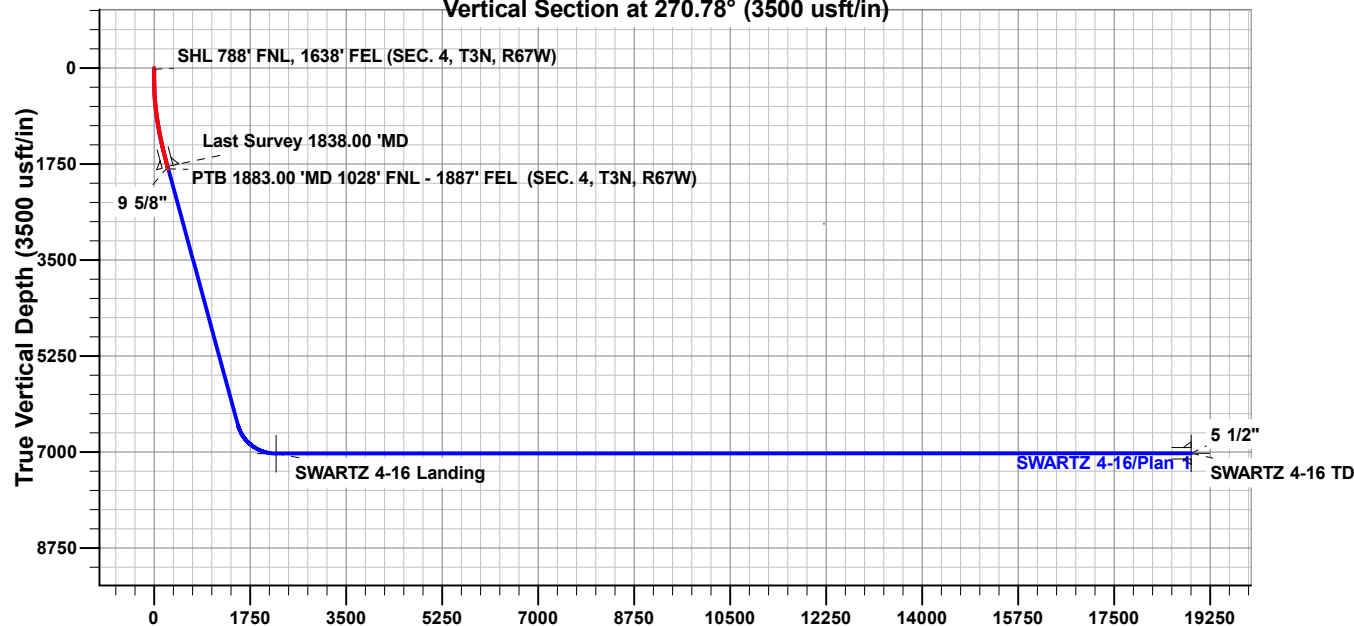


# Vertical Section at 270.78° (3500 usft/in)



## FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
705.00	706.48	Fox Hills
3596.00	3764.45	Parkman
4078.00	4279.12	Sussex
6839.00	7275.73	Sharon Springs
6869.00	7322.43	Niobrara
7021.00	7709.95	Nio B

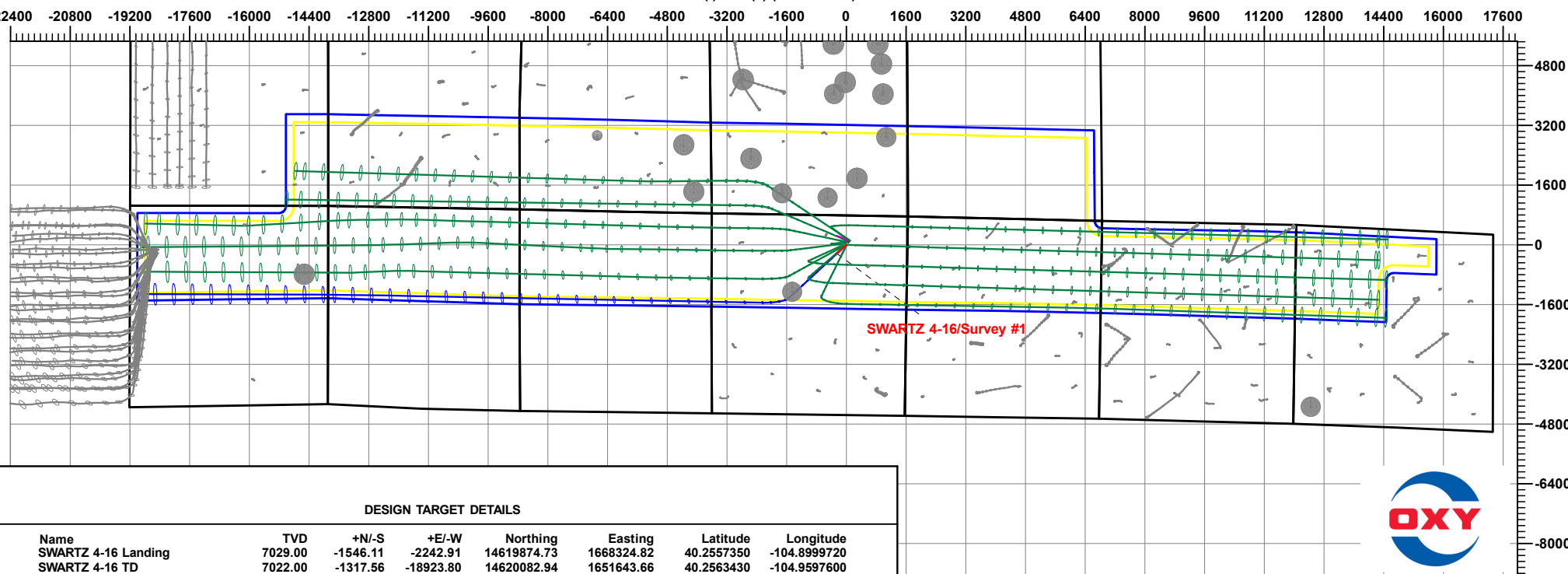
Project: Weld County, CO (UTM-NAD83)  
 Site: 3N-67W-04 ( Swartz Pad )  
 Well: SWARTZ 4-16  
 Wellbore: OH  
 Design: OH

## ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
25.00	0.04	161.20	25.00	-0.01	0.00	0.00	0.03	SHL 788' FNL, 1638' FEL (SEC. 4, T3N, R67W)
1838.00	20.96	223.39	1793.95	-224.84	-241.73	238.65	331.76	Last Survey 1838.00 'MD
1883.00	20.96	223.39	1835.97	-236.54	-252.79	249.55	347.85	PTB 1883.00 'MD 1028' FNL - 1887' FEL (SEC. 4, T3N, R67W)

## West(-)/East(+) (4000 usft/in)

South(-)/North(+) (4000 usft/in)



## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SWARTZ 4-16 Landing	7029.00	-1546.11	-2242.91	14619874.73	1668324.82	40.2557350	-104.8999720
SWARTZ 4-16 TD	7022.00	-1317.56	-18923.80	14620082.94	1651643.66	40.2563430	-104.9597600



# Occidental Petroleum

Weld County, CO (UTM-NAD83)

3N-67W-04 ( Swartz Pad )

SWARTZ 4-16

OH

OH



## Standard Survey Report

11 January, 2024

*Total Report Version 1.60*

*COMPASS 5000.16 Build 97*

# Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 4-16
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	4825' GL + 15' KB @ 4840.00usft
<b>Site:</b>	3N-67W-04 ( Swartz Pad )	<b>MD Reference:</b>	4825' GL + 15' KB @ 4840.00usft
<b>Well:</b>	SWARTZ 4-16	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

<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>	3N-67W-04 ( Swartz Pad )		
<b>Site Position:</b>		<b>Northing:</b>	14,621,540.94 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,670,658.88 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.2603030
		<b>Longitude:</b>	-104.8915990

<b>Well</b>	SWARTZ 4-16		
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	3.28 usft	<b>Wellhead Elevation:</b>	usft
<b>Grid Convergence:</b>	0.07 °	<b>Latitude:</b>	40.2599810
		<b>Longitude:</b>	-104.8919330
		<b>Ground Level:</b>	4,825.00 usft

<b>Wellbore</b>	OH		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
	HDGM2023	9/25/2023	(°)
			7.90
		<b>Dip Angle</b>	(°)
		66.40	
		<b>Field Strength</b>	(nT)
		51,647.70000000	

<b>Design</b>	OH		
<b>Audit Notes:</b>			
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>Tie On Depth:</b>
	(usft)	(usft)	
	0.00	0.00	0.00
		<b>Direction</b>	(°)
		270.78	

<b>Survey Program</b>	<b>Date</b>	1/11/2024	
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>
(usft)	(usft)		<b>Description</b>
80.00	1,883.00	Survey #1 (OH)	APC_ISCWSA REV 2 MWD+ Fixed:v2:crustal field declination

<b>Survey</b>													
<b>Measured</b>	<b>Vertical</b>	<b>Local Coordinates</b>		<b>Map Coordinates</b>		<b>Geo Coordinates</b>		<b>Vertical</b>	<b>Dogleg</b>	<b>Build</b>	<b>Turn</b>		
<b>Depth</b>	<b>INC</b>	<b>AZI</b>	<b>Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Northing</b>	<b>Easting</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Section</b>	<b>Rate</b>	<b>Rate</b>	<b>Rate</b>
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(°)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	14,621,423.57	1,670,565.85	40.2599810	-104.8919330	0.00	0.00	0.00	0.00
80.00	0.14	161.20	80.00	-0.09	0.03	14,621,423.48	1,670,565.88	40.2599808	-104.8919329	-0.03	0.18	0.18	0.00
172.00	0.28	149.06	172.00	-0.39	0.18	14,621,423.18	1,670,566.03	40.2599800	-104.8919323	-0.19	0.16	0.15	-13.20
264.00	1.57	219.12	263.99	-1.56	-0.50	14,621,422.01	1,670,565.35	40.2599767	-104.8919348	0.48	1.63	1.40	76.15
354.00	1.45	213.41	353.96	-3.47	-1.90	14,621,420.10	1,670,563.95	40.2599715	-104.8919398	1.85	0.21	-0.13	-6.34
443.00	2.98	228.63	442.89	-5.94	-4.26	14,621,417.62	1,670,561.60	40.2599647	-104.8919482	4.18	1.83	1.72	17.10

## Survey Report

<b>Company:</b>	Occidental Petroleum	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 4-16
<b>Project:</b>	Weld County, CO (UTM-NAD83)	<b>TVD Reference:</b>	4825' GL + 15' KB @ 4840.00usft
<b>Site:</b>	3N-67W-04 ( Swartz Pad )	<b>MD Reference:</b>	4825' GL + 15' KB @ 4840.00usft
<b>Well:</b>	SWARTZ 4-16	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

### Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longituge (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
533.00	4.90	235.34	532.67	-9.67	-9.18	14,621,413.89	1,670,556.68	40.2599545	-104.8919659	9.04	2.19	2.13	7.46
622.00	7.79	228.32	621.12	-15.85	-16.81	14,621,407.70	1,670,549.06	40.2599375	-104.8919932	16.59	3.36	3.25	-7.89
706.77	8.84	232.49	705.00	-23.63	-26.27	14,621,399.90	1,670,539.61	40.2599161	-104.8920271	25.94	1.43	1.24	4.91
<b>Fox Hills</b>													
712.00	8.91	232.71	710.16	-24.12	-26.91	14,621,399.41	1,670,538.97	40.2599148	-104.8920294	26.58	1.43	1.27	4.30
801.00	9.50	234.33	798.02	-32.58	-38.36	14,621,390.94	1,670,527.53	40.2598916	-104.8920705	37.91	0.72	0.66	1.82
891.00	9.96	232.98	886.72	-41.60	-50.61	14,621,381.91	1,670,515.29	40.2598668	-104.8921144	50.04	0.57	0.51	-1.50
980.00	10.56	235.35	974.30	-50.87	-63.46	14,621,372.62	1,670,502.45	40.2598413	-104.8921604	62.76	0.82	0.67	2.66
1,070.00	12.61	230.85	1,062.46	-61.76	-77.87	14,621,361.71	1,670,488.06	40.2598114	-104.8922121	77.02	2.49	2.28	-5.00
1,159.00	14.45	230.62	1,148.99	-74.94	-93.99	14,621,348.51	1,670,471.95	40.2597752	-104.8922699	92.96	2.07	2.07	-0.26
1,248.00	15.88	227.49	1,234.89	-90.22	-111.55	14,621,333.21	1,670,454.41	40.2597333	-104.8923328	110.31	1.85	1.61	-3.52
1,338.00	15.99	229.40	1,321.43	-106.60	-130.03	14,621,316.81	1,670,435.94	40.2596883	-104.8923991	128.57	0.60	0.12	2.12
1,428.00	16.62	225.10	1,407.81	-123.76	-148.56	14,621,299.63	1,670,417.43	40.2596412	-104.8924655	146.87	1.51	0.70	-4.78
1,517.00	18.23	222.59	1,492.73	-142.99	-167.00	14,621,280.37	1,670,399.02	40.2595884	-104.8925316	165.04	2.00	1.81	-2.82
1,607.00	19.77	222.75	1,577.82	-164.54	-186.86	14,621,258.81	1,670,379.19	40.2595292	-104.8926028	184.61	1.71	1.71	0.18
1,696.00	20.65	221.73	1,661.34	-187.30	-207.53	14,621,236.01	1,670,358.55	40.2594667	-104.8926768	204.96	1.07	0.99	-1.15
1,786.00	21.15	222.34	1,745.42	-211.15	-229.03	14,621,212.14	1,670,337.08	40.2594012	-104.8927539	226.13	0.61	0.56	0.68
1,838.00	20.96	223.39	1,793.95	-224.84	-241.73	14,621,198.44	1,670,324.39	40.2593636	-104.8927994	238.65	0.81	-0.37	2.02
<b>Last Survey 1838.00 'MD</b>													
1,883.00	20.96	223.39	1,835.97	-236.54	-252.79	14,621,186.72	1,670,313.35	40.2593315	-104.8928391	249.55	0.00	0.00	0.00
<b>PTB 1883.00 'MD 1028' FNL - 1887' FEL (SEC. 4, T3N, R67W)</b>													

### Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
706.77	705.00	Fox Hills			

### Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
1,838.00	1,793.95	-224.84	-241.73	Last Survey 1838.00 'MD
1,883.00	1,835.97	-236.54	-252.79	PTB 1883.00 'MD 1028' FNL - 1887' FEL (SEC. 4, T3N, R67W)

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