

Occidental Petroleum

Weld County, CO (UTM-NAD83)

Camenisch 10-33HZ Pad

Camenisch 33-4HZ

ST01

Plan: ST01 Plan #8

Standard Planning Report

11 July, 2024



Project: Weld County, CO (UTM-NAD83)
Site: Camenisch 10-33HZ Pad
Well: Camenisch 33-4HZ
Wellbore: ST01
Design: ST01 Plan #8
Lat: 40.268772
Long: -104.893604
GL: 4870.00
KB: PD 562 @ 4896.00usft

WELLBORE TARGET DETAILS (LAT/LONG)

No target data is available.

WELL DETAILS: Camenisch 33-4HZ

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14624624.31	1670095.82	40.268772	-104.893604



Azimuths to True North
Magnetic North: 7.84°

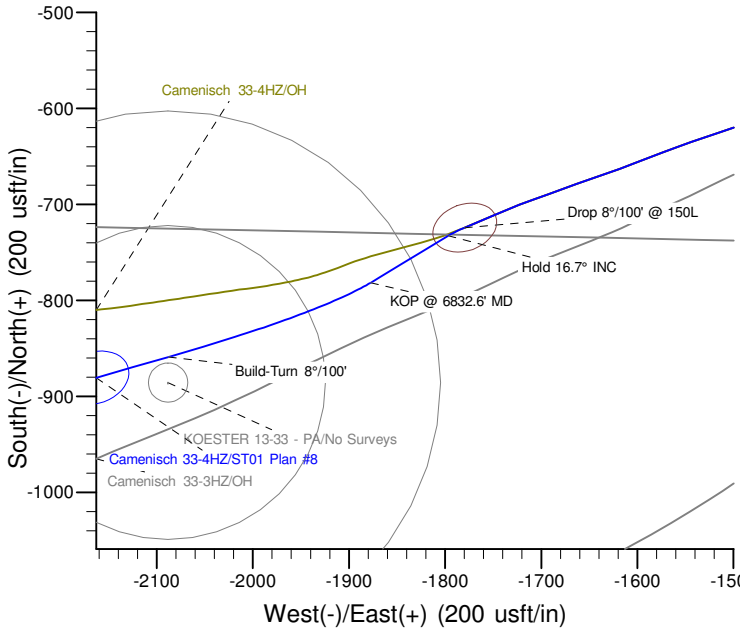
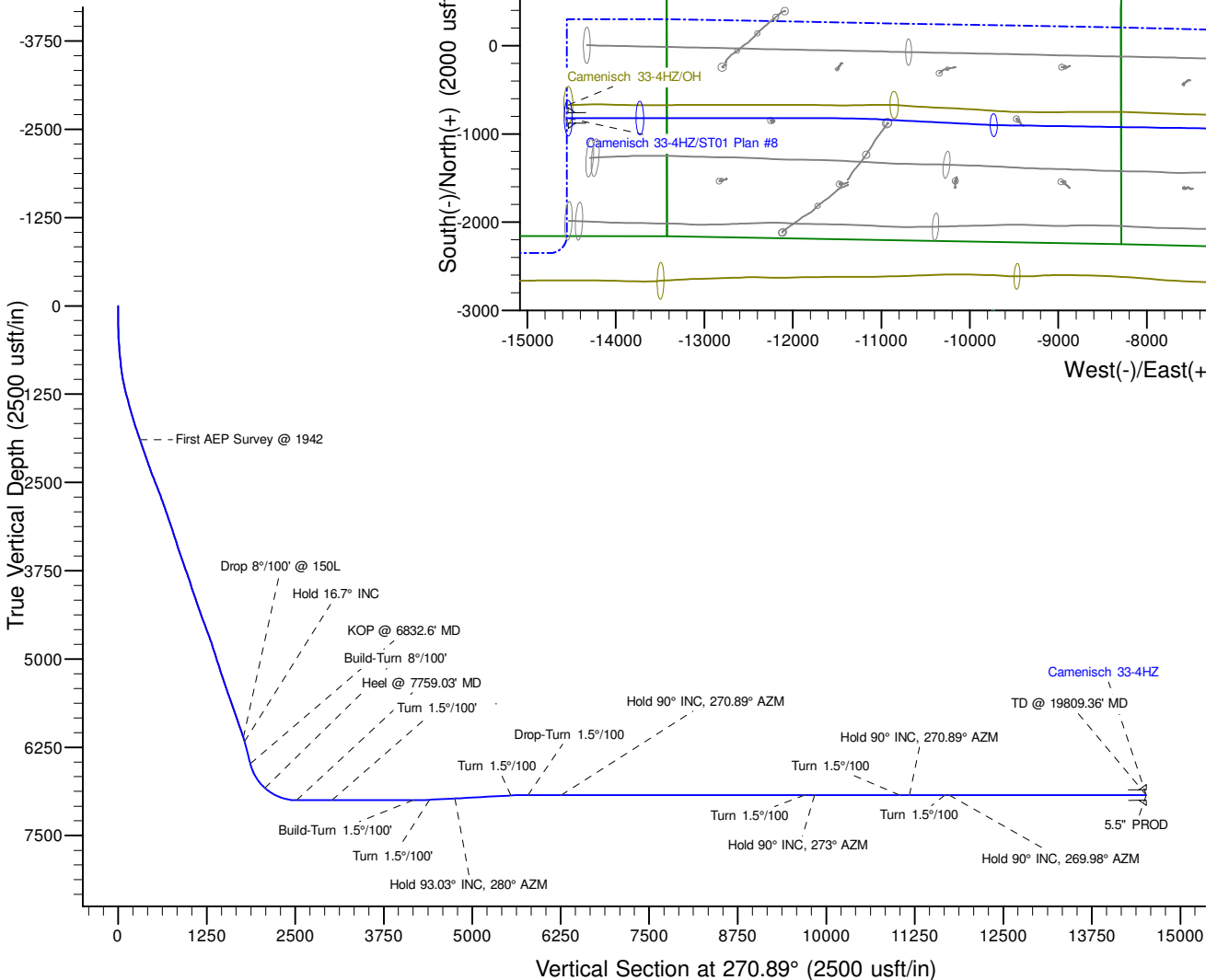
Magnetic Field
Strength: 51526.6nT
Dip Angle: 66.38°
Date: 7/11/2024
Model: HRGM

CASING DETAILS

TVD	MD	Size
6926.00	19809.36	5-1/2

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
6444.00	20.69	247.20	6109.28	-724.01	-1779.64	0.00	0.00	1768.18	Drop 8°/100' @ 150L
6504.00	16.70	238.83	6166.12	-732.58	-1796.79	8.00	-150.00	1785.20	Hold 16.7° INC
6832.60	16.70	238.83	6480.86	-781.46	-1877.58	0.00	31.39	1865.22	KOP @ 6832.6' MD
7251.08	49.39	253.91	6827.39	-858.81	-2087.67	8.00	20.98	2074.08	Build-Turn 8°/100'
7759.03	90.00	255.50	7000.00	-981.00	-2537.83	8.00	2.44	2522.29	Heel @ 7759.03' MD
8275.53	90.00	255.50	7000.00	-1110.33	-3037.88	0.00	0.00	3020.27	Turn 1.5°/100'
9435.53	90.00	272.90	7000.00	-1227.10	-4187.51	1.50	90.00	4167.95	Build-Turn 1.5°/100'
9667.78	93.03	274.62	6993.85	-1211.88	-4419.15	1.50	29.56	4399.79	Turn 1.5°/100'
10025.94	93.03	280.00	6974.91	-1166.39	-4773.77	1.50	89.86	4755.08	Turn 1.5°/100' INC, 280° AZM
10828.94	93.03	280.00	6932.46	-1027.14	-5563.47	0.00	0.00	5546.84	Turn 1.5°/100'
11070.95	90.00	278.00	6926.07	-989.31	-5802.37	1.50	-146.55	5786.30	Drop-Turn 1.5°/100'
11544.95	90.00	270.89	6926.07	-952.60	-6274.84	1.50	-90.00	6259.09	Hold 90° INC, 270.89° AZM
14982.45	90.00	270.89	6926.07	-899.20	-9711.73	0.00	0.00	9696.59	Turn 1.5°/100'
15123.12	90.00	273.00	6926.07	-894.63	-9852.31	1.50	90.00	9837.23	Hold 90° INC, 273° AZM
16323.12	90.00	273.00	6926.07	-831.63	-11050.67	0.00	0.00	11036.42	Turn 1.5°/100'
16463.79	90.00	270.89	6926.07	-826.85	-11191.24	1.50	-90.00	11177.05	Hold 90° INC, 270.89° AZM
16963.79	90.00	270.89	6926.07	-819.09	-11691.18	0.00	0.00	11677.05	Turn 1.5°/100'
17024.68	90.00	269.98	6926.06	-818.63	-11752.07	1.50	-89.92	11737.94	Hold 90° INC, 269.98° AZM
19809.36	90.00	269.98	6926.00	-819.76	-14536.75	0.00	0.00	14522.26	TD @ 19809.36' MD



Planning Report

Database:	Fhartmann	Local Co-ordinate Reference:	Well Camenisch 33-4HZ
Company:	Occidental Petroleum	TVD Reference:	PD 562 @ 4896.00usft
Project:	Weld County, CO (UTM-NAD83)	MD Reference:	PD 562 @ 4896.00usft
Site:	Camenisch 10-33HZ Pad	North Reference:	True
Well:	Camenisch 33-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	ST01 Plan #8		

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		Camenisch 10-33HZ Pad				
Site Position:		Northing:	14,624,606.43	usft	Latitude:	40.268723
From:	Lat/Long	Easting:	1,670,071.57	usft	Longitude:	-104.893691
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well		Camenisch 33-4HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,624,624.31 usft	Latitude:	40.268772
	+E/-W	0.00 usft	Easting:	1,670,095.82 usft	Longitude:	-104.893604
Position Uncertainty		2.00 usft	Wellhead Elevation:	usft	Ground Level:	4,870.00 usft
Grid Convergence:		0.07 °				

Wellbore	ST01				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	7/11/2024	7.84	66.38	51,526.57301622

Design	ST01 Plan #8				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	6,444.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	270.89	

Plan Survey Tool Program	Date	7/11/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	6,444.00	19,809.36	ST01 Plan #8 (ST01)	A008Mc_MWD+IFR1+MS_R5 MWD+IFR1+MSA	

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Company:	Occidental Petroleum	TVD Reference:	PD 562 @ 4896.00usft
Project:	Weld County, CO (UTM-NAD83)	MD Reference:	PD 562 @ 4896.00usft
Site:	Camenisch 10-33HZ Pad	North Reference:	True
Well:	Camenisch 33-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	ST01 Plan #8		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
6,444.00	20.69	247.20	6,109.28	-724.01	-1,779.64	0.00	0.00	0.00	0.00	
6,504.00	16.70	238.83	6,166.12	-732.58	-1,796.79	8.00	-6.65	-13.95	-150.00	
6,832.60	16.70	238.83	6,480.86	-781.46	-1,877.58	0.00	0.00	0.00	31.39	
7,251.08	49.39	253.91	6,827.39	-858.81	-2,087.67	8.00	7.81	3.60	20.98	
7,759.03	90.00	255.50	7,000.00	-981.00	-2,537.83	8.00	7.99	0.31	2.44	
8,275.53	90.00	255.50	7,000.00	-1,110.33	-3,037.88	0.00	0.00	0.00	0.00	
9,435.53	90.00	272.90	7,000.00	-1,227.10	-4,187.51	1.50	0.00	1.50	90.00	
9,667.78	93.03	274.62	6,993.86	-1,211.88	-4,419.15	1.50	1.30	0.74	29.56	
10,025.94	93.03	280.00	6,974.91	-1,166.39	-4,773.77	1.50	0.00	1.50	89.86	
10,828.94	93.03	280.00	6,932.46	-1,027.14	-5,563.47	0.00	0.00	0.00	0.00	
11,070.95	90.00	278.00	6,926.07	-989.31	-5,802.37	1.50	-1.25	-0.83	-146.55	
11,544.95	90.00	270.89	6,926.07	-952.60	-6,274.64	1.50	0.00	-1.50	-90.00	
14,982.45	90.00	270.89	6,926.07	-899.20	-9,711.73	0.00	0.00	0.00	0.00	
15,123.12	90.00	273.00	6,926.07	-894.43	-9,852.31	1.50	0.00	1.50	90.00	
16,323.12	90.00	273.00	6,926.07	-831.63	-11,050.67	0.00	0.00	0.00	0.00	
16,463.79	90.00	270.89	6,926.07	-826.85	-11,191.24	1.50	0.00	-1.50	-90.00	
16,963.79	90.00	270.89	6,926.07	-819.09	-11,691.18	0.00	0.00	0.00	0.00	
17,024.68	90.00	269.98	6,926.06	-818.63	-11,752.07	1.50	0.00	-1.50	-89.92	
19,809.36	90.00	269.98	6,926.00	-819.76	-14,536.75	0.00	0.00	0.00	0.00	

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Site:	Camenisch 10-33HZ Pad	North Reference:	True
Well:	Camenisch 33-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	ST01 Plan #8		

Planned 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
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00
90.00	0.29	155.76	90.00	-0.18	0.08	-0.08	0.37	0.37	0.00
181.00	0.78	332.74	181.00	0.16	-0.11	0.11	1.18	0.54	194.48
273.00	0.79	324.54	272.99	1.23	-0.76	0.78	0.12	0.01	-8.91
364.00	1.75	278.77	363.97	1.95	-2.50	2.53	1.46	1.05	-50.30
453.00	3.03	255.03	452.89	1.55	-6.11	6.14	1.79	1.44	-26.67
543.00	4.62	250.98	542.69	-0.24	-11.84	11.83	1.79	1.77	-4.50
632.00	6.14	238.26	631.30	-3.91	-19.28	19.21	2.16	1.71	-14.29
721.00	5.53	240.63	719.83	-8.52	-27.06	26.93	0.74	-0.69	2.66
811.00	6.40	244.36	809.35	-12.82	-35.36	35.16	1.06	0.97	4.14
900.00	7.96	252.91	897.65	-16.78	-45.73	45.46	2.12	1.75	9.61
990.00	9.29	250.41	986.63	-21.04	-58.53	58.19	1.54	1.48	-2.78
1,079.00	11.84	247.76	1,074.11	-26.91	-73.75	73.32	2.92	2.87	-2.98
1,169.00	14.23	248.03	1,161.79	-34.54	-92.56	92.01	2.66	2.66	0.30
1,258.00	15.14	250.19	1,247.88	-42.57	-113.64	112.96	1.19	1.02	2.43
1,348.00	15.43	252.22	1,334.70	-50.21	-136.10	135.30	0.68	0.32	2.26
1,437.00	16.29	247.36	1,420.31	-58.63	-158.89	157.96	1.78	0.97	-5.46
1,527.00	17.79	245.68	1,506.36	-69.16	-183.07	181.97	1.75	1.67	-1.87
1,616.00	19.41	244.50	1,590.71	-81.12	-208.81	207.53	1.87	1.82	-1.33
1,705.00	19.35	243.11	1,674.67	-94.16	-235.31	233.82	0.52	-0.07	-1.56
1,795.00	20.58	246.41	1,759.26	-107.23	-263.10	261.41	1.85	1.37	3.67
1,851.00	21.29	248.42	1,811.56	-114.91	-281.58	279.76	1.80	1.27	3.59
1,942.00	20.73	248.77	1,896.51	-126.82	-311.95	309.95	0.63	-0.62	0.38
2,032.00	20.15	245.24	1,980.85	-139.08	-340.88	338.68	1.51	-0.64	-3.92
2,122.00	20.79	246.88	2,065.16	-151.85	-369.65	367.24	0.95	0.71	1.82
2,212.00	19.88	244.68	2,149.56	-164.66	-398.17	395.56	1.32	-1.01	-2.44
2,301.00	20.42	248.12	2,233.11	-176.92	-426.26	423.46	1.46	0.61	3.87
2,391.00	21.91	252.42	2,317.04	-187.84	-456.84	453.86	2.39	1.66	4.78
2,480.00	21.15	251.54	2,399.83	-197.94	-487.90	484.76	0.93	-0.85	-0.99
2,569.00	23.51	250.31	2,482.15	-209.01	-519.85	516.54	2.70	2.65	-1.38
2,659.00	23.14	250.17	2,564.80	-221.06	-553.38	549.88	0.42	-0.41	-0.16
2,749.00	22.44	249.18	2,647.77	-233.16	-586.07	582.38	0.89	-0.78	-1.10
2,838.00	21.32	248.44	2,730.36	-245.15	-617.00	613.12	1.30	-1.26	-0.83
2,928.00	20.19	247.26	2,814.52	-257.16	-646.54	642.47	1.34	-1.26	-1.31
3,040.00	21.64	247.63	2,919.14	-272.49	-683.46	679.15	1.30	1.29	0.33
3,130.00	19.95	247.15	3,003.27	-284.77	-712.96	708.45	1.89	-1.88	-0.53
3,219.00	19.40	245.29	3,087.07	-296.85	-740.38	735.68	0.94	-0.62	-2.09
3,309.00	19.76	245.76	3,171.87	-309.34	-767.83	762.94	0.44	0.40	0.52
3,398.00	20.72	247.92	3,255.37	-321.44	-796.14	791.05	1.37	1.08	2.43
3,488.00	20.79	242.56	3,339.54	-334.78	-825.07	819.77	2.11	0.08	-5.96
3,577.00	20.00	244.67	3,422.96	-348.57	-852.85	847.33	1.21	-0.89	2.37
3,667.00	19.68	245.44	3,507.62	-361.46	-880.54	874.82	0.46	-0.36	0.86
3,756.00	20.42	248.12	3,591.23	-373.47	-908.58	902.67	1.33	0.83	3.01
3,846.00	20.65	245.81	3,675.51	-385.83	-937.63	931.52	0.94	0.26	-2.57
3,935.00	22.19	246.85	3,758.36	-398.87	-967.40	961.09	1.78	1.73	1.17
4,025.00	21.07	245.78	3,842.02	-412.18	-997.78	991.26	1.32	-1.24	-1.19
4,115.00	19.75	244.62	3,926.37	-425.34	-1,026.28	1,019.54	1.53	-1.47	-1.29
4,204.00	19.93	247.57	4,010.09	-437.57	-1,053.88	1,046.96	1.14	0.20	3.31
4,294.00	19.28	244.09	4,094.88	-449.92	-1,081.43	1,074.31	1.48	-0.72	-3.87
4,383.00	20.75	245.36	4,178.50	-462.91	-1,108.98	1,101.65	1.72	1.65	1.43
4,473.00	19.89	251.11	4,262.91	-474.52	-1,137.96	1,130.45	2.41	-0.96	6.39
4,562.00	22.08	249.03	4,346.00	-485.41	-1,167.90	1,160.22	2.60	2.46	-2.34
4,652.00	22.85	245.36	4,429.17	-498.75	-1,199.58	1,191.69	1.78	0.86	-4.08

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Well:	Camenisch 33-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	ST01 Plan #8		

Planned 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)
4,741.00	21.31	253.30	4,511.66	-510.60	-1,230.79	1,222.71	3.77	-1.73	8.92
4,831.00	21.05	249.02	4,595.59	-521.09	-1,261.55	1,253.30	1.74	-0.29	-4.76
4,920.00	21.81	248.52	4,678.43	-532.87	-1,291.86	1,283.42	0.88	0.85	-0.56
5,010.00	20.11	245.42	4,762.48	-545.43	-1,321.49	1,312.86	2.25	-1.89	-3.44
5,099.00	20.29	244.60	4,846.00	-558.41	-1,349.34	1,340.50	0.38	0.20	-0.92
5,189.00	19.96	242.33	4,930.51	-572.24	-1,377.04	1,367.99	0.94	-0.37	-2.52
5,279.00	18.66	248.37	5,015.45	-584.68	-1,404.03	1,394.78	2.65	-1.44	6.71
5,368.00	19.18	249.23	5,099.64	-595.11	-1,430.94	1,421.52	0.66	0.58	0.97
5,458.00	19.94	250.25	5,184.45	-605.54	-1,459.21	1,449.63	0.93	0.84	1.13
5,548.00	19.23	250.53	5,269.24	-615.67	-1,487.63	1,477.88	0.80	-0.79	0.31
5,637.00	19.30	252.00	5,353.26	-625.10	-1,515.43	1,505.54	0.55	0.08	1.65
5,727.00	20.12	250.75	5,437.99	-634.80	-1,544.19	1,534.15	1.02	0.91	-1.39
5,817.00	21.42	249.09	5,522.14	-645.77	-1,574.16	1,563.94	1.59	1.44	-1.84
5,906.00	20.46	248.41	5,605.26	-657.29	-1,603.81	1,593.40	1.11	-1.08	-0.76
5,996.00	20.96	251.69	5,689.44	-668.14	-1,633.72	1,623.14	1.40	0.56	3.64
6,085.00	20.51	249.61	5,772.68	-678.57	-1,663.44	1,652.70	0.97	-0.51	-2.34
6,175.00	20.92	250.51	5,856.86	-689.42	-1,693.37	1,682.46	0.58	0.46	1.00
6,265.00	20.06	248.87	5,941.17	-700.35	-1,722.91	1,711.83	1.15	-0.96	-1.82
6,354.00	19.79	246.68	6,024.84	-711.82	-1,750.99	1,739.72	0.89	-0.30	-2.46
6,444.00	20.69	247.20	6,109.28	-724.01	-1,779.64	1,768.18	1.02	1.00	0.58
Drop 8°/100' @ 150L									
6,450.00	20.28	246.51	6,114.90	-724.83	-1,781.57	1,770.09	8.00	-6.91	-11.54
6,504.00	16.70	238.83	6,166.12	-732.58	-1,796.79	1,785.20	8.00	-6.62	-14.22
Hold 16.7° INC									
6,600.00	16.70	238.83	6,258.07	-746.86	-1,820.40	1,808.57	0.00	0.00	0.00
6,700.00	16.70	238.83	6,353.85	-761.73	-1,844.98	1,832.93	0.00	0.00	0.00
6,800.00	16.70	238.83	6,449.63	-776.61	-1,869.57	1,857.28	0.00	0.00	0.00
6,832.60	16.70	238.83	6,480.86	-781.46	-1,877.58	1,865.22	0.00	0.00	0.00
KOP @ 6832.6' MD									
6,850.00	18.01	240.44	6,497.47	-784.08	-1,882.06	1,869.66	8.00	7.51	9.27
6,900.00	21.82	244.02	6,544.47	-791.96	-1,897.14	1,884.61	8.00	7.62	7.16
6,950.00	25.68	246.58	6,590.23	-800.34	-1,915.45	1,902.78	8.00	7.73	5.11
7,000.00	29.58	248.50	6,634.52	-809.18	-1,936.88	1,924.08	8.00	7.80	3.84
7,050.00	33.51	250.01	6,677.12	-818.42	-1,961.34	1,948.39	8.00	7.84	3.02
7,100.00	37.44	251.23	6,717.83	-828.03	-1,988.71	1,975.61	8.00	7.87	2.45
7,150.00	41.39	252.26	6,756.45	-837.96	-2,018.86	2,005.60	8.00	7.89	2.05
7,200.00	45.34	253.13	6,792.79	-848.16	-2,051.64	2,038.21	8.00	7.91	1.75
7,251.08	49.39	253.91	6,827.39	-858.81	-2,087.67	2,074.08	8.00	7.92	1.52
Build-Turn 8°/100'									
7,300.00	53.30	254.12	6,857.94	-869.33	-2,124.38	2,110.63	8.00	7.99	0.42
7,350.00	57.30	254.31	6,886.39	-880.51	-2,163.93	2,150.00	8.00	7.99	0.38
7,396.02	60.98	254.47	6,910.00	-891.14	-2,201.98	2,187.87	8.00	7.99	0.35
SSPG									
7,400.00	61.29	254.48	6,911.92	-892.07	-2,205.33	2,191.21	8.00	7.99	0.34
7,450.00	65.29	254.65	6,934.39	-903.95	-2,248.38	2,234.07	8.00	7.99	0.32
7,481.71	67.83	254.74	6,947.00	-911.63	-2,276.44	2,262.00	8.00	8.00	0.31
NBRR									
7,500.00	69.29	254.80	6,953.69	-916.10	-2,292.86	2,278.36	8.00	8.00	0.30
7,550.00	73.29	254.94	6,969.72	-928.46	-2,338.57	2,323.87	8.00	8.00	0.29
7,600.00	77.28	255.08	6,982.42	-940.96	-2,385.28	2,370.37	8.00	8.00	0.28
7,650.00	81.28	255.22	6,991.72	-953.55	-2,432.75	2,417.65	8.00	8.00	0.27
7,693.49	84.76	255.33	6,997.00	-964.52	-2,474.49	2,459.21	8.00	8.00	0.26
N470_B_CK									

Planning Report

Database:	Fhartmann	Local Co-ordinate Reference:	Well Camenisch 33-4HZ
Company:	Occidental Petroleum	TVD Reference:	PD 562 @ 4896.00usft
Project:	Weld County, CO (UTM-NAD83)	MD Reference:	PD 562 @ 4896.00usft
Site:	Camenisch 10-33HZ Pad	North Reference:	True
Well:	Camenisch 33-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	ST01 Plan #8		

Planned 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)
7,700.00	85.28	255.35	6,997.57	-966.17	-2,480.77	2,465.46	8.00	8.00	0.26
7,750.00	89.28	255.48	6,999.94	-978.74	-2,529.09	2,513.59	8.00	8.00	0.26
7,759.03	90.00	255.50	7,000.00	-981.00	-2,537.83	2,522.29	8.00	8.00	0.26
Heel @ 7759.03' MD									
7,800.00	90.00	255.50	7,000.00	-991.26	-2,577.50	2,561.79	0.00	0.00	0.00
7,900.00	90.00	255.50	7,000.00	-1,016.30	-2,674.32	2,658.21	0.00	0.00	0.00
8,000.00	90.00	255.50	7,000.00	-1,041.34	-2,771.13	2,754.62	0.00	0.00	0.00
8,100.00	90.00	255.50	7,000.00	-1,066.38	-2,867.94	2,851.03	0.00	0.00	0.00
8,200.00	90.00	255.50	7,000.00	-1,091.41	-2,964.76	2,947.45	0.00	0.00	0.00
8,275.53	90.00	255.50	7,000.00	-1,110.33	-3,037.88	3,020.27	0.00	0.00	0.00
Turn 1.5°/100'									
8,300.00	90.00	255.87	7,000.00	-1,116.38	-3,061.59	3,043.88	1.50	0.00	1.50
8,400.00	90.00	257.37	7,000.00	-1,139.52	-3,158.88	3,140.79	1.50	0.00	1.50
8,500.00	90.00	258.87	7,000.00	-1,160.11	-3,256.73	3,238.32	1.50	0.00	1.50
8,600.00	90.00	260.37	7,000.00	-1,178.13	-3,355.09	3,336.38	1.50	0.00	1.50
8,700.00	90.00	261.87	7,000.00	-1,193.58	-3,453.89	3,434.93	1.50	0.00	1.50
8,800.00	90.00	263.37	7,000.00	-1,206.43	-3,553.06	3,533.89	1.50	0.00	1.50
8,900.00	90.00	264.87	7,000.00	-1,216.67	-3,652.53	3,633.19	1.50	0.00	1.50
9,000.00	90.00	266.37	7,000.00	-1,224.32	-3,752.23	3,732.76	1.50	0.00	1.50
9,100.00	90.00	267.87	7,000.00	-1,229.35	-3,852.10	3,832.54	1.50	0.00	1.50
9,200.00	90.00	269.37	7,000.00	-1,231.76	-3,952.07	3,932.46	1.50	0.00	1.50
9,300.00	90.00	270.87	7,000.00	-1,231.56	-4,052.07	4,032.45	1.50	0.00	1.50
9,400.00	90.00	272.37	7,000.00	-1,228.73	-4,152.02	4,132.44	1.50	0.00	1.50
9,435.53	90.00	272.90	7,000.00	-1,227.10	-4,187.51	4,167.95	1.50	0.00	1.50
Build-Turn 1.5°/100'									
9,500.00	90.84	273.38	6,999.52	-1,223.57	-4,251.89	4,232.37	1.50	1.30	0.74
9,600.00	92.15	274.12	6,996.92	-1,217.04	-4,351.64	4,332.21	1.50	1.30	0.74
9,667.78	93.03	274.62	6,993.86	-1,211.88	-4,419.15	4,399.79	1.50	1.30	0.74
Turn 1.5°/100'									
9,700.00	93.03	275.10	6,992.15	-1,209.15	-4,451.21	4,431.89	1.50	0.00	1.50
9,800.00	93.03	276.61	6,986.86	-1,198.97	-4,550.54	4,531.37	1.50	0.00	1.50
9,900.00	93.03	278.11	6,981.57	-1,186.18	-4,649.58	4,630.59	1.50	0.00	1.50
10,000.00	93.03	279.61	6,976.28	-1,170.80	-4,748.25	4,729.49	1.50	0.00	1.50
10,025.94	93.03	280.00	6,974.91	-1,166.39	-4,773.77	4,755.08	1.50	0.00	1.50
Hold 93.03° INC, 280° AZM									
10,100.00	93.03	280.00	6,970.99	-1,153.55	-4,846.60	4,828.10	0.00	0.00	0.00
10,200.00	93.03	280.00	6,965.71	-1,136.21	-4,944.95	4,926.70	0.00	0.00	0.00
10,300.00	93.03	280.00	6,960.42	-1,118.87	-5,043.29	5,025.30	0.00	0.00	0.00
10,400.00	93.03	280.00	6,955.14	-1,101.53	-5,141.63	5,123.90	0.00	0.00	0.00
10,500.00	93.03	280.00	6,949.85	-1,084.19	-5,239.98	5,222.50	0.00	0.00	0.00
10,600.00	93.03	280.00	6,944.57	-1,066.84	-5,338.32	5,321.10	0.00	0.00	0.00
10,700.00	93.03	280.00	6,939.28	-1,049.50	-5,436.66	5,419.70	0.00	0.00	0.00
10,800.00	93.03	280.00	6,933.99	-1,032.16	-5,535.01	5,518.31	0.00	0.00	0.00
10,828.94	93.03	280.00	6,932.46	-1,027.14	-5,563.47	5,546.84	0.00	0.00	0.00
Turn 1.5°/100'									
10,900.00	92.14	279.41	6,929.26	-1,015.18	-5,633.44	5,616.99	1.50	-1.25	-0.83
11,000.00	90.89	278.59	6,926.62	-999.54	-5,732.17	5,715.95	1.50	-1.25	-0.83
11,070.95	90.00	278.00	6,926.07	-989.31	-5,802.37	5,786.30	1.50	-1.25	-0.83
Drop-Turn 1.5°/100'									
11,100.00	90.00	277.56	6,926.07	-985.38	-5,831.16	5,815.15	1.50	0.00	-1.50
11,200.00	90.00	276.06	6,926.07	-973.51	-5,930.45	5,914.61	1.50	0.00	-1.50
11,300.00	90.00	274.56	6,926.07	-964.25	-6,030.01	6,014.31	1.50	0.00	-1.50
11,400.00	90.00	273.06	6,926.07	-957.60	-6,129.79	6,114.18	1.50	0.00	-1.50

Planning Report

Database:	Fhartmann	Local Co-ordinate Reference:	Well Camenisch 33-4HZ
Company:	Occidental Petroleum	TVD Reference:	PD 562 @ 4896.00usft
Project:	Weld County, CO (UTM-NAD83)	MD Reference:	PD 562 @ 4896.00usft
Site:	Camenisch 10-33HZ Pad	North Reference:	True
Well:	Camenisch 33-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	ST01 Plan #8		

Planned 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)
11,500.00	90.00	271.56	6,926.07	-953.56	-6,229.70	6,214.14	1.50	0.00	-1.50
11,544.95	90.00	270.89	6,926.07	-952.60	-6,274.64	6,259.09	1.50	0.00	-1.50
Hold 90° INC, 270.89° AZM									
11,600.00	90.00	270.89	6,926.07	-951.74	-6,329.69	6,314.14	0.00	0.00	0.00
11,700.00	90.00	270.89	6,926.07	-950.19	-6,429.68	6,414.14	0.00	0.00	0.00
11,800.00	90.00	270.89	6,926.07	-948.64	-6,529.66	6,514.14	0.00	0.00	0.00
11,900.00	90.00	270.89	6,926.07	-947.08	-6,629.65	6,614.14	0.00	0.00	0.00
12,000.00	90.00	270.89	6,926.07	-945.53	-6,729.64	6,714.14	0.00	0.00	0.00
12,100.00	90.00	270.89	6,926.07	-943.98	-6,829.63	6,814.14	0.00	0.00	0.00
12,200.00	90.00	270.89	6,926.07	-942.42	-6,929.62	6,914.14	0.00	0.00	0.00
12,300.00	90.00	270.89	6,926.07	-940.87	-7,029.60	7,014.14	0.00	0.00	0.00
12,400.00	90.00	270.89	6,926.07	-939.32	-7,129.59	7,114.14	0.00	0.00	0.00
12,500.00	90.00	270.89	6,926.07	-937.76	-7,229.58	7,214.14	0.00	0.00	0.00
12,600.00	90.00	270.89	6,926.07	-936.21	-7,329.57	7,314.14	0.00	0.00	0.00
12,700.00	90.00	270.89	6,926.07	-934.66	-7,429.55	7,414.14	0.00	0.00	0.00
12,800.00	90.00	270.89	6,926.07	-933.10	-7,529.54	7,514.14	0.00	0.00	0.00
12,900.00	90.00	270.89	6,926.07	-931.55	-7,629.53	7,614.14	0.00	0.00	0.00
13,000.00	90.00	270.89	6,926.07	-930.00	-7,729.52	7,714.14	0.00	0.00	0.00
13,100.00	90.00	270.89	6,926.07	-928.44	-7,829.51	7,814.14	0.00	0.00	0.00
13,200.00	90.00	270.89	6,926.07	-926.89	-7,929.49	7,914.14	0.00	0.00	0.00
13,300.00	90.00	270.89	6,926.07	-925.34	-8,029.48	8,014.14	0.00	0.00	0.00
13,400.00	90.00	270.89	6,926.07	-923.78	-8,129.47	8,114.14	0.00	0.00	0.00
13,500.00	90.00	270.89	6,926.07	-922.23	-8,229.46	8,214.14	0.00	0.00	0.00
13,600.00	90.00	270.89	6,926.07	-920.68	-8,329.45	8,314.14	0.00	0.00	0.00
13,700.00	90.00	270.89	6,926.07	-919.12	-8,429.43	8,414.14	0.00	0.00	0.00
13,800.00	90.00	270.89	6,926.07	-917.57	-8,529.42	8,514.14	0.00	0.00	0.00
13,900.00	90.00	270.89	6,926.07	-916.02	-8,629.41	8,614.14	0.00	0.00	0.00
14,000.00	90.00	270.89	6,926.07	-914.46	-8,729.40	8,714.14	0.00	0.00	0.00
14,100.00	90.00	270.89	6,926.07	-912.91	-8,829.39	8,814.14	0.00	0.00	0.00
14,200.00	90.00	270.89	6,926.07	-911.36	-8,929.37	8,914.14	0.00	0.00	0.00
14,300.00	90.00	270.89	6,926.07	-909.80	-9,029.36	9,014.14	0.00	0.00	0.00
14,400.00	90.00	270.89	6,926.07	-908.25	-9,129.35	9,114.14	0.00	0.00	0.00
14,500.00	90.00	270.89	6,926.07	-906.70	-9,229.34	9,214.14	0.00	0.00	0.00
14,600.00	90.00	270.89	6,926.07	-905.14	-9,329.33	9,314.14	0.00	0.00	0.00
14,700.00	90.00	270.89	6,926.07	-903.59	-9,429.31	9,414.14	0.00	0.00	0.00
14,800.00	90.00	270.89	6,926.07	-902.04	-9,529.30	9,514.14	0.00	0.00	0.00
14,900.00	90.00	270.89	6,926.07	-900.48	-9,629.29	9,614.14	0.00	0.00	0.00
14,982.45	90.00	270.89	6,926.07	-899.20	-9,711.73	9,696.59	0.00	0.00	0.00
Turn 1.5°/100									
15,000.00	90.00	271.15	6,926.07	-898.89	-9,729.28	9,714.14	1.50	0.00	1.50
15,100.00	90.00	272.65	6,926.07	-895.57	-9,829.22	9,814.12	1.50	0.00	1.50
15,123.12	90.00	273.00	6,926.07	-894.43	-9,852.31	9,837.23	1.50	0.00	1.50
Hold 90° INC, 273° AZM									
15,200.00	90.00	273.00	6,926.07	-890.41	-9,929.09	9,914.06	0.00	0.00	0.00
15,300.00	90.00	273.00	6,926.07	-885.17	-10,028.95	10,013.99	0.00	0.00	0.00
15,400.00	90.00	273.00	6,926.07	-879.94	-10,128.81	10,113.92	0.00	0.00	0.00
15,500.00	90.00	273.00	6,926.07	-874.70	-10,228.67	10,213.85	0.00	0.00	0.00
15,600.00	90.00	273.00	6,926.07	-869.47	-10,328.54	10,313.79	0.00	0.00	0.00
15,700.00	90.00	273.00	6,926.07	-864.24	-10,428.40	10,413.72	0.00	0.00	0.00
15,800.00	90.00	273.00	6,926.07	-859.00	-10,528.26	10,513.65	0.00	0.00	0.00
15,900.00	90.00	273.00	6,926.07	-853.77	-10,628.13	10,613.58	0.00	0.00	0.00
16,000.00	90.00	273.00	6,926.07	-848.54	-10,727.99	10,713.51	0.00	0.00	0.00
16,100.00	90.00	273.00	6,926.07	-843.30	-10,827.85	10,813.45	0.00	0.00	0.00

Planning Report

Database:	Fhartmann	Local Co-ordinate Reference:	Well Camenisch 33-4HZ
Company:	Occidental Petroleum	TVD Reference:	PD 562 @ 4896.00usft
Project:	Weld County, CO (UTM-NAD83)	MD Reference:	PD 562 @ 4896.00usft
Site:	Camenisch 10-33HZ Pad	North Reference:	True
Well:	Camenisch 33-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	ST01 Plan #8		

Planned 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)
16,200.00	90.00	273.00	6,926.07	-838.07	-10,927.71	10,913.38	0.00	0.00	0.00
16,300.00	90.00	273.00	6,926.07	-832.84	-11,027.58	11,013.31	0.00	0.00	0.00
16,323.12	90.00	273.00	6,926.07	-831.63	-11,050.67	11,036.42	0.00	0.00	0.00
Turn 1.5°/100									
16,400.00	90.00	271.85	6,926.07	-828.38	-11,127.48	11,113.27	1.50	0.00	-1.50
16,463.79	90.00	270.89	6,926.07	-826.85	-11,191.24	11,177.05	1.50	0.00	-1.50
Hold 90° INC, 270.89° AZM									
16,500.00	90.00	270.89	6,926.07	-826.29	-11,227.45	11,213.26	0.00	0.00	0.00
16,600.00	90.00	270.89	6,926.07	-824.74	-11,327.44	11,313.26	0.00	0.00	0.00
16,700.00	90.00	270.89	6,926.07	-823.18	-11,427.43	11,413.26	0.00	0.00	0.00
16,800.00	90.00	270.89	6,926.07	-821.63	-11,527.42	11,513.26	0.00	0.00	0.00
16,900.00	90.00	270.89	6,926.07	-820.08	-11,627.40	11,613.26	0.00	0.00	0.00
16,963.79	90.00	270.89	6,926.07	-819.09	-11,691.19	11,677.05	0.00	0.00	0.00
Turn 1.5°/100									
17,000.00	90.00	270.35	6,926.07	-818.69	-11,727.39	11,713.26	1.50	0.00	-1.50
17,024.68	90.00	269.98	6,926.06	-818.63	-11,752.07	11,737.94	1.50	0.00	-1.50
Hold 90° INC, 269.98° AZM									
17,100.00	90.00	269.98	6,926.06	-818.66	-11,827.39	11,813.25	0.00	0.00	0.00
17,200.00	90.00	269.98	6,926.06	-818.70	-11,927.39	11,913.24	0.00	0.00	0.00
17,300.00	90.00	269.98	6,926.06	-818.74	-12,027.39	12,013.23	0.00	0.00	0.00
17,400.00	90.00	269.98	6,926.06	-818.78	-12,127.39	12,113.21	0.00	0.00	0.00
17,500.00	90.00	269.98	6,926.05	-818.82	-12,227.39	12,213.20	0.00	0.00	0.00
17,600.00	90.00	269.98	6,926.05	-818.86	-12,327.39	12,313.19	0.00	0.00	0.00
17,700.00	90.00	269.98	6,926.05	-818.90	-12,427.39	12,413.18	0.00	0.00	0.00
17,800.00	90.00	269.98	6,926.05	-818.94	-12,527.39	12,513.16	0.00	0.00	0.00
17,900.00	90.00	269.98	6,926.04	-818.98	-12,627.39	12,613.15	0.00	0.00	0.00
18,000.00	90.00	269.98	6,926.04	-819.02	-12,727.39	12,713.14	0.00	0.00	0.00
18,100.00	90.00	269.98	6,926.04	-819.06	-12,827.39	12,813.12	0.00	0.00	0.00
18,200.00	90.00	269.98	6,926.04	-819.10	-12,927.39	12,913.11	0.00	0.00	0.00
18,300.00	90.00	269.98	6,926.04	-819.14	-13,027.39	13,013.10	0.00	0.00	0.00
18,400.00	90.00	269.98	6,926.03	-819.19	-13,127.39	13,113.09	0.00	0.00	0.00
18,500.00	90.00	269.98	6,926.03	-819.23	-13,227.39	13,213.07	0.00	0.00	0.00
18,600.00	90.00	269.98	6,926.03	-819.27	-13,327.39	13,313.06	0.00	0.00	0.00
18,700.00	90.00	269.98	6,926.03	-819.31	-13,427.39	13,413.05	0.00	0.00	0.00
18,800.00	90.00	269.98	6,926.02	-819.35	-13,527.39	13,513.04	0.00	0.00	0.00
18,900.00	90.00	269.98	6,926.02	-819.39	-13,627.39	13,613.02	0.00	0.00	0.00
19,000.00	90.00	269.98	6,926.02	-819.43	-13,727.39	13,713.01	0.00	0.00	0.00
19,100.00	90.00	269.98	6,926.02	-819.47	-13,827.39	13,813.00	0.00	0.00	0.00
19,200.00	90.00	269.98	6,926.01	-819.51	-13,927.39	13,912.98	0.00	0.00	0.00
19,300.00	90.00	269.98	6,926.01	-819.55	-14,027.39	14,012.97	0.00	0.00	0.00
19,400.00	90.00	269.98	6,926.01	-819.59	-14,127.39	14,112.96	0.00	0.00	0.00
19,500.00	90.00	269.98	6,926.01	-819.63	-14,227.39	14,212.95	0.00	0.00	0.00
19,600.00	90.00	269.98	6,926.00	-819.67	-14,327.39	14,312.93	0.00	0.00	0.00
19,700.00	90.00	269.98	6,926.00	-819.72	-14,427.39	14,412.92	0.00	0.00	0.00
19,809.36	90.00	269.98	6,926.00	-819.76	-14,536.75	14,522.26	0.00	0.00	0.00
TD @ 19809.36' MD									

Planning Report

Database:	Fhartmann	Local Co-ordinate Reference:	Well Camenisch 33-4HZ
Company:	Occidental Petroleum	TVD Reference:	PD 562 @ 4896.00usft
Project:	Weld County, CO (UTM-NAD83)	MD Reference:	PD 562 @ 4896.00usft
Site:	Camenisch 10-33HZ Pad	North Reference:	True
Well:	Camenisch 33-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	ST01 Plan #8		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
19,809.36	6,926.00	5.5" PROD	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,827.29	3,658.00	PKMN				
4,329.16	4,128.00	SSSX				
4,866.84	4,629.00	SNNN				
7,396.02	6,910.00	SSPG				
7,481.71	6,947.00	NBRR				
7,693.49	6,997.00	N470_B_CK				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
6,444.00	6,109.28	-724.01	-1,779.64	Drop 8°/100' @ 150L	
6,504.00	6,166.12	-732.58	-1,796.79	Hold 16.7° INC	
6,832.60	6,480.86	-781.46	-1,877.58	KOP @ 6832.6' MD	
7,251.08	6,827.39	-858.81	-2,087.67	Build-Turn 8°/100'	
7,759.03	7,000.00	-981.00	-2,537.83	Heel @ 7759.03' MD	
8,275.53	7,000.00	-1,110.33	-3,037.88	Turn 1.5°/100'	
9,435.53	7,000.00	-1,227.10	-4,187.51	Build-Turn 1.5°/100'	
9,667.78	6,993.86	-1,211.88	-4,419.15	Turn 1.5°/100'	
10,025.94	6,974.91	-1,166.39	-4,773.77	Hold 93.03° INC, 280° AZM	
10,828.94	6,932.46	-1,027.14	-5,563.47	Turn 1.5°/100	
11,070.95	6,926.07	-989.31	-5,802.37	Drop-Turn 1.5°/100	
11,544.95	6,926.07	-952.60	-6,274.64	Hold 90° INC, 270.89° AZM	
14,982.45	6,926.07	-899.20	-9,711.73	Turn 1.5°/100	
15,123.12	6,926.07	-894.43	-9,852.31	Hold 90° INC, 273° AZM	
16,323.12	6,926.07	-831.63	-11,050.67	Turn 1.5°/100	
16,463.79	6,926.07	-826.85	-11,191.24	Hold 90° INC, 270.89° AZM	
16,963.79	6,926.07	-819.09	-11,691.19	Turn 1.5°/100	
17,024.68	6,926.06	-818.63	-11,752.07	Hold 90° INC, 269.98° AZM	
19,809.36	6,926.00	-819.76	-14,536.75	TD @ 19809.36' MD	