



CNX Gas

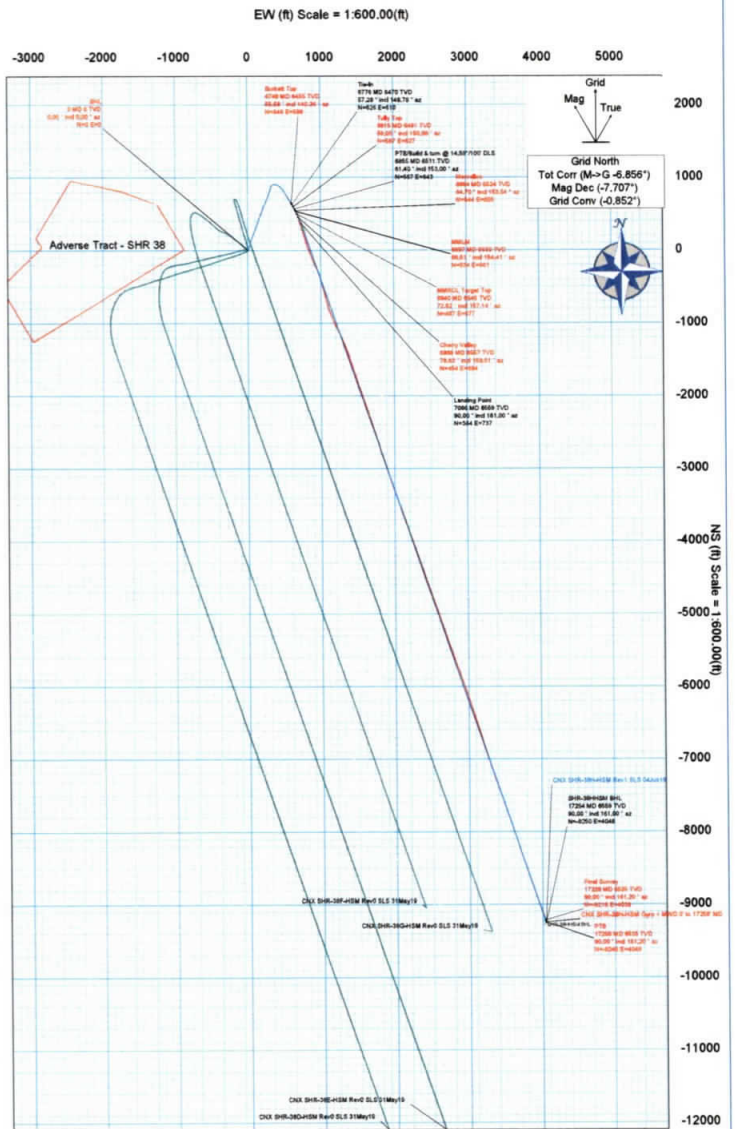


Borehole: Original Borehole	Well: SHR-38H-HSM	Field: WV Tyler County (NAD 27)	Structure: Patterson 801
Gravity & Magnetic Parameters		Surface Location	
Model: HDGM 2019	Dip: 66.467°	Date: 30-May-2019	
MagDec: -7.707°	FS: 61821.478nT	Gravity FS: 999.321mgal (8.00665 Based)	
		NAD27 West Virginia State Plane, Northern Zone, US Feet	
		Lat: N 39 22 16.81	Northing: 320142.428US
		Lon: W 80 50 7.28	Easting: 1622496.598US
		Grid Conv: -8.8517'	Scale Fact: 0.99996067
		Miscellaneous	
		Shot: SHR-38H-HSM	TVD Ref: RKB(1040.66ft above MSL)
		Plan: CNX SHR-38H-HSM Gyro + MWD 0' to 1726F MD	

Critical Points								
Point Name	MD	RCL	AZIM	TVD	VSEC	N(Y99ft)	E(Y99ft)	DLS
BHL	1200	63.00	63.00	63.00	63.00	63.00	63.00	63.00
Surface Top	6194.00	61.00	145.00	6454.00	-418.20	545.71	198.49	5.30
Tully Tie	6615.00	68.00	150.00	6491.00	-360.83	587.43	424.75	4.84
Navaho	6894.00	64.70	153.54	6534.34	-301.24	544.25	695.34	15.30
MSLN	6997.00	66.51	154.41	6529.71	-288.49	533.61	665.53	15.20
MWDCL Target Top	6940.00	72.53	157.44	6544.75	-248.40	498.89	677.03	15.20
Cherry Valley	6994.00	78.43	158.61	6554.54	-252.87	453.67	644.14	13.11
Final Survey	17228.00	90.00	161.00	6534.83	10030.79	-8217.88	4538.43	1.90
PTB	17268.00	90.00	161.00	6534.83	10060.79	-8248.28	4548.08	0.00

PART	Seq	Survey Tool	Survey Tool Code	Velocity/Tvd	Md Start	Ending Min	Expected	Md From	Md To	Survey Frequency	MD/Min	MD/Max	Comments/Contingency
1	1	NAL_MWD-HSM	Only	30	30			0	28	168.425	1.25	1.25	
1	2	NAL_MWD-HSM	Depth Only	30	30			29	29	Aut Stop	1.25	1.25	
1	3	NAL_MWD-HSM	OT	30	30			29	29	Aut Stop	1.25	1.25	
1	4	NAL_MWD-HSM	ELS	30	30			28.57	6211	Aut Stop	36.198	16.732	
1	5	NAL_MWD-HSM	DES	30	30			6211	17268	Aut Stop	337.128	18.174	

Target Description		Northing		Easting		Latitude		Longitude		VSec Azimuth		Level Count
		329145.424	1622496.597	39 22 16.81	W 80 50 7.28	193.86					193.86	
Target Name	Shape	Dimension	Latitude	Longitude	Northing	Easting	TVD	VSec	N(Y99ft)	E(Y99ft)		
Adverse Tract - SHR 38	Polygon	N/A	N 39 24 52.89	W 80 50 48.76	238009.76	181930.13	1546.85	-15812.22	10966.18	-2989.01		
SHR-38H-HSM BHL	Point	N/A	N 39 20 45.79	W 80 49 14.01	210044.67	162954.95	858.00	10043.27	4848.23	4048.17		
SHR-38H-HSM LP	Point	N/A	N 39 22 18.66	W 80 49 57.64	220443.71	162254.96	858.00	-84.81	306.30	768.01		

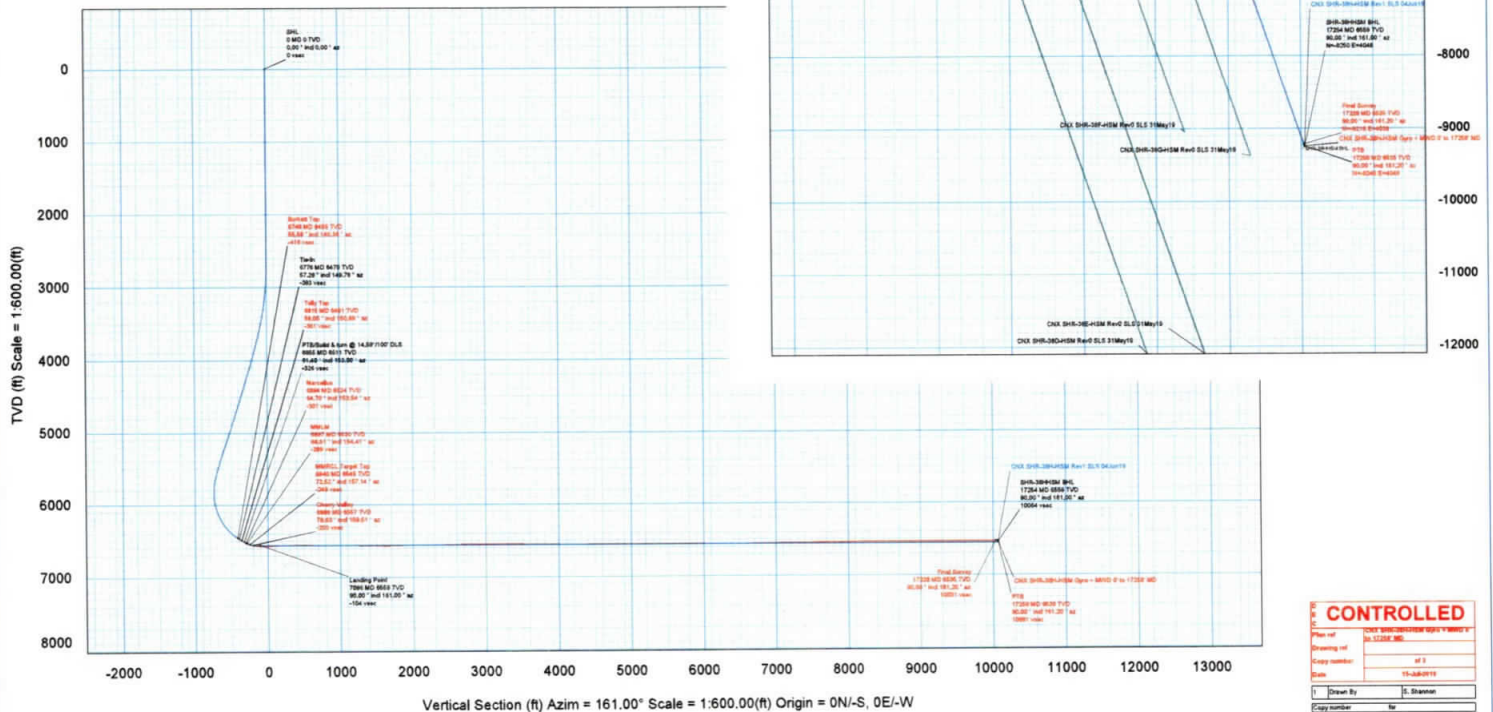


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WV Department of
Environmental Protection

- CNX SHR-38H-HSM Gyro + MWD 0' to 1726F MD
- CNX SHR-38H-HSM Rev1 SLS 04Jun19
- CNX SHR-38H-HSM Rev0 SLS 31May19
- CNX SHR-38H-HSM Rev0 SLS 31May19
- CNX SHR-38H-HSM Rev0 AJO 30May19
- CNX SHR-38H-HSM Rev0 SLS 31May19
- CNX SHR-38H-HSM Rev0 SLS 31May19
- CNX SHR-38H-HSM Rev0 SLS 31May19
- Adverse Tract - SHR 38
- SHR-38H-HSM BHL
- SHR-38H-HSM LP



CONTROLLED

Plan No: 1008
 Drawing of: 1008
 Copy number: 1 of 3
 Date: 10-Jun-2019
 Drawn By: [Signature]
 Checked By: [Signature]

CNX SHR-38H-HSM Gyro + MWD 0' to 17258' MD Survey Geodetic Report

(Def Survey)

Report Date: July 15, 2019 - 02:32 PM
Client: CNX Gas
Structure / Plot: WV Tyler County (NAD 27)
Well: SHR-38H-HSM
Borehole: Original Borehole
UWI / APN: Unknown / Unknown
Survey Name: CNX SHR-38H-HSM Gyro + MWD 0' to 17258' MD
Survey Date: May 30, 2019
Tool / AMD / DDI / ERD Ratio: 291.345 / 11847.849 / 0.642 / 1.204
Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet
Location Lat / Long: N 32° 22' 10.00700", W 80° 50' 7.28125"
Location Grid N/E Y/X: N 320143 424 NUS, E 1622406 987 RUS
CRS Grid Convergence Angle: -0.8517°
Grid Scale Factor: 0.99999507
Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 161.000° (Grid North)
Vertical Section Origin: 0.000 R, 0.000 R
TVR Reference Datum: RKB
TVR Reference Elevation: 1040.650 R above MSL
Geoid / Ground Elevation: 1011.050 R above MSL
Magnetic Declination: -7.707°
Total Gravity Field Strength: 960.3213mg (0.0005 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 51501.479 nT
Magnetic Dip Angle: 60.4517°
Declination Date: May 30, 2019
Magnetic Declination Model: HDGM 2010
North Reference: Grid North
Grid Convergence Used: -0.8517°
Local Coord Reference To: W of Head

Table with columns: Comments, MD, Incl, Azim Grid, TVD, TVDSS, VSEC, NS, EW, DLS, TF, BR, TR, Northing, Easting, Latitude, Longitude, Directional. Contains a large grid of survey data points.

