

Scale: 4.88" / 100'
Measured Depth Log

Well Name	State Pronghorn V-29-30XRLNB		
Location	NWNW Sec.28 T5N R61W		
State	Colorado	County	Weld
Country	United States	Rig Number	Xtreme 19
API Number	05-123-44113-00	AFE #	18009
Geographic Region	D.J. Basin	Field	Wattenberg
Spud Date	2/25/2018	Drilling Completed	3/9/2018
Surface Coordinates	NWNW Sec.28 T5N R61W 1338 FNL 548 FWL		
Bottom Hole Coordinates	NWNW Sec.28 T5N R61W 1170 FNL 470 FWL		
Ground Elevation	4,618	K.B. Elevation	4,635
Logged Interval	5900 To 16,187	Total Depth	16,187
Formation	Niobrara B Chalk		
Type of Drilling Fluid	Oil Based Mud		

Operator

Company Bonanza Creek
Address Bonanza Creek Energy
410 17th Street
Suite 1400
Denver, CO 80202

Geologist

Name Paul McKay
Company Bonanza Creek Energy
Address Bonanza Creek Energy
410 17th Street
Suite 1400
Denver, CO 80202

Other

Robert Davis Wellsite Geologist
Dan Kabala Wellsite Geologist







































Zone Color Coding

Oil
Note
Error

Condensate
Core
Water




Gas
Pre
Sea

Rock Types

 UNKNOWN	   MARLSTONE	 SILTSTONE	 BENTONITE
 GYPSUM	   CLAYSTONE	 SANDSTONE	 TUFF
 LIMESTONE	   SHALE	 CONGLOMERATE	 CEMENT
     CHERT	   SHALE GRAY	   BRECCIA	 CHALK
 COAL	   SHALE COLORED	   TILL	 SILTY SHALE

Other S

Oil Show


 MOLDIC	
 ORGANIC	

 DEAD

 SIDEVIEW


 EVEN

 SIDEVIEW

 QUESTIONABLE

 SLIDE

Engineering

 SPOTTED STAINING

 SURFACE


Porosity



 BIT

 TRIANGLE

 CASING

 WIRE

 EARTHLY

 CONNECTION (RIGHT)  WIRE


 FENESTRAL

 CONNECTION GAS

 Round

 FRACTURE

 CORE - LOST












































 INTERCRYSTALLINE

 CORE - RECOVERED  ANGULAR

 INTEROOLITIC

 FAULT  Round

Accessories

 FORAMINIFERA	 GLAUCONITE	 COAL STRINGER
 FOSSIL	 ANHYDRITIC	 GYPSIFEROUS
 ALGAE	 GASTROPOD	 MARLSTONE
 AMPHIPORA	 OOLITE	 BITUMENOUS SUBSTANCE
 BELEMNITE	 OSTRACOD	 NODULES
 BIOCLASTIC	 PELECYPOD	 PHOSPHATE PELLETS
 BRACHIOPOD	 PELLET	 PYRITE
 BRYOZOA	 PISULITE	 SANDY
 CEPHALOPOD	 PLANT REMAINS	 SILICEOUS
 CORAL	 PLANT SPORES	 SILTY
 CRINOID	 SCAPHOPOD	 Stringer
 ECHINOID	 STROMATOPOROID	 CHALK STRINGER
 FISH	 FELDSPAR	 SILTY SHALE STRINGER
	 FERRUGINOUS PELLETT	 ANHYDRITE STRINGER
	 FERRUGINOUS	 BENTONITE STRINGER

Minerals

Symbols

FORMATION TOP **BS** SUBANG **PS** PACKSTONE

HOW **PS** SUBRND **WS** WACKESTONE

VALL CORE (LEFT)

Textures Sorting

VALL CORE (RIGHT)

BS BOUNDSTONE **M** MODERATE

VIEWY **C** CHALKY **P** POOR

OGAS **CX** CRYPTOXLN **W** WELL

LINE TESTED - LEFT **E** EARTHY

Cut

LINE TESTED - RT **FX** FINELYXLN

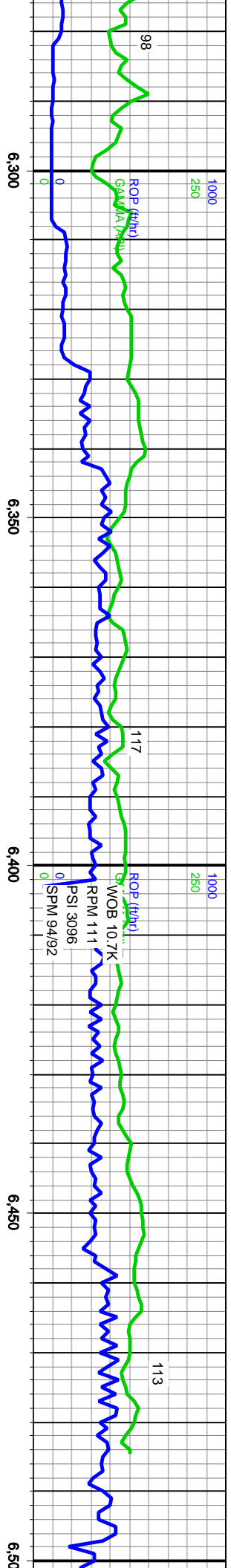
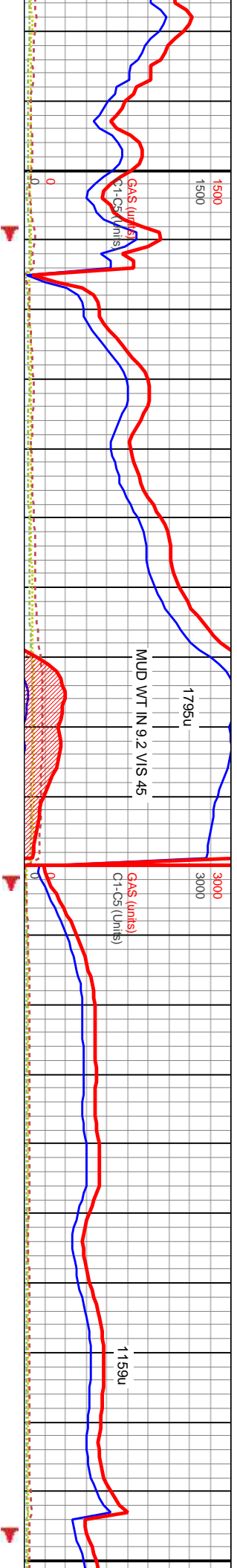
ES GRAINSTONE  No Cut

L LITHOGRAPHIC  Fair Cut

LAR **MX** MICROXLN  Good Cut

DED **MS** MUDSTONE Blank

ding



5' MD		5600	5600
mat ip, MRLY CHLK:			
v lstr. biky-sbchky,			
oen, v carb, mic xin			
alt BENT (phyllo) w			
ARG CARB CHLK: (80%) mttld gry gry-brwn ip, chiky txt, dull rthy lstr, biky-sbchky,			
mod hrd-frm, arg w ~30-40% cly mtrx, infr chlk por, mrlly, blk carb mat ip, MARL:			
(20%), abn alt BENT (phyllo) w pyr nods,			
6600			
Landed Curve @ 6471' MD 6085' TVD			
Niobrara B Chalk Target			
ARG CARB CHLK: (70%) mttld gry gry-brwn ip, chiky txt, dull rthy lstr, biky-sbchky,			
mod hrd-frm, arg w ~30-40% cly mtrx, infr chlk por, mrlly, blk carb mat ip, MARL:			
(30%), abn alt BENT (phyllo) w pyr nods,			
6600			

MD: 6.283'

Inclination: 75°

Azimuth: 266°

TVD: 6.069

VS: 798'

MD: 6.377'

Inclination: 87°

Azimuth: 267°

TVD: 6.083'

VS: 890'

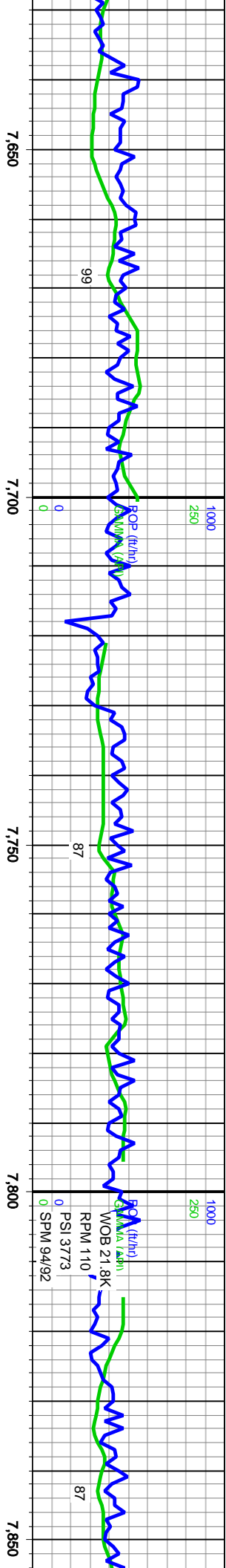
MD: 6.471'

Inclination: 90°

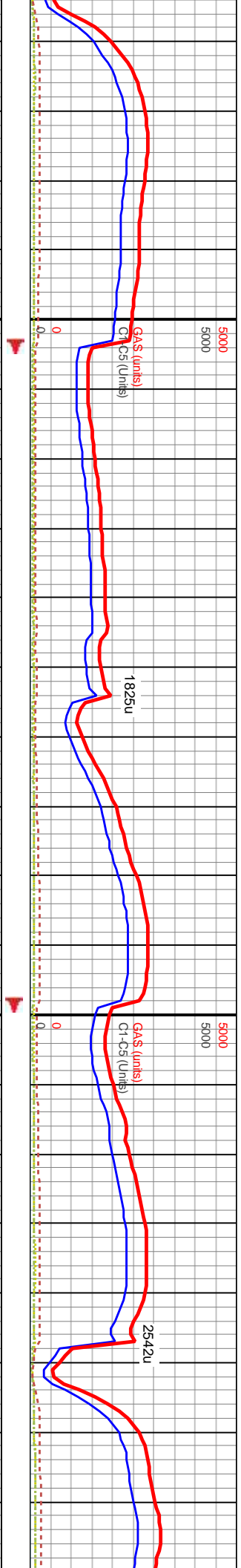
Azimuth: 267°

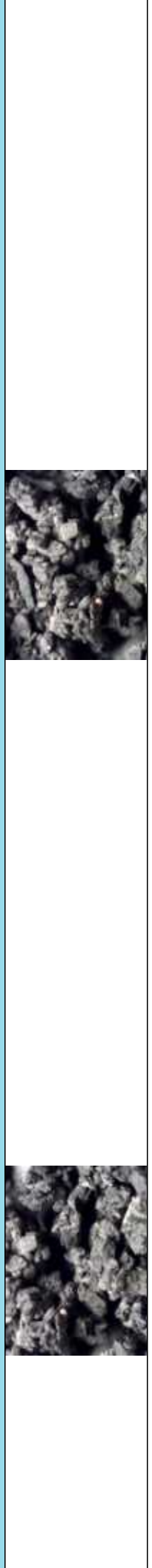
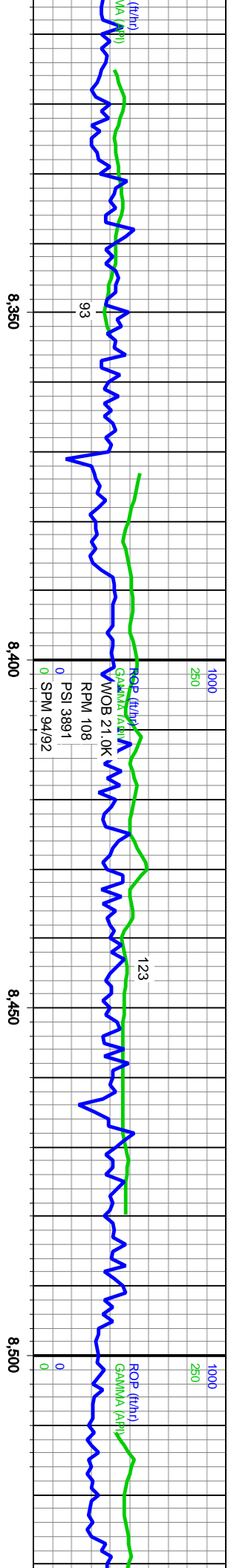
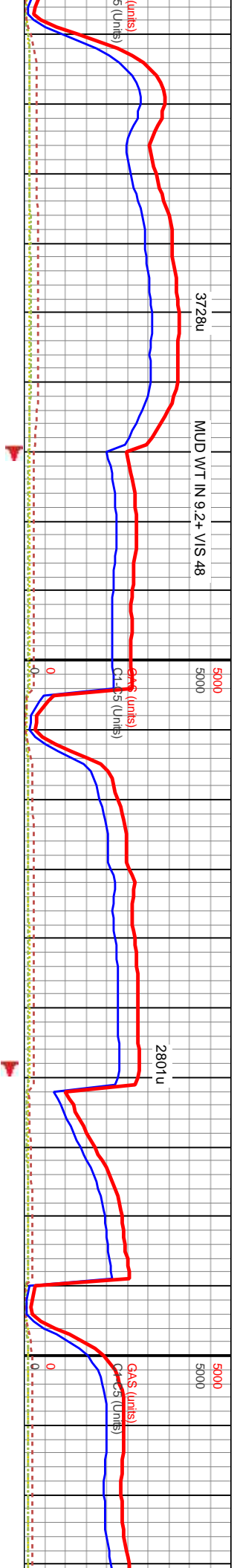
TVD: 6.085'

VS: 984'

[illegible]

MD: 7,692'
Inclination: 90°
Azimuth: 268°
TVD: 6,082'
VS: 2,202'





CARB CHALK: (80%) med gry - lt gry whi ip, mttld w whi mrtc spks, chiky txt, dll rthy lstr, dly rthy lstr, blky-rthy frac, elong-wdglk, dn-brit, pred arg, blk carb mat to, infer chlk por, MARL: (25%)med brwn-lt brwn, mod frm-frm, sbbiky, rthy, occ calc incs, initbd w med gry-blk p mat, fossiliferous ip, tr bent		CARB CHALK: (80%) med gry - lt gry whi ip, mttld w whi mrtc spks, chiky txt, dll rthy lstr, dly rthy lstr, blky-rthy frac, elong-wdglk, dn-brit, pred arg, blk carb mat to, infer chlk por, MARL: (20%)med brwn-lt brwn, mod frm-frm, sbbiky, rthy, occ calc incs, initbd w med gry-blk carb mat, fossiliferous ip, tr bent		CARB CHALK: (75%) med gry - lt gry whi ip, mttld w whi mrtc spks, chiky txt, dly rthy lstr, blky-rthy frac, elong-wdglk, dn-brit, pred arg, blk carb mat to, infer chlk por, MARL: (25%)med brwn-lt brwn, mod frm-frm, sbbiky, rthy, occ calc incs, initbd w med gry-blk carb mat, fossiliferous ip, tr bent	
6600	6600	6600	6600	6600	6600

MD: 8,346'

Inclination: 90°

Azimuth: 272°

TVD: 6,083

VS: 2,855'

MD: 8,438'

Inclination: 90°

Azimuth: 273°

TVD: 6,083

VS: 2,947'

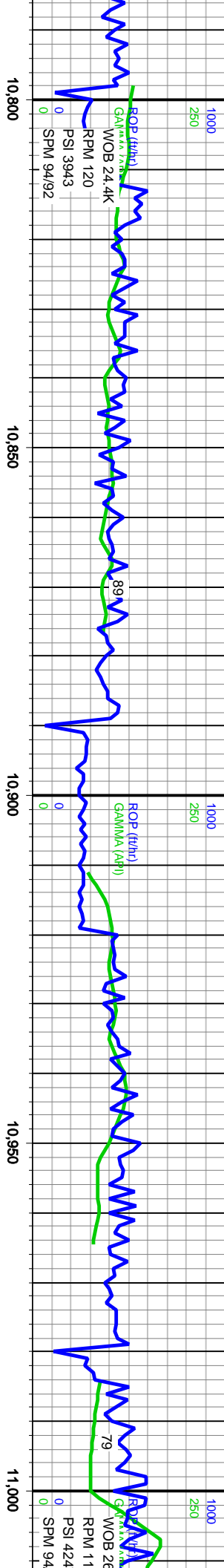
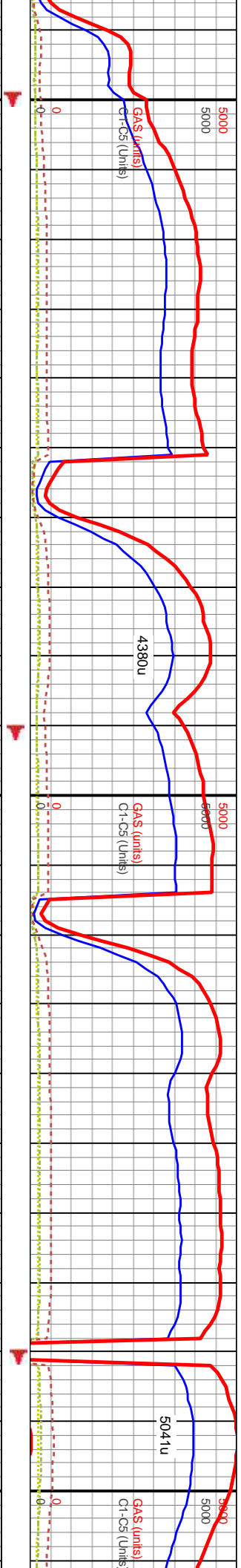
MD: 8,505'

Inclination: 90°

Azimuth: 273°

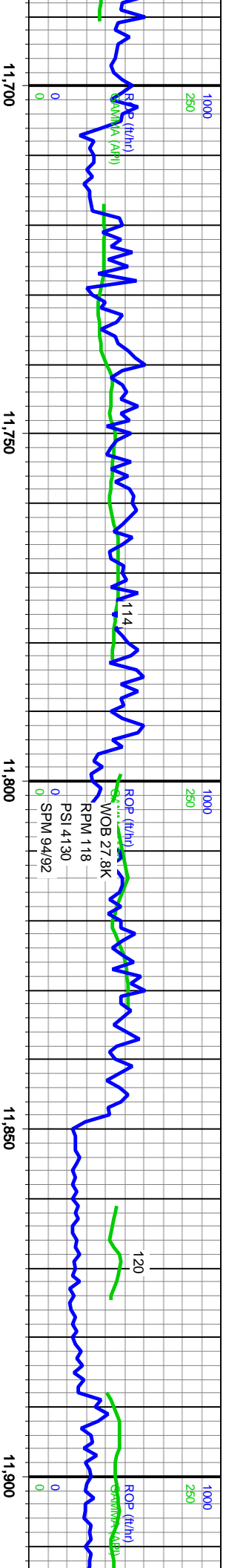
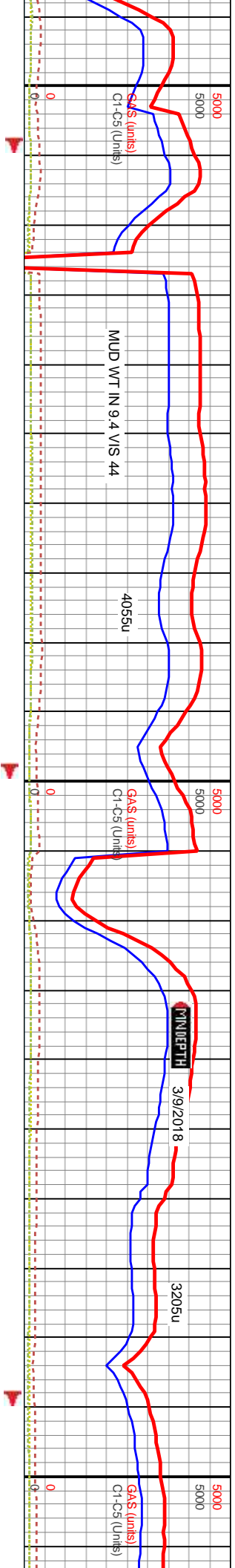
TVD: 6,083

VS: 3,035'

[illegible]

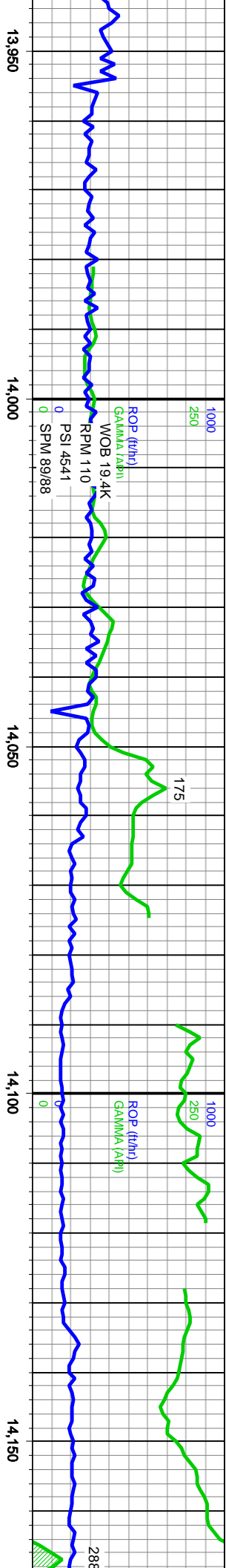
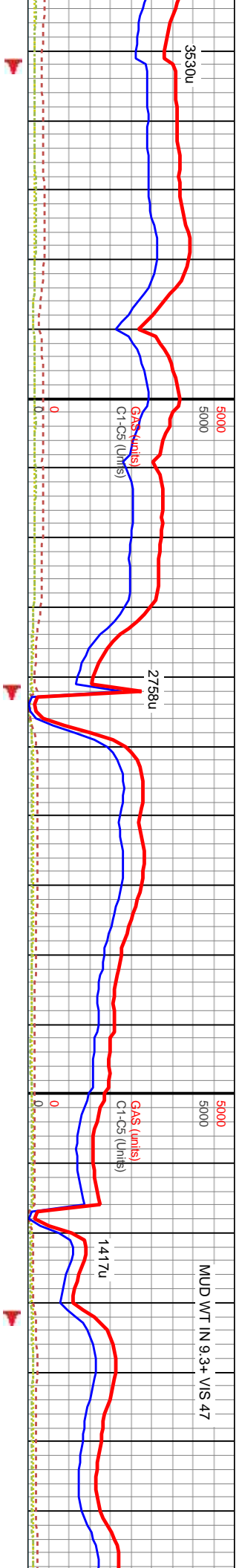
MD: 10,865'
Inclination: 90°
Azimuth: 273°
TVD: 6,084'
VS: 5,369'

MD: 10,954'
Inclination: 90°
Azimuth: 275°
TVD: 6,084'
VS: 5,458'

[illegible]

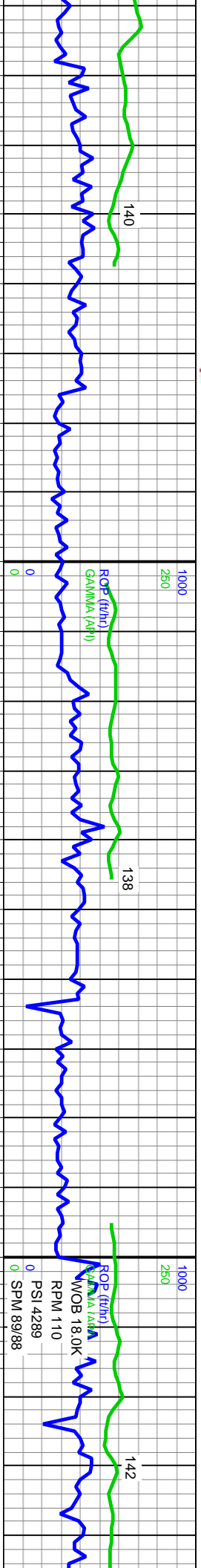
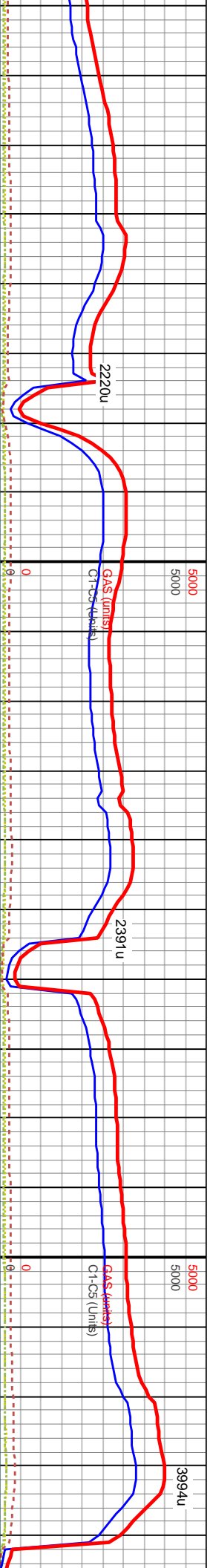
NMD: 11,772'
 Inclination: 90°
 Azimuth: 270°
 TTVD: 6,082'
 VVS: 6,275'

MD: 11,863'
Inclination: 90°
Azimuth: 265°
TVD: 6,082'
VS: 6,366'

[illegible]

MD: 14,019'
Inclination: 90°
Azimuth: 260°
TVD: 6,083'
VS: 8,513'

MD: 14,108'
Inclination: 90°
Azimuth: 263°
TVD: 6,083'
VS: 8,601'

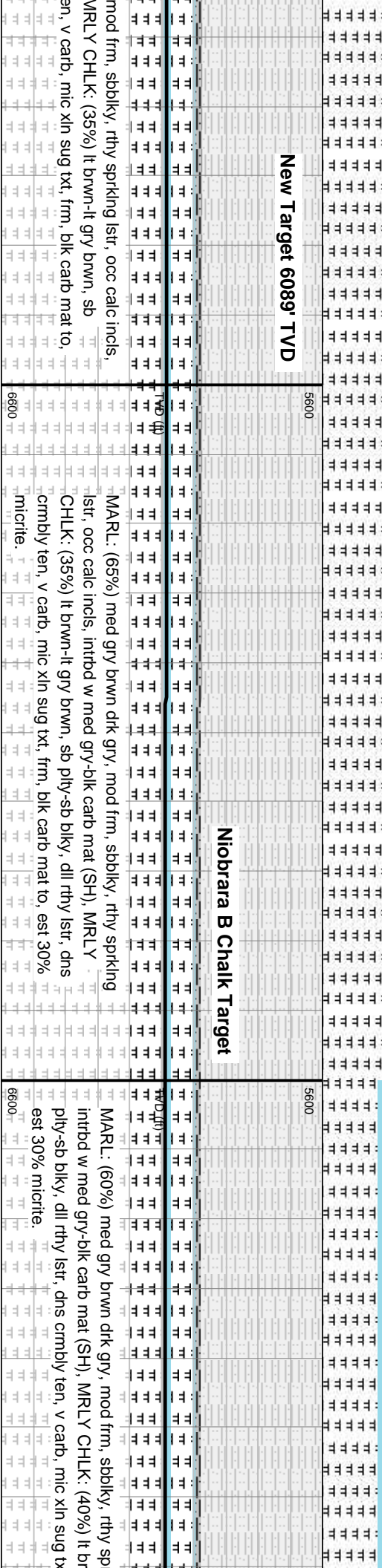
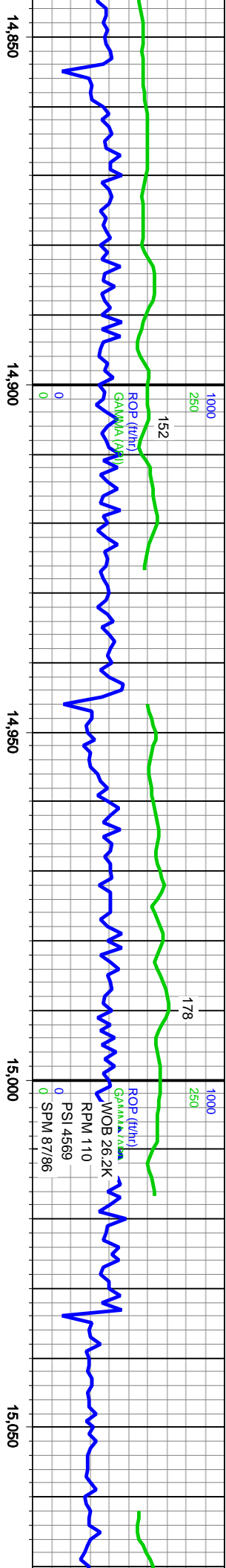
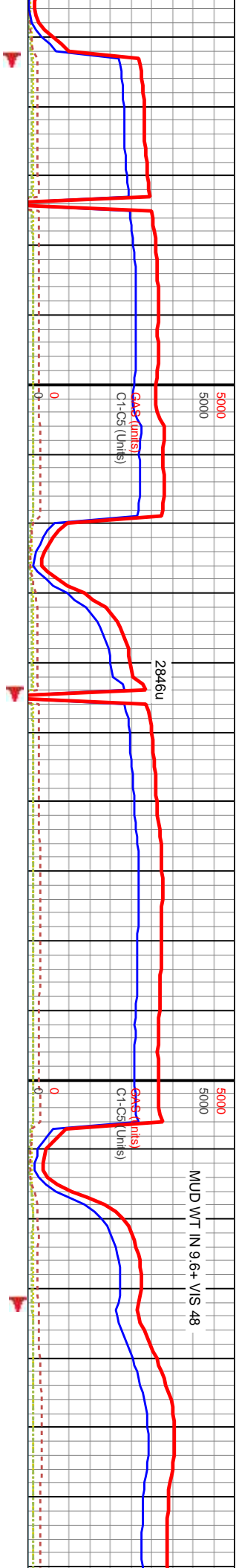


MD: 14,649'	MD: 14,739'	MD: 14,829'
Inclination: 90°	Inclination: 89°	Inclination: 89°
Azimuth: 273°	Azimuth: 271°	Azimuth: 271°
TVD: 6,084'	TVD: 6,085'	TVD: 6,085'
VS: 9,141'	VS: 9,231'	VS: 9,321'

MD: 14,649'
Inclination: 90°
Azimuth: 273°
TVD: 6,084'
VS: 9,141'

MD: 14,739'
Inclination: 89°
Azimuth: 272°
TVD: 6,084'
VS: 9,231'

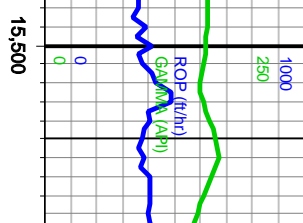
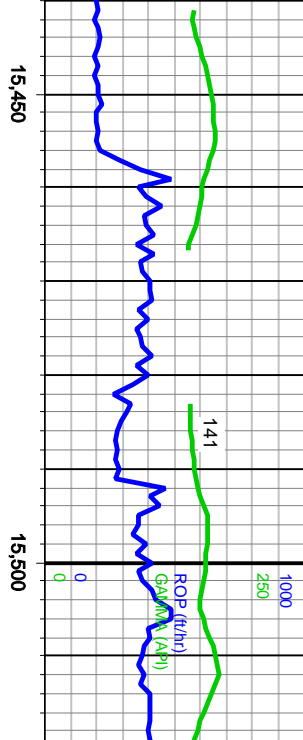
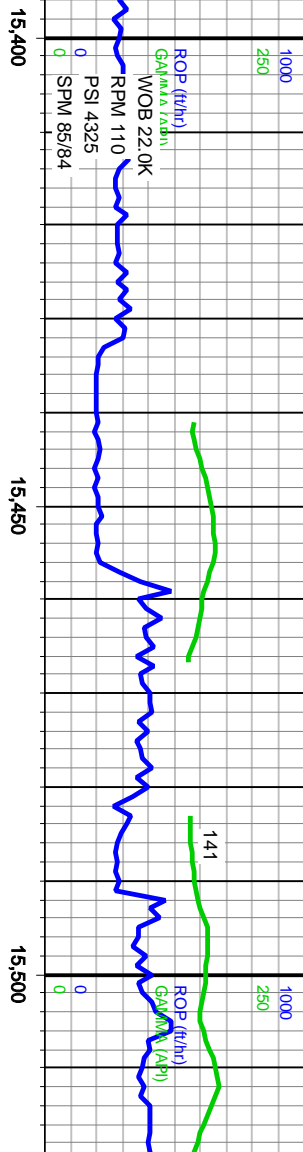
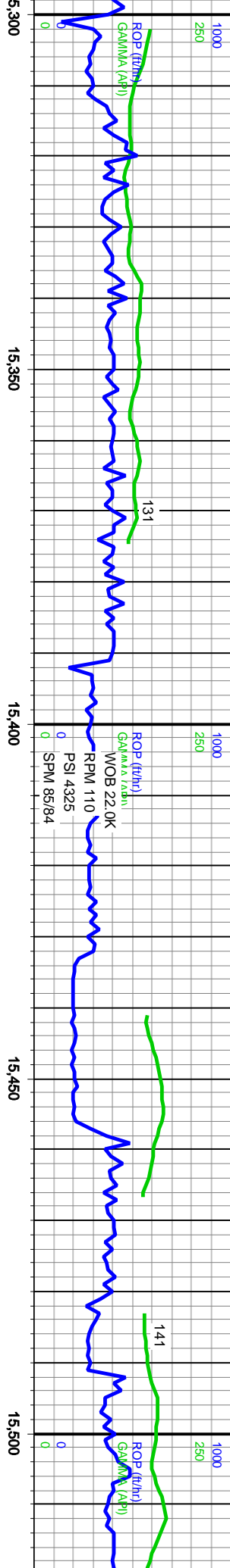
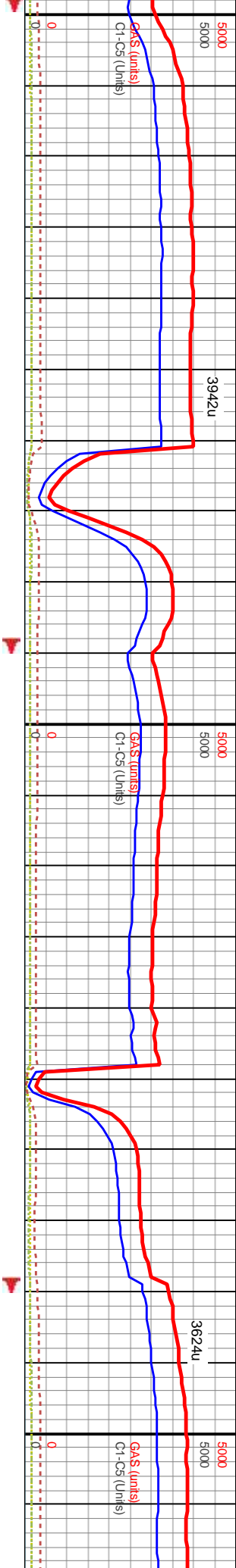
MD: 14,829'
Inclination: 89°
Azimuth: 271°
TVD: 6,085'
VS: 9,321'



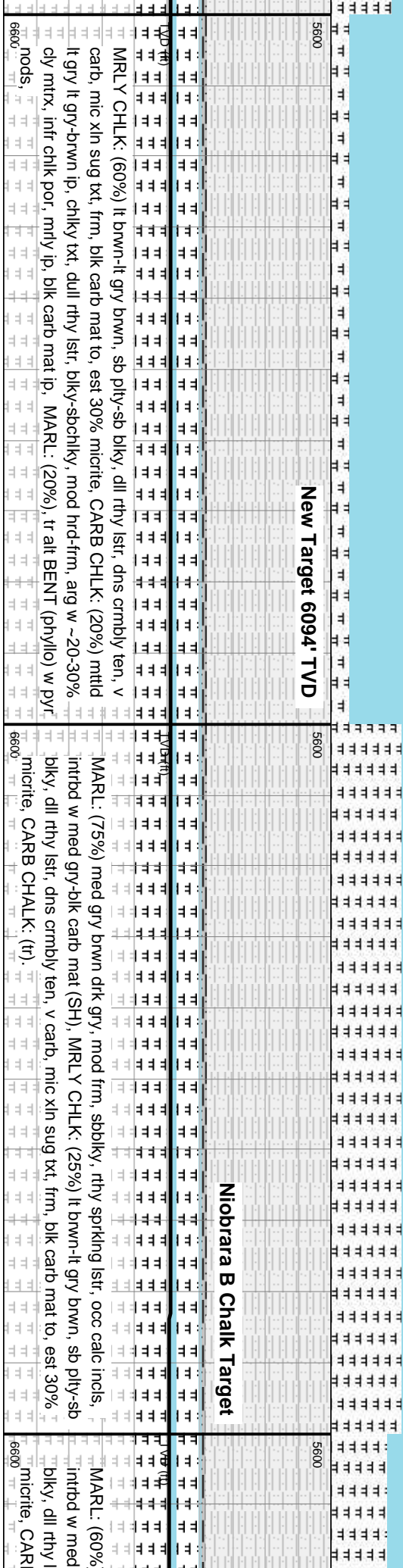
MD: 14,920'
Inclination: 89°
Azimuth: 271°
TVD: 6,086'
VS: 9,412'

MD: 15,008'
Inclination: 89°
Azimuth: 270°
TVD: 6,088'
VS: 9,500'

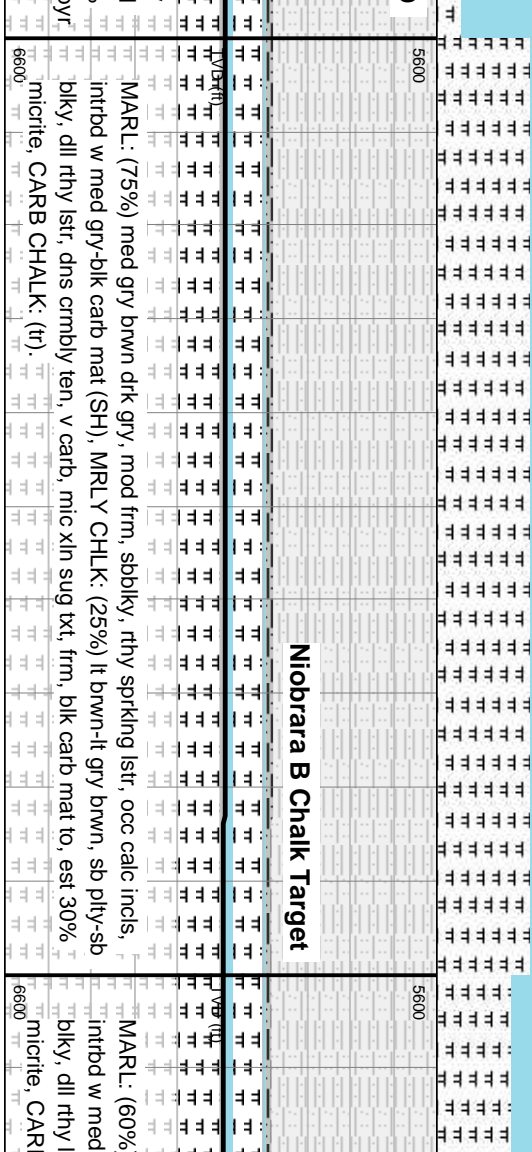
Dan Kabala on Tour



New Target 6094' TVD



Niobrara B Chalk target



MD: 15,364'
Inclination: 90°
Azimuth: 270°
TVD: 6,090'
VS: 9,856'

MD: 15,455'
Inclination: 89°
Azimuth: 272°
TVD: 6,091'
VS: 9,947'

