

Occidental Petroleum

Weld County, CO (UTM-NAD83)

BERRY FARMS 8-8HZ PAD

BERRY FARMS 8-1HZ

OH

Design: OH

Standard Survey Report

21 March, 2023



Project: Weld County, CO (UTM-NAD83)
Site: BERRY FARMS 8-8HZ PAD
Well: BERRY FARMS 8-1HZ
Wellbore: OH
Design: OH
Lat: 40.243722
Long: -104.908344
GL: 4817.00
KB: PD 461 @ 4837.00usft



Azimuths to True North
Magnetic North: 7.96°
Magnetic Field
Strength: 51722.0nT
Dip Angle: 66.43°
Date: 12/31/2022
Model: HDGM2022_FILE

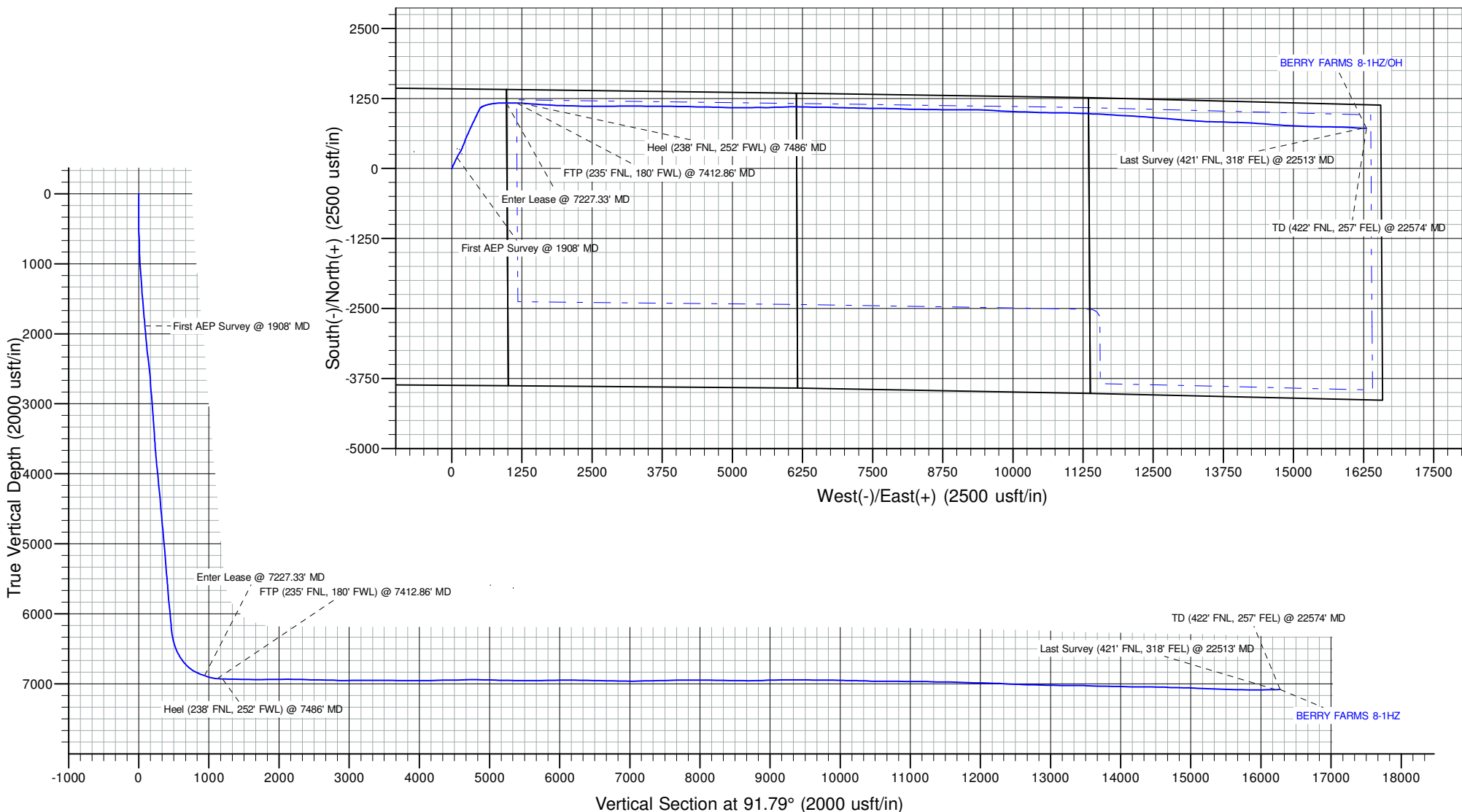
WELL DETAILS: BERRY FARMS 8-1HZ

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14615497.59	1665993.53	40.243722	-104.908344

SHL: 1423' FNL, 984' FEL - Sec 8-T3N-R67W
Heel: 238' FNL, 252' FWL - Sec 9-T3N-R67W
BHL: 422' FNL, 257' FEL - Sec 11-T3N-R67W

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSection	Departure	Annotation
1908.00	11.23	25.23	1888.32	198.09	93.80	87.56	226.19	First AEP Survey @ 1908' MD
7227.33	70.84	89.58	6885.17	1171.30	976.42	939.36	1689.04	Enter Lease @ 7227.33' MD
7412.86	84.28	90.75	6927.60	1172.34	1156.53	1119.35	1869.05	FTP (235' FNL, 180' FWL) @ 7412.86' MD
7486.00	89.09	94.29	6931.83	1169.13	1229.44	1192.32	1941.98	Heel (238' FNL, 252' FWL) @ 7486' MD
22513.00	91.91	92.51	7082.52	720.77	16240.62	16210.18	16965.57	Last Survey (421' FNL, 318' FEL) @ 22513' MD
22574.00	91.91	92.51	7080.49	718.10	16301.53	16271.14	17026.54	TD (422' FNL, 257' FEL) @ 22574' MD



Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
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 8-1HZ	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 8-1HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,615,497.59 usft	Latitude:	40.243722
	+E/-W	0.00 usft	Easting:	1,665,993.52 usft	Longitude:	-104.908344
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	91.79	

Survey Program	Date	3/21/2023			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
7.00	1,824.00	Surface MWD (OH)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	
1,908.00	22,574.00	MWD (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	0.20	180.63	86.00	-0.14	0.00	0.00	0.25	0.25	0.00	
178.00	0.32	278.32	178.00	-0.26	-0.26	-0.25	0.43	0.13	106.18	
270.00	0.54	219.51	270.00	-0.56	-0.79	-0.77	0.50	0.24	-63.92	
360.00	0.61	233.65	359.99	-1.17	-1.44	-1.41	0.18	0.08	15.71	
449.00	0.62	68.09	448.99	-1.27	-1.38	-1.34	1.37	0.01	-186.02	
539.00	2.50	64.92	538.95	-0.26	0.85	0.86	2.09	2.09	-3.52	
628.00	3.97	51.91	627.81	2.47	5.03	4.96	1.84	1.65	-14.62	

Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
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 8-1HZ	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	4.66	21.67	717.57	7.79	8.84	8.59	2.61	0.77	-33.60
807.00	6.43	11.30	806.15	16.03	11.15	10.64	2.28	1.99	-11.65
897.00	7.60	19.03	895.47	26.60	14.08	13.24	1.67	1.30	8.59
987.00	8.18	21.60	984.62	38.18	18.38	17.17	0.75	0.64	2.86
1,076.00	9.54	27.72	1,072.56	50.60	24.14	22.54	1.86	1.53	6.88
1,166.00	10.35	26.13	1,161.21	64.46	31.17	29.14	0.95	0.90	-1.77
1,255.00	10.57	23.65	1,248.73	79.12	37.96	35.47	0.56	0.25	-2.79
1,345.00	10.59	23.13	1,337.20	94.28	44.52	41.56	0.11	0.02	-0.58
1,434.00	11.39	22.18	1,424.57	109.94	51.05	47.59	0.92	0.90	-1.07
1,523.00	11.93	25.45	1,511.73	126.39	58.32	54.35	0.96	0.61	3.67
1,613.00	11.86	26.42	1,599.80	143.07	66.44	61.93	0.24	-0.08	1.08
1,703.00	12.19	26.15	1,687.82	159.88	74.74	69.71	0.37	0.37	-0.30
1,792.00	12.32	25.86	1,774.79	176.86	83.02	77.46	0.16	0.15	-0.33
1,824.00	12.17	28.31	1,806.07	182.90	86.11	80.36	1.69	-0.47	7.66
1,908.00	11.23	25.23	1,888.32	198.09	93.80	87.56	1.34	-1.12	-3.67
First AEP Survey @ 1908' MD									
2,000.00	10.39	23.93	1,978.69	213.78	100.98	94.25	0.95	-0.91	-1.41
2,095.00	11.00	28.56	2,072.04	229.57	108.79	101.56	1.11	0.64	4.87
2,188.00	11.25	31.53	2,163.29	245.10	117.77	110.06	0.67	0.27	3.19
2,282.00	12.50	33.65	2,255.28	261.38	128.21	119.98	1.41	1.33	2.26
2,374.00	13.98	33.64	2,344.83	278.92	139.88	131.10	1.61	1.61	-0.01
2,467.00	13.14	32.48	2,435.24	297.19	151.78	142.42	0.95	-0.90	-1.25
2,558.00	12.85	31.27	2,523.91	314.57	162.59	152.68	0.44	-0.32	-1.33
2,652.00	13.07	19.93	2,615.53	333.50	171.64	161.14	2.71	0.23	-12.06
2,746.00	11.71	19.99	2,707.34	352.46	178.52	167.42	1.45	-1.45	0.06
2,839.00	12.43	22.70	2,798.28	370.56	185.61	173.94	0.99	0.77	2.91
2,932.00	13.14	22.57	2,888.98	389.55	193.53	181.27	0.76	0.76	-0.14
3,024.00	12.21	20.79	2,978.73	408.31	201.00	188.15	1.10	-1.01	-1.93
3,116.00	12.95	20.71	3,068.52	427.04	208.10	194.66	0.80	0.80	-0.09
3,209.00	13.27	22.21	3,159.10	446.67	215.82	201.76	0.50	0.34	1.61
3,303.00	10.65	21.79	3,251.05	464.73	223.12	208.49	2.79	-2.79	-0.45
3,395.00	11.59	21.85	3,341.32	481.20	229.71	214.57	1.02	1.02	0.07
3,487.00	11.39	19.24	3,431.48	498.36	236.15	220.47	0.61	-0.22	-2.84
3,580.00	12.34	21.56	3,522.49	516.27	242.83	226.58	1.14	1.02	2.49
3,673.00	13.88	21.25	3,613.07	535.91	250.52	233.66	1.66	1.66	-0.33
3,766.00	12.69	18.90	3,703.58	555.97	257.87	240.38	1.40	-1.28	-2.53
3,858.00	14.29	27.04	3,793.04	575.65	266.31	248.20	2.70	1.74	8.85
3,951.00	14.62	25.02	3,883.10	596.51	276.49	257.72	0.65	0.35	-2.17
4,044.00	12.90	25.55	3,973.43	616.51	285.93	266.54	1.85	-1.85	0.57
4,137.00	13.97	24.83	4,063.88	636.06	295.13	275.11	1.16	1.15	-0.77
4,229.00	13.20	22.17	4,153.31	655.87	303.75	283.12	1.08	-0.84	-2.89
4,322.00	14.11	23.54	4,243.68	676.10	312.29	291.02	1.04	0.98	1.47
4,415.00	14.10	27.96	4,333.88	696.50	322.13	300.21	1.16	-0.01	4.75

Survey Report

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Site:	BERRY FARMS 8-8HZ PAD	MD Reference:	PD 461 @ 4837.00usft
Well:	BERRY FARMS 8-1HZ	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)
4,507.00	13.65	24.11	4,423.19	716.30	331.81	309.28	1.12	-0.49	-4.18
4,600.00	13.48	25.35	4,513.60	736.11	340.94	317.78	0.36	-0.18	1.33
4,693.00	12.58	23.39	4,604.20	755.21	349.60	325.84	1.08	-0.97	-2.11
4,785.00	14.22	21.62	4,693.70	774.91	357.74	333.36	1.84	1.78	-1.92
4,877.00	13.10	25.63	4,783.10	794.81	366.42	341.41	1.59	-1.22	4.36
4,969.00	11.70	25.62	4,872.95	812.63	374.96	349.39	1.52	-1.52	-0.01
5,085.00	10.76	32.53	4,986.73	832.36	385.87	359.68	1.41	-0.81	5.96
5,178.00	10.17	30.04	5,078.18	846.79	394.65	368.00	0.80	-0.63	-2.68
5,270.00	11.00	25.43	5,168.62	861.75	402.48	375.37	1.29	0.90	-5.01
5,363.00	12.39	18.81	5,259.69	879.21	409.51	381.85	2.08	1.49	-7.12
5,455.00	12.46	24.16	5,349.54	897.61	416.75	388.51	1.25	0.08	5.82
5,547.00	13.11	27.60	5,439.26	915.91	425.65	396.83	1.09	0.71	3.74
5,640.00	9.75	30.59	5,530.40	932.04	434.55	405.22	3.67	-3.61	3.22
5,733.00	11.49	24.99	5,621.81	947.21	442.47	412.67	2.17	1.87	-6.02
5,826.00	12.27	20.38	5,712.82	964.87	449.82	419.46	1.32	0.84	-4.96
5,918.00	13.09	22.40	5,802.57	983.67	457.20	426.25	1.01	0.89	2.20
6,010.00	13.08	28.89	5,892.19	1,002.42	466.20	434.66	1.60	-0.01	7.05
6,102.00	13.06	30.38	5,981.81	1,020.50	476.48	444.38	0.37	-0.02	1.62
6,195.00	12.10	28.45	6,072.57	1,038.14	486.44	453.78	1.13	-1.03	-2.08
6,287.00	12.73	21.48	6,162.43	1,056.05	494.75	461.52	1.77	0.68	-7.58
6,380.00	11.31	31.61	6,253.39	1,073.35	503.28	469.51	2.73	-1.53	10.89
6,472.00	14.65	53.58	6,343.08	1,087.95	517.38	483.15	6.42	3.63	23.88
6,564.00	19.60	58.01	6,430.98	1,103.05	539.85	505.13	5.56	5.38	4.82
6,657.00	23.93	69.50	6,517.37	1,117.93	570.77	535.58	6.51	4.66	12.35
6,749.00	32.36	72.92	6,598.43	1,131.72	611.86	576.21	9.33	9.16	3.72
6,840.00	37.13	76.79	6,673.19	1,145.16	661.91	625.82	5.77	5.24	4.25
6,933.00	46.49	80.52	6,742.44	1,157.16	722.65	686.15	10.41	10.06	4.01
7,025.00	55.70	85.08	6,800.17	1,165.93	793.59	756.78	10.72	10.01	4.96
7,117.00	66.26	88.87	6,844.75	1,170.03	873.80	836.83	12.03	11.48	4.12
7,210.00	70.03	89.60	6,879.37	1,171.18	960.09	923.04	4.12	4.05	0.78
7,227.33	70.84	89.58	6,885.17	1,171.30	976.42	939.36	4.70	4.70	-0.14
Enter Lease @ 7227.33' MD									
7,302.00	74.35	89.47	6,907.50	1,171.89	1,047.66	1,010.54	4.70	4.70	-0.14
7,394.00	83.04	89.83	6,925.52	1,172.44	1,137.79	1,100.61	9.45	9.45	0.39
7,412.86	84.28	90.75	6,927.60	1,172.34	1,156.53	1,119.35	8.16	6.56	4.88
FTP (235' FNL, 180' FWL) @ 7412.86' MD									
7,486.00	89.09	94.29	6,931.83	1,169.13	1,229.44	1,192.32	8.16	6.58	4.84
Heel (238' FNL, 252' FWL) @ 7486' MD									
7,580.00	88.78	94.45	6,933.58	1,161.97	1,323.15	1,286.21	0.37	-0.33	0.17
7,672.00	88.65	94.26	6,935.64	1,154.98	1,414.87	1,378.10	0.25	-0.14	-0.21
7,765.00	88.41	94.56	6,938.03	1,147.83	1,507.56	1,470.97	0.41	-0.26	0.32
7,857.00	89.45	93.71	6,939.75	1,141.20	1,599.30	1,562.87	1.46	1.13	-0.92
7,949.00	89.30	93.77	6,940.75	1,135.20	1,691.10	1,654.82	0.18	-0.16	0.07
8,041.00	90.83	92.37	6,940.65	1,130.27	1,782.96	1,746.79	2.25	1.66	-1.52

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 8-1HZ	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)	
8,135.00	91.42	92.30	6,938.80	1,126.44	1,876.87	1,840.76	0.63	0.63	-0.07	
8,229.00	90.22	91.33	6,937.45	1,123.47	1,970.81	1,934.75	1.64	-1.28	-1.03	
8,321.00	91.47	92.11	6,936.10	1,120.71	2,062.75	2,026.74	1.60	1.36	0.85	
8,414.00	89.34	91.45	6,935.44	1,117.82	2,155.70	2,119.73	2.40	-2.29	-0.71	
8,506.00	88.99	91.18	6,936.78	1,115.71	2,247.67	2,211.72	0.48	-0.38	-0.29	
8,599.00	88.64	91.21	6,938.70	1,113.77	2,340.63	2,304.69	0.38	-0.38	0.03	
8,692.00	87.91	90.56	6,941.50	1,112.33	2,433.57	2,397.64	1.05	-0.78	-0.70	
8,784.00	89.36	90.18	6,943.70	1,111.74	2,525.54	2,489.58	1.63	1.58	-0.41	
8,877.00	89.33	89.76	6,944.76	1,111.79	2,618.53	2,582.53	0.45	-0.03	-0.45	
8,970.00	88.75	89.23	6,946.32	1,112.61	2,711.52	2,675.44	0.84	-0.62	-0.57	
9,063.00	87.45	89.13	6,949.40	1,113.94	2,804.45	2,768.29	1.40	-1.40	-0.11	
9,155.00	89.18	89.66	6,952.11	1,114.91	2,896.41	2,860.17	1.97	1.88	0.58	
9,248.00	90.52	90.16	6,952.35	1,115.05	2,989.40	2,953.11	1.54	1.44	0.54	
9,340.00	90.23	89.63	6,951.75	1,115.22	3,081.40	3,045.06	0.66	-0.32	-0.58	
9,434.00	89.88	89.02	6,951.66	1,116.33	3,175.39	3,138.97	0.75	-0.37	-0.65	
9,526.00	90.21	90.24	6,951.58	1,116.92	3,267.39	3,230.91	1.37	0.36	1.33	
9,619.00	90.52	91.15	6,950.99	1,115.80	3,360.38	3,323.89	1.03	0.33	0.98	
9,713.00	90.18	90.77	6,950.42	1,114.22	3,454.36	3,417.87	0.54	-0.36	-0.40	
9,807.00	89.47	90.39	6,950.70	1,113.27	3,548.36	3,511.85	0.86	-0.76	-0.40	
9,900.00	89.24	89.80	6,951.75	1,113.12	3,641.35	3,604.81	0.68	-0.25	-0.63	
9,992.00	90.09	90.63	6,952.29	1,112.77	3,733.35	3,696.77	1.29	0.92	0.90	
10,085.00	89.51	90.00	6,952.61	1,112.26	3,826.34	3,789.73	0.92	-0.62	-0.68	
10,178.00	90.36	91.57	6,952.72	1,110.98	3,919.33	3,882.72	1.92	0.91	1.69	
10,270.00	90.05	91.10	6,952.39	1,108.84	4,011.31	3,974.71	0.61	-0.34	-0.51	
10,362.00	89.23	90.64	6,952.97	1,107.44	4,103.29	4,066.70	1.02	-0.89	-0.50	
10,454.00	90.74	91.87	6,952.99	1,105.43	4,195.27	4,158.69	2.12	1.64	1.34	
10,548.00	91.26	91.22	6,951.35	1,102.90	4,289.22	4,252.67	0.89	0.55	-0.69	
10,643.00	90.72	90.42	6,949.71	1,101.54	4,384.19	4,347.64	1.02	-0.57	-0.84	
10,735.00	90.04	89.58	6,949.10	1,101.54	4,476.19	4,439.60	1.17	-0.74	-0.91	
10,829.00	91.83	92.13	6,947.57	1,100.13	4,570.15	4,533.56	3.31	1.90	2.71	
10,922.00	92.00	91.77	6,944.46	1,096.97	4,663.05	4,626.51	0.43	0.18	-0.39	
11,015.00	91.16	92.28	6,941.89	1,093.69	4,755.95	4,719.47	1.06	-0.90	0.55	
11,109.00	89.01	91.00	6,941.76	1,091.00	4,849.91	4,813.46	2.66	-2.29	-1.36	
11,201.00	88.72	90.87	6,943.58	1,089.50	4,941.88	4,905.43	0.35	-0.32	-0.14	
11,293.00	88.52	90.41	6,945.79	1,088.47	5,033.84	4,997.39	0.55	-0.22	-0.50	
11,386.00	87.69	89.73	6,948.87	1,088.35	5,126.79	5,090.29	1.15	-0.89	-0.73	
11,479.00	89.68	89.89	6,951.00	1,088.66	5,219.76	5,183.21	2.15	2.14	0.17	
11,571.00	89.30	89.77	6,951.82	1,088.94	5,311.76	5,275.15	0.43	-0.41	-0.13	
11,665.00	89.12	88.67	6,953.12	1,090.22	5,405.74	5,369.05	1.19	-0.19	-1.17	
11,758.00	90.49	90.82	6,953.43	1,090.63	5,498.73	5,461.98	2.74	1.47	2.31	
11,850.00	90.20	90.32	6,952.88	1,089.71	5,590.72	5,553.96	0.63	-0.32	-0.54	
11,943.00	90.00	88.94	6,952.72	1,090.31	5,683.72	5,646.89	1.50	-0.22	-1.48	
12,035.00	90.23	88.03	6,952.53	1,092.75	5,775.69	5,738.73	1.02	0.25	-0.99	

Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
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 8-1HZ	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)	
12,128.00	90.62	87.42	6,951.84	1,096.44	5,868.61	5,831.50	0.78	0.42	-0.66	
12,221.00	91.39	87.26	6,950.21	1,100.75	5,961.49	5,924.20	0.85	0.83	-0.17	
12,313.00	90.01	89.84	6,949.09	1,103.08	6,053.45	6,016.04	3.18	-1.50	2.80	
12,405.00	89.70	89.71	6,949.32	1,103.44	6,145.45	6,107.98	0.37	-0.34	-0.14	
12,498.00	89.68	91.97	6,949.82	1,102.08	6,238.43	6,200.96	2.43	-0.02	2.43	
12,591.00	89.38	91.50	6,950.59	1,099.26	6,331.38	6,293.96	0.60	-0.32	-0.51	
12,684.00	89.15	91.52	6,951.78	1,096.81	6,424.34	6,386.95	0.25	-0.25	0.02	
12,776.00	88.70	91.08	6,953.51	1,094.73	6,516.30	6,478.93	0.68	-0.49	-0.48	
12,869.00	88.64	90.55	6,955.66	1,093.40	6,609.27	6,571.89	0.57	-0.06	-0.57	
12,962.00	88.58	89.87	6,957.92	1,093.06	6,702.24	6,664.83	0.73	-0.06	-0.73	
13,055.00	89.40	91.25	6,959.56	1,092.15	6,795.22	6,757.79	1.73	0.88	1.48	
13,147.00	89.48	91.46	6,960.46	1,089.98	6,887.19	6,849.78	0.24	0.09	0.23	
13,239.00	89.52	91.50	6,961.26	1,087.60	6,979.15	6,941.77	0.06	0.04	0.04	
13,331.00	89.26	91.98	6,962.24	1,084.81	7,071.11	7,033.77	0.59	-0.28	0.52	
13,423.00	91.37	91.50	6,961.74	1,082.02	7,163.06	7,125.76	2.35	2.29	-0.52	
13,516.00	91.50	91.54	6,959.41	1,079.55	7,255.99	7,218.73	0.15	0.14	0.04	
13,608.00	92.11	90.87	6,956.51	1,077.62	7,347.93	7,310.68	0.98	0.66	-0.73	
13,700.00	90.83	90.86	6,954.15	1,076.23	7,439.88	7,402.64	1.39	-1.39	-0.01	
13,792.00	91.04	90.49	6,952.65	1,075.14	7,531.87	7,494.61	0.46	0.23	-0.40	
13,884.00	91.89	90.05	6,950.30	1,074.71	7,623.83	7,586.54	1.04	0.92	-0.48	
13,978.00	90.09	91.82	6,948.67	1,073.18	7,717.80	7,680.51	2.69	-1.91	1.88	
14,070.00	90.43	91.87	6,948.25	1,070.21	7,809.75	7,772.51	0.37	0.37	0.05	
14,162.00	90.15	91.33	6,947.79	1,067.65	7,901.71	7,864.51	0.66	-0.30	-0.59	
14,254.00	90.33	91.23	6,947.40	1,065.59	7,993.69	7,956.50	0.22	0.20	-0.11	
14,346.00	89.06	92.33	6,947.89	1,062.73	8,085.64	8,048.50	1.83	-1.38	1.20	
14,438.00	89.47	91.83	6,949.07	1,059.39	8,177.57	8,140.49	0.70	0.45	-0.54	
14,531.00	89.01	91.02	6,950.31	1,057.08	8,270.53	8,233.48	1.00	-0.49	-0.87	
14,624.00	89.12	90.87	6,951.82	1,055.55	8,363.51	8,326.46	0.20	0.12	-0.16	
14,717.00	89.21	90.40	6,953.18	1,054.52	8,456.49	8,419.43	0.51	0.10	-0.51	
14,810.00	89.25	90.61	6,954.43	1,053.70	8,549.48	8,512.39	0.23	0.04	0.23	
14,903.00	89.25	90.86	6,955.65	1,052.51	8,642.46	8,605.37	0.27	0.00	0.27	
14,995.00	89.45	90.55	6,956.69	1,051.37	8,734.45	8,697.35	0.40	0.22	-0.34	
15,088.00	91.90	90.26	6,955.59	1,050.72	8,827.44	8,790.31	2.65	2.63	-0.31	
15,181.00	92.02	89.81	6,952.41	1,050.66	8,920.38	8,883.21	0.50	0.13	-0.48	
15,273.00	91.23	89.51	6,949.80	1,051.20	9,012.34	8,975.11	0.92	-0.86	-0.33	
15,367.00	91.79	89.11	6,947.33	1,052.34	9,106.30	9,068.99	0.73	0.60	-0.43	
15,459.00	90.28	90.87	6,945.67	1,052.35	9,198.28	9,160.92	2.52	-1.64	1.91	
15,551.00	90.83	90.37	6,944.77	1,051.36	9,290.27	9,252.90	0.81	0.60	-0.54	
15,645.00	90.30	92.57	6,943.85	1,048.95	9,384.23	9,346.88	2.41	-0.56	2.34	
15,737.00	88.97	92.37	6,944.43	1,044.98	9,476.14	9,438.87	1.46	-1.45	-0.22	
15,829.00	89.98	92.61	6,945.28	1,040.98	9,568.05	9,530.86	1.13	1.10	0.26	
15,921.00	89.11	93.55	6,946.01	1,036.04	9,659.91	9,622.83	1.39	-0.95	1.02	
16,014.00	89.75	93.90	6,946.93	1,030.00	9,752.71	9,715.78	0.78	0.69	0.38	
16,106.00	88.70	92.62	6,948.18	1,024.77	9,844.55	9,807.73	1.80	-1.14	-1.39	

Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
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 8-1HZ	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)
16,198.00	89.12	92.56	6,949.93	1,020.61	9,936.44	9,899.71	0.46	0.46	-0.07
16,291.00	89.75	92.34	6,950.84	1,016.64	10,029.35	9,992.70	0.72	0.68	-0.24
16,383.00	88.54	91.47	6,952.22	1,013.58	10,121.28	10,084.68	1.62	-1.32	-0.95
16,475.00	89.58	91.56	6,953.73	1,011.15	10,213.24	10,176.67	1.13	1.13	0.10
16,567.00	87.42	92.08	6,956.13	1,008.23	10,305.15	10,268.63	2.41	-2.35	0.57
16,659.00	87.98	92.01	6,959.83	1,004.95	10,397.02	10,360.56	0.61	0.61	-0.08
16,752.00	88.28	91.94	6,962.86	1,001.74	10,489.92	10,453.51	0.33	0.32	-0.08
16,845.00	89.08	91.35	6,965.00	999.07	10,582.85	10,546.48	1.07	0.86	-0.63
16,937.00	89.84	91.06	6,965.87	997.14	10,674.83	10,638.47	0.88	0.83	-0.32
17,029.00	90.45	90.39	6,965.64	995.97	10,766.82	10,730.45	0.98	0.66	-0.73
17,123.00	89.23	91.18	6,965.90	994.69	10,860.81	10,824.44	1.55	-1.30	0.84
17,215.00	88.91	91.18	6,967.39	992.79	10,952.77	10,916.42	0.35	-0.35	0.00
17,307.00	89.41	91.67	6,968.74	990.50	11,044.73	11,008.41	0.76	0.54	0.53
17,399.00	89.68	92.30	6,969.47	987.32	11,136.68	11,100.40	0.75	0.29	0.68
17,491.00	90.32	91.79	6,969.47	984.04	11,228.62	11,192.40	0.89	0.70	-0.55
17,585.00	88.66	92.40	6,970.31	980.60	11,322.55	11,286.39	1.88	-1.77	0.65
17,678.00	88.64	91.93	6,972.50	977.09	11,415.45	11,379.36	0.51	-0.02	-0.51
17,770.00	89.23	91.47	6,974.21	974.36	11,507.40	11,471.35	0.81	0.64	-0.50
17,862.00	88.61	94.23	6,975.94	969.79	11,599.26	11,563.31	3.07	-0.67	3.00
17,956.00	88.21	93.86	6,978.55	963.16	11,692.99	11,657.20	0.58	-0.43	-0.39
18,047.00	88.14	93.44	6,981.45	957.37	11,783.76	11,748.10	0.47	-0.08	-0.46
18,140.00	88.61	93.20	6,984.09	951.98	11,876.56	11,841.03	0.57	0.51	-0.26
18,233.00	88.34	92.98	6,986.56	946.97	11,969.39	11,933.97	0.37	-0.29	-0.24
18,326.00	88.24	93.26	6,989.34	941.91	12,062.21	12,026.91	0.32	-0.11	0.30
18,419.00	88.97	93.32	6,991.60	936.58	12,155.03	12,119.85	0.79	0.78	0.06
18,511.00	88.76	94.99	6,993.43	929.91	12,246.77	12,211.75	1.83	-0.23	1.82
18,605.00	86.81	93.96	6,997.06	922.58	12,340.41	12,305.57	2.35	-2.07	-1.10
18,699.00	86.88	93.90	7,002.23	916.15	12,434.04	12,399.36	0.10	0.07	-0.06
18,792.00	86.88	93.97	7,007.29	909.78	12,526.69	12,492.16	0.08	0.00	0.08
18,884.00	88.94	95.23	7,010.65	902.40	12,618.32	12,583.98	2.62	2.24	1.37
18,976.00	88.42	95.32	7,012.77	893.95	12,709.91	12,675.78	0.57	-0.57	0.10
19,069.00	88.14	95.01	7,015.56	885.58	12,802.49	12,768.58	0.45	-0.30	-0.33
19,162.00	88.72	94.87	7,018.11	877.57	12,895.11	12,861.40	0.64	0.62	-0.15
19,255.00	88.47	94.47	7,020.39	870.01	12,987.77	12,954.26	0.51	-0.27	-0.43
19,347.00	89.72	95.14	7,021.84	862.30	13,079.44	13,046.12	1.54	1.36	0.73
19,440.00	89.45	93.79	7,022.51	855.06	13,172.15	13,139.01	1.48	-0.29	-1.45
19,532.00	89.97	93.42	7,022.98	849.28	13,263.96	13,230.96	0.69	0.57	-0.40
19,625.00	89.00	93.00	7,023.82	844.07	13,356.81	13,323.93	1.14	-1.04	-0.45
19,718.00	89.73	92.41	7,024.85	839.68	13,449.70	13,416.91	1.01	0.78	-0.63
19,810.00	87.52	91.77	7,027.05	836.33	13,541.61	13,508.88	2.50	-2.40	-0.70
19,902.00	88.31	91.88	7,030.40	833.40	13,633.50	13,600.82	0.87	0.86	0.12
19,995.00	88.22	91.18	7,033.22	830.92	13,726.42	13,693.77	0.76	-0.10	-0.75
20,089.00	89.21	90.76	7,035.33	829.32	13,820.39	13,787.74	1.14	1.05	-0.45

Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
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 8-1HZ	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)	
20,181.00	88.28	91.59	7,037.34	827.44	13,912.34	13,879.71	1.35	-1.01	0.90	
20,274.00	88.77	91.12	7,039.73	825.24	14,005.29	13,972.67	0.73	0.53	-0.51	
20,367.00	89.03	93.02	7,041.52	821.88	14,098.20	14,065.65	2.06	0.28	2.04	
20,459.00	89.29	92.70	7,042.87	817.29	14,190.08	14,157.63	0.45	0.28	-0.35	
20,551.00	89.01	94.41	7,044.23	811.59	14,281.89	14,249.57	1.88	-0.30	1.86	
20,644.00	90.28	93.95	7,044.81	804.81	14,374.64	14,342.48	1.45	1.37	-0.49	
20,737.00	88.49	94.54	7,045.81	797.93	14,467.37	14,435.39	2.03	-1.92	0.63	
20,829.00	88.64	94.27	7,048.11	790.86	14,559.07	14,527.26	0.34	0.16	-0.29	
20,922.00	89.21	94.00	7,049.86	784.16	14,651.81	14,620.17	0.68	0.61	-0.29	
21,015.00	87.68	93.64	7,052.38	777.96	14,744.57	14,713.07	1.69	-1.65	-0.39	
21,107.00	88.10	93.63	7,055.77	772.14	14,836.32	14,804.96	0.46	0.46	-0.01	
21,199.00	88.76	93.24	7,058.29	766.63	14,928.12	14,896.89	0.83	0.72	-0.42	
21,291.00	89.31	92.86	7,059.84	761.73	15,019.98	14,988.85	0.73	0.60	-0.41	
21,383.00	87.19	91.97	7,062.65	757.86	15,111.85	15,080.80	2.50	-2.30	-0.97	
21,476.00	87.32	92.05	7,067.10	754.60	15,204.68	15,173.69	0.16	0.14	0.09	
21,568.00	87.49	91.83	7,071.27	751.49	15,296.54	15,265.60	0.30	0.18	-0.24	
21,661.00	87.96	91.69	7,074.96	748.63	15,389.42	15,358.52	0.53	0.51	-0.15	
21,753.00	88.28	91.07	7,077.98	746.42	15,481.34	15,450.47	0.76	0.35	-0.67	
21,845.00	88.11	91.09	7,080.87	744.69	15,573.28	15,542.42	0.19	-0.18	0.02	
21,938.00	88.74	90.96	7,083.43	743.02	15,666.23	15,635.37	0.69	0.68	-0.14	
22,030.00	88.70	90.51	7,085.48	741.84	15,758.20	15,727.34	0.49	-0.04	-0.49	
22,123.00	89.28	91.71	7,087.12	740.04	15,851.16	15,820.31	1.43	0.62	1.29	
22,216.00	90.29	93.59	7,087.47	735.74	15,944.06	15,913.30	2.29	1.09	2.02	
22,309.00	90.43	92.86	7,086.89	730.51	16,036.91	16,006.26	0.80	0.15	-0.78	
22,401.00	91.21	92.87	7,085.57	725.91	16,128.78	16,098.24	0.85	0.85	0.01	
22,493.00	91.79	92.46	7,083.16	721.64	16,220.65	16,190.20	0.77	0.63	-0.45	
22,513.00	91.91	92.51	7,082.52	720.77	16,240.62	16,210.18	0.65	0.60	0.25	
Last Survey (421' FNL, 318' FEL) @ 22513' MD										
22,574.00	91.91	92.51	7,080.49	718.10	16,301.53	16,271.15	0.00	0.00	0.00	
TD (422' FNL, 257' FEL) @ 22574' MD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,908.00	1,888.32	198.09	93.80	First AEP Survey @ 1908' MD	
7,227.33	6,885.17	1,171.30	976.42	Enter Lease @ 7227.33' MD	
7,412.86	6,927.60	1,172.34	1,156.53	FTP (235' FNL, 180' FWL) @ 7412.86' MD	
7,486.00	6,931.83	1,169.13	1,229.44	Heel (238' FNL, 252' FWL) @ 7486' MD	
22,513.00	7,082.52	720.77	16,240.62	Last Survey (421' FNL, 318' FEL) @ 22513' MD	
22,574.00	7,080.49	718.10	16,301.53	TD (422' FNL, 257' FEL) @ 22574' MD	

Checked By: _____	Approved By: _____	Date: _____
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