

Southwestern Energy Charles Frye OHI 405H MWD 0' to 17627' MD Survey Geodetic Report (Def Survey)

Report Date: December 02, 2019 - 05:47 AM
Client: Southwestern Energy
Field: WV Ohio County (NAD 83 UTM 17N)
Well: Charles Frye OHI 405H
Borehole: Original Borehole
UWI / APW: Unknown / Unknown
Survey Name: Southwestern Energy Charles Frye OHI 405H MWD 0' to 17627' MD
Survey Date: November 26, 2019
Tort / AHD / DOI / ERD Rate: 269.424' / 13213.378' ft / 6.984' / 2.026
Coordinate Reference System: NAD83 UTM Zone 17N, US Feet
Location Lat / Long: N 40° 3' 10.9385" W 80° 54' 37.1720"
Location Grid N/E Y/D: N 14548325.009 RJL5, E 1756786.889 RJL5
CRS Grid Convergence Angle: 0.2722°
Grid Scale Factor: 0.99961602
Version / Patch: 2.10.787.0
Survey / DLS Computation: Minimum Convergence / Lubinski
Vertical Section Azimuth: 345.274° (Grid North)
Vertical Section Origin: 0.000 R, 0.000 ft
TVD Reference Elevation: 1202.800 ft above MSL
Seabed / Ground Elevation: 1266.800 ft above MSL
Magnetic Declination: -8.312°
Total Gravity Field Strength: 996.3516mgn (9.80665 Base)
Gravity Model: GARM
Total Magnetic Field Strength: 52.492.004 nT
Magnetic Dip Angle: 67.158°
Inclination Date: November 26, 2019
Magnetic Declination Model: HDGM 2019
Grid North: 0.2722°
Grid Convergence Used: 0.2722°
Total Cor Mag North-Grid North: -8.5842°
Local Cord Referenced To: Well Head

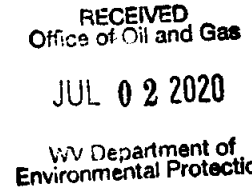


Table with columns: Comments, MD (ft), Incl (°), Azim Grid (°), TVD (ft), TVDSS (ft), VSEC (ft), NS (ft), EW (ft), DLS (ft/100ft), TF (ft), BR (ft/100ft), TR (ft/100ft), Northing (ft), Easting (ft), Latitude (°), Longitude (°), Directional Difficulty Index. The table contains a large number of rows representing survey data points.



Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	TF (°)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Eastng (ftUS)	Latitude (°)	Longitude (°)	Directional Difficulty Index	
Survey Program:																		
Description	Part	MD From (ft)	MD To (ft)	ECU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type			Borehole / Survey								
	1	0.000	26.000	1.98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only			Original Borehole / Southwestern Energy Charles Frye OH# 405H MWD 0' to 17627' MD								
	1	26.000	26.000	Act Sms	30.000	30.000	NAL_NSG+MSHOT-Depth Only			Original Borehole / Southwestern Energy Charles Frye OH# 405H MWD 0' to 17627' MD								
	1	26.000	750.000	Act Sms	30.000	30.000	NAL_NSG+MSHOT			Original Borehole / Southwestern Energy Charles Frye OH# 405H								
	1	750.000	6144.000	Act Sms	30.000	30.000	NAL_MWD-NON_SLB			Original Borehole / Southwestern Energy Charles Frye OH# 405H								
	1	6144.000	17627.000	Act Sms	30.000	30.000	NAL_MWD_1_D_DEG			Original Borehole / Southwestern Energy Charles Frye OH# 405H								

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