

# **Occidental Petroleum**

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

**Acacia 13-17HZ North Pad**

**Acacia 17-9HZ**

**API# 123-52627**

**OH**

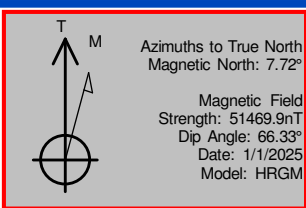
**Design: OH**

## **Standard Survey Report**

**22 January, 2025**



Project: Weld County, CO (UTM-NAD83)  
 Site: Acacia 13-17HZ North Pad  
 Well: Acacia 17-9HZ  
 Wellbore: OH  
 Design: OH  
 Lat: 40.133749  
 Long: -104.467449  
 GL: 4861.00  
 KB: PD 564 @ 4887.00usft



Azimuths to True North  
 Magnetic North: 7.72°  
 Magnetic Field  
 Strength: 51469.9nT  
 Dip Angle: 66.33°  
 Date: 1/1/2025  
 Model: HRGM

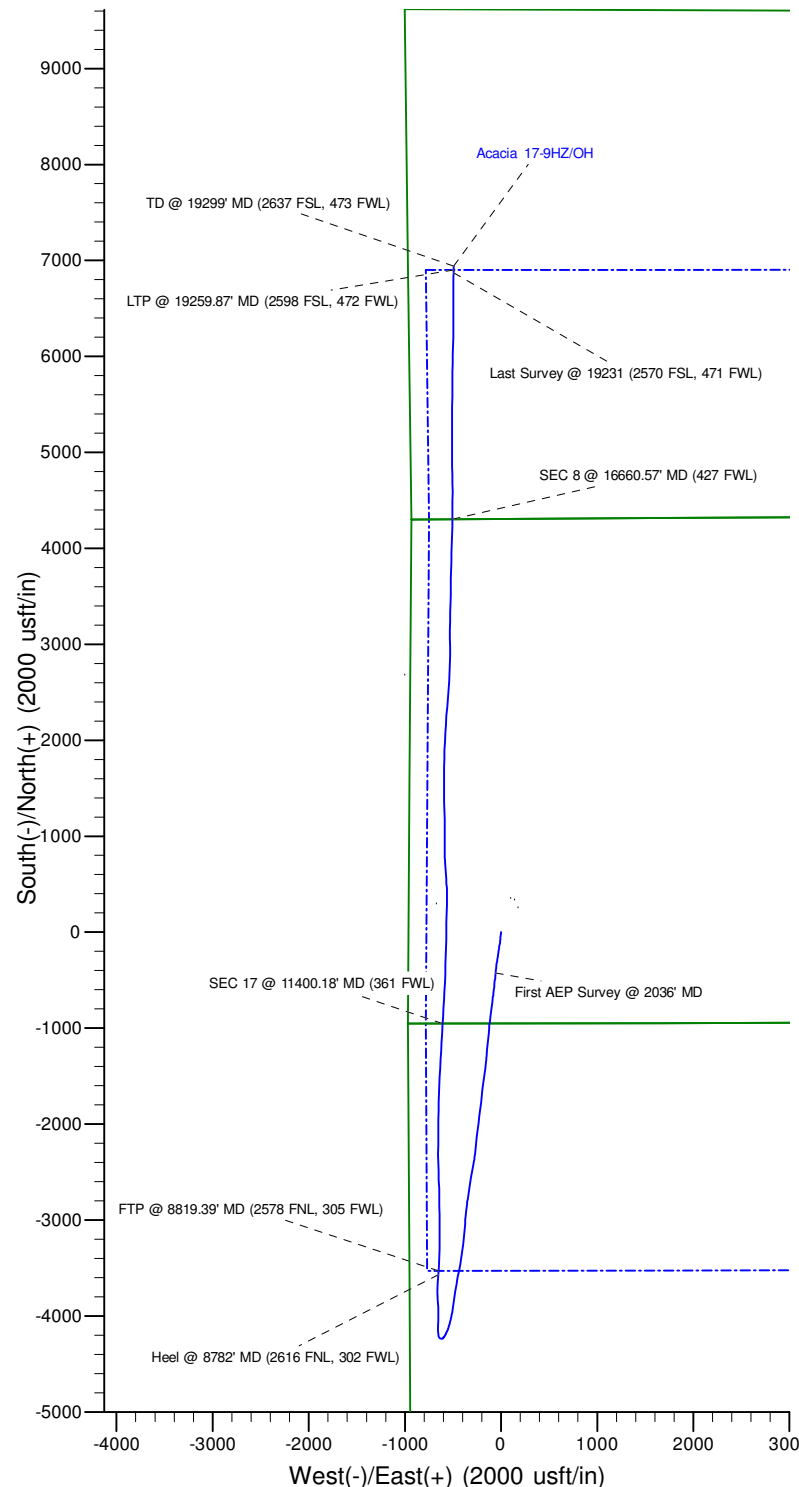
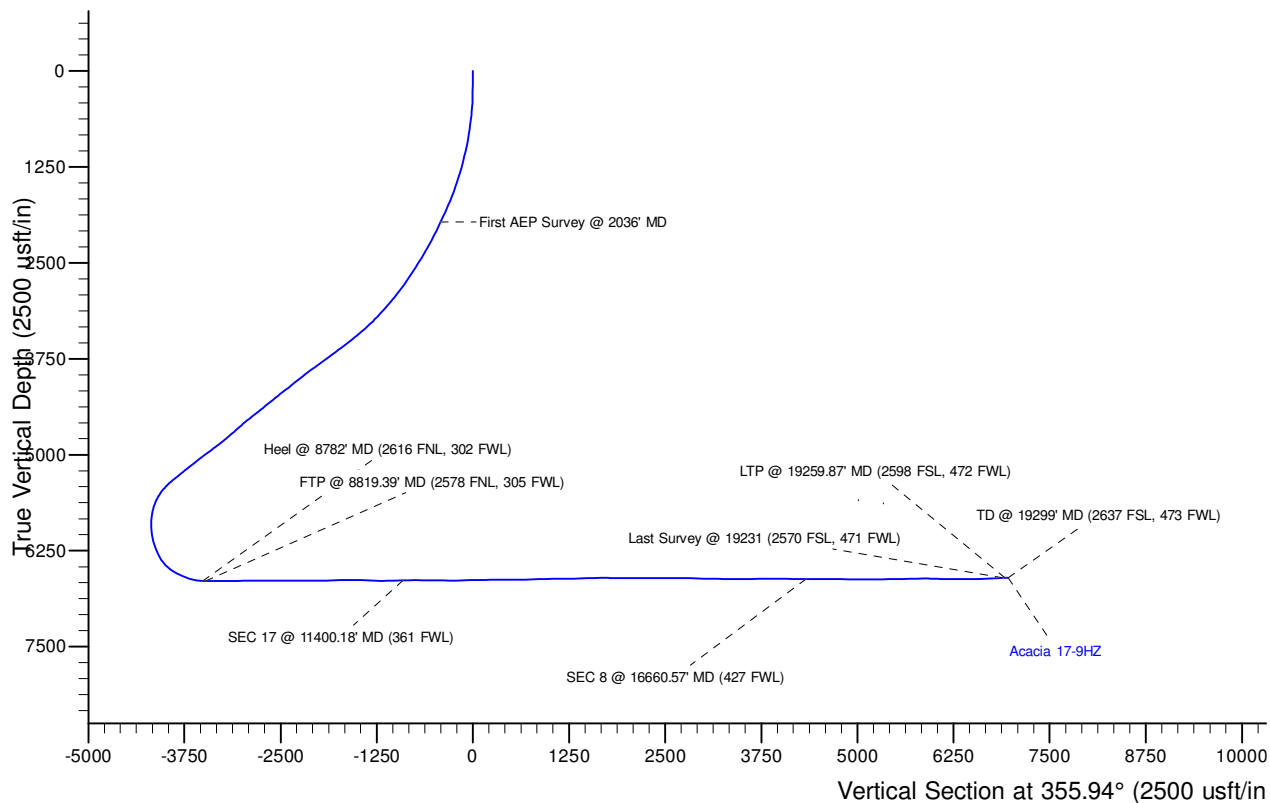
WELL DETAILS: Acacia 17-9HZ

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14575883.36	1789267.06	40.133749	-104.467449

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
2036.00	25.29	185.05	1968.62	-424.54	-56.54	-419.47	428.63	First AEP Survey @ 2036' MD
8782.00	89.34	4.53	6643.88	-3568.25	-651.78	-3513.12	4992.35	Heel @ 8782' MD (2616 FNL, 302 FWL)
8819.39	89.47	4.50	6644.27	-3530.98	-648.83	-3476.15	5029.74	FTP @ 8819.39' MD (2578 FNL, 305 FWL)
11400.18	91.15	3.22	6636.82	-952.25	-607.63	-906.82	7610.08	SEC 17 @ 11400.18' MD (361 FWL)
16660.57	91.09	0.51	6620.22	4303.11	-506.93	4328.21	12869.59	SEC 8 @ 16660.57' MD (427 FWL)
19231.00	92.80	0.83	6603.94	6872.57	-493.86	6890.29	15439.28	Last Survey @ 19231 (2570 FSL, 471 FWL)
19259.87	92.80	0.83	6602.53	6901.40	-493.44	6919.02	15468.11	LTP @ 19259.87' MD (2598 FSL, 472 FWL)
19299.00	92.80	0.83	6600.62	6940.48	-492.88	6957.96	15507.19	TD @ 19299' MD (2637 FSL, 473 FWL)

SHL: 951' FSL, 962' FWL - Sec 17-T2N-R63W  
 Heel: 2616' FNL, 302' FWL - Sec 20-T2N-R63W  
 BHL: 2637' FSL, 473' FWL - Sec 8-T2N-R63W



## Survey Report

<b>Company:</b> Occidental Petroleum	<b>Local Co-ordinate Reference:</b> Well Acacia 17-9HZ
<b>Project:</b> Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b> PD 564 @ 4887.00usft
<b>Site:</b> Acacia 13-17HZ North Pad	<b>MD Reference:</b> PD 564 @ 4887.00usft
<b>Well:</b> Acacia 17-9HZ	<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> Acacia 13-17HZ North Pad		
<b>Site Position:</b>	<b>Northing:</b> 14,575,962.27 usft	<b>Latitude:</b> 40.133968
<b>From:</b> Lat/Long	<b>Easting:</b> 1,789,127.66 usft	<b>Longitude:</b> -104.467946
<b>Position Uncertainty:</b> 0.00 usft	<b>Slot Radius:</b> 13-3/16 "	

<b>Well</b> Acacia 17-9HZ			
<b>Well Position</b>	<b>+N/-S</b> 0.00 usft	<b>Northing:</b> 14,575,883.35 usft	<b>Latitude:</b> 40.133749
	<b>+E/-W</b> 0.00 usft	<b>Easting:</b> 1,789,267.06 usft	<b>Longitude:</b> -104.467449
<b>Position Uncertainty</b>	3.35 usft	<b>Wellhead Elevation:</b> usft	<b>Ground Level:</b> 4,861.00 usft
<b>Grid Convergence:</b>	0.34 °		

<b>Wellbore</b> OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	1/1/2025	7.72	66.33	51,469.85720516

<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	355.94	

<b>Survey Program</b>		<b>Date</b> 1/22/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
11.00	1,947.00	Surface (OH)	A005Mc_MWD+IFR1_R5	MWD+IFR1
2,036.00	19,299.00	MWD (OH)	A008Mc_MWD+IFR1+MS_R	MWD+IFR1+MSA

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
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00
88.00	0.63	165.42	88.00	-0.41	0.11	-0.42	0.82	0.82	0.00
178.00	0.64	178.44	177.99	-1.39	0.24	-1.40	0.16	0.01	14.47
269.00	0.81	187.85	268.99	-2.54	0.17	-2.54	0.23	0.19	10.34
360.00	1.68	186.67	359.96	-4.50	-0.07	-4.48	0.96	0.96	-1.30
449.00	3.81	187.11	448.86	-8.73	-0.59	-8.67	2.39	2.39	0.49
539.00	5.10	188.91	538.58	-15.65	-1.58	-15.50	1.44	1.43	2.00
628.00	7.14	187.26	627.07	-25.04	-2.89	-24.78	2.30	2.29	-1.85

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well Acacia 17-9HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 564 @ 4887.00usft
<b>Site:</b>	Acacia 13-17HZ North Pad	<b>MD Reference:</b>	PD 564 @ 4887.00usft
<b>Well:</b>	Acacia 17-9HZ	<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	7.84	183.56	716.30	-36.72	-3.98	-36.35	0.94	0.78	-4.11	
807.00	8.90	183.47	804.35	-49.65	-4.77	-49.19	1.19	1.19	-0.10	
897.00	10.82	187.08	893.02	-64.98	-6.24	-64.38	2.24	2.13	4.01	
987.00	11.08	184.65	981.38	-81.99	-7.98	-81.22	0.59	0.29	-2.70	
1,076.00	13.62	187.30	1,068.32	-100.91	-10.00	-99.95	2.92	2.85	2.98	
1,165.00	15.18	191.84	1,154.52	-122.71	-13.73	-121.43	2.16	1.75	5.10	
1,255.00	15.78	189.57	1,241.26	-146.31	-18.18	-144.65	0.95	0.67	-2.52	
1,344.00	16.86	187.77	1,326.67	-171.03	-21.93	-169.05	1.34	1.21	-2.02	
1,434.00	17.68	186.67	1,412.61	-197.54	-25.29	-195.25	0.98	0.91	-1.22	
1,524.00	19.05	188.38	1,498.03	-225.64	-29.01	-223.02	1.64	1.52	1.90	
1,613.00	20.24	188.28	1,581.84	-255.25	-33.35	-252.24	1.34	1.34	-0.11	
1,703.00	22.72	188.82	1,665.59	-287.83	-38.26	-284.40	2.76	2.76	0.60	
1,792.00	24.38	190.02	1,747.17	-322.91	-44.09	-318.98	1.94	1.87	1.35	
1,881.00	24.67	187.88	1,828.14	-359.40	-49.83	-354.96	1.05	0.33	-2.40	
1,947.00	24.97	185.52	1,888.05	-386.91	-53.06	-382.18	1.57	0.45	-3.58	
2,036.00	25.29	185.05	1,968.62	-424.54	-56.54	-419.47	0.42	0.36	-0.53	
<b>First AEP Survey @ 2036' MD</b>										
2,125.00	26.18	185.23	2,048.80	-463.03	-60.00	-457.62	1.00	1.00	0.20	
2,215.00	27.61	186.41	2,129.06	-503.53	-64.14	-497.72	1.70	1.59	1.31	
2,305.00	28.21	186.58	2,208.59	-545.39	-68.91	-539.14	0.67	0.67	0.19	
2,395.00	29.07	185.37	2,287.58	-588.29	-73.39	-581.61	1.15	0.96	-1.34	
2,484.00	31.33	186.65	2,364.50	-632.80	-78.09	-625.68	2.64	2.54	1.44	
2,574.00	31.72	188.47	2,441.21	-679.45	-84.29	-671.77	1.14	0.43	2.02	
2,664.00	31.90	186.83	2,517.70	-726.46	-90.60	-718.22	0.98	0.20	-1.82	
2,753.00	33.64	187.24	2,592.53	-774.27	-96.51	-765.49	1.97	1.96	0.46	
2,843.00	34.81	187.23	2,666.94	-824.49	-102.88	-815.13	1.30	1.30	-0.01	
2,933.00	35.47	187.56	2,740.54	-875.86	-109.55	-865.90	0.76	0.73	0.37	
3,043.00	36.84	186.17	2,829.36	-940.28	-117.29	-929.61	1.45	1.25	-1.26	
3,133.00	37.65	184.62	2,901.00	-994.51	-122.41	-983.34	1.38	0.90	-1.72	
3,222.00	39.60	186.14	2,970.53	-1,049.81	-127.63	-1,038.13	2.44	2.19	1.71	
3,312.00	40.65	186.08	3,039.35	-1,107.48	-133.80	-1,095.22	1.17	1.17	-0.07	
3,402.00	42.35	184.83	3,106.75	-1,166.84	-139.46	-1,154.03	2.10	1.89	-1.39	
3,492.00	43.14	184.28	3,172.85	-1,227.74	-144.31	-1,214.43	0.97	0.88	-0.61	
3,581.00	45.25	184.46	3,236.66	-1,289.60	-149.04	-1,275.80	2.37	2.37	0.20	
3,671.00	46.65	187.00	3,299.23	-1,353.94	-155.51	-1,339.53	2.56	1.56	2.82	
3,761.00	48.66	186.84	3,359.86	-1,419.98	-163.53	-1,404.83	2.24	2.23	-0.18	
3,851.00	50.17	187.36	3,418.41	-1,487.80	-171.98	-1,471.88	1.73	1.68	0.58	
3,940.00	51.53	187.37	3,474.59	-1,556.25	-180.83	-1,539.53	1.53	1.53	0.01	
4,030.00	52.87	187.64	3,529.75	-1,626.75	-190.12	-1,609.20	1.51	1.49	0.30	
4,120.00	54.44	186.68	3,583.09	-1,698.67	-199.14	-1,680.30	1.94	1.74	-1.07	
4,210.00	52.63	186.19	3,636.58	-1,770.59	-207.26	-1,751.46	2.06	-2.01	-0.54	
4,299.00	54.21	186.79	3,689.62	-1,841.60	-215.34	-1,821.72	1.86	1.78	0.67	
4,389.00	55.15	187.10	3,741.65	-1,914.50	-224.22	-1,893.80	1.08	1.04	0.34	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well Acacia 17-9HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 564 @ 4887.00usft
<b>Site:</b>	Acacia 13-17HZ North Pad	<b>MD Reference:</b>	PD 564 @ 4887.00usft
<b>Well:</b>	Acacia 17-9HZ	<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)	
4,479.00	54.43	187.18	3,793.54	-1,987.46	-233.36	-1,965.94	0.80	-0.80	0.09	
4,568.00	54.20	186.58	3,845.46	-2,059.23	-242.02	-2,036.91	0.61	-0.26	-0.67	
4,658.00	54.02	186.38	3,898.22	-2,131.67	-250.25	-2,108.59	0.27	-0.20	-0.22	
4,748.00	53.20	186.24	3,951.61	-2,203.68	-258.21	-2,179.86	0.92	-0.91	-0.16	
4,837.00	51.49	185.89	4,005.98	-2,273.75	-265.66	-2,249.22	1.95	-1.92	-0.39	
4,927.00	51.50	188.24	4,062.02	-2,343.63	-274.32	-2,318.32	2.04	0.01	2.61	
5,016.00	53.58	190.55	4,116.15	-2,413.32	-285.87	-2,387.01	3.12	2.34	2.60	
5,106.00	52.96	189.79	4,169.98	-2,484.31	-298.61	-2,456.92	0.97	-0.69	-0.84	
5,196.00	50.85	189.53	4,225.50	-2,554.13	-310.50	-2,525.72	2.36	-2.34	-0.29	
5,285.00	52.90	189.09	4,280.44	-2,623.22	-321.82	-2,593.84	2.34	2.30	-0.49	
5,375.00	52.12	188.93	4,335.22	-2,693.75	-333.00	-2,663.40	0.88	-0.87	-0.18	
5,465.00	50.98	188.49	4,391.18	-2,763.42	-343.68	-2,732.13	1.32	-1.27	-0.49	
5,554.00	53.21	186.71	4,445.86	-2,833.02	-352.95	-2,800.90	2.96	2.51	-2.00	
5,644.00	52.33	186.36	4,500.31	-2,904.21	-361.10	-2,871.34	1.03	-0.98	-0.39	
5,733.00	51.24	185.66	4,555.37	-2,973.75	-368.43	-2,940.19	1.37	-1.22	-0.79	
5,822.00	47.93	183.40	4,613.06	-3,041.28	-373.81	-3,007.16	4.19	-3.72	-2.54	
5,912.00	48.68	184.43	4,672.93	-3,108.33	-378.40	-3,073.71	1.19	0.83	1.14	
6,002.00	49.83	186.06	4,731.67	-3,176.22	-384.64	-3,141.00	1.87	1.28	1.81	
6,091.00	51.02	186.85	4,788.37	-3,244.38	-392.36	-3,208.44	1.50	1.34	0.89	
6,181.00	51.90	187.71	4,844.45	-3,314.21	-401.28	-3,277.46	1.23	0.98	0.96	
6,270.00	52.99	188.47	4,898.70	-3,384.06	-411.22	-3,346.43	1.40	1.22	0.85	
6,360.00	54.66	190.46	4,951.82	-3,455.71	-423.18	-3,417.05	2.57	1.86	2.21	
6,450.00	53.94	190.87	5,004.34	-3,527.54	-436.70	-3,487.74	0.88	-0.80	0.46	
6,539.00	53.62	190.99	5,056.93	-3,598.03	-450.31	-3,557.10	0.38	-0.36	0.13	
6,629.00	52.77	190.31	5,110.85	-3,668.85	-463.63	-3,626.79	1.12	-0.94	-0.76	
6,719.00	52.95	188.88	5,165.19	-3,739.59	-475.59	-3,696.51	1.28	0.20	-1.59	
6,809.00	50.47	188.14	5,220.95	-3,809.45	-486.05	-3,765.45	2.83	-2.76	-0.82	
6,898.00	51.71	188.13	5,276.85	-3,878.00	-495.85	-3,833.13	1.39	1.39	-0.01	
6,988.00	52.48	188.93	5,332.14	-3,948.23	-506.39	-3,902.44	1.11	0.86	0.89	
7,078.00	46.15	192.23	5,390.79	-4,015.28	-518.82	-3,968.44	7.56	-7.03	3.67	
7,167.00	41.49	195.24	5,455.00	-4,075.13	-533.37	-4,027.11	5.73	-5.24	3.38	
7,257.00	35.02	198.42	5,525.64	-4,128.45	-549.39	-4,079.16	7.51	-7.19	3.53	
7,347.00	26.94	205.07	5,602.76	-4,171.50	-566.22	-4,120.92	9.74	-8.98	7.39	
7,436.00	19.41	211.51	5,684.53	-4,202.42	-582.52	-4,150.60	8.92	-8.46	7.24	
7,526.00	13.59	217.66	5,770.80	-4,223.56	-596.81	-4,170.68	6.74	-6.47	6.83	
7,616.00	8.53	239.11	5,859.13	-4,235.37	-609.01	-4,181.59	7.16	-5.62	23.83	
7,706.00	10.07	278.86	5,948.04	-4,237.59	-622.52	-4,182.85	7.18	1.71	44.17	
7,795.00	12.50	307.95	6,035.38	-4,230.46	-637.82	-4,174.65	6.86	2.73	32.69	
7,885.00	16.11	343.31	6,122.73	-4,212.47	-649.11	-4,155.91	10.30	4.01	39.29	
7,975.00	18.40	356.21	6,208.71	-4,186.33	-653.64	-4,129.51	4.94	2.54	14.33	
8,064.00	24.64	358.01	6,291.47	-4,153.74	-655.21	-4,096.89	7.05	7.01	2.02	
8,154.00	34.79	1.29	6,369.53	-4,109.20	-655.29	-4,052.46	11.42	11.28	3.64	
8,244.00	45.14	2.94	6,438.42	-4,051.51	-653.07	-3,995.08	11.56	11.50	1.83	
8,334.00	52.60	2.21	6,497.58	-3,983.84	-650.05	-3,927.79	8.31	8.29	-0.81	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well Acacia 17-9HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 564 @ 4887.00usft
<b>Site:</b>	Acacia 13-17HZ North Pad	<b>MD Reference:</b>	PD 564 @ 4887.00usft
<b>Well:</b>	Acacia 17-9HZ	<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)
8,423.00	61.27	357.14	6,546.11	-3,909.37	-650.63	-3,853.46	10.84	9.74	-5.70
8,513.00	67.99	352.90	6,584.67	-3,828.43	-657.77	-3,772.22	8.59	7.47	-4.71
8,603.00	73.36	359.55	6,614.47	-3,743.77	-663.28	-3,687.38	9.17	5.97	7.39
8,692.00	79.64	5.38	6,635.25	-3,657.40	-659.50	-3,601.49	9.50	7.06	6.55
8,782.00	89.34	4.53	6,643.88	-3,568.25	-651.78	-3,513.12	10.82	10.78	-0.94
<b>Heel @ 8782' MD (2616 FNL, 302 FWL)</b>									
8,819.39	89.47	4.50	6,644.27	-3,530.98	-648.83	-3,476.15	0.36	0.36	-0.08
<b>FTP @ 8819.39' MD (2578 FNL, 305 FWL)</b>									
8,872.00	89.66	4.46	6,644.67	-3,478.53	-644.72	-3,424.13	0.36	0.36	-0.08
8,961.00	90.93	1.43	6,644.21	-3,389.66	-640.15	-3,335.80	3.69	1.43	-3.40
9,051.00	90.74	0.79	6,642.90	-3,299.69	-638.41	-3,246.18	0.74	-0.21	-0.71
9,141.00	89.65	0.25	6,642.59	-3,209.70	-637.59	-3,156.47	1.35	-1.21	-0.60
9,231.00	90.36	359.94	6,642.58	-3,119.70	-637.44	-3,066.71	0.86	0.79	-0.34
9,321.00	90.13	359.50	6,642.20	-3,029.70	-637.88	-2,976.90	0.55	-0.26	-0.49
9,410.00	89.75	359.33	6,642.29	-2,940.71	-638.79	-2,888.07	0.47	-0.43	-0.19
9,499.00	90.81	358.93	6,641.86	-2,851.72	-640.14	-2,799.21	1.27	1.19	-0.45
9,589.00	89.92	358.78	6,641.28	-2,761.74	-641.94	-2,709.33	1.00	-0.99	-0.17
9,679.00	89.00	358.77	6,642.13	-2,671.76	-643.86	-2,619.44	1.02	-1.02	-0.01
9,769.00	90.93	358.15	6,642.19	-2,581.80	-646.28	-2,529.54	2.25	2.14	-0.69
9,858.00	90.38	358.04	6,641.17	-2,492.86	-649.24	-2,440.61	0.63	-0.62	-0.12
9,948.00	89.38	357.60	6,641.36	-2,402.92	-652.66	-2,350.66	1.21	-1.11	-0.49
10,038.00	90.45	0.47	6,641.49	-2,312.95	-654.18	-2,260.80	3.40	1.19	3.19
10,128.00	90.22	0.65	6,640.97	-2,222.95	-653.30	-2,171.09	0.32	-0.26	0.20
10,217.00	89.04	0.32	6,641.54	-2,133.96	-652.55	-2,082.38	1.38	-1.33	-0.37
10,307.00	90.68	0.62	6,641.76	-2,043.97	-651.81	-1,992.66	1.85	1.82	0.33
10,396.00	92.34	1.30	6,639.42	-1,955.01	-650.32	-1,904.04	2.02	1.87	0.76
10,486.00	91.94	0.64	6,636.06	-1,865.09	-648.80	-1,814.45	0.86	-0.44	-0.73
10,576.00	91.40	1.09	6,633.43	-1,775.14	-647.44	-1,724.82	0.78	-0.60	0.50
10,665.00	90.40	1.13	6,632.03	-1,686.17	-645.71	-1,636.19	1.12	-1.12	0.04
10,755.00	89.04	2.71	6,632.47	-1,596.22	-642.70	-1,546.69	2.32	-1.51	1.76
10,845.00	88.56	2.96	6,634.36	-1,506.35	-638.25	-1,457.36	0.60	-0.53	0.28
10,934.00	87.91	3.16	6,637.10	-1,417.52	-633.50	-1,369.09	0.76	-0.73	0.22
11,024.00	87.41	3.36	6,640.77	-1,327.75	-628.39	-1,279.90	0.60	-0.56	0.22
11,113.00	89.79	3.84	6,642.95	-1,238.95	-622.80	-1,191.72	2.73	2.67	0.54
11,203.00	91.62	2.88	6,641.84	-1,149.12	-617.53	-1,102.49	2.30	2.03	-1.07
11,293.00	91.54	2.66	6,639.36	-1,059.26	-613.18	-1,013.16	0.26	-0.09	-0.24
11,382.00	91.24	3.18	6,637.20	-970.40	-608.64	-924.85	0.67	-0.34	0.58
11,400.18	91.15	3.22	6,636.82	-952.25	-607.63	-906.82	0.52	-0.48	0.21
<b>SEC 17 @ 11400.18' MD (361 FWL)</b>									
11,472.00	90.81	3.37	6,635.59	-880.56	-603.50	-835.60	0.52	-0.48	0.21
11,562.00	89.98	3.49	6,634.97	-790.73	-598.12	-746.37	0.93	-0.92	0.13
11,651.00	89.65	3.98	6,635.26	-701.92	-592.32	-658.20	0.66	-0.37	0.55
11,741.00	89.88	2.54	6,635.63	-612.07	-587.20	-568.93	1.62	0.26	-1.60

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well Acacia 17-9HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 564 @ 4887.00usft
<b>Site:</b>	Acacia 13-17HZ North Pad	<b>MD Reference:</b>	PD 564 @ 4887.00usft
<b>Well:</b>	Acacia 17-9HZ	<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)	
11,831.00	89.36	3.32	6,636.22	-522.19	-582.60	-479.61	1.04	-0.58	0.87	
11,920.00	89.36	1.30	6,637.22	-433.27	-579.02	-391.17	2.27	0.00	-2.27	
12,010.00	89.19	1.66	6,638.36	-343.31	-576.69	-301.59	0.44	-0.19	0.40	
12,099.00	91.55	1.50	6,637.78	-254.35	-574.24	-213.03	2.66	2.65	-0.18	
12,189.00	90.90	1.79	6,635.86	-164.41	-571.66	-123.50	0.79	-0.72	0.32	
12,279.00	91.71	0.94	6,633.81	-74.46	-569.51	-33.93	1.30	0.90	-0.94	
12,368.00	91.20	0.89	6,631.55	14.50	-568.09	54.71	0.58	-0.57	-0.06	
12,458.00	90.62	0.91	6,630.12	104.48	-566.68	144.36	0.64	-0.64	0.02	
12,548.00	90.31	1.60	6,629.39	194.45	-564.71	233.97	0.84	-0.34	0.77	
12,637.00	89.61	2.12	6,629.45	283.41	-561.82	322.49	0.98	-0.79	0.58	
12,727.00	90.30	359.11	6,629.52	373.39	-560.85	412.18	3.43	0.77	-3.34	
12,816.00	90.15	356.92	6,629.17	462.33	-563.94	501.12	2.47	-0.17	-2.46	
12,906.00	91.48	355.85	6,627.89	552.14	-569.61	591.10	1.90	1.48	-1.19	
12,996.00	91.02	356.02	6,625.93	641.89	-575.99	681.08	0.54	-0.51	0.19	
13,085.00	91.00	356.13	6,624.36	730.67	-582.08	770.07	0.13	-0.02	0.12	
13,175.00	91.82	359.49	6,622.14	820.56	-585.52	859.98	3.84	0.91	3.73	
13,265.00	91.70	0.17	6,619.38	910.52	-585.78	949.73	0.77	-0.13	0.76	
13,354.00	90.98	0.67	6,617.30	999.49	-585.13	1,038.43	0.98	-0.81	0.56	
13,444.00	90.40	0.30	6,616.22	1,089.48	-584.37	1,128.14	0.76	-0.64	-0.41	
13,534.00	91.23	358.34	6,614.94	1,179.46	-585.44	1,217.97	2.36	0.92	-2.18	
13,624.00	91.16	358.21	6,613.06	1,269.40	-588.15	1,307.87	0.16	-0.08	-0.14	
13,714.00	90.65	357.94	6,611.64	1,359.34	-591.17	1,397.80	0.64	-0.57	-0.30	
13,804.00	92.29	359.98	6,609.33	1,449.29	-592.80	1,487.64	2.91	1.82	2.27	
13,894.00	92.89	0.24	6,605.26	1,539.19	-592.63	1,577.31	0.73	0.67	0.29	
13,983.00	90.74	0.80	6,602.44	1,628.14	-591.82	1,665.97	2.50	-2.42	0.63	
14,073.00	86.79	1.36	6,604.38	1,718.08	-590.13	1,755.57	4.43	-4.39	0.62	
14,163.00	89.27	0.74	6,607.48	1,808.01	-588.48	1,845.15	2.84	2.76	-0.69	
14,252.00	90.43	2.04	6,607.71	1,896.98	-586.32	1,933.75	1.96	1.30	1.46	
14,342.00	90.18	2.36	6,607.23	1,986.91	-582.87	2,023.21	0.45	-0.28	0.36	
14,432.00	89.55	2.69	6,607.44	2,076.82	-578.90	2,112.61	0.79	-0.70	0.37	
14,521.00	89.95	3.81	6,607.83	2,165.68	-573.85	2,200.89	1.34	0.45	1.26	
14,611.00	89.63	4.34	6,608.16	2,255.45	-567.46	2,289.98	0.69	-0.36	0.59	
14,701.00	89.68	5.36	6,608.70	2,345.12	-559.85	2,378.89	1.13	0.06	1.13	
14,791.00	90.85	5.01	6,608.29	2,434.75	-551.72	2,467.72	1.36	1.30	-0.39	
14,880.00	90.35	4.25	6,607.35	2,523.46	-544.53	2,555.69	1.02	-0.56	-0.85	
14,970.00	89.60	2.45	6,607.39	2,613.30	-539.27	2,644.93	2.17	-0.83	-2.00	
15,060.00	89.63	2.32	6,608.00	2,703.22	-535.53	2,734.36	0.15	0.03	-0.14	
15,149.00	89.36	2.68	6,608.78	2,792.13	-531.65	2,822.77	0.51	-0.30	0.40	
15,239.00	88.76	0.19	6,610.26	2,882.08	-529.39	2,912.34	2.85	-0.67	-2.77	
15,329.00	88.38	359.34	6,612.50	2,972.05	-529.76	3,002.11	1.03	-0.42	-0.94	
15,419.00	87.55	359.42	6,615.70	3,061.99	-530.74	3,091.89	0.93	-0.92	0.09	
15,508.00	90.19	0.47	6,617.46	3,150.96	-530.82	3,180.65	3.19	2.97	1.18	
15,598.00	89.51	0.88	6,617.69	3,240.95	-529.76	3,270.34	0.88	-0.76	0.46	
15,687.00	88.65	1.37	6,619.12	3,329.93	-528.01	3,358.96	1.11	-0.97	0.55	

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well Acacia 17-9HZ
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	PD 564 @ 4887.00usft
<b>Site:</b>	Acacia 13-17HZ North Pad	<b>MD Reference:</b>	PD 564 @ 4887.00usft
<b>Well:</b>	Acacia 17-9HZ	<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)	
15,777.00	89.25	2.11	6,620.77	3,419.87	-525.28	3,448.49	1.06	0.67	0.82	
15,867.00	91.58	1.15	6,620.12	3,509.82	-522.72	3,538.03	2.80	2.59	-1.07	
15,956.00	91.34	0.37	6,617.85	3,598.78	-521.54	3,626.69	0.92	-0.27	-0.88	
16,046.00	91.04	0.82	6,615.98	3,688.76	-520.61	3,716.37	0.60	-0.33	0.50	
16,136.00	90.02	1.38	6,615.15	3,778.74	-518.88	3,806.00	1.29	-1.13	0.62	
16,225.00	89.15	1.92	6,615.79	3,867.70	-516.32	3,894.56	1.15	-0.98	0.61	
16,315.00	90.23	0.82	6,616.28	3,957.67	-514.17	3,984.15	1.71	1.20	-1.22	
16,405.00	89.16	1.44	6,616.76	4,047.65	-512.39	4,073.77	1.37	-1.19	0.69	
16,495.00	88.48	1.88	6,618.61	4,137.59	-509.78	4,163.31	0.90	-0.76	0.49	
16,585.00	89.22	0.72	6,620.42	4,227.55	-507.74	4,252.89	1.53	0.82	-1.29	
16,660.57	91.09	0.51	6,620.22	4,303.11	-506.93	4,328.21	2.49	2.47	-0.28	
<b>SEC 8 @ 16660.57' MD (427 FWL)</b>										
16,674.00	91.42	0.47	6,619.92	4,316.53	-506.82	4,341.59	2.49	2.47	-0.28	
16,764.00	90.48	0.67	6,618.43	4,406.52	-505.92	4,431.28	1.07	-1.04	0.22	
16,854.00	89.85	1.26	6,618.17	4,496.50	-504.41	4,520.94	0.96	-0.70	0.66	
16,944.00	89.63	359.41	6,618.58	4,586.50	-503.88	4,610.67	2.07	-0.24	-2.06	
17,034.00	89.22	358.91	6,619.48	4,676.48	-505.20	4,700.52	0.72	-0.46	-0.56	
17,123.00	88.76	359.12	6,621.05	4,765.45	-506.73	4,789.38	0.57	-0.52	0.24	
17,213.00	88.02	359.15	6,623.58	4,855.41	-508.09	4,879.20	0.82	-0.82	0.03	
17,302.00	90.41	359.60	6,624.80	4,944.39	-509.06	4,968.03	2.73	2.69	0.51	
17,392.00	90.15	359.59	6,624.36	5,034.38	-509.70	5,057.84	0.29	-0.29	-0.01	
17,482.00	90.78	0.49	6,623.63	5,124.38	-509.63	5,147.61	1.22	0.70	1.00	
17,571.00	89.05	359.68	6,623.76	5,213.37	-509.50	5,236.37	2.15	-1.94	-0.91	
17,661.00	91.20	0.21	6,623.56	5,303.37	-509.59	5,326.14	2.46	2.39	0.59	
17,750.00	91.10	0.21	6,621.78	5,392.35	-509.26	5,414.88	0.11	-0.11	0.00	
17,840.00	91.32	0.54	6,619.88	5,482.33	-508.67	5,504.59	0.44	0.24	0.37	
17,930.00	91.61	0.40	6,617.58	5,572.30	-507.93	5,594.28	0.36	0.32	-0.16	
18,020.00	91.97	0.49	6,614.76	5,662.25	-507.23	5,683.96	0.41	0.40	0.10	
18,109.00	90.27	0.75	6,613.03	5,751.22	-506.27	5,772.64	1.93	-1.91	0.29	
18,199.00	90.95	0.88	6,612.07	5,841.21	-504.99	5,862.31	0.77	0.76	0.14	
18,289.00	88.12	1.21	6,612.80	5,931.18	-503.35	5,951.94	3.17	-3.14	0.37	
18,379.00	87.41	0.95	6,616.31	6,021.10	-501.66	6,041.51	0.84	-0.79	-0.29	
18,468.00	88.46	1.38	6,619.51	6,110.02	-499.85	6,130.08	1.27	1.18	0.48	
18,558.00	90.56	1.63	6,620.28	6,199.98	-497.48	6,219.64	2.35	2.33	0.28	
18,648.00	89.20	0.57	6,620.47	6,289.96	-495.76	6,309.28	1.92	-1.51	-1.18	
18,738.00	90.70	359.37	6,620.55	6,379.95	-495.80	6,399.05	2.13	1.67	-1.33	
18,827.00	89.82	359.33	6,620.15	6,468.95	-496.81	6,487.89	0.99	-0.99	-0.04	
18,917.00	92.66	0.07	6,618.20	6,558.92	-497.28	6,577.66	3.26	3.16	0.82	
19,007.00	92.47	0.62	6,614.17	6,648.82	-496.74	6,667.31	0.65	-0.21	0.61	
19,097.00	92.68	0.90	6,610.13	6,738.72	-495.55	6,756.90	0.39	0.23	0.31	
19,186.00	92.57	0.57	6,606.05	6,827.62	-494.41	6,845.49	0.39	-0.12	-0.37	
19,231.00	92.80	0.83	6,603.94	6,872.57	-493.86	6,890.29	0.77	0.51	0.58	
<b>Last Survey @ 19231 (2570 FSL, 471 FWL)</b>										

## Survey Report

<b>Company:</b> Occidental Petroleum	<b>Local Co-ordinate Reference:</b> Well Acacia 17-9HZ
<b>Project:</b> Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b> PD 564 @ 4887.00usft
<b>Site:</b> Acacia 13-17HZ North Pad	<b>MD Reference:</b> PD 564 @ 4887.00usft
<b>Well:</b> Acacia 17-9HZ	<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)	
19,259.87	92.80	0.83	6,602.53	6,901.40	-493.44	6,919.02	0.00	0.00	0.00	
<b>LTP @ 19259.87' MD (2598 FSL, 472 FWL)</b>										
19,299.00	92.80	0.83	6,600.62	6,940.48	-492.88	6,957.96	0.00	0.00	0.00	
<b>TD @ 19299' MD (2637 FSL, 473 FWL)</b>										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
2,036.00	1,968.62	-424.54	-56.54	First AEP Survey @ 2036' MD	
8,782.00	6,643.88	-3,568.25	-651.78	Heel @ 8782' MD (2616 FNL, 302 FWL)	
8,819.39	6,644.27	-3,530.98	-648.83	FTP @ 8819.39' MD (2578 FNL, 305 FWL)	
11,400.18	6,636.82	-952.25	-607.63	SEC 17 @ 11400.18' MD (361 FWL)	
16,660.57	6,620.22	4,303.11	-506.93	SEC 8 @ 16660.57' MD (427 FWL)	
19,231.00	6,603.94	6,872.57	-493.86	Last Survey @ 19231 (2570 FSL, 471 FWL)	
19,259.87	6,602.53	6,901.40	-493.44	LTP @ 19259.87' MD (2598 FSL, 472 FWL)	
19,299.00	6,600.62	6,940.48	-492.88	TD @ 19299' MD (2637 FSL, 473 FWL)	

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