



Occidental Petroleum

Weld County, CO (UTM-NAD83)

Prowant 4-18HZ

Prowant 18-2HZ

OH

Design: OH

Standard Survey Report

02 March, 2020





Total Directional Services

Survey Report



Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well Prowant 18-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	4939' GE + 8' KB @ 4947.00usft
Site:	Prowant 4-18HZ	MD Reference:	4939' GE + 8' KB @ 4947.00usft
Well:	Prowant 18-2HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

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

Site	Prowant 4-18HZ				
Site Position:		Northing:	14,674,247.77 usft	Latitude:	40.405074
From:	Map	Easting:	1,656,579.10 usft	Longitude:	-104.941943
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.04 °

Well	Prowant 18-2HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,674,241.93 usft	Latitude:	40.405058
	+E/-W	0.00 usft	Easting:	1,656,565.46 usft	Longitude:	-104.941992
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,939.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	2/19/2020	8.08	66.68	52,076.17589327

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	89.46	

Survey Program	Date 3/2/2020				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
120.00	1,828.00	Survey #1 - Surface MWD+IFR (OH)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	
1,886.00	1,886.00	Survey #2 - Surface Proj to TD (OH)	BLIND	OWSG BLIND	

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	
SHL (Prowant 18-2HZ)										
120.00	0.57	218.37	120.00	-0.47	-0.37	-0.37	0.48	0.48	0.00	
215.00	0.78	226.36	214.99	-1.28	-1.13	-1.14	0.24	0.22	8.41	
310.00	0.98	272.77	309.98	-1.69	-2.41	-2.43	0.76	0.21	48.85	
405.00	1.38	329.53	404.96	-0.67	-3.80	-3.81	1.24	0.42	59.75	
500.00	1.59	315.90	499.93	1.27	-5.30	-5.29	0.43	0.22	-14.35	
595.00	2.06	281.87	594.89	2.56	-7.89	-7.86	1.22	0.49	-35.82	
690.00	4.94	287.90	689.70	4.17	-13.45	-13.41	3.05	3.03	6.35	
785.00	6.94	292.23	784.19	7.60	-22.66	-22.59	2.16	2.11	4.56	



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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)	
881.00	8.40	289.98	879.32	12.19	-34.62	-34.50	1.55	1.52	-2.34	
975.00	8.55	288.99	972.30	16.81	-47.68	-47.52	0.22	0.16	-1.05	
1,071.00	10.90	289.65	1,066.91	22.19	-62.98	-62.76	2.45	2.45	0.69	
1,166.00	12.27	291.08	1,159.97	28.84	-80.86	-80.58	1.47	1.44	1.51	
1,261.00	13.18	294.14	1,252.64	36.90	-100.16	-99.81	1.19	0.96	3.22	
1,355.00	14.96	294.56	1,343.82	46.33	-120.97	-120.53	1.90	1.89	0.45	
1,450.00	17.62	293.76	1,435.00	57.22	-145.29	-144.75	2.81	2.80	-0.84	
1,544.00	18.10	293.35	1,524.46	68.74	-171.72	-171.06	0.53	0.51	-0.44	
1,640.00	19.31	292.22	1,615.39	80.65	-200.10	-199.34	1.32	1.26	-1.18	
1,735.00	19.23	291.70	1,705.07	92.37	-229.18	-228.30	0.20	-0.08	-0.55	
1,828.00	18.54	289.18	1,793.07	102.89	-257.38	-256.40	1.15	-0.74	-2.71	
1,886.00	18.54	289.18	1,848.06	108.95	-274.80	-273.76	0.00	0.00	0.00	
Heel (Prowant 18-2HZ) - PBHL (Prowant 18-2HZ)										

Checked By: _____ Approved By: _____ Date: _____