

Noble Energy SHL-6H-HS Gyro+MWD 0' MD to 13226' MD Survey Report



(Def Survey)

Report Date: May 04, 2012 - 09:24 AM
Client: Noble Energy
Field: WV Marshall County (NAD 27)
Structure / Slot: CNX/Noble Energy SHL-6 Pad / SHL-6H-HS
Well: SHL-6H-HS
Borehole: Original Borehole
UWI / AP#/: Unknown / Unknown
Survey Name: Noble Energy SHL-6H-HS Gyro+MWD 0' MD to 13226' MD
Survey Date: February 15, 2012
Tori / AHD / DDI / ERD Ratio: 286.179 / 8631.568 ft / 6.601 / 1.305
Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet
Location Lat / Long: N 39° 57' 22.40816", W 80° 34' 31.97708"
Location Grid NE YX: N 532201.655 RUS, E 1098490.727 RUS
CRS Grid Convergence Angle: -0.68550521 °
Grid Scale Factor: 0.99995732

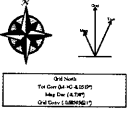
Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 343.240 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB
TVD Reference Elevation: 853.930 ft above MSL
Seabed / Ground Elevation: 831.020 ft above MSL
Magnetic Declination: -8.738 °
Total Field Strength: 52862.247 nT
Magnetic Dip Angle: 67.533 °
Declination Date: February 15, 2012
Magnetic Declination Model: BGGM 2011
North Reference: Grid North
Grid Convergence Used: -0.686 °
Total Corr Mag North-Grid: -8.052 °
Local Coord 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), BR (ft/100ft), TR (ft/100ft), Northing (RUS), Easting (RUS), Latitude (N/S °), Longitude (E/W °), Directional Difficulty Index. The table contains multiple rows of data for 'SHL' and 'Final Gyro' sections.



WELL: SHL-6H-HS			FIELD: WV Marshall County (NAD 27)			STRUCTURE: Nabors M59		
Magnetic Parameters	Dip: 97.533°	Decl: February 15, 2012	Surface Location			Miscellaneous		
Model: BGM2011	Mag Dec: -4.738°	RS: 5280.267	Lat: N 39 57 22.40"	Northing: 53201.66 RUS	Easting: 109840.71 RUS	Grid Coord: -4.0895621°	Scale Factor: 0.9999732	Sic: SHL-6H-HS
			Long: W 80 34 31.077"					TVD Ref: K:\053198 above ABL1
								Srvy Desc: February 15, 2012

- ### Legend
- SHL-6H-HS
  - SHL-6H-HS BHL
  - SHL-6H-HS BHL 1222 MD 6118 TVD
  - SHL-6H-HS BHL 1222 MD 6118 TVD
  - SHL-6H-HS BHL 1222 MD 6118 TVD
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  - SHL-6H-HS BHL 1222 MD 6118 TVD



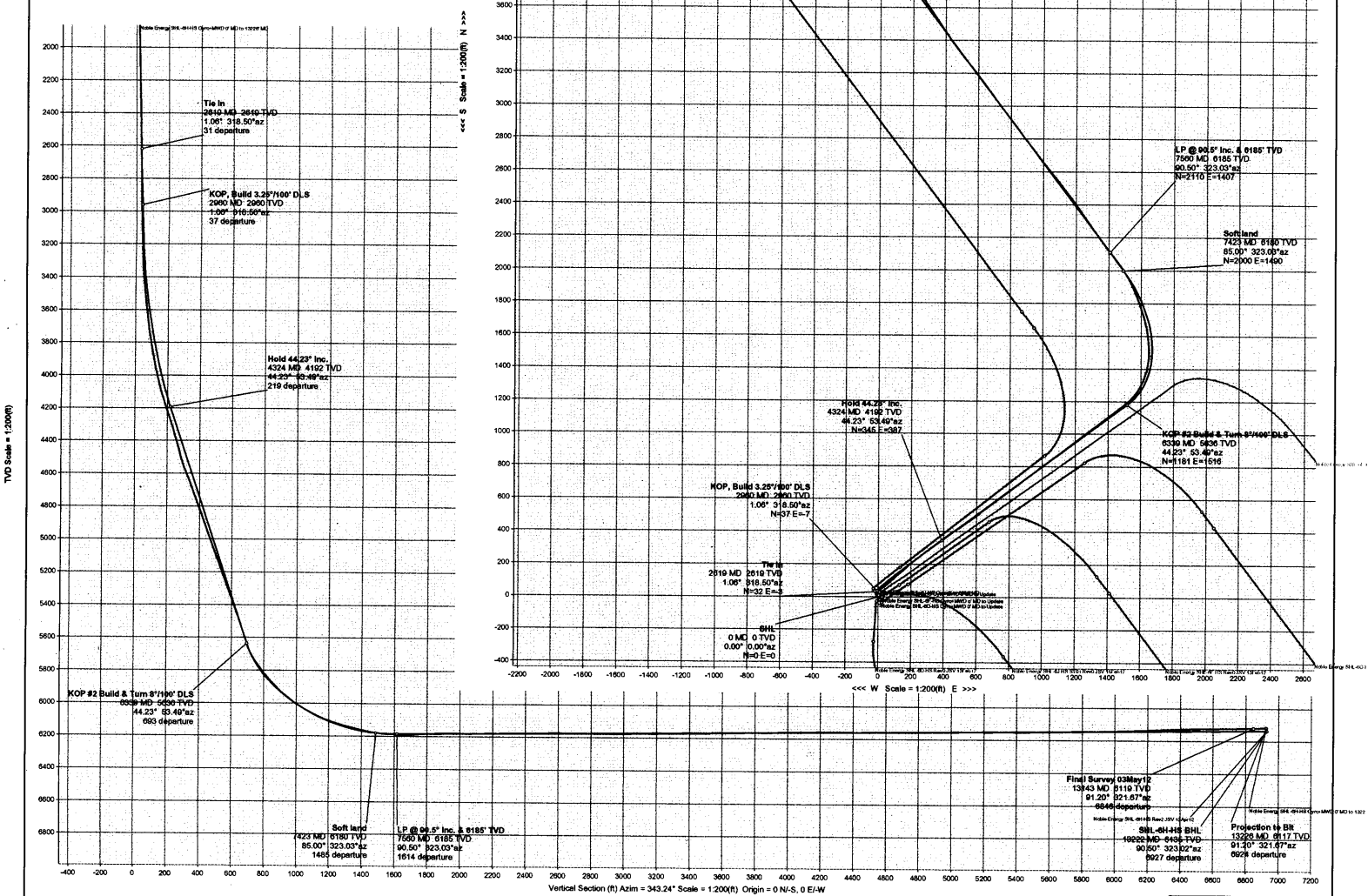
### Well Log Location

Well No.	Section	Block	Range	Section	Block	Range	Section	Block	Range
SHL-6H-HS	05	05	05	05	05	05	05	05	05

### Other Data

Coordinate	MD	BHL	BHL	BHL	BHL	BHL	BHL
Start	0	0	0	0	0	0	0
End	500	1000	1500	2000	2500	3000	3500



TVD Scale = 1:2000 (N) >>>

<<< E Scale = 1:2000 (E) >>>

<<< W Scale = 1:2000 (E) >>>

Vertical Section (ft) Azim = 343.24° Scale = 1:2000 (ft) Origin = 0 N/S, 0 E/W

Drawn by: J. Yarron  
 Date Created: May 04, 2012 08:25:07 AM  
 Checked by:  
 Checked Date:  
 Approved by:  
 Approved Date: