

PetroShare Corp

Project: ADAMS COUNTY, CO
Site: S19-T1S-R65W
Well: CONNER 19-18-4NCH
Wellbore: OH
Design: PLAN #2



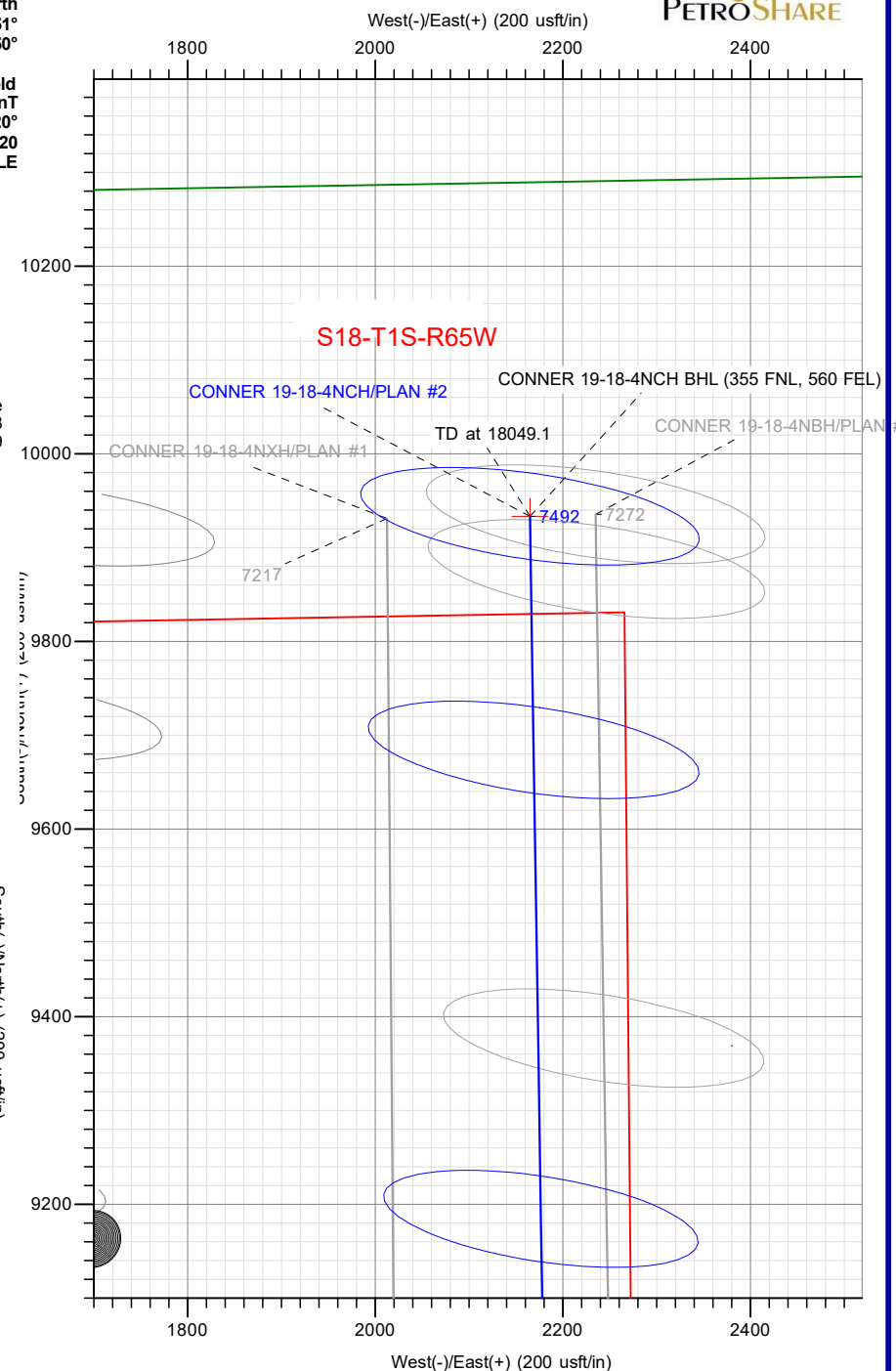
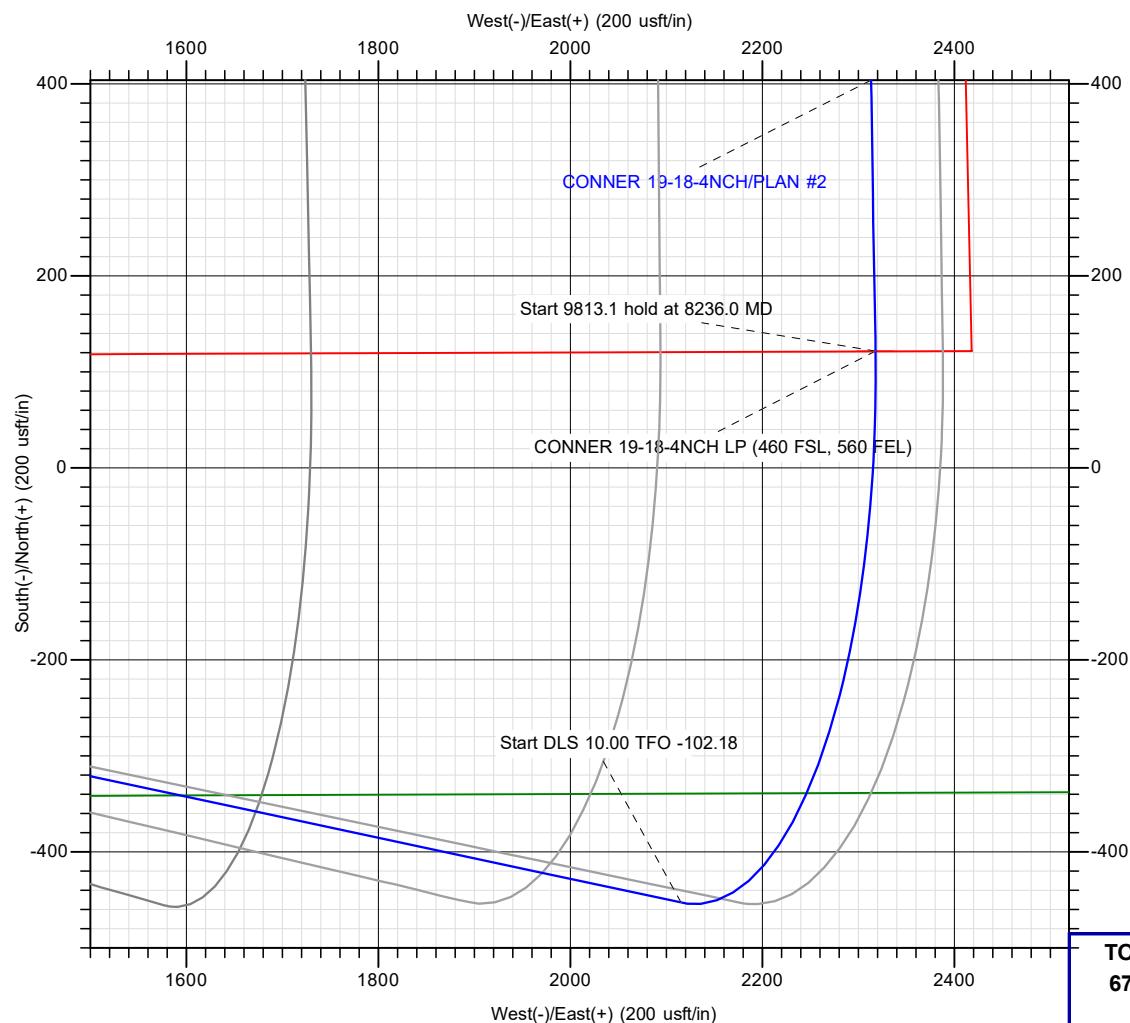
Azimuths to Grid North
True North: -0.51°
Magnetic North: 7.50°

Magnetic Field
Strength: 51670.9nT
Dip Angle: 66.20°
Date: 12/31/2020
Model: HDGM2020 FILE

PROJECT DETAILS: ADAMS COUNTY, CO
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CONNER 19-18-4NCH BHL (355 FNL, 560 FEL)	7492.0	9933.6	2165.1	1233489.08	3224384.95	39.971530	-104.699388
CONNER 19-18-4NCH LP (460 FSL, 560 FEL)	7492.0	121.7	2317.9	1223677.16	3224537.70	39.944592	-104.699159



TOTAL DIRECTIONAL SERVICES LLC
671 Academy Ct, Windsor, CO 80550
Phone: (970) 460-9402

Plan: PLAN #2 (CONNER 19-18-4NCH/OH)
S19-T1S-R65W

Created By: Lance Roybal Date: 14:03, June 28 2021

Date: _____

Approved: _____ Date: _____



PetroShare Corp

Project: ADAMS COUNTY, CO
Site: S19-T1S-R65W
Well: CONNER 19-18-4NCH
Wellbore: OH
Design: PLAN #2

PROJECT DETAILS: ADAMS COUNTY, CO
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone



Azimuths to Grid North
True North: -0.51°
Magnetic North: 7.50°

Magnetic Field
Strength: 51670.9nT
Dip Angle: 66.20°
Date: 12/31/2020
Model: HDGM2020_FIE

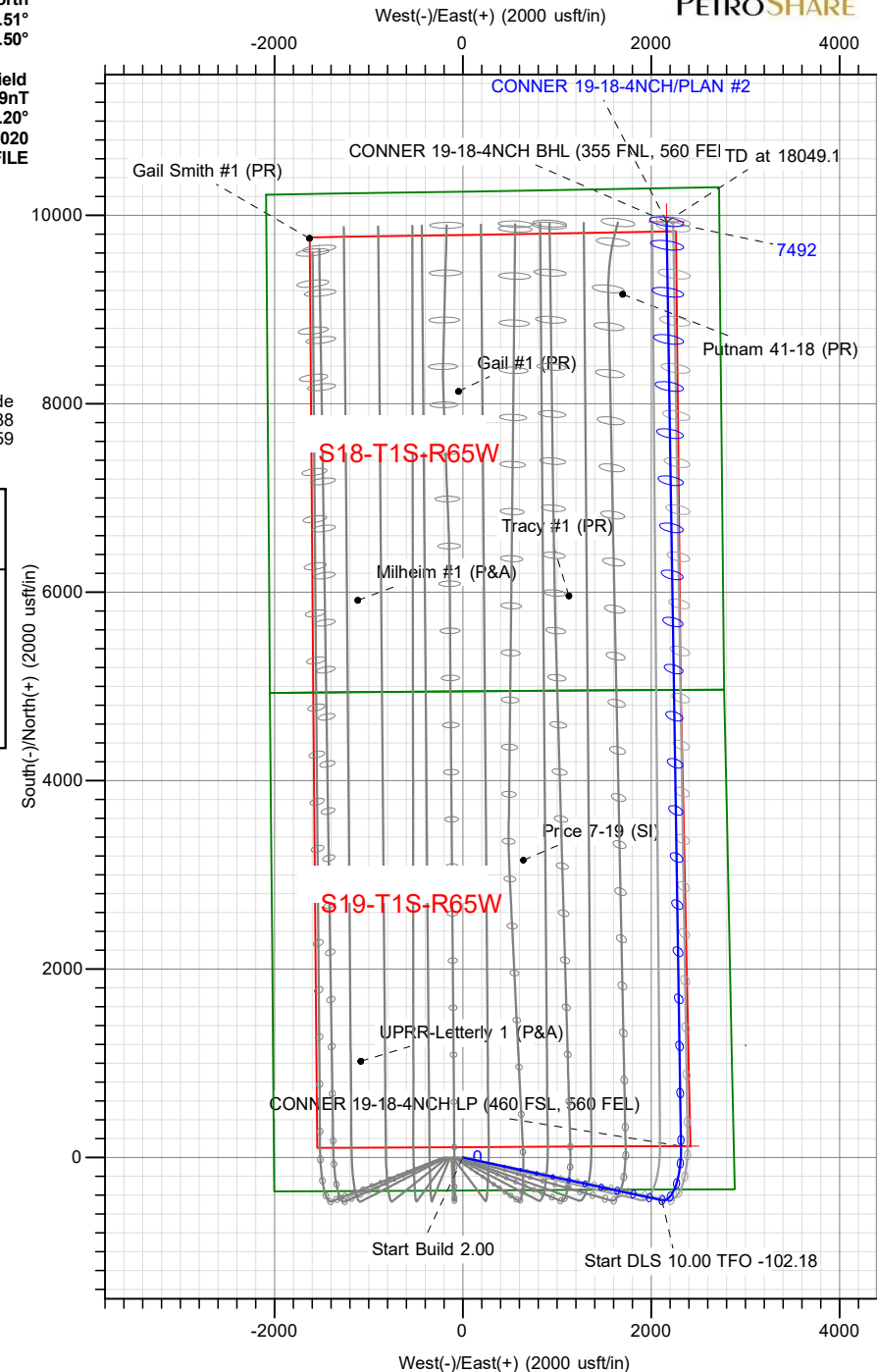
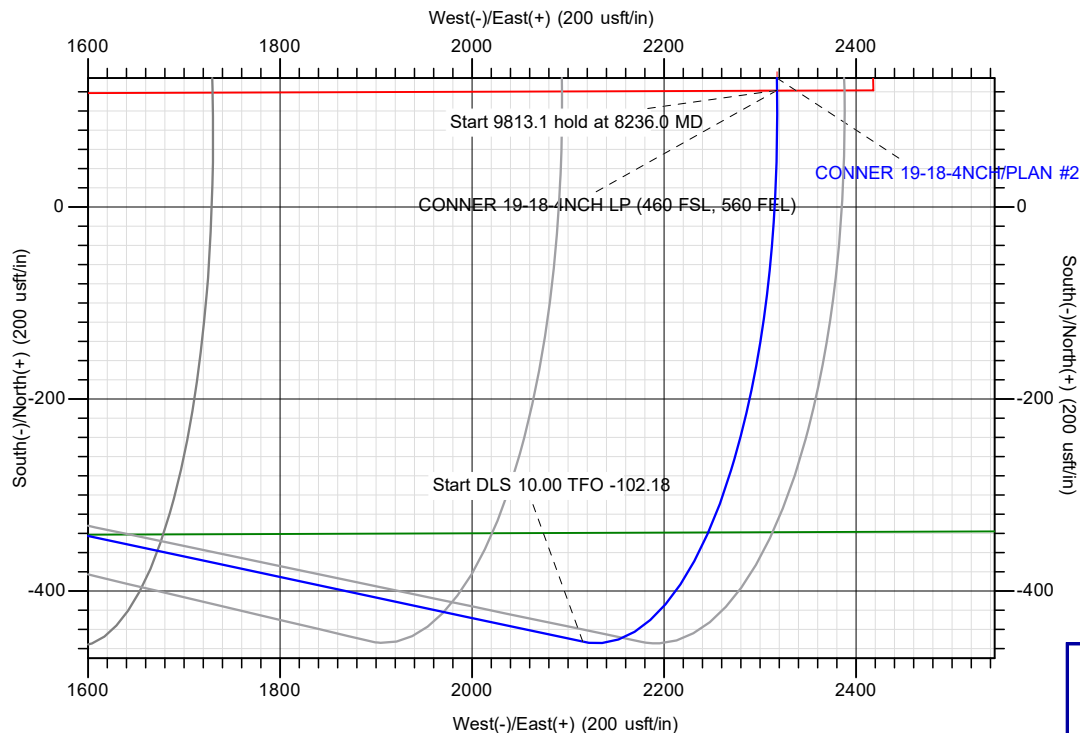


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CONNER 19-18-4NCH BHL (355 FNL, 560 FEL)	7492.0	9933.6	2165.1	1233489.08	3224384.95	39.971530	-104.699388
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SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1623.8	20.48	102.08	1602.1	-37.9	177.0	2.00	102.08	0.7	
4	7291.0	20.48	102.08	6911.3	-452.7	2115.5	0.00	0.00	8.1	
5	8236.0	90.00	359.11	7492.0	121.7	2317.9	10.00-102.18	612.5		CONNER 19-18-4NCH LP (460 FSL, 560 FEL)
6	18049.1	90.00	359.11	7492.0	9933.6	2165.1	0.00	0.00	0166.8	CONNER 19-18-4NCH BHL (355 FNL, 560 FEL)



TOTAL DIRECTIONAL SERVICES LLC
671 Academy Ct, Windsor, CO 80550
Phone: (970) 460-9402

Plan: PLAN #2 (CONNER 19-18-4NCH/OH)
S19-T1S-R65W
Created By: Lance Roybal
Date: 14:02, June 28 2021
Approved: _____
Date: _____



PetroShare Corp

ADAMS COUNTY, CO

S19-T1S-R65W

CONNER 19-18-4NCH

OH

Plan: PLAN #2

Standard Planning Report

28 June, 2021



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Company:	PetroShare Corp	TVD Reference:	13' KB @ 5155.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	13' KB @ 5155.0usft
Site:	S19-T1S-R65W	North Reference:	Grid
Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

Project	ADAMS COUNTY, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site						S19-T1S-R65W											
Site Position:			Northing:			1,223,554.35 usft			Latitude:			39.944317					
From:			Map			Easting:			3,222,009.87 usft			Longitude:			-104.708179		
Position Uncertainty:			0.0 usft			Slot Radius:			13-3/16 "			Grid Convergence:			0.51		

Well	CONNER 19-18-4NCH					
Well Position	+N/-S	1.2 usft	Northing:	1,223,555.50 usft	Latitude:	39.944315
	+E/-W	210.0 usft	Easting:	3,222,219.84 usft	Longitude:	-104.707430
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,142.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2020_FILE	12/31/2020	8.02	66.20	51,670.90000000

Design	PLAN #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	12.30

Plan Survey Tool Program	Date	6/28/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	18,049.1	PLAN #2 (OH)	MWD
				OWSG MWD - Standard

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,623.8	20.48	102.08	1,602.1	-37.9	177.0	2.00	2.00	0.00	102.08	
7,291.0	20.48	102.08	6,911.3	-452.7	2,115.5	0.00	0.00	0.00	0.00	
8,236.0	90.00	359.11	7,492.0	121.7	2,317.9	10.00	7.36	-10.90	-102.18	CONNER 19-18-4NCH
18,049.1	90.00	359.11	7,492.0	9,933.6	2,165.1	0.00	0.00	0.00	0.00	CONNER 19-18-4NCH

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Company:	PetroShare Corp	TVD Reference:	13' KB @ 5155.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	13' KB @ 5155.0usft
Site:	S19-T1S-R65W	North Reference:	Grid
Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	2.00	102.08	700.0	-0.4	1.7	0.0	2.00	2.00	0.00
800.0	4.00	102.08	799.8	-1.5	6.8	0.0	2.00	2.00	0.00
900.0	6.00	102.08	899.5	-3.3	15.3	0.1	2.00	2.00	0.00
1,000.0	8.00	102.08	998.7	-5.8	27.3	0.1	2.00	2.00	0.00
1,100.0	10.00	102.08	1,097.5	-9.1	42.6	0.2	2.00	2.00	0.00
1,200.0	12.00	102.08	1,195.6	-13.1	61.2	0.2	2.00	2.00	0.00
1,300.0	14.00	102.08	1,293.1	-17.8	83.2	0.3	2.00	2.00	0.00
1,400.0	16.00	102.08	1,389.6	-23.2	108.5	0.4	2.00	2.00	0.00
1,500.0	18.00	102.08	1,485.3	-29.3	137.1	0.5	2.00	2.00	0.00
1,600.0	20.00	102.08	1,579.8	-36.2	168.9	0.7	2.00	2.00	0.00
1,623.8	20.48	102.08	1,602.1	-37.9	177.0	0.7	2.00	2.00	0.00
1,700.0	20.48	102.08	1,673.5	-43.5	203.1	0.8	0.00	0.00	0.00
1,800.0	20.48	102.08	1,767.2	-50.8	237.3	0.9	0.00	0.00	0.00
1,900.0	20.48	102.08	1,860.9	-58.1	271.5	1.0	0.00	0.00	0.00
2,000.0	20.48	102.08	1,954.6	-65.4	305.7	1.2	0.00	0.00	0.00
2,100.0	20.48	102.08	2,048.3	-72.7	339.9	1.3	0.00	0.00	0.00
2,200.0	20.48	102.08	2,141.9	-80.1	374.1	1.4	0.00	0.00	0.00
2,300.0	20.48	102.08	2,235.6	-87.4	408.3	1.6	0.00	0.00	0.00
2,400.0	20.48	102.08	2,329.3	-94.7	442.5	1.7	0.00	0.00	0.00
2,500.0	20.48	102.08	2,423.0	-102.0	476.7	1.8	0.00	0.00	0.00
2,600.0	20.48	102.08	2,516.7	-109.3	510.9	2.0	0.00	0.00	0.00
2,700.0	20.48	102.08	2,610.4	-116.7	545.1	2.1	0.00	0.00	0.00
2,800.0	20.48	102.08	2,704.0	-124.0	579.3	2.2	0.00	0.00	0.00
2,900.0	20.48	102.08	2,797.7	-131.3	613.5	2.4	0.00	0.00	0.00
3,000.0	20.48	102.08	2,891.4	-138.6	647.7	2.5	0.00	0.00	0.00
3,100.0	20.48	102.08	2,985.1	-145.9	681.9	2.6	0.00	0.00	0.00
3,200.0	20.48	102.08	3,078.8	-153.3	716.1	2.8	0.00	0.00	0.00
3,300.0	20.48	102.08	3,172.5	-160.6	750.3	2.9	0.00	0.00	0.00
3,400.0	20.48	102.08	3,266.1	-167.9	784.6	3.0	0.00	0.00	0.00
3,500.0	20.48	102.08	3,359.8	-175.2	818.8	3.2	0.00	0.00	0.00
3,600.0	20.48	102.08	3,453.5	-182.5	853.0	3.3	0.00	0.00	0.00
3,700.0	20.48	102.08	3,547.2	-189.9	887.2	3.4	0.00	0.00	0.00
3,800.0	20.48	102.08	3,640.9	-197.2	921.4	3.5	0.00	0.00	0.00
3,900.0	20.48	102.08	3,734.5	-204.5	955.6	3.7	0.00	0.00	0.00
4,000.0	20.48	102.08	3,828.2	-211.8	989.8	3.8	0.00	0.00	0.00
4,100.0	20.48	102.08	3,921.9	-219.2	1,024.0	3.9	0.00	0.00	0.00
4,200.0	20.48	102.08	4,015.6	-226.5	1,058.2	4.1	0.00	0.00	0.00
4,300.0	20.48	102.08	4,109.3	-233.8	1,092.4	4.2	0.00	0.00	0.00
4,400.0	20.48	102.08	4,203.0	-241.1	1,126.6	4.3	0.00	0.00	0.00
4,500.0	20.48	102.08	4,296.6	-248.4	1,160.8	4.5	0.00	0.00	0.00
4,600.0	20.48	102.08	4,390.3	-255.8	1,195.0	4.6	0.00	0.00	0.00
4,700.0	20.48	102.08	4,484.0	-263.1	1,229.2	4.7	0.00	0.00	0.00
4,800.0	20.48	102.08	4,577.7	-270.4	1,263.4	4.9	0.00	0.00	0.00
4,900.0	20.48	102.08	4,671.4	-277.7	1,297.6	5.0	0.00	0.00	0.00
5,000.0	20.48	102.08	4,765.1	-285.0	1,331.8	5.1	0.00	0.00	0.00
5,100.0	20.48	102.08	4,858.7	-292.4	1,366.0	5.3	0.00	0.00	0.00
5,200.0	20.48	102.08	4,952.4	-299.7	1,400.3	5.4	0.00	0.00	0.00

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Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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)
5,300.0	20.48	102.08	5,046.1	-307.0	1,434.5	5.5	0.00	0.00	0.00
5,400.0	20.48	102.08	5,139.8	-314.3	1,468.7	5.7	0.00	0.00	0.00
5,500.0	20.48	102.08	5,233.5	-321.6	1,502.9	5.8	0.00	0.00	0.00
5,600.0	20.48	102.08	5,327.1	-329.0	1,537.1	5.9	0.00	0.00	0.00
5,700.0	20.48	102.08	5,420.8	-336.3	1,571.3	6.1	0.00	0.00	0.00
5,800.0	20.48	102.08	5,514.5	-343.6	1,605.5	6.2	0.00	0.00	0.00
5,900.0	20.48	102.08	5,608.2	-350.9	1,639.7	6.3	0.00	0.00	0.00
6,000.0	20.48	102.08	5,701.9	-358.2	1,673.9	6.4	0.00	0.00	0.00
6,100.0	20.48	102.08	5,795.6	-365.6	1,708.1	6.6	0.00	0.00	0.00
6,200.0	20.48	102.08	5,889.2	-372.9	1,742.3	6.7	0.00	0.00	0.00
6,300.0	20.48	102.08	5,982.9	-380.2	1,776.5	6.8	0.00	0.00	0.00
6,400.0	20.48	102.08	6,076.6	-387.5	1,810.7	7.0	0.00	0.00	0.00
6,500.0	20.48	102.08	6,170.3	-394.8	1,844.9	7.1	0.00	0.00	0.00
6,600.0	20.48	102.08	6,264.0	-402.2	1,879.1	7.2	0.00	0.00	0.00
6,700.0	20.48	102.08	6,357.7	-409.5	1,913.3	7.4	0.00	0.00	0.00
6,800.0	20.48	102.08	6,451.3	-416.8	1,947.5	7.5	0.00	0.00	0.00
6,900.0	20.48	102.08	6,545.0	-424.1	1,981.7	7.6	0.00	0.00	0.00
7,000.0	20.48	102.08	6,638.7	-431.4	2,015.9	7.8	0.00	0.00	0.00
7,100.0	20.48	102.08	6,732.4	-438.8	2,050.2	7.9	0.00	0.00	0.00
7,200.0	20.48	102.08	6,826.1	-446.1	2,084.4	8.0	0.00	0.00	0.00
7,291.0	20.48	102.08	6,911.3	-452.7	2,115.5	8.1	0.00	0.00	0.00
7,300.0	20.30	99.54	6,919.8	-453.3	2,118.6	8.2	10.00	-1.91	-28.18
7,400.0	20.95	70.95	7,013.6	-450.4	2,152.7	18.4	10.00	0.65	-28.59
7,500.0	25.64	48.39	7,105.6	-430.1	2,185.8	45.2	10.00	4.69	-22.56
7,600.0	32.68	33.67	7,193.0	-393.2	2,217.1	88.0	10.00	7.03	-14.72
7,700.0	40.85	23.99	7,273.1	-340.7	2,245.4	145.3	10.00	8.18	-9.68
7,800.0	49.60	17.15	7,343.5	-274.3	2,270.0	215.4	10.00	8.75	-6.85
7,900.0	58.66	11.91	7,402.0	-195.9	2,290.1	296.3	10.00	9.06	-5.24
8,000.0	67.90	7.61	7,447.0	-108.0	2,305.0	385.4	10.00	9.24	-4.30
8,100.0	77.23	3.84	7,476.9	-13.2	2,314.5	480.0	10.00	9.33	-3.77
8,200.0	86.62	0.34	7,490.9	85.7	2,318.0	577.3	10.00	9.38	-3.50
8,236.0	90.00	359.11	7,492.0	121.7	2,317.9	612.5	10.00	9.40	-3.42
CONNER 19-18-4NCH LP (460 FSL, 560 FEL)									
8,300.0	90.00	359.11	7,492.0	185.6	2,316.9	674.8	0.00	0.00	0.00
8,400.0	90.00	359.11	7,492.0	285.6	2,315.3	772.1	0.00	0.00	0.00
8,500.0	90.00	359.11	7,492.0	385.6	2,313.8	869.5	0.00	0.00	0.00
8,600.0	90.00	359.11	7,492.0	485.6	2,312.2	966.9	0.00	0.00	0.00
8,700.0	90.00	359.11	7,492.0	585.6	2,310.6	1,064.2	0.00	0.00	0.00
8,800.0	90.00	359.11	7,492.0	685.6	2,309.1	1,161.6	0.00	0.00	0.00
8,900.0	90.00	359.11	7,492.0	785.6	2,307.5	1,258.9	0.00	0.00	0.00
9,000.0	90.00	359.11	7,492.0	885.5	2,306.0	1,356.3	0.00	0.00	0.00
9,100.0	90.00	359.11	7,492.0	985.5	2,304.4	1,453.7	0.00	0.00	0.00
9,200.0	90.00	359.11	7,492.0	1,085.5	2,302.9	1,551.0	0.00	0.00	0.00
9,300.0	90.00	359.11	7,492.0	1,185.5	2,301.3	1,648.4	0.00	0.00	0.00
9,400.0	90.00	359.11	7,492.0	1,285.5	2,299.7	1,745.8	0.00	0.00	0.00
9,500.0	90.00	359.11	7,492.0	1,385.5	2,298.2	1,843.1	0.00	0.00	0.00
9,600.0	90.00	359.11	7,492.0	1,485.5	2,296.6	1,940.5	0.00	0.00	0.00
9,700.0	90.00	359.11	7,492.0	1,585.5	2,295.1	2,037.9	0.00	0.00	0.00
9,800.0	90.00	359.11	7,492.0	1,685.5	2,293.5	2,135.2	0.00	0.00	0.00
9,900.0	90.00	359.11	7,492.0	1,785.4	2,292.0	2,232.6	0.00	0.00	0.00
10,000.0	90.00	359.11	7,492.0	1,885.4	2,290.4	2,329.9	0.00	0.00	0.00
10,100.0	90.00	359.11	7,492.0	1,985.4	2,288.8	2,427.3	0.00	0.00	0.00
10,200.0	90.00	359.11	7,492.0	2,085.4	2,287.3	2,524.7	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Company:	PetroShare Corp	TVD Reference:	13' KB @ 5155.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	13' KB @ 5155.0usft
Site:	S19-T1S-R65W	North Reference:	Grid
Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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)
10,300.0	90.00	359.11	7,492.0	2,185.4	2,285.7	2,622.0	0.00	0.00	0.00
10,400.0	90.00	359.11	7,492.0	2,285.4	2,284.2	2,719.4	0.00	0.00	0.00
10,500.0	90.00	359.11	7,492.0	2,385.4	2,282.6	2,816.8	0.00	0.00	0.00
10,600.0	90.00	359.11	7,492.0	2,485.4	2,281.1	2,914.1	0.00	0.00	0.00
10,700.0	90.00	359.11	7,492.0	2,585.3	2,279.5	3,011.5	0.00	0.00	0.00
10,800.0	90.00	359.11	7,492.0	2,685.3	2,277.9	3,108.8	0.00	0.00	0.00
10,900.0	90.00	359.11	7,492.0	2,785.3	2,276.4	3,206.2	0.00	0.00	0.00
11,000.0	90.00	359.11	7,492.0	2,885.3	2,274.8	3,303.6	0.00	0.00	0.00
11,100.0	90.00	359.11	7,492.0	2,985.3	2,273.3	3,400.9	0.00	0.00	0.00
11,200.0	90.00	359.11	7,492.0	3,085.3	2,271.7	3,498.3	0.00	0.00	0.00
11,300.0	90.00	359.11	7,492.0	3,185.3	2,270.2	3,595.7	0.00	0.00	0.00
11,400.0	90.00	359.11	7,492.0	3,285.3	2,268.6	3,693.0	0.00	0.00	0.00
11,500.0	90.00	359.11	7,492.0	3,385.2	2,267.1	3,790.4	0.00	0.00	0.00
11,600.0	90.00	359.11	7,492.0	3,485.2	2,265.5	3,887.7	0.00	0.00	0.00
11,700.0	90.00	359.11	7,492.0	3,585.2	2,263.9	3,985.1	0.00	0.00	0.00
11,800.0	90.00	359.11	7,492.0	3,685.2	2,262.4	4,082.5	0.00	0.00	0.00
11,900.0	90.00	359.11	7,492.0	3,785.2	2,260.8	4,179.8	0.00	0.00	0.00
12,000.0	90.00	359.11	7,492.0	3,885.2	2,259.3	4,277.2	0.00	0.00	0.00
12,100.0	90.00	359.11	7,492.0	3,985.2	2,257.7	4,374.6	0.00	0.00	0.00
12,200.0	90.00	359.11	7,492.0	4,085.2	2,256.2	4,471.9	0.00	0.00	0.00
12,300.0	90.00	359.11	7,492.0	4,185.1	2,254.6	4,569.3	0.00	0.00	0.00
12,400.0	90.00	359.11	7,492.0	4,285.1	2,253.0	4,666.6	0.00	0.00	0.00
12,500.0	90.00	359.11	7,492.0	4,385.1	2,251.5	4,764.0	0.00	0.00	0.00
12,600.0	90.00	359.11	7,492.0	4,485.1	2,249.9	4,861.4	0.00	0.00	0.00
12,700.0	90.00	359.11	7,492.0	4,585.1	2,248.4	4,958.7	0.00	0.00	0.00
12,800.0	90.00	359.11	7,492.0	4,685.1	2,246.8	5,056.1	0.00	0.00	0.00
12,900.0	90.00	359.11	7,492.0	4,785.1	2,245.3	5,153.5	0.00	0.00	0.00
13,000.0	90.00	359.11	7,492.0	4,885.1	2,243.7	5,250.8	0.00	0.00	0.00
13,100.0	90.00	359.11	7,492.0	4,985.1	2,242.1	5,348.2	0.00	0.00	0.00
13,200.0	90.00	359.11	7,492.0	5,085.0	2,240.6	5,445.5	0.00	0.00	0.00
13,300.0	90.00	359.11	7,492.0	5,185.0	2,239.0	5,542.9	0.00	0.00	0.00
13,400.0	90.00	359.11	7,492.0	5,285.0	2,237.5	5,640.3	0.00	0.00	0.00
13,500.0	90.00	359.11	7,492.0	5,385.0	2,235.9	5,737.6	0.00	0.00	0.00
13,600.0	90.00	359.11	7,492.0	5,485.0	2,234.4	5,835.0	0.00	0.00	0.00
13,700.0	90.00	359.11	7,492.0	5,585.0	2,232.8	5,932.4	0.00	0.00	0.00
13,800.0	90.00	359.11	7,492.0	5,685.0	2,231.3	6,029.7	0.00	0.00	0.00
13,900.0	90.00	359.11	7,492.0	5,785.0	2,229.7	6,127.1	0.00	0.00	0.00
14,000.0	90.00	359.11	7,492.0	5,884.9	2,228.1	6,224.5	0.00	0.00	0.00
14,100.0	90.00	359.11	7,492.0	5,984.9	2,226.6	6,321.8	0.00	0.00	0.00
14,200.0	90.00	359.11	7,492.0	6,084.9	2,225.0	6,419.2	0.00	0.00	0.00
14,300.0	90.00	359.11	7,492.0	6,184.9	2,223.5	6,516.5	0.00	0.00	0.00
14,400.0	90.00	359.11	7,492.0	6,284.9	2,221.9	6,613.9	0.00	0.00	0.00
14,500.0	90.00	359.11	7,492.0	6,384.9	2,220.4	6,711.3	0.00	0.00	0.00
14,600.0	90.00	359.11	7,492.0	6,484.9	2,218.8	6,808.6	0.00	0.00	0.00
14,700.0	90.00	359.11	7,492.0	6,584.9	2,217.2	6,906.0	0.00	0.00	0.00
14,800.0	90.00	359.11	7,492.0	6,684.8	2,215.7	7,003.4	0.00	0.00	0.00
14,900.0	90.00	359.11	7,492.0	6,784.8	2,214.1	7,100.7	0.00	0.00	0.00
15,000.0	90.00	359.11	7,492.0	6,884.8	2,212.6	7,198.1	0.00	0.00	0.00
15,100.0	90.00	359.11	7,492.0	6,984.8	2,211.0	7,295.4	0.00	0.00	0.00
15,200.0	90.00	359.11	7,492.0	7,084.8	2,209.5	7,392.8	0.00	0.00	0.00
15,300.0	90.00	359.11	7,492.0	7,184.8	2,207.9	7,490.2	0.00	0.00	0.00
15,400.0	90.00	359.11	7,492.0	7,284.8	2,206.3	7,587.5	0.00	0.00	0.00
15,500.0	90.00	359.11	7,492.0	7,384.8	2,204.8	7,684.9	0.00	0.00	0.00
15,600.0	90.00	359.11	7,492.0	7,484.7	2,203.2	7,782.3	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Company:	PetroShare Corp	TVD Reference:	13' KB @ 5155.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	13' KB @ 5155.0usft
Site:	S19-T1S-R65W	North Reference:	Grid
Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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)
15,700.0	90.00	359.11	7,492.0	7,584.7	2,201.7	7,879.6	0.00	0.00	0.00
15,800.0	90.00	359.11	7,492.0	7,684.7	2,200.1	7,977.0	0.00	0.00	0.00
15,900.0	90.00	359.11	7,492.0	7,784.7	2,198.6	8,074.3	0.00	0.00	0.00
16,000.0	90.00	359.11	7,492.0	7,884.7	2,197.0	8,171.7	0.00	0.00	0.00
16,100.0	90.00	359.11	7,492.0	7,984.7	2,195.4	8,269.1	0.00	0.00	0.00
16,200.0	90.00	359.11	7,492.0	8,084.7	2,193.9	8,366.4	0.00	0.00	0.00
16,300.0	90.00	359.11	7,492.0	8,184.7	2,192.3	8,463.8	0.00	0.00	0.00
16,400.0	90.00	359.11	7,492.0	8,284.7	2,190.8	8,561.2	0.00	0.00	0.00
16,500.0	90.00	359.11	7,492.0	8,384.6	2,189.2	8,658.5	0.00	0.00	0.00
16,600.0	90.00	359.11	7,492.0	8,484.6	2,187.7	8,755.9	0.00	0.00	0.00
16,700.0	90.00	359.11	7,492.0	8,584.6	2,186.1	8,853.2	0.00	0.00	0.00
16,800.0	90.00	359.11	7,492.0	8,684.6	2,184.6	8,950.6	0.00	0.00	0.00
16,900.0	90.00	359.11	7,492.0	8,784.6	2,183.0	9,048.0	0.00	0.00	0.00
17,000.0	90.00	359.11	7,492.0	8,884.6	2,181.4	9,145.3	0.00	0.00	0.00
17,100.0	90.00	359.11	7,492.0	8,984.6	2,179.9	9,242.7	0.00	0.00	0.00
17,200.0	90.00	359.11	7,492.0	9,084.6	2,178.3	9,340.1	0.00	0.00	0.00
17,300.0	90.00	359.11	7,492.0	9,184.5	2,176.8	9,437.4	0.00	0.00	0.00
17,400.0	90.00	359.11	7,492.0	9,284.5	2,175.2	9,534.8	0.00	0.00	0.00
17,500.0	90.00	359.11	7,492.0	9,384.5	2,173.7	9,632.1	0.00	0.00	0.00
17,600.0	90.00	359.11	7,492.0	9,484.5	2,172.1	9,729.5	0.00	0.00	0.00
17,700.0	90.00	359.11	7,492.0	9,584.5	2,170.5	9,826.9	0.00	0.00	0.00
17,800.0	90.00	359.11	7,492.0	9,684.5	2,169.0	9,924.2	0.00	0.00	0.00
17,900.0	90.00	359.11	7,492.0	9,784.5	2,167.4	10,021.6	0.00	0.00	0.00
18,000.0	90.00	359.11	7,492.0	9,884.5	2,165.9	10,119.0	0.00	0.00	0.00
18,049.1	90.00	359.11	7,492.0	9,933.6	2,165.1	10,166.8	0.00	0.00	0.00
CONNER 19-18-4NCH BHL (355 FNL, 560 FEL)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CONNER 19-18-4NCH I - hit/miss target - Shape - Point	0.00	0.00	7,492.0	121.7	2,317.9	1,223,677.16	3,224,537.70	39.944592	-104.699159
CONNER 19-18-4NCH I - plan hits target center - Point	0.00	0.00	7,492.0	9,933.6	2,165.1	1,233,489.08	3,224,384.95	39.971531	-104.699388



PetroShare Corp

**ADAMS COUNTY, CO
S19-T1S-R65W
CONNER 19-18-4NCH**

**OH
PLAN #2**

Anticollision Report

28 June, 2021



Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Reference	PLAN #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.0 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	6/28/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	18,049.1	PLAN #2 (OH)	MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S19-T1S-R65W						
CONNER 19-18-1CDH - OH - PLAN #1	600.0	600.0	210.0	205.2	44.250	CC, ES
CONNER 19-18-1CDH - OH - PLAN #1	1,100.0	1,056.3	289.6	277.8	24.555	SF
CONNER 19-18-1NBH - OH - PLAN #1	600.0	600.0	165.0	162.6	69.521	CC, ES
CONNER 19-18-1NBH - OH - PLAN #1	1,100.0	1,086.9	212.6	206.6	35.527	SF
CONNER 19-18-1NCH - OH - PLAN #1	600.0	600.0	180.0	177.6	75.844	CC, ES
CONNER 19-18-1NCH - OH - PLAN #1	1,100.0	1,077.7	235.3	229.4	39.577	SF
CONNER 19-18-1NXH - OH - PLAN #1	600.0	600.0	195.0	190.2	41.085	CC, ES
CONNER 19-18-1NXH - OH - PLAN #1	1,100.0	1,067.8	260.9	249.5	22.810	SF
CONNER 19-18-2CDH - OH - PLAN #1	600.0	600.0	149.9	147.6	63.194	CC, ES
CONNER 19-18-2CDH - OH - PLAN #1	1,100.0	1,093.9	193.6	187.6	32.168	SF
CONNER 19-18-2NBH - OH - PLAN #1	600.0	600.0	105.0	102.6	44.242	CC, ES
CONNER 19-18-2NBH - OH - PLAN #1	1,100.0	1,097.5	147.8	141.7	24.433	SF
CONNER 19-18-2NCH - OH - PLAN #1	600.0	600.0	120.0	115.2	25.283	CC, ES
CONNER 19-18-2NCH - OH - PLAN #1	1,100.0	1,097.5	162.8	152.6	15.981	SF
CONNER 19-18-2NXH - OH - PLAN #1	600.0	600.0	135.0	132.6	56.886	CC, ES
CONNER 19-18-2NXH - OH - PLAN #1	1,100.0	1,097.5	177.7	171.7	29.442	SF
CONNER 19-18-3CDH - OH - PLAN #1	600.0	600.0	90.0	85.2	18.962	CC, ES
CONNER 19-18-3CDH - OH - PLAN #1	1,000.0	998.7	117.4	108.2	12.769	SF
CONNER 19-18-3NBH - OH - PLAN #1	600.0	600.0	44.9	42.6	18.936	CC, ES
CONNER 19-18-3NBH - OH - PLAN #1	900.0	899.5	60.4	55.7	12.818	SF
CONNER 19-18-3NCH - OH - PLAN #1	600.0	600.0	60.0	55.2	12.635	CC, ES
CONNER 19-18-3NCH - OH - PLAN #1	900.0	899.5	75.4	67.2	9.261	SF
CONNER 19-18-3NXH - OH - PLAN #1	600.0	600.0	74.9	72.6	31.580	CC, ES
CONNER 19-18-3NXH - OH - PLAN #1	1,000.0	998.7	102.4	96.9	18.928	SF
CONNER 19-18-4CDH - OH - PLAN #1	600.0	600.0	30.0	25.2	6.309	CC, ES
CONNER 19-18-4CDH - OH - PLAN #1	18,000.0	18,014.8	533.5	174.8	1.487	Level 3, SF
CONNER 19-18-4NBH - OH - PLAN #2	500.0	500.0	15.0	11.0	3.757	CC, ES
CONNER 19-18-4NBH - OH - PLAN #2	18,049.1	17,857.4	230.9	19.8	1.094	Level 2, SF
CONNER 19-18-4NXH - OH - PLAN #1	600.0	600.0	15.0	12.6	6.315	CC, ES
CONNER 19-18-4NXH - OH - PLAN #1	18,048.4	17,723.1	314.4	204.1	2.849	SF
Gail #1 (PR) - EXISTING - NO SURVEYS (PR)						Out of range
Gail Smith #1 (PR) - EXISTING - NO SURVEYS (PR)						Out of range
Milheim #1 (P&A) - EXISTING - NO SURVEYS (P&A)						Out of range
Price 7-19 (SI) - EXISTING - NO SURVEYS (SI)						Out of range
Putnam 41-18 (PR) - EXISTING - NO SURVEYS (PR)	17,286.0	7,423.0	478.7	284.5	2.465	CC, ES, SF
Tracy #1 (PR) - EXISTING - NO SURVEYS (PR)						Out of range
UPRR-Letterly 1 (P&A) - EXISTING - NO SURVEYS (P&A)						Out of range

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						

Offset Design S19-T1S-R65W - CONNER 19-18-1CDH - OH - PLAN #1													Offset Site Error: 0.0 usft
Survey Program: 0-MWD													Offset Well Error: 0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Reference (usft)	Offset (usft)						+N/-S (usft)	+E/-W (usft)					
0.0	0.0	0.0	0.0	0.0	0.0	-90.31	-1.2	-210.0	210.0				
100.0	100.0	100.0	100.0	0.4	0.4	-90.31	-1.2	-210.0	210.0	209.4	0.55	379.209	
133.3	133.3	133.3	133.3	0.6	0.6	-90.31	-1.2	-210.0	210.0	209.1	0.90	233.054	
200.0	200.0	200.0	200.0	1.0	1.0	-90.31	-1.2	-210.0	210.0	208.4	1.60	131.605	
300.0	300.0	300.0	300.0	1.5	1.5	-90.31	-1.2	-210.0	210.0	207.5	2.45	85.748	
333.3	333.3	333.3	333.3	1.6	1.6	-90.31	-1.2	-210.0	210.0	207.3	2.71	77.443	
400.0	400.0	400.0	400.0	1.9	1.9	-90.31	-1.2	-210.0	210.0	206.7	3.24	64.876	
500.0	500.0	500.0	500.0	2.3	2.3	-90.31	-1.2	-210.0	210.0	206.0	4.00	52.523	
600.0	600.0	600.0	600.0	2.7	2.7	-90.31	-1.2	-210.0	210.0	205.2	4.75	44.250	CC, ES
700.0	700.0	693.5	693.5	3.1	3.0	167.54	-1.7	-211.4	213.2	207.4	5.78	36.871	
800.0	799.8	786.4	786.3	3.9	3.9	167.35	-3.4	-215.6	222.9	215.2	7.67	29.071	
900.0	899.5	878.2	877.8	4.8	4.7	167.05	-6.1	-222.5	238.9	229.6	9.24	25.840	
1,000.0	998.7	968.3	967.3	5.5	5.4	166.70	-9.8	-232.0	261.2	250.6	10.60	24.644	
1,100.0	1,097.5	1,056.3	1,054.4	6.2	6.0	166.30	-14.4	-243.7	289.6	277.8	11.79	24.555	SF
1,200.0	1,195.6	1,141.6	1,138.4	6.9	6.5	165.89	-19.8	-257.5	323.9	311.1	12.81	25.274	
1,300.0	1,293.1	1,228.8	1,223.8	7.5	6.8	165.49	-26.2	-273.6	363.6	350.0	13.62	26.693	
1,400.0	1,389.6	1,319.0	1,312.2	8.0	7.1	165.21	-32.8	-290.6	406.7	392.3	14.33	28.381	
1,500.0	1,485.3	1,407.7	1,399.1	8.6	7.3	165.03	-39.4	-307.3	452.8	437.8	15.05	30.093	
1,600.0	1,579.8	1,494.9	1,484.4	9.1	7.5	164.93	-45.8	-323.7	501.9	486.1	15.76	31.856	
1,700.0	1,673.5	1,580.7	1,568.5	9.4	7.8	165.09	-52.2	-339.9	553.1	536.8	16.28	33.982	
1,800.0	1,767.2	1,666.6	1,652.6	9.7	8.0	165.29	-58.5	-356.0	604.3	587.5	16.80	35.966	
1,900.0	1,860.9	1,752.4	1,736.7	10.0	8.3	165.46	-64.9	-372.2	655.6	638.2	17.35	37.792	
2,000.0	1,954.6	1,838.3	1,820.7	10.3	8.6	165.60	-71.2	-388.4	706.8	688.9	17.91	39.475	
2,100.0	2,048.3	1,924.1	1,904.8	10.7	8.9	165.72	-77.6	-404.5	758.1	739.6	18.48	41.028	
2,200.0	2,141.9	2,010.0	1,988.9	11.1	9.2	165.83	-83.9	-420.7	809.4	790.3	19.06	42.461	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-1NBH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-90.31	-0.9	-165.0	165.0					
100.0	100.0	100.0	100.0	0.4	0.0	-90.31	-0.9	-165.0	165.0	164.7	0.28	595.408		
133.3	133.3	133.3	133.3	0.6	0.0	-90.31	-0.9	-165.0	165.0	164.5	0.45	366.026		
200.0	200.0	200.0	200.0	1.0	0.0	-90.31	-0.9	-165.0	165.0	164.2	0.80	206.734		
300.0	300.0	300.0	300.0	1.5	0.0	-90.31	-0.9	-165.0	165.0	163.7	1.22	134.708		
333.3	333.3	333.3	333.3	1.6	0.0	-90.31	-0.9	-165.0	165.0	163.6	1.36	121.664		
400.0	400.0	400.0	400.0	1.9	0.0	-90.31	-0.9	-165.0	165.0	163.3	1.62	101.923		
500.0	500.0	500.0	500.0	2.3	0.0	-90.31	-0.9	-165.0	165.0	163.0	2.00	82.517		
600.0	600.0	600.0	600.0	2.7	0.0	-90.31	-0.9	-165.0	165.0	162.6	2.37	69.521 CC, ES		
700.0	700.0	700.0	700.0	3.1	0.0	167.73	-0.9	-165.0	166.7	163.7	3.00	55.565		
800.0	799.8	799.8	799.8	3.9	0.0	168.08	-0.9	-165.0	171.8	167.9	3.91	43.884		
900.0	899.5	899.5	899.5	4.8	0.0	168.62	-0.9	-165.0	180.3	175.6	4.69	38.466		
1,000.0	998.7	998.8	998.8	5.5	0.0	168.96	-1.8	-166.2	193.5	188.1	5.37	36.024		
1,100.0	1,097.5	1,086.9	1,086.8	6.2	0.0	168.85	-4.7	-169.7	212.6	206.6	5.98	35.527 SF		
1,200.0	1,195.6	1,178.2	1,177.8	6.9	0.0	168.41	-9.3	-175.5	237.4	230.9	6.54	36.330		
1,300.0	1,293.1	1,267.4	1,266.3	7.5	0.0	167.76	-15.5	-183.4	267.9	260.9	7.04	38.081		
1,400.0	1,389.6	1,359.9	1,358.1	8.0	0.0	167.08	-23.2	-192.9	303.1	295.6	7.52	40.295		
1,500.0	1,485.3	1,452.2	1,449.6	8.6	0.0	166.61	-30.8	-202.5	341.5	333.5	8.00	42.695		
1,600.0	1,579.8	1,543.2	1,539.7	9.1	0.0	166.31	-38.3	-212.0	383.0	374.5	8.46	45.251		
1,700.0	1,673.5	1,633.1	1,628.9	9.4	0.0	166.27	-45.7	-221.3	426.7	418.0	8.72	48.919		
1,800.0	1,767.2	1,723.0	1,718.0	9.7	0.0	166.29	-53.2	-230.6	470.5	461.5	8.99	52.361		
1,900.0	1,860.9	1,812.9	1,807.1	10.0	0.0	166.30	-60.6	-240.0	514.3	505.0	9.26	55.529		
2,000.0	1,954.6	1,902.9	1,896.2	10.3	0.0	166.32	-68.0	-249.3	558.0	548.5	9.55	58.450		
2,100.0	2,048.3	1,992.8	1,985.4	10.7	0.0	166.33	-75.5	-258.6	601.8	592.0	9.84	61.142		
2,200.0	2,141.9	2,082.7	2,074.5	11.1	0.0	166.33	-82.9	-268.0	645.6	635.4	10.15	63.622		
2,300.0	2,235.6	2,172.6	2,163.6	11.7	0.0	166.34	-90.3	-277.3	689.4	678.9	10.46	65.909		
2,400.0	2,329.3	2,262.5	2,252.7	12.2	0.0	166.35	-97.7	-286.6	733.1	722.4	10.78	68.017		
2,500.0	2,423.0	2,352.4	2,341.8	12.9	0.0	166.36	-105.2	-296.0	776.9	765.8	11.10	69.963		
2,600.0	2,516.7	2,442.3	2,430.9	13.5	0.0	166.36	-112.6	-305.3	820.7	809.3	11.44	71.759		

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-1NCH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.31	-1.0	-180.0	180.0					
100.0	100.0	100.0	100.0	0.4	0.0	-90.31	-1.0	-180.0	180.0	179.7	0.28	649.579		
133.3	133.3	133.3	133.3	0.6	0.0	-90.31	-1.0	-180.0	180.0	179.5	0.45	399.326		
200.0	200.0	200.0	200.0	1.0	0.0	-90.31	-1.0	-180.0	180.0	179.2	0.80	225.541		
300.0	300.0	300.0	300.0	1.5	0.0	-90.31	-1.0	-180.0	180.0	178.7	1.22	146.962		
333.3	333.3	333.3	333.3	1.6	0.0	-90.31	-1.0	-180.0	180.0	178.6	1.36	132.731		
400.0	400.0	400.0	400.0	1.9	0.0	-90.31	-1.0	-180.0	180.0	178.3	1.62	111.194		
500.0	500.0	500.0	500.0	2.3	0.0	-90.31	-1.0	-180.0	180.0	178.0	2.00	90.023		
600.0	600.0	600.0	600.0	2.7	0.0	-90.31	-1.0	-180.0	180.0	177.6	2.37	75.844 CC, ES		
700.0	700.0	700.0	700.0	3.1	0.0	167.72	-1.0	-180.0	181.7	178.7	3.00	60.565		
800.0	799.8	799.8	799.8	3.9	0.0	168.04	-1.0	-180.0	186.8	182.9	3.91	47.718		
900.0	899.5	893.8	893.8	4.8	0.0	168.29	-1.7	-181.3	196.8	192.1	4.68	42.039		
1,000.0	998.7	986.6	986.4	5.5	0.0	168.28	-3.7	-185.3	213.0	207.6	5.35	39.809		
1,100.0	1,097.5	1,077.7	1,077.3	6.2	0.0	168.05	-7.1	-191.9	235.3	229.4	5.95	39.577 SF		
1,200.0	1,195.6	1,166.7	1,165.7	6.9	0.0	167.67	-11.7	-200.8	263.7	257.2	6.48	40.675		
1,300.0	1,293.1	1,253.2	1,251.3	7.5	0.0	167.20	-17.4	-211.7	297.9	290.9	6.97	42.737		
1,400.0	1,389.6	1,341.2	1,338.0	8.0	0.0	166.70	-24.2	-224.9	337.4	329.9	7.44	45.359		
1,500.0	1,485.3	1,431.5	1,427.0	8.6	0.0	166.33	-31.3	-238.6	380.2	372.3	7.91	48.094		
1,600.0	1,579.8	1,520.3	1,514.5	9.1	0.0	166.09	-38.2	-252.2	426.2	417.8	8.36	50.962		
1,700.0	1,673.5	1,608.0	1,601.0	9.4	0.0	166.12	-45.1	-265.5	474.2	465.6	8.62	55.024		
1,800.0	1,767.2	1,695.7	1,687.3	9.7	0.0	166.20	-52.0	-278.9	522.3	513.4	8.88	58.845		
1,900.0	1,860.9	1,783.4	1,773.7	10.0	0.0	166.26	-58.9	-292.2	570.4	561.3	9.15	62.366		
2,000.0	1,954.6	1,871.0	1,860.0	10.3	0.0	166.31	-65.8	-305.6	618.5	609.1	9.43	65.617		
2,100.0	2,048.3	1,958.7	1,946.4	10.7	0.0	166.36	-72.7	-318.9	666.6	656.9	9.72	68.618		
2,200.0	2,141.9	2,046.4	2,032.8	11.1	0.0	166.40	-79.6	-332.3	714.8	704.8	10.01	71.388		
2,300.0	2,235.6	2,134.0	2,119.1	11.7	0.0	166.43	-86.5	-345.6	762.9	752.6	10.32	73.944		
2,400.0	2,329.3	2,221.7	2,205.5	12.2	0.0	166.46	-93.4	-359.0	811.0	800.4	10.63	76.304		
2,500.0	2,423.0	2,309.3	2,291.9	12.9	0.0	166.49	-100.3	-372.3	859.1	848.2	10.95	78.485		

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-1NXH - OH - PLAN #1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.31	-1.0	-194.9	195.0				
100.0	100.0	100.0	100.0	0.4	0.4	-90.31	-1.0	-194.9	195.0	194.4	0.55	352.100	
133.3	133.3	133.3	133.3	0.6	0.6	-90.31	-1.0	-194.9	195.0	194.1	0.90	216.393	
200.0	200.0	200.0	200.0	1.0	1.0	-90.31	-1.0	-194.9	195.0	193.4	1.60	122.196	
300.0	300.0	300.0	300.0	1.5	1.5	-90.31	-1.0	-194.9	195.0	192.5	2.45	79.616	
333.3	333.3	333.3	333.3	1.6	1.6	-90.31	-1.0	-194.9	195.0	192.2	2.71	71.905	
400.0	400.0	400.0	400.0	1.9	1.9	-90.31	-1.0	-194.9	195.0	191.7	3.24	60.237	
500.0	500.0	500.0	500.0	2.3	2.3	-90.31	-1.0	-194.9	195.0	191.0	4.00	48.767	
600.0	600.0	600.0	600.0	2.7	2.7	-90.31	-1.0	-194.9	195.0	190.2	4.75	41.085 CC, ES	
700.0	700.0	700.0	700.0	3.1	3.1	167.71	-1.0	-194.9	196.7	190.9	5.74	34.261	
800.0	799.8	793.8	793.7	3.9	3.4	167.81	-1.7	-196.4	203.3	196.2	7.05	28.844	
900.0	899.5	886.7	886.6	4.8	4.2	167.72	-3.5	-200.5	216.2	207.5	8.72	24.807	
1,000.0	998.7	978.2	977.8	5.5	5.0	167.49	-6.5	-207.3	235.5	225.3	10.17	23.158	
1,100.0	1,097.5	1,067.8	1,066.8	6.2	5.6	167.15	-10.6	-216.5	260.9	249.5	11.44	22.810 SF	
1,200.0	1,195.6	1,155.0	1,153.1	6.9	6.3	166.75	-15.6	-227.9	292.3	279.7	12.57	23.250	
1,300.0	1,293.1	1,239.4	1,236.2	7.5	6.7	166.31	-21.5	-241.3	329.5	315.9	13.53	24.349	
1,400.0	1,389.6	1,326.0	1,321.1	8.0	7.0	165.87	-28.3	-256.9	371.8	357.5	14.29	26.027	
1,500.0	1,485.3	1,415.0	1,408.3	8.6	7.3	165.55	-35.5	-273.1	417.5	402.5	14.98	27.859	
1,600.0	1,579.8	1,502.4	1,493.9	9.1	7.5	165.34	-42.5	-289.1	466.1	450.4	15.69	29.699	
1,700.0	1,673.5	1,588.6	1,578.4	9.4	7.7	165.41	-49.4	-304.8	516.8	500.5	16.21	31.874	
1,800.0	1,767.2	1,674.7	1,662.8	9.7	8.0	165.52	-56.4	-320.6	567.5	550.8	16.74	33.903	
1,900.0	1,860.9	1,760.8	1,747.2	10.0	8.3	165.62	-63.3	-336.3	618.3	601.0	17.29	35.770	
2,000.0	1,954.6	1,847.0	1,831.6	10.3	8.5	165.70	-70.2	-352.0	669.1	651.3	17.85	37.492	
2,100.0	2,048.3	1,933.1	1,916.0	10.7	8.8	165.77	-77.2	-367.8	719.9	701.5	18.42	39.080	
2,200.0	2,141.9	2,019.3	2,000.4	11.1	9.1	165.83	-84.1	-383.5	770.7	751.7	19.01	40.546	
2,300.0	2,235.6	2,105.4	2,084.9	11.7	9.4	165.89	-91.0	-399.2	821.5	801.9	19.61	41.900	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-2CDH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.32	-0.8	-149.9	149.9					
100.0	100.0	100.0	100.0	0.4	0.0	-90.32	-0.8	-149.9	149.9	149.7	0.28	541.198		
133.3	133.3	133.3	133.3	0.6	0.0	-90.32	-0.8	-149.9	149.9	149.5	0.45	332.703		
200.0	200.0	200.0	200.0	1.0	0.0	-90.32	-0.8	-149.9	149.9	149.2	0.80	187.914		
300.0	300.0	300.0	300.0	1.5	0.0	-90.32	-0.8	-149.9	149.9	148.7	1.22	122.446		
333.3	333.3	333.3	333.3	1.6	0.0	-90.32	-0.8	-149.9	149.9	148.6	1.36	110.590		
400.0	400.0	400.0	400.0	1.9	0.0	-90.32	-0.8	-149.9	149.9	148.3	1.62	92.646		
500.0	500.0	500.0	500.0	2.3	0.0	-90.32	-0.8	-149.9	149.9	148.0	2.00	75.008		
533.3	533.3	533.3	533.3	2.5	0.0	-90.32	-0.8	-149.9	149.9	147.8	2.12	70.608		
600.0	600.0	600.0	600.0	2.7	0.0	-90.32	-0.8	-149.9	149.9	147.6	2.37	63.194 CC, ES		
700.0	700.0	700.0	700.0	3.1	0.0	167.74	-0.8	-149.9	151.7	148.7	3.00	50.563		
800.0	799.8	799.8	799.8	3.9	0.0	168.12	-0.8	-149.9	156.8	152.9	3.91	40.049		
900.0	899.5	899.5	899.5	4.8	0.0	168.71	-0.8	-149.9	165.3	160.6	4.69	35.258		
1,000.0	998.7	998.7	998.7	5.5	0.0	169.44	-0.8	-149.9	177.3	171.9	5.39	32.919		
1,100.0	1,097.5	1,093.9	1,093.9	6.2	0.0	169.82	-2.1	-150.9	193.6	187.6	6.02	32.168 SF		
1,200.0	1,195.6	1,187.8	1,187.7	6.9	0.0	169.56	-5.8	-153.6	215.1	208.5	6.59	32.639		
1,300.0	1,293.1	1,280.2	1,279.7	7.5	0.0	168.85	-11.9	-158.0	241.7	234.6	7.11	33.998		
1,400.0	1,389.6	1,375.3	1,374.4	8.0	0.0	168.12	-19.3	-163.4	272.4	264.8	7.61	35.799		
1,500.0	1,485.3	1,469.3	1,468.0	8.6	0.0	167.62	-26.6	-168.8	306.4	298.3	8.10	37.843		
1,600.0	1,579.8	1,562.1	1,560.4	9.1	0.0	167.31	-33.9	-174.1	343.6	335.0	8.57	40.077		
1,700.0	1,673.5	1,654.1	1,651.9	9.4	0.0	167.25	-41.0	-179.3	383.0	374.1	8.83	43.359		
1,800.0	1,767.2	1,745.9	1,743.3	9.7	0.0	167.24	-48.2	-184.5	422.5	413.4	9.10	46.437		
1,900.0	1,860.9	1,837.8	1,834.7	10.0	0.0	167.22	-55.4	-189.7	462.0	452.6	9.38	49.267		
2,000.0	1,954.6	1,929.7	1,926.2	10.3	0.0	167.21	-62.5	-195.0	501.5	491.8	9.67	51.877		
2,100.0	2,048.3	2,021.5	2,017.6	10.7	0.0	167.21	-69.7	-200.2	541.0	531.0	9.97	54.281		
2,200.0	2,141.9	2,113.4	2,109.1	11.1	0.0	167.20	-76.9	-205.4	580.5	570.2	10.27	56.496		
2,300.0	2,235.6	2,205.3	2,200.5	11.7	0.0	167.19	-84.0	-210.7	620.0	609.4	10.59	58.537		
2,400.0	2,329.3	2,297.1	2,291.9	12.2	0.0	167.19	-91.2	-215.9	659.4	648.5	10.91	60.419		
2,500.0	2,423.0	2,389.0	2,383.4	12.9	0.0	167.18	-98.4	-221.1	698.9	687.7	11.25	62.155		
2,600.0	2,516.7	2,480.9	2,474.8	13.5	0.0	167.18	-105.5	-226.3	738.4	726.9	11.58	63.757		
2,700.0	2,610.4	2,572.7	2,566.3	14.2	0.0	167.17	-112.7	-231.6	777.9	766.0	11.92	65.237		
2,800.0	2,704.0	2,664.6	2,657.7	14.9	0.0	167.17	-119.8	-236.8	817.4	805.2	12.27	66.607		
2,900.0	2,797.7	2,756.5	2,749.1	15.6	0.0	167.17	-127.0	-242.0	856.9	844.3	12.63	67.875		

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-2NBH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.31	-0.6	-105.0	105.0					
100.0	100.0	100.0	100.0	0.4	0.0	-90.31	-0.6	-105.0	105.0	104.7	0.28	378.899		
133.3	133.3	133.3	133.3	0.6	0.0	-90.31	-0.6	-105.0	105.0	104.5	0.45	232.928		
200.0	200.0	200.0	200.0	1.0	0.0	-90.31	-0.6	-105.0	105.0	104.2	0.80	131.560		
300.0	300.0	300.0	300.0	1.5	0.0	-90.31	-0.6	-105.0	105.0	103.8	1.22	85.725		
333.3	333.3	333.3	333.3	1.6	0.0	-90.31	-0.6	-105.0	105.0	103.6	1.36	77.424		
400.0	400.0	400.0	400.0	1.9	0.0	-90.31	-0.6	-105.0	105.0	103.4	1.62	64.862		
500.0	500.0	500.0	500.0	2.3	0.0	-90.31	-0.6	-105.0	105.0	103.0	2.00	52.513		
533.3	533.3	533.3	533.3	2.5	0.0	-90.31	-0.6	-105.0	105.0	102.9	2.12	49.432		
600.0	600.0	600.0	600.0	2.7	0.0	-90.31	-0.6	-105.0	105.0	102.6	2.37	44.242 CC, ES		
700.0	700.0	700.0	700.0	3.1	0.0	167.80	-0.6	-105.0	106.7	103.7	3.00	35.575		
800.0	799.8	799.8	799.8	3.9	0.0	168.35	-0.6	-105.0	111.8	107.9	3.92	28.555		
900.0	899.5	899.5	899.5	4.8	0.0	169.15	-0.6	-105.0	120.4	115.7	4.69	25.642		
1,000.0	998.7	998.7	998.7	5.5	0.0	170.10	-0.6	-105.0	132.3	126.9	5.40	24.526		
1,100.0	1,097.5	1,097.5	1,097.5	6.2	0.0	171.10	-0.6	-105.0	147.8	141.7	6.05	24.433 SF		
1,200.0	1,195.6	1,195.6	1,195.6	6.9	0.0	172.06	-0.6	-105.0	166.7	160.0	6.66	25.012		
1,300.0	1,293.1	1,293.1	1,293.1	7.5	0.0	172.95	-0.6	-105.0	189.0	181.7	7.25	26.074		
1,400.0	1,389.6	1,389.6	1,389.6	8.0	0.0	173.46	-1.8	-104.0	213.7	205.9	7.81	27.346		
1,500.0	1,485.3	1,485.3	1,485.3	8.6	0.0	173.30	-6.0	-100.9	239.4	231.1	8.35	28.679		
1,600.0	1,579.8	1,579.8	1,579.8	9.1	0.0	172.65	-13.0	-95.6	266.2	257.4	8.86	30.061		
1,700.0	1,673.5	1,673.5	1,673.5	9.4	0.0	171.95	-21.3	-89.4	294.1	285.0	9.10	32.319		
1,800.0	1,767.2	1,767.2	1,767.2	9.7	0.0	171.39	-29.5	-83.3	322.0	312.7	9.35	34.431		
1,900.0	1,860.9	1,860.9	1,860.9	10.0	0.0	170.92	-37.8	-77.1	350.0	340.4	9.62	36.366		
2,000.0	1,954.6	1,954.6	1,954.6	10.3	0.0	170.51	-46.0	-70.9	378.0	368.1	9.91	38.142		
2,100.0	2,048.3	2,048.3	2,048.3	10.7	0.0	170.17	-54.2	-64.8	406.0	395.8	10.21	39.771		
2,200.0	2,141.9	2,141.9	2,141.9	11.1	0.0	169.87	-62.4	-58.6	434.1	423.5	10.52	41.265		
2,300.0	2,235.6	2,235.6	2,235.6	11.7	0.0	169.60	-70.7	-52.4	462.1	451.2	10.84	42.634		
2,400.0	2,329.3	2,329.3	2,329.3	12.2	0.0	169.37	-78.9	-46.3	490.1	479.0	11.17	43.889		
2,500.0	2,423.0	2,423.0	2,423.0	12.9	0.0	169.16	-87.1	-40.1	518.2	506.7	11.51	45.039		
2,600.0	2,516.7	2,516.7	2,516.7	13.5	0.0	168.97	-95.3	-33.9	546.2	534.4	11.85	46.095		
2,700.0	2,610.4	2,610.4	2,610.4	14.2	0.0	168.80	-103.6	-27.8	574.3	562.1	12.20	47.065		
2,800.0	2,704.0	2,704.0	2,704.0	14.9	0.0	168.64	-111.8	-21.6	602.4	589.8	12.56	47.956		
2,900.0	2,797.7	2,797.7	2,797.7	15.6	0.0	168.50	-120.0	-15.4	630.4	617.5	12.93	48.777		
3,000.0	2,891.4	2,891.4	2,891.4	16.3	0.0	168.38	-128.2	-9.3	658.5	645.2	13.29	49.533		
3,100.0	2,985.1	2,985.1	2,985.1	17.0	0.0	168.26	-136.5	-3.1	686.6	672.9	13.67	50.230		
3,200.0	3,078.8	3,078.8	3,078.8	17.8	0.0	168.15	-144.7	3.1	714.7	700.6	14.05	50.875		
3,300.0	3,172.5	3,172.5	3,172.5	18.5	0.0	168.05	-152.9	9.2	742.8	728.3	14.43	51.471		
3,400.0	3,266.1	3,266.1	3,266.1	19.2	0.0	167.96	-161.1	15.4	770.8	756.0	14.82	52.023		
3,500.0	3,359.8	3,359.8	3,359.8	19.9	0.0	167.87	-169.4	21.6	798.9	783.7	15.21	52.536		
3,600.0	3,453.5	3,453.5	3,453.5	20.7	0.0	167.79	-177.6	27.7	827.0	811.4	15.60	53.012		
3,700.0	3,547.2	3,547.2	3,547.2	21.4	0.0	167.72	-185.8	33.9	855.1	839.1	16.00	53.455		

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-2NCH - OH - PLAN #1													Offset Site Error: 0.0 usft		
Survey Program: 0-MWD														Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)				
0.0	0.0	0.0	0.0	0.0	0.0	-90.32	-0.7	-120.0	120.0						
100.0	100.0	100.0	100.0	0.4	0.4	-90.32	-0.7	-120.0	120.0	119.4	0.55	216.657			
133.3	133.3	133.3	133.3	0.6	0.6	-90.32	-0.7	-120.0	120.0	119.1	0.90	133.154			
200.0	200.0	200.0	200.0	1.0	1.0	-90.32	-0.7	-120.0	120.0	118.4	1.60	75.192			
300.0	300.0	300.0	300.0	1.5	1.5	-90.32	-0.7	-120.0	120.0	117.5	2.45	48.992			
333.3	333.3	333.3	333.3	1.6	1.6	-90.32	-0.7	-120.0	120.0	117.3	2.71	44.248			
400.0	400.0	400.0	400.0	1.9	1.9	-90.32	-0.7	-120.0	120.0	116.7	3.24	37.068			
500.0	500.0	500.0	500.0	2.3	2.3	-90.32	-0.7	-120.0	120.0	116.0	4.00	30.010			
533.3	533.3	533.3	533.3	2.5	2.5	-90.32	-0.7	-120.0	120.0	115.7	4.25	28.249			
600.0	600.0	600.0	600.0	2.7	2.7	-90.32	-0.7	-120.0	120.0	115.2	4.75	25.283 CC, ES			
700.0	700.0	700.0	700.0	3.1	3.1	167.77	-0.7	-120.0	121.7	115.9	5.74	21.204			
800.0	799.8	799.8	799.8	3.9	3.5	168.25	-0.7	-120.0	126.8	119.8	7.01	18.079			
900.0	899.5	899.5	899.5	4.8	3.9	168.97	-0.7	-120.0	135.3	127.2	8.14	16.621			
1,000.0	998.7	998.7	998.7	5.5	4.2	169.83	-0.7	-120.0	147.3	138.1	9.19	16.030			
1,100.0	1,097.5	1,097.5	1,097.5	6.2	4.6	170.75	-0.7	-120.0	162.8	152.6	10.18	15.981 SF			
1,200.0	1,195.6	1,195.6	1,195.6	6.9	5.0	171.66	-0.7	-120.0	181.6	170.5	11.14	16.306			
1,300.0	1,293.1	1,294.0	1,294.0	7.5	5.3	172.09	-2.2	-119.9	203.7	191.7	12.02	16.948			
1,400.0	1,389.6	1,391.9	1,391.8	8.0	5.9	171.67	-7.1	-119.5	228.6	215.8	12.86	17.783			
1,500.0	1,485.3	1,488.4	1,488.0	8.6	6.3	170.77	-14.7	-119.0	256.5	242.9	13.66	18.774			
1,600.0	1,579.8	1,583.4	1,582.6	9.1	6.6	170.07	-22.6	-118.5	287.7	273.3	14.47	19.886			
1,700.0	1,673.5	1,677.6	1,676.5	9.4	6.9	169.64	-30.4	-117.9	321.3	306.2	15.05	21.346			
1,800.0	1,767.2	1,771.7	1,770.3	9.7	7.2	169.32	-38.2	-117.4	354.9	339.2	15.65	22.683			
1,900.0	1,860.9	1,865.9	1,864.1	10.0	7.5	169.05	-46.1	-116.8	388.5	372.2	16.26	23.894			
2,000.0	1,954.6	1,960.1	1,958.0	10.3	7.8	168.83	-53.9	-116.3	422.1	405.3	16.89	24.995			
2,100.0	2,048.3	2,054.2	2,051.8	10.7	8.1	168.64	-61.7	-115.8	455.8	438.2	17.53	25.997			
2,200.0	2,141.9	2,148.4	2,145.6	11.1	8.5	168.48	-69.5	-115.2	489.4	471.2	18.19	26.910			
2,300.0	2,235.6	2,242.5	2,239.5	11.7	8.8	168.33	-77.3	-114.7	523.1	504.2	18.85	27.744			
2,400.0	2,329.3	2,336.7	2,333.3	12.2	9.1	168.21	-85.1	-114.1	556.7	537.2	19.53	28.507			
2,500.0	2,423.0	2,430.9	2,427.1	12.9	9.5	168.10	-93.0	-113.6	590.4	570.2	20.21	29.206			
2,600.0	2,516.7	2,525.0	2,521.0	13.5	9.8	168.00	-100.8	-113.1	624.0	603.1	20.91	29.847			
2,700.0	2,610.4	2,619.2	2,614.8	14.2	10.1	167.91	-108.6	-112.5	657.7	636.1	21.61	30.437			
2,800.0	2,704.0	2,713.4	2,708.7	14.9	10.5	167.83	-116.4	-112.0	691.3	669.0	22.32	30.981			
2,900.0	2,797.7	2,807.5	2,802.5	15.6	10.8	167.76	-124.2	-111.4	725.0	702.0	23.03	31.483			
3,000.0	2,891.4	2,901.7	2,896.3	16.3	11.2	167.69	-132.0	-110.9	758.7	734.9	23.75	31.947			
3,100.0	2,985.1	2,995.8	2,990.2	17.0	11.5	167.63	-139.9	-110.3	792.3	767.8	24.47	32.377			
3,200.0	3,078.8	3,090.0	3,084.0	17.8	11.8	167.57	-147.7	-109.8	826.0	800.8	25.20	32.777			
3,300.0	3,172.5	3,184.2	3,177.8	18.5	12.2	167.52	-155.5	-109.3	859.6	833.7	25.93	33.148			

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-2NXH - OH - PLAN #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.31	-0.7	-135.0	135.0				
100.0	100.0	100.0	100.0	0.4	0.0	-90.31	-0.7	-135.0	135.0	134.7	0.28	487.194	
133.3	133.3	133.3	133.3	0.6	0.0	-90.31	-0.7	-135.0	135.0	134.5	0.45	299.502	
200.0	200.0	200.0	200.0	1.0	0.0	-90.31	-0.7	-135.0	135.0	134.2	0.80	169.161	
300.0	300.0	300.0	300.0	1.5	0.0	-90.31	-0.7	-135.0	135.0	133.8	1.22	110.226	
333.3	333.3	333.3	333.3	1.6	0.0	-90.31	-0.7	-135.0	135.0	133.6	1.36	99.552	
400.0	400.0	400.0	400.0	1.9	0.0	-90.31	-0.7	-135.0	135.0	133.4	1.62	83.399	
500.0	500.0	500.0	500.0	2.3	0.0	-90.31	-0.7	-135.0	135.0	133.0	2.00	67.521	
533.3	533.3	533.3	533.3	2.5	0.0	-90.31	-0.7	-135.0	135.0	132.9	2.12	63.560	
600.0	600.0	600.0	600.0	2.7	0.0	-90.31	-0.7	-135.0	135.0	132.6	2.37	56.886 CC, ES	
700.0	700.0	700.0	700.0	3.1	0.0	167.76	-0.7	-135.0	136.7	133.7	3.00	45.574	
800.0	799.8	799.8	799.8	3.9	0.0	168.19	-0.7	-135.0	141.8	137.9	3.91	36.223	
900.0	899.5	899.5	899.5	4.8	0.0	168.83	-0.7	-135.0	150.3	145.7	4.69	32.056	
1,000.0	998.7	998.7	998.7	5.5	0.0	169.62	-0.7	-135.0	162.3	156.9	5.39	30.124	
1,100.0	1,097.5	1,097.5	1,097.5	6.2	0.0	170.48	-0.7	-135.0	177.7	171.7	6.04	29.442 SF	
1,200.0	1,195.6	1,195.6	1,195.6	6.9	0.0	170.89	-2.1	-135.6	197.1	190.5	6.63	29.713	
1,300.0	1,293.1	1,288.3	1,288.2	7.5	0.0	170.54	-6.4	-137.3	220.9	213.7	7.18	30.780	
1,400.0	1,389.6	1,382.1	1,381.7	8.0	0.0	169.67	-13.5	-140.3	249.1	241.4	7.68	32.452	
1,500.0	1,485.3	1,476.8	1,476.0	8.6	0.0	168.86	-21.6	-143.6	281.0	272.8	8.16	34.435	
1,600.0	1,579.8	1,570.4	1,569.2	9.1	0.0	168.30	-29.5	-146.9	316.1	307.5	8.63	36.613	
1,700.0	1,673.5	1,663.2	1,661.5	9.4	0.0	168.02	-37.4	-150.2	353.5	344.6	8.89	39.778	
1,800.0	1,767.2	1,755.9	1,753.8	9.7	0.0	167.82	-45.3	-153.5	391.0	381.8	9.15	42.742	
1,900.0	1,860.9	1,848.6	1,846.1	10.0	0.0	167.66	-53.2	-156.7	428.5	419.1	9.42	45.466	
2,000.0	1,954.6	1,941.3	1,938.4	10.3	0.0	167.53	-61.1	-160.0	466.0	456.3	9.71	47.976	
2,100.0	2,048.3	2,034.0	2,030.7	10.7	0.0	167.42	-69.0	-163.3	503.5	493.5	10.01	50.288	
2,200.0	2,141.9	2,126.7	2,123.0	11.1	0.0	167.32	-76.9	-166.6	541.0	530.7	10.32	52.416	
2,300.0	2,235.6	2,219.4	2,215.3	11.7	0.0	167.24	-84.8	-169.8	578.5	567.8	10.64	54.375	
2,400.0	2,329.3	2,312.1	2,307.7	12.2	0.0	167.16	-92.7	-173.1	616.0	605.0	10.96	56.179	
2,500.0	2,423.0	2,404.8	2,400.0	12.9	0.0	167.09	-100.6	-176.4	653.5	642.2	11.30	57.842	
2,600.0	2,516.7	2,497.5	2,492.3	13.5	0.0	167.04	-108.5	-179.6	691.0	679.3	11.64	59.375	
2,700.0	2,610.4	2,590.2	2,584.6	14.2	0.0	166.98	-116.4	-182.9	728.5	716.5	11.98	60.791	
2,800.0	2,704.0	2,682.9	2,676.9	14.9	0.0	166.94	-124.3	-186.2	766.0	753.7	12.34	62.099	
2,900.0	2,797.7	2,775.6	2,769.2	15.6	0.0	166.89	-132.2	-189.5	803.5	790.8	12.69	63.309	
3,000.0	2,891.4	2,868.3	2,861.5	16.3	0.0	166.85	-140.1	-192.7	841.0	827.9	13.05	64.430	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-3CDH - OH - PLAN #1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-90.30	-0.5	-90.0	90.0				
100.0	100.0	100.0	100.0	0.4	0.4	-90.30	-0.5	-90.0	90.0	89.4	0.55	162.513	
133.3	133.3	133.3	133.3	0.6	0.6	-90.30	-0.5	-90.0	90.0	89.1	0.90	99.876	
200.0	200.0	200.0	200.0	1.0	1.0	-90.30	-0.5	-90.0	90.0	88.4	1.60	56.399	
300.0	300.0	300.0	300.0	1.5	1.5	-90.30	-0.5	-90.0	90.0	87.5	2.45	36.746	
333.3	333.3	333.3	333.3	1.6	1.6	-90.30	-0.5	-90.0	90.0	87.3	2.71	33.187	
400.0	400.0	400.0	400.0	1.9	1.9	-90.30	-0.5	-90.0	90.0	86.7	3.24	27.802	
500.0	500.0	500.0	500.0	2.3	2.3	-90.30	-0.5	-90.0	90.0	86.0	4.00	22.508	
533.3	533.3	533.3	533.3	2.5	2.5	-90.30	-0.5	-90.0	90.0	85.7	4.25	21.187	
600.0	600.0	600.0	600.0	2.7	2.7	-90.30	-0.5	-90.0	90.0	85.2	4.74	18.962 CC, ES	
700.0	700.0	700.0	700.0	3.1	3.1	167.84	-0.5	-90.0	91.7	85.9	5.74	15.981	
800.0	799.8	799.8	799.8	3.9	3.5	168.47	-0.5	-90.0	96.8	89.8	7.01	13.806	
900.0	899.5	899.5	899.5	4.8	3.9	169.39	-0.5	-90.0	105.4	97.2	8.14	12.941	
1,000.0	998.7	998.7	998.7	5.5	4.2	170.45	-0.5	-90.0	117.4	108.2	9.19	12.769 SF	
1,100.0	1,097.5	1,097.5	1,097.5	6.2	4.6	171.52	-0.5	-90.0	132.8	122.6	10.19	13.037	
1,200.0	1,195.6	1,195.6	1,195.6	6.9	5.0	172.53	-0.5	-90.0	151.7	140.6	11.14	13.615	
1,300.0	1,293.1	1,298.3	1,298.3	7.5	5.3	173.22	-1.4	-88.6	172.6	160.5	12.19	14.165	
1,400.0	1,389.6	1,401.8	1,401.7	8.0	5.6	173.35	-4.4	-84.1	193.9	180.5	13.35	14.519	
1,500.0	1,485.3	1,506.0	1,505.4	8.6	6.3	173.07	-9.6	-76.4	215.4	200.9	14.45	14.902	
1,600.0	1,579.8	1,610.9	1,609.5	9.1	7.0	172.49	-16.9	-65.6	237.2	221.7	15.47	15.329	
1,700.0	1,673.5	1,708.6	1,706.2	9.4	7.3	171.93	-24.8	-53.8	259.6	243.6	16.00	16.226	
1,800.0	1,767.2	1,806.0	1,802.6	9.7	7.6	171.47	-32.7	-42.2	282.2	265.7	16.55	17.050	
1,900.0	1,860.9	1,903.4	1,899.0	10.0	7.9	171.09	-40.5	-30.5	304.8	287.7	17.13	17.793	
2,000.0	1,954.6	2,000.8	1,995.3	10.3	8.2	170.75	-48.4	-18.8	327.4	309.7	17.73	18.467	
2,100.0	2,048.3	2,098.2	2,091.7	10.7	8.5	170.46	-56.3	-7.1	350.1	331.7	18.35	19.076	
2,200.0	2,141.9	2,195.6	2,188.1	11.1	8.9	170.21	-64.1	4.6	372.7	353.7	18.99	19.629	
2,300.0	2,235.6	2,293.0	2,284.4	11.7	9.2	169.98	-72.0	16.3	395.3	375.7	19.64	20.130	
2,400.0	2,329.3	2,390.4	2,380.8	12.2	9.6	169.78	-79.9	28.0	418.0	397.7	20.30	20.585	
2,500.0	2,423.0	2,487.8	2,477.2	12.9	9.9	169.60	-87.7	39.7	440.6	419.6	20.98	20.999	
2,600.0	2,516.7	2,585.2	2,573.5	13.5	10.3	169.44	-95.6	51.3	463.3	441.6	21.67	21.376	
2,700.0	2,610.4	2,682.6	2,669.9	14.2	10.7	169.29	-103.5	63.0	485.9	463.5	22.37	21.720	
2,800.0	2,704.0	2,780.0	2,766.3	14.9	11.0	169.15	-111.3	74.7	508.6	485.5	23.08	22.034	
2,900.0	2,797.7	2,877.4	2,862.6	15.6	11.4	169.03	-119.2	86.4	531.2	507.4	23.80	22.322	
3,000.0	2,891.4	2,974.8	2,959.0	16.3	11.8	168.92	-127.1	98.1	553.9	529.4	24.52	22.586	
3,100.0	2,985.1	3,072.2	3,055.4	17.0	12.2	168.81	-134.9	109.8	576.6	551.3	25.26	22.828	
3,200.0	3,078.8	3,169.5	3,151.7	17.8	12.6	168.72	-142.8	121.5	599.2	573.2	26.00	23.051	
3,300.0	3,172.5	3,266.9	3,248.1	18.5	12.9	168.63	-150.7	133.2	621.9	595.1	26.74	23.256	
3,400.0	3,266.1	3,364.3	3,344.5	19.2	13.3	168.54	-158.5	144.8	644.6	617.1	27.49	23.446	
3,500.0	3,359.8	3,461.7	3,440.9	19.9	13.7	168.47	-166.4	156.5	667.2	639.0	28.25	23.622	
3,600.0	3,453.5	3,559.1	3,537.2	20.7	14.1	168.39	-174.3	168.2	689.9	660.9	29.01	23.784	
3,700.0	3,547.2	3,656.5	3,633.6	21.4	14.5	168.33	-182.1	179.9	712.6	682.8	29.77	23.935	
3,800.0	3,640.9	3,753.9	3,730.0	22.1	14.9	168.26	-190.0	191.6	735.2	704.7	30.54	24.076	
3,900.0	3,734.5	3,851.3	3,826.3	22.8	15.4	168.20	-197.8	203.3	757.9	726.6	31.31	24.206	
4,000.0	3,828.2	3,948.7	3,922.7	23.6	15.8	168.15	-205.7	215.0	780.6	748.5	32.09	24.328	
4,100.0	3,921.9	4,046.1	4,019.1	24.3	16.2	168.09	-213.6	226.7	803.2	770.4	32.86	24.442	
4,200.0	4,015.6	4,143.5	4,115.4	25.0	16.6	168.04	-221.4	238.3	825.9	792.3	33.64	24.548	
4,300.0	4,109.3	4,240.9	4,211.8	25.8	17.0	167.99	-229.3	250.0	848.6	814.2	34.43	24.648	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-3NBH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.37	-0.3	-44.9	44.9					
100.0	100.0	100.0	100.0	0.4	0.0	-90.37	-0.3	-44.9	44.9	44.7	0.28	162.112		
133.3	133.3	133.3	133.3	0.6	0.0	-90.37	-0.3	-44.9	44.9	44.5	0.45	99.664		
200.0	200.0	200.0	200.0	1.0	0.0	-90.37	-0.3	-44.9	44.9	44.1	0.80	56.293		
300.0	300.0	300.0	300.0	1.5	0.0	-90.37	-0.3	-44.9	44.9	43.7	1.23	36.685		
333.3	333.3	333.3	333.3	1.6	0.0	-90.37	-0.3	-44.9	44.9	43.6	1.36	33.133		
400.0	400.0	400.0	400.0	1.9	0.0	-90.37	-0.3	-44.9	44.9	43.3	1.62	27.759		
500.0	500.0	500.0	500.0	2.3	0.0	-90.37	-0.3	-44.9	44.9	42.9	2.00	22.475		
533.3	533.3	533.3	533.3	2.5	0.0	-90.37	-0.3	-44.9	44.9	42.8	2.12	21.157		
600.0	600.0	600.0	600.0	2.7	0.0	-90.37	-0.3	-44.9	44.9	42.6	2.37	18.936 CC, ES		
700.0	700.0	700.0	700.0	3.1	0.0	168.00	-0.3	-44.9	46.7	43.7	3.00	15.566		
800.0	799.8	799.8	799.8	3.9	0.0	169.19	-0.3	-44.9	51.8	47.9	3.92	13.216		
900.0	899.5	899.5	899.5	4.8	0.0	170.71	-0.3	-44.9	60.4	55.7	4.71	12.818 SF		
1,000.0	998.7	1,001.1	1,001.1	5.5	0.0	171.89	-0.9	-43.3	70.7	65.3	5.43	13.036		
1,100.0	1,097.5	1,103.2	1,103.0	6.2	0.0	172.43	-2.7	-38.2	81.2	75.1	6.08	13.346		
1,200.0	1,195.6	1,205.6	1,205.0	6.9	0.0	172.54	-5.8	-29.6	91.6	84.9	6.69	13.699		
1,300.0	1,293.1	1,308.4	1,307.1	7.5	0.0	172.35	-10.1	-17.6	102.0	94.8	7.25	14.069		
1,400.0	1,389.6	1,411.6	1,408.9	8.0	0.0	171.95	-15.6	-2.0	112.5	104.7	7.79	14.445		
1,500.0	1,485.3	1,515.2	1,510.4	8.6	0.0	171.38	-22.4	17.0	122.9	114.6	8.29	14.820		
1,600.0	1,579.8	1,617.7	1,610.3	9.1	0.0	170.71	-30.3	39.2	133.4	124.6	8.78	15.189		
1,700.0	1,673.5	1,717.0	1,706.7	9.4	0.0	170.23	-38.2	61.4	145.5	136.5	9.04	16.099		
1,800.0	1,767.2	1,816.2	1,803.1	9.7	0.0	169.85	-46.1	83.7	157.8	148.5	9.31	16.944		
1,900.0	1,860.9	1,915.5	1,899.5	10.0	0.0	169.51	-54.1	106.0	170.0	160.4	9.60	17.708		
2,000.0	1,954.6	2,014.7	1,995.8	10.3	0.0	169.23	-62.0	128.2	182.2	172.3	9.90	18.403		
2,100.0	2,048.3	2,114.0	2,092.2	10.7	0.0	168.97	-70.0	150.5	194.4	184.2	10.22	19.033		
2,200.0	2,141.9	2,213.2	2,188.6	11.1	0.0	168.75	-77.9	172.8	206.7	196.1	10.54	19.605		
2,300.0	2,235.6	2,312.5	2,285.0	11.7	0.0	168.56	-85.8	195.0	218.9	208.0	10.88	20.123		
2,400.0	2,329.3	2,411.7	2,381.4	12.2	0.0	168.38	-93.8	217.3	231.2	219.9	11.22	20.594		
2,500.0	2,423.0	2,510.9	2,477.8	12.9	0.0	168.22	-101.7	239.5	243.4	231.8	11.58	21.022		
2,600.0	2,516.7	2,610.2	2,574.2	13.5	0.0	168.08	-109.6	261.8	255.7	243.7	11.94	21.411		
2,700.0	2,610.4	2,709.4	2,670.6	14.2	0.0	167.95	-117.6	284.1	267.9	255.6	12.31	21.764		
2,800.0	2,704.0	2,808.7	2,767.0	14.9	0.0	167.83	-125.5	306.3	280.1	267.5	12.68	22.087		
2,900.0	2,797.7	2,907.9	2,863.4	15.6	0.0	167.72	-133.4	328.6	292.4	279.3	13.06	22.381		
3,000.0	2,891.4	3,007.2	2,959.7	16.3	0.0	167.62	-141.4	350.9	304.6	291.2	13.45	22.650		
3,100.0	2,985.1	3,106.4	3,056.1	17.0	0.0	167.53	-149.3	373.1	316.9	303.1	13.84	22.895		
3,200.0	3,078.8	3,205.7	3,152.5	17.8	0.0	167.44	-157.2	395.4	329.2	314.9	14.24	23.121		
3,300.0	3,172.5	3,304.9	3,248.9	18.5	0.0	167.37	-165.2	417.6	341.4	326.8	14.64	23.327		
3,400.0	3,266.1	3,404.2	3,345.3	19.2	0.0	167.29	-173.1	439.9	353.7	338.6	15.04	23.517		
3,500.0	3,359.8	3,503.4	3,441.7	19.9	0.0	167.22	-181.0	462.2	365.9	350.5	15.44	23.692		
3,600.0	3,453.5	3,602.6	3,538.1	20.7	0.0	167.16	-189.0	484.4	378.2	362.3	15.85	23.854		
3,700.0	3,547.2	3,701.9	3,634.5	21.4	0.0	167.10	-196.9	506.7	390.4	374.2	16.27	24.003		
3,800.0	3,640.9	3,801.1	3,730.9	22.1	0.0	167.04	-204.9	529.0	402.7	386.0	16.68	24.140		
3,900.0	3,734.5	3,900.4	3,827.3	22.8	0.0	166.99	-212.8	551.2	414.9	397.8	17.10	24.268		
4,000.0	3,828.2	3,999.6	3,923.6	23.6	0.0	166.94	-220.7	573.5	427.2	409.7	17.52	24.386		
4,100.0	3,921.9	4,098.9	4,020.0	24.3	0.0	166.89	-228.7	595.8	439.4	421.5	17.94	24.496		
4,200.0	4,015.6	4,198.1	4,116.4	25.0	0.0	166.85	-236.6	618.0	451.7	433.3	18.36	24.598		
4,300.0	4,109.3	4,297.4	4,212.8	25.8	0.0	166.80	-244.5	640.3	463.9	445.2	18.79	24.693		
4,400.0	4,203.0	4,396.6	4,309.2	26.5	0.0	166.76	-252.5	662.5	476.2	457.0	19.22	24.782		
4,500.0	4,296.6	4,495.9	4,405.6	27.2	0.0	166.73	-260.4	684.8	488.5	468.8	19.64	24.865		
4,600.0	4,390.3	4,595.1	4,502.0	28.0	0.0	166.69	-268.3	707.1	500.7	480.6	20.08	24.942		
4,700.0	4,484.0	4,694.3	4,598.4	28.7	0.0	166.65	-276.3	729.3	513.0	492.5	20.51	25.015		
4,800.0	4,577.7	4,793.6	4,694.8	29.4	0.0	166.62	-284.2	751.6	525.2	504.3	20.94	25.083		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-3NBH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,900.0	4,671.4	4,892.8	4,791.2	30.2	0.0	166.59	-292.1	773.9	537.5	516.1	21.37	25.146		
5,000.0	4,765.1	4,992.1	4,887.5	30.9	0.0	166.56	-300.1	796.1	549.7	527.9	21.81	25.206		
5,100.0	4,858.7	5,091.3	4,983.9	31.6	0.0	166.53	-308.0	818.4	562.0	539.8	22.25	25.262		
5,200.0	4,952.4	5,190.6	5,080.3	32.4	0.0	166.50	-315.9	840.7	574.3	551.6	22.68	25.315		
5,300.0	5,046.1	5,289.8	5,176.7	33.1	0.0	166.48	-323.9	862.9	586.5	563.4	23.12	25.365		
5,400.0	5,139.8	5,389.1	5,273.1	33.8	0.0	166.45	-331.8	885.2	598.8	575.2	23.56	25.412		
5,500.0	5,233.5	5,488.3	5,369.5	34.6	0.0	166.43	-339.8	907.4	611.0	587.0	24.00	25.456		
5,600.0	5,327.1	5,587.6	5,465.9	35.3	0.0	166.40	-347.7	929.7	623.3	598.8	24.44	25.498		
5,700.0	5,420.8	5,686.8	5,562.3	36.0	0.0	166.38	-355.6	952.0	635.6	610.7	24.89	25.537		
5,800.0	5,514.5	5,786.0	5,658.7	36.8	0.0	166.36	-363.6	974.2	647.8	622.5	25.33	25.575		
5,900.0	5,608.2	5,885.3	5,755.1	37.5	0.0	166.34	-371.5	996.5	660.1	634.3	25.77	25.610		
6,000.0	5,701.9	5,984.5	5,851.4	38.3	0.0	166.32	-379.4	1,018.8	672.3	646.1	26.22	25.644		
6,100.0	5,795.6	6,083.8	5,947.8	39.0	0.0	166.30	-387.4	1,041.0	684.6	657.9	26.66	25.676		
6,200.0	5,889.2	6,183.0	6,044.2	39.7	0.0	166.28	-395.3	1,063.3	696.8	669.7	27.11	25.706		
6,300.0	5,982.9	6,282.3	6,140.6	40.5	0.0	166.26	-403.2	1,085.5	709.1	681.5	27.55	25.735		
6,400.0	6,076.6	6,381.5	6,237.0	41.2	0.0	166.25	-411.2	1,107.8	721.4	693.4	28.00	25.762		
6,500.0	6,170.3	6,480.8	6,333.4	41.9	0.0	166.23	-419.1	1,130.1	733.6	705.2	28.45	25.788		
6,600.0	6,264.0	6,580.0	6,429.8	42.7	0.0	166.21	-427.0	1,152.3	745.9	717.0	28.90	25.813		
6,700.0	6,357.7	6,679.3	6,526.2	43.4	0.0	166.20	-435.0	1,174.6	758.1	728.8	29.34	25.836		
6,800.0	6,451.3	6,778.5	6,622.6	44.2	0.0	166.18	-442.9	1,196.9	770.4	740.6	29.79	25.859		
6,900.0	6,545.0	6,877.7	6,719.0	44.9	0.0	166.17	-450.8	1,219.1	782.7	752.4	30.24	25.880		
7,000.0	6,638.7	6,978.6	6,817.0	45.6	0.0	166.28	-457.1	1,241.8	794.9	764.2	30.68	25.912		
7,100.0	6,732.4	7,078.6	6,914.0	46.4	0.0	167.45	-448.5	1,264.0	806.9	775.9	30.95	26.074		
7,200.0	6,826.1	7,170.6	7,000.7	47.1	0.0	169.54	-425.5	1,283.8	819.6	788.6	31.07	26.379		
7,300.0	6,919.8	7,250.0	7,071.9	47.9	0.0	174.60	-394.3	1,299.9	834.7	803.6	31.13	26.818		
7,400.0	7,013.6	7,325.3	7,134.9	48.6	0.0	-154.31	-355.8	1,314.1	852.5	821.3	31.19	27.336		

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-3NCH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.37	-0.4	-60.0	60.0					
100.0	100.0	100.0	100.0	0.4	0.4	-90.37	-0.4	-60.0	60.0	59.4	0.55	108.236		
133.3	133.3	133.3	133.3	0.6	0.6	-90.37	-0.4	-60.0	60.0	59.1	0.90	66.524		
200.0	200.0	200.0	200.0	1.0	1.0	-90.37	-0.4	-60.0	60.0	58.4	1.60	37.567		
300.0	300.0	300.0	300.0	1.5	1.5	-90.37	-0.4	-60.0	60.0	57.5	2.45	24.479		
333.3	333.3	333.3	333.3	1.6	1.6	-90.37	-0.4	-60.0	60.0	57.3	2.71	22.109		
400.0	400.0	400.0	400.0	1.9	1.9	-90.37	-0.4	-60.0	60.0	56.7	3.24	18.522		
500.0	500.0	500.0	500.0	2.3	2.3	-90.37	-0.4	-60.0	60.0	56.0	4.00	14.996		
533.3	533.3	533.3	533.3	2.5	2.5	-90.37	-0.4	-60.0	60.0	55.7	4.25	14.117		
600.0	600.0	600.0	600.0	2.7	2.7	-90.37	-0.4	-60.0	60.0	55.2	4.75	12.635 CC, ES		
700.0	700.0	700.0	700.0	3.1	3.1	167.89	-0.4	-60.0	61.7	55.9	5.74	10.753		
800.0	799.8	799.8	799.8	3.9	3.5	168.81	-0.4	-60.0	66.8	59.8	7.01	9.533		
900.0	899.5	899.5	899.5	4.8	3.9	170.07	-0.4	-60.0	75.4	67.2	8.14	9.261 SF		
1,000.0	998.7	998.7	998.7	5.5	4.2	171.41	-0.4	-60.0	87.4	78.2	9.19	9.509		
1,100.0	1,097.5	1,100.9	1,100.9	6.2	4.6	172.40	-1.1	-58.3	101.3	90.9	10.36	9.774		
1,200.0	1,195.6	1,203.6	1,203.4	6.9	5.0	172.82	-3.2	-53.3	115.2	103.5	11.72	9.834		
1,300.0	1,293.1	1,306.8	1,306.2	7.5	5.8	172.84	-6.7	-44.8	129.2	116.2	12.96	9.967		
1,400.0	1,389.6	1,410.5	1,409.1	8.0	6.5	172.58	-11.7	-32.9	143.2	129.1	14.12	10.141		
1,500.0	1,485.3	1,514.7	1,512.0	8.6	7.2	172.10	-18.2	-17.4	157.2	142.0	15.21	10.335		
1,600.0	1,579.8	1,618.7	1,613.9	9.1	7.9	171.47	-26.0	1.4	171.3	155.0	16.25	10.536		
1,700.0	1,673.5	1,717.5	1,710.5	9.4	8.3	170.96	-34.0	20.6	186.4	169.6	16.84	11.070		
1,800.0	1,767.2	1,816.3	1,807.1	9.7	8.5	170.54	-42.0	39.7	201.7	184.3	17.38	11.604		
1,900.0	1,860.9	1,915.1	1,903.7	10.0	8.8	170.18	-50.0	58.9	217.0	199.1	17.96	12.085		
2,000.0	1,954.6	2,013.9	2,000.3	10.3	9.1	169.87	-58.0	78.0	232.3	213.8	18.55	12.521		
2,100.0	2,048.3	2,112.8	2,096.9	10.7	9.4	169.60	-66.0	97.2	247.6	228.4	19.17	12.915		
2,200.0	2,141.9	2,211.6	2,193.5	11.1	9.8	169.36	-74.0	116.3	262.9	243.1	19.81	13.272		
2,300.0	2,235.6	2,310.4	2,290.2	11.7	10.1	169.14	-82.0	135.5	278.2	257.8	20.47	13.595		
2,400.0	2,329.3	2,409.2	2,386.8	12.2	10.4	168.95	-90.0	154.7	293.6	272.4	21.14	13.887		
2,500.0	2,423.0	2,508.0	2,483.4	12.9	10.8	168.77	-98.0	173.8	308.9	287.1	21.83	14.153		
2,600.0	2,516.7	2,606.8	2,580.0	13.5	11.2	168.62	-106.0	193.0	324.2	301.7	22.52	14.393		
2,700.0	2,610.4	2,705.6	2,676.6	14.2	11.6	168.47	-114.0	212.1	339.5	316.3	23.24	14.612		
2,800.0	2,704.0	2,804.5	2,773.2	14.9	12.0	168.34	-121.9	231.3	354.9	330.9	23.96	14.811		
2,900.0	2,797.7	2,903.3	2,869.8	15.6	12.4	168.22	-129.9	250.4	370.2	345.5	24.69	14.993		
3,000.0	2,891.4	3,002.1	2,966.4	16.3	12.8	168.11	-137.9	269.6	385.5	360.1	25.43	15.159		
3,100.0	2,985.1	3,100.9	3,063.0	17.0	13.3	168.01	-145.9	288.7	400.9	374.7	26.18	15.311		
3,200.0	3,078.8	3,199.7	3,159.7	17.8	13.7	167.92	-153.9	307.9	416.2	389.2	26.94	15.450		
3,300.0	3,172.5	3,298.5	3,256.3	18.5	14.2	167.83	-161.9	327.0	431.5	403.8	27.70	15.578		
3,400.0	3,266.1	3,397.4	3,352.9	19.2	14.7	167.75	-169.9	346.2	446.9	418.4	28.47	15.695		
3,500.0	3,359.8	3,496.2	3,449.5	19.9	15.1	167.67	-177.9	365.4	462.2	432.9	29.25	15.804		
3,600.0	3,453.5	3,595.0	3,546.1	20.7	15.6	167.60	-185.9	384.5	477.5	447.5	30.03	15.903		
3,700.0	3,547.2	3,693.8	3,642.7	21.4	16.1	167.53	-193.9	403.7	492.9	462.1	30.81	15.996		
3,800.0	3,640.9	3,792.6	3,739.3	22.1	16.6	167.47	-201.9	422.8	508.2	476.6	31.60	16.081		
3,900.0	3,734.5	3,891.4	3,835.9	22.8	17.1	167.41	-209.9	442.0	523.5	491.1	32.40	16.160		
4,000.0	3,828.2	3,990.2	3,932.5	23.6	17.6	167.36	-217.9	461.1	538.9	505.7	33.20	16.234		
4,100.0	3,921.9	4,089.1	4,029.2	24.3	18.1	167.30	-225.9	480.3	554.2	520.2	34.00	16.302		
4,200.0	4,015.6	4,187.9	4,125.8	25.0	18.5	167.25	-233.9	499.4	569.6	534.8	34.80	16.365		
4,300.0	4,109.3	4,286.7	4,222.4	25.8	19.0	167.21	-241.9	518.6	584.9	549.3	35.61	16.425		
4,400.0	4,203.0	4,385.5	4,319.0	26.5	19.5	167.16	-249.9	537.7	600.2	563.8	36.42	16.480		
4,500.0	4,296.6	4,484.3	4,415.6	27.2	20.0	167.12	-257.9	556.9	615.6	578.3	37.24	16.532		
4,600.0	4,390.3	4,583.1	4,512.2	28.0	20.5	167.08	-265.8	576.1	630.9	592.9	38.05	16.580		
4,700.0	4,484.0	4,681.9	4,608.8	28.7	21.0	167.04	-273.8	595.2	646.3	607.4	38.87	16.625		
4,800.0	4,577.7	4,780.8	4,705.4	29.4	21.5	167.00	-281.8	614.4	661.6	621.9	39.69	16.668		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-3NCH - OH - PLAN #1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,900.0	4,671.4	4,879.6	4,802.0	30.2	22.0	166.97	-289.8	633.5	677.0	636.4	40.52	16.708	
5,000.0	4,765.1	4,978.4	4,898.6	30.9	22.5	166.94	-297.8	652.7	692.3	651.0	41.34	16.745	
5,100.0	4,858.7	5,077.2	4,995.3	31.6	23.0	166.90	-305.8	671.8	707.6	665.5	42.17	16.781	
5,200.0	4,952.4	5,176.0	5,091.9	32.4	23.5	166.87	-313.8	691.0	723.0	680.0	43.00	16.814	
5,300.0	5,046.1	5,274.8	5,188.5	33.1	24.0	166.84	-321.8	710.1	738.3	694.5	43.83	16.845	
5,400.0	5,139.8	5,373.7	5,285.1	33.8	24.5	166.82	-329.8	729.3	753.7	709.0	44.66	16.875	
5,500.0	5,233.5	5,472.5	5,381.7	34.6	25.0	166.79	-337.8	748.5	769.0	723.5	45.50	16.903	
5,600.0	5,327.1	5,571.3	5,478.3	35.3	25.5	166.76	-345.8	767.6	784.4	738.0	46.33	16.930	
5,700.0	5,420.8	5,670.1	5,574.9	36.0	26.0	166.74	-353.8	786.8	799.7	752.5	47.17	16.955	
5,800.0	5,514.5	5,768.9	5,671.5	36.8	26.5	166.71	-361.8	805.9	815.0	767.0	48.00	16.978	
5,900.0	5,608.2	5,867.7	5,768.1	37.5	27.0	166.69	-369.8	825.1	830.4	781.5	48.84	17.001	
6,000.0	5,701.9	5,966.5	5,864.8	38.3	27.5	166.67	-377.8	844.2	845.7	796.0	49.68	17.022	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-3NXH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.35	-0.5	-74.9	74.9					
100.0	100.0	100.0	100.0	0.4	0.0	-90.35	-0.5	-74.9	74.9	74.7	0.28	270.410		
133.3	133.3	133.3	133.3	0.6	0.0	-90.35	-0.5	-74.9	74.9	74.5	0.45	166.240		
200.0	200.0	200.0	200.0	1.0	0.0	-90.35	-0.5	-74.9	74.9	74.1	0.80	93.896		
300.0	300.0	300.0	300.0	1.5	0.0	-90.35	-0.5	-74.9	74.9	73.7	1.22	61.186		
333.3	333.3	333.3	333.3	1.6	0.0	-90.35	-0.5	-74.9	74.9	73.6	1.36	55.262		
400.0	400.0	400.0	400.0	1.9	0.0	-90.35	-0.5	-74.9	74.9	73.3	1.62	46.297		
500.0	500.0	500.0	500.0	2.3	0.0	-90.35	-0.5	-74.9	74.9	72.9	2.00	37.483		
533.3	533.3	533.3	533.3	2.5	0.0	-90.35	-0.5	-74.9	74.9	72.8	2.12	35.285		
600.0	600.0	600.0	600.0	2.7	0.0	-90.35	-0.5	-74.9	74.9	72.6	2.37	31.580 CC, ES		
700.0	700.0	700.0	700.0	3.1	0.0	167.85	-0.5	-74.9	76.7	73.7	3.00	25.565		
800.0	799.8	799.8	799.8	3.9	0.0	168.60	-0.5	-74.9	81.8	77.9	3.92	20.882		
900.0	899.5	899.5	899.5	4.8	0.0	169.66	-0.5	-74.9	90.3	85.6	4.70	19.225		
1,000.0	998.7	998.7	998.7	5.5	0.0	170.85	-0.5	-74.9	102.4	96.9	5.41	18.928 SF		
1,100.0	1,097.5	1,097.5	1,097.5	6.2	0.0	172.01	-0.5	-74.9	117.8	111.8	6.07	19.425		
1,200.0	1,195.6	1,200.0	1,200.0	6.9	0.0	172.84	-1.3	-73.4	135.2	128.5	6.69	20.209		
1,300.0	1,293.1	1,303.3	1,303.1	7.5	0.0	173.11	-3.8	-68.5	152.7	145.5	7.28	20.994		
1,400.0	1,389.6	1,407.1	1,406.5	8.0	0.0	172.98	-8.0	-60.4	170.4	162.6	7.83	21.769		
1,500.0	1,485.3	1,511.6	1,510.1	8.6	0.0	172.57	-14.1	-48.8	188.1	179.8	8.35	22.528		
1,600.0	1,579.8	1,616.6	1,613.8	9.1	0.0	171.93	-21.9	-33.7	206.0	197.1	8.85	23.269		
1,700.0	1,673.5	1,716.1	1,711.6	9.4	0.0	171.30	-30.4	-17.4	224.1	215.0	9.10	24.625		
1,800.0	1,767.2	1,814.5	1,808.2	9.7	0.0	170.78	-38.8	-1.2	242.2	232.9	9.36	25.875		
1,900.0	1,860.9	1,912.8	1,904.8	10.0	0.0	170.34	-47.2	15.0	260.4	250.8	9.64	27.007		
2,000.0	1,954.6	2,011.1	2,001.4	10.3	0.0	169.95	-55.6	31.2	278.6	268.7	9.94	28.036		
2,100.0	2,048.3	2,109.4	2,098.1	10.7	0.0	169.60	-64.0	47.4	296.8	286.6	10.25	28.970		
2,200.0	2,141.9	2,207.7	2,194.7	11.1	0.0	169.30	-72.4	63.6	315.0	304.5	10.56	29.818		
2,300.0	2,235.6	2,306.0	2,291.3	11.7	0.0	169.03	-80.8	79.8	333.2	322.3	10.89	30.586		
2,400.0	2,329.3	2,404.4	2,387.9	12.2	0.0	168.79	-89.2	96.0	351.5	340.2	11.23	31.284		
2,500.0	2,423.0	2,502.7	2,484.5	12.9	0.0	168.57	-97.6	112.2	369.7	358.1	11.58	31.917		
2,600.0	2,516.7	2,601.0	2,581.1	13.5	0.0	168.38	-106.1	128.4	387.9	376.0	11.94	32.492		
2,700.0	2,610.4	2,699.3	2,677.7	14.2	0.0	168.20	-114.5	144.6	406.2	393.9	12.30	33.015		
2,800.0	2,704.0	2,797.6	2,774.3	14.9	0.0	168.03	-122.9	160.8	424.4	411.7	12.67	33.491		
2,900.0	2,797.7	2,895.9	2,870.9	15.6	0.0	167.88	-131.3	177.0	442.6	429.6	13.05	33.924		
3,000.0	2,891.4	2,994.2	2,967.5	16.3	0.0	167.75	-139.7	193.2	460.9	447.5	13.43	34.319		
3,100.0	2,985.1	3,092.6	3,064.1	17.0	0.0	167.62	-148.1	209.4	479.1	465.3	13.82	34.681		
3,200.0	3,078.8	3,190.9	3,160.7	17.8	0.0	167.50	-156.5	225.6	497.4	483.2	14.21	35.011		
3,300.0	3,172.5	3,289.2	3,257.3	18.5	0.0	167.39	-164.9	241.8	515.6	501.0	14.60	35.313		
3,400.0	3,266.1	3,387.5	3,353.9	19.2	0.0	167.29	-173.3	258.0	533.9	518.9	15.00	35.591		
3,500.0	3,359.8	3,485.8	3,450.5	19.9	0.0	167.19	-181.8	274.2	552.2	536.7	15.40	35.846		
3,600.0	3,453.5	3,584.1	3,547.2	20.7	0.0	167.10	-190.2	290.3	570.4	554.6	15.81	36.081		
3,700.0	3,547.2	3,682.4	3,643.8	21.4	0.0	167.02	-198.6	306.5	588.7	572.4	16.22	36.297		
3,800.0	3,640.9	3,780.8	3,740.4	22.1	0.0	166.94	-207.0	322.7	606.9	590.3	16.63	36.496		
3,900.0	3,734.5	3,879.1	3,837.0	22.8	0.0	166.86	-215.4	338.9	625.2	608.1	17.04	36.680		
4,000.0	3,828.2	3,977.4	3,933.6	23.6	0.0	166.79	-223.8	355.1	643.5	626.0	17.46	36.851		
4,100.0	3,921.9	4,075.7	4,030.2	24.3	0.0	166.73	-232.2	371.3	661.7	643.8	17.88	37.009		
4,200.0	4,015.6	4,174.0	4,126.8	25.0	0.0	166.66	-240.6	387.5	680.0	661.7	18.30	37.155		
4,300.0	4,109.3	4,272.3	4,223.4	25.8	0.0	166.60	-249.1	403.7	698.2	679.5	18.72	37.291		
4,400.0	4,203.0	4,370.7	4,320.0	26.5	0.0	166.55	-257.5	419.9	716.5	697.4	19.15	37.418		
4,500.0	4,296.6	4,469.0	4,416.6	27.2	0.0	166.49	-265.9	436.1	734.8	715.2	19.58	37.535		
4,600.0	4,390.3	4,567.3	4,513.2	28.0	0.0	166.44	-274.3	452.3	753.0	733.0	20.00	37.645		
4,700.0	4,484.0	4,665.6	4,609.8	28.7	0.0	166.39	-282.7	468.5	771.3	750.9	20.43	37.747		
4,800.0	4,577.7	4,763.9	4,706.4	29.4	0.0	166.35	-291.1	484.7	789.6	768.7	20.86	37.843		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-3NXH - OH - PLAN #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,900.0	4,671.4	4,862.2	4,803.0	30.2	0.0	166.30	-299.5	500.9	807.8	786.5	21.30	37.933	
5,000.0	4,765.1	4,960.5	4,899.6	30.9	0.0	166.26	-307.9	517.1	826.1	804.4	21.73	38.016	
5,100.0	4,858.7	5,058.9	4,996.3	31.6	0.0	166.22	-316.3	533.3	844.4	822.2	22.17	38.095	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4CDH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.51	-0.3	-30.0	30.0					
100.0	100.0	100.0	100.0	0.4	0.4	-90.51	-0.3	-30.0	30.0	29.4	0.56	54.005		
133.3	133.3	133.3	133.3	0.6	0.6	-90.51	-0.3	-30.0	30.0	29.1	0.90	33.197		
200.0	200.0	200.0	200.0	1.0	1.0	-90.51	-0.3	-30.0	30.0	28.4	1.60	18.749		
300.0	300.0	300.0	300.0	1.5	1.5	-90.51	-0.3	-30.0	30.0	27.5	2.45	12.220		
333.3	333.3	333.3	333.3	1.6	1.6	-90.51	-0.3	-30.0	30.0	27.3	2.72	11.037		
400.0	400.0	400.0	400.0	1.9	1.9	-90.51	-0.3	-30.0	30.0	26.7	3.24	9.248		
500.0	500.0	500.0	500.0	2.3	2.3	-90.51	-0.3	-30.0	30.0	26.0	4.00	7.488		
533.3	533.3	533.3	533.3	2.5	2.5	-90.51	-0.3	-30.0	30.0	25.7	4.25	7.049		
600.0	600.0	600.0	600.0	2.7	2.7	-90.51	-0.3	-30.0	30.0	25.2	4.75	6.309 CC, ES		
700.0	700.0	700.0	700.0	3.1	3.1	168.09	-0.3	-30.0	31.7	25.9	5.73	5.527		
800.0	799.8	799.8	799.8	3.9	3.5	169.75	-0.3	-30.0	36.8	29.8	7.00	5.261		
900.0	899.5	901.0	901.0	4.8	3.9	171.23	-0.8	-28.3	43.7	35.4	8.35	5.234		
1,000.0	998.7	1,002.4	1,002.2	5.5	4.5	172.03	-2.2	-23.1	50.6	40.7	9.90	5.111		
1,100.0	1,097.5	1,104.0	1,103.4	6.2	5.3	172.40	-4.7	-14.5	57.5	46.2	11.29	5.094		
1,200.0	1,195.6	1,205.9	1,204.5	6.9	6.0	172.48	-8.1	-2.4	64.4	51.8	12.56	5.127		
1,300.0	1,293.1	1,308.0	1,305.4	7.5	6.7	172.35	-12.5	13.3	71.2	57.5	13.73	5.188		
1,400.0	1,389.6	1,410.4	1,405.8	8.0	7.4	172.06	-17.9	32.4	78.0	63.2	14.83	5.262		
1,500.0	1,485.3	1,513.0	1,505.7	8.6	8.0	171.65	-24.3	55.0	84.8	68.9	15.87	5.343		
1,600.0	1,579.8	1,615.5	1,604.5	9.1	8.5	171.15	-31.7	80.9	91.5	74.7	16.85	5.432		
1,700.0	1,673.5	1,715.1	1,700.3	9.4	8.9	170.81	-39.2	107.4	99.4	82.0	17.45	5.699		
1,800.0	1,767.2	1,814.8	1,796.1	9.7	9.2	170.53	-46.7	133.9	107.4	89.4	18.00	5.970		
1,900.0	1,860.9	1,914.5	1,891.9	10.0	9.5	170.28	-54.2	160.3	115.4	96.9	18.57	6.215		
2,000.0	1,954.6	2,014.2	1,987.7	10.3	9.8	170.07	-61.7	186.8	123.4	104.3	19.18	6.437		
2,100.0	2,048.3	2,113.9	2,083.5	10.7	10.1	169.89	-69.2	213.3	131.4	111.6	19.80	6.638		
2,200.0	2,141.9	2,213.5	2,179.3	11.1	10.4	169.72	-76.7	239.8	139.5	119.0	20.45	6.820		
2,300.0	2,235.6	2,313.2	2,275.1	11.7	10.8	169.58	-84.2	266.3	147.5	126.4	21.11	6.985		
2,400.0	2,329.3	2,412.9	2,370.9	12.2	11.2	169.45	-91.7	292.7	155.5	133.7	21.79	7.135		
2,500.0	2,423.0	2,512.6	2,466.7	12.9	11.6	169.33	-99.2	319.2	163.5	141.0	22.49	7.271		
2,600.0	2,516.7	2,612.2	2,562.5	13.5	12.1	169.22	-106.7	345.7	171.5	148.3	23.19	7.394		
2,700.0	2,610.4	2,711.9	2,658.3	14.2	12.6	169.12	-114.2	372.2	179.5	155.6	23.91	7.506		
2,800.0	2,704.0	2,811.6	2,754.2	14.9	13.1	169.03	-121.7	398.6	187.5	162.9	24.65	7.609		
2,900.0	2,797.7	2,911.3	2,850.0	15.6	13.7	168.95	-129.2	425.1	195.5	170.1	25.39	7.702		
3,000.0	2,891.4	3,011.0	2,945.8	16.3	14.2	168.88	-136.7	451.6	203.5	177.4	26.14	7.787		
3,100.0	2,985.1	3,110.6	3,041.6	17.0	14.8	168.81	-144.2	478.1	211.5	184.7	26.90	7.865		
3,200.0	3,078.8	3,210.3	3,137.4	17.8	15.4	168.74	-151.7	504.5	219.6	191.9	27.66	7.937		
3,300.0	3,172.5	3,310.0	3,233.2	18.5	16.0	168.68	-159.2	531.0	227.6	199.1	28.44	8.002		
3,400.0	3,266.1	3,409.7	3,329.0	19.2	16.5	168.63	-166.7	557.5	235.6	206.4	29.22	8.063		
3,500.0	3,359.8	3,509.3	3,424.8	19.9	17.1	168.57	-174.2	584.0	243.6	213.6	30.01	8.118		
3,600.0	3,453.5	3,609.0	3,520.6	20.7	17.7	168.52	-181.7	610.5	251.6	220.8	30.80	8.169		
3,700.0	3,547.2	3,708.7	3,616.4	21.4	18.3	168.48	-189.2	636.9	259.6	228.0	31.60	8.217		
3,800.0	3,640.9	3,808.4	3,712.2	22.1	18.9	168.43	-196.7	663.4	267.6	235.2	32.40	8.261		
3,900.0	3,734.5	3,908.1	3,808.0	22.8	19.5	168.39	-204.2	689.9	275.7	242.4	33.21	8.301		
4,000.0	3,828.2	4,007.7	3,903.8	23.6	20.1	168.36	-211.7	716.4	283.7	249.7	34.02	8.339		
4,100.0	3,921.9	4,107.4	3,999.6	24.3	20.7	168.32	-219.2	742.8	291.7	256.8	34.83	8.374		
4,200.0	4,015.6	4,207.1	4,095.4	25.0	21.3	168.28	-226.7	769.3	299.7	264.0	35.65	8.407		
4,300.0	4,109.3	4,306.8	4,191.2	25.8	21.9	168.25	-234.2	795.8	307.7	271.2	36.47	8.437		
4,400.0	4,203.0	4,406.5	4,287.0	26.5	22.5	168.22	-241.7	822.3	315.7	278.4	37.30	8.465		
4,500.0	4,296.6	4,506.1	4,382.8	27.2	23.1	168.19	-249.2	848.8	323.7	285.6	38.12	8.492		
4,600.0	4,390.3	4,605.8	4,478.6	28.0	23.7	168.16	-256.7	875.2	331.8	292.8	38.95	8.516		
4,700.0	4,484.0	4,705.5	4,574.4	28.7	24.3	168.14	-264.2	901.7	339.8	300.0	39.79	8.540		
4,800.0	4,577.7	4,805.2	4,670.2	29.4	24.9	168.11	-271.7	928.2	347.8	307.2	40.62	8.561		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4CDH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,900.0	4,671.4	4,904.8	4,766.0	30.2	25.5	168.09	-279.2	954.7	355.8	314.3	41.46	8.582		
5,000.0	4,765.1	5,004.5	4,861.8	30.9	26.1	168.06	-286.7	981.1	363.8	321.5	42.30	8.601		
5,100.0	4,858.7	5,104.2	4,957.6	31.6	26.7	168.04	-294.2	1,007.6	371.8	328.7	43.14	8.619		
5,200.0	4,952.4	5,203.9	5,053.5	32.4	27.3	168.02	-301.7	1,034.1	379.8	335.9	43.98	8.636		
5,300.0	5,046.1	5,303.6	5,149.3	33.1	27.9	168.00	-309.2	1,060.6	387.9	343.0	44.83	8.652		
5,400.0	5,139.8	5,403.2	5,245.1	33.8	28.5	167.98	-316.7	1,087.1	395.9	350.2	45.68	8.667		
5,500.0	5,233.5	5,502.9	5,340.9	34.6	29.1	167.96	-324.2	1,113.5	403.9	357.4	46.52	8.681		
5,600.0	5,327.1	5,602.6	5,436.7	35.3	29.7	167.94	-331.7	1,140.0	411.9	364.5	47.37	8.695		
5,700.0	5,420.8	5,702.3	5,532.5	36.0	30.3	167.93	-339.2	1,166.5	419.9	371.7	48.23	8.707		
5,800.0	5,514.5	5,801.9	5,628.3	36.8	30.9	167.91	-346.7	1,193.0	427.9	378.9	49.08	8.719		
5,900.0	5,608.2	5,901.6	5,724.1	37.5	31.5	167.89	-354.2	1,219.4	435.9	386.0	49.93	8.731		
6,000.0	5,701.9	6,001.3	5,819.9	38.3	32.1	167.88	-361.7	1,245.9	444.0	393.2	50.79	8.742		
6,100.0	5,795.6	6,101.0	5,915.7	39.0	32.7	167.86	-369.2	1,272.4	452.0	400.3	51.64	8.752		
6,200.0	5,889.2	6,200.7	6,011.5	39.7	33.3	167.85	-376.7	1,298.9	460.0	407.5	52.50	8.762		
6,300.0	5,982.9	6,300.3	6,107.3	40.5	33.9	167.83	-384.2	1,325.4	468.0	414.6	53.36	8.771		
6,400.0	6,076.6	6,400.0	6,203.1	41.2	34.5	167.82	-391.7	1,351.8	476.0	421.8	54.22	8.780		
6,500.0	6,170.3	6,499.7	6,298.9	41.9	35.1	167.81	-399.2	1,378.3	484.0	429.0	55.08	8.788		
6,600.0	6,264.0	6,599.4	6,394.7	42.7	35.7	167.80	-406.7	1,404.8	492.1	436.1	55.94	8.796		
6,700.0	6,357.7	6,699.0	6,490.5	43.4	36.3	167.78	-414.2	1,431.3	500.1	443.3	56.80	8.804		
6,800.0	6,451.3	6,798.7	6,586.3	44.2	36.9	167.77	-421.7	1,457.7	508.1	450.4	57.66	8.811		
6,900.0	6,545.0	6,898.4	6,682.1	44.9	37.5	167.76	-429.2	1,484.2	516.1	457.6	58.53	8.818		
7,000.0	6,638.7	6,998.1	6,777.9	45.6	38.1	167.75	-436.7	1,510.7	524.1	464.7	59.39	8.825		
7,100.0	6,732.4	7,097.8	6,873.7	46.4	38.7	167.74	-444.2	1,537.2	532.1	471.9	60.26	8.831		
7,200.0	6,826.1	7,197.4	6,969.5	47.1	39.3	167.73	-451.7	1,563.6	540.1	479.0	61.12	8.837		
7,300.0	6,919.8	7,296.6	7,064.9	47.9	39.9	170.36	-457.2	1,590.0	548.2	486.3	61.92	8.852		
7,400.0	7,013.6	7,394.4	7,158.7	48.6	40.6	-161.36	-448.3	1,615.6	556.4	493.8	62.58	8.890		
7,500.0	7,105.6	7,491.1	7,248.9	49.3	41.0	-139.21	-423.4	1,639.8	564.5	501.1	63.46	8.896		
7,600.0	7,193.0	7,587.1	7,333.2	49.8	41.4	-125.06	-383.5	1,662.2	572.4	508.1	64.34	8.896		
7,700.0	7,273.1	7,682.4	7,409.4	50.2	41.7	-116.17	-330.0	1,682.0	579.7	514.7	65.07	8.910		
7,800.0	7,343.5	7,777.1	7,475.7	50.5	41.9	-110.39	-264.7	1,698.9	586.3	520.6	65.66	8.928		
7,900.0	7,402.0	7,871.5	7,530.7	50.7	42.1	-106.56	-189.3	1,712.5	591.8	525.6	66.19	8.941		
8,000.0	7,447.0	7,965.6	7,572.9	50.9	42.1	-104.08	-105.9	1,722.4	596.1	529.4	66.70	8.938		
8,100.0	7,476.9	8,059.7	7,601.4	51.0	42.2	-102.62	-16.6	1,728.4	599.2	531.9	67.23	8.912		
8,200.0	7,490.9	8,153.7	7,615.5	51.0	42.2	-102.02	76.3	1,730.4	600.8	533.0	67.82	8.859		
8,300.0	7,492.0	8,251.1	7,617.0	51.0	42.1	-102.00	173.6	1,728.8	601.3	532.9	68.43	8.788		
8,400.0	7,492.0	8,351.1	7,617.0	51.0	42.2	-101.99	273.6	1,726.7	601.8	532.7	69.13	8.705		
8,500.0	7,492.0	8,451.1	7,617.0	51.0	42.2	-101.98	373.6	1,724.7	602.3	532.3	70.02	8.602		
8,600.0	7,492.0	8,551.1	7,617.0	51.1	42.4	-101.97	473.6	1,722.7	602.8	531.7	71.06	8.482		
8,700.0	7,492.0	8,651.1	7,617.0	51.2	42.5	-101.96	573.5	1,720.6	603.2	531.0	72.26	8.349		
8,800.0	7,492.0	8,751.1	7,617.0	51.4	42.8	-101.95	673.5	1,718.6	603.7	530.1	73.59	8.203		
8,900.0	7,492.0	8,851.1	7,617.0	51.6	43.1	-101.94	773.5	1,716.5	604.2	529.1	75.07	8.048		
9,000.0	7,492.0	8,951.1	7,617.0	51.9	43.5	-101.93	873.5	1,714.5	604.7	528.0	76.68	7.886		
9,100.0	7,492.0	9,051.1	7,617.0	52.2	44.0	-101.92	973.5	1,712.5	605.1	526.7	78.41	7.718		
9,200.0	7,492.0	9,151.1	7,617.0	52.5	44.5	-101.91	1,073.4	1,710.4	605.6	525.4	80.25	7.547		
9,300.0	7,492.0	9,251.1	7,617.0	52.9	45.2	-101.90	1,173.4	1,708.4	606.1	523.9	82.20	7.374		
9,400.0	7,492.0	9,351.1	7,617.0	53.4	45.9	-101.89	1,273.4	1,706.3	606.6	522.3	84.24	7.200		
9,500.0	7,492.0	9,451.1	7,617.0	53.9	46.7	-101.88	1,373.4	1,704.3	607.0	520.6	86.38	7.027		
9,600.0	7,492.0	9,551.1	7,617.0	54.5	47.6	-101.87	1,473.3	1,702.3	607.5	518.9	88.60	6.856		
9,700.0	7,492.0	9,651.1	7,617.0	55.2	48.5	-101.86	1,573.3	1,700.2	608.0	517.1	90.90	6.688		
9,800.0	7,492.0	9,751.1	7,617.0	55.9	49.5	-101.86	1,673.3	1,698.2	608.4	515.2	93.28	6.523		
9,900.0	7,492.0	9,851.1	7,617.0	56.7	50.6	-101.85	1,773.3	1,696.1	608.9	513.2	95.72	6.361		
10,000.0	7,492.0	9,951.1	7,617.0	57.5	51.7	-101.84	1,873.3	1,694.1	609.4	511.2	98.22	6.204		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4CDH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-MWID													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.0	7,492.0	10,051.1	7,617.0	58.4	52.9	-101.83	1,973.2	1,692.0	609.9	509.1	100.79	6.051		
10,200.0	7,492.0	10,151.1	7,617.0	59.4	54.1	-101.82	2,073.2	1,690.0	610.3	506.9	103.40	5.903		
10,300.0	7,492.0	10,251.1	7,617.0	60.4	55.3	-101.81	2,173.2	1,688.0	610.8	504.8	106.07	5.759		
10,400.0	7,492.0	10,351.1	7,617.0	61.4	56.6	-101.80	2,273.2	1,685.9	611.3	502.5	108.78	5.619		
10,500.0	7,492.0	10,451.1	7,617.0	62.5	57.9	-101.79	2,373.1	1,683.9	611.8	500.2	111.54	5.485		
10,600.0	7,492.0	10,551.1	7,617.0	63.7	59.2	-101.78	2,473.1	1,681.8	612.2	497.9	114.33	5.355		
10,700.0	7,492.0	10,651.1	7,617.0	64.9	60.6	-101.77	2,573.1	1,679.8	612.7	495.6	117.16	5.230		
10,800.0	7,492.0	10,751.1	7,617.0	66.1	61.9	-101.76	2,673.1	1,677.8	613.2	493.2	120.03	5.109		
10,900.0	7,492.0	10,851.1	7,617.0	67.3	63.3	-101.75	2,773.1	1,675.7	613.7	490.7	122.92	4.992		
11,000.0	7,492.0	10,951.1	7,617.0	68.6	64.8	-101.74	2,873.0	1,673.7	614.1	488.3	125.85	4.880		
11,100.0	7,492.0	11,051.1	7,617.0	69.9	66.2	-101.73	2,973.0	1,671.6	614.6	485.8	128.80	4.772		
11,200.0	7,492.0	11,151.1	7,617.0	71.3	67.7	-101.73	3,073.0	1,669.6	615.1	483.3	131.78	4.667		
11,300.0	7,492.0	11,251.1	7,617.0	72.6	69.1	-101.72	3,173.0	1,667.6	615.6	480.8	134.79	4.567		
11,400.0	7,492.0	11,351.1	7,617.0	74.0	70.6	-101.71	3,272.9	1,665.5	616.0	478.2	137.82	4.470		
11,500.0	7,492.0	11,451.1	7,617.0	75.4	72.1	-101.70	3,372.9	1,663.5	616.5	475.7	140.86	4.377		
11,600.0	7,492.0	11,551.1	7,617.0	76.8	73.6	-101.69	3,472.9	1,661.4	617.0	473.1	143.93	4.287		
11,700.0	7,492.0	11,651.1	7,617.0	78.2	75.1	-101.68	3,572.9	1,659.4	617.5	470.4	147.02	4.200		
11,800.0	7,492.0	11,751.1	7,617.0	79.7	76.7	-101.67	3,672.9	1,657.3	617.9	467.8	150.12	4.116		
11,900.0	7,492.0	11,851.1	7,617.0	81.2	78.2	-101.66	3,772.8	1,655.3	618.4	465.2	153.24	4.036		
12,000.0	7,492.0	11,951.1	7,617.0	82.6	79.8	-101.65	3,872.8	1,653.3	618.9	462.5	156.38	3.958		
12,100.0	7,492.0	12,051.1	7,617.0	84.1	81.3	-101.64	3,972.8	1,651.2	619.4	459.8	159.53	3.883		
12,200.0	7,492.0	12,151.1	7,617.0	85.6	82.9	-101.63	4,072.8	1,649.2	619.8	457.1	162.69	3.810		
12,300.0	7,492.0	12,251.1	7,617.0	87.1	84.5	-101.63	4,172.7	1,647.1	620.3	454.4	165.87	3.740		
12,400.0	7,492.0	12,351.1	7,617.0	88.7	86.1	-101.62	4,272.7	1,645.1	620.8	451.7	169.05	3.672		
12,500.0	7,492.0	12,451.1	7,617.0	90.2	87.7	-101.61	4,372.7	1,643.1	621.3	449.0	172.25	3.607		
12,600.0	7,492.0	12,551.1	7,617.0	91.8	89.3	-101.60	4,472.7	1,641.0	621.7	446.3	175.47	3.543		
12,700.0	7,492.0	12,651.0	7,617.0	93.3	90.9	-101.59	4,572.7	1,639.0	622.2	443.5	178.69	3.482		
12,800.0	7,492.0	12,751.0	7,617.0	94.9	92.5	-101.58	4,672.6	1,636.9	622.7	440.8	181.92	3.423		
12,900.0	7,492.0	12,851.0	7,617.0	96.4	94.1	-101.57	4,772.6	1,634.9	623.2	438.0	185.16	3.366		
13,000.0	7,492.0	12,951.0	7,617.0	98.0	95.7	-101.56	4,872.6	1,632.9	623.6	435.2	188.41	3.310		
13,100.0	7,492.0	13,051.0	7,617.0	99.6	97.4	-101.55	4,972.6	1,630.8	624.1	432.4	191.67	3.256		
13,200.0	7,492.0	13,151.0	7,617.0	101.2	99.0	-101.54	5,072.5	1,628.8	624.6	429.7	194.93	3.204		
13,300.0	7,492.0	13,251.0	7,617.0	102.8	100.6	-101.54	5,172.5	1,626.7	625.1	426.9	198.20	3.154		
13,400.0	7,492.0	13,351.0	7,617.0	104.4	102.3	-101.53	5,272.5	1,624.7	625.5	424.1	201.48	3.105		
13,500.0	7,492.0	13,451.0	7,617.0	106.0	103.9	-101.52	5,372.5	1,622.6	626.0	421.2	204.77	3.057		
13,600.0	7,492.0	13,551.0	7,617.0	107.6	105.6	-101.51	5,472.5	1,620.6	626.5	418.4	208.07	3.011		
13,700.0	7,492.0	13,651.0	7,617.0	109.2	107.2	-101.50	5,572.4	1,618.6	627.0	415.6	211.37	2.966		
13,800.0	7,492.0	13,751.0	7,617.0	110.9	108.9	-101.49	5,672.4	1,616.5	627.4	412.8	214.67	2.923		
13,900.0	7,492.0	13,851.0	7,617.0	112.5	110.6	-101.48	5,772.4	1,614.5	627.9	409.9	217.98	2.881		
14,000.0	7,492.0	13,951.0	7,617.0	114.1	112.2	-101.47	5,872.4	1,612.4	628.4	407.1	221.30	2.840		
14,100.0	7,492.0	14,051.0	7,617.0	115.8	113.9	-101.47	5,972.4	1,610.4	628.9	404.2	224.62	2.800		
14,200.0	7,492.0	14,151.0	7,617.0	117.4	115.6	-101.46	6,072.3	1,608.4	629.3	401.4	227.95	2.761		
14,300.0	7,492.0	14,251.0	7,617.0	119.0	117.2	-101.45	6,172.3	1,606.3	629.8	398.5	231.28	2.723		
14,400.0	7,492.0	14,351.0	7,617.0	120.7	118.9	-101.44	6,272.3	1,604.3	630.3	395.7	234.62	2.686		
14,500.0	7,492.0	14,451.0	7,617.0	122.3	120.6	-101.43	6,372.3	1,602.2	630.8	392.8	237.96	2.651		
14,600.0	7,492.0	14,551.0	7,617.0	124.0	122.3	-101.42	6,472.2	1,600.2	631.2	389.9	241.31	2.616		
14,700.0	7,492.0	14,651.0	7,617.0	125.7	124.0	-101.41	6,572.2	1,598.2	631.7	387.1	244.66	2.582		
14,800.0	7,492.0	14,751.0	7,617.0	127.3	125.7	-101.40	6,672.2	1,596.1	632.2	384.2	248.01	2.549		
14,900.0	7,492.0	14,851.0	7,617.0	129.0	127.4	-101.40	6,772.2	1,594.1	632.7	381.3	251.37	2.517		
15,000.0	7,492.0	14,951.0	7,617.0	130.7	129.0	-101.39	6,872.2	1,592.0	633.1	378.4	254.73	2.486		
15,100.0	7,492.0	15,051.0	7,617.0	132.3	130.7	-101.38	6,972.1	1,590.0	633.6	375.5	258.09	2.455		
15,200.0	7,492.0	15,151.0	7,617.0	134.0	132.4	-101.37	7,072.1	1,587.9	634.1	372.6	261.46	2.425		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4CDH - OH - PLAN #1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,300.0	7,492.0	15,251.0	7,617.0	135.7	134.1	-101.36	7,172.1	1,585.9	634.6	369.7	264.83	2.396	
15,400.0	7,492.0	15,351.0	7,617.0	137.4	135.8	-101.35	7,272.1	1,583.9	635.0	366.8	268.20	2.368	
15,500.0	7,492.0	15,451.0	7,617.0	139.0	137.5	-101.34	7,372.0	1,581.8	635.5	363.9	271.58	2.340	
15,600.0	7,492.0	15,551.0	7,617.0	140.7	139.2	-101.34	7,472.0	1,579.8	636.0	361.0	274.96	2.313	
15,700.0	7,492.0	15,651.0	7,617.0	142.4	140.9	-101.33	7,572.0	1,577.7	636.5	358.1	278.34	2.287	
15,800.0	7,492.0	15,751.0	7,617.0	144.1	142.6	-101.32	7,672.0	1,575.7	636.9	355.2	281.73	2.261	
15,900.0	7,492.0	15,851.0	7,617.0	145.8	144.4	-101.31	7,772.0	1,573.7	637.4	352.3	285.12	2.236	
16,000.0	7,492.0	15,951.0	7,617.0	147.5	146.1	-101.30	7,871.9	1,571.6	637.9	349.4	288.51	2.211	
16,100.0	7,492.0	16,051.0	7,617.0	149.2	147.8	-101.29	7,971.9	1,569.6	638.4	346.5	291.90	2.187	
16,200.0	7,492.0	16,151.0	7,617.0	150.9	149.5	-101.28	8,071.9	1,567.5	638.8	343.5	295.30	2.163	
16,300.0	7,492.0	16,251.0	7,617.0	152.5	151.2	-101.28	8,171.9	1,565.5	639.3	340.6	298.69	2.140	
16,400.0	7,492.0	16,351.0	7,617.0	154.2	152.9	-101.27	8,271.8	1,563.5	639.8	337.7	302.09	2.118	
16,500.0	7,492.0	16,451.0	7,617.0	155.9	154.6	-101.26	8,371.8	1,561.4	640.3	334.8	305.50	2.096	
16,600.0	7,492.0	16,551.0	7,617.0	157.6	156.4	-101.25	8,471.8	1,559.4	640.7	331.8	308.90	2.074	
16,700.0	7,492.0	16,651.0	7,617.0	159.3	158.1	-101.24	8,571.8	1,557.3	641.2	328.9	312.31	2.053	
16,800.0	7,492.0	16,751.0	7,617.0	161.0	159.8	-101.23	8,671.8	1,555.3	641.7	326.0	315.71	2.033	
16,900.0	7,492.0	16,851.0	7,617.0	162.8	161.5	-101.22	8,771.7	1,553.2	642.2	323.0	319.12	2.012	
17,000.0	7,492.0	16,951.0	7,617.0	164.5	163.2	-101.22	8,871.7	1,551.2	642.6	320.1	322.54	1.992	
17,100.0	7,492.0	17,051.0	7,617.0	166.2	165.0	-101.21	8,971.7	1,549.2	643.1	317.2	325.95	1.973	
17,200.0	7,492.0	17,151.0	7,617.0	167.9	166.7	-101.20	9,071.7	1,547.1	643.6	314.2	329.36	1.954	
17,300.0	7,492.0	17,251.0	7,617.0	169.6	168.4	-101.19	9,171.6	1,545.1	644.1	311.3	332.78	1.935	
17,400.0	7,492.0	17,351.0	7,617.0	171.3	170.7	-101.24	9,306.2	1,546.0	641.9	303.1	338.85	1.894	
17,500.0	7,492.0	17,520.3	7,617.0	173.0	173.1	-101.43	9,440.7	1,554.4	634.3	290.4	343.93	1.844	
17,600.0	7,492.0	17,653.5	7,617.0	174.7	175.3	-101.76	9,572.9	1,570.0	621.2	273.3	347.88	1.786	
17,700.0	7,492.0	17,784.3	7,617.0	176.4	177.5	-102.24	9,701.7	1,592.5	602.9	252.2	350.68	1.719	
17,800.0	7,492.0	17,912.0	7,617.0	178.2	179.6	-102.91	9,826.2	1,621.2	579.4	227.1	352.37	1.644	
17,900.0	7,492.0	18,014.8	7,617.0	179.9	181.3	-103.61	9,925.2	1,648.8	551.7	197.1	354.67	1.556	
18,000.0	7,492.0	18,014.8	7,617.0	181.6	181.3	-103.61	9,925.2	1,648.8	533.5	174.8	358.69	1.487 Level 3, SF	
18,048.8	7,492.0	18,014.8	7,617.0	182.4	181.3	-103.61	9,925.2	1,648.8	531.3	174.8	356.50	1.490 Level 3	
18,049.1	7,492.0	18,014.8	7,617.0	182.4	181.3	-103.61	9,925.2	1,648.8	531.3	174.8	356.47	1.490 Level 3	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4NBH - OH - PLAN #2													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	89.91	0.0	15.0	15.0					
100.0	100.0	100.0	100.0	0.4	0.4	89.91	0.0	15.0	15.0	14.4	0.55	27.161		
133.3	133.3	133.3	133.3	0.6	0.6	89.91	0.0	15.0	15.0	14.1	0.90	16.689		
200.0	200.0	200.0	200.0	1.0	1.0	89.91	0.0	15.0	15.0	13.4	1.59	9.423		
300.0	300.0	300.0	300.0	1.5	1.5	89.91	0.0	15.0	15.0	12.6	2.44	6.137		
333.3	333.3	333.3	333.3	1.6	1.6	89.91	0.0	15.0	15.0	12.3	2.71	5.542		
400.0	400.0	400.0	400.0	1.9	1.9	89.91	0.0	15.0	15.0	11.8	3.23	4.642		
500.0	500.0	500.0	500.0	2.3	2.3	89.91	0.0	15.0	15.0	11.0	3.99	3.757 CC, ES		
600.0	600.0	599.5	599.4	2.7	2.8	91.13	-0.3	16.7	16.7	11.7	5.01	3.335		
700.0	700.0	698.8	698.6	3.1	3.7	-9.14	-1.4	21.7	20.1	13.5	6.60	3.046		
800.0	799.8	798.0	797.4	3.9	4.5	-7.90	-3.2	30.2	23.5	15.1	8.37	2.810		
900.0	899.5	897.0	895.8	4.8	5.3	-7.01	-5.6	41.9	26.9	17.0	9.88	2.721		
1,000.0	998.7	996.0	993.5	5.5	6.0	-6.36	-8.8	56.9	30.2	19.0	11.24	2.691		
1,100.0	1,097.5	1,094.8	1,090.6	6.2	6.6	-5.87	-12.6	75.2	33.6	21.1	12.48	2.689		
1,200.0	1,195.6	1,193.6	1,186.8	6.9	7.2	-5.49	-17.1	96.8	36.8	23.2	13.65	2.701		
1,300.0	1,293.1	1,292.2	1,282.2	7.5	7.8	-5.20	-22.3	121.5	40.1	25.3	14.74	2.720		
1,400.0	1,389.6	1,390.7	1,376.4	8.0	8.3	-4.98	-28.1	149.4	43.3	27.5	15.78	2.743		
1,500.0	1,485.3	1,489.1	1,469.6	8.6	8.9	-4.81	-34.6	180.5	46.4	29.6	16.77	2.767		
1,600.0	1,579.8	1,587.8	1,561.9	9.1	9.2	-4.69	-41.8	214.7	49.4	31.8	17.60	2.809		
1,700.0	1,673.5	1,687.8	1,655.0	9.4	9.5	-4.72	-49.3	250.3	51.0	32.9	18.12	2.816		
1,800.0	1,767.2	1,787.8	1,748.2	9.7	9.8	-4.76	-56.7	285.9	52.5	33.9	18.68	2.813		
1,900.0	1,860.9	1,887.8	1,841.3	10.0	10.1	-4.79	-64.2	321.5	54.1	34.8	19.27	2.806		
2,000.0	1,954.6	1,987.8	1,934.4	10.3	10.5	-4.83	-71.6	357.1	55.6	35.7	19.88	2.796		
2,100.0	2,048.3	2,087.8	2,027.6	10.7	10.9	-4.86	-79.1	392.7	57.1	36.6	20.51	2.784		
2,200.0	2,141.9	2,187.7	2,120.7	11.1	11.5	-4.88	-86.6	428.3	58.6	37.4	21.15	2.770		
2,300.0	2,235.6	2,287.7	2,213.8	11.7	12.1	-4.91	-94.0	463.9	60.1	38.3	21.82	2.755		
2,400.0	2,329.3	2,387.7	2,307.0	12.2	12.7	-4.94	-101.5	499.5	61.6	39.1	22.50	2.738		
2,500.0	2,423.0	2,487.7	2,400.1	12.9	13.4	-4.96	-108.9	535.1	63.1	39.9	23.19	2.722		
2,600.0	2,516.7	2,587.7	2,493.2	13.5	14.1	-4.99	-116.4	570.7	64.6	40.7	23.90	2.704		
2,700.0	2,610.4	2,687.7	2,586.4	14.2	14.9	-5.01	-123.9	606.3	66.1	41.5	24.62	2.686		
2,800.0	2,704.0	2,787.7	2,679.5	14.9	15.6	-5.03	-131.3	641.9	67.7	42.3	25.35	2.669		
2,900.0	2,797.7	2,887.7	2,772.6	15.6	16.3	-5.05	-138.8	677.5	69.2	43.1	26.09	2.651		
3,000.0	2,891.4	2,987.6	2,865.8	16.3	17.1	-5.07	-146.2	713.2	70.7	43.8	26.84	2.634		
3,100.0	2,985.1	3,087.6	2,958.9	17.0	17.8	-5.09	-153.7	748.8	72.2	44.6	27.59	2.616		
3,200.0	3,078.8	3,187.6	3,052.1	17.8	18.6	-5.11	-161.2	784.4	73.7	45.3	28.36	2.599		
3,300.0	3,172.5	3,287.6	3,145.2	18.5	19.3	-5.13	-168.6	820.0	75.2	46.1	29.13	2.582		
3,400.0	3,266.1	3,387.6	3,238.3	19.2	20.1	-5.14	-176.1	855.6	76.7	46.8	29.91	2.565		
3,500.0	3,359.8	3,487.6	3,331.5	19.9	20.8	-5.16	-183.5	891.2	78.2	47.5	30.69	2.549		
3,600.0	3,453.5	3,587.6	3,424.6	20.7	21.6	-5.17	-191.0	926.8	79.7	48.3	31.48	2.533		
3,700.0	3,547.2	3,687.6	3,517.7	21.4	22.3	-5.19	-198.5	962.4	81.3	49.0	32.28	2.517		
3,800.0	3,640.9	3,787.6	3,610.9	22.1	23.1	-5.20	-205.9	998.0	82.8	49.7	33.08	2.502		
3,900.0	3,734.5	3,887.5	3,704.0	22.8	23.8	-5.22	-213.4	1,033.6	84.3	50.4	33.88	2.487		
4,000.0	3,828.2	3,987.5	3,797.1	23.6	24.6	-5.23	-220.8	1,069.2	85.8	51.1	34.69	2.473		
4,100.0	3,921.9	4,087.5	3,890.3	24.3	25.4	-5.24	-228.3	1,104.8	87.3	51.8	35.50	2.459		
4,200.0	4,015.6	4,187.5	3,983.4	25.0	26.1	-5.26	-235.8	1,140.4	88.8	52.5	36.32	2.445		
4,300.0	4,109.3	4,287.5	4,076.5	25.8	26.9	-5.27	-243.2	1,176.1	90.3	53.2	37.13	2.432		
4,400.0	4,203.0	4,387.5	4,169.7	26.5	27.6	-5.28	-250.7	1,211.7	91.8	53.9	37.96	2.419		
4,500.0	4,296.6	4,487.5	4,262.8	27.2	28.4	-5.29	-258.1	1,247.3	93.3	54.6	38.78	2.407		
4,600.0	4,390.3	4,587.5	4,355.9	28.0	29.2	-5.30	-265.6	1,282.9	94.9	55.2	39.61	2.395		
4,700.0	4,484.0	4,687.5	4,449.1	28.7	29.9	-5.31	-273.1	1,318.5	96.4	55.9	40.44	2.383		
4,800.0	4,577.7	4,787.4	4,542.2	29.4	30.7	-5.32	-280.5	1,354.1	97.9	56.6	41.27	2.371		
4,900.0	4,671.4	4,887.4	4,635.4	30.2	31.4	-5.33	-288.0	1,389.7	99.4	57.3	42.11	2.360		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4NBH - OH - PLAN #2													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.0	4,765.1	4,987.4	4,728.5	30.9	32.2	-5.34	-295.4	1,425.3	100.9	58.0	42.95	2.349		
5,100.0	4,858.7	5,087.4	4,821.6	31.6	33.0	-5.35	-302.9	1,460.9	102.4	58.6	43.78	2.339		
5,200.0	4,952.4	5,187.4	4,914.8	32.4	33.7	-5.36	-310.4	1,496.5	103.9	59.3	44.63	2.329		
5,300.0	5,046.1	5,287.4	5,007.9	33.1	34.5	-5.37	-317.8	1,532.1	105.4	60.0	45.47	2.319		
5,400.0	5,139.8	5,387.4	5,101.0	33.8	35.3	-5.38	-325.3	1,567.7	106.9	60.6	46.31	2.309		
5,500.0	5,233.5	5,487.4	5,194.2	34.6	36.0	-5.39	-332.7	1,603.3	108.5	61.3	47.16	2.300		
5,600.0	5,327.1	5,587.4	5,287.3	35.3	36.8	-5.39	-340.2	1,638.9	110.0	62.0	48.01	2.290		
5,700.0	5,420.8	5,687.3	5,380.4	36.0	37.6	-5.40	-347.7	1,674.6	111.5	62.6	48.86	2.282		
5,800.0	5,514.5	5,787.3	5,473.6	36.8	38.3	-5.41	-355.1	1,710.2	113.0	63.3	49.71	2.273		
5,900.0	5,608.2	5,887.3	5,566.7	37.5	39.1	-5.42	-362.6	1,745.8	114.5	63.9	50.56	2.264		
6,000.0	5,701.9	5,987.3	5,659.8	38.3	39.9	-5.42	-370.0	1,781.4	116.0	64.6	51.42	2.256		
6,100.0	5,795.6	6,087.3	5,753.0	39.0	40.6	-5.43	-377.5	1,817.0	117.5	65.2	52.27	2.248		
6,200.0	5,889.2	6,187.3	5,846.1	39.7	41.4	-5.44	-385.0	1,852.6	119.0	65.9	53.13	2.241		
6,300.0	5,982.9	6,287.3	5,939.2	40.5	42.1	-5.44	-392.4	1,888.2	120.5	66.6	53.98	2.233		
6,400.0	6,076.6	6,387.3	6,032.4	41.2	42.9	-5.45	-399.9	1,923.8	122.1	67.2	54.84	2.226		
6,500.0	6,170.3	6,487.3	6,125.5	41.9	43.7	-5.46	-407.3	1,959.4	123.6	67.9	55.70	2.218		
6,600.0	6,264.0	6,587.2	6,218.7	42.7	44.4	-5.46	-414.8	1,995.0	125.1	68.5	56.56	2.211		
6,700.0	6,357.7	6,687.2	6,311.8	43.4	45.2	-5.47	-422.2	2,030.6	126.6	69.2	57.42	2.205		
6,800.0	6,451.3	6,787.2	6,404.9	44.2	46.0	-5.48	-429.7	2,066.2	128.1	69.8	58.28	2.198		
6,900.0	6,545.0	6,887.2	6,498.1	44.9	46.7	-5.48	-437.2	2,101.8	129.6	70.5	59.14	2.191		
7,000.0	6,638.7	6,987.2	6,591.2	45.6	47.5	-5.49	-444.6	2,137.4	131.1	71.1	60.01	2.185		
7,100.0	6,732.4	7,087.2	6,684.3	46.4	48.3	-5.49	-452.1	2,173.1	132.6	71.8	60.87	2.179		
7,200.0	6,826.1	7,188.9	6,779.2	47.1	49.1	-8.62	-452.4	2,209.2	133.5	71.2	62.31	2.143		
7,300.0	6,919.8	7,285.4	6,868.1	47.9	49.8	-16.12	-436.1	2,242.9	135.7	69.4	66.23	2.049		
7,400.0	7,013.6	7,376.0	6,948.2	48.6	50.3	-10.88	-406.5	2,272.9	143.7	72.5	71.26	2.017		
7,500.0	7,105.6	7,462.9	7,020.1	49.3	50.7	10.25	-365.8	2,299.7	156.2	82.5	73.69	2.120		
7,600.0	7,193.0	7,550.0	7,085.6	49.8	51.0	15.37	-313.9	2,323.8	170.9	97.2	73.75	2.317		
7,700.0	7,273.1	7,628.5	7,137.8	50.2	51.3	17.60	-258.5	2,342.8	185.9	116.3	69.63	2.670		
7,800.0	7,343.5	7,708.3	7,183.1	50.5	51.4	18.18	-195.0	2,359.1	199.9	135.0	64.85	3.082		
7,900.0	7,402.0	7,786.6	7,219.2	50.7	51.6	18.18	-126.7	2,371.8	211.9	152.3	59.61	3.554		
8,000.0	7,447.0	7,863.9	7,246.0	50.9	51.6	18.00	-54.9	2,380.9	221.3	166.4	54.91	4.030		
8,100.0	7,476.9	7,940.5	7,263.4	51.0	51.7	17.82	19.4	2,386.4	227.6	175.9	51.72	4.400		
8,200.0	7,490.9	8,016.6	7,271.4	51.0	51.7	17.71	95.1	2,388.2	230.7	179.8	50.85	4.536		
8,300.0	7,492.0	8,108.3	7,272.0	51.0	51.7	17.69	186.7	2,387.0	230.9	179.1	51.80	4.458		
8,400.0	7,492.0	8,208.3	7,272.0	51.0	51.7	17.69	286.7	2,385.5	230.9	178.2	52.77	4.376		
8,500.0	7,492.0	8,308.3	7,272.0	51.0	51.7	17.69	386.7	2,383.9	230.9	177.1	53.80	4.292		
8,600.0	7,492.0	8,408.3	7,272.0	51.1	51.8	17.69	486.7	2,382.4	230.9	176.1	54.86	4.209		
8,700.0	7,492.0	8,508.3	7,272.0	51.2	51.9	17.69	586.7	2,380.8	230.9	174.9	55.97	4.126		
8,800.0	7,492.0	8,608.3	7,272.0	51.4	52.1	17.69	686.7	2,379.2	230.9	173.8	57.12	4.043		
8,900.0	7,492.0	8,708.3	7,272.0	51.6	52.3	17.69	786.7	2,377.7	230.9	172.6	58.30	3.961		
9,000.0	7,492.0	8,808.3	7,272.0	51.9	52.5	17.69	886.6	2,376.1	230.9	171.4	59.52	3.880		
9,100.0	7,492.0	8,908.3	7,272.0	52.2	52.8	17.69	986.6	2,374.6	230.9	170.2	60.76	3.800		
9,200.0	7,492.0	9,008.3	7,272.0	52.5	53.2	17.69	1,086.6	2,373.0	230.9	168.9	62.04	3.722		
9,300.0	7,492.0	9,108.3	7,272.0	52.9	53.5	17.69	1,186.6	2,371.4	230.9	167.6	63.34	3.645		
9,400.0	7,492.0	9,208.3	7,272.0	53.4	54.0	17.69	1,286.6	2,369.9	230.9	166.2	64.68	3.570		
9,500.0	7,492.0	9,308.3	7,272.0	53.9	54.5	17.69	1,386.6	2,368.3	230.9	164.9	66.03	3.497		
9,600.0	7,492.0	9,408.3	7,272.0	54.5	55.1	17.69	1,486.6	2,366.8	230.9	163.5	67.41	3.426		
9,700.0	7,492.0	9,508.3	7,272.0	55.2	55.7	17.68	1,586.6	2,365.2	230.9	162.1	68.81	3.356		
9,800.0	7,492.0	9,608.3	7,272.0	55.9	56.4	17.68	1,686.5	2,363.7	230.9	160.7	70.23	3.288		
9,900.0	7,492.0	9,708.3	7,272.0	56.7	57.1	17.68	1,786.5	2,362.1	230.9	159.2	71.67	3.222		
10,000.0	7,492.0	9,808.3	7,272.0	57.5	57.9	17.68	1,886.5	2,360.5	230.9	157.8	73.13	3.158		
10,100.0	7,492.0	9,908.3	7,272.0	58.4	58.8	17.68	1,986.5	2,359.0	230.9	156.3	74.60	3.095		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4NBH - OH - PLAN #2													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.0	7,492.0	10,008.3	7,272.0	59.4	59.7	17.68	2,086.5	2,357.4	230.9	154.8	76.09	3.035		
10,300.0	7,492.0	10,108.3	7,272.0	60.4	60.7	17.68	2,186.5	2,355.9	230.9	153.3	77.60	2.976		
10,400.0	7,492.0	10,208.3	7,272.0	61.4	61.8	17.68	2,286.5	2,354.3	230.9	151.8	79.12	2.919		
10,500.0	7,492.0	10,308.3	7,272.0	62.5	62.8	17.68	2,386.5	2,352.7	230.9	150.3	80.65	2.863		
10,600.0	7,492.0	10,408.3	7,272.0	63.7	64.0	17.68	2,486.4	2,351.2	230.9	148.7	82.20	2.809		
10,700.0	7,492.0	10,508.3	7,272.0	64.9	65.1	17.68	2,586.4	2,349.6	230.9	147.2	83.75	2.757		
10,800.0	7,492.0	10,608.3	7,272.0	66.1	66.3	17.68	2,686.4	2,348.1	230.9	145.6	85.32	2.706		
10,900.0	7,492.0	10,708.3	7,272.0	67.3	67.5	17.68	2,786.4	2,346.5	230.9	144.0	86.90	2.657		
11,000.0	7,492.0	10,808.3	7,272.0	68.6	68.8	17.68	2,886.4	2,344.9	230.9	142.4	88.49	2.609		
11,100.0	7,492.0	10,908.3	7,272.0	69.9	70.1	17.68	2,986.4	2,343.4	230.9	140.8	90.09	2.563		
11,200.0	7,492.0	11,008.3	7,272.0	71.3	71.4	17.68	3,086.4	2,341.8	230.9	139.2	91.70	2.518		
11,300.0	7,492.0	11,108.3	7,272.0	72.6	72.8	17.68	3,186.4	2,340.3	230.9	137.6	93.32	2.474		
11,400.0	7,492.0	11,208.3	7,272.0	74.0	74.1	17.68	3,286.4	2,338.7	230.9	136.0	94.95	2.432		
11,500.0	7,492.0	11,308.3	7,272.0	75.4	75.5	17.67	3,386.3	2,337.1	230.9	134.3	96.58	2.391		
11,600.0	7,492.0	11,408.3	7,272.0	76.8	76.9	17.67	3,486.3	2,335.6	230.9	132.7	98.22	2.351		
11,700.0	7,492.0	11,508.3	7,272.0	78.2	78.4	17.67	3,586.3	2,334.0	230.9	131.0	99.87	2.312		
11,800.0	7,492.0	11,608.3	7,272.0	79.7	79.8	17.67	3,686.3	2,332.5	230.9	129.4	101.52	2.274		
11,900.0	7,492.0	11,708.3	7,272.0	81.2	81.3	17.67	3,786.3	2,330.9	230.9	127.7	103.18	2.238		
12,000.0	7,492.0	11,808.3	7,272.0	82.6	82.7	17.67	3,886.3	2,329.4	230.9	126.0	104.85	2.202		
12,100.0	7,492.0	11,908.3	7,272.0	84.1	84.2	17.67	3,986.3	2,327.8	230.9	124.4	106.52	2.168		
12,200.0	7,492.0	12,008.3	7,272.0	85.6	85.7	17.67	4,086.3	2,326.2	230.9	122.7	108.20	2.134		
12,300.0	7,492.0	12,108.3	7,272.0	87.1	87.2	17.67	4,186.2	2,324.7	230.9	121.0	109.88	2.101		
12,400.0	7,492.0	12,208.3	7,272.0	88.7	88.8	17.67	4,286.2	2,323.1	230.9	119.3	111.57	2.070		
12,500.0	7,492.0	12,308.3	7,272.0	90.2	90.3	17.67	4,386.2	2,321.6	230.9	117.6	113.26	2.039		
12,600.0	7,492.0	12,408.3	7,272.0	91.8	91.8	17.67	4,486.2	2,320.0	230.9	115.9	114.96	2.008		
12,700.0	7,492.0	12,508.3	7,272.0	93.3	93.4	17.67	4,586.2	2,318.4	230.9	114.2	116.66	1.979		
12,800.0	7,492.0	12,608.3	7,272.0	94.9	94.9	17.67	4,686.2	2,316.9	230.9	112.5	118.37	1.951		
12,900.0	7,492.0	12,708.3	7,272.0	96.4	96.5	17.67	4,786.2	2,315.3	230.9	110.8	120.08	1.923		
13,000.0	7,492.0	12,808.3	7,272.0	98.0	98.1	17.67	4,886.2	2,313.8	230.9	109.1	121.79	1.896		
13,100.0	7,492.0	12,908.3	7,272.0	99.6	99.7	17.67	4,986.1	2,312.2	230.9	107.4	123.51	1.869		
13,200.0	7,492.0	13,008.3	7,272.0	101.2	101.3	17.67	5,086.1	2,310.6	230.9	105.7	125.23	1.844		
13,300.0	7,492.0	13,108.3	7,272.0	102.8	102.9	17.66	5,186.1	2,309.1	230.9	103.9	126.95	1.819		
13,400.0	7,492.0	13,208.3	7,272.0	104.4	104.5	17.66	5,286.1	2,307.5	230.9	102.2	128.68	1.794		
13,500.0	7,492.0	13,308.3	7,272.0	106.0	106.1	17.66	5,386.1	2,306.0	230.9	100.5	130.41	1.770		
13,600.0	7,492.0	13,408.3	7,272.0	107.6	107.7	17.66	5,486.1	2,304.4	230.9	98.7	132.14	1.747		
13,700.0	7,492.0	13,508.3	7,272.0	109.2	109.3	17.66	5,586.1	2,302.9	230.9	97.0	133.88	1.725		
13,800.0	7,492.0	13,608.3	7,272.0	110.9	110.9	17.66	5,686.1	2,301.3	230.9	95.3	135.62	1.702		
13,900.0	7,492.0	13,708.3	7,272.0	112.5	112.5	17.66	5,786.0	2,299.7	230.9	93.5	137.36	1.681		
14,000.0	7,492.0	13,808.3	7,272.0	114.1	114.2	17.66	5,886.0	2,298.2	230.9	91.8	139.10	1.660		
14,100.0	7,492.0	13,908.3	7,272.0	115.8	115.8	17.66	5,986.0	2,296.6	230.9	90.0	140.85	1.639		
14,200.0	7,492.0	14,008.3	7,272.0	117.4	117.4	17.66	6,086.0	2,295.1	230.9	88.3	142.60	1.619		
14,300.0	7,492.0	14,108.3	7,272.0	119.0	119.1	17.66	6,186.0	2,293.5	230.9	86.5	144.35	1.599		
14,400.0	7,492.0	14,208.3	7,272.0	120.7	120.7	17.66	6,286.0	2,291.9	230.9	84.8	146.11	1.580		
14,500.0	7,492.0	14,308.3	7,272.0	122.3	122.4	17.66	6,386.0	2,290.4	230.9	83.0	147.86	1.561		
14,600.0	7,492.0	14,408.3	7,272.0	124.0	124.0	17.66	6,486.0	2,288.8	230.9	81.3	149.62	1.543		
14,700.0	7,492.0	14,508.3	7,272.0	125.7	125.7	17.66	6,585.9	2,287.3	230.9	79.5	151.38	1.525		
14,800.0	7,492.0	14,608.3	7,272.0	127.3	127.4	17.66	6,685.9	2,285.7	230.9	77.7	153.14	1.508		
14,900.0	7,492.0	14,708.3	7,272.0	129.0	129.0	17.66	6,785.9	2,284.1	230.9	76.0	154.90	1.490 Level 3		
15,000.0	7,492.0	14,808.3	7,272.0	130.7	130.7	17.66	6,885.9	2,282.6	230.9	74.2	156.67	1.474 Level 3		
15,100.0	7,492.0	14,908.3	7,272.0	132.3	132.4	17.65	6,985.9	2,281.0	230.9	72.4	158.43	1.457 Level 3		
15,200.0	7,492.0	15,008.3	7,272.0	134.0	134.0	17.65	7,085.9	2,279.5	230.9	70.7	160.20	1.441 Level 3		
15,300.0	7,492.0	15,108.3	7,272.0	135.7	135.7	17.65	7,185.9	2,277.9	230.9	68.9	161.97	1.425 Level 3		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4NBH - OH - PLAN #2													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,400.0	7,492.0	15,208.3	7,272.0	137.4	137.4	17.65	7,285.9	2,276.4	230.9	67.1	163.74	1.410	Level 3	
15,500.0	7,492.0	15,308.3	7,272.0	139.0	139.1	17.65	7,385.9	2,274.8	230.9	65.4	165.52	1.395	Level 3	
15,600.0	7,492.0	15,408.3	7,272.0	140.7	140.8	17.65	7,485.8	2,273.2	230.9	63.6	167.29	1.380	Level 3	
15,700.0	7,492.0	15,508.3	7,272.0	142.4	142.4	17.65	7,585.8	2,271.7	230.9	61.8	169.07	1.366	Level 3	
15,800.0	7,492.0	15,608.3	7,272.0	144.1	144.1	17.65	7,685.8	2,270.1	230.9	60.0	170.84	1.351	Level 3	
15,900.0	7,492.0	15,708.3	7,272.0	145.8	145.8	17.65	7,785.8	2,268.6	230.9	58.2	172.62	1.337	Level 3	
16,000.0	7,492.0	15,808.3	7,272.0	147.5	147.5	17.65	7,885.8	2,267.0	230.9	56.5	174.40	1.324	Level 3	
16,100.0	7,492.0	15,908.3	7,272.0	149.2	149.2	17.65	7,985.8	2,265.4	230.9	54.7	176.18	1.310	Level 3	
16,200.0	7,492.0	16,008.3	7,272.0	150.9	150.9	17.65	8,085.8	2,263.9	230.9	52.9	177.96	1.297	Level 3	
16,300.0	7,492.0	16,108.3	7,272.0	152.5	152.6	17.65	8,185.8	2,262.3	230.9	51.1	179.75	1.284	Level 3	
16,400.0	7,492.0	16,208.3	7,272.0	154.2	154.3	17.65	8,285.7	2,260.8	230.9	49.3	181.53	1.272	Level 3	
16,500.0	7,492.0	16,308.3	7,272.0	155.9	156.0	17.65	8,385.7	2,259.2	230.9	47.5	183.32	1.259	Level 3	
16,600.0	7,492.0	16,408.3	7,272.0	157.6	157.7	17.65	8,485.7	2,257.6	230.9	45.8	185.10	1.247	Level 2	
16,700.0	7,492.0	16,508.3	7,272.0	159.3	159.4	17.65	8,585.7	2,256.1	230.9	44.0	186.89	1.235	Level 2	
16,800.0	7,492.0	16,608.3	7,272.0	161.0	161.1	17.65	8,685.7	2,254.5	230.9	42.2	188.68	1.224	Level 2	
16,900.0	7,492.0	16,708.3	7,272.0	162.8	162.8	17.64	8,785.7	2,253.0	230.9	40.4	190.47	1.212	Level 2	
17,000.0	7,492.0	16,808.3	7,272.0	164.5	164.5	17.64	8,885.7	2,251.4	230.9	38.6	192.26	1.201	Level 2	
17,100.0	7,492.0	16,908.3	7,272.0	166.2	166.2	17.64	8,985.7	2,249.8	230.9	36.8	194.05	1.190	Level 2	
17,200.0	7,492.0	17,008.3	7,272.0	167.9	167.9	17.64	9,085.6	2,248.3	230.9	35.0	195.84	1.179	Level 2	
17,300.0	7,492.0	17,108.3	7,272.0	169.6	169.6	17.64	9,185.6	2,246.7	230.9	33.2	197.64	1.168	Level 2	
17,400.0	7,492.0	17,208.3	7,272.0	171.3	171.3	17.64	9,285.6	2,245.2	230.9	31.4	199.43	1.158	Level 2	
17,500.0	7,492.0	17,308.3	7,272.0	173.0	173.0	17.64	9,385.6	2,243.6	230.9	29.6	201.22	1.147	Level 2	
17,600.0	7,492.0	17,408.3	7,272.0	174.7	174.8	17.64	9,485.6	2,242.1	230.9	27.8	203.02	1.137	Level 2	
17,700.0	7,492.0	17,508.3	7,272.0	176.4	176.5	17.64	9,585.6	2,240.5	230.9	26.0	204.81	1.127	Level 2	
17,800.0	7,492.0	17,608.3	7,272.0	178.2	178.2	17.64	9,685.6	2,238.9	230.9	24.2	206.61	1.117	Level 2	
17,900.0	7,492.0	17,708.3	7,272.0	179.9	179.9	17.64	9,785.6	2,237.4	230.9	22.4	208.41	1.108	Level 2	
18,000.0	7,492.0	17,808.3	7,272.0	181.6	181.6	17.64	9,885.5	2,235.8	230.9	20.6	210.21	1.098	Level 2	
18,049.1	7,492.0	17,857.4	7,272.0	182.4	182.5	17.64	9,934.7	2,235.1	230.9	19.8	211.09	1.094	Level 2, SF	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4NXH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.51	-0.1	-15.0	15.0					
100.0	100.0	100.0	100.0	0.4	0.0	-90.51	-0.1	-15.0	15.0	14.7	0.28	54.017		
133.3	133.3	133.3	133.3	0.6	0.0	-90.51	-0.1	-15.0	15.0	14.5	0.45	33.213		
200.0	200.0	200.0	200.0	1.0	0.0	-90.51	-0.1	-15.0	15.0	14.2	0.80	18.762		
300.0	300.0	300.0	300.0	1.5	0.0	-90.51	-0.1	-15.0	15.0	13.8	1.23	12.229		
333.3	333.3	333.3	333.3	1.6	0.0	-90.51	-0.1	-15.0	15.0	13.6	1.36	11.046		
400.0	400.0	400.0	400.0	1.9	0.0	-90.51	-0.1	-15.0	15.0	13.4	1.62	9.255		
500.0	500.0	500.0	500.0	2.3	0.0	-90.51	-0.1	-15.0	15.0	13.0	2.00	7.494		
533.3	533.3	533.3	533.3	2.5	0.0	-90.51	-0.1	-15.0	15.0	12.9	2.13	7.055		
600.0	600.0	600.0	600.0	2.7	0.0	-90.51	-0.1	-15.0	15.0	12.6	2.38	6.315 CC, ES		
700.0	700.0	700.0	700.0	3.1	0.0	168.71	-0.1	-15.0	16.7	13.7	2.99	5.586		
800.0	799.8	800.6	800.5	3.9	0.0	170.54	-0.5	-13.3	20.1	16.2	3.92	5.136		
900.0	899.5	901.2	901.1	4.8	0.0	171.65	-1.8	-8.1	23.6	18.9	4.72	4.998		
1,000.0	998.7	1,002.1	1,001.5	5.5	0.0	172.30	-3.8	0.5	27.0	21.6	5.42	4.978		
1,100.0	1,097.5	1,103.0	1,101.7	6.2	0.0	172.66	-6.7	12.5	30.4	24.3	6.07	5.011		
1,200.0	1,195.6	1,204.1	1,201.5	6.9	0.0	172.81	-10.3	28.0	33.8	27.1	6.67	5.070		
1,300.0	1,293.1	1,305.3	1,300.8	7.5	0.0	172.80	-14.8	47.0	37.2	29.9	7.23	5.141		
1,400.0	1,389.6	1,406.6	1,399.4	8.0	0.0	172.68	-20.1	69.4	40.5	32.7	7.76	5.219		
1,500.0	1,485.3	1,508.0	1,497.3	8.6	0.0	172.48	-26.2	95.1	43.8	35.5	8.26	5.299		
1,600.0	1,579.8	1,609.5	1,594.3	9.1	0.0	172.20	-33.1	124.3	47.0	38.3	8.74	5.377		
1,700.0	1,673.5	1,710.9	1,690.0	9.4	0.0	171.71	-40.8	156.7	49.3	40.3	8.96	5.502		
1,800.0	1,767.2	1,810.9	1,784.1	9.7	0.0	171.06	-48.6	189.8	50.5	41.2	9.22	5.473		
1,900.0	1,860.9	1,910.9	1,878.1	10.0	0.0	170.44	-56.5	222.8	51.7	42.2	9.50	5.436		
2,000.0	1,954.6	2,010.8	1,972.2	10.3	0.0	169.85	-64.3	255.9	52.9	43.1	9.80	5.394		
2,100.0	2,048.3	2,110.8	2,066.2	10.7	0.0	169.28	-72.1	288.9	54.1	43.9	10.11	5.347		
2,200.0	2,141.9	2,210.8	2,160.3	11.1	0.0	168.74	-79.9	321.9	55.3	44.8	10.43	5.297		
2,300.0	2,235.6	2,310.8	2,254.3	11.7	0.0	168.22	-87.8	355.0	56.5	45.7	10.77	5.245		
2,400.0	2,329.3	2,410.8	2,348.4	12.2	0.0	167.73	-95.6	388.0	57.7	46.6	11.12	5.191		
2,500.0	2,423.0	2,510.8	2,442.4	12.9	0.0	167.25	-103.4	421.1	58.9	47.4	11.47	5.135		
2,600.0	2,516.7	2,610.8	2,536.5	13.5	0.0	166.79	-111.2	454.1	60.1	48.3	11.84	5.079		
2,700.0	2,610.4	2,710.8	2,630.5	14.2	0.0	166.35	-119.1	487.2	61.4	49.2	12.22	5.023		
2,800.0	2,704.0	2,810.8	2,724.6	14.9	0.0	165.93	-126.9	520.2	62.6	50.0	12.60	4.967		
2,900.0	2,797.7	2,910.8	2,818.6	15.6	0.0	165.53	-134.7	553.3	63.8	50.8	13.00	4.911		
3,000.0	2,891.4	3,010.8	2,912.6	16.3	0.0	165.14	-142.6	586.3	65.1	51.7	13.40	4.856		
3,100.0	2,985.1	3,110.8	3,006.7	17.0	0.0	164.76	-150.4	619.4	66.3	52.5	13.81	4.802		
3,200.0	3,078.8	3,210.7	3,100.7	17.8	0.0	164.40	-158.2	652.4	67.6	53.3	14.23	4.749		
3,300.0	3,172.5	3,310.7	3,194.8	18.5	0.0	164.05	-166.0	685.5	68.8	54.2	14.65	4.697		
3,400.0	3,266.1	3,410.7	3,288.8	19.2	0.0	163.72	-173.9	718.5	70.1	55.0	15.08	4.647		
3,500.0	3,359.8	3,510.7	3,382.9	19.9	0.0	163.39	-181.7	751.6	71.3	55.8	15.51	4.597		
3,600.0	3,453.5	3,610.7	3,476.9	20.7	0.0	163.08	-189.5	784.6	72.6	56.6	15.95	4.549		
3,700.0	3,547.2	3,710.7	3,571.0	21.4	0.0	162.78	-197.3	817.7	73.8	57.4	16.40	4.502		
3,800.0	3,640.9	3,810.7	3,665.0	22.1	0.0	162.49	-205.2	850.7	75.1	58.2	16.84	4.457		
3,900.0	3,734.5	3,910.7	3,759.1	22.8	0.0	162.21	-213.0	883.8	76.3	59.0	17.30	4.413		
4,000.0	3,828.2	4,010.7	3,853.1	23.6	0.0	161.93	-220.8	916.8	77.6	59.8	17.76	4.370		
4,100.0	3,921.9	4,110.7	3,947.2	24.3	0.0	161.67	-228.7	949.9	78.9	60.6	18.22	4.329		
4,200.0	4,015.6	4,210.7	4,041.2	25.0	0.0	161.41	-236.5	982.9	80.1	61.4	18.68	4.289		
4,300.0	4,109.3	4,310.6	4,135.3	25.8	0.0	161.16	-244.3	1,016.0	81.4	62.2	19.15	4.250		
4,400.0	4,203.0	4,410.6	4,229.3	26.5	0.0	160.92	-252.1	1,049.0	82.7	63.0	19.62	4.212		
4,500.0	4,296.6	4,510.6	4,323.3	27.2	0.0	160.69	-260.0	1,082.1	83.9	63.8	20.10	4.176		
4,600.0	4,390.3	4,610.6	4,417.4	28.0	0.0	160.46	-267.8	1,115.1	85.2	64.6	20.58	4.140		
4,700.0	4,484.0	4,710.6	4,511.4	28.7	0.0	160.24	-275.6	1,148.2	86.5	65.4	21.06	4.106		
4,800.0	4,577.7	4,810.6	4,605.5	29.4	0.0	160.03	-283.4	1,181.2	87.7	66.2	21.54	4.073		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4NXH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,900.0	4,671.4	4,910.6	4,699.5	30.2	0.0	159.82	-291.3	1,214.3	89.0	67.0	22.03	4.041		
5,000.0	4,765.1	5,010.6	4,793.6	30.9	0.0	159.62	-299.1	1,247.3	90.3	67.8	22.52	4.010		
5,100.0	4,858.7	5,110.6	4,887.6	31.6	0.0	159.43	-306.9	1,280.4	91.6	68.6	23.01	3.980		
5,200.0	4,952.4	5,210.6	4,981.7	32.4	0.0	159.24	-314.8	1,313.4	92.8	69.3	23.50	3.951		
5,300.0	5,046.1	5,310.6	5,075.7	33.1	0.0	159.05	-322.6	1,346.5	94.1	70.1	24.00	3.922		
5,400.0	5,139.8	5,410.6	5,169.8	33.8	0.0	158.87	-330.4	1,379.5	95.4	70.9	24.50	3.895		
5,500.0	5,233.5	5,510.5	5,263.8	34.6	0.0	158.69	-338.2	1,412.6	96.7	71.7	24.99	3.868		
5,600.0	5,327.1	5,610.5	5,357.9	35.3	0.0	158.52	-346.1	1,445.6	98.0	72.5	25.50	3.843		
5,700.0	5,420.8	5,710.5	5,451.9	36.0	0.0	158.36	-353.9	1,478.7	99.3	73.3	26.00	3.818		
5,800.0	5,514.5	5,810.5	5,546.0	36.8	0.0	158.20	-361.7	1,511.7	100.5	74.0	26.50	3.793		
5,900.0	5,608.2	5,910.5	5,640.0	37.5	0.0	158.04	-369.5	1,544.8	101.8	74.8	27.01	3.770		
6,000.0	5,701.9	6,010.5	5,734.0	38.3	0.0	157.88	-377.4	1,577.8	103.1	75.6	27.52	3.747		
6,100.0	5,795.6	6,110.5	5,828.1	39.0	0.0	157.73	-385.2	1,610.9	104.4	76.4	28.03	3.725		
6,200.0	5,889.2	6,210.5	5,922.1	39.7	0.0	157.59	-393.0	1,643.9	105.7	77.1	28.54	3.703		
6,300.0	5,982.9	6,310.5	6,016.2	40.5	0.0	157.44	-400.9	1,677.0	107.0	77.9	29.05	3.682		
6,400.0	6,076.6	6,410.5	6,110.2	41.2	0.0	157.30	-408.7	1,710.0	108.2	78.7	29.56	3.662		
6,500.0	6,170.3	6,510.5	6,204.3	41.9	0.0	157.17	-416.5	1,743.1	109.5	79.5	30.07	3.642		
6,600.0	6,264.0	6,610.4	6,298.3	42.7	0.0	157.03	-424.3	1,776.1	110.8	80.2	30.59	3.623		
6,700.0	6,357.7	6,710.4	6,392.4	43.4	0.0	156.90	-432.2	1,809.2	112.1	81.0	31.11	3.604		
6,800.0	6,451.3	6,810.4	6,486.4	44.2	0.0	156.78	-440.0	1,842.2	113.4	81.8	31.62	3.586		
6,900.0	6,545.0	6,910.4	6,580.5	44.9	0.0	156.65	-447.8	1,875.3	114.7	82.6	32.14	3.568		
7,000.0	6,638.7	7,012.2	6,676.3	45.6	0.0	157.44	-453.9	1,908.9	115.6	83.2	32.44	3.565		
7,098.0	6,730.5	7,111.4	6,769.4	46.4	0.0	165.43	-445.1	1,941.5	114.9	83.6	31.31	3.671		
7,100.0	6,732.4	7,113.3	6,771.2	46.4	0.0	165.67	-444.7	1,942.2	114.9	83.7	31.28	3.674		
7,200.0	6,826.1	7,206.1	6,855.8	47.1	0.0	-179.50	-420.9	1,971.6	119.3	88.8	30.49	3.913		
7,300.0	6,919.8	7,287.4	6,926.1	47.9	0.0	-160.80	-388.4	1,996.0	138.9	107.1	31.75	4.374		
7,400.0	7,013.6	7,361.4	6,985.8	48.6	0.0	-119.70	-349.9	2,016.6	171.4	138.7	32.70	5.241		
7,500.0	7,105.6	7,432.4	7,038.2	49.3	0.0	-89.47	-305.6	2,034.6	207.1	175.0	32.17	6.439		
7,600.0	7,193.0	7,500.0	7,083.0	49.8	0.0	-70.35	-257.4	2,049.9	241.8	211.5	30.27	7.987		
7,700.0	7,273.1	7,568.0	7,122.3	50.2	0.0	-58.27	-203.6	2,063.3	273.3	245.4	27.89	9.800		
7,800.0	7,343.5	7,633.6	7,154.3	50.5	0.0	-50.49	-147.4	2,074.0	300.5	275.4	25.06	11.989		
7,900.0	7,402.0	7,700.0	7,180.3	50.7	0.0	-45.36	-86.9	2,082.7	322.5	300.2	22.38	14.413		
8,000.0	7,447.0	7,762.2	7,198.6	50.9	0.0	-42.09	-27.8	2,088.6	339.1	319.4	19.68	17.230		
8,100.0	7,476.9	7,825.7	7,210.8	51.0	0.0	-40.13	34.4	2,092.4	349.8	332.0	17.81	19.637		
8,200.0	7,490.9	7,889.0	7,216.6	51.0	0.0	-39.24	97.3	2,093.9	354.5	337.5	17.01	20.843		
8,300.0	7,492.0	7,975.4	7,217.0	51.0	0.0	-39.11	183.8	2,093.3	354.4	337.4	17.06	20.774		
8,400.0	7,492.0	8,075.4	7,217.0	51.0	0.0	-39.02	283.8	2,092.5	354.0	336.8	17.19	20.589		
8,500.0	7,492.0	8,175.4	7,217.0	51.0	0.0	-38.93	383.8	2,091.6	353.5	336.1	17.41	20.299		
8,600.0	7,492.0	8,275.4	7,217.0	51.1	0.0	-38.83	483.8	2,090.8	353.0	335.3	17.73	19.917		
8,700.0	7,492.0	8,375.4	7,217.0	51.2	0.0	-38.74	583.8	2,090.0	352.6	334.5	18.12	19.460		
8,800.0	7,492.0	8,475.4	7,217.0	51.4	0.0	-38.65	683.8	2,089.2	352.1	333.5	18.59	18.944		
8,900.0	7,492.0	8,575.4	7,217.0	51.6	0.0	-38.56	783.7	2,088.3	351.7	332.5	19.13	18.385		
9,000.0	7,492.0	8,675.4	7,217.0	51.9	0.0	-38.46	883.7	2,087.5	351.2	331.5	19.73	17.800		
9,100.0	7,492.0	8,775.4	7,217.0	52.2	0.0	-38.37	983.7	2,086.7	350.8	330.4	20.39	17.200		
9,200.0	7,492.0	8,875.4	7,217.0	52.5	0.0	-38.28	1,083.7	2,085.9	350.3	329.2	21.11	16.598		
9,300.0	7,492.0	8,975.4	7,217.0	52.9	0.0	-38.18	1,183.7	2,085.0	349.9	328.0	21.87	16.001		
9,400.0	7,492.0	9,075.4	7,217.0	53.4	0.0	-38.09	1,283.7	2,084.2	349.4	326.7	22.67	15.416		
9,500.0	7,492.0	9,175.4	7,217.0	53.9	0.0	-37.99	1,383.7	2,083.4	349.0	325.5	23.50	14.848		
9,600.0	7,492.0	9,275.4	7,217.0	54.5	0.0	-37.90	1,483.7	2,082.5	348.5	324.1	24.37	14.301		
9,700.0	7,492.0	9,375.4	7,217.0	55.2	0.0	-37.81	1,583.7	2,081.7	348.1	322.8	25.27	13.776		
9,800.0	7,492.0	9,475.4	7,217.0	55.9	0.0	-37.71	1,683.7	2,080.9	347.6	321.4	26.19	13.274		
9,900.0	7,492.0	9,575.4	7,217.0	56.7	0.0	-37.61	1,783.7	2,080.1	347.2	320.0	27.13	12.796		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4NXH - OH - PLAN #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.0	7,492.0	9,675.4	7,217.0	57.5	0.0	-37.52	1,883.7	2,079.2	346.7	318.6	28.09	12.342		
10,100.0	7,492.0	9,775.4	7,217.0	58.4	0.0	-37.42	1,983.7	2,078.4	346.3	317.2	29.07	11.911		
10,200.0	7,492.0	9,875.4	7,217.0	59.4	0.0	-37.33	2,083.7	2,077.6	345.8	315.8	30.07	11.502		
10,300.0	7,492.0	9,975.4	7,217.0	60.4	0.0	-37.23	2,183.7	2,076.8	345.4	314.3	31.07	11.115		
10,400.0	7,492.0	10,075.4	7,217.0	61.4	0.0	-37.13	2,283.7	2,075.9	345.0	312.9	32.09	10.748		
10,500.0	7,492.0	10,175.4	7,217.0	62.5	0.0	-37.04	2,383.7	2,075.1	344.5	311.4	33.12	10.401		
10,600.0	7,492.0	10,275.4	7,217.0	63.7	0.0	-36.94	2,483.6	2,074.3	344.1	309.9	34.16	10.072		
10,700.0	7,492.0	10,375.4	7,217.0	64.9	0.0	-36.84	2,583.6	2,073.5	343.6	308.4	35.21	9.761		
10,800.0	7,492.0	10,475.4	7,217.0	66.1	0.0	-36.75	2,683.6	2,072.6	343.2	306.9	36.26	9.466		
10,900.0	7,492.0	10,575.4	7,217.0	67.3	0.0	-36.65	2,783.6	2,071.8	342.8	305.4	37.32	9.186		
11,000.0	7,492.0	10,675.4	7,217.0	68.6	0.0	-36.55	2,883.6	2,071.0	342.3	303.9	38.38	8.920		
11,100.0	7,492.0	10,775.4	7,217.0	69.9	0.0	-36.45	2,983.6	2,070.1	341.9	302.4	39.44	8.668		
11,200.0	7,492.0	10,875.4	7,217.0	71.3	0.0	-36.35	3,083.6	2,069.3	341.5	300.9	40.51	8.428		
11,300.0	7,492.0	10,975.4	7,217.0	72.6	0.0	-36.25	3,183.6	2,068.5	341.0	299.4	41.59	8.200		
11,400.0	7,492.0	11,075.4	7,217.0	74.0	0.0	-36.16	3,283.6	2,067.7	340.6	297.9	42.66	7.983		
11,500.0	7,492.0	11,175.4	7,217.0	75.4	0.0	-36.06	3,383.6	2,066.8	340.2	296.4	43.74	7.777		
11,600.0	7,492.0	11,275.4	7,217.0	76.8	0.0	-35.96	3,483.6	2,066.0	339.7	294.9	44.82	7.580		
11,700.0	7,492.0	11,375.3	7,217.0	78.2	0.0	-35.86	3,583.6	2,065.2	339.3	293.4	45.90	7.392		
11,800.0	7,492.0	11,475.3	7,217.0	79.7	0.0	-35.76	3,683.6	2,064.4	338.9	291.9	46.98	7.213		
11,900.0	7,492.0	11,575.3	7,217.0	81.2	0.0	-35.66	3,783.6	2,063.5	338.5	290.4	48.06	7.042		
12,000.0	7,492.0	11,675.3	7,217.0	82.6	0.0	-35.56	3,883.6	2,062.7	338.0	288.9	49.15	6.878		
12,100.0	7,492.0	11,775.3	7,217.0	84.1	0.0	-35.46	3,983.6	2,061.9	337.6	287.4	50.23	6.721		
12,200.0	7,492.0	11,875.3	7,217.0	85.6	0.0	-35.35	4,083.5	2,061.1	337.2	285.9	51.31	6.571		
12,300.0	7,492.0	11,975.3	7,217.0	87.1	0.0	-35.25	4,183.5	2,060.2	336.8	284.4	52.39	6.428		
12,400.0	7,492.0	12,075.3	7,217.0	88.7	0.0	-35.15	4,283.5	2,059.4	336.3	282.9	53.47	6.290		
12,500.0	7,492.0	12,175.3	7,217.0	90.2	0.0	-35.05	4,383.5	2,058.6	335.9	281.4	54.55	6.158		
12,600.0	7,492.0	12,275.3	7,217.0	91.8	0.0	-34.95	4,483.5	2,057.7	335.5	279.9	55.63	6.031		
12,700.0	7,492.0	12,375.3	7,217.0	93.3	0.0	-34.85	4,583.5	2,056.9	335.1	278.4	56.71	5.909		
12,800.0	7,492.0	12,475.3	7,217.0	94.9	0.0	-34.74	4,683.5	2,056.1	334.7	276.9	57.78	5.792		
12,900.0	7,492.0	12,575.3	7,217.0	96.4	0.0	-34.64	4,783.5	2,055.3	334.3	275.4	58.86	5.679		
13,000.0	7,492.0	12,675.3	7,217.0	98.0	0.0	-34.54	4,883.5	2,054.4	333.8	273.9	59.93	5.570		
13,100.0	7,492.0	12,775.3	7,217.0	99.6	0.0	-34.43	4,983.5	2,053.6	333.4	272.4	61.00	5.466		
13,200.0	7,492.0	12,875.3	7,217.0	101.2	0.0	-34.33	5,083.5	2,052.8	333.0	270.9	62.07	5.365		
13,300.0	7,492.0	12,975.3	7,217.0	102.8	0.0	-34.23	5,183.5	2,052.0	332.6	269.5	63.14	5.268		
13,400.0	7,492.0	13,075.3	7,217.0	104.4	0.0	-34.12	5,283.5	2,051.1	332.2	268.0	64.20	5.174		
13,500.0	7,492.0	13,175.3	7,217.0	106.0	0.0	-34.02	5,383.5	2,050.3	331.8	266.5	65.27	5.084		
13,600.0	7,492.0	13,275.3	7,217.0	107.6	0.0	-33.91	5,483.5	2,049.5	331.4	265.1	66.33	4.996		
13,700.0	7,492.0	13,375.3	7,217.0	109.2	0.0	-33.81	5,583.5	2,048.6	331.0	263.6	67.38	4.912		
13,800.0	7,492.0	13,475.3	7,217.0	110.9	0.0	-33.70	5,683.5	2,047.8	330.6	262.1	68.44	4.830		
13,900.0	7,492.0	13,575.3	7,217.0	112.5	0.0	-33.60	5,783.4	2,047.0	330.2	260.7	69.49	4.751		
14,000.0	7,492.0	13,675.3	7,217.0	114.1	0.0	-33.49	5,883.4	2,046.2	329.8	259.2	70.54	4.675		
14,100.0	7,492.0	13,775.3	7,217.0	115.8	0.0	-33.39	5,983.4	2,045.3	329.4	257.8	71.59	4.601		
14,200.0	7,492.0	13,875.3	7,217.0	117.4	0.0	-33.28	6,083.4	2,044.5	329.0	256.3	72.64	4.529		
14,300.0	7,492.0	13,975.3	7,217.0	119.0	0.0	-33.17	6,183.4	2,043.7	328.6	254.9	73.68	4.459		
14,400.0	7,492.0	14,075.3	7,217.0	120.7	0.0	-33.07	6,283.4	2,042.9	328.2	253.4	74.72	4.392		
14,500.0	7,492.0	14,175.3	7,217.0	122.3	0.0	-32.96	6,383.4	2,042.0	327.8	252.0	75.75	4.327		
14,600.0	7,492.0	14,275.3	7,217.0	124.0	0.0	-32.85	6,483.4	2,041.2	327.4	250.6	76.79	4.263		
14,700.0	7,492.0	14,375.3	7,217.0	125.7	0.0	-32.75	6,583.4	2,040.4	327.0	249.1	77.82	4.202		
14,800.0	7,492.0	14,475.3	7,217.0	127.3	0.0	-32.64	6,683.4	2,039.6	326.6	247.7	78.84	4.142		
14,900.0	7,492.0	14,575.3	7,217.0	129.0	0.0	-32.53	6,783.4	2,038.7	326.2	246.3	79.87	4.084		
15,000.0	7,492.0	14,675.3	7,217.0	130.7	0.0	-32.42	6,883.4	2,037.9	325.8	244.9	80.89	4.028		
15,100.0	7,492.0	14,775.3	7,217.0	132.3	0.0	-32.31	6,983.4	2,037.1	325.4	243.5	81.91	3.973		

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

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - CONNER 19-18-4NXH - OH - PLAN #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,200.0	7,492.0	14,875.3	7,217.0	134.0	0.0	-32.21	7,083.4	2,036.2	325.0	242.1	82.92	3.919	
15,300.0	7,492.0	14,975.3	7,217.0	135.7	0.0	-32.10	7,183.4	2,035.4	324.6	240.7	83.93	3.868	
15,400.0	7,492.0	15,075.2	7,217.0	137.4	0.0	-31.99	7,283.4	2,034.6	324.2	239.3	84.94	3.817	
15,500.0	7,492.0	15,175.2	7,217.0	139.0	0.0	-31.88	7,383.3	2,033.8	323.8	237.9	85.95	3.768	
15,600.0	7,492.0	15,275.2	7,217.0	140.7	0.0	-31.77	7,483.3	2,032.9	323.5	236.5	86.95	3.720	
15,700.0	7,492.0	15,375.2	7,217.0	142.4	0.0	-31.66	7,583.3	2,032.1	323.1	235.1	87.95	3.673	
15,800.0	7,492.0	15,475.2	7,217.0	144.1	0.0	-31.55	7,683.3	2,031.3	322.7	233.8	88.94	3.628	
15,900.0	7,492.0	15,575.2	7,217.0	145.8	0.0	-31.44	7,783.3	2,030.5	322.3	232.4	89.93	3.584	
16,000.0	7,492.0	15,675.2	7,217.0	147.5	0.0	-31.33	7,883.3	2,029.6	321.9	231.0	90.92	3.541	
16,100.0	7,492.0	15,775.2	7,217.0	149.2	0.0	-31.22	7,983.3	2,028.8	321.6	229.6	91.91	3.499	
16,200.0	7,492.0	15,875.2	7,217.0	150.9	0.0	-31.10	8,083.3	2,028.0	321.2	228.3	92.89	3.458	
16,300.0	7,492.0	15,975.2	7,217.0	152.5	0.0	-30.99	8,183.3	2,027.2	320.8	226.9	93.87	3.418	
16,400.0	7,492.0	16,075.2	7,217.0	154.2	0.0	-30.88	8,283.3	2,026.3	320.4	225.6	94.84	3.379	
16,500.0	7,492.0	16,175.2	7,217.0	155.9	0.0	-30.77	8,383.3	2,025.5	320.1	224.2	95.81	3.340	
16,600.0	7,492.0	16,275.2	7,217.0	157.6	0.0	-30.66	8,483.3	2,024.7	319.7	222.9	96.78	3.303	
16,700.0	7,492.0	16,375.2	7,217.0	159.3	0.0	-30.54	8,583.3	2,023.8	319.3	221.6	97.74	3.267	
16,800.0	7,492.0	16,475.2	7,217.0	161.0	0.0	-30.43	8,683.3	2,023.0	318.9	220.2	98.70	3.231	
16,900.0	7,492.0	16,575.2	7,217.0	162.8	0.0	-30.32	8,783.3	2,022.2	318.6	218.9	99.66	3.197	
17,000.0	7,492.0	16,675.2	7,217.0	164.5	0.0	-30.20	8,883.3	2,021.4	318.2	217.6	100.61	3.163	
17,100.0	7,492.0	16,775.2	7,217.0	166.2	0.0	-30.09	8,983.2	2,020.5	317.8	216.3	101.56	3.130	
17,200.0	7,492.0	16,875.2	7,217.0	167.9	0.0	-29.98	9,083.2	2,019.7	317.5	215.0	102.50	3.097	
17,300.0	7,492.0	16,975.2	7,217.0	169.6	0.0	-29.86	9,183.2	2,018.9	317.1	213.7	103.45	3.065	
17,400.0	7,492.0	17,075.2	7,217.0	171.3	0.0	-29.75	9,283.2	2,018.1	316.7	212.4	104.38	3.034	
17,500.0	7,492.0	17,175.2	7,217.0	173.0	0.0	-29.63	9,383.2	2,017.2	316.4	211.1	105.32	3.004	
17,600.0	7,492.0	17,275.2	7,217.0	174.7	0.0	-29.52	9,483.2	2,016.4	316.0	209.8	106.25	2.974	
17,700.0	7,492.0	17,375.2	7,217.0	176.4	0.0	-29.40	9,583.2	2,015.6	315.7	208.5	107.17	2.945	
17,800.0	7,492.0	17,475.2	7,217.0	178.2	0.0	-29.29	9,683.2	2,014.8	315.3	207.2	108.10	2.917	
17,900.0	7,492.0	17,575.2	7,217.0	179.9	0.0	-29.17	9,783.2	2,013.9	314.9	205.9	109.02	2.889	
18,000.0	7,492.0	17,675.2	7,217.0	181.6	0.0	-29.05	9,883.2	2,013.1	314.6	204.7	109.93	2.862	
18,048.4	7,492.0	17,723.1	7,217.0	182.4	0.0	-29.00	9,931.1	2,012.7	314.4	204.1	110.35	2.849 SF	
18,049.1	7,492.0	17,723.1	7,217.0	182.4	0.0	-29.00	9,931.1	2,012.7	314.4	204.1	110.31	2.850	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Offset Design S19-T1S-R65W - Putnam 41-18 (PR) - EXISTING - NO SURVEYS (PR)												Offset Site Error:	0.0 usft
Survey Program: 100-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
16,600.0	7,492.0	7,423.0	7,423.0	157.6	27.6	-90.00	9,163.1	1,698.3	836.5	693.2	143.28	5.838	
16,700.0	7,492.0	7,423.0	7,423.0	159.3	27.6	-90.00	9,163.1	1,698.3	756.7	605.2	151.49	4.995	
16,800.0	7,492.0	7,423.0	7,423.0	161.0	27.6	-90.00	9,163.1	1,698.3	682.2	521.4	160.81	4.242	
16,900.0	7,492.0	7,423.0	7,423.0	162.8	27.6	-90.00	9,163.1	1,698.3	615.0	444.0	170.99	3.596	
17,000.0	7,492.0	7,423.0	7,423.0	164.5	27.6	-90.00	9,163.1	1,698.3	557.6	376.4	181.24	3.077	
17,100.0	7,492.0	7,423.0	7,423.0	166.2	27.6	-90.00	9,163.1	1,698.3	513.6	323.6	189.97	2.703	
17,200.0	7,492.0	7,423.0	7,423.0	167.9	27.6	-90.00	9,163.1	1,698.3	486.4	291.6	194.82	2.496	
17,286.0	7,492.0	7,423.0	7,423.0	169.3	27.6	-90.00	9,163.1	1,698.3	478.7	284.5	194.21	2.465	CC, ES, SF
17,300.0	7,492.0	7,423.0	7,423.0	169.6	27.6	-90.00	9,163.1	1,698.3	478.9	285.3	193.64	2.473	
17,400.0	7,492.0	7,423.0	7,423.0	171.3	27.6	-90.00	9,163.1	1,698.3	492.1	306.1	186.01	2.645	
17,500.0	7,492.0	7,423.0	7,423.0	173.0	27.6	-90.00	9,163.1	1,698.3	524.4	350.6	173.78	3.017	
17,600.0	7,492.0	7,423.0	7,423.0	174.7	27.6	-90.00	9,163.1	1,698.3	572.5	412.8	159.68	3.585	
17,700.0	7,492.0	7,423.0	7,423.0	176.4	27.6	-90.00	9,163.1	1,698.3	632.9	487.0	145.91	4.338	
17,800.0	7,492.0	7,423.0	7,423.0	178.2	27.6	-90.00	9,163.1	1,698.3	702.4	568.8	133.59	5.258	
17,900.0	7,492.0	7,423.0	7,423.0	179.9	27.6	-90.00	9,163.1	1,698.3	778.6	655.5	123.08	6.326	
18,000.0	7,492.0	7,423.0	7,423.0	181.6	27.6	-90.00	9,163.1	1,698.3	859.6	745.3	114.33	7.519	

Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 13' KB @ 5155.0usft

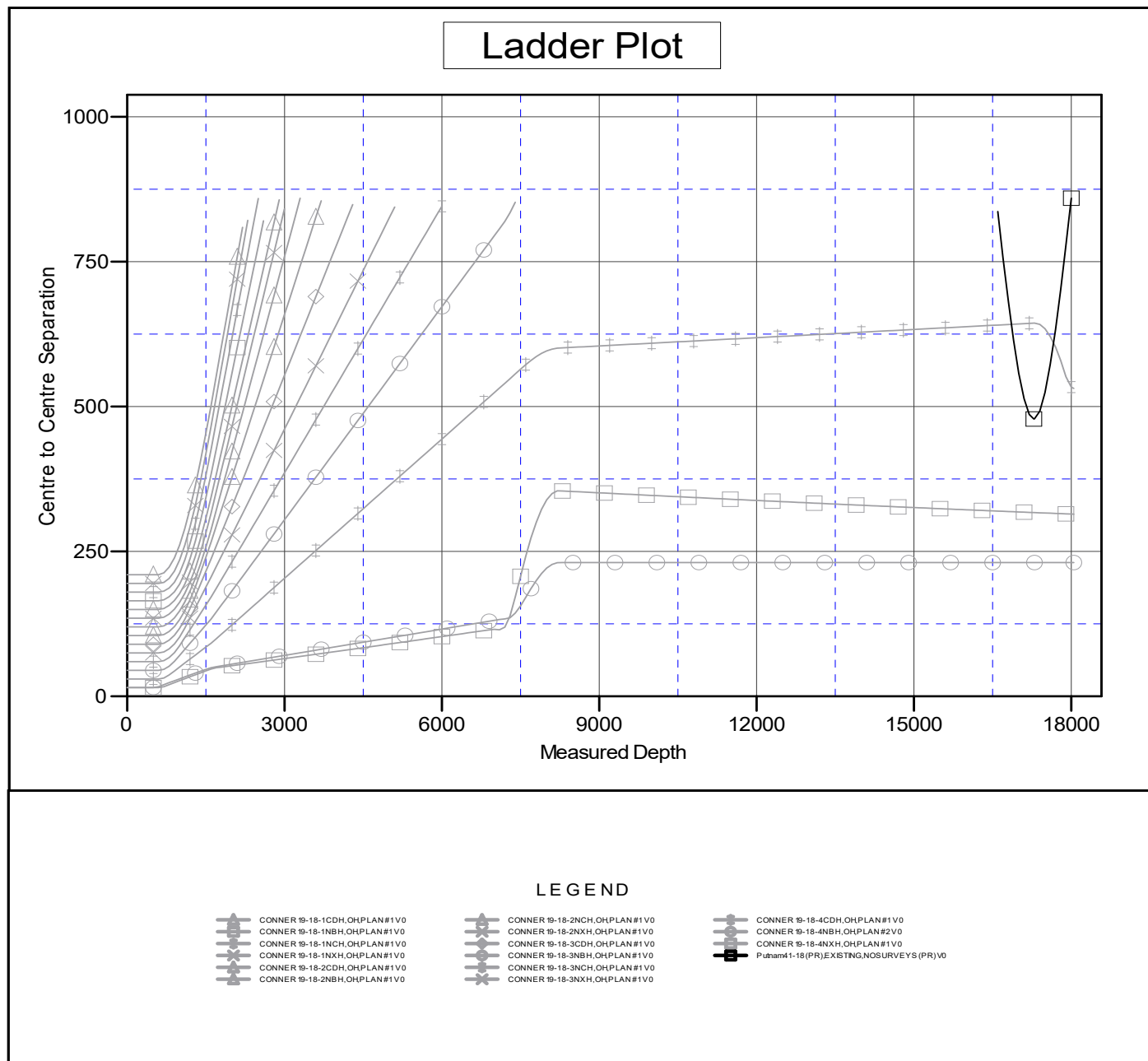
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: CONNER 19-18-4NCH

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.51°



Company:	PetroShare Corp	Local Co-ordinate Reference:	Well CONNER 19-18-4NCH
Project:	ADAMS COUNTY, CO	TVD Reference:	13' KB @ 5155.0usft
Reference Site:	S19-T1S-R65W	MD Reference:	13' KB @ 5155.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	CONNER 19-18-4NCH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	PLAN #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 13' KB @ 5155.0usft

Offset Depths are relative to Offset Datum

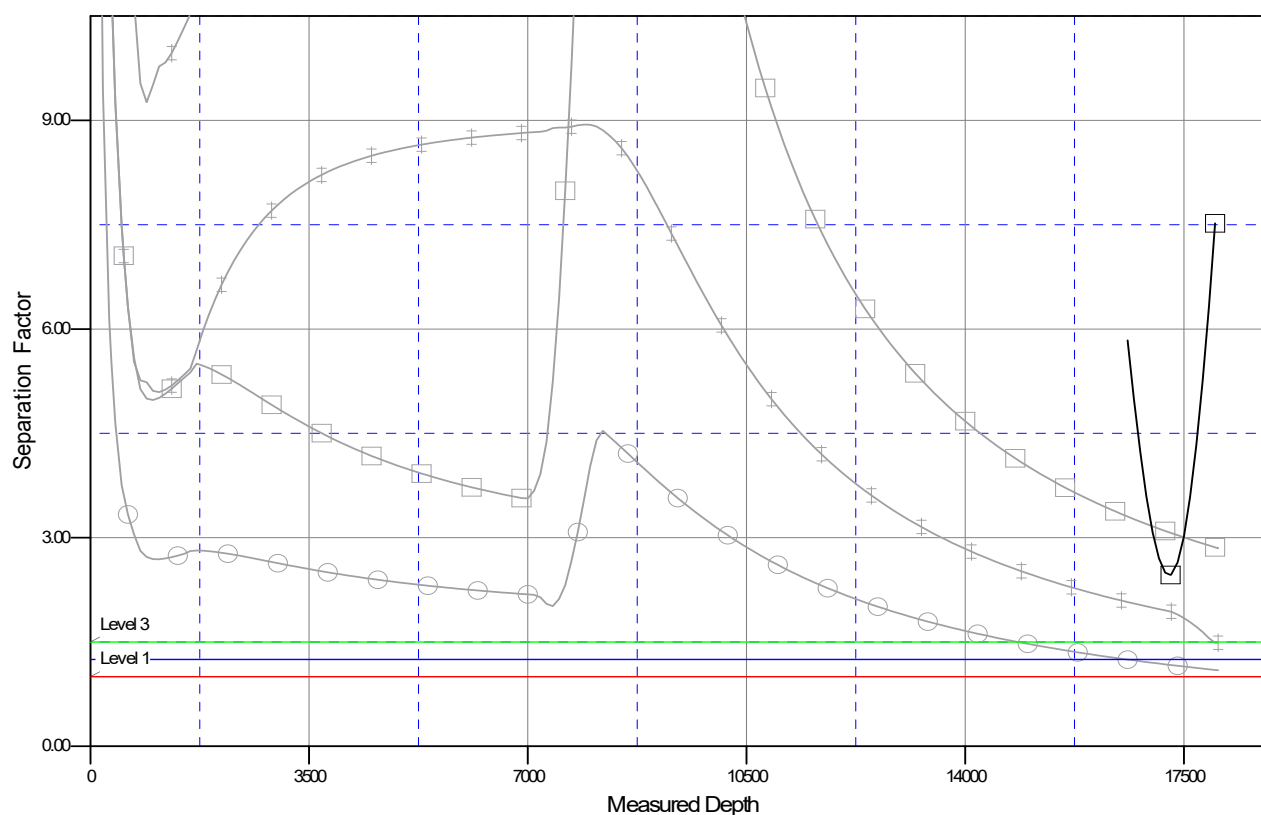
Central Meridian is -105.500000

Coordinates are relative to: CONNER 19-18-4NCH

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.51°

Separation Factor Plot



LEGEND

CONNER 19-18-1CDH.OHPLAN#1V0	CONNER 19-18-2NCH.OHPLAN#1V0	CONNER 19-18-4CDH.OHPLAN#1V0
CONNER 19-18-1NBH.OHPLAN#1V0	CONNER 19-18-2NXH.OHPLAN#1V0	CONNER 19-18-4NBH.OHPLAN#2V0
CONNER 19-18-1NCH.OHPLAN#1V0	CONNER 19-18-3CDH.OHPLAN#1V0	CONNER 19-18-4NXH.OHPLAN#1V0
CONNER 19-18-1NXH.OHPLAN#1V0	CONNER 19-18-3NBH.OHPLAN#1V0	Putnam41-18(PR).EXISTING.NOSURVEYS (PR)V0
CONNER 19-18-2CDH.OHPLAN#1V0	CONNER 19-18-3NCH.OHPLAN#1V0	
CONNER 19-18-2NBH.OHPLAN#1V0	CONNER 19-18-3NXH.OHPLAN#1V0	