

GREAT WESTERN OPERATING COMPANY

**ADAMS COUNTY
SEC 8-T1S-R67W
OCHO LD 17-374HN**

OWB

Plan: PROPOSAL 1

Standard Planning Report

17 November, 2021

Project: ADAMS COUNTY
Site: SEC 8-T1S-R67W
Well: OCHO LD 17-374HN
Wellbore: OWB
Design: PROPOSAL 1

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



Azimuths to True North
Magnetic North: 7.85°
Magnetic Field
Strength: 51672.7nT
Dip Angle: 66.28°
Date: 11/16/2021
Model: IGRF2020

WELL DETAILS: OCHO LD 17-374HN

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1237683.36	3164197.83	39.984336°N	104.914031°W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4528.00	0.00	0.00	4528.00	0.00	0.00	0.00	0.00	0.00	
3	5528.00	30.00	338.89	5482.93	238.71	-92.15	3.00	338.89	-232.64	
4	6964.49	30.00	338.89	6726.96	908.76	-350.80	0.00	0.00	-885.66	
5	8436.89	90.00	180.06	7755.00	275.40	-565.75	8.00	-155.91	-240.36	OCHO 17-374HN-LP
6	18025.29	90.00	180.06	7755.00	-9312.99	-575.50	0.00	0.00	9330.75	OCHO 17-374HN-BTM PERF
7	18028.18	90.00	180.00	7755.00	-9315.88	-575.50	2.00	-90.00	9333.64	OCHO 17-374HN-PBHL
8	18125.46	90.00	180.00	7755.00	-9413.17	-575.51	0.00	0.00	9430.74	OCHO 17-374HN-PBHL

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
4528.00	0.00	0.00	4528.00	0.00	0.00	0.00	0.00	Start Build 3.00
5528.00	30.00	338.89	5482.93	238.71	-92.15	-232.64	255.87	Start 1436.49 hold at 5528.00 MD
6964.49	30.00	338.89	6726.96	908.76	-350.80	-885.66	974.12	Start DLS 8.00 TFO -155.91
8436.89	90.00	180.06	7755.00	275.40	-565.75	-240.36	1840.69	TPZ - 8436.89/7755° MD/TVD, 460° FNL, 1680° FWL SEC 8
18025.29	90.00	180.06	7755.00	-9312.99	-575.50	9330.75	11429.08	BTM PERF - 18025.29/7755° MD/TVD, 470° FSL, 1680° FWL SEC 17
18028.18	90.00	180.00	7755.00	-9315.88	-575.50	9333.64	11431.97	Start 97.29 hold at 18028.18 MD
18125.46	90.00	180.00	7755.00	-9413.17	-575.51	9430.74	11529.26	BHL - 18125.46/7755° MD/TVD, 370° FSL, 1680° FWL SEC 17

DESIGN TARGET DETAILS

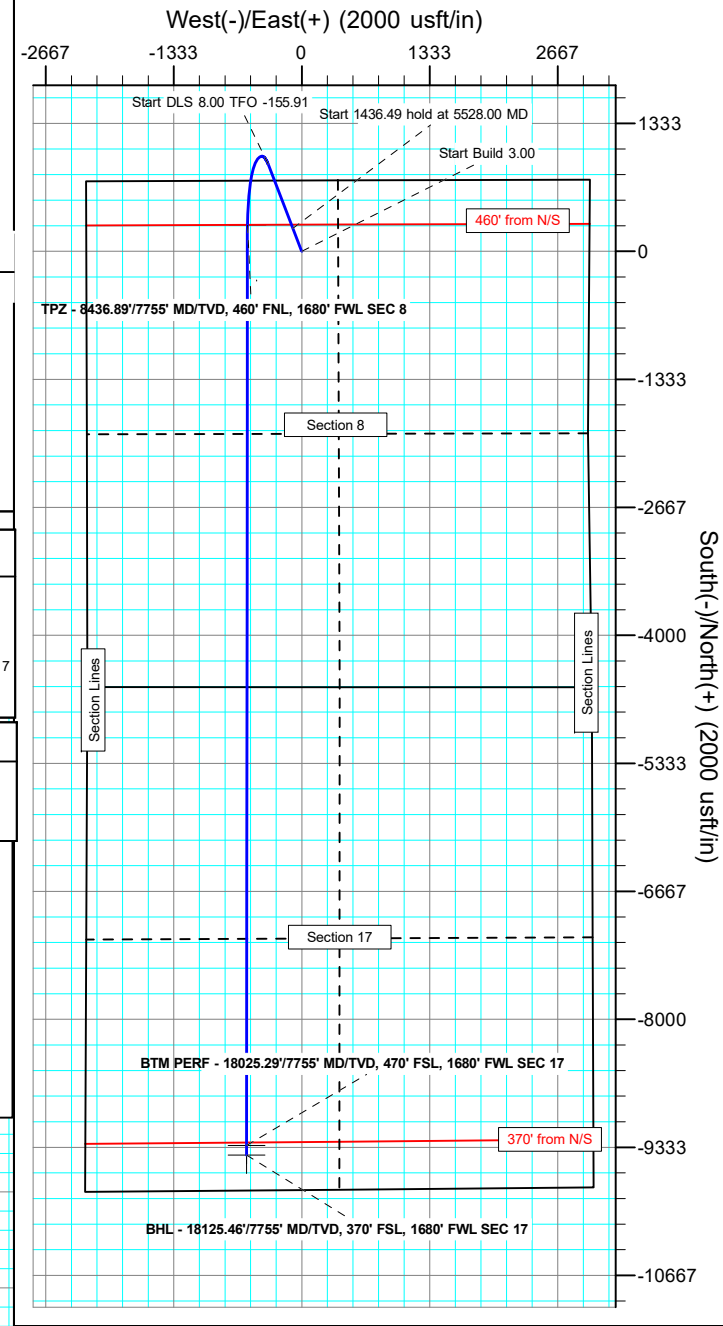
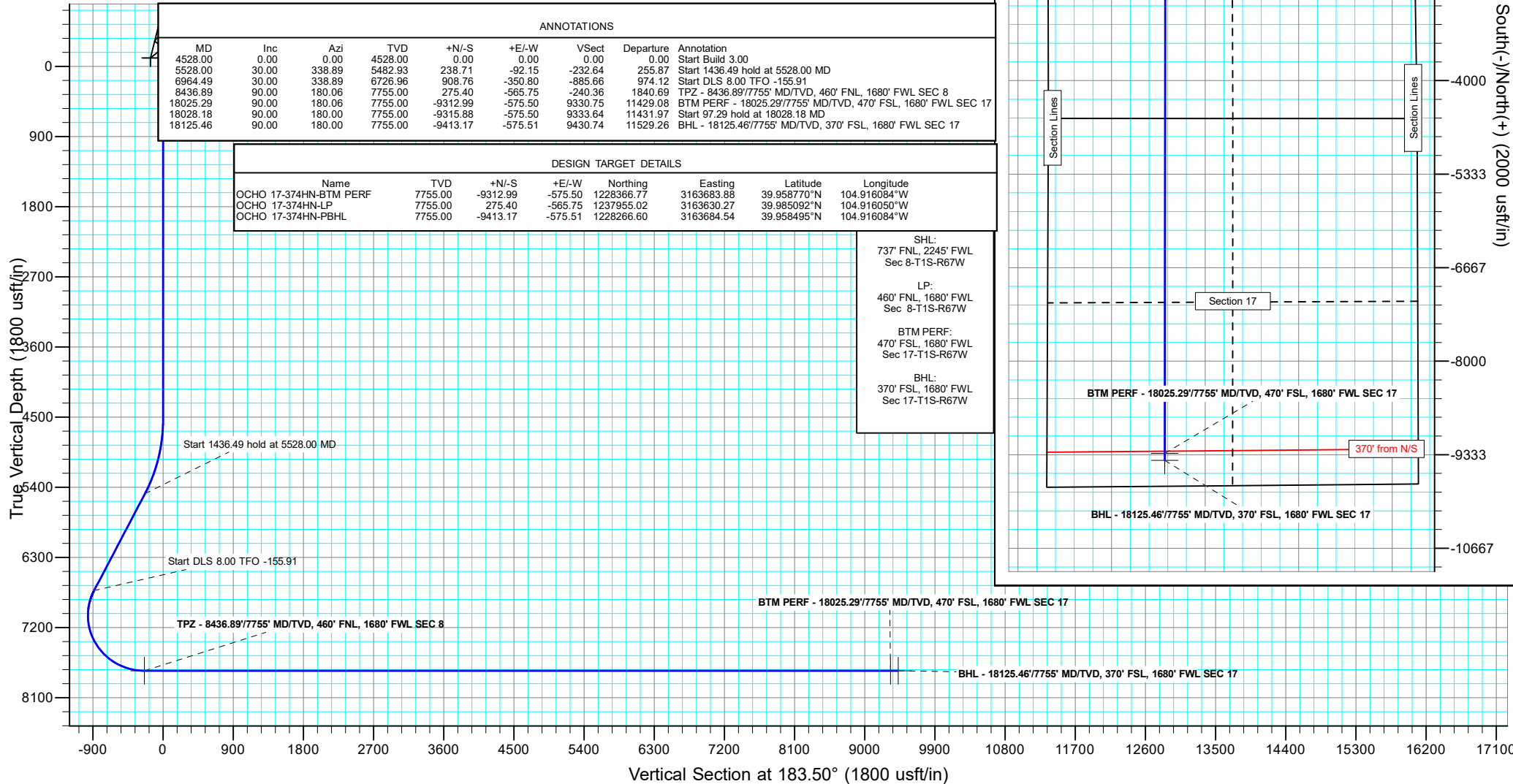
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
OCHO 17-374HN-BTM PERF	7755.00	-9312.99	-575.50	1228366.77	3163683.88	39.958770°N	104.916084°W
OCHO 17-374HN-LP	7755.00	275.40	-565.75	1237955.02	3163630.27	39.985092°N	104.916050°W
OCHO 17-374HN-PBHL	7755.00	-9413.17	-575.51	1228266.60	3163684.54	39.958495°N	104.916084°W

SHL:
737° FNL, 2245° FWL
Sec 8-T1S-R67W

LP:
460° FNL, 1680° FWL
Sec 8-T1S-R67W

BTM PERF:
470° FSL, 1680° FWL
Sec 17-T1S-R67W

BHL:
370° FSL, 1680° FWL
Sec 17-T1S-R67W



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well OCHO LD 17-374HN
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5212.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5212.00usft
Site:	SEC 8-T1S-R67W	North Reference:	True
Well:	OCHO LD 17-374HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

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

Site		SEC 8-T1S-R67W				
Site Position:		Northing:	1,238,424.59	usft	Latitude:	39.986364°N
From:	Lat/Long	Easting:	3,164,570.66	usft	Longitude:	104.912683°W
Position Uncertainty:		0.00	usft	Slot Radius:	13.200	in

Well		OCHO LD 17-374HN				
Well Position	+N/-S	0.00 usft	Northing:	1,237,683.36 usft	Latitude:	39.984336°N
	+E/-W	0.00 usft	Easting:	3,164,197.83 usft	Longitude:	104.914031°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,192.00 usft
Grid Convergence:		0.38 °				

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/16/2021	7.85	66.28	51,672.72399736

Design	PROPOSAL 1				
Audit Notes:					
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	183.50	

Plan Survey Tool Program	Date	11/17/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,125.06	PROPOSAL 1 (OWB)	MWD	
				OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,528.00	0.00	0.00	4,528.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,528.00	30.00	338.89	5,482.93	238.71	-92.15	3.00	3.00	0.00	338.89	
6,964.49	30.00	338.89	6,726.96	908.76	-350.80	0.00	0.00	0.00	0.00	
8,436.89	90.00	180.06	7,755.00	275.40	-565.75	8.00	4.07	-10.79	-155.91	OCHO 17-374HN-LP
18,025.29	90.00	180.06	7,755.00	-9,312.99	-575.50	0.00	0.00	0.00	0.00	OCHO 17-374HN-BTI
18,028.18	90.00	180.00	7,755.00	-9,315.88	-575.50	2.00	0.00	-2.00	-90.00	OCHO 17-374HN-PB
18,125.46	90.00	180.00	7,755.00	-9,413.17	-575.51	0.00	0.00	0.00	0.00	OCHO 17-374HN-PB

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well OCHO LD 17-374HN
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5212.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5212.00usft
Site:	SEC 8-T1S-R67W	North Reference:	True
Well:	OCHO LD 17-374HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,528.00	0.00	0.00	4,528.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
4,600.00	2.16	338.89	4,599.98	1.27	-0.49	-1.23	3.00	3.00	0.00
4,700.00	5.16	338.89	4,699.77	7.22	-2.79	-7.04	3.00	3.00	0.00
4,800.00	8.16	338.89	4,799.08	18.04	-6.96	-17.58	3.00	3.00	0.00
4,900.00	11.16	338.89	4,897.65	33.69	-13.01	-32.83	3.00	3.00	0.00
5,000.00	14.16	338.89	4,995.21	54.14	-20.90	-52.76	3.00	3.00	0.00
5,100.00	17.16	338.89	5,091.49	79.31	-30.62	-77.30	3.00	3.00	0.00
5,200.00	20.16	338.89	5,186.22	109.16	-42.14	-106.38	3.00	3.00	0.00
5,300.00	23.16	338.89	5,279.15	143.59	-55.43	-139.94	3.00	3.00	0.00
5,400.00	26.16	338.89	5,370.02	182.51	-70.45	-177.87	3.00	3.00	0.00
5,500.00	29.16	338.89	5,458.58	225.81	-87.17	-220.07	3.00	3.00	0.00
5,528.00	30.00	338.89	5,482.93	238.71	-92.15	-232.64	3.00	3.00	0.00
Start 1436.49 hold at 5528.00 MD									
5,600.00	30.00	338.89	5,545.28	272.29	-105.11	-265.37	0.00	0.00	0.00
5,700.00	30.00	338.89	5,631.89	318.94	-123.12	-310.83	0.00	0.00	0.00
5,800.00	30.00	338.89	5,718.49	365.58	-141.12	-356.29	0.00	0.00	0.00
5,900.00	30.00	338.89	5,805.09	412.23	-159.13	-401.75	0.00	0.00	0.00
6,000.00	30.00	338.89	5,891.69	458.87	-177.13	-447.21	0.00	0.00	0.00
6,100.00	30.00	338.89	5,978.30	505.52	-195.14	-492.67	0.00	0.00	0.00
6,200.00	30.00	338.89	6,064.90	552.16	-213.15	-538.13	0.00	0.00	0.00
6,300.00	30.00	338.89	6,151.50	598.81	-231.15	-583.59	0.00	0.00	0.00
6,400.00	30.00	338.89	6,238.10	645.45	-249.16	-629.05	0.00	0.00	0.00
6,500.00	30.00	338.89	6,324.71	692.10	-267.16	-674.50	0.00	0.00	0.00
6,600.00	30.00	338.89	6,411.31	738.74	-285.17	-719.96	0.00	0.00	0.00
6,700.00	30.00	338.89	6,497.91	785.39	-303.18	-765.42	0.00	0.00	0.00
6,800.00	30.00	338.89	6,584.51	832.03	-321.18	-810.88	0.00	0.00	0.00
6,900.00	30.00	338.89	6,671.12	878.68	-339.19	-856.34	0.00	0.00	0.00
6,964.49	30.00	338.89	6,726.96	908.76	-350.80	-885.66	0.00	0.00	0.00
Start DLS 8.00 TFO -155.91									
7,000.00	27.43	336.38	6,758.11	924.54	-357.28	-901.01	8.00	-7.24	-7.09
7,050.00	23.90	332.00	6,803.17	944.04	-366.65	-919.91	8.00	-7.05	-8.75
7,100.00	20.54	326.25	6,849.46	960.29	-376.28	-935.54	8.00	-6.72	-11.49
7,150.00	17.44	318.47	6,896.74	973.19	-386.13	-947.82	8.00	-6.21	-15.56
7,200.00	14.75	307.72	6,944.78	982.70	-396.13	-956.70	8.00	-5.37	-21.50
7,250.00	12.76	293.06	6,993.36	988.76	-406.25	-962.13	8.00	-3.99	-29.32
7,300.00	11.81	274.71	7,042.23	991.35	-416.44	-964.09	8.00	-1.89	-36.70
7,350.00	12.16	255.43	7,091.16	990.44	-426.64	-962.56	8.00	0.69	-38.56
7,400.00	13.70	238.85	7,139.91	986.05	-436.81	-957.56	8.00	3.08	-33.17
7,450.00	16.09	226.32	7,188.24	978.20	-446.89	-949.11	8.00	4.79	-25.05
7,500.00	19.02	217.26	7,235.92	966.93	-456.84	-937.24	8.00	5.86	-18.13
7,550.00	22.28	210.64	7,282.70	952.28	-466.61	-922.03	8.00	6.51	-13.23
7,600.00	25.74	205.68	7,328.38	934.33	-476.15	-903.54	8.00	6.91	-9.92
7,650.00	29.32	201.84	7,372.71	913.18	-485.41	-881.86	8.00	7.17	-7.68
7,700.00	33.00	198.78	7,415.49	888.92	-494.35	-857.09	8.00	7.35	-6.12
7,750.00	36.73	196.28	7,456.51	861.66	-502.93	-829.36	8.00	7.47	-5.01
7,800.00	40.51	194.18	7,495.57	831.55	-511.11	-798.81	8.00	7.56	-4.20
7,850.00	44.32	192.38	7,532.48	798.73	-518.83	-765.58	8.00	7.62	-3.59
7,900.00	48.16	190.82	7,567.05	763.36	-526.08	-729.83	8.00	7.67	-3.13
7,950.00	52.02	189.43	7,599.13	725.61	-532.80	-691.75	8.00	7.71	-2.78
8,000.00	55.89	188.18	7,628.54	685.67	-538.98	-651.50	8.00	7.74	-2.50
8,050.00	59.77	187.04	7,655.16	643.73	-544.57	-609.29	8.00	7.76	-2.28

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well OCHO LD 17-374HN
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5212.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5212.00usft
Site:	SEC 8-T1S-R67W	North Reference:	True
Well:	OCHO LD 17-374HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,100.00	63.66	185.98	7,678.85	599.99	-549.55	-565.33	8.00	7.78	-2.11
8,150.00	67.56	185.00	7,699.50	554.67	-553.90	-519.83	8.00	7.80	-1.97
8,200.00	71.46	184.07	7,717.00	507.99	-557.59	-473.01	8.00	7.81	-1.86
8,250.00	75.37	183.18	7,731.26	460.17	-560.62	-425.10	8.00	7.82	-1.78
8,300.00	79.28	182.32	7,742.23	411.46	-562.95	-376.34	8.00	7.82	-1.72
8,350.00	83.20	181.48	7,749.85	362.08	-564.59	-326.95	8.00	7.83	-1.67
8,400.00	87.11	180.66	7,754.07	312.28	-565.52	-277.18	8.00	7.83	-1.65
8,436.89	90.00	180.06	7,755.00	275.40	-565.75	-240.36	8.00	7.83	-1.63
TPZ - 8436.89/7755' MD/TVD, 460' FNL, 1680' FWL SEC 8									
8,500.00	90.00	180.06	7,755.00	212.29	-565.82	-177.37	0.00	0.00	0.00
8,600.00	90.00	180.06	7,755.00	112.29	-565.92	-77.55	0.00	0.00	0.00
8,700.00	90.00	180.06	7,755.00	12.29	-566.02	22.27	0.00	0.00	0.00
8,800.00	90.00	180.06	7,755.00	-87.71	-566.12	122.09	0.00	0.00	0.00
8,900.00	90.00	180.06	7,755.00	-187.71	-566.22	221.91	0.00	0.00	0.00
9,000.00	90.00	180.06	7,755.00	-287.71	-566.33	321.73	0.00	0.00	0.00
9,100.00	90.00	180.06	7,755.00	-387.71	-566.43	421.55	0.00	0.00	0.00
9,200.00	90.00	180.06	7,755.00	-487.71	-566.53	521.37	0.00	0.00	0.00
9,300.00	90.00	180.06	7,755.00	-587.71	-566.63	621.19	0.00	0.00	0.00
9,400.00	90.00	180.06	7,755.00	-687.71	-566.73	721.01	0.00	0.00	0.00
9,500.00	90.00	180.06	7,755.00	-787.71	-566.83	820.83	0.00	0.00	0.00
9,600.00	90.00	180.06	7,755.00	-887.71	-566.94	920.65	0.00	0.00	0.00
9,700.00	90.00	180.06	7,755.00	-987.71	-567.04	1,020.47	0.00	0.00	0.00
9,800.00	90.00	180.06	7,755.00	-1,087.71	-567.14	1,120.29	0.00	0.00	0.00
9,900.00	90.00	180.06	7,755.00	-1,187.71	-567.24	1,220.11	0.00	0.00	0.00
10,000.00	90.00	180.06	7,755.00	-1,287.71	-567.34	1,319.93	0.00	0.00	0.00
10,100.00	90.00	180.06	7,755.00	-1,387.71	-567.44	1,419.75	0.00	0.00	0.00
10,200.00	90.00	180.06	7,755.00	-1,487.71	-567.55	1,519.57	0.00	0.00	0.00
10,300.00	90.00	180.06	7,755.00	-1,587.71	-567.65	1,619.39	0.00	0.00	0.00
10,400.00	90.00	180.06	7,755.00	-1,687.71	-567.75	1,719.21	0.00	0.00	0.00
10,500.00	90.00	180.06	7,755.00	-1,787.71	-567.85	1,819.03	0.00	0.00	0.00
10,600.00	90.00	180.06	7,755.00	-1,887.71	-567.95	1,918.85	0.00	0.00	0.00
10,700.00	90.00	180.06	7,755.00	-1,987.71	-568.05	2,018.67	0.00	0.00	0.00
10,800.00	90.00	180.06	7,755.00	-2,087.71	-568.16	2,118.49	0.00	0.00	0.00
10,900.00	90.00	180.06	7,755.00	-2,187.71	-568.26	2,218.31	0.00	0.00	0.00
11,000.00	90.00	180.06	7,755.00	-2,287.71	-568.36	2,318.13	0.00	0.00	0.00
11,100.00	90.00	180.06	7,755.00	-2,387.71	-568.46	2,417.95	0.00	0.00	0.00
11,200.00	90.00	180.06	7,755.00	-2,487.71	-568.56	2,517.77	0.00	0.00	0.00
11,300.00	90.00	180.06	7,755.00	-2,587.71	-568.66	2,617.59	0.00	0.00	0.00
11,400.00	90.00	180.06	7,755.00	-2,687.71	-568.77	2,717.41	0.00	0.00	0.00
11,500.00	90.00	180.06	7,755.00	-2,787.71	-568.87	2,817.23	0.00	0.00	0.00
11,600.00	90.00	180.06	7,755.00	-2,887.71	-568.97	2,917.05	0.00	0.00	0.00
11,700.00	90.00	180.06	7,755.00	-2,987.71	-569.07	3,016.87	0.00	0.00	0.00
11,800.00	90.00	180.06	7,755.00	-3,087.71	-569.17	3,116.69	0.00	0.00	0.00
11,900.00	90.00	180.06	7,755.00	-3,187.71	-569.27	3,216.50	0.00	0.00	0.00
12,000.00	90.00	180.06	7,755.00	-3,287.71	-569.38	3,316.32	0.00	0.00	0.00
12,100.00	90.00	180.06	7,755.00	-3,387.71	-569.48	3,416.14	0.00	0.00	0.00
12,200.00	90.00	180.06	7,755.00	-3,487.71	-569.58	3,515.96	0.00	0.00	0.00
12,300.00	90.00	180.06	7,755.00	-3,587.71	-569.68	3,615.78	0.00	0.00	0.00
12,400.00	90.00	180.06	7,755.00	-3,687.71	-569.78	3,715.60	0.00	0.00	0.00
12,500.00	90.00	180.06	7,755.00	-3,787.71	-569.89	3,815.42	0.00	0.00	0.00
12,600.00	90.00	180.06	7,755.00	-3,887.71	-569.99	3,915.24	0.00	0.00	0.00
12,700.00	90.00	180.06	7,755.00	-3,987.71	-570.09	4,015.06	0.00	0.00	0.00
12,800.00	90.00	180.06	7,755.00	-4,087.71	-570.19	4,114.88	0.00	0.00	0.00
12,900.00	90.00	180.06	7,755.00	-4,187.71	-570.29	4,214.70	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well OCHO LD 17-374HN
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5212.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5212.00usft
Site:	SEC 8-T1S-R67W	North Reference:	True
Well:	OCHO LD 17-374HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,000.00	90.00	180.06	7,755.00	-4,287.71	-570.39	4,314.52	0.00	0.00	0.00
13,100.00	90.00	180.06	7,755.00	-4,387.71	-570.50	4,414.34	0.00	0.00	0.00
13,200.00	90.00	180.06	7,755.00	-4,487.71	-570.60	4,514.16	0.00	0.00	0.00
13,300.00	90.00	180.06	7,755.00	-4,587.71	-570.70	4,613.98	0.00	0.00	0.00
13,400.00	90.00	180.06	7,755.00	-4,687.71	-570.80	4,713.80	0.00	0.00	0.00
13,500.00	90.00	180.06	7,755.00	-4,787.71	-570.90	4,813.62	0.00	0.00	0.00
13,600.00	90.00	180.06	7,755.00	-4,887.71	-571.00	4,913.44	0.00	0.00	0.00
13,700.00	90.00	180.06	7,755.00	-4,987.71	-571.11	5,013.26	0.00	0.00	0.00
13,800.00	90.00	180.06	7,755.00	-5,087.71	-571.21	5,113.08	0.00	0.00	0.00
13,900.00	90.00	180.06	7,755.00	-5,187.71	-571.31	5,212.90	0.00	0.00	0.00
14,000.00	90.00	180.06	7,755.00	-5,287.71	-571.41	5,312.72	0.00	0.00	0.00
14,100.00	90.00	180.06	7,755.00	-5,387.71	-571.51	5,412.54	0.00	0.00	0.00
14,200.00	90.00	180.06	7,755.00	-5,487.71	-571.61	5,512.36	0.00	0.00	0.00
14,300.00	90.00	180.06	7,755.00	-5,587.71	-571.72	5,612.18	0.00	0.00	0.00
14,400.00	90.00	180.06	7,755.00	-5,687.71	-571.82	5,712.00	0.00	0.00	0.00
14,500.00	90.00	180.06	7,755.00	-5,787.70	-571.92	5,811.82	0.00	0.00	0.00
14,600.00	90.00	180.06	7,755.00	-5,887.70	-572.02	5,911.64	0.00	0.00	0.00
14,700.00	90.00	180.06	7,755.00	-5,987.70	-572.12	6,011.46	0.00	0.00	0.00
14,800.00	90.00	180.06	7,755.00	-6,087.70	-572.22	6,111.28	0.00	0.00	0.00
14,900.00	90.00	180.06	7,755.00	-6,187.70	-572.33	6,211.10	0.00	0.00	0.00
15,000.00	90.00	180.06	7,755.00	-6,287.70	-572.43	6,310.92	0.00	0.00	0.00
15,100.00	90.00	180.06	7,755.00	-6,387.70	-572.53	6,410.74	0.00	0.00	0.00
15,200.00	90.00	180.06	7,755.00	-6,487.70	-572.63	6,510.56	0.00	0.00	0.00
15,300.00	90.00	180.06	7,755.00	-6,587.70	-572.73	6,610.38	0.00	0.00	0.00
15,400.00	90.00	180.06	7,755.00	-6,687.70	-572.83	6,710.20	0.00	0.00	0.00
15,500.00	90.00	180.06	7,755.00	-6,787.70	-572.94	6,810.02	0.00	0.00	0.00
15,600.00	90.00	180.06	7,755.00	-6,887.70	-573.04	6,909.84	0.00	0.00	0.00
15,700.00	90.00	180.06	7,755.00	-6,987.70	-573.14	7,009.66	0.00	0.00	0.00
15,800.00	90.00	180.06	7,755.00	-7,087.70	-573.24	7,109.48	0.00	0.00	0.00
15,900.00	90.00	180.06	7,755.00	-7,187.70	-573.34	7,209.30	0.00	0.00	0.00
16,000.00	90.00	180.06	7,755.00	-7,287.70	-573.44	7,309.12	0.00	0.00	0.00
16,100.00	90.00	180.06	7,755.00	-7,387.70	-573.55	7,408.94	0.00	0.00	0.00
16,200.00	90.00	180.06	7,755.00	-7,487.70	-573.65	7,508.76	0.00	0.00	0.00
16,300.00	90.00	180.06	7,755.00	-7,587.70	-573.75	7,608.58	0.00	0.00	0.00
16,400.00	90.00	180.06	7,755.00	-7,687.70	-573.85	7,708.40	0.00	0.00	0.00
16,500.00	90.00	180.06	7,755.00	-7,787.70	-573.95	7,808.21	0.00	0.00	0.00
16,600.00	90.00	180.06	7,755.00	-7,887.70	-574.05	7,908.03	0.00	0.00	0.00
16,700.00	90.00	180.06	7,755.00	-7,987.70	-574.16	8,007.85	0.00	0.00	0.00
16,800.00	90.00	180.06	7,755.00	-8,087.70	-574.26	8,107.67	0.00	0.00	0.00
16,900.00	90.00	180.06	7,755.00	-8,187.70	-574.36	8,207.49	0.00	0.00	0.00
17,000.00	90.00	180.06	7,755.00	-8,287.70	-574.46	8,307.31	0.00	0.00	0.00
17,100.00	90.00	180.06	7,755.00	-8,387.70	-574.56	8,407.13	0.00	0.00	0.00
17,200.00	90.00	180.06	7,755.00	-8,487.70	-574.66	8,506.95	0.00	0.00	0.00
17,300.00	90.00	180.06	7,755.00	-8,587.70	-574.77	8,606.77	0.00	0.00	0.00
17,400.00	90.00	180.06	7,755.00	-8,687.70	-574.87	8,706.59	0.00	0.00	0.00
17,500.00	90.00	180.06	7,755.00	-8,787.70	-574.97	8,806.41	0.00	0.00	0.00
17,600.00	90.00	180.06	7,755.00	-8,887.70	-575.07	8,906.23	0.00	0.00	0.00
17,700.00	90.00	180.06	7,755.00	-8,987.70	-575.17	9,006.05	0.00	0.00	0.00
17,800.00	90.00	180.06	7,755.00	-9,087.70	-575.27	9,105.87	0.00	0.00	0.00
17,900.00	90.00	180.06	7,755.00	-9,187.70	-575.38	9,205.69	0.00	0.00	0.00
18,000.00	90.00	180.06	7,755.00	-9,287.70	-575.48	9,305.51	0.00	0.00	0.00
18,025.29	90.00	180.06	7,755.00	-9,312.99	-575.50	9,330.75	0.00	0.00	0.00
BTM PERF - 18025.29/7755' MD/TVD, 470' FSL, 1680' FWL SEC 17									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well OCHO LD 17-374HN
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5212.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5212.00usft
Site:	SEC 8-T1S-R67W	North Reference:	True
Well:	OCHO LD 17-374HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
18,028.18	90.00	180.00	7,755.00	-9,315.88	-575.50	9,333.64	2.00	0.00	-2.00	
Start 97.29 hold at 18028.18 MD										
18,100.00	90.00	180.00	7,755.00	-9,387.70	-575.51	9,405.33	0.00	0.00	0.00	
18,125.46	90.00	180.00	7,755.00	-9,413.17	-575.51	9,430.74	0.00	0.00	0.00	
BHL - 18125.46'/7755' MD/TVD, 370' FSL, 1680' FWL SEC 17										

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
OCHO 17-374HN-PBHL - plan hits target center - Point	0.00	0.00	7,755.00	-9,413.17	-575.51	1,228,266.60	3,163,684.54	39.958495°N	104.916084°W	
OCHO 17-374HN-LP - plan hits target center - Point	0.00	0.00	7,755.00	275.40	-565.75	1,237,955.02	3,163,630.27	39.985092°N	104.916050°W	
OCHO 17-374HN-BTM I - plan hits target center - Point	0.00	0.00	7,755.00	-9,312.99	-575.50	1,228,366.77	3,163,683.88	39.958770°N	104.916084°W	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
4,528.00	4,528.00	0.00	0.00	Start Build 3.00	
5,528.00	5,482.93	238.71	-92.15	Start 1436.49 hold at 5528.00 MD	
6,964.49	6,726.96	908.76	-350.80	Start DLS 8.00 TFO -155.91	
8,436.89	7,755.00	275.40	-565.75	TPZ - 8436.89'/7755' MD/TVD, 460' FNL, 1680' FWL SEC 8	
18,025.29	7,755.00	-9,312.99	-575.50	BTM PERF - 18025.29'/7755' MD/TVD, 470' FSL, 1680' FWL SEC 17	
18,028.18	7,755.00	-9,315.88	-575.50	Start 97.29 hold at 18028.18 MD	
18,125.46	7,755.00	-9,413.17	-575.51	BHL - 18125.46'/7755' MD/TVD, 370' FSL, 1680' FWL SEC 17	