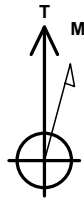




PetroShare Corp

Project: S20-T1S-R66W
Site: S20-T1S-R66W
Well: BRIGHTON LAKES 20-17-3CDH
Wellbore: OH
Design: PLAN #1



Azimuths to True North
Magnetic North: 8.02°

Magnetic Field
Strength: 51715.9nT
Dip Angle: 66.17°
Date: 10/5/2020
Model: HDGM2020_FILE



SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
20-17-3CDH (400 FSL, 1934 FWL)	0.0	0.0	1223370.93	195724.18

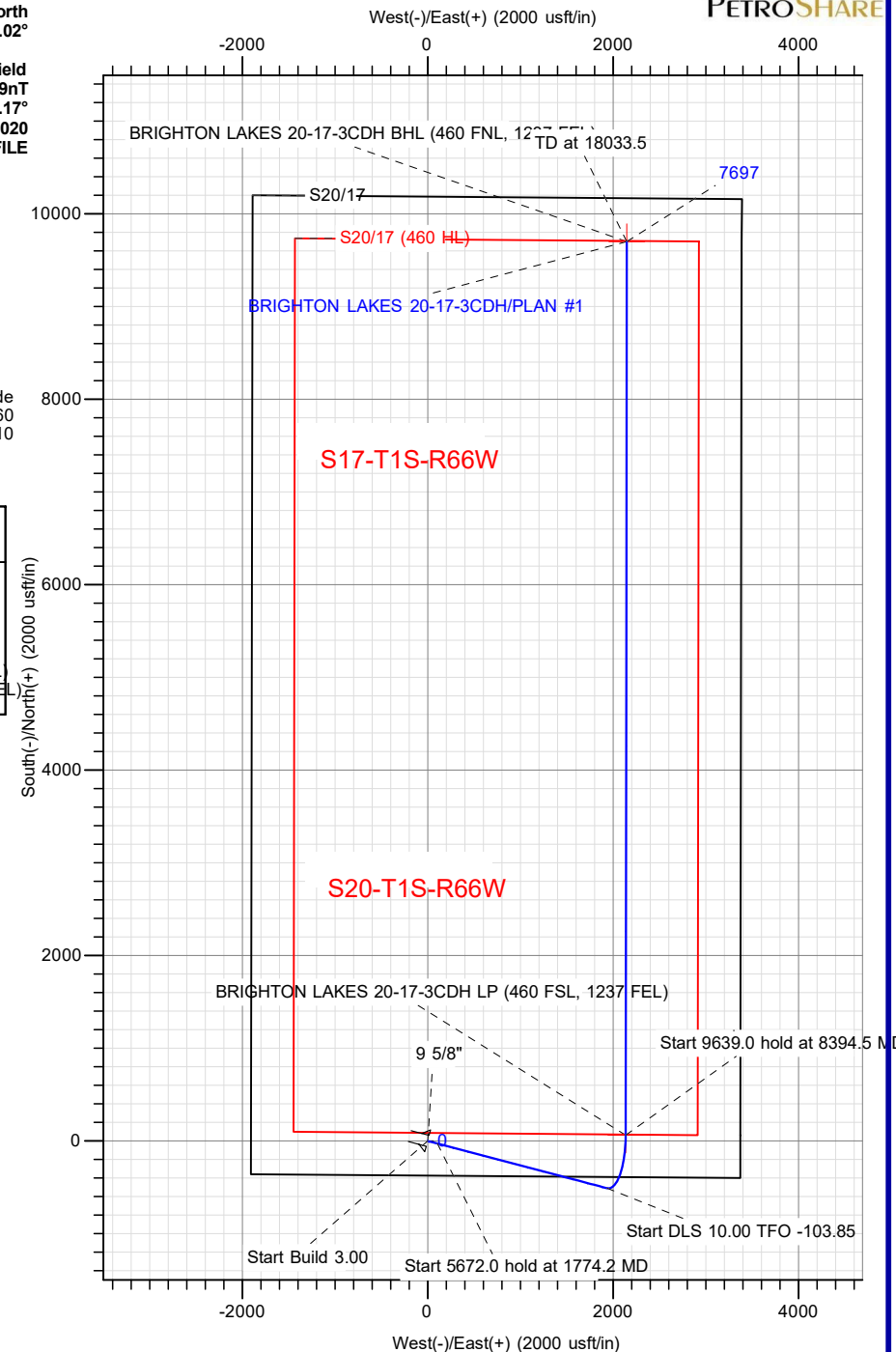
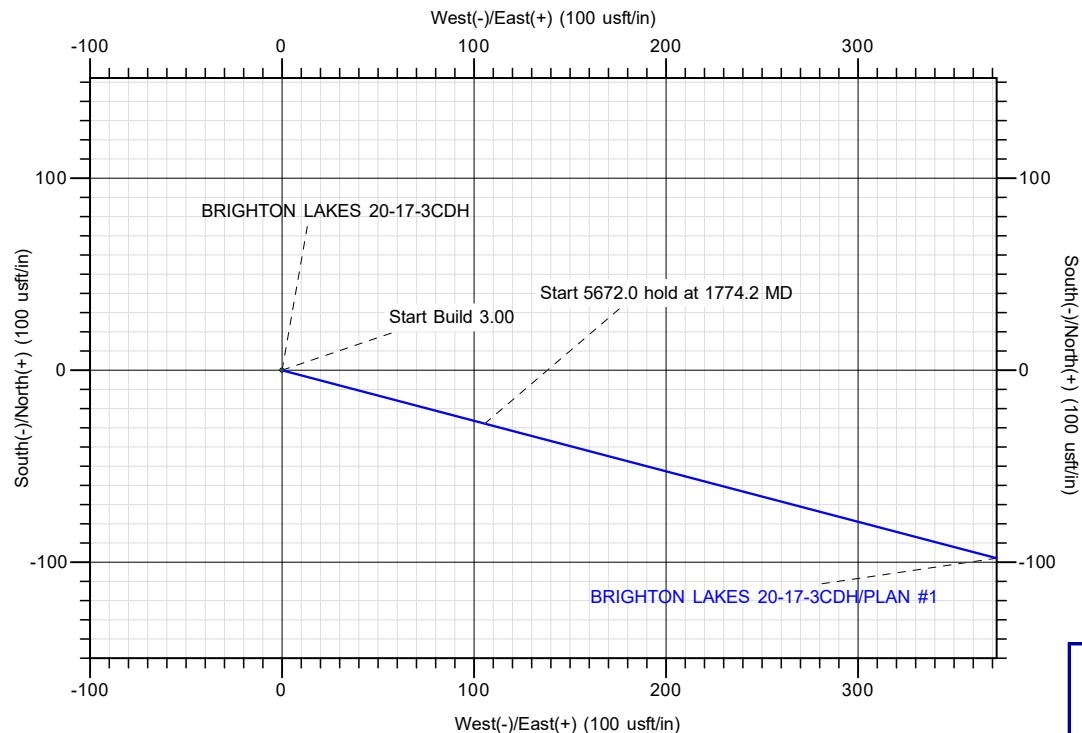
PROJECT DETAILS: S20-T1S-R66W
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BRIGHTON LAKES 20-17-3CDH BHL (460 FNL, 1237 FEL)	7697.0	9701.0	2149.8	1233088.53	3197797.50	39.971051	-104.794260
BRIGHTON LAKES 20-17-3CDH LP (460 FSL, 1237 FEL)	7697.0	62.0	2136.6	1223449.77	3197860.19	39.944590	-104.794310

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1125.0	0.00	0.00	1125.0	0.0	0.0	0.00	0.00	0.0	
3	1774.2	19.48	104.73	1761.8	-27.8	105.7	3.00	104.73	-4.3	
4	7446.2	19.48	104.73	7109.2	-508.6	1934.7	0.00	0.00	-78.0	
5	8394.5	90.00	0.08	7697.0	62.0	2136.6	10.00	-103.85	522.8	BRIGHTON LAKES 20-17-3CDH LP (460 FSL, 1237 FEL)
6	18033.5	90.00	0.08	7697.0	9701.0	2149.8	0.00	0.00	9936.3	BRIGHTON LAKES 20-17-3CDH BHL (460 FNL, 1237 FEL)



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

Plan: PLAN #1 (BRIGHTON LAKES 20-17-3CDH/OH)
S20-T1S-R66W
Created By: Lance Roybal
Date: 21:53, October 05 2020
Approved: _____
Date: _____

PetroShare Corp

Project: ADAMS COUNTY, CO
Site: S20-T1S-R66W
Well: BRIGHTON LAKES 20-17-3CDH
Wellbore: OH
Design: PLAN #1

16' KB @ 5063.0usft

5047.0

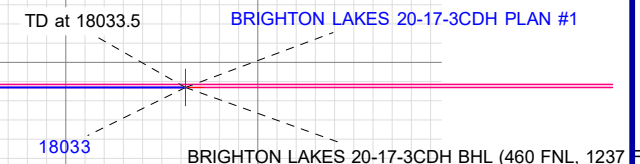
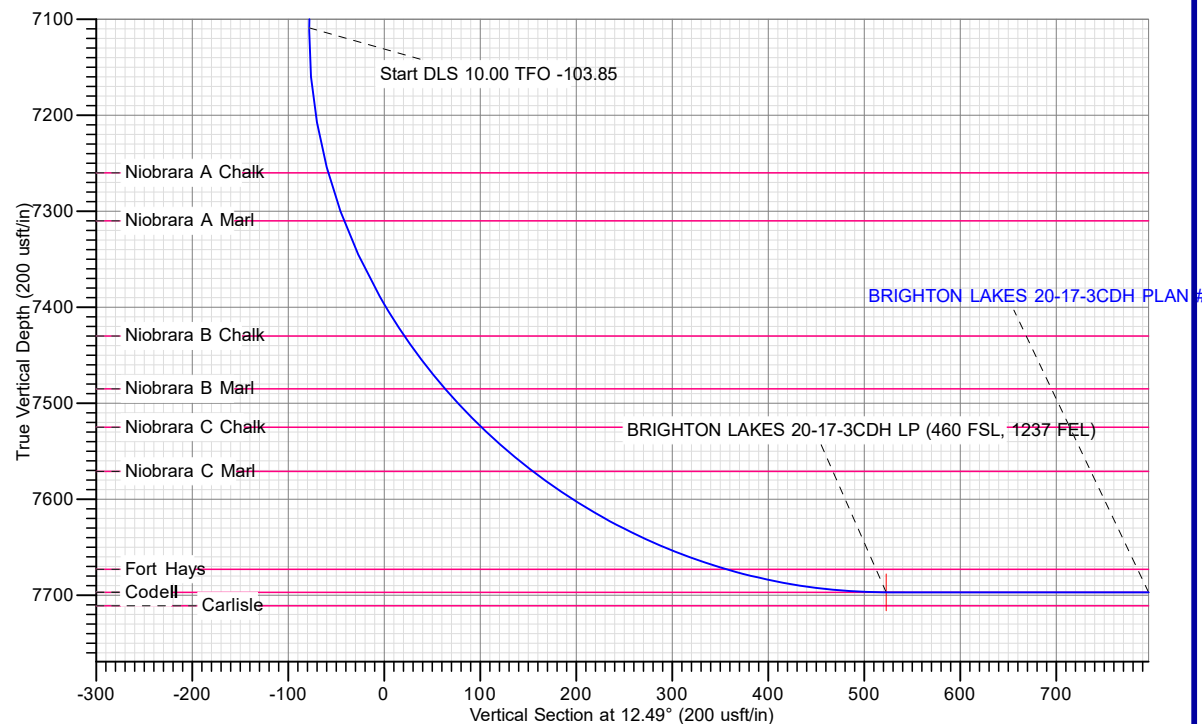
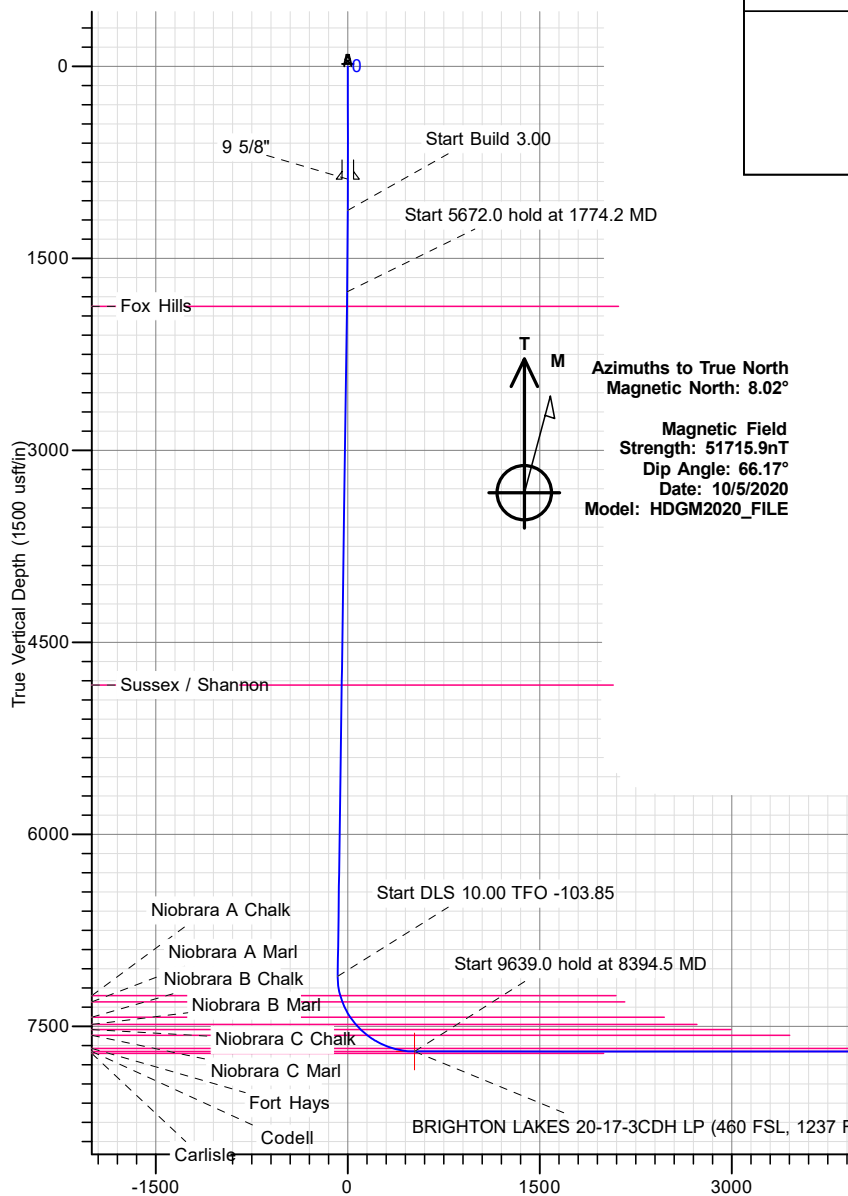
PROJECT DETAILS: ADAMS COUNTY, CO

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	1125.0	0.00	0.00	1125.0	0.0	0.0	0.00	0.00	0.0		
3	1774.2	19.48	104.73	1761.8	-27.8	105.7	3.00	104.73	-4.3		
4	7446.2	19.48	104.73	7109.2	-508.6	1934.7	0.00	0.00	-78.0		
5	8394.5	90.00	0.08	7697.0	62.0	2136.6	10.00	-103.85	522.8		BRIGHTON LAKES 20-17-3CDH LP (460 FSL, 1237 FEL)
6	18033.5	90.00	0.08	7697.0	9701.0	2149.8	0.00	0.00	9936.3		BRIGHTON LAKES 20-17-3CDH BHL (460 FNL, 1237 FEL)



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

Plan: PLAN #1 (BRIGHTON LAKES 20-17-3CDH/OH)
S20-T1S-R66W
Created By: Lance Roybal
Date: 22:05, October 05 2020
Approved: _____
Date: _____



PetroShare Corp

ADAMS COUNTY, CO

S20-T1S-R66W

BRIGHTON LAKES 20-17-3CDH

OH

Plan: PLAN #1

Standard Planning Report

05 October, 2020



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BRIGHTON LAKES 20-17-3CDH
Company:	PetroShare Corp	TVD Reference:	16' KB @ 5063.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	16' KB @ 5063.0usft
Site:	S20-T1S-R66W	North Reference:	True
Well:	BRIGHTON LAKES 20-17-3CDH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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		S20-T1S-R66W			
Site Position:		Northing:	1,223,370.94 usft	Latitude:	39.944420
From:	Map	Easting:	3,195,724.18 usft	Longitude:	-104.801930
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.45

Well	BRIGHTON LAKES 20-17-3CDH					
Well Position	+N/-S	0.0 usft	Northing:	1,223,370.93 usft	Latitude:	39.944420
	+E/-W	0.0 usft	Easting:	3,195,724.18 usft	Longitude:	-104.801930
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,047.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2020_FILE	10/5/2020	8.02	66.17	51,715.90000000

Design	PLAN #1			
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	12.49

Plan Survey Tool Program	Date	10/5/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	18,033.5	PLAN #1 (OH)	

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	
1,125.0	0.00	0.00	1,125.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,774.2	19.48	104.73	1,761.8	-27.8	105.7	3.00	3.00	0.00	104.73	
7,446.2	19.48	104.73	7,109.2	-508.6	1,934.7	0.00	0.00	0.00	0.00	
8,394.5	90.00	0.08	7,697.0	62.0	2,136.6	10.00	7.44	-11.03	-103.85	BRIGHTON LAKES 2
18,033.5	90.00	0.08	7,697.0	9,701.0	2,149.8	0.00	0.00	0.00	0.00	BRIGHTON LAKES 2

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BRIGHTON LAKES 20-17-3CDH
Company:	PetroShare Corp	TVD Reference:	16' KB @ 5063.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	16' KB @ 5063.0usft
Site:	S20-T1S-R66W	North Reference:	True
Well:	BRIGHTON LAKES 20-17-3CDH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	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	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
882.0	0.00	0.00	882.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,125.0	0.00	0.00	1,125.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	2.25	104.73	1,200.0	-0.4	1.4	-0.1	3.00	3.00	0.00
1,300.0	5.25	104.73	1,299.8	-2.0	7.7	-0.3	3.00	3.00	0.00
1,400.0	8.25	104.73	1,399.1	-5.0	19.1	-0.8	3.00	3.00	0.00
1,500.0	11.25	104.73	1,497.6	-9.3	35.5	-1.4	3.00	3.00	0.00
1,600.0	14.25	104.73	1,595.1	-14.9	56.8	-2.3	3.00	3.00	0.00
1,700.0	17.25	104.73	1,691.4	-21.8	83.1	-3.3	3.00	3.00	0.00
1,774.2	19.48	104.73	1,761.8	-27.8	105.7	-4.3	3.00	3.00	0.00
1,800.0	19.48	104.73	1,786.1	-30.0	114.0	-4.6	0.00	0.00	0.00
1,894.3	19.48	104.73	1,875.0	-38.0	144.4	-5.8	0.00	0.00	0.00
Fox Hills									
1,900.0	19.48	104.73	1,880.4	-38.4	146.3	-5.9	0.00	0.00	0.00
2,000.0	19.48	104.73	1,974.6	-46.9	178.5	-7.2	0.00	0.00	0.00
2,100.0	19.48	104.73	2,068.9	-55.4	210.7	-8.5	0.00	0.00	0.00
2,200.0	19.48	104.73	2,163.2	-63.9	243.0	-9.8	0.00	0.00	0.00
2,300.0	19.48	104.73	2,257.5	-72.4	275.2	-11.1	0.00	0.00	0.00
2,400.0	19.48	104.73	2,351.8	-80.8	307.5	-12.4	0.00	0.00	0.00
2,500.0	19.48	104.73	2,446.0	-89.3	339.7	-13.7	0.00	0.00	0.00
2,600.0	19.48	104.73	2,540.3	-97.8	372.0	-15.0	0.00	0.00	0.00
2,700.0	19.48	104.73	2,634.6	-106.3	404.2	-16.3	0.00	0.00	0.00
2,800.0	19.48	104.73	2,728.9	-114.7	436.5	-17.6	0.00	0.00	0.00
2,900.0	19.48	104.73	2,823.2	-123.2	468.7	-18.9	0.00	0.00	0.00
3,000.0	19.48	104.73	2,917.4	-131.7	501.0	-20.2	0.00	0.00	0.00
3,100.0	19.48	104.73	3,011.7	-140.2	533.2	-21.5	0.00	0.00	0.00
3,200.0	19.48	104.73	3,106.0	-148.7	565.5	-22.8	0.00	0.00	0.00
3,300.0	19.48	104.73	3,200.3	-157.1	597.7	-24.1	0.00	0.00	0.00
3,400.0	19.48	104.73	3,294.5	-165.6	629.9	-25.4	0.00	0.00	0.00
3,500.0	19.48	104.73	3,388.8	-174.1	662.2	-26.7	0.00	0.00	0.00
3,600.0	19.48	104.73	3,483.1	-182.6	694.4	-28.0	0.00	0.00	0.00
3,700.0	19.48	104.73	3,577.4	-191.0	726.7	-29.3	0.00	0.00	0.00
3,800.0	19.48	104.73	3,671.7	-199.5	758.9	-30.6	0.00	0.00	0.00
3,900.0	19.48	104.73	3,765.9	-208.0	791.2	-31.9	0.00	0.00	0.00
4,000.0	19.48	104.73	3,860.2	-216.5	823.4	-33.2	0.00	0.00	0.00
4,100.0	19.48	104.73	3,954.5	-225.0	855.7	-34.5	0.00	0.00	0.00
4,200.0	19.48	104.73	4,048.8	-233.4	887.9	-35.8	0.00	0.00	0.00
4,300.0	19.48	104.73	4,143.0	-241.9	920.2	-37.1	0.00	0.00	0.00
4,400.0	19.48	104.73	4,237.3	-250.4	952.4	-38.4	0.00	0.00	0.00
4,500.0	19.48	104.73	4,331.6	-258.9	984.6	-39.7	0.00	0.00	0.00
4,600.0	19.48	104.73	4,425.9	-267.3	1,016.9	-41.0	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BRIGHTON LAKES 20-17-3CDH
Company:	PetroShare Corp	TVD Reference:	16' KB @ 5063.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	16' KB @ 5063.0usft
Site:	S20-T1S-R66W	North Reference:	True
Well:	BRIGHTON LAKES 20-17-3CDH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,700.0	19.48	104.73	4,520.2	-275.8	1,049.1	-42.3	0.00	0.00	0.00
4,800.0	19.48	104.73	4,614.4	-284.3	1,081.4	-43.6	0.00	0.00	0.00
4,900.0	19.48	104.73	4,708.7	-292.8	1,113.6	-44.9	0.00	0.00	0.00
5,000.0	19.48	104.73	4,803.0	-301.2	1,145.9	-46.2	0.00	0.00	0.00
5,034.0	19.48	104.73	4,835.0	-304.1	1,156.8	-46.6	0.00	0.00	0.00
Sussex / Shannon									
5,100.0	19.48	104.73	4,897.3	-309.7	1,178.1	-47.5	0.00	0.00	0.00
5,200.0	19.48	104.73	4,991.5	-318.2	1,210.4	-48.8	0.00	0.00	0.00
5,300.0	19.48	104.73	5,085.8	-326.7	1,242.6	-50.1	0.00	0.00	0.00
5,400.0	19.48	104.73	5,180.1	-335.2	1,274.9	-51.4	0.00	0.00	0.00
5,500.0	19.48	104.73	5,274.4	-343.6	1,307.1	-52.7	0.00	0.00	0.00
5,600.0	19.48	104.73	5,368.7	-352.1	1,339.4	-54.0	0.00	0.00	0.00
5,700.0	19.48	104.73	5,462.9	-360.6	1,371.6	-55.3	0.00	0.00	0.00
5,800.0	19.48	104.73	5,557.2	-369.1	1,403.8	-56.6	0.00	0.00	0.00
5,900.0	19.48	104.73	5,651.5	-377.5	1,436.1	-57.9	0.00	0.00	0.00
6,000.0	19.48	104.73	5,745.8	-386.0	1,468.3	-59.2	0.00	0.00	0.00
6,100.0	19.48	104.73	5,840.0	-394.5	1,500.6	-60.5	0.00	0.00	0.00
6,200.0	19.48	104.73	5,934.3	-403.0	1,532.8	-61.8	0.00	0.00	0.00
6,300.0	19.48	104.73	6,028.6	-411.5	1,565.1	-63.1	0.00	0.00	0.00
6,400.0	19.48	104.73	6,122.9	-419.9	1,597.3	-64.4	0.00	0.00	0.00
6,500.0	19.48	104.73	6,217.2	-428.4	1,629.6	-65.7	0.00	0.00	0.00
6,600.0	19.48	104.73	6,311.4	-436.9	1,661.8	-67.0	0.00	0.00	0.00
6,700.0	19.48	104.73	6,405.7	-445.4	1,694.1	-68.3	0.00	0.00	0.00
6,800.0	19.48	104.73	6,500.0	-453.8	1,726.3	-69.6	0.00	0.00	0.00
6,900.0	19.48	104.73	6,594.3	-462.3	1,758.5	-70.9	0.00	0.00	0.00
7,000.0	19.48	104.73	6,688.5	-470.8	1,790.8	-72.2	0.00	0.00	0.00
7,100.0	19.48	104.73	6,782.8	-479.3	1,823.0	-73.5	0.00	0.00	0.00
7,200.0	19.48	104.73	6,877.1	-487.8	1,855.3	-74.8	0.00	0.00	0.00
7,300.0	19.48	104.73	6,971.4	-496.2	1,887.5	-76.1	0.00	0.00	0.00
7,400.0	19.48	104.73	7,065.7	-504.7	1,919.8	-77.4	0.00	0.00	0.00
7,446.2	19.48	104.73	7,109.2	-508.6	1,934.7	-78.0	0.00	0.00	0.00
7,500.0	18.90	88.39	7,160.1	-510.7	1,952.1	-76.2	10.00	-1.08	-30.35
7,600.0	21.54	60.18	7,254.1	-501.1	1,984.3	-59.9	10.00	2.64	-28.22
7,606.3	21.84	58.67	7,260.0	-499.9	1,986.3	-58.3	10.00	4.82	-23.70
Niobrara A Chalk									
7,660.8	24.96	47.39	7,310.0	-486.8	2,003.4	-41.8	10.00	5.72	-20.72
Niobrara A Marl									
7,700.0	27.63	40.90	7,345.2	-474.3	2,015.5	-27.0	10.00	6.81	-16.56
7,799.5	35.39	28.87	7,430.0	-431.6	2,044.5	21.0	10.00	7.80	-12.08
Niobrara B Chalk									
7,800.0	35.43	28.83	7,430.4	-431.3	2,044.7	21.3	10.00	8.29	-9.64
7,869.7	41.37	22.94	7,485.0	-392.4	2,063.4	63.4	10.00	8.52	-8.44
Niobrara B Marl									
7,900.0	44.03	20.81	7,507.3	-373.3	2,071.1	83.7	10.00	8.79	-7.05
7,925.1	46.26	19.19	7,525.0	-356.5	2,077.1	101.3	10.00	8.90	-6.45
Niobrara C Chalk									
7,995.9	52.67	15.21	7,571.0	-305.2	2,093.0	154.9	10.00	9.04	-5.63
Niobrara C Marl									
8,000.0	53.04	15.00	7,573.5	-302.0	2,093.8	158.1	10.00	9.14	-5.10
8,100.0	62.27	10.44	7,626.9	-219.7	2,112.2	242.5	10.00	9.23	-4.56
8,200.0	71.63	6.60	7,666.1	-128.8	2,125.7	334.2	10.00	9.36	-3.84
8,223.4	73.83	5.77	7,673.0	-106.6	2,128.1	356.4	10.00	9.41	-3.55
Fort Hays									

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BRIGHTON LAKES 20-17-3CDH
Company:	PetroShare Corp	TVD Reference:	16' KB @ 5063.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	16' KB @ 5063.0usft
Site:	S20-T1S-R66W	North Reference:	True
Well:	BRIGHTON LAKES 20-17-3CDH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,300.0	81.06	3.16	7,689.6	-32.1	2,133.9	430.4	10.00	9.43	-3.40
8,394.5	90.00	0.08	7,697.0	62.0	2,136.6	522.8	10.00	9.46	-3.26
Codell - BRIGHTON LAKES 20-17-3CDH LP (460 FSL, 1237 FEL)									
8,400.0	90.00	0.08	7,697.0	67.5	2,136.6	528.1	0.00	0.00	0.00
8,500.0	90.00	0.08	7,697.0	167.5	2,136.7	625.8	0.00	0.00	0.00
8,600.0	90.00	0.08	7,697.0	267.5	2,136.9	723.5	0.00	0.00	0.00
8,700.0	90.00	0.08	7,697.0	367.5	2,137.0	821.1	0.00	0.00	0.00
8,800.0	90.00	0.08	7,697.0	467.5	2,137.1	918.8	0.00	0.00	0.00
8,900.0	90.00	0.08	7,697.0	567.5	2,137.3	1,016.4	0.00	0.00	0.00
9,000.0	90.00	0.08	7,697.0	667.5	2,137.4	1,114.1	0.00	0.00	0.00
9,100.0	90.00	0.08	7,697.0	767.5	2,137.5	1,211.8	0.00	0.00	0.00
9,200.0	90.00	0.08	7,697.0	867.5	2,137.7	1,309.4	0.00	0.00	0.00
9,300.0	90.00	0.08	7,697.0	967.5	2,137.8	1,407.1	0.00	0.00	0.00
9,400.0	90.00	0.08	7,697.0	1,067.5	2,137.9	1,504.8	0.00	0.00	0.00
9,500.0	90.00	0.08	7,697.0	1,167.5	2,138.1	1,602.4	0.00	0.00	0.00
9,600.0	90.00	0.08	7,697.0	1,267.5	2,138.2	1,700.1	0.00	0.00	0.00
9,700.0	90.00	0.08	7,697.0	1,367.5	2,138.4	1,797.7	0.00	0.00	0.00
9,800.0	90.00	0.08	7,697.0	1,467.5	2,138.5	1,895.4	0.00	0.00	0.00
9,900.0	90.00	0.08	7,697.0	1,567.5	2,138.6	1,993.1	0.00	0.00	0.00
10,000.0	90.00	0.08	7,697.0	1,667.5	2,138.8	2,090.7	0.00	0.00	0.00
10,100.0	90.00	0.08	7,697.0	1,767.5	2,138.9	2,188.4	0.00	0.00	0.00
10,200.0	90.00	0.08	7,697.0	1,867.5	2,139.0	2,286.0	0.00	0.00	0.00
10,300.0	90.00	0.08	7,697.0	1,967.5	2,139.2	2,383.7	0.00	0.00	0.00
10,400.0	90.00	0.08	7,697.0	2,067.5	2,139.3	2,481.4	0.00	0.00	0.00
10,500.0	90.00	0.08	7,697.0	2,167.5	2,139.5	2,579.0	0.00	0.00	0.00
10,600.0	90.00	0.08	7,697.0	2,267.5	2,139.6	2,676.7	0.00	0.00	0.00
10,700.0	90.00	0.08	7,697.0	2,367.5	2,139.7	2,774.3	0.00	0.00	0.00
10,800.0	90.00	0.08	7,697.0	2,467.5	2,139.9	2,872.0	0.00	0.00	0.00
10,900.0	90.00	0.08	7,697.0	2,567.5	2,140.0	2,969.7	0.00	0.00	0.00
11,000.0	90.00	0.08	7,697.0	2,667.5	2,140.1	3,067.3	0.00	0.00	0.00
11,100.0	90.00	0.08	7,697.0	2,767.5	2,140.3	3,165.0	0.00	0.00	0.00
11,200.0	90.00	0.08	7,697.0	2,867.5	2,140.4	3,262.6	0.00	0.00	0.00
11,300.0	90.00	0.08	7,697.0	2,967.5	2,140.5	3,360.3	0.00	0.00	0.00
11,400.0	90.00	0.08	7,697.0	3,067.5	2,140.7	3,458.0	0.00	0.00	0.00
11,500.0	90.00	0.08	7,697.0	3,167.5	2,140.8	3,555.6	0.00	0.00	0.00
11,600.0	90.00	0.08	7,697.0	3,267.5	2,141.0	3,653.3	0.00	0.00	0.00
11,700.0	90.00	0.08	7,697.0	3,367.5	2,141.1	3,751.0	0.00	0.00	0.00
11,800.0	90.00	0.08	7,697.0	3,467.5	2,141.2	3,848.6	0.00	0.00	0.00
11,900.0	90.00	0.08	7,697.0	3,567.5	2,141.4	3,946.3	0.00	0.00	0.00
12,000.0	90.00	0.08	7,697.0	3,667.5	2,141.5	4,043.9	0.00	0.00	0.00
12,100.0	90.00	0.08	7,697.0	3,767.5	2,141.6	4,141.6	0.00	0.00	0.00
12,200.0	90.00	0.08	7,697.0	3,867.5	2,141.8	4,239.3	0.00	0.00	0.00
12,300.0	90.00	0.08	7,697.0	3,967.5	2,141.9	4,336.9	0.00	0.00	0.00
12,400.0	90.00	0.08	7,697.0	4,067.5	2,142.1	4,434.6	0.00	0.00	0.00
12,500.0	90.00	0.08	7,697.0	4,167.5	2,142.2	4,532.2	0.00	0.00	0.00
12,600.0	90.00	0.08	7,697.0	4,267.5	2,142.3	4,629.9	0.00	0.00	0.00
12,700.0	90.00	0.08	7,697.0	4,367.5	2,142.5	4,727.6	0.00	0.00	0.00
12,800.0	90.00	0.08	7,697.0	4,467.5	2,142.6	4,825.2	0.00	0.00	0.00
12,900.0	90.00	0.08	7,697.0	4,567.5	2,142.7	4,922.9	0.00	0.00	0.00
13,000.0	90.00	0.08	7,697.0	4,667.5	2,142.9	5,020.5	0.00	0.00	0.00
13,100.0	90.00	0.08	7,697.0	4,767.5	2,143.0	5,118.2	0.00	0.00	0.00
13,200.0	90.00	0.08	7,697.0	4,867.5	2,143.1	5,215.9	0.00	0.00	0.00
13,300.0	90.00	0.08	7,697.0	4,967.5	2,143.3	5,313.5	0.00	0.00	0.00
13,400.0	90.00	0.08	7,697.0	5,067.5	2,143.4	5,411.2	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BRIGHTON LAKES 20-17-3CDH
Company:	PetroShare Corp	TVD Reference:	16' KB @ 5063.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	16' KB @ 5063.0usft
Site:	S20-T1S-R66W	North Reference:	True
Well:	BRIGHTON LAKES 20-17-3CDH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,500.0	90.00	0.08	7,697.0	5,167.5	2,143.6	5,508.9	0.00	0.00	0.00
13,600.0	90.00	0.08	7,697.0	5,267.5	2,143.7	5,606.5	0.00	0.00	0.00
13,700.0	90.00	0.08	7,697.0	5,367.5	2,143.8	5,704.2	0.00	0.00	0.00
13,800.0	90.00	0.08	7,697.0	5,467.5	2,144.0	5,801.8	0.00	0.00	0.00
13,900.0	90.00	0.08	7,697.0	5,567.5	2,144.1	5,899.5	0.00	0.00	0.00
14,000.0	90.00	0.08	7,697.0	5,667.5	2,144.2	5,997.2	0.00	0.00	0.00
14,100.0	90.00	0.08	7,697.0	5,767.5	2,144.4	6,094.8	0.00	0.00	0.00
14,200.0	90.00	0.08	7,697.0	5,867.5	2,144.5	6,192.5	0.00	0.00	0.00
14,300.0	90.00	0.08	7,697.0	5,967.5	2,144.7	6,290.1	0.00	0.00	0.00
14,400.0	90.00	0.08	7,697.0	6,067.5	2,144.8	6,387.8	0.00	0.00	0.00
14,500.0	90.00	0.08	7,697.0	6,167.5	2,144.9	6,485.5	0.00	0.00	0.00
14,600.0	90.00	0.08	7,697.0	6,267.5	2,145.1	6,583.1	0.00	0.00	0.00
14,700.0	90.00	0.08	7,697.0	6,367.5	2,145.2	6,680.8	0.00	0.00	0.00
14,800.0	90.00	0.08	7,697.0	6,467.5	2,145.3	6,778.4	0.00	0.00	0.00
14,900.0	90.00	0.08	7,697.0	6,567.5	2,145.5	6,876.1	0.00	0.00	0.00
15,000.0	90.00	0.08	7,697.0	6,667.5	2,145.6	6,973.8	0.00	0.00	0.00
15,100.0	90.00	0.08	7,697.0	6,767.5	2,145.7	7,071.4	0.00	0.00	0.00
15,200.0	90.00	0.08	7,697.0	6,867.5	2,145.9	7,169.1	0.00	0.00	0.00
15,300.0	90.00	0.08	7,697.0	6,967.5	2,146.0	7,266.8	0.00	0.00	0.00
15,400.0	90.00	0.08	7,697.0	7,067.5	2,146.2	7,364.4	0.00	0.00	0.00
15,500.0	90.00	0.08	7,697.0	7,167.5	2,146.3	7,462.1	0.00	0.00	0.00
15,600.0	90.00	0.08	7,697.0	7,267.5	2,146.4	7,559.7	0.00	0.00	0.00
15,700.0	90.00	0.08	7,697.0	7,367.5	2,146.6	7,657.4	0.00	0.00	0.00
15,800.0	90.00	0.08	7,697.0	7,467.5	2,146.7	7,755.1	0.00	0.00	0.00
15,900.0	90.00	0.08	7,697.0	7,567.5	2,146.8	7,852.7	0.00	0.00	0.00
16,000.0	90.00	0.08	7,697.0	7,667.5	2,147.0	7,950.4	0.00	0.00	0.00
16,100.0	90.00	0.08	7,697.0	7,767.5	2,147.1	8,048.0	0.00	0.00	0.00
16,200.0	90.00	0.08	7,697.0	7,867.5	2,147.3	8,145.7	0.00	0.00	0.00
16,300.0	90.00	0.08	7,697.0	7,967.5	2,147.4	8,243.4	0.00	0.00	0.00
16,400.0	90.00	0.08	7,697.0	8,067.5	2,147.5	8,341.0	0.00	0.00	0.00
16,500.0	90.00	0.08	7,697.0	8,167.5	2,147.7	8,438.7	0.00	0.00	0.00
16,600.0	90.00	0.08	7,697.0	8,267.5	2,147.8	8,536.3	0.00	0.00	0.00
16,700.0	90.00	0.08	7,697.0	8,367.5	2,147.9	8,634.0	0.00	0.00	0.00
16,800.0	90.00	0.08	7,697.0	8,467.5	2,148.1	8,731.7	0.00	0.00	0.00
16,900.0	90.00	0.08	7,697.0	8,567.5	2,148.2	8,829.3	0.00	0.00	0.00
17,000.0	90.00	0.08	7,697.0	8,667.5	2,148.3	8,927.0	0.00	0.00	0.00
17,100.0	90.00	0.08	7,697.0	8,767.5	2,148.5	9,024.6	0.00	0.00	0.00
17,200.0	90.00	0.08	7,697.0	8,867.5	2,148.6	9,122.3	0.00	0.00	0.00
17,300.0	90.00	0.08	7,697.0	8,967.5	2,148.8	9,220.0	0.00	0.00	0.00
17,400.0	90.00	0.08	7,697.0	9,067.5	2,148.9	9,317.6	0.00	0.00	0.00
17,500.0	90.00	0.08	7,697.0	9,167.5	2,149.0	9,415.3	0.00	0.00	0.00
17,600.0	90.00	0.08	7,697.0	9,267.5	2,149.2	9,513.0	0.00	0.00	0.00
17,700.0	90.00	0.08	7,697.0	9,367.5	2,149.3	9,610.6	0.00	0.00	0.00
17,800.0	90.00	0.08	7,697.0	9,467.5	2,149.4	9,708.3	0.00	0.00	0.00
17,900.0	90.00	0.08	7,697.0	9,567.5	2,149.6	9,805.9	0.00	0.00	0.00
18,000.0	90.00	0.08	7,697.0	9,667.5	2,149.7	9,903.6	0.00	0.00	0.00
18,033.5	90.00	0.08	7,697.0	9,701.0	2,149.8	9,936.3	0.00	0.00	0.00
BRIGHTON LAKES 20-17-3CDH BHL (460 FNL, 1237 FEL)									

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BRIGHTON LAKES 20-17-3CDH
Company:	PetroShare Corp	TVD Reference:	16' KB @ 5063.0usft
Project:	ADAMS COUNTY, CO	MD Reference:	16' KB @ 5063.0usft
Site:	S20-T1S-R66W	North Reference:	True
Well:	BRIGHTON LAKES 20-17-3CDH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
BRIGHTON LAKES 20-1	0.00	0.00	7,697.0	62.0	2,136.6	1,223,449.77	3,197,860.20	39.944590	-104.794310
- plan hits target center									
- Point									
BRIGHTON LAKES 20-1	0.00	0.00	7,697.0	9,701.0	2,149.8	1,233,088.52	3,197,797.51	39.971051	-104.794260
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
882.0	882.0	9 5/8"	9-5/8	9-5/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,894.3	1,875.0	Fox Hills				
5,034.0	4,835.0	Sussex / Shannon				
7,606.3	7,260.0	Niobrara A Chalk				
7,660.8	7,310.0	Niobrara A Marl				
7,799.5	7,430.0	Niobrara B Chalk				
7,869.7	7,485.0	Niobrara B Marl				
7,925.1	7,525.0	Niobrara C Chalk				
7,995.9	7,571.0	Niobrara C Marl				
8,223.4	7,673.0	Fort Hays				
8,394.5	7,697.0	Codell				