

Décollement
Consulting
Inc.



Scale: 5" / 100'
Measured Depth Log

Well Name Pronghorn 11-41 28HNB

Location SWNW Sec 28 T5N R61W

State Colorado

Country USA

API Number 05-123-3863-00

County Weld

Rig Number Ensign 136

Field D.J. Basin

Spud Date 1/14/2014

Surface Coordinates 1412 FNL X 370 FWL

Ground Elevation 4616

Logged Interval 5800'

Formation Niobrara "B"

Type of Drilling Fluid WBM

K.B. Elevation 4633

Company Bonanza Creek Energy
Address 410 17th Street, Suite 100
Denver, CO 80202

Name Leo Carrasco/Chris I
Company Décollement Consulting
Address 13300 Braun Road
Golden, CO 80401



Operator

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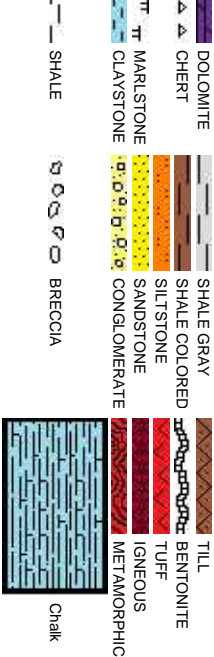
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Geologist

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Rock Types

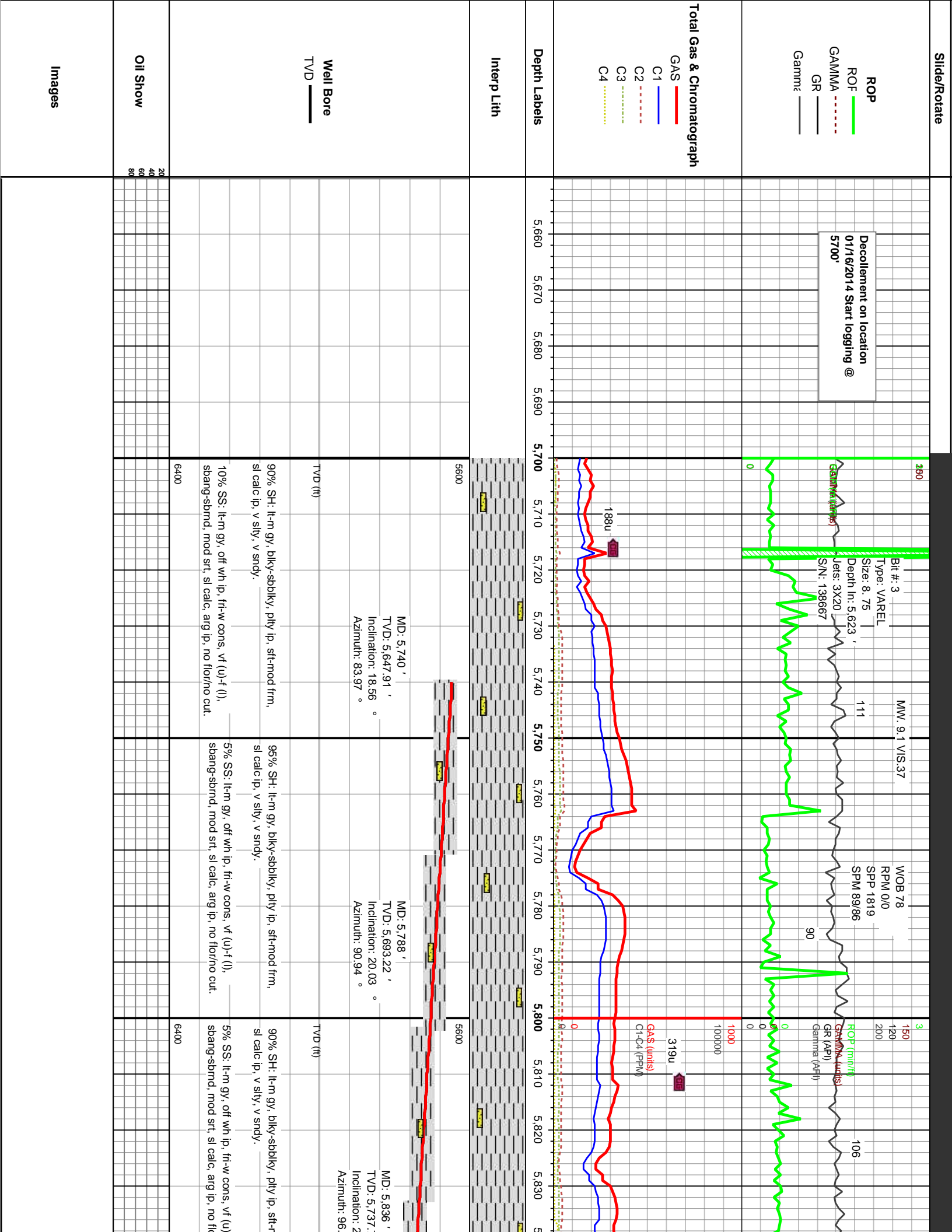


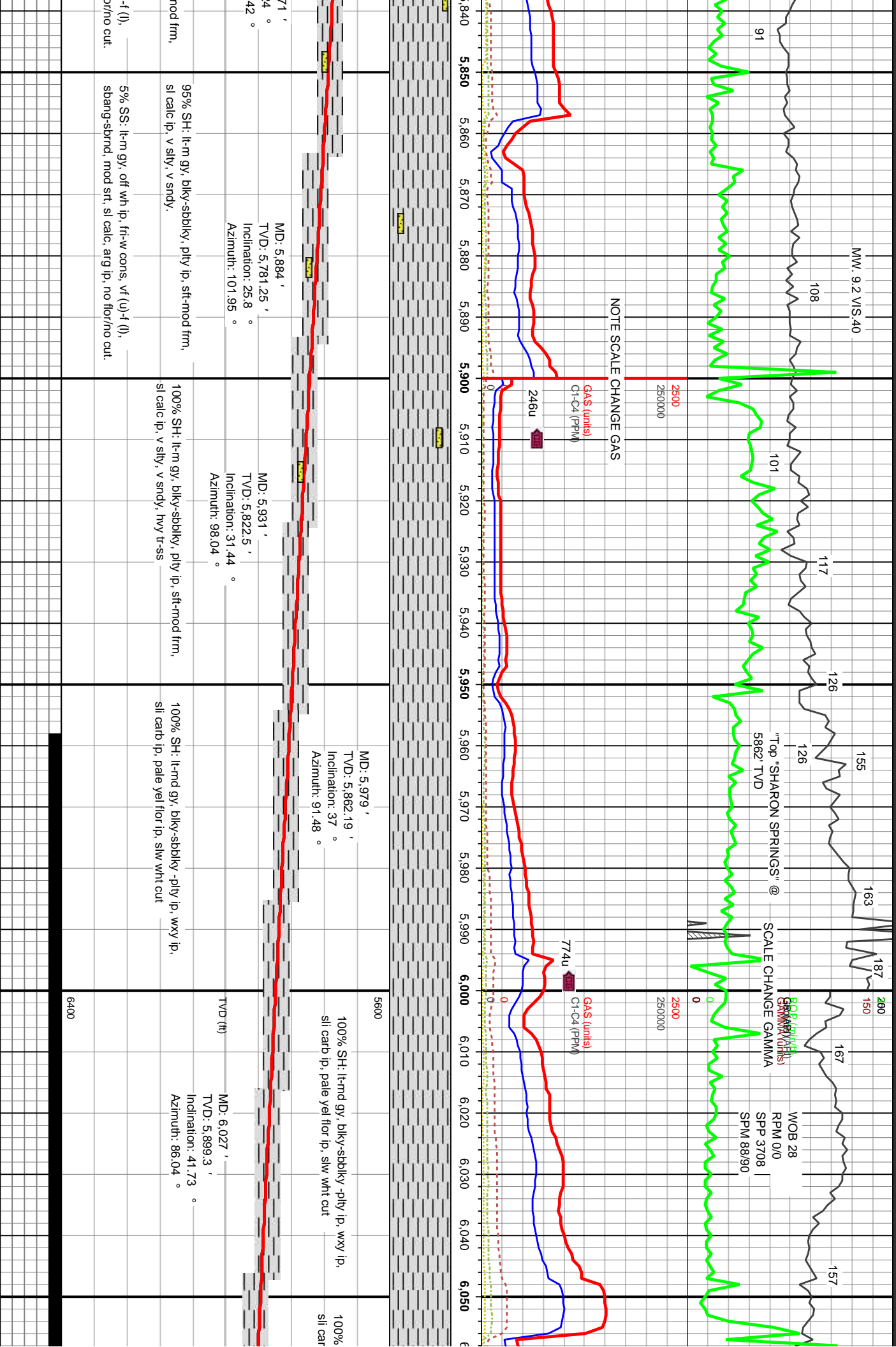
Accessories

Fossils	F FOSSIL	- ARGILLACEOUS	✓ GLAUCONITE	Stringer
GASTROPOD	GA GASTROPOD	/ ARGILLITE GRAIN	≡ GYPSIFEROUS	ANHYDRITE STRINGER
ALGAE	Φ OOLITE	B BENTONITE	↑ HEAVY MINERAL	BENTONITE STRINGER
AMPHIPORA	OSTRACOD	BITUMENOUS SUBSTANCE	K KAOLIN	COAL STRINGER
BELEMNITE	PELECYPOD	BRECCIA FRAGMENTS	TT MARLSTONE	DOLOMITE STRINGER
BIOCLASTIC	PELLET	CALCAREOUS	≡ MINERAL CRYSTALS	GYPSUM STRINGER
BRACHIOPOD	PISOLITE	CARBONACEOUS FLAKES	● NODULES	LIMESTONE STRINGER
BRYOZOA	PLANT REMAINS	CHTDK	● PHOSPHATE PELLETS	MARLSTONE (CALC) STRG
CERPHALOPOD	PLANT SPORES	CHTLT	P PYRITE	MARLSTONE (DOL) STRG
CORAL	SCAPHOPOD	COAL - THIN BEDS	⊞ SALT CAST	SANDSTONE STRINGER
CRINOID	STROMATOPOROID	DOLOMITIC	· SANDY	SHALE STRINGER
ECHINOID		+ FELDSPAR	Λ SILICEOUS	SILTSTONE STRINGER
FISH	Minerals	● FERRUGINOUS PELLETS	.. SILTY	
FORAMINIFERA	ANHYDRITIC	Λ FERRUGINOUS	✓ TUFACEOUS	

Other Symbols

Oil Show	○ ORGANIC	✖ GAS SHOW	MX MICROXLN
P PINPOINT	✓ VUGGY	MINDEPTH MN DEPTH	MS MUDSTONE
D DEAD	● EVEN	↘ NORMAL FAULT	R ROUNDED
○ QUESTIONABLE	● SPOTTED STAINING	↗ OIL SHOW	B SUBANG
	BIT	↕ OVERTURNED STRATA	TT SUBRND
Porosity	CONNECTION (LEFT)	↗ REVERSE FAULT	Textures
E EARTHY	CONNECTION (RIGHT)	SIDEWALL CORE (LEFT)	B3 BOUNDSTONE
F FENESTRAL	CONNECTION GAS	SIDEWALL CORE (RIGHT)	P POOR
F FRACTURE	CORE - LOST	SLIDE	C CHALKY
× INTERCRYSTALLINE	CORE - RECOVERED	SURVEY	CX CRYPTOXLN
Φ INTEROOILITIC	DST INTERVAL	TRIP GAS	E EARTHY
Λ MOLDIC	FAULT	WIRELINE TESTED - LEFT	FX FINELYXLN
	FORMATION TOP	WIRELINE TESTED - RT	BS GRAINSTONE
			L LITHOGRAPHIC
		Rounding	



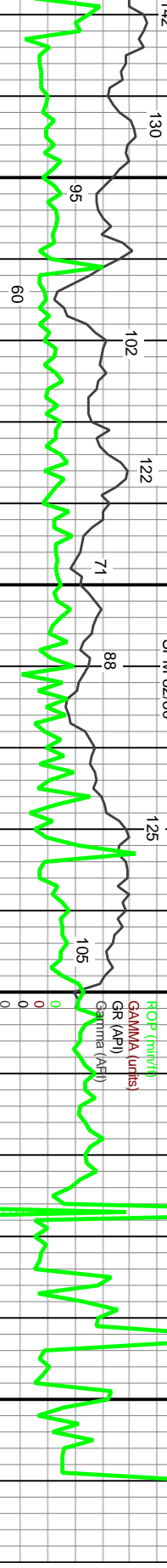


Top NIOBRARA "B" Chalk @
6056' TVD 6315' MD

WOB 80
RPM 0/0
SPM 3420
SPM 82/80

MW. 8.9 V/S. 36

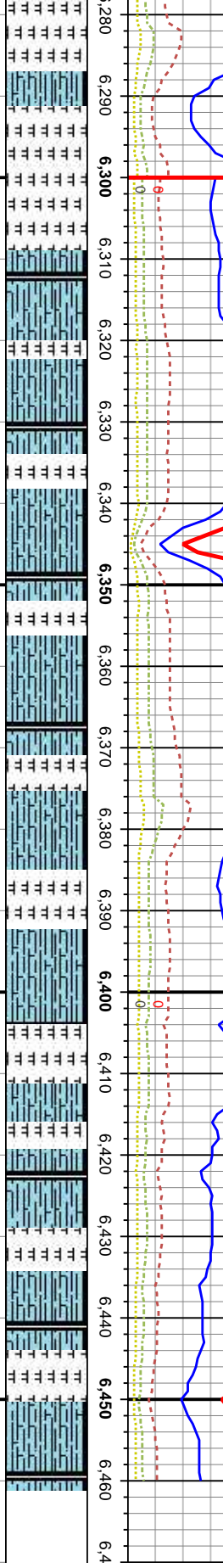
TD @ 6460' 01/18/2014
03:45 AM.



NOTE SCALE CHANGE GAS

GAS (units)
C1-C4 (PPM)

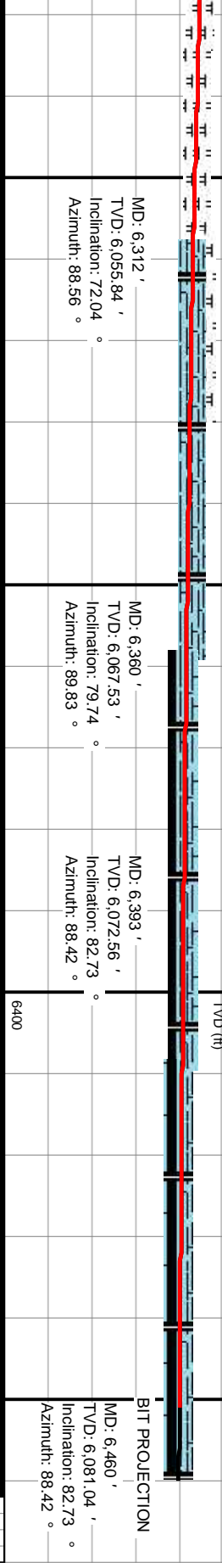
GAS (units)
C1-C4 (PPM)



80% CHKL: m-dk gy, sft-mod frm, blkly sbblky, calc, wxy ip, tr Bent,no flor, slw wh/bl cut, bl res ring.
20% MRL: m-dk gy, sft-frm, sbblky, occ specs, v calc, fos, no flor, diffuse wh cuts.

95% CHKL: m-dk gy, sft-mod frm, blkly sbblky, calc, wxy ip, tr Bent,no flor, slw wh/bl cut, bl res ring.
5% MRL: m-dk gy, sft-frm, sbblky, occ specs, v calc, fos, no flor, diffuse wh cuts.

70% CHKL: m-dk gy, sft-mod frm, blkly sbblky, calc, wxy ip, tr Bent,no flor, slw wh/bl cut, bl res ring.
30% MRL: m-dk gy, sft-frm, sbblky, occ specs, v calc, fos, no flor, diffuse wh cuts.

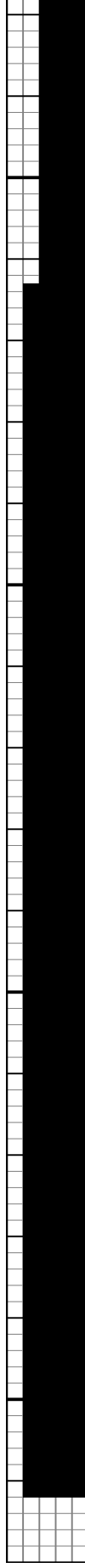


MD: 6,312 '
TVD: 6,055.84 '
Inclination: 72.04 °
Azimuth: 88.56 °

MD: 6,360 '
TVD: 6,067.53 '
Inclination: 79.74 °
Azimuth: 89.83 °

MD: 6,393 '
TVD: 6,072.56 '
Inclination: 82.73 °
Azimuth: 88.42 °

6400



BIT PROJECTION
MD: 6,460 '
TVD: 6,081.04 '
Inclination: 82.73 °
Azimuth: 88.42 °