

Occidental Petroleum

Weld County, CO (UTM-NAD83)

BERRY FARMS 8-8HZ PAD

BERRY FARMS 8-7HZ

OH

Design: OH

Standard Survey Report

23 February, 2023



Project: Weld County, CO (UTM-NAD83)
Site: BERRY FARMS 8-8HZ PAD
Well: BERRY FARMS 8-7HZ
Wellbore: OH
Design: OH
Lat: 40.243720
Long: -104.908021
GL: 4817.00
KB: PD 461 @ 4837.00usft



Azimuths to True North
Magnetic North: 7.98°
Magnetic Field
Strength: 51722.0nT
Dip Angle: 66.43°
Date: 12/31/2022
Model: HDGM2022_FILE

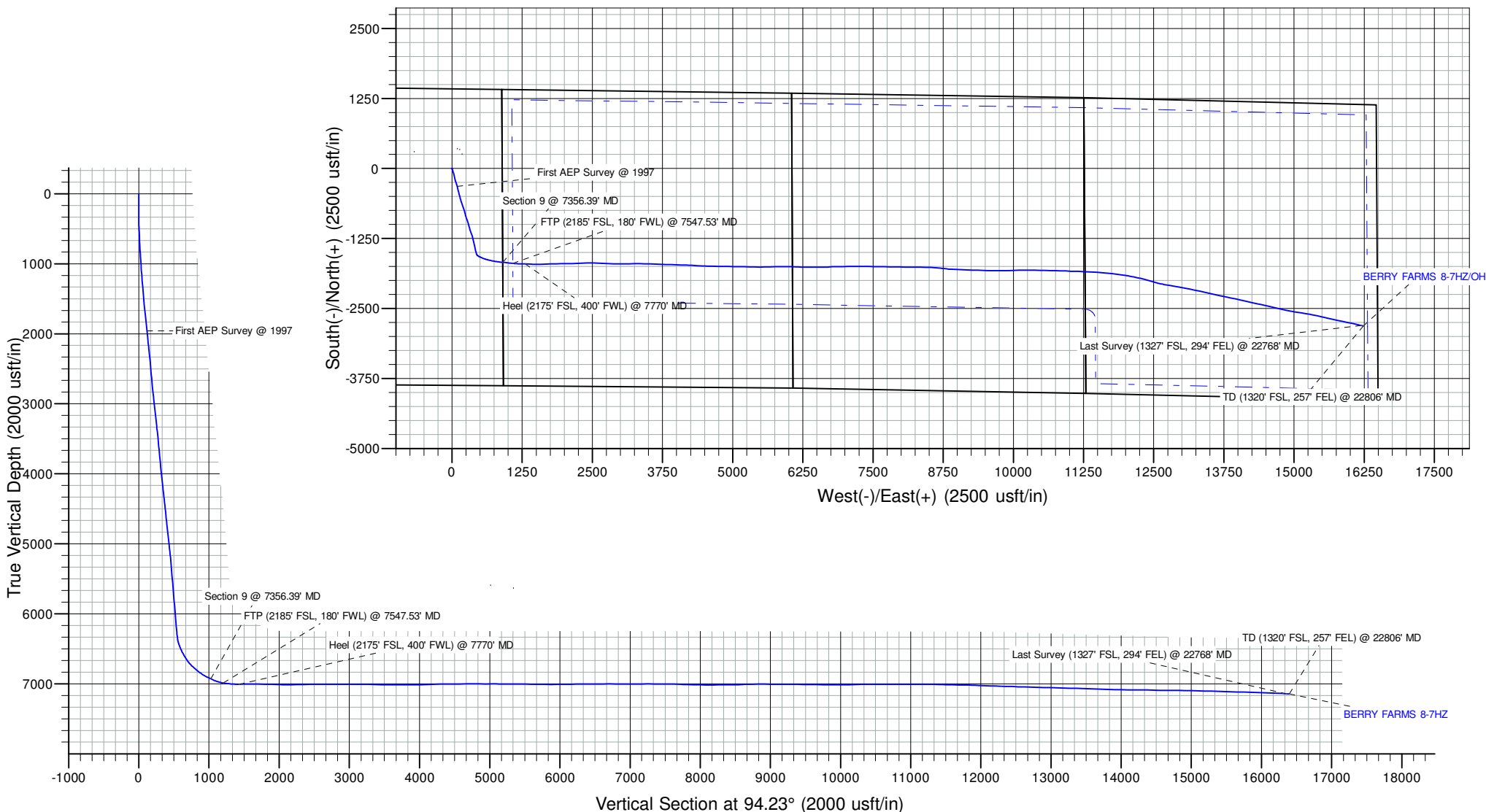
WELL DETAILS: BERRY FARMS 8-7HZ

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14615496.93	1666083.59	40.243720	-104.908021

SHL: 1422' FNL, 894' FEL - Sec 8-T3N-R67W
Heel: 2175' FSL, 400' FWL - Sec 9-T3N-R67W
BHL: 1320' FSL, 257' FEL - Sec 11-T3N-R67W

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
1997.00	16.09	162.31	1957.68	-318.02	93.42	116.62	334.13	First AEP Survey @ 1997
7356.39	64.97	96.19	6930.05	-1675.12	903.42	1024.51	2094.09	Section 9 @ 7356.39' MD
7547.53	79.79	95.15	6989.83	-1693.31	1083.40	1205.34	2274.95	FTP (2185' FSL, 180' FWL) @ 7547.53' MD
7770.00	90.18	91.66	7007.02	-1704.86	1304.60	1426.80	2496.22	Heel (2175' FSL, 400' FWL) @ 7770' MD
22768.00	87.48	102.09	7142.99	-2801.03	16195.93	16358.42	17491.17	Last Survey (1327' FSL, 294' FEL) @ 22768' MD
22806.00	87.48	102.09	7144.66	-2808.98	16233.06	16396.03	17529.14	TD (1320' FSL, 257' FEL) @ 22806' MD



Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-7HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	PD 461 @ 4837.00usft
Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-7HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	FHartmann

Project	Weld County, CO (UTM-NAD83)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	BERRY FARMS 8-8HZ PAD				
Site Position:		Northing:	14,615,497.59 usft	Latitude:	40.243722
From:	Lat/Long	Easting:	1,665,993.52 usft	Longitude:	-104.908344
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "		

Well		BERRY FARMS 8-7HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,615,496.93 usft	Latitude:	40.243720
	+E/-W	0.00 usft	Easting:	1,666,083.59 usft	Longitude:	-104.908022
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,817.00 usft
Grid Convergence:		0.06 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2022_FILE	12/31/2022	7.98	66.43	51,722.00000000

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	94.23	

Survey Program	Date	2/23/2023			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
7.00	1,861.00	Surface MWD (OH)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	
1,997.00	22,806.00	MWD Surveys (OH)	APC_ISCWSA REV 2 MWD+	Fixed:v2:Rockies, crustal dec + 3-axis correction	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00	
86.00	0.34	157.03	86.00	-0.22	0.09	0.11	0.43	0.43	0.00	
178.00	0.24	356.06	178.00	-0.27	0.18	0.20	0.62	-0.11	-174.97	
270.00	0.54	0.79	270.00	0.35	0.18	0.15	0.33	0.33	5.14	
360.00	1.12	159.59	359.99	-0.05	0.49	0.49	1.82	0.64	176.44	
449.00	2.96	156.02	448.93	-2.96	1.73	1.94	2.07	2.07	-4.01	
539.00	5.30	159.40	538.69	-8.98	4.13	4.79	2.61	2.60	3.76	
628.00	5.63	162.87	627.29	-17.00	6.87	8.10	0.52	0.37	3.90	

Survey Report

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Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	PD 461 @ 4837.00usft
Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-7HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	FHartmann

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)
718.00	7.43	159.64	716.70	-26.67	10.19	12.13	2.04	2.00	-3.59
807.00	8.31	159.13	804.86	-38.08	14.49	17.25	0.99	0.99	-0.57
897.00	10.16	164.89	893.69	-51.82	18.87	22.64	2.30	2.06	6.40
987.00	10.89	164.29	982.18	-67.67	23.24	28.17	0.82	0.81	-0.67
1,076.00	12.15	165.82	1,069.38	-84.84	27.81	34.00	1.46	1.42	1.72
1,166.00	13.37	165.03	1,157.16	-104.08	32.82	40.41	1.37	1.36	-0.88
1,255.00	13.76	163.74	1,243.68	-124.18	38.44	47.50	0.55	0.44	-1.45
1,345.00	13.86	164.68	1,331.08	-144.85	44.29	54.85	0.27	0.11	1.04
1,434.00	15.53	166.02	1,417.16	-166.70	49.98	62.14	1.91	1.88	1.51
1,523.00	15.97	166.51	1,502.82	-190.17	55.72	69.59	0.52	0.49	0.55
1,613.00	16.15	163.60	1,589.31	-214.21	62.14	77.77	0.92	0.20	-3.23
1,703.00	15.90	162.75	1,675.81	-237.99	69.33	86.70	0.38	-0.28	-0.94
1,792.00	16.32	162.71	1,761.32	-261.58	76.66	95.75	0.47	0.47	-0.04
1,861.00	17.22	164.43	1,827.38	-280.67	82.29	102.76	1.49	1.30	2.49
1,997.00	16.09	162.31	1,957.68	-318.02	93.42	116.62	0.94	-0.83	-1.56
First AEP Survey @ 1997									
2,091.00	17.49	167.63	2,047.67	-344.23	100.40	125.52	2.21	1.49	5.66
2,184.00	18.81	167.72	2,136.04	-372.53	106.58	133.77	1.42	1.42	0.10
2,276.00	17.75	165.95	2,223.40	-400.63	113.14	142.39	1.30	-1.15	-1.92
2,371.00	16.77	164.48	2,314.12	-427.88	120.33	151.56	1.13	-1.03	-1.55
2,464.00	16.63	165.06	2,403.20	-453.67	127.35	160.46	0.23	-0.15	0.62
2,558.00	16.41	165.56	2,493.32	-479.53	134.13	169.13	0.28	-0.23	0.53
2,650.00	15.84	165.96	2,581.70	-504.29	140.41	177.23	0.63	-0.62	0.43
2,742.00	14.48	165.27	2,670.49	-527.60	146.38	184.90	1.49	-1.48	-0.75
2,834.00	15.84	160.84	2,759.29	-550.58	153.43	193.62	1.94	1.48	-4.82
2,928.00	16.38	162.04	2,849.60	-575.31	161.73	203.72	0.67	0.57	1.28
3,022.00	14.55	161.71	2,940.19	-599.13	169.52	213.25	1.95	-1.95	-0.35
3,115.00	15.29	161.52	3,030.06	-621.85	177.07	222.46	0.80	0.80	-0.20
3,207.00	16.11	162.73	3,118.63	-645.55	184.71	231.82	0.96	0.89	1.32
3,300.00	16.26	163.78	3,207.94	-670.37	192.18	241.10	0.35	0.16	1.13
3,392.00	16.63	161.09	3,296.18	-695.19	200.04	250.77	0.92	0.40	-2.92
3,485.00	14.35	159.06	3,385.79	-718.55	208.47	260.91	2.52	-2.45	-2.18
3,578.00	15.29	162.76	3,475.70	-741.02	216.23	270.30	1.43	1.01	3.98
3,671.00	15.64	162.37	3,565.33	-764.68	223.66	279.45	0.39	0.38	-0.42
3,763.00	17.09	165.93	3,653.61	-789.62	230.70	288.31	1.92	1.58	3.87
3,856.00	16.36	166.29	3,742.67	-815.60	237.13	296.64	0.79	-0.78	0.39
3,948.00	15.49	166.82	3,831.14	-840.15	243.00	304.31	0.96	-0.95	0.58
4,042.00	15.20	162.73	3,921.79	-864.14	249.52	312.58	1.19	-0.31	-4.35
4,134.00	15.67	160.19	4,010.47	-887.34	257.31	322.06	0.89	0.51	-2.76
4,226.00	15.78	158.03	4,099.03	-910.63	266.20	332.64	0.65	0.12	-2.35
4,319.00	16.33	162.85	4,188.41	-934.85	274.79	342.99	1.55	0.59	5.18
4,413.00	17.40	163.49	4,278.36	-960.96	282.68	352.79	1.16	1.14	0.68
4,505.00	15.99	162.84	4,366.48	-986.26	290.33	362.28	1.55	-1.53	-0.71

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Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-7HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	FHartmann

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)
4,597.00	14.67	160.15	4,455.21	-1,009.32	298.02	371.66	1.63	-1.43	-2.92
4,691.00	15.86	163.72	4,545.89	-1,032.85	305.66	381.02	1.61	1.27	3.80
4,783.00	16.88	165.37	4,634.16	-1,057.84	312.56	389.74	1.22	1.11	1.79
4,876.00	15.57	163.92	4,723.46	-1,082.90	319.43	398.44	1.47	-1.41	-1.56
5,000.00	16.25	162.96	4,842.71	-1,115.48	329.12	410.51	0.59	0.55	-0.77
5,093.00	16.34	161.19	4,931.97	-1,140.30	337.16	420.35	0.54	0.10	-1.90
5,185.00	16.20	159.26	5,020.29	-1,164.55	345.87	430.83	0.61	-0.15	-2.10
5,277.00	14.53	158.32	5,109.00	-1,187.28	354.68	441.29	1.84	-1.82	-1.02
5,369.00	15.88	162.91	5,197.78	-1,210.04	362.64	450.91	1.97	1.47	4.99
5,462.00	15.79	167.31	5,287.25	-1,234.55	369.16	459.22	1.29	-0.10	4.73
5,554.00	16.05	169.62	5,375.72	-1,259.27	374.20	466.07	0.74	0.28	2.51
5,647.00	15.63	166.32	5,465.19	-1,284.09	379.48	473.17	1.07	-0.45	-3.55
5,739.00	15.96	165.82	5,553.72	-1,308.39	385.51	480.97	0.39	0.36	-0.54
5,831.00	14.81	167.47	5,642.42	-1,332.13	391.16	488.36	1.34	-1.25	1.79
5,924.00	16.35	166.95	5,732.00	-1,356.49	396.70	495.67	1.66	1.66	-0.56
6,017.00	15.42	165.56	5,821.45	-1,381.22	402.74	503.52	1.08	-1.00	-1.49
6,110.00	16.46	169.33	5,910.88	-1,406.14	408.26	510.87	1.58	1.12	4.05
6,202.00	15.34	168.46	5,999.35	-1,430.87	413.11	517.52	1.24	-1.22	-0.95
6,294.00	16.49	166.82	6,087.83	-1,455.51	418.52	524.74	1.34	1.25	-1.78
6,386.00	15.71	163.35	6,176.22	-1,480.16	425.07	533.09	1.35	-0.85	-3.77
6,479.00	16.03	167.86	6,265.68	-1,504.77	431.37	541.19	1.37	0.34	4.85
6,571.00	17.23	158.39	6,353.85	-1,529.87	439.07	550.71	3.22	1.30	-10.29
6,664.00	23.65	129.92	6,441.16	-1,554.73	458.51	571.94	12.54	6.90	-30.61
6,756.00	27.11	116.16	6,524.34	-1,575.83	491.52	606.41	7.41	3.76	-14.96
6,848.00	32.32	112.51	6,604.22	-1,594.51	533.08	649.24	5.99	5.66	-3.97
6,940.00	36.67	109.04	6,680.03	-1,612.89	581.80	699.18	5.19	4.73	-3.77
7,033.00	46.92	104.76	6,749.29	-1,630.66	641.07	759.60	11.44	11.02	-4.60
7,124.00	51.53	102.12	6,808.71	-1,646.61	708.07	827.60	5.52	5.07	-2.90
7,217.00	56.78	98.38	6,863.16	-1,659.94	782.22	902.53	6.52	5.65	-4.02
7,309.00	63.03	96.70	6,909.27	-1,670.34	861.09	981.95	6.97	6.79	-1.83
7,356.39	64.97	96.19	6,930.05	-1,675.12	903.42	1,024.51	4.21	4.10	-1.08
Section 9 @ 7356.39' MD									
7,401.00	66.80	95.72	6,948.27	-1,679.34	943.91	1,065.21	4.21	4.10	-1.05
7,493.00	75.34	95.93	6,978.09	-1,688.17	1,030.41	1,152.12	9.29	9.28	0.23
7,547.53	79.79	95.15	6,989.83	-1,693.31	1,083.40	1,205.34	8.28	8.16	-1.43
FTP (2185' FSL, 180' FWL) @ 7547.53' MD									
7,586.00	82.93	94.61	6,995.61	-1,696.54	1,121.29	1,243.37	8.28	8.16	-1.40
7,678.00	86.33	92.07	7,004.22	-1,701.87	1,212.71	1,334.93	4.61	3.70	-2.76
7,770.00	90.18	91.66	7,007.02	-1,704.86	1,304.60	1,426.80	4.21	4.18	-0.45
Heel (2175' FSL, 400' FWL) @ 7770' MD									
7,864.00	91.19	91.22	7,005.90	-1,707.22	1,398.56	1,520.68	1.17	1.07	-0.47
7,956.00	90.62	90.04	7,004.44	-1,708.24	1,490.54	1,612.48	1.42	-0.62	-1.28
8,049.00	89.17	89.19	7,004.61	-1,707.61	1,583.54	1,705.18	1.81	-1.56	-0.91
8,141.00	88.96	88.76	7,006.11	-1,705.97	1,675.51	1,796.78	0.52	-0.23	-0.47

Survey Report

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Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	PD 461 @ 4837.00usft
Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-7HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	FHartmann

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)	
8,233.00	88.55	88.87	7,008.11	-1,704.06	1,767.47	1,888.34	0.46	-0.45	0.12	
8,325.00	88.05	88.34	7,010.84	-1,701.82	1,859.40	1,979.86	0.79	-0.54	-0.58	
8,419.00	89.77	89.43	7,012.63	-1,700.00	1,953.36	2,073.43	2.17	1.83	1.16	
8,513.00	90.24	88.84	7,012.62	-1,698.58	2,047.35	2,167.06	0.80	0.50	-0.63	
8,605.00	90.69	88.10	7,011.88	-1,696.12	2,139.31	2,258.59	0.94	0.49	-0.80	
8,698.00	90.66	87.63	7,010.78	-1,692.66	2,232.24	2,351.01	0.51	-0.03	-0.51	
8,790.00	91.09	87.00	7,009.38	-1,688.35	2,324.13	2,442.33	0.83	0.47	-0.68	
8,883.00	90.67	89.70	7,007.95	-1,685.67	2,417.07	2,534.82	2.94	-0.45	2.90	
8,975.00	90.93	91.80	7,006.66	-1,686.87	2,509.05	2,626.64	2.30	0.28	2.28	
9,067.00	89.31	92.44	7,006.47	-1,690.28	2,600.98	2,718.57	1.89	-1.76	0.70	
9,161.00	89.56	92.47	7,007.40	-1,694.30	2,694.89	2,812.52	0.27	0.27	0.03	
9,254.00	90.28	92.32	7,007.53	-1,698.19	2,787.81	2,905.47	0.79	0.77	-0.16	
9,347.00	90.45	91.48	7,006.93	-1,701.27	2,880.75	2,998.39	0.92	0.18	-0.90	
9,439.00	89.25	90.17	7,007.17	-1,702.60	2,972.74	3,090.23	1.93	-1.30	-1.42	
9,532.00	89.63	89.40	7,008.08	-1,702.25	3,065.73	3,182.94	0.92	0.41	-0.83	
9,624.00	88.87	88.56	7,009.29	-1,700.61	3,157.71	3,274.55	1.23	-0.83	-0.91	
9,718.00	88.98	88.48	7,011.05	-1,698.18	3,251.66	3,368.06	0.14	0.12	-0.09	
9,810.00	89.80	91.67	7,012.03	-1,698.30	3,343.64	3,459.80	3.58	0.89	3.47	
9,903.00	89.67	91.94	7,012.46	-1,701.23	3,436.60	3,552.72	0.32	-0.14	0.29	
9,997.00	89.44	91.88	7,013.19	-1,704.37	3,530.54	3,646.64	0.25	-0.24	-0.06	
10,091.00	89.11	91.66	7,014.38	-1,707.27	3,624.49	3,740.54	0.42	-0.35	-0.23	
10,184.00	90.61	91.81	7,014.61	-1,710.09	3,717.44	3,833.45	1.62	1.61	0.16	
10,276.00	90.43	91.40	7,013.77	-1,712.66	3,809.40	3,925.35	0.49	-0.20	-0.45	
10,368.00	90.82	91.43	7,012.77	-1,714.93	3,901.37	4,017.24	0.43	0.42	0.03	
10,462.00	91.25	91.78	7,011.07	-1,717.57	3,995.32	4,111.12	0.59	0.46	0.37	
10,553.00	92.10	91.81	7,008.41	-1,720.42	4,086.23	4,202.00	0.93	0.93	0.03	
10,646.00	91.01	93.83	7,005.89	-1,724.99	4,179.08	4,294.93	2.47	-1.17	2.17	
10,738.00	89.99	92.39	7,005.08	-1,729.98	4,270.94	4,386.91	1.92	-1.11	-1.57	
10,832.00	90.51	93.24	7,004.67	-1,734.60	4,364.82	4,480.88	1.06	0.55	0.90	
10,926.00	91.49	92.63	7,003.03	-1,739.41	4,458.68	4,574.84	1.23	1.04	-0.65	
11,019.00	90.14	91.56	7,001.71	-1,742.81	4,551.61	4,667.76	1.85	-1.45	-1.15	
11,113.00	90.14	91.09	7,001.48	-1,744.98	4,645.58	4,761.64	0.50	0.00	-0.50	
11,206.00	89.50	90.82	7,001.77	-1,746.53	4,738.57	4,854.48	0.75	-0.69	-0.29	
11,299.00	89.95	90.42	7,002.22	-1,747.54	4,831.56	4,947.30	0.65	0.48	-0.43	
11,392.00	90.45	90.99	7,001.90	-1,748.68	4,924.55	5,040.12	0.82	0.54	0.61	
11,485.00	89.11	90.96	7,002.25	-1,750.26	5,017.54	5,132.97	1.44	-1.44	-0.03	
11,577.00	90.05	91.10	7,002.93	-1,751.92	5,109.52	5,224.82	1.03	1.02	0.15	
11,670.00	90.54	91.24	7,002.45	-1,753.82	5,202.50	5,317.69	0.55	0.53	0.15	
11,763.00	88.67	90.96	7,003.09	-1,755.60	5,295.47	5,410.54	2.03	-2.01	-0.30	
11,855.00	88.48	90.67	7,005.38	-1,756.91	5,387.44	5,502.35	0.38	-0.21	-0.32	
11,949.00	88.18	90.13	7,008.12	-1,757.57	5,481.39	5,596.10	0.66	-0.32	-0.57	
12,042.00	89.87	89.29	7,009.70	-1,757.10	5,574.37	5,688.79	2.03	1.82	-0.90	
12,134.00	89.87	88.72	7,009.91	-1,755.50	5,666.36	5,780.41	0.62	0.00	-0.62	

Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-7HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	PD 461 @ 4837.00usft
Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-7HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	FHartmann

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)	
12,227.00	89.95	88.10	7,010.05	-1,752.92	5,759.32	5,872.93	0.67	0.09	-0.67	
12,319.00	90.62	90.59	7,009.60	-1,751.87	5,851.31	5,964.59	2.80	0.73	2.71	
12,412.00	91.36	90.29	7,007.99	-1,752.58	5,944.29	6,057.37	0.86	0.80	-0.32	
12,505.00	90.34	91.37	7,006.61	-1,753.93	6,037.27	6,150.19	1.60	-1.10	1.16	
12,597.00	91.15	91.61	7,005.41	-1,756.32	6,129.23	6,242.08	0.92	0.88	0.26	
12,689.00	89.89	90.23	7,004.58	-1,757.80	6,221.21	6,333.92	2.03	-1.37	-1.50	
12,781.00	89.98	90.55	7,004.68	-1,758.42	6,313.21	6,425.71	0.36	0.10	0.35	
12,875.00	90.49	90.25	7,004.30	-1,759.08	6,407.20	6,519.50	0.63	0.54	-0.32	
12,968.00	91.19	89.95	7,002.93	-1,759.24	6,500.19	6,612.25	0.82	0.75	-0.32	
13,060.00	90.02	89.74	7,001.96	-1,758.99	6,592.18	6,703.97	1.29	-1.27	-0.23	
13,153.00	89.88	88.49	7,002.04	-1,757.56	6,685.17	6,796.60	1.35	-0.15	-1.34	
13,246.00	89.56	87.37	7,002.50	-1,754.20	6,778.11	6,889.03	1.25	-0.34	-1.20	
13,339.00	89.78	88.88	7,003.03	-1,751.15	6,871.05	6,981.50	1.64	0.24	1.62	
13,431.00	90.10	89.89	7,003.13	-1,750.17	6,963.05	7,073.17	1.15	0.35	1.10	
13,523.00	90.88	89.54	7,002.34	-1,749.71	7,055.04	7,164.88	0.93	0.85	-0.38	
13,615.00	89.72	88.11	7,001.86	-1,747.82	7,147.02	7,256.47	2.00	-1.26	-1.55	
13,707.00	89.72	90.45	7,002.31	-1,746.67	7,239.00	7,348.12	2.54	0.00	2.54	
13,800.00	89.82	90.95	7,002.68	-1,747.80	7,331.99	7,440.94	0.55	0.11	0.54	
13,892.00	89.64	90.78	7,003.12	-1,749.19	7,423.98	7,532.78	0.27	-0.20	-0.18	
13,984.00	88.24	91.25	7,004.82	-1,750.82	7,515.95	7,624.62	1.61	-1.52	0.51	
14,076.00	87.38	90.29	7,008.34	-1,752.06	7,607.87	7,716.38	1.40	-0.93	-1.04	
14,168.00	89.00	91.37	7,011.24	-1,753.39	7,699.81	7,808.17	2.12	1.76	1.17	
14,262.00	88.65	90.61	7,013.17	-1,755.01	7,793.78	7,902.00	0.89	-0.37	-0.81	
14,354.00	88.75	89.67	7,015.26	-1,755.24	7,885.75	7,993.74	1.03	0.11	-1.02	
14,446.00	89.13	91.18	7,016.96	-1,755.92	7,977.73	8,085.52	1.69	0.41	1.64	
14,538.00	90.82	91.79	7,017.00	-1,758.30	8,069.70	8,177.41	1.95	1.84	0.66	
14,630.00	90.75	90.97	7,015.74	-1,760.52	8,161.66	8,269.29	0.89	-0.08	-0.89	
14,722.00	90.53	90.36	7,014.71	-1,761.59	8,253.65	8,361.10	0.70	-0.24	-0.66	
14,814.00	89.21	90.24	7,014.92	-1,762.07	8,345.65	8,452.88	1.44	-1.43	-0.13	
14,908.00	91.90	90.60	7,014.01	-1,762.76	8,439.63	8,546.66	2.89	2.86	0.38	
15,001.00	93.46	93.66	7,009.66	-1,766.21	8,532.45	8,639.48	3.69	1.68	3.29	
15,094.00	90.32	93.79	7,006.59	-1,772.25	8,625.19	8,732.42	3.38	-3.38	0.14	
15,187.00	90.92	97.11	7,005.59	-1,781.08	8,717.75	8,825.38	3.63	0.65	3.57	
15,279.00	89.21	96.62	7,005.48	-1,792.07	8,809.09	8,917.28	1.93	-1.86	-0.53	
15,372.00	89.49	92.69	7,006.54	-1,799.62	8,901.76	9,010.25	4.24	0.30	-4.23	
15,465.00	89.62	92.25	7,007.26	-1,803.63	8,994.67	9,103.20	0.49	0.14	-0.47	
15,557.00	89.61	92.15	7,007.88	-1,807.16	9,086.60	9,195.14	0.11	-0.01	-0.11	
15,651.00	89.17	91.60	7,008.88	-1,810.23	9,180.54	9,289.06	0.75	-0.47	-0.59	
15,743.00	89.52	91.81	7,009.93	-1,812.97	9,272.50	9,380.96	0.44	0.38	0.23	
15,835.00	89.90	91.64	7,010.40	-1,815.74	9,364.45	9,472.87	0.45	0.41	-0.18	
15,929.00	89.51	92.04	7,010.88	-1,818.76	9,458.40	9,566.79	0.59	-0.41	0.43	
16,021.00	89.72	92.12	7,011.50	-1,822.10	9,550.34	9,658.72	0.24	0.23	0.09	
16,113.00	89.42	89.75	7,012.19	-1,823.60	9,642.32	9,750.56	2.60	-0.33	-2.58	
16,205.00	89.95	90.06	7,012.69	-1,823.45	9,734.32	9,842.30	0.67	0.58	0.34	

Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-7HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	PD 461 @ 4837.00usft
Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-7HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	FHartmann

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)
16,298.00	90.02	89.55	7,012.72	-1,823.13	9,827.32	9,935.02	0.55	0.08	-0.55
16,390.00	90.23	88.75	7,012.52	-1,821.76	9,919.30	10,026.66	0.90	0.23	-0.87
16,482.00	90.33	88.72	7,012.07	-1,819.73	10,011.28	10,118.23	0.11	0.11	-0.03
16,575.00	90.68	87.95	7,011.25	-1,817.03	10,104.24	10,210.74	0.91	0.38	-0.83
16,667.00	91.09	90.09	7,009.83	-1,815.46	10,196.21	10,302.34	2.37	0.45	2.33
16,759.00	90.27	90.58	7,008.74	-1,816.00	10,288.20	10,394.12	1.04	-0.89	0.53
16,851.00	90.89	90.33	7,007.80	-1,816.73	10,380.19	10,485.92	0.73	0.67	-0.27
16,943.00	89.21	90.89	7,007.72	-1,817.71	10,472.18	10,577.73	1.92	-1.83	0.61
17,036.00	89.73	90.94	7,008.58	-1,819.19	10,565.16	10,670.57	0.56	0.56	0.05
17,128.00	90.57	90.95	7,008.34	-1,820.71	10,657.15	10,762.42	0.91	0.91	0.01
17,221.00	90.29	92.35	7,007.65	-1,823.39	10,750.11	10,855.32	1.54	-0.30	1.51
17,313.00	90.21	91.82	7,007.24	-1,826.73	10,842.05	10,947.25	0.58	-0.09	-0.58
17,407.00	90.94	91.74	7,006.30	-1,829.65	10,935.99	11,041.16	0.78	0.78	-0.09
17,499.00	89.05	91.86	7,006.31	-1,832.54	11,027.95	11,133.07	2.06	-2.05	0.13
17,591.00	89.28	91.35	7,007.65	-1,835.12	11,119.90	11,224.97	0.61	0.25	-0.55
17,683.00	88.90	93.28	7,009.11	-1,838.83	11,211.81	11,316.90	2.14	-0.41	2.10
17,775.00	89.38	93.15	7,010.49	-1,843.99	11,303.65	11,408.87	0.54	0.52	-0.14
17,869.00	87.93	92.71	7,012.70	-1,848.80	11,397.50	11,502.82	1.61	-1.54	-0.47
17,962.00	88.09	93.57	7,015.93	-1,853.89	11,490.30	11,595.75	0.94	0.17	0.92
18,054.00	88.74	94.49	7,018.47	-1,860.35	11,582.04	11,687.71	1.22	0.71	1.00
18,146.00	89.86	95.89	7,019.60	-1,868.67	11,673.65	11,779.69	1.95	1.22	1.52
18,240.00	88.79	96.07	7,020.70	-1,878.46	11,767.13	11,873.64	1.15	-1.14	0.19
18,331.00	87.51	96.90	7,023.64	-1,888.74	11,857.50	11,964.51	1.68	-1.41	0.91
18,424.00	87.88	98.98	7,027.38	-1,901.57	11,949.53	12,057.24	2.27	0.40	2.24
18,517.00	88.86	99.65	7,030.03	-1,916.62	12,041.26	12,149.83	1.28	1.05	0.72
18,626.00	87.81	100.83	7,033.19	-1,935.99	12,148.48	12,258.19	1.45	-0.96	1.08
18,721.00	87.98	102.79	7,036.68	-1,955.42	12,241.40	12,352.29	2.07	0.18	2.06
18,813.00	88.25	105.00	7,039.71	-1,977.50	12,330.66	12,442.93	2.42	0.29	2.40
18,906.00	88.27	106.56	7,042.54	-2,002.78	12,420.11	12,534.00	1.68	0.02	1.68
18,998.00	88.29	106.53	7,045.30	-2,028.96	12,508.26	12,623.84	0.04	0.02	-0.03
19,091.00	88.44	103.03	7,047.95	-2,052.67	12,598.13	12,715.22	3.77	0.16	-3.76
19,184.00	88.38	99.58	7,050.53	-2,070.89	12,689.28	12,807.46	3.71	-0.06	-3.71
19,276.00	88.44	99.59	7,053.08	-2,086.21	12,779.96	12,899.02	0.07	0.07	0.01
19,369.00	88.65	99.76	7,055.45	-2,101.83	12,871.60	12,991.57	0.29	0.23	0.18
19,462.00	87.95	100.43	7,058.21	-2,118.13	12,963.12	13,084.05	1.04	-0.75	0.72
19,554.00	88.61	100.74	7,060.97	-2,135.02	13,053.52	13,175.44	0.79	0.72	0.34
19,646.00	89.19	101.93	7,062.73	-2,153.10	13,143.70	13,266.71	1.44	0.63	1.29
19,740.00	88.52	101.87	7,064.61	-2,172.48	13,235.66	13,359.85	0.72	-0.71	-0.06
19,832.00	88.28	101.93	7,067.18	-2,191.44	13,325.65	13,450.99	0.27	-0.26	0.07
19,924.00	87.80	102.31	7,070.33	-2,210.74	13,415.55	13,542.07	0.67	-0.52	0.41
20,017.00	87.89	102.72	7,073.82	-2,230.88	13,506.27	13,634.03	0.45	0.10	0.44
20,111.00	88.18	102.52	7,077.05	-2,251.41	13,597.95	13,726.97	0.37	0.31	-0.21
20,203.00	87.98	102.51	7,080.13	-2,271.33	13,687.71	13,817.96	0.22	-0.22	-0.01

Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-7HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	PD 461 @ 4837.00usft
Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-7HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	FHartmann

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)	
20,296.00	88.55	102.09	7,082.94	-2,291.14	13,778.54	13,910.00	0.76	0.61	-0.45	
20,389.00	89.02	102.13	7,084.92	-2,310.64	13,869.45	14,002.10	0.51	0.51	0.04	
20,481.00	89.22	102.04	7,086.33	-2,329.90	13,959.40	14,093.22	0.24	0.22	-0.10	
20,573.00	89.35	102.20	7,087.48	-2,349.21	14,049.34	14,184.35	0.22	0.14	0.17	
20,666.00	89.26	102.34	7,088.61	-2,368.98	14,140.21	14,276.43	0.18	-0.10	0.15	
20,759.00	89.19	102.44	7,089.86	-2,388.93	14,231.03	14,368.48	0.13	-0.08	0.11	
20,851.00	89.38	102.52	7,091.01	-2,408.81	14,320.85	14,459.52	0.22	0.21	0.09	
20,944.00	89.33	102.26	7,092.06	-2,428.76	14,411.68	14,551.57	0.28	-0.05	-0.28	
21,036.00	89.41	102.62	7,093.07	-2,448.58	14,501.51	14,642.62	0.40	0.09	0.39	
21,129.00	89.30	102.76	7,094.12	-2,469.01	14,592.24	14,734.60	0.19	-0.12	0.15	
21,221.00	89.28	102.83	7,095.26	-2,489.38	14,681.95	14,825.57	0.08	-0.02	0.08	
21,312.00	89.29	102.98	7,096.39	-2,509.70	14,770.64	14,915.52	0.17	0.01	0.16	
21,404.00	88.72	102.76	7,097.99	-2,530.19	14,860.31	15,006.46	0.66	-0.62	-0.24	
21,498.00	88.49	100.84	7,100.28	-2,549.41	14,952.30	15,099.61	2.06	-0.24	-2.04	
21,590.00	88.37	98.64	7,102.80	-2,564.97	15,042.93	15,191.15	2.39	-0.13	-2.39	
21,682.00	88.55	98.55	7,105.27	-2,578.71	15,133.86	15,282.85	0.22	0.20	-0.10	
21,774.00	88.28	98.96	7,107.82	-2,592.71	15,224.76	15,374.52	0.53	-0.29	0.45	
21,866.00	88.25	101.35	7,110.60	-2,608.92	15,315.27	15,465.98	2.60	-0.03	2.60	
21,959.00	88.25	101.73	7,113.44	-2,627.52	15,406.35	15,558.19	0.41	0.00	0.41	
22,051.00	88.34	102.45	7,116.18	-2,646.78	15,496.26	15,649.28	0.79	0.10	0.78	
22,145.00	88.31	103.04	7,118.93	-2,667.51	15,587.91	15,742.20	0.63	-0.03	0.63	
22,237.00	88.44	102.46	7,121.54	-2,687.80	15,677.60	15,833.15	0.65	0.14	-0.63	
22,331.00	88.18	102.32	7,124.31	-2,707.96	15,769.38	15,926.16	0.31	-0.28	-0.15	
22,423.00	87.71	102.53	7,127.61	-2,727.74	15,859.16	16,017.16	0.56	-0.51	0.23	
22,515.00	87.18	102.49	7,131.71	-2,747.65	15,948.89	16,108.11	0.58	-0.58	-0.04	
22,608.00	87.63	102.17	7,135.92	-2,767.49	16,039.65	16,200.09	0.59	0.48	-0.34	
22,700.00	87.37	102.09	7,139.93	-2,786.80	16,129.51	16,291.13	0.30	-0.28	-0.09	
22,768.00	87.48	102.09	7,142.99	-2,801.03	16,195.93	16,358.42	0.16	0.16	0.00	
Last Survey (1327' FSL, 294' FEL) @ 22768' MD										
22,806.00	87.48	102.09	7,144.66	-2,808.98	16,233.06	16,396.03	0.00	0.00	0.00	
TD (1320' FSL, 257' FEL) @ 22806' MD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,997.00	1,957.68	-318.02	93.42	First AEP Survey @ 1997	
7,356.39	6,930.05	-1,675.12	903.42	Section 9 @ 7356.39' MD	
7,547.53	6,989.83	-1,693.31	1,083.40	FTP (2185' FSL, 180' FWL) @ 7547.53' MD	
7,770.00	7,007.02	-1,704.86	1,304.60	Heel (2175' FSL, 400' FWL) @ 7770' MD	
22,768.00	7,142.99	-2,801.03	16,195.93	Last Survey (1327' FSL, 294' FEL) @ 22768' MD	
22,806.00	7,144.66	-2,808.98	16,233.06	TD (1320' FSL, 257' FEL) @ 22806' MD	

Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-7HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	PD 461 @ 4837.00usft
Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-7HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	FHartmann

Checked By: _____ Approved By: _____ Date: _____