

# **Occidental Petroleum**

**Weld County, CO (UTM-NAD83)**

**BERRY FARMS 8-8HZ PAD**

**BERRY FARMS 8-6HZ**

**OH**

**Design: OH**

## **Standard Survey Report**

**23 February, 2023**



Project: Weld County, CO (UTM-NAD83)  
 Site: BERRY FARMS 8-8HZ PAD  
 Well: BERRY FARMS 8-6HZ  
 Wellbore: OH  
 Design: OH  
 Lat: 40.243720  
 Long: -104.908075  
 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

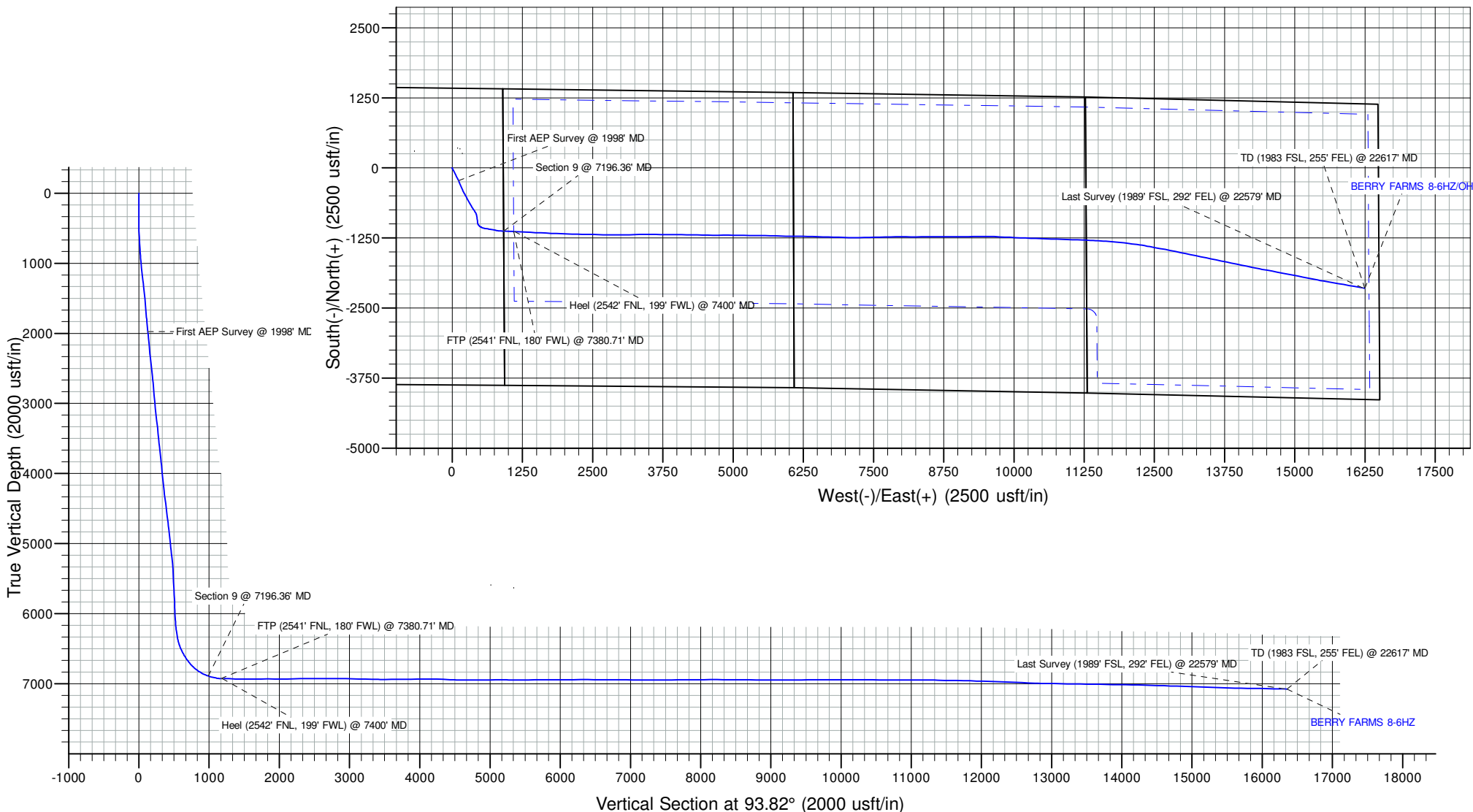
WELL DETAILS: BERRY FARMS 8-6HZ

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14615497.02	1666068.60	40.243720	-104.908075

SHL: 1423' FNL, 909' FEL - Sec 8-T3N-R67W  
 Heel: 2542' FNL, 199' FWL - Sec 9-T3N-R67W  
 BHL: 1983' FSL, 255' FEL - Sec 11-T3N-R67W

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
1998.00	11.47	155.08	1975.48	-227.01	113.02	127.89	256.07	First AEP Survey @ 1998' MD
7196.36	71.46	92.38	6891.31	-1126.64	915.28	988.30	1602.92	Section 9 @ 7196.36' MD
7380.71	87.75	92.91	6928.28	-1133.16	1095.21	1168.27	1782.65	FTP (2541' FNL, 180' FWL) @ 7380.71' MD
7400.00	90.23	93.21	6928.62	-1134.19	1114.47	1187.55	1801.81	Heel (2542' FNL, 199' FWL) @ 7400' MD
22579.00	89.11	100.11	7075.47	-2139.05	16209.18	16315.67	16978.05	Last Survey (1989' FSL, 292' FEL) @ 22579' MD
22617.00	89.11	100.11	7076.06	-2145.72	16246.58	16353.44	17016.05	TD (1983 FSL, 255' FEL) @ 22617' MD



## Survey Report

<b>Company:</b> Occidental Petroleum	<b>Local Co-ordinate Reference:</b> Well BERRY FARMS 8-6HZ
<b>Project:</b> Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b> PD 461 @ 4837.00usft
<b>Site:</b> BERRY FARMS 8-8HZ PAD	<b>MD Reference:</b> PD 461 @ 4837.00usft
<b>Well:</b> BERRY FARMS 8-6HZ	<b>North Reference:</b> True
<b>Wellbore:</b> OH	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> OH	<b>Database:</b> FHartmann

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

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

<b>Well</b> BERRY FARMS 8-6HZ			
<b>Well Position</b>	<b>+N/-S</b> 0.00 usft	<b>Northing:</b> 14,615,497.02 usft	<b>Latitude:</b> 40.243720
	<b>+E/-W</b> 0.00 usft	<b>Easting:</b> 1,666,068.60 usft	<b>Longitude:</b> -104.908075
<b>Position Uncertainty</b>	3.28 usft	<b>Wellhead Elevation:</b> usft	<b>Ground Level:</b> 4,817.00 usft
<b>Grid Convergence:</b>	0.06 °		

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

<b>Design</b> OH					
<b>Audit Notes:</b>					
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.00			
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	93.82	

<b>Survey Program</b>		<b>Date</b> 2/23/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
7.00	1,853.00	Surface MWD (OH)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination
1,998.00	22,617.00	MWD Surveys (OH)	APC_ISCWSA REV 2 MWD+	Fixed:v2:Rockies, crustal dec + 3-axis correction

<b>Survey</b>										
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	0.00
7.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	0.58	196.45	86.00	-0.38	-0.11	-0.09	0.73	0.73	0.00	
178.00	0.59	329.33	178.00	-0.42	-0.49	-0.46	1.17	0.01	144.43	
270.00	0.71	162.48	269.99	-0.56	-0.56	-0.52	1.40	0.13	-181.36	
360.00	0.75	181.88	359.99	-1.68	-0.41	-0.30	0.28	0.04	21.56	
449.00	1.48	165.46	448.97	-3.37	-0.14	0.09	0.89	0.82	-18.45	
539.00	3.59	155.28	538.88	-7.06	1.33	1.80	2.39	2.34	-11.31	
628.00	5.49	148.49	627.59	-13.22	4.72	5.59	2.21	2.13	-7.63	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well BERRY FARMS 8-6HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 461 @ 4837.00usft
<b>Site:</b>	BERRY FARMS 8-8HZ PAD	<b>MD Reference:</b>	PD 461 @ 4837.00usft
<b>Well:</b>	BERRY FARMS 8-6HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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	5.75	152.35	717.16	-20.88	9.06	10.44	0.51	0.29	4.29	
807.00	5.97	152.75	805.70	-28.95	13.25	15.15	0.25	0.25	0.45	
897.00	8.32	149.31	894.99	-38.71	18.72	21.26	2.65	2.61	-3.82	
987.00	10.50	152.10	983.78	-51.56	25.88	29.26	2.47	2.42	3.10	
1,076.00	11.75	154.27	1,071.10	-66.89	33.61	37.99	1.48	1.40	2.44	
1,166.00	12.68	152.01	1,159.06	-83.87	42.23	47.72	1.16	1.03	-2.51	
1,255.00	12.86	154.18	1,245.86	-101.41	51.12	57.77	0.58	0.20	2.44	
1,345.00	11.44	153.42	1,333.85	-118.41	59.48	67.24	1.59	-1.58	-0.84	
1,434.00	10.92	154.29	1,421.16	-133.90	67.09	75.86	0.61	-0.58	0.98	
1,523.00	10.53	153.71	1,508.60	-148.78	74.35	84.09	0.45	-0.44	-0.65	
1,613.00	10.21	156.96	1,597.13	-163.50	81.11	91.82	0.74	-0.36	3.61	
1,703.00	9.72	150.84	1,685.78	-177.47	87.93	99.56	1.30	-0.54	-6.80	
1,792.00	10.16	151.10	1,773.44	-190.91	95.39	107.89	0.50	0.49	0.29	
1,853.00	11.42	153.95	1,833.36	-201.04	100.64	113.81	2.24	2.07	4.67	
1,998.00	11.47	155.08	1,975.48	-227.01	113.02	127.89	0.16	0.03	0.78	
<b>First AEP Survey @ 1998' MD</b>										
2,093.00	10.37	155.59	2,068.76	-243.37	120.53	136.48	1.16	-1.16	0.54	
2,186.00	11.33	160.46	2,160.09	-259.60	127.05	144.06	1.43	1.03	5.24	
2,280.00	12.49	155.65	2,252.07	-277.56	134.33	152.52	1.62	1.23	-5.12	
2,372.00	14.16	156.02	2,341.59	-296.91	143.00	162.47	1.82	1.82	0.40	
2,464.00	13.61	156.18	2,430.90	-317.09	151.95	172.74	0.60	-0.60	0.17	
2,556.00	13.08	156.70	2,520.42	-336.56	160.44	182.50	0.59	-0.58	0.57	
2,650.00	12.14	156.96	2,612.15	-355.42	168.51	191.82	1.00	-1.00	0.28	
2,744.00	10.65	156.50	2,704.30	-372.48	175.85	200.27	1.59	-1.59	-0.49	
2,837.00	11.98	157.84	2,795.49	-389.30	182.91	208.44	1.46	1.43	1.44	
2,929.00	10.40	157.80	2,885.73	-405.84	189.65	216.27	1.72	-1.72	-0.04	
3,022.00	10.60	152.71	2,977.18	-421.21	196.75	224.37	1.02	0.22	-5.47	
3,114.00	11.22	153.44	3,067.52	-436.74	204.63	233.27	0.69	0.67	0.79	
3,207.00	11.92	149.11	3,158.63	-453.07	213.61	243.32	1.20	0.75	-4.66	
3,300.00	11.14	148.93	3,249.75	-469.01	223.17	253.92	0.84	-0.84	-0.19	
3,393.00	11.42	150.82	3,340.95	-484.74	232.30	264.08	0.50	0.30	2.03	
3,485.00	10.60	150.44	3,431.26	-500.06	240.91	273.69	0.89	-0.89	-0.41	
3,578.00	11.29	153.80	3,522.57	-515.66	249.15	282.95	1.01	0.74	3.61	
3,670.00	12.72	152.18	3,612.55	-532.70	257.86	292.77	1.60	1.55	-1.76	
3,764.00	11.97	153.40	3,704.38	-550.57	267.05	303.14	0.84	-0.80	1.30	
3,856.00	11.41	153.81	3,794.47	-567.27	275.34	312.52	0.62	-0.61	0.45	
3,948.00	9.46	154.18	3,884.94	-582.24	282.65	320.81	2.12	-2.12	0.40	
4,041.00	10.44	149.37	3,976.55	-596.37	290.27	329.36	1.38	1.05	-5.17	
4,135.00	11.28	148.21	4,068.86	-611.52	299.45	339.53	0.92	0.89	-1.23	
4,227.00	8.82	147.64	4,159.44	-625.12	307.97	348.93	2.68	-2.67	-0.62	
4,319.00	11.12	150.20	4,250.05	-638.78	316.16	358.01	2.55	2.50	2.78	
4,413.00	12.49	149.93	4,342.06	-655.45	325.75	368.70	1.46	1.46	-0.29	
4,505.00	12.68	148.68	4,431.85	-672.68	335.99	380.06	0.36	0.21	-1.36	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well BERRY FARMS 8-6HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 461 @ 4837.00usft
<b>Site:</b>	BERRY FARMS 8-8HZ PAD	<b>MD Reference:</b>	PD 461 @ 4837.00usft
<b>Well:</b>	BERRY FARMS 8-6HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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)	
4,598.00	12.21	151.34	4,522.66	-690.03	346.01	391.21	0.80	-0.51	2.86	
4,690.00	13.17	147.83	4,612.42	-707.44	356.26	402.60	1.34	1.04	-3.82	
4,783.00	11.23	147.52	4,703.31	-724.05	366.76	414.18	2.09	-2.09	-0.33	
4,875.00	10.07	146.00	4,793.73	-738.27	376.07	424.42	1.30	-1.26	-1.65	
4,967.00	10.50	147.19	4,884.25	-751.99	385.11	434.35	0.52	0.47	1.29	
5,091.00	11.03	146.30	5,006.06	-771.35	397.81	448.32	0.45	0.43	-0.72	
5,185.00	9.94	146.71	5,098.49	-785.62	407.26	458.69	1.16	-1.16	0.44	
5,277.00	11.07	149.85	5,188.95	-799.89	416.05	468.42	1.38	1.23	3.41	
5,369.00	10.83	152.17	5,279.28	-815.17	424.52	477.89	0.55	-0.26	2.52	
5,461.00	10.87	165.07	5,369.65	-831.20	430.79	485.21	2.63	0.04	14.02	
5,554.00	11.24	172.49	5,460.92	-848.66	434.24	489.81	1.58	0.40	7.98	
5,646.00	12.09	171.19	5,551.02	-867.07	436.89	493.68	0.97	0.92	-1.41	
5,740.00	12.19	168.44	5,642.92	-886.52	440.38	498.47	0.62	0.11	-2.93	
5,832.00	11.88	173.15	5,732.90	-905.44	443.46	502.80	1.12	-0.34	5.12	
5,924.00	12.48	174.61	5,822.83	-924.74	445.52	506.14	0.73	0.65	1.59	
6,016.00	13.68	174.07	5,912.44	-945.46	447.58	509.57	1.31	1.30	-0.59	
6,109.00	12.46	172.59	6,003.03	-966.35	450.01	513.39	1.36	-1.31	-1.59	
6,201.00	13.13	165.20	6,092.75	-986.29	453.96	518.66	1.92	0.73	-8.03	
6,294.00	10.57	157.20	6,183.77	-1,004.37	459.96	525.86	3.26	-2.75	-8.60	
6,386.00	14.09	140.82	6,273.66	-1,020.84	470.31	537.28	5.36	3.83	-17.80	
6,479.00	13.95	134.89	6,363.89	-1,037.53	485.41	553.45	1.55	-0.15	-6.38	
6,571.00	20.87	119.15	6,451.67	-1,053.37	507.62	576.67	9.04	7.52	-17.11	
6,663.00	27.32	108.96	6,535.65	-1,068.23	541.95	611.91	8.32	7.01	-11.08	
6,755.00	32.31	99.28	6,615.49	-1,079.07	586.23	656.82	7.52	5.42	-10.52	
6,847.00	37.75	98.89	6,690.80	-1,087.39	638.36	709.39	5.92	5.91	-0.42	
6,939.00	46.78	101.11	6,758.82	-1,098.22	699.21	770.82	9.95	9.82	2.41	
7,032.00	55.20	101.50	6,817.30	-1,112.39	770.00	842.40	9.06	9.05	0.42	
7,124.00	63.97	94.08	6,863.88	-1,122.90	848.48	921.40	11.79	9.53	-8.07	
7,196.36	71.46	92.38	6,891.31	-1,126.64	915.28	988.30	10.57	10.34	-2.35	
<b>Section 9 @ 7196.36' MD</b>										
7,216.00	73.49	91.95	6,897.22	-1,127.35	933.99	1,007.02	10.57	10.36	-2.20	
7,308.00	78.42	91.75	6,919.54	-1,130.23	1,023.17	1,096.19	5.36	5.36	-0.22	
7,380.71	87.75	92.91	6,928.28	-1,133.16	1,095.21	1,168.27	12.93	12.84	1.59	
<b>FTP (2541' FNL, 180' FWL) @ 7380.71' MD</b>										
7,400.00	90.23	93.21	6,928.62	-1,134.19	1,114.47	1,187.55	12.93	12.84	1.57	
<b>Heel (2542' FNL, 199' FWL) @ 7400' MD</b>										
7,493.00	88.12	93.10	6,929.96	-1,139.31	1,207.31	1,280.53	2.27	-2.27	-0.12	
7,586.00	87.54	92.68	6,933.48	-1,144.00	1,300.13	1,373.45	0.77	-0.62	-0.45	
7,679.00	89.95	92.87	6,935.52	-1,148.50	1,392.99	1,466.41	2.60	2.59	0.20	
7,771.00	90.05	92.64	6,935.52	-1,152.92	1,484.88	1,558.39	0.27	0.11	-0.25	
7,864.00	90.35	92.57	6,935.20	-1,157.15	1,577.78	1,651.37	0.33	0.32	-0.08	
7,956.00	91.82	93.01	6,933.45	-1,161.62	1,669.66	1,743.34	1.67	1.60	0.48	
8,048.00	90.05	92.37	6,931.95	-1,165.94	1,761.54	1,835.30	2.05	-1.92	-0.70	
8,141.00	89.41	91.68	6,932.39	-1,169.23	1,854.48	1,928.25	1.01	-0.69	-0.74	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well BERRY FARMS 8-6HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 461 @ 4837.00usft
<b>Site:</b>	BERRY FARMS 8-8HZ PAD	<b>MD Reference:</b>	PD 461 @ 4837.00usft
<b>Well:</b>	BERRY FARMS 8-6HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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)	
8,235.00	89.79	91.88	6,933.05	-1,172.15	1,948.43	2,022.19	0.46	0.40	0.21	
8,328.00	90.62	91.73	6,932.71	-1,175.08	2,041.38	2,115.13	0.91	0.89	-0.16	
8,420.00	91.35	91.53	6,931.13	-1,177.69	2,133.33	2,207.05	0.82	0.79	-0.22	
8,512.00	90.65	91.63	6,929.53	-1,180.23	2,225.28	2,298.97	0.77	-0.76	0.11	
8,605.00	91.57	91.29	6,927.73	-1,182.60	2,318.23	2,391.87	1.05	0.99	-0.37	
8,698.00	90.32	90.89	6,926.19	-1,184.37	2,411.20	2,484.75	1.41	-1.34	-0.43	
8,790.00	89.85	91.50	6,926.06	-1,186.28	2,503.18	2,576.65	0.84	-0.51	0.66	
8,884.00	89.72	91.29	6,926.41	-1,188.57	2,597.15	2,670.57	0.26	-0.14	-0.22	
8,976.00	89.37	90.96	6,927.14	-1,190.38	2,689.13	2,762.46	0.52	-0.38	-0.36	
9,069.00	90.84	91.03	6,926.97	-1,191.99	2,782.11	2,855.35	1.58	1.58	0.08	
9,161.00	88.31	89.98	6,927.65	-1,192.80	2,874.10	2,947.18	2.98	-2.75	-1.14	
9,254.00	88.52	89.81	6,930.22	-1,192.63	2,967.06	3,039.93	0.29	0.23	-0.18	
9,347.00	88.61	89.49	6,932.55	-1,192.07	3,060.03	3,132.65	0.36	0.10	-0.34	
9,440.00	88.98	89.15	6,934.51	-1,190.96	3,153.00	3,225.34	0.54	0.40	-0.37	
9,532.00	88.26	88.65	6,936.72	-1,189.20	3,244.96	3,316.98	0.95	-0.78	-0.54	
9,625.00	87.81	88.86	6,939.91	-1,187.18	3,337.88	3,409.56	0.53	-0.48	0.23	
9,719.00	90.76	90.40	6,941.09	-1,186.57	3,431.86	3,503.29	3.54	3.14	1.64	
9,813.00	91.44	90.15	6,939.28	-1,187.02	3,525.84	3,597.09	0.77	0.72	-0.27	
9,906.00	90.13	90.42	6,938.01	-1,187.49	3,618.83	3,689.90	1.44	-1.41	0.29	
9,999.00	91.08	90.17	6,937.02	-1,187.96	3,711.82	3,782.72	1.06	1.02	-0.27	
10,091.00	90.11	89.71	6,936.07	-1,187.87	3,803.82	3,874.50	1.17	-1.05	-0.50	
10,184.00	91.29	89.93	6,934.93	-1,187.58	3,896.81	3,967.27	1.29	1.27	0.24	
10,276.00	89.31	90.51	6,934.45	-1,187.93	3,988.80	4,059.08	2.24	-2.15	0.63	
10,368.00	90.38	90.60	6,934.70	-1,188.82	4,080.79	4,150.93	1.17	1.16	0.10	
10,460.00	88.28	91.35	6,935.78	-1,190.39	4,172.77	4,242.80	2.42	-2.28	0.82	
10,554.00	87.81	91.24	6,938.98	-1,192.51	4,266.69	4,336.66	0.51	-0.50	-0.12	
10,649.00	86.91	91.01	6,943.36	-1,194.37	4,361.57	4,431.45	0.98	-0.95	-0.24	
10,741.00	89.65	91.78	6,946.12	-1,196.61	4,453.49	4,523.32	3.09	2.98	0.84	
10,835.00	89.56	91.41	6,946.77	-1,199.23	4,547.45	4,617.24	0.41	-0.10	-0.39	
10,928.00	89.81	90.43	6,947.28	-1,200.72	4,640.44	4,710.12	1.09	0.27	-1.05	
11,021.00	89.95	89.89	6,947.47	-1,200.98	4,733.44	4,802.93	0.60	0.15	-0.58	
11,115.00	90.50	88.89	6,947.10	-1,199.98	4,827.43	4,896.65	1.21	0.59	-1.06	
11,207.00	90.36	91.01	6,946.41	-1,199.90	4,919.42	4,988.43	2.31	-0.15	2.30	
11,300.00	90.19	90.67	6,945.97	-1,201.26	5,012.41	5,081.30	0.41	-0.18	-0.37	
11,392.00	90.69	90.21	6,945.26	-1,201.97	5,104.40	5,173.14	0.74	0.54	-0.50	
11,486.00	87.94	90.29	6,946.39	-1,202.38	5,198.39	5,266.94	2.93	-2.93	0.09	
11,578.00	89.74	90.23	6,948.25	-1,202.80	5,290.36	5,358.74	1.96	1.96	-0.07	
11,671.00	89.66	90.23	6,948.73	-1,203.17	5,383.36	5,451.56	0.09	-0.09	0.00	
11,764.00	91.36	91.75	6,947.91	-1,204.78	5,476.34	5,544.44	2.45	1.83	1.63	
11,857.00	91.96	91.31	6,945.21	-1,207.26	5,569.27	5,637.32	0.80	0.65	-0.47	
11,949.00	89.95	91.58	6,943.68	-1,209.58	5,661.22	5,729.23	2.20	-2.18	0.29	
12,042.00	90.58	91.19	6,943.25	-1,211.83	5,754.19	5,822.14	0.80	0.68	-0.42	
12,134.00	90.35	91.23	6,942.50	-1,213.77	5,846.17	5,914.04	0.25	-0.25	0.04	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well BERRY FARMS 8-6HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 461 @ 4837.00usft
<b>Site:</b>	BERRY FARMS 8-8HZ PAD	<b>MD Reference:</b>	PD 461 @ 4837.00usft
<b>Well:</b>	BERRY FARMS 8-6HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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	89.88	90.69	6,942.32	-1,215.33	5,939.15	6,006.93	0.77	-0.51	-0.58	
12,319.00	90.14	90.60	6,942.30	-1,216.36	6,031.15	6,098.78	0.30	0.28	-0.10	
12,412.00	89.99	90.63	6,942.19	-1,217.36	6,124.14	6,191.64	0.16	-0.16	0.03	
12,517.00	90.26	90.89	6,941.97	-1,218.75	6,229.13	6,296.49	0.36	0.26	0.25	
12,611.00	89.89	91.23	6,941.84	-1,220.49	6,323.11	6,390.38	0.53	-0.39	0.36	
12,704.00	89.75	91.57	6,942.13	-1,222.76	6,416.09	6,483.30	0.40	-0.15	0.37	
12,796.00	89.72	91.40	6,942.56	-1,225.15	6,508.05	6,575.22	0.19	-0.03	-0.18	
12,889.00	89.56	91.83	6,943.14	-1,227.77	6,601.02	6,668.15	0.49	-0.17	0.46	
12,982.00	89.62	91.68	6,943.81	-1,230.62	6,693.97	6,761.08	0.17	0.06	-0.16	
13,075.00	89.38	91.74	6,944.62	-1,233.39	6,786.92	6,854.02	0.27	-0.26	0.06	
13,167.00	89.38	91.70	6,945.62	-1,236.15	6,878.88	6,945.95	0.04	0.00	-0.04	
13,259.00	88.81	92.12	6,947.07	-1,239.22	6,970.81	7,037.89	0.77	-0.62	0.46	
13,350.00	89.17	91.84	6,948.67	-1,242.36	7,061.75	7,128.83	0.50	0.40	-0.31	
13,442.00	89.95	89.75	6,949.38	-1,243.64	7,153.73	7,220.69	2.42	0.85	-2.27	
13,534.00	90.25	88.20	6,949.22	-1,241.99	7,245.71	7,312.36	1.72	0.33	-1.68	
13,627.00	90.71	88.94	6,948.44	-1,239.67	7,338.68	7,404.96	0.94	0.49	0.80	
13,720.00	90.41	88.79	6,947.53	-1,237.83	7,431.65	7,497.61	0.36	-0.32	-0.16	
13,812.00	90.44	88.38	6,946.85	-1,235.56	7,523.62	7,589.22	0.45	0.03	-0.45	
13,904.00	90.62	88.47	6,946.00	-1,233.03	7,615.59	7,680.81	0.22	0.20	0.10	
13,998.00	90.39	88.29	6,945.17	-1,230.37	7,709.54	7,774.39	0.31	-0.24	-0.19	
14,090.00	90.58	88.67	6,944.39	-1,227.93	7,801.51	7,865.98	0.46	0.21	0.41	
14,182.00	90.38	89.49	6,943.62	-1,226.46	7,893.49	7,957.66	0.92	-0.22	0.89	
14,274.00	90.59	89.80	6,942.84	-1,225.89	7,985.49	8,049.42	0.41	0.23	0.34	
14,366.00	90.53	90.86	6,941.94	-1,226.42	8,077.48	8,141.24	1.15	-0.07	1.15	
14,458.00	89.40	90.64	6,942.00	-1,227.62	8,169.47	8,233.11	1.25	-1.23	-0.24	
14,550.00	89.11	89.56	6,943.20	-1,227.78	8,261.46	8,324.90	1.22	-0.32	-1.17	
14,643.00	89.68	88.98	6,944.18	-1,226.60	8,354.45	8,417.60	0.87	0.61	-0.62	
14,737.00	89.69	89.57	6,944.69	-1,225.41	8,448.44	8,511.31	0.63	0.01	0.63	
14,829.00	89.71	89.95	6,945.18	-1,225.02	8,540.44	8,603.07	0.41	0.02	0.41	
14,923.00	89.68	90.46	6,945.68	-1,225.36	8,634.43	8,696.89	0.54	-0.03	0.54	
15,015.00	89.61	89.91	6,946.25	-1,225.65	8,726.43	8,788.70	0.60	-0.08	-0.60	
15,108.00	89.89	90.37	6,946.65	-1,225.88	8,819.43	8,881.51	0.58	0.30	0.49	
15,200.00	89.63	89.75	6,947.04	-1,225.98	8,911.43	8,973.31	0.73	-0.28	-0.67	
15,293.00	89.65	90.42	6,947.62	-1,226.12	9,004.43	9,066.11	0.72	0.02	0.72	
15,387.00	89.81	89.63	6,948.06	-1,226.16	9,098.42	9,159.90	0.86	0.17	-0.84	
15,479.00	90.09	89.18	6,948.14	-1,225.20	9,190.42	9,251.63	0.58	0.30	-0.49	
15,571.00	90.67	88.59	6,947.53	-1,223.41	9,282.40	9,343.28	0.90	0.63	-0.64	
15,665.00	90.51	88.83	6,946.57	-1,221.30	9,376.37	9,436.90	0.31	-0.17	0.26	
15,757.00	90.60	89.98	6,945.68	-1,220.34	9,468.36	9,528.62	1.25	0.10	1.25	
15,849.00	90.54	90.98	6,944.76	-1,221.11	9,560.35	9,620.46	1.09	-0.07	1.09	
15,941.00	90.61	91.96	6,943.84	-1,223.47	9,652.31	9,712.38	1.07	0.08	1.07	
16,033.00	90.11	93.59	6,943.26	-1,227.92	9,744.20	9,804.36	1.85	-0.54	1.77	
16,125.00	89.68	92.65	6,943.43	-1,232.93	9,836.06	9,896.35	1.12	-0.47	-1.02	
16,217.00	89.88	92.45	6,943.78	-1,237.02	9,927.97	9,988.33	0.31	0.22	-0.22	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well BERRY FARMS 8-6HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 461 @ 4837.00usft
<b>Site:</b>	BERRY FARMS 8-8HZ PAD	<b>MD Reference:</b>	PD 461 @ 4837.00usft
<b>Well:</b>	BERRY FARMS 8-6HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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)	
16,310.00	89.67	93.06	6,944.15	-1,241.49	10,020.86	10,081.31	0.69	-0.23	0.66	
16,403.00	89.88	92.50	6,944.51	-1,246.01	10,113.75	10,174.29	0.64	0.23	-0.60	
16,495.00	89.88	92.05	6,944.70	-1,249.66	10,205.68	10,266.26	0.49	0.00	-0.49	
16,587.00	89.71	91.75	6,945.03	-1,252.71	10,297.63	10,358.21	0.37	-0.18	-0.33	
16,679.00	89.64	92.39	6,945.55	-1,256.03	10,389.57	10,450.16	0.70	-0.08	0.70	
16,771.00	89.56	92.48	6,946.20	-1,259.94	10,481.48	10,542.13	0.13	-0.09	0.10	
16,864.00	89.65	91.75	6,946.84	-1,263.37	10,574.41	10,635.09	0.79	0.10	-0.78	
16,957.00	89.81	91.78	6,947.28	-1,266.24	10,667.37	10,728.03	0.18	0.17	0.03	
17,049.00	89.77	91.73	6,947.61	-1,269.05	10,759.32	10,819.97	0.07	-0.04	-0.05	
17,143.00	90.00	92.34	6,947.80	-1,272.39	10,853.26	10,913.92	0.69	0.24	0.65	
17,235.00	89.60	91.80	6,948.12	-1,275.71	10,945.20	11,005.88	0.73	-0.43	-0.59	
17,325.00	89.70	92.29	6,948.67	-1,278.93	11,035.14	11,095.83	0.56	0.11	0.54	
17,419.00	89.85	91.44	6,949.04	-1,281.98	11,129.09	11,189.78	0.92	0.16	-0.90	
17,511.00	89.69	92.43	6,949.41	-1,285.09	11,221.04	11,281.72	1.09	-0.17	1.08	
17,605.00	88.66	93.43	6,950.77	-1,289.90	11,314.90	11,375.70	1.53	-1.10	1.06	
17,698.00	89.13	92.06	6,952.56	-1,294.35	11,407.78	11,468.66	1.56	0.51	-1.47	
17,790.00	88.86	93.28	6,954.17	-1,298.63	11,499.66	11,560.63	1.36	-0.29	1.33	
17,882.00	89.13	92.75	6,955.79	-1,303.47	11,591.52	11,652.61	0.65	0.29	-0.58	
17,975.00	88.57	94.19	6,957.65	-1,309.10	11,684.33	11,745.58	1.66	-0.60	1.55	
18,067.00	88.52	95.22	6,959.99	-1,316.64	11,775.99	11,837.54	1.12	-0.05	1.12	
18,160.00	88.29	96.47	6,962.58	-1,326.11	11,868.47	11,930.45	1.37	-0.25	1.34	
18,253.00	88.25	97.19	6,965.39	-1,337.16	11,960.76	12,023.27	0.78	-0.04	0.77	
18,345.00	88.41	96.20	6,968.07	-1,347.89	12,052.10	12,115.12	1.09	0.17	-1.08	
18,439.00	88.28	97.32	6,970.78	-1,358.95	12,145.40	12,208.95	1.20	-0.14	1.19	
18,531.00	87.79	98.33	6,973.94	-1,371.46	12,236.49	12,300.67	1.22	-0.53	1.10	
18,624.00	87.95	100.31	6,977.39	-1,386.51	12,328.19	12,393.18	2.13	0.17	2.13	
18,719.00	87.08	101.38	6,981.51	-1,404.37	12,421.41	12,487.37	1.45	-0.92	1.13	
18,811.00	87.38	100.53	6,985.96	-1,421.83	12,511.62	12,578.55	0.98	0.33	-0.92	
18,904.00	87.62	99.80	6,990.01	-1,438.23	12,603.08	12,670.89	0.83	0.26	-0.78	
18,996.00	87.46	100.60	6,993.96	-1,454.51	12,693.54	12,762.24	0.89	-0.17	0.87	
19,089.00	89.08	100.91	6,996.77	-1,471.85	12,784.86	12,854.51	1.77	1.74	0.33	
19,182.00	89.16	101.78	6,998.20	-1,490.15	12,876.03	12,946.70	0.94	0.09	0.94	
19,274.00	88.96	102.16	6,999.71	-1,509.22	12,966.02	13,037.76	0.47	-0.22	0.41	
19,367.00	89.22	101.65	7,001.19	-1,528.41	13,057.01	13,129.82	0.62	0.28	-0.55	
19,460.00	89.13	101.71	7,002.52	-1,547.23	13,148.07	13,221.94	0.12	-0.10	0.06	
19,552.00	89.21	101.56	7,003.86	-1,565.78	13,238.17	13,313.08	0.18	0.09	-0.16	
19,644.00	89.26	101.49	7,005.09	-1,584.16	13,328.31	13,404.24	0.09	0.05	-0.08	
19,738.00	89.12	101.68	7,006.41	-1,603.04	13,420.38	13,497.37	0.25	-0.15	0.20	
19,830.00	89.22	101.56	7,007.75	-1,621.57	13,510.49	13,588.50	0.17	0.11	-0.13	
19,922.00	89.12	101.59	7,009.08	-1,640.03	13,600.61	13,679.65	0.11	-0.11	0.03	
20,015.00	89.09	101.75	7,010.53	-1,658.83	13,691.68	13,771.77	0.18	-0.03	0.17	
20,109.00	89.12	101.64	7,012.00	-1,677.89	13,783.71	13,864.87	0.12	0.03	-0.12	
20,201.00	88.89	101.84	7,013.60	-1,696.60	13,873.77	13,955.98	0.33	-0.25	0.22	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well BERRY FARMS 8-6HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 461 @ 4837.00usft
<b>Site:</b>	BERRY FARMS 8-8HZ PAD	<b>MD Reference:</b>	PD 461 @ 4837.00usft
<b>Well:</b>	BERRY FARMS 8-6HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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)	
20,294.00	89.23	101.63	7,015.12	-1,715.51	13,964.82	14,048.08	0.43	0.37	-0.23	
20,387.00	88.91	101.56	7,016.63	-1,734.20	14,055.91	14,140.22	0.35	-0.34	-0.08	
20,479.00	88.90	101.75	7,018.39	-1,752.79	14,145.99	14,231.34	0.21	-0.01	0.21	
20,571.00	88.57	102.18	7,020.42	-1,771.86	14,235.97	14,322.39	0.59	-0.36	0.47	
20,664.00	87.91	101.38	7,023.28	-1,790.83	14,326.97	14,414.45	1.11	-0.71	-0.86	
20,757.00	88.43	100.07	7,026.25	-1,808.13	14,418.30	14,506.73	1.51	0.56	-1.41	
20,849.00	88.15	100.86	7,028.99	-1,824.83	14,508.73	14,598.07	0.91	-0.30	0.86	
20,942.00	87.98	100.79	7,032.13	-1,842.29	14,600.02	14,690.32	0.20	-0.18	-0.08	
21,034.00	88.25	100.70	7,035.16	-1,859.43	14,690.36	14,781.60	0.31	0.29	-0.10	
21,127.00	88.32	100.59	7,037.94	-1,876.60	14,781.72	14,873.90	0.14	0.08	-0.12	
21,219.00	88.11	100.97	7,040.81	-1,893.80	14,872.05	14,965.18	0.47	-0.23	0.41	
21,311.00	87.98	100.82	7,043.95	-1,911.18	14,962.34	15,056.42	0.22	-0.14	-0.16	
21,403.00	88.11	100.83	7,047.09	-1,928.45	15,052.65	15,147.68	0.14	0.14	0.01	
21,496.00	88.25	101.02	7,050.04	-1,946.07	15,143.92	15,239.92	0.25	0.15	0.20	
21,588.00	87.90	101.26	7,053.13	-1,963.83	15,234.13	15,331.12	0.46	-0.38	0.26	
21,680.00	87.76	101.51	7,056.61	-1,981.98	15,324.26	15,422.25	0.31	-0.15	0.27	
21,772.00	87.91	100.94	7,060.09	-1,999.88	15,414.43	15,513.42	0.64	0.16	-0.62	
21,864.00	88.75	99.23	7,062.77	-2,015.98	15,504.97	15,604.83	2.07	0.91	-1.86	
21,957.00	89.03	99.93	7,064.57	-2,031.45	15,596.65	15,697.34	0.81	0.30	0.75	
22,049.00	89.04	100.04	7,066.12	-2,047.40	15,687.25	15,788.80	0.12	0.01	0.12	
22,143.00	88.89	99.77	7,067.82	-2,063.57	15,779.83	15,882.25	0.33	-0.16	-0.29	
22,235.00	89.02	100.14	7,069.50	-2,079.47	15,870.43	15,973.71	0.43	0.14	0.40	
22,329.00	89.01	99.92	7,071.11	-2,095.84	15,962.98	16,067.14	0.23	-0.01	-0.23	
22,421.00	89.04	100.00	7,072.68	-2,111.75	16,053.58	16,158.60	0.09	0.03	0.09	
22,513.00	88.91	99.86	7,074.33	-2,127.61	16,144.19	16,250.06	0.21	-0.14	-0.15	
22,579.00	89.11	100.11	7,075.47	-2,139.05	16,209.18	16,315.67	0.49	0.30	0.38	
<b>Last Survey (1989' FSL, 292' FEL) @ 22579' MD</b>										
22,617.00	89.11	100.11	7,076.06	-2,145.72	16,246.58	16,353.44	0.00	0.00	0.00	
<b>TD (1983 FSL, 255' FEL) @ 22617' MD</b>										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,998.00	1,975.48	-227.01	113.02	First AEP Survey @ 1998' MD	
7,196.36	6,891.31	-1,126.64	915.28	Section 9 @ 7196.36' MD	
7,380.71	6,928.28	-1,133.16	1,095.21	FTP (2541' FNL, 180' FWL) @ 7380.71' MD	
7,400.00	6,928.62	-1,134.19	1,114.47	Heel (2542' FNL, 199' FWL) @ 7400' MD	
22,579.00	7,075.47	-2,139.05	16,209.18	Last Survey (1989' FSL, 292' FEL) @ 22579' MD	
22,617.00	7,076.06	-2,145.72	16,246.58	TD (1983 FSL, 255' FEL) @ 22617' MD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_