.00	509.81	509.76	509.76	1.02	1.00	-170.50	-9.96	1.17	16.80	14.77	2.02	8.304		
540.00	539.72	539.50	539.50	1.09	1.06	-168.35	-10.20	1.26	19.22	17.07	2.15	8.923		
570.00	569.60	569.17	569.16	1.16	1.12	-166.90	-10.72	1.47	22.22	19.94	2.29	9.719		
600.00	599.45	598.75	598.73	1.23	1.18	-165.99	-11.52	1.80	25.78	23.36	2.42	10.660		
630.00	629.27	628.24	628.20	1.31	1.24	-165.48	-12.60	2.23	29.88	27.33	2.55	11.725		
660.00	659.08	657.64	657.56	1.39	1.29	-165.35	-13.96	2.78	34.34	31.66	2.68	12.827		
690.00	688.88	686.97	686.83	1.47	1.35	-165.50	-15.60	3.44	39.04	36.24	2.80	13.920		
720.00	718.69	716.21	716.01	1.55	1.41	-165.85	-17.51	4.21	43.99	41.05	2.94	14.983		
750.00	748.50	745.37	745.07	1.64	1.47	-166.33	-19.68	5.09	49.18	46.11	3.07	16.025		
780.00	778.30	774.44	774.02	1.72	1.53	-166.89	-22.13	6.07	54.63	51.42	3.20	17.057		
810.00	808.11	803.41	802.84	1.81	1.60	-167.50	-24.83	7.16	60.32	56.98	3.34	18.076		
840.00	837.92	832.28	831.53	1.89	1.67	-168.14	-27.80	8.36	66.27	62.79	3.48	19.066		
870.00	867.72	861.03	860.08	1.98	1.74	-168.80	-31.02	9.65	72.47	68.85	3.61	20.051		
900.00	897.53	889.68	888.48	2.07	1.81	-169.46	-34.49	11.05	78.93	75.17	3.75	21.032		
930.00	927.34	918.21	916.72	2.15	1.89	-170.12	-38.20	12.55	85.64	81.75	3.89	21.989		
960.00	957.14	946.61	944.80	2.24	1.97	-170.77	-42.17	14.15	92.62	88.58	4.04	22.934		
990.00	986.95	974.97	972.80	2.33	2.05	-171.41	-46.38	15.85	99.86	95.67	4.18	23.876		
1,020.00	1,016.76	1,004.03	1,001.47	2.41	2.14	-172.02	-50.80	17.63	107.20	102.87	4.33	24.761		
1,050.00	1,046.56	1,033.10	1,030.14	2.50	2.24	-172.56	-55.22	19.41	114.56	110.09	4.47	25.616		
1,080.00	1,076.37	1,062.16	1,058.81	2.59	2.33	-173.03	-59.64	21.19	121.93	117.31	4.62	26.420		
1,110.00	1,106.18	1,091.23	1,087.48	2.68	2.43	-173.45	-64.06	22.97	129.30	124.55	4.76	27.177		
1,140.00	1,135.98	1,120.29	1,116.15	2.77	2.52	-173.82	-68.49	24.76	136.69	131.78	4.90	27.881		
1,170.00	1,165.79	1,149.36	1,144.82	2.86	2.62	-174.15	-72.91	26.54	144.07	139.02	5.05	28.543		
1,200.00	1,195.60	1,178.42	1,173.50	2.95	2.72	-174.45	-77.33	28.32	151.46	146.27	5.19	29.170		
1,230.00	1,225.40	1,207.49	1,202.17	3.03	2.82	-174.73	-81.75	30.10	158.86	153.52	5.34	29.753		
1,260.00	1,255.21	1,236.56	1,230.84	3.12	2.92	-174.98	-86.17	31.88	166.25	160.77	5.49	30.307		
1,290.00	1,285.02	1,265.62	1,259.51	3.21	3.02	-175.21	-90.60	33.67	173.65	168.02	5.63	30.835		
1,320.00	1,314.82	1,294.69	1,288.18	3.30	3.13	-175.41	-95.02	35.45	181.06	175.28	5.78	31.334		
1,350.00	1,344.63	1,323.75	1,316.85	3.39	3.23	-175.61	-99.44	37.23	188.46	182.53	5.93	31.803		
1,380.00	1,374.44	1,352.82	1,345.53	3.48	3.33	-175.79	-103.86	39.01	195.87	189.79	6.07	32.246		
1,410.00	1,404.24	1,381.88	1,374.20	3.57	3.44	-175.95	-108.28	40.80	203.27	197.05	6.22	32.667		
1,440.00	1,434.05	1,410.95	1,402.87	3.66	3.54	-176.11	-112.70	42.58	210.68	204.31	6.37	33.072		
1,470.00	1,463.86	1,440.01	1,431.54	3.75	3.65	-176.25	-117.13	44.36	218.10	211.58	6.52	33.456		
1,500.00	1,493.66	1,469.08	1,460.21	3.84	3.76	-176.38	-121.55	46.14	225.51	218.84	6.67	33.816		
1,530.00	1,523.47	1,498.14	1,488.88	3.93	3.86	-176.51	-125.97	47.92	232.92	226.10	6.82	34.158		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-13E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,560.00	1,553.28	1,527.21	1,517.56	4.02	3.97	-176.63	-130.39	49.71	240.34	233.37	6.97	34.485		
1,590.00	1,583.08	1,556.27	1,546.23	4.11	4.08	-176.74	-134.81	51.49	247.75	240.63	7.12	34.799		
1,620.00	1,612.89	1,585.34	1,574.90	4.20	4.18	-176.84	-139.24	53.27	255.17	247.90	7.27	35.103		
1,650.00	1,642.70	1,614.40	1,603.57	4.29	4.29	-176.94	-143.66	55.05	262.59	255.17	7.42	35.392		
1,680.00	1,672.50	1,643.47	1,632.24	4.38	4.40	-177.03	-148.08	56.83	270.00	262.43	7.57	35.668		
1,710.00	1,702.31	1,672.53	1,660.91	4.47	4.51	-177.12	-152.50	58.62	277.42	269.70	7.72	35.933		
1,740.00	1,732.12	1,701.60	1,689.59	4.56	4.61	-177.20	-156.92	60.40	284.84	276.97	7.87	36.188		
1,770.00	1,761.92	1,730.66	1,718.26	4.65	4.72	-177.28	-161.34	62.18	292.26	284.24	8.02	36.430		
1,800.00	1,791.73	1,759.73	1,746.93	4.74	4.83	-177.36	-165.77	63.96	299.68	291.51	8.17	36.664		
1,830.00	1,821.54	1,788.80	1,775.60	4.83	4.94	-177.43	-170.19	65.75	307.10	298.78	8.32	36.890		
1,860.00	1,851.34	1,817.86	1,804.27	4.92	5.05	-177.50	-174.61	67.53	314.52	306.05	8.48	37.106		
1,890.00	1,881.15	1,846.93	1,832.94	5.01	5.16	-177.56	-179.03	69.31	321.95	313.32	8.63	37.314		
1,920.00	1,910.96	1,875.99	1,861.62	5.10	5.27	-177.62	-183.45	71.09	329.37	320.59	8.78	37.515		
1,950.00	1,940.76	1,905.06	1,890.29	5.19	5.38	-177.68	-187.88	72.87	336.79	327.86	8.93	37.708		
1,980.00	1,970.57	1,934.12	1,918.96	5.28	5.49	-177.74	-192.30	74.66	344.21	335.13	9.08	37.894		
2,010.00	2,000.38	1,963.19	1,947.63	5.37	5.60	-177.80	-196.72	76.44	351.64	342.40	9.24	38.074		
2,040.00	2,030.18	1,992.25	1,976.30	5.46	5.70	-177.85	-201.14	78.22	359.06	349.67	9.39	38.249		
2,070.00	2,059.99	2,021.32	2,004.97	5.55	5.81	-177.90	-205.56	80.00	366.48	356.94	9.54	38.416		
2,100.00	2,089.80	2,050.38	2,033.64	5.64	5.92	-177.95	-209.98	81.79	373.91	364.22	9.69	38.578		
2,130.00	2,119.60	2,079.45	2,062.32	5.73	6.03	-177.99	-214.41	83.57	381.33	371.49	9.84	38.736		
2,160.00	2,149.41	2,108.51	2,090.99	5.83	6.14	-178.04	-218.83	85.35	388.76	378.76	10.00	38.888		
2,190.00	2,179.22	2,137.58	2,119.66	5.92	6.25	-178.08	-223.25	87.13	396.18	386.03	10.15	39.034		
2,220.00	2,209.02	2,166.64	2,148.33	6.01	6.37	-178.12	-227.67	88.91	403.61	393.30	10.30	39.177		
2,250.00	2,238.83	2,195.71	2,177.00	6.10	6.48	-178.16	-232.09	90.70	411.03	400.58	10.45	39.315		
2,280.00	2,268.64	2,224.77	2,205.67	6.19	6.59	-178.20	-236.51	92.48	418.46	407.85	10.61	39.449		
2,310.00	2,298.44	2,253.84	2,234.35	6.28	6.70	-178.24	-240.94	94.26	425.88	415.12	10.76	39.578		
2,340.00	2,328.25	2,282.90	2,263.02	6.37	6.81	-178.27	-245.36	96.04	433.31	422.39	10.91	39.704		
2,370.00	2,358.06	2,311.97	2,291.69	6.46	6.92	-178.31	-249.78	97.82	440.73	429.67	11.07	39.827		
2,400.00	2,387.86	2,341.04	2,320.36	6.55	7.03	-178.34	-254.20	99.61	448.16	436.94	11.22	39.945		
2,430.00	2,417.67	2,370.10	2,349.03	6.64	7.14	-178.37	-258.62	101.39	455.59	444.21	11.37	40.061		
2,460.00	2,447.47	2,399.17	2,377.70	6.73	7.25	-178.40	-263.05	103.17	463.01	451.49	11.53	40.173		
2,490.00	2,477.28	2,428.23	2,406.38	6.82	7.36	-178.43	-267.47	104.95	470.44	458.76	11.68	40.282		
2,520.00	2,507.09	2,457.30	2,435.05	6.91	7.47	-178.46	-271.89	106.74	477.86	466.03	11.83	40.388		
2,550.00	2,536.89	2,486.36	2,463.72	7.00	7.58	-178.49	-276.31	108.52	485.29	473.31	11.99	40.491		
2,580.00	2,566.70	2,515.43	2,492.39	7.09	7.69	-178.52	-280.73	110.30	492.72	480.58	12.14	40.592		
2,610.00	2,596.51	2,544.49	2,521.06	7.18	7.81	-178.54	-285.15	112.08	500.14	487.85	12.29	40.689		
2,640.00	2,626.31	2,573.56	2,549.73	7.28	7.92	-178.57	-289.58	113.86	507.57	495.13	12.45	40.785		
2,670.00	2,656.12	2,602.62	2,578.41	7.37	8.03	-178.60	-294.00	115.65	515.00	502.40	12.60	40.877		
2,700.00	2,685.93	2,631.69	2,607.08	7.46	8.14	-178.62	-298.42	117.43	522.43	509.67	12.75	40.968		
2,730.00	2,715.73	2,660.75	2,635.75	7.55	8.25	-178.64	-302.84	119.21	529.85	516.95	12.91	41.056		
2,760.00	2,745.54	2,689.82	2,664.42	7.64	8.36	-178.67	-307.26	120.99	537.28	524.22	13.06	41.142		
2,790.00	2,775.35	2,718.88	2,693.09	7.73	8.47	-178.69	-311.69	122.77	544.71	531.49	13.21	41.226		
2,820.00	2,805.15	2,747.95	2,721.76	7.82	8.58	-178.71	-316.11	124.56	552.14	538.77	13.37	41.308		
2,850.00	2,834.96	2,777.01	2,750.44	7.91	8.69	-178.73	-320.53	126.34	559.56	546.04	13.52	41.387		
2,880.00	2,864.77	2,806.08	2,779.11	8.00	8.81	-178.75	-324.95	128.12	566.99	553.32	13.67	41.466		
2,910.00	2,894.57	2,835.15	2,807.78	8.09	8.92	-178.77	-329.37	129.90	574.42	560.59	13.83	41.542		
2,940.00	2,924.38	2,864.21	2,836.45	8.18	9.03	-178.79	-333.79	131.69	581.85	567.86	13.98	41.616		
2,970.00	2,954.19	2,893.28	2,865.12	8.27	9.14	-178.81	-338.22	133.47	589.27	575.14	14.14	41.689		
3,000.00	2,983.99	2,922.34	2,893.79	8.36	9.25	-178.83	-342.64	135.25	596.70	582.41	14.29	41.760		
3,030.00	3,013.80	2,951.41	2,922.46	8.45	9.36	-178.85	-347.06	137.03	604.13	589.69	14.44	41.829		
3,060.00	3,043.61	2,980.47	2,951.14	8.55	9.48	-178.87	-351.48	138.81	611.56	596.96	14.60	41.897		
3,090.00	3,073.41	3,009.54	2,979.81	8.64	9.59	-178.89	-355.90	140.60	618.99	604.23	14.75	41.964		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-13E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
3,120.00	3,103.22	3,038.60	3,008.48	8.73	9.70	-178.90	-360.33	142.38	626.41	611.51	14.90	42.029		
3,150.00	3,133.03	3,067.67	3,037.15	8.82	9.81	-178.92	-364.75	144.16	633.84	618.78	15.06	42.092		
3,180.00	3,162.83	3,096.73	3,065.82	8.91	9.92	-178.94	-369.17	145.94	641.27	626.06	15.21	42.154		
3,210.00	3,192.64	3,125.80	3,094.49	9.00	10.03	-178.95	-373.59	147.72	648.70	633.33	15.37	42.215		
3,240.00	3,222.45	3,154.86	3,123.17	9.09	10.14	-178.97	-378.01	149.51	656.13	640.61	15.52	42.275		
3,270.00	3,252.25	3,183.93	3,151.84	9.18	10.26	-178.98	-382.43	151.29	663.55	647.88	15.67	42.333		
3,300.00	3,282.06	3,212.99	3,180.51	9.27	10.37	-179.00	-386.86	153.07	670.98	655.15	15.83	42.391		
3,330.00	3,311.87	3,242.06	3,209.18	9.36	10.48	-179.01	-391.28	154.85	678.41	662.43	15.98	42.447		
3,360.00	3,341.67	3,271.12	3,237.85	9.45	10.59	-179.03	-395.70	156.64	685.84	669.70	16.14	42.502		
3,390.00	3,371.48	3,300.19	3,266.52	9.54	10.70	-179.04	-400.12	158.42	693.27	676.98	16.29	42.556		
3,420.00	3,401.29	3,329.25	3,295.20	9.64	10.82	-179.05	-404.54	160.20	700.70	684.25	16.45	42.608		
3,450.00	3,431.09	3,358.32	3,323.87	9.73	10.93	-179.07	-408.97	161.98	708.13	691.53	16.60	42.660		
3,480.00	3,460.90	3,387.39	3,352.54	9.82	11.04	-179.08	-413.39	163.76	715.55	698.80	16.75	42.711		
3,510.00	3,490.71	3,416.45	3,381.21	9.91	11.15	-179.09	-417.81	165.55	722.98	706.08	16.91	42.761		
3,540.00	3,520.51	3,445.52	3,409.88	10.00	11.26	-179.10	-422.23	167.33	730.41	713.35	17.06	42.809		
3,570.00	3,550.32	3,474.58	3,438.55	10.09	11.37	-179.12	-426.65	169.11	737.84	720.62	17.22	42.857		
3,600.00	3,580.13	3,503.65	3,467.23	10.18	11.49	-179.13	-431.07	170.89	745.27	727.90	17.37	42.904		
3,630.00	3,609.93	3,532.71	3,495.90	10.27	11.60	-179.14	-435.50	172.67	752.70	735.17	17.52	42.950		
3,660.00	3,639.74	3,561.78	3,524.57	10.36	11.71	-179.15	-439.92	174.46	760.13	742.45	17.68	42.996		
3,690.00	3,669.55	3,590.84	3,553.24	10.45	11.82	-179.16	-444.34	176.24	767.56	749.72	17.83	43.040		
3,720.00	3,699.35	3,619.91	3,581.91	10.54	11.93	-179.17	-448.76	178.02	774.98	757.00	17.99	43.084		
3,750.00	3,729.16	3,648.97	3,610.58	10.64	12.05	-179.19	-453.18	179.80	782.41	764.27	18.14	43.127		
3,780.00	3,758.97	3,678.04	3,639.26	10.73	12.16	-179.20	-457.60	181.59	789.84	771.55	18.30	43.169		
3,810.00	3,788.77	3,707.10	3,667.93	10.82	12.27	-179.21	-462.03	183.37	797.27	778.82	18.45	43.210		
3,840.00	3,818.58	3,736.17	3,696.60	10.91	12.38	-179.22	-466.45	185.15	804.70	786.10	18.61	43.251		
3,870.00	3,848.39	3,765.23	3,725.27	11.00	12.49	-179.23	-470.87	186.93	812.13	793.37	18.76	43.291		
3,900.00	3,878.19	3,794.30	3,753.94	11.09	12.61	-179.24	-475.29	188.71	819.56	800.64	18.91	43.330		
3,930.00	3,908.00	3,823.36	3,782.61	11.18	12.72	-179.25	-479.71	190.50	826.99	807.92	19.07	43.369		
3,960.00	3,937.81	3,852.43	3,811.28	11.27	12.83	-179.26	-484.14	192.28	834.42	815.19	19.22	43.407		
3,990.00	3,967.61	3,881.49	3,839.96	11.36	12.94	-179.27	-488.56	194.06	841.85	822.47	19.38	43.444		
4,020.00	3,997.42	3,910.56	3,868.63	11.45	13.05	-179.27	-492.98	195.84	849.28	829.74	19.53	43.481		
4,050.00	4,027.23	3,939.63	3,897.30	11.54	13.17	-179.28	-497.40	197.63	856.70	837.02	19.69	43.517		
4,080.00	4,057.03	3,968.69	3,925.97	11.64	13.28	-179.29	-501.82	199.41	864.13	844.29	19.84	43.553		
4,110.00	4,086.84	3,997.76	3,954.64	11.73	13.39	-179.30	-506.24	201.19	871.56	851.57	20.00	43.588		
4,140.00	4,116.65	4,026.82	3,983.31	11.82	13.50	-179.31	-510.67	202.97	878.99	858.84	20.15	43.622		
4,170.00	4,146.45	4,055.89	4,011.99	11.91	13.61	-179.32	-515.09	204.75	886.42	866.12	20.30	43.656		
4,200.00	4,176.26	4,084.95	4,040.66	12.00	13.73	-179.33	-519.51	206.54	893.85	873.39	20.46	43.689		
4,230.00	4,206.07	4,114.02	4,069.33	12.09	13.84	-179.33	-523.93	208.32	901.28	880.67	20.61	43.722		
4,260.00	4,235.87	4,143.08	4,098.00	12.18	13.95	-179.34	-528.35	210.10	908.71	887.94	20.77	43.754		
4,290.00	4,265.68	4,172.15	4,126.67	12.27	14.06	-179.35	-532.78	211.88	916.14	895.21	20.92	43.786		
4,320.00	4,295.49	4,201.21	4,155.34	12.36	14.17	-179.36	-537.20	213.66	923.57	902.49	21.08	43.817		
4,350.00	4,325.29	4,230.28	4,184.02	12.45	14.29	-179.37	-541.62	215.45	931.00	909.76	21.23	43.848		
4,380.00	4,355.10	4,259.34	4,212.69	12.54	14.40	-179.37	-546.04	217.23	938.43	917.04	21.39	43.878		
4,410.00	4,384.91	4,288.41	4,241.36	12.64	14.51	-179.38	-550.46	219.01	945.86	924.31	21.54	43.908		
4,440.00	4,414.71	4,317.47	4,270.03	12.73	14.62	-179.39	-554.88	220.79	953.28	931.59	21.70	43.937		
4,470.00	4,444.52	4,346.54	4,298.70	12.82	14.74	-179.40	-559.31	222.58	960.71	938.86	21.85	43.966		
4,500.00	4,474.33	4,375.60	4,327.37	12.91	14.85	-179.40	-563.73	224.36	968.14	946.14	22.01	43.995		
4,530.00	4,504.13	4,404.67	4,356.05	13.00	14.96	-179.41	-568.15	226.14	975.57	953.41	22.16	44.023		
4,560.00	4,533.94	4,433.73	4,384.72	13.09	15.07	-179.42	-572.57	227.92	983.00	960.69	22.32	44.050		
4,590.00	4,563.75	4,462.80	4,413.39	13.18	15.18	-179.42	-576.99	229.70	990.43	967.96	22.47	44.078		
4,620.00	4,593.55	4,491.87	4,442.06	13.27	15.30	-179.43	-581.42	231.49	997.86	975.24	22.62	44.105		
4,650.00	4,623.36	4,520.93	4,470.73	13.36	15.41	-179.44	-585.84	233.27	1,005.29	982.51	22.78	44.131		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design Gunderson - Gunderson 29-13E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,680.00	4,653.16	4,550.00	4,499.40	13.45	15.52	-179.44	-590.26	235.05	1,012.72	989.79	22.93	44.157		
4,710.00	4,682.97	4,579.06	4,528.08	13.55	15.63	-179.45	-594.68	236.83	1,020.15	997.06	23.09	44.183		
4,740.00	4,712.78	4,608.13	4,556.75	13.64	15.74	-179.46	-599.10	238.61	1,027.58	1,004.34	23.24	44.208		
4,770.00	4,742.58	4,637.19	4,585.42	13.73	15.86	-179.46	-603.52	240.40	1,035.01	1,011.61	23.40	44.233		
4,800.00	4,772.39	4,666.26	4,614.09	13.82	15.97	-179.47	-607.95	242.18	1,042.44	1,018.89	23.55	44.258		
4,830.00	4,802.20	4,695.32	4,642.76	13.91	16.08	-179.47	-612.37	243.96	1,049.87	1,026.16	23.71	44.283		
4,860.00	4,832.00	4,724.39	4,671.43	14.00	16.19	-179.48	-616.79	245.74	1,057.30	1,033.43	23.86	44.307		
4,890.00	4,861.81	4,753.45	4,700.10	14.09	16.31	-179.49	-621.21	247.53	1,064.73	1,040.71	24.02	44.330		
4,920.00	4,891.62	4,782.52	4,728.78	14.18	16.42	-179.49	-625.63	249.31	1,072.16	1,047.98	24.17	44.354		
4,950.00	4,921.42	4,811.58	4,757.45	14.27	16.53	-179.50	-630.06	251.09	1,079.59	1,055.26	24.33	44.377		
4,980.00	4,951.23	4,840.65	4,786.12	14.36	16.64	-179.50	-634.48	252.87	1,087.02	1,062.53	24.48	44.399		
5,010.00	4,981.04	4,869.71	4,814.79	14.45	16.75	-179.51	-638.90	254.65	1,094.45	1,069.81	24.64	44.422		
5,040.00	5,010.84	4,898.78	4,843.46	14.55	16.87	-179.51	-643.32	256.44	1,101.88	1,077.08	24.79	44.444		
5,070.00	5,040.65	4,927.84	4,872.13	14.64	16.98	-179.52	-647.74	258.22	1,109.31	1,084.36	24.95	44.466		
5,100.00	5,070.46	4,956.91	4,900.81	14.73	17.09	-179.52	-652.16	260.00	1,116.73	1,091.63	25.10	44.487		
5,130.00	5,100.26	4,985.97	4,929.48	14.82	17.20	-179.53	-656.59	261.78	1,124.16	1,098.91	25.26	44.509		
5,160.00	5,130.07	5,015.04	4,958.15	14.91	17.32	-179.54	-661.01	263.56	1,131.59	1,106.18	25.41	44.530		
5,190.00	5,159.88	5,044.11	4,986.82	15.00	17.43	-179.54	-665.43	265.35	1,139.02	1,113.46	25.57	44.550		
5,220.00	5,189.68	5,073.17	5,015.49	15.09	17.54	-179.55	-669.85	267.13	1,146.45	1,120.73	25.72	44.571		
5,250.00	5,219.49	5,102.24	5,044.16	15.18	17.65	-179.55	-674.27	268.91	1,153.88	1,128.01	25.88	44.591		
5,280.00	5,249.30	5,131.30	5,072.84	15.27	17.77	-179.56	-678.70	270.69	1,161.31	1,135.28	26.03	44.611		
5,310.00	5,279.10	5,160.37	5,101.51	15.36	17.88	-179.56	-683.12	272.48	1,168.74	1,142.56	26.19	44.631		
5,340.00	5,308.91	5,189.43	5,130.18	15.46	17.99	-179.56	-687.54	274.26	1,176.17	1,149.83	26.34	44.650		
5,370.00	5,338.72	5,218.50	5,158.85	15.55	18.10	-179.57	-691.96	276.04	1,183.60	1,157.11	26.50	44.669		
5,400.00	5,368.52	5,247.56	5,187.52	15.64	18.21	-179.57	-696.38	277.82	1,191.03	1,164.38	26.65	44.688		
5,430.00	5,398.33	5,276.63	5,216.19	15.73	18.33	-179.58	-700.80	279.60	1,198.46	1,171.65	26.81	44.707		
5,460.00	5,428.15	5,305.71	5,244.88	15.81	18.44	-179.59	-705.23	281.39	1,205.81	1,178.84	26.97	44.702		
5,490.00	5,458.00	5,334.72	5,282.39	15.89	18.57	-179.62	-710.93	283.68	1,212.86	1,185.70	27.16	44.656		
5,520.00	5,487.88	5,392.03	5,330.17	15.96	18.72	-179.69	-717.56	286.36	1,219.26	1,191.90	27.36	44.571		
5,550.00	5,517.78	5,440.75	5,378.47	16.02	18.84	-179.75	-723.48	288.74	1,224.93	1,197.40	27.53	44.493		
5,580.00	5,547.71	5,489.83	5,427.23	16.08	18.96	-179.80	-728.68	290.84	1,229.86	1,202.16	27.70	44.397		
5,610.00	5,577.66	5,539.23	5,476.39	16.14	19.06	-179.84	-733.13	292.63	1,234.06	1,206.20	27.86	44.288		
5,640.00	5,607.62	5,588.88	5,525.89	16.19	19.15	-179.87	-736.81	294.12	1,237.51	1,209.49	28.02	44.163		
5,670.00	5,637.60	5,638.75	5,575.66	16.24	19.24	-179.90	-739.70	295.28	1,240.22	1,212.05	28.17	44.023		
5,700.00	5,667.59	5,688.79	5,625.64	16.29	19.32	-179.92	-741.80	296.13	1,242.17	1,213.85	28.32	43.863		
5,730.00	5,697.59	5,738.93	5,675.76	16.34	19.39	-179.93	-743.09	296.65	1,243.37	1,214.90	28.46	43.685		
5,760.00	5,727.59	5,789.13	5,725.96	16.38	19.46	-179.94	-743.56	296.84	1,243.81	1,215.20	28.60	43.485		
5,790.00	5,757.59	5,820.76	5,757.59	16.43	19.50	-179.94	-743.56	296.84	1,243.81	1,215.10	28.71	43.328		
5,820.00	5,787.59	5,850.76	5,787.59	16.47	19.54	-179.94	-743.56	296.84	1,243.81	1,215.00	28.81	43.172		
5,850.00	5,817.59	5,880.76	5,817.59	16.52	19.57	-179.94	-743.56	296.84	1,243.81	1,214.89	28.92	43.013		
5,880.00	5,847.59	5,910.76	5,847.59	16.57	19.60	-179.94	-743.56	296.84	1,243.81	1,214.79	29.02	42.856		
5,910.00	5,877.59	5,940.76	5,877.59	16.62	19.64	-179.94	-743.56	296.84	1,243.81	1,214.68	29.13	42.699		
5,940.00	5,907.59	5,970.76	5,907.59	16.68	19.67	-179.94	-743.56	296.84	1,243.81	1,214.57	29.24	42.543		
5,970.00	5,937.59	6,000.76	5,937.59	16.73	19.71	-179.94	-743.56	296.84	1,243.81	1,214.47	29.34	42.388		
6,000.00	5,967.59	6,030.76	5,967.59	16.78	19.74	-179.94	-743.56	296.84	1,243.81	1,214.36	29.45	42.234		
6,030.00	5,997.59	6,060.76	5,997.59	16.83	19.78	-179.94	-743.56	296.84	1,243.81	1,214.25	29.56	42.080		
6,060.00	6,027.59	6,090.76	6,027.59	16.88	19.81	-179.94	-743.56	296.84	1,243.81	1,214.14	29.67	41.927		
6,090.00	6,057.59	6,120.76	6,057.59	16.93	19.85	-179.94	-743.56	296.84	1,243.81	1,214.04	29.77	41.775		
6,120.00	6,087.59	6,150.76	6,087.59	16.98	19.88	-179.94	-743.56	296.84	1,243.81	1,213.93	29.88	41.624		
6,150.00	6,117.59	6,180.76	6,117.59	17.03	19.92	-179.94	-743.56	296.84	1,243.81	1,213.82	29.99	41.474		
6,180.00	6,147.59	6,210.76	6,147.59	17.08	19.96	-179.94	-743.56	296.84	1,243.81	1,213.71	30.10	41.324		
6,210.00	6,177.59	6,240.76	6,177.59	17.14	19.99	-179.94	-743.56	296.84	1,243.81	1,213.60	30.21	41.176		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

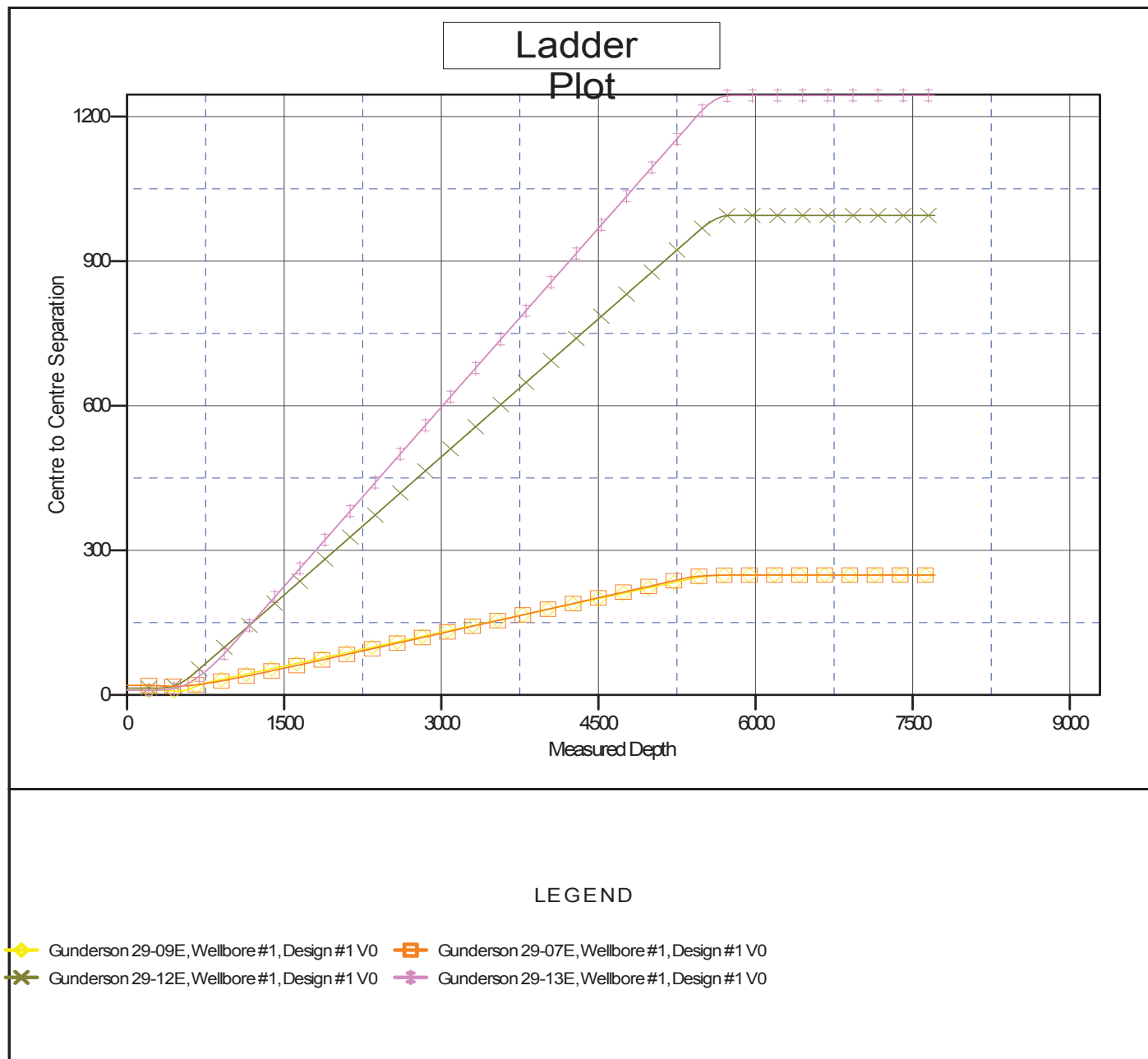
Offset Design Gunderson - Gunderson 29-13E - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,240.00	6,207.59	6,270.76	6,207.59	17.19	20.03	-179.94	-743.56	296.84	1,243.81	1,213.49	30.32	41.028		
6,270.00	6,237.59	6,300.76	6,237.59	17.24	20.06	-179.94	-743.56	296.84	1,243.81	1,213.38	30.43	40.881		
6,300.00	6,267.59	6,330.76	6,267.59	17.29	20.10	-179.94	-743.56	296.84	1,243.81	1,213.27	30.53	40.734		
6,330.00	6,297.59	6,360.76	6,297.59	17.34	20.14	-179.94	-743.56	296.84	1,243.81	1,213.16	30.64	40.588		
6,360.00	6,327.59	6,390.76	6,327.59	17.40	20.17	-179.94	-743.56	296.84	1,243.81	1,213.05	30.75	40.444		
6,390.00	6,357.59	6,420.76	6,357.59	17.45	20.21	-179.94	-743.56	296.84	1,243.81	1,212.94	30.86	40.300		
6,420.00	6,387.59	6,450.76	6,387.59	17.50	20.25	-179.94	-743.56	296.84	1,243.81	1,212.83	30.97	40.156		
6,450.00	6,417.59	6,480.76	6,417.59	17.55	20.29	-179.94	-743.56	296.84	1,243.81	1,212.72	31.08	40.014		
6,480.00	6,447.59	6,510.76	6,447.59	17.61	20.32	-179.94	-743.56	296.84	1,243.81	1,212.61	31.19	39.872		
6,510.00	6,477.59	6,540.76	6,477.59	17.66	20.36	-179.94	-743.56	296.84	1,243.81	1,212.50	31.31	39.731		
6,540.00	6,507.59	6,570.76	6,507.59	17.71	20.40	-179.94	-743.56	296.84	1,243.81	1,212.39	31.42	39.591		
6,570.00	6,537.59	6,600.76	6,537.59	17.76	20.44	-179.94	-743.56	296.84	1,243.81	1,212.28	31.53	39.451		
6,600.00	6,567.59	6,630.76	6,567.59	17.82	20.47	-179.94	-743.56	296.84	1,243.81	1,212.17	31.64	39.313		
6,630.00	6,597.59	6,660.76	6,597.59	17.87	20.51	-179.94	-743.56	296.84	1,243.81	1,212.06	31.75	39.175		
6,660.00	6,627.59	6,690.76	6,627.59	17.92	20.55	-179.94	-743.56	296.84	1,243.81	1,211.95	31.86	39.037		
6,690.00	6,657.59	6,720.76	6,657.59	17.98	20.59	-179.94	-743.56	296.84	1,243.81	1,211.84	31.97	38.901		
6,720.00	6,687.59	6,750.76	6,687.59	18.03	20.63	-179.94	-743.56	296.84	1,243.81	1,211.72	32.09	38.765		
6,750.00	6,717.59	6,780.76	6,717.59	18.08	20.67	-179.94	-743.56	296.84	1,243.81	1,211.61	32.20	38.630		
6,780.00	6,747.59	6,810.76	6,747.59	18.14	20.71	-179.94	-743.56	296.84	1,243.81	1,211.50	32.31	38.496		
6,810.00	6,777.59	6,840.76	6,777.59	18.19	20.75	-179.94	-743.56	296.84	1,243.81	1,211.39	32.42	38.362		
6,840.00	6,807.59	6,870.76	6,807.59	18.25	20.78	-179.94	-743.56	296.84	1,243.81	1,211.27	32.54	38.229		
6,870.00	6,837.59	6,900.76	6,837.59	18.30	20.82	-179.94	-743.56	296.84	1,243.81	1,211.16	32.65	38.098		
6,900.00	6,867.59	6,930.76	6,867.59	18.35	20.86	-179.94	-743.56	296.84	1,243.81	1,211.05	32.76	37.966		
6,930.00	6,897.59	6,960.76	6,897.59	18.41	20.90	-179.94	-743.56	296.84	1,243.81	1,210.93	32.87	37.835		
6,960.00	6,927.59	6,990.76	6,927.59	18.46	20.94	-179.94	-743.56	296.84	1,243.81	1,210.82	32.99	37.705		
6,990.00	6,957.59	7,020.76	6,957.59	18.52	20.98	-179.94	-743.56	296.84	1,243.81	1,210.71	33.10	37.576		
7,020.00	6,987.59	7,050.76	6,987.59	18.57	21.02	-179.94	-743.56	296.84	1,243.81	1,210.59	33.21	37.448		
7,050.00	7,017.59	7,080.76	7,017.59	18.62	21.06	-179.94	-743.56	296.84	1,243.81	1,210.48	33.33	37.320		
7,080.00	7,047.59	7,110.76	7,047.59	18.68	21.10	-179.94	-743.56	296.84	1,243.81	1,210.37	33.44	37.193		
7,110.00	7,077.59	7,140.76	7,077.59	18.73	21.14	-179.94	-743.56	296.84	1,243.81	1,210.25	33.56	37.066		
7,140.00	7,107.59	7,170.76	7,107.59	18.79	21.19	-179.94	-743.56	296.84	1,243.81	1,210.14	33.67	36.940		
7,170.00	7,137.59	7,200.76	7,137.59	18.84	21.23	-179.94	-743.56	296.84	1,243.81	1,210.02	33.78	36.816		
7,200.00	7,167.59	7,230.76	7,167.59	18.90	21.27	-179.94	-743.56	296.84	1,243.81	1,209.91	33.90	36.691		
7,230.00	7,197.59	7,260.76	7,197.59	18.95	21.31	-179.94	-743.56	296.84	1,243.81	1,209.79	34.01	36.567		
7,260.00	7,227.59	7,290.76	7,227.59	19.01	21.35	-179.94	-743.56	296.84	1,243.81	1,209.68	34.13	36.444		
7,290.00	7,257.59	7,320.76	7,257.59	19.06	21.39	-179.94	-743.56	296.84	1,243.81	1,209.56	34.24	36.322		
7,320.00	7,287.59	7,350.76	7,287.59	19.12	21.43	-179.94	-743.56	296.84	1,243.81	1,209.45	34.36	36.200		
7,350.00	7,317.59	7,380.76	7,317.59	19.17	21.47	-179.94	-743.56	296.84	1,243.81	1,209.33	34.47	36.079		
7,380.00	7,347.59	7,410.76	7,347.59	19.23	21.52	-179.94	-743.56	296.84	1,243.81	1,209.22	34.59	35.959		
7,410.00	7,377.59	7,440.76	7,377.59	19.28	21.56	-179.94	-743.56	296.84	1,243.81	1,209.10	34.71	35.839		
7,440.00	7,407.59	7,470.76	7,407.59	19.34	21.60	-179.94	-743.56	296.84	1,243.81	1,208.99	34.82	35.720		
7,470.00	7,437.59	7,500.76	7,437.59	19.39	21.64	-179.94	-743.56	296.84	1,243.81	1,208.87	34.94	35.602		
7,500.00	7,467.59	7,530.76	7,467.59	19.45	21.68	-179.94	-743.56	296.84	1,243.81	1,208.76	35.05	35.484		
7,530.00	7,497.59	7,560.76	7,497.59	19.51	21.73	-179.94	-743.56	296.84	1,243.81	1,208.64	35.17	35.367		
7,560.00	7,527.59	7,590.76	7,527.59	19.56	21.77	-179.94	-743.56	296.84	1,243.81	1,208.52	35.28	35.250		
7,590.00	7,557.59	7,620.76	7,557.59	19.62	21.81	-179.94	-743.56	296.84	1,243.81	1,208.41	35.40	35.135		
7,620.00	7,587.59	7,650.76	7,587.59	19.67	21.85	-179.94	-743.56	296.84	1,243.81	1,208.29	35.52	35.019		
7,650.00	7,617.59	7,680.76	7,617.59	19.73	21.90	-179.94	-743.56	296.84	1,243.81	1,208.17	35.63	34.905		
7,680.00	7,647.59	7,710.76	7,647.59	19.78	21.94	-179.94	-743.56	296.84	1,243.81	1,208.06	35.75	34.791		
7,710.00	7,677.59	7,740.76	7,677.59	19.84	21.98	-179.94	-743.56	296.84	1,243.81	1,207.94	35.87	34.678		
7,712.41	7,680.00	7,743.17	7,680.00	19.85	21.99	-179.94	-743.56	296.84	1,243.81	1,207.93	35.88	34.669		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to WELL @ 7560.00usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Gunderson 29-08E
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.44°



Company:	Piceance Energy, LLC	Local Co-ordinate Reference:	Well Gunderson 29-08E
Project:	Mesa County, CO	TVD Reference:	WELL @ 7560.00usft (Original Well Elev)
Reference Site:	Gunderson	MD Reference:	WELL @ 7560.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Gunderson 29-08E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to WELL @ 7560.00usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Gunderson 29-08E
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.44°

