

GREAT WESTERN OPERATING COMPANY

**ADAMS COUNTY
SEC 8-T1S-R67W
OCHO LD 17-379HC**

OWB

Plan: PROPOSAL 1

Standard Planning Report

17 November, 2021

Project: ADAMS COUNTY
Site: SEC 8-T1S-R67W
Well: OCHO LD 17-379HC
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: 51672.8nT
Dip Angle: 66.28°
Date: 11/16/2021
Model: IGRF2020

WELL DETAILS: OCHO LD 17-379HC

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1237758.40	3164197.33	39.984542°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	3837.00	0.00	0.00	3837.00	0.00	0.00	0.00	0.00	0.00	
3	4836.95	30.00	302.74	4791.88	138.38	-215.20	3.00	302.74	-96.28	
4	7600.13	30.00	302.74	7184.91	885.60	-1377.21	0.00	0.00	-616.17	
5	8920.92	90.00	180.06	8003.00	196.42	-1775.44	8.00	-119.06	134.69	OCHO 17-379HC-LP
6	18515.87	90.00	180.06	8003.00	-9398.53	-1785.38	0.00	0.00	9566.59	OCHO 17-379HC-BTM PERF
7	18518.67	90.00	180.00	8003.00	-9401.33	-1785.38	2.00	-90.00	9569.34	OCHO 17-379HC-PBHL
8	18623.33	90.00	180.00	8003.00	-9505.99	-1785.39	0.00	0.00	9672.20	OCHO 17-379HC-PBHL

FORMATION TOP DETAILS

No formation data is available

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
3837.00	0.00	0.00	3837.00	0.00	0.00	0.00	0.00	Start Build 3.00
4836.95	30.00	302.74	4791.88	138.38	-215.20	-96.28	255.85	Start 2763.18 hold at 4836.95 MD
7600.13	30.00	302.74	7184.91	885.60	-1377.21	-616.17	1637.38	Start DLS 8.00 TFO -119.06
8920.92	90.00	180.06	8003.00	196.42	-1775.44	134.69	2567.20	TPZ - 8920.92/8003' MD/TVD, 460' FNL, 470' FWL SEC 8
18515.87	90.00	180.06	8003.00	-9398.53	-1785.38	9566.59	12162.16	BTM PERF - 18515.87/8003' MD/TVD, 470' FSL, 470' FWL SEC 17
18518.67	90.00	180.00	8003.00	-9401.33	-1785.38	9569.34	12164.95	Start 104.66 hold at 18518.67 MD
18623.33	90.00	180.00	8003.00	-9505.99	-1785.39	9672.20	12269.62	BHL - 18623.33/8003' MD/TVD, 370' FSL, 470' FWL SEC 17

DESIGN TARGET DETAILS

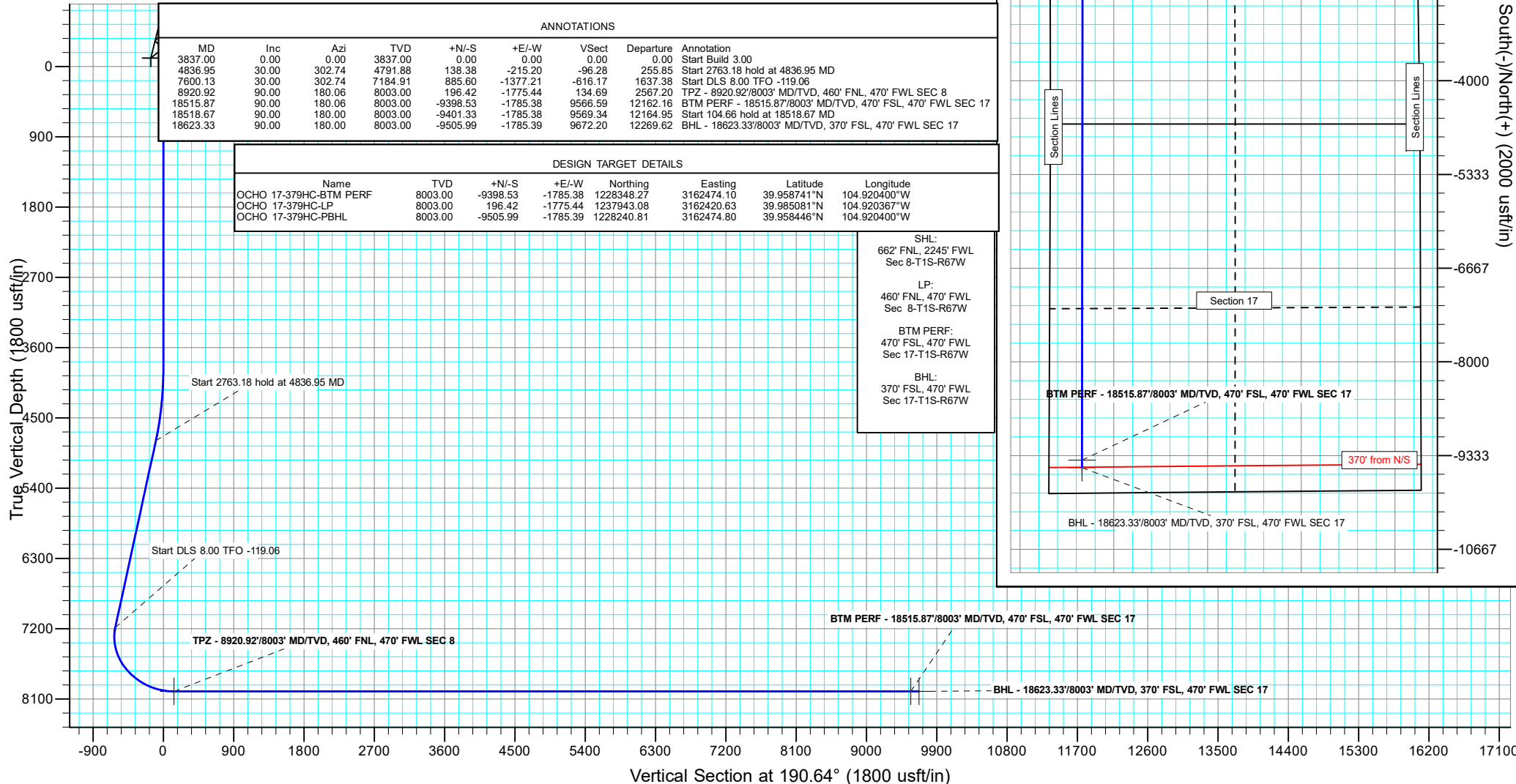
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
OCHO 17-379HC-BTM PERF	8003.00	-9398.53	-1785.38	1228348.27	3162474.10	39.958741°N	104.920400°W
OCHO 17-379HC-LP	8003.00	196.42	-1775.44	1237943.08	3162420.63	39.985081°N	104.920367°W
OCHO 17-379HC-PBHL	8003.00	-9505.99	-1785.39	1228240.81	3162474.80	39.958446°N	104.920400°W

SHL:
662' FNL, 2245' FWL
Sec 8-T1S-R67W

LP:
460' FNL, 470' FWL
Sec 8-T1S-R67W

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

BHL:
370' FSL, 470' FWL
Sec 17-T1S-R67W



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well OCHO LD 17-379HC
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 17-379HC	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 17-379HC				
Well Position	+N/-S	0.00 usft	Northing:	1,237,758.39 usft	Latitude:	39.984542°N
	+E/-W	0.00 usft	Easting:	3,164,197.34 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	51,672.83261527

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	190.64	

Plan Survey Tool Program	Date	11/17/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,623.33 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	
3,837.00	0.00	0.00	3,837.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,836.95	30.00	302.74	4,791.88	138.38	-215.20	3.00	3.00	0.00	302.74	
7,600.13	30.00	302.74	7,184.91	885.60	-1,377.21	0.00	0.00	0.00	0.00	
8,920.92	90.00	180.06	8,003.00	196.42	-1,775.44	8.00	4.54	-9.29	-119.06	OCHO 17-379HC-LP
18,515.87	90.00	180.06	8,003.00	-9,398.53	-1,785.38	0.00	0.00	0.00	0.00	OCHO 17-379HC-BTI
18,518.67	90.00	180.00	8,003.00	-9,401.33	-1,785.38	2.00	0.00	-2.00	-90.00	OCHO 17-379HC-PB
18,623.33	90.00	180.00	8,003.00	-9,505.99	-1,785.39	0.00	0.00	0.00	0.00	OCHO 17-379HC-PB

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Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5212.00usft
Site:	SEC 8-T1S-R67W	North Reference:	True
Well:	OCHO LD 17-379HC	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
3,837.00	0.00	0.00	3,837.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
3,900.00	1.89	302.74	3,899.99	0.56	-0.87	-0.39	3.00	3.00	0.00
4,000.00	4.89	302.74	3,999.80	3.76	-5.85	-2.62	3.00	3.00	0.00
4,100.00	7.89	302.74	4,099.17	9.78	-15.21	-6.80	3.00	3.00	0.00
4,200.00	10.89	302.74	4,197.82	18.60	-28.93	-12.94	3.00	3.00	0.00
4,300.00	13.89	302.74	4,295.48	30.21	-46.97	-21.02	3.00	3.00	0.00
4,400.00	16.89	302.74	4,391.88	44.56	-69.29	-31.00	3.00	3.00	0.00
4,500.00	19.89	302.74	4,486.76	61.62	-95.83	-42.87	3.00	3.00	0.00
4,600.00	22.89	302.74	4,579.86	81.34	-126.50	-56.60	3.00	3.00	0.00
4,700.00	25.89	302.74	4,670.93	103.68	-161.23	-72.13	3.00	3.00	0.00
4,800.00	28.89	302.74	4,759.71	128.56	-199.92	-89.44	3.00	3.00	0.00
4,836.95	30.00	302.74	4,791.88	138.38	-215.20	-96.28	3.00	3.00	0.00
Start 2763.18 hold at 4836.95 MD									
4,900.00	30.00	302.74	4,846.49	155.43	-241.71	-108.14	0.00	0.00	0.00
5,000.00	30.00	302.74	4,933.09	182.47	-283.76	-126.96	0.00	0.00	0.00
5,100.00	30.00	302.74	5,019.70	209.51	-325.82	-145.77	0.00	0.00	0.00
5,200.00	30.00	302.74	5,106.30	236.56	-367.87	-164.59	0.00	0.00	0.00
5,300.00	30.00	302.74	5,192.91	263.60	-409.92	-183.40	0.00	0.00	0.00
5,400.00	30.00	302.74	5,279.51	290.64	-451.98	-202.22	0.00	0.00	0.00
5,500.00	30.00	302.74	5,366.11	317.68	-494.03	-221.03	0.00	0.00	0.00
5,600.00	30.00	302.74	5,452.72	344.72	-536.09	-239.85	0.00	0.00	0.00
5,700.00	30.00	302.74	5,539.32	371.77	-578.14	-258.66	0.00	0.00	0.00
5,800.00	30.00	302.74	5,625.92	398.81	-620.19	-277.47	0.00	0.00	0.00
5,900.00	30.00	302.74	5,712.53	425.85	-662.25	-296.29	0.00	0.00	0.00
6,000.00	30.00	302.74	5,799.13	452.89	-704.30	-315.10	0.00	0.00	0.00
6,100.00	30.00	302.74	5,885.74	479.94	-746.35	-333.92	0.00	0.00	0.00
6,200.00	30.00	302.74	5,972.34	506.98	-788.41	-352.73	0.00	0.00	0.00
6,300.00	30.00	302.74	6,058.94	534.02	-830.46	-371.55	0.00	0.00	0.00
6,400.00	30.00	302.74	6,145.55	561.06	-872.51	-390.36	0.00	0.00	0.00
6,500.00	30.00	302.74	6,232.15	588.10	-914.57	-409.18	0.00	0.00	0.00
6,600.00	30.00	302.74	6,318.76	615.15	-956.62	-427.99	0.00	0.00	0.00
6,700.00	30.00	302.74	6,405.36	642.19	-998.67	-446.81	0.00	0.00	0.00
6,800.00	30.00	302.74	6,491.96	669.23	-1,040.73	-465.62	0.00	0.00	0.00
6,900.00	30.00	302.74	6,578.57	696.27	-1,082.78	-484.44	0.00	0.00	0.00
7,000.00	30.00	302.74	6,665.17	723.31	-1,124.83	-503.25	0.00	0.00	0.00
7,100.00	30.00	302.74	6,751.77	750.36	-1,166.89	-522.07	0.00	0.00	0.00
7,200.00	30.00	302.74	6,838.38	777.40	-1,208.94	-540.88	0.00	0.00	0.00
7,300.00	30.00	302.74	6,924.98	804.44	-1,250.99	-559.70	0.00	0.00	0.00
7,400.00	30.00	302.74	7,011.59	831.48	-1,293.05	-578.51	0.00	0.00	0.00
7,500.00	30.00	302.74	7,098.19	858.53	-1,335.10	-597.33	0.00	0.00	0.00
7,600.13	30.00	302.74	7,184.91	885.60	-1,377.21	-616.17	0.00	0.00	0.00
Start DLS 8.00 TFO -119.06									
7,650.00	28.26	295.36	7,228.48	897.41	-1,398.37	-623.86	8.00	-3.49	-14.80
7,700.00	26.95	287.19	7,272.81	905.83	-1,419.90	-628.16	8.00	-2.61	-16.34
7,750.00	26.16	278.42	7,317.55	910.79	-1,441.64	-629.03	8.00	-1.59	-17.55
7,800.00	25.92	269.31	7,362.49	912.28	-1,463.47	-626.46	8.00	-0.48	-18.21
7,850.00	26.25	260.24	7,407.42	910.27	-1,485.30	-620.46	8.00	0.66	-18.15
7,900.00	27.13	251.55	7,452.11	904.78	-1,507.02	-611.06	8.00	1.76	-17.39
7,950.00	28.51	243.50	7,496.34	895.85	-1,528.53	-598.30	8.00	2.76	-16.10
8,000.00	30.33	236.23	7,539.91	883.50	-1,549.71	-582.26	8.00	3.62	-14.53
8,050.00	32.50	229.78	7,582.59	867.80	-1,570.46	-563.00	8.00	4.34	-12.91

Planning Report

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Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5212.00usft
Site:	SEC 8-T1S-R67W	North Reference:	True
Well:	OCHO LD 17-379HC	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	34.96	224.09	7,624.18	848.83	-1,590.69	-540.62	8.00	4.92	-11.37
8,150.00	37.65	219.09	7,664.48	826.68	-1,610.30	-515.23	8.00	5.39	-9.99
8,200.00	40.53	214.69	7,703.29	801.46	-1,629.18	-486.96	8.00	5.76	-8.81
8,250.00	43.56	210.79	7,740.42	773.29	-1,647.26	-455.94	8.00	6.06	-7.81
8,300.00	46.71	207.30	7,775.70	742.31	-1,664.43	-422.32	8.00	6.30	-6.97
8,350.00	49.95	204.17	7,808.94	708.66	-1,680.61	-386.26	8.00	6.49	-6.27
8,400.00	53.27	201.32	7,839.99	672.52	-1,695.74	-347.95	8.00	6.64	-5.70
8,450.00	56.65	198.71	7,868.69	634.06	-1,709.73	-307.57	8.00	6.76	-5.22
8,500.00	60.09	196.29	7,894.91	593.46	-1,722.51	-265.31	8.00	6.86	-4.83
8,550.00	63.56	194.04	7,918.52	550.93	-1,734.03	-221.38	8.00	6.95	-4.50
8,600.00	67.07	191.92	7,939.40	506.67	-1,744.22	-176.00	8.00	7.01	-4.24
8,650.00	70.60	189.91	7,957.46	460.90	-1,753.04	-129.39	8.00	7.07	-4.02
8,700.00	74.15	187.99	7,972.60	413.83	-1,760.44	-81.76	8.00	7.11	-3.85
8,750.00	77.72	186.13	7,984.74	365.71	-1,766.39	-33.37	8.00	7.14	-3.72
8,800.00	81.31	184.32	7,993.84	316.76	-1,770.87	15.57	8.00	7.17	-3.62
8,850.00	84.90	182.55	7,999.84	267.22	-1,773.83	64.80	8.00	7.18	-3.55
8,900.00	88.49	180.79	8,002.73	217.33	-1,775.29	114.10	8.00	7.19	-3.51
8,920.92	90.00	180.06	8,003.00	196.42	-1,775.44	134.69	8.00	7.20	-3.50
TPZ - 8920.92'/8003' MD/TVD, 460' FNL, 470' FWL SEC 8									
9,000.00	90.00	180.06	8,003.00	117.34	-1,775.52	212.42	0.00	0.00	0.00
9,100.00	90.00	180.06	8,003.00	17.34	-1,775.63	310.72	0.00	0.00	0.00
9,200.00	90.00	180.06	8,003.00	-82.66	-1,775.73	409.02	0.00	0.00	0.00
9,300.00	90.00	180.06	8,003.00	-182.66	-1,775.83	507.32	0.00	0.00	0.00
9,400.00	90.00	180.06	8,003.00	-282.66	-1,775.94	605.63	0.00	0.00	0.00
9,500.00	90.00	180.06	8,003.00	-382.66	-1,776.04	703.93	0.00	0.00	0.00
9,600.00	90.00	180.06	8,003.00	-482.66	-1,776.14	802.23	0.00	0.00	0.00
9,700.00	90.00	180.06	8,003.00	-582.66	-1,776.25	900.53	0.00	0.00	0.00
9,800.00	90.00	180.06	8,003.00	-682.66	-1,776.35	998.83	0.00	0.00	0.00
9,900.00	90.00	180.06	8,003.00	-782.66	-1,776.46	1,097.13	0.00	0.00	0.00
10,000.00	90.00	180.06	8,003.00	-882.66	-1,776.56	1,195.43	0.00	0.00	0.00
10,100.00	90.00	180.06	8,003.00	-982.66	-1,776.66	1,293.73	0.00	0.00	0.00
10,200.00	90.00	180.06	8,003.00	-1,082.66	-1,776.77	1,392.03	0.00	0.00	0.00
10,300.00	90.00	180.06	8,003.00	-1,182.66	-1,776.87	1,490.33	0.00	0.00	0.00
10,400.00	90.00	180.06	8,003.00	-1,282.66	-1,776.97	1,588.63	0.00	0.00	0.00
10,500.00	90.00	180.06	8,003.00	-1,382.66	-1,777.08	1,686.93	0.00	0.00	0.00
10,600.00	90.00	180.06	8,003.00	-1,482.66	-1,777.18	1,785.23	0.00	0.00	0.00
10,700.00	90.00	180.06	8,003.00	-1,582.66	-1,777.28	1,883.53	0.00	0.00	0.00
10,800.00	90.00	180.06	8,003.00	-1,682.66	-1,777.39	1,981.83	0.00	0.00	0.00
10,900.00	90.00	180.06	8,003.00	-1,782.66	-1,777.49	2,080.14	0.00	0.00	0.00
11,000.00	90.00	180.06	8,003.00	-1,882.66	-1,777.59	2,178.44	0.00	0.00	0.00
11,100.00	90.00	180.06	8,003.00	-1,982.66	-1,777.70	2,276.74	0.00	0.00	0.00
11,200.00	90.00	180.06	8,003.00	-2,082.66	-1,777.80	2,375.04	0.00	0.00	0.00
11,300.00	90.00	180.06	8,003.00	-2,182.66	-1,777.91	2,473.34	0.00	0.00	0.00
11,400.00	90.00	180.06	8,003.00	-2,282.66	-1,778.01	2,571.64	0.00	0.00	0.00
11,500.00	90.00	180.06	8,003.00	-2,382.66	-1,778.11	2,669.94	0.00	0.00	0.00
11,600.00	90.00	180.06	8,003.00	-2,482.66	-1,778.22	2,768.24	0.00	0.00	0.00
11,700.00	90.00	180.06	8,003.00	-2,582.66	-1,778.32	2,866.54	0.00	0.00	0.00
11,800.00	90.00	180.06	8,003.00	-2,682.66	-1,778.42	2,964.84	0.00	0.00	0.00
11,900.00	90.00	180.06	8,003.00	-2,782.66	-1,778.53	3,063.14	0.00	0.00	0.00
12,000.00	90.00	180.06	8,003.00	-2,882.66	-1,778.63	3,161.44	0.00	0.00	0.00
12,100.00	90.00	180.06	8,003.00	-2,982.66	-1,778.73	3,259.74	0.00	0.00	0.00
12,200.00	90.00	180.06	8,003.00	-3,082.66	-1,778.84	3,358.04	0.00	0.00	0.00
12,300.00	90.00	180.06	8,003.00	-3,182.66	-1,778.94	3,456.34	0.00	0.00	0.00
12,400.00	90.00	180.06	8,003.00	-3,282.66	-1,779.04	3,554.64	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well OCHO LD 17-379HC
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 17-379HC	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)	
12,500.00	90.00	180.06	8,003.00	-3,382.66	-1,779.15	3,652.95	0.00	0.00	0.00	
12,600.00	90.00	180.06	8,003.00	-3,482.66	-1,779.25	3,751.25	0.00	0.00	0.00	
12,700.00	90.00	180.06	8,003.00	-3,582.66	-1,779.35	3,849.55	0.00	0.00	0.00	
12,800.00	90.00	180.06	8,003.00	-3,682.66	-1,779.46	3,947.85	0.00	0.00	0.00	
12,900.00	90.00	180.06	8,003.00	-3,782.66	-1,779.56	4,046.15	0.00	0.00	0.00	
13,000.00	90.00	180.06	8,003.00	-3,882.66	-1,779.67	4,144.45	0.00	0.00	0.00	
13,100.00	90.00	180.06	8,003.00	-3,982.66	-1,779.77	4,242.75	0.00	0.00	0.00	
13,200.00	90.00	180.06	8,003.00	-4,082.66	-1,779.87	4,341.05	0.00	0.00	0.00	
13,300.00	90.00	180.06	8,003.00	-4,182.66	-1,779.98	4,439.35	0.00	0.00	0.00	
13,400.00	90.00	180.06	8,003.00	-4,282.66	-1,780.08	4,537.65	0.00	0.00	0.00	
13,500.00	90.00	180.06	8,003.00	-4,382.66	-1,780.18	4,635.95	0.00	0.00	0.00	
13,600.00	90.00	180.06	8,003.00	-4,482.66	-1,780.29	4,734.25	0.00	0.00	0.00	
13,700.00	90.00	180.06	8,003.00	-4,582.66	-1,780.39	4,832.55	0.00	0.00	0.00	
13,800.00	90.00	180.06	8,003.00	-4,682.66	-1,780.49	4,930.85	0.00	0.00	0.00	
13,900.00	90.00	180.06	8,003.00	-4,782.66	-1,780.60	5,029.15	0.00	0.00	0.00	
14,000.00	90.00	180.06	8,003.00	-4,882.66	-1,780.70	5,127.46	0.00	0.00	0.00	
14,100.00	90.00	180.06	8,003.00	-4,982.66	-1,780.80	5,225.76	0.00	0.00	0.00	
14,200.00	90.00	180.06	8,003.00	-5,082.66	-1,780.91	5,324.06	0.00	0.00	0.00	
14,300.00	90.00	180.06	8,003.00	-5,182.66	-1,781.01	5,422.36	0.00	0.00	0.00	
14,400.00	90.00	180.06	8,003.00	-5,282.66	-1,781.12	5,520.66	0.00	0.00	0.00	
14,500.00	90.00	180.06	8,003.00	-5,382.66	-1,781.22	5,618.96	0.00	0.00	0.00	
14,600.00	90.00	180.06	8,003.00	-5,482.66	-1,781.32	5,717.26	0.00	0.00	0.00	
14,700.00	90.00	180.06	8,003.00	-5,582.66	-1,781.43	5,815.56	0.00	0.00	0.00	
14,800.00	90.00	180.06	8,003.00	-5,682.66	-1,781.53	5,913.86	0.00	0.00	0.00	
14,900.00	90.00	180.06	8,003.00	-5,782.66	-1,781.63	6,012.16	0.00	0.00	0.00	
15,000.00	90.00	180.06	8,003.00	-5,882.66	-1,781.74	6,110.46	0.00	0.00	0.00	
15,100.00	90.00	180.06	8,003.00	-5,982.66	-1,781.84	6,208.76	0.00	0.00	0.00	
15,200.00	90.00	180.06	8,003.00	-6,082.66	-1,781.94	6,307.06	0.00	0.00	0.00	
15,300.00	90.00	180.06	8,003.00	-6,182.66	-1,782.05	6,405.36	0.00	0.00	0.00	
15,400.00	90.00	180.06	8,003.00	-6,282.66	-1,782.15	6,503.66	0.00	0.00	0.00	
15,500.00	90.00	180.06	8,003.00	-6,382.66	-1,782.25	6,601.96	0.00	0.00	0.00	
15,600.00	90.00	180.06	8,003.00	-6,482.66	-1,782.36	6,700.27	0.00	0.00	0.00	
15,700.00	90.00	180.06	8,003.00	-6,582.66	-1,782.46	6,798.57	0.00	0.00	0.00	
15,800.00	90.00	180.06	8,003.00	-6,682.66	-1,782.57	6,896.87	0.00	0.00	0.00	
15,900.00	90.00	180.06	8,003.00	-6,782.66	-1,782.67	6,995.17	0.00	0.00	0.00	
16,000.00	90.00	180.06	8,003.00	-6,882.66	-1,782.77	7,093.47	0.00	0.00	0.00	
16,100.00	90.00	180.06	8,003.00	-6,982.66	-1,782.88	7,191.77	0.00	0.00	0.00	
16,200.00	90.00	180.06	8,003.00	-7,082.66	-1,782.98	7,290.07	0.00	0.00	0.00	
16,300.00	90.00	180.06	8,003.00	-7,182.66	-1,783.08	7,388.37	0.00	0.00	0.00	
16,400.00	90.00	180.06	8,003.00	-7,282.66	-1,783.19	7,486.67	0.00	0.00	0.00	
16,500.00	90.00	180.06	8,003.00	-7,382.66	-1,783.29	7,584.97	0.00	0.00	0.00	
16,600.00	90.00	180.06	8,003.00	-7,482.66	-1,783.39	7,683.27	0.00	0.00	0.00	
16,700.00	90.00	180.06	8,003.00	-7,582.66	-1,783.50	7,781.57	0.00	0.00	0.00	
16,800.00	90.00	180.06	8,003.00	-7,682.66	-1,783.60	7,879.87	0.00	0.00	0.00	
16,900.00	90.00	180.06	8,003.00	-7,782.66	-1,783.70	7,978.17	0.00	0.00	0.00	
17,000.00	90.00	180.06	8,003.00	-7,882.66	-1,783.81	8,076.47	0.00	0.00	0.00	
17,100.00	90.00	180.06	8,003.00	-7,982.66	-1,783.91	8,174.77	0.00	0.00	0.00	
17,200.00	90.00	180.06	8,003.00	-8,082.66	-1,784.02	8,273.08	0.00	0.00	0.00	
17,300.00	90.00	180.06	8,003.00	-8,182.66	-1,784.12	8,371.38	0.00	0.00	0.00	
17,400.00	90.00	180.06	8,003.00	-8,282.66	-1,784.22	8,469.68	0.00	0.00	0.00	
17,500.00	90.00	180.06	8,003.00	-8,382.66	-1,784.33	8,567.98	0.00	0.00	0.00	
17,600.00	90.00	180.06	8,003.00	-8,482.66	-1,784.43	8,666.28	0.00	0.00	0.00	
17,700.00	90.00	180.06	8,003.00	-8,582.66	-1,784.53	8,764.58	0.00	0.00	0.00	
17,800.00	90.00	180.06	8,003.00	-8,682.66	-1,784.64	8,862.88	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well OCHO LD 17-379HC
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 17-379HC	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)	
17,900.00	90.00	180.06	8,003.00	-8,782.66	-1,784.74	8,961.18	0.00	0.00	0.00	
18,000.00	90.00	180.06	8,003.00	-8,882.66	-1,784.84	9,059.48	0.00	0.00	0.00	
18,100.00	90.00	180.06	8,003.00	-8,982.66	-1,784.95	9,157.78	0.00	0.00	0.00	
18,200.00	90.00	180.06	8,003.00	-9,082.66	-1,785.05	9,256.08	0.00	0.00	0.00	
18,300.00	90.00	180.06	8,003.00	-9,182.66	-1,785.15	9,354.38	0.00	0.00	0.00	
18,400.00	90.00	180.06	8,003.00	-9,282.66	-1,785.26	9,452.68	0.00	0.00	0.00	
18,500.00	90.00	180.06	8,003.00	-9,382.66	-1,785.36	9,550.98	0.00	0.00	0.00	
18,515.87	90.00	180.06	8,003.00	-9,398.53	-1,785.38	9,566.59	0.00	0.00	0.00	
BTM PERF - 18515.87/8003' MD/TVD, 470' FSL, 470' FWL SEC 17										
18,518.67	90.00	180.00	8,003.00	-9,401.33	-1,785.38	9,569.34	2.00	0.00	-2.00	
Start 104.66 hold at 18518.67 MD										
18,600.00	90.00	180.00	8,003.00	-9,482.66	-1,785.38	9,649.27	0.00	0.00	0.00	
18,623.33	90.00	180.00	8,003.00	-9,505.99	-1,785.39	9,672.20	0.00	0.00	0.00	
BHL - 18623.33'/8003' MD/TVD, 370' FSL, 470' 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 17-379HC-LP - plan hits target center - Point	0.00	0.00	8,003.00	196.42	-1,775.44	1,237,943.07	3,162,420.63	39.985081°N		104.920367°W
OCHO 17-379HC-BTM I - plan hits target center - Point	0.00	0.00	8,003.00	-9,398.53	-1,785.38	1,228,348.27	3,162,474.10	39.958741°N		104.920400°W
OCHO 17-379HC-PBHL - plan hits target center - Point	0.00	0.00	8,003.00	-9,505.99	-1,785.39	1,228,240.81	3,162,474.80	39.958446°N		104.920400°W

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
3,837.00	3,837.00	0.00	0.00	Start Build 3.00	
4,836.95	4,791.88	138.38	-215.20	Start 2763.18 hold at 4836.95 MD	
7,600.13	7,184.91	885.60	-1,377.21	Start DLS 8.00 TFO -119.06	
8,920.92	8,003.00	196.42	-1,775.44	TPZ - 8920.92/8003' MD/TVD, 460' FNL, 470' FWL SEC 8	
18,515.87	8,003.00	-9,398.53	-1,785.38	BTM PERF - 18515.87/8003' MD/TVD, 470' FSL, 470' FWL SEC 17	
18,518.67	8,003.00	-9,401.33	-1,785.38	Start 104.66 hold at 18518.67 MD	
18,623.33	8,003.00	-9,505.99	-1,785.39	BHL - 18623.33/8003' MD/TVD, 370' FSL, 470' FWL SEC 17	