



Scale: 5" / 100'
Measured Depth Log

Well Name ANNI LD29-763

Location SECTION 20 T9N R58W

State COLORADO

County WELD

Country USA

Rig Number H&P 517

API Number 05-123-43288

Field WILDCAT

Region WATTENBERG

Drilling Completed 10/20/2016

Spud Date 10/18/2016

Surface Coordinates SESW SEC 29, T9N, R58W

380' FSL X 1365' FWL

Bottom Hole Coordinates NESE SEC 26, T9N, R58W

330' FSL X 1785' FWL (Estimate)

Ground Elevation 4865'

K.B. Elevation 4895'

Logged Interval 5164' To 10974'

Total Depth 10974'

Formation NIO A MARL

Type of Drilling Fluid OBM

Operator

Company Noble Energy, Inc.

Address 1625 Broadway, Suite 2200
Denver, CO 80202

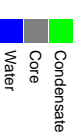
Geologist

Name GARY MYERS & TIM BRIGHT

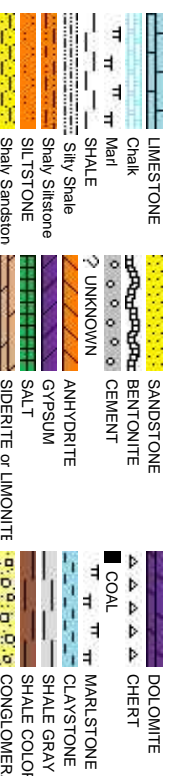
Company Terra Guidance

Address 1298 O Road
Loma CO 81524
(970) 260-5408

Zone Color Coding



Rock Types



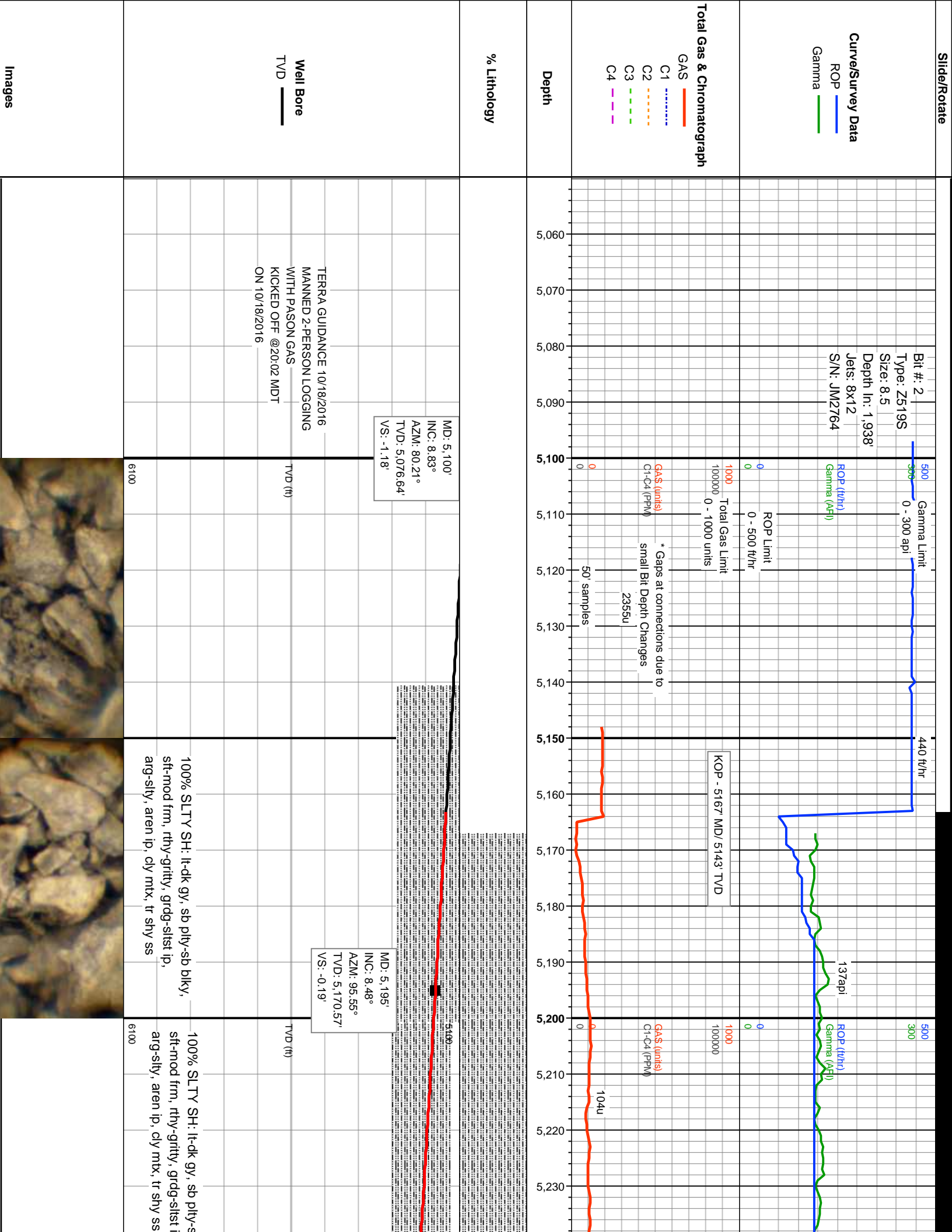
Accessories

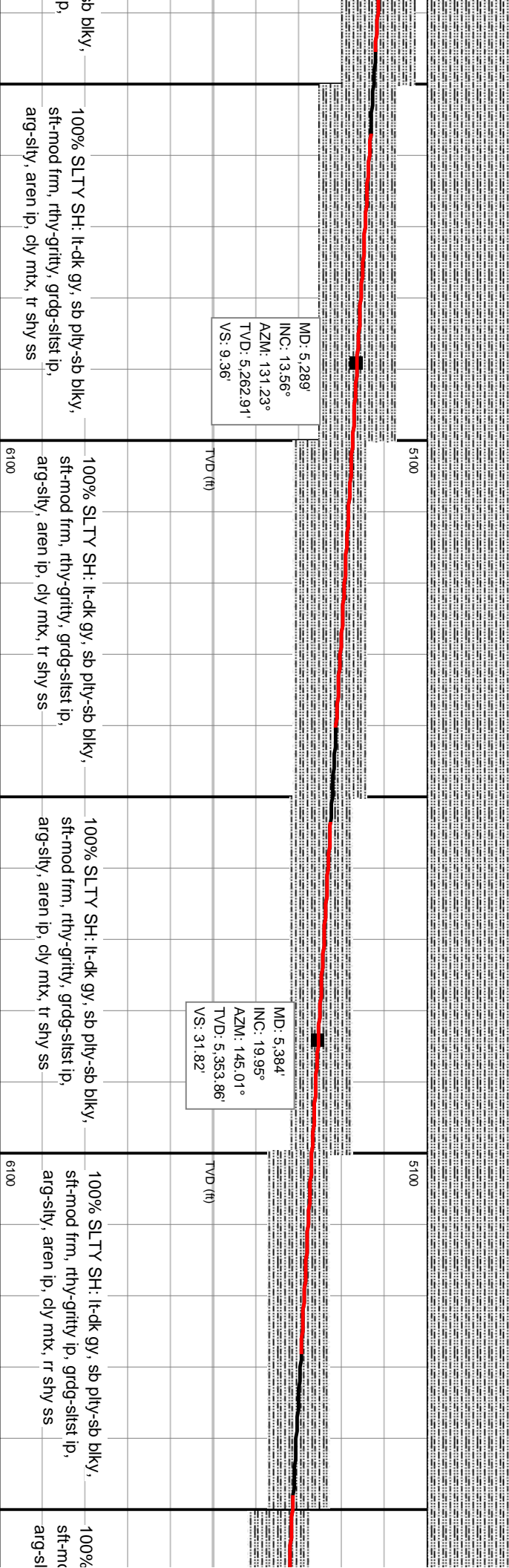
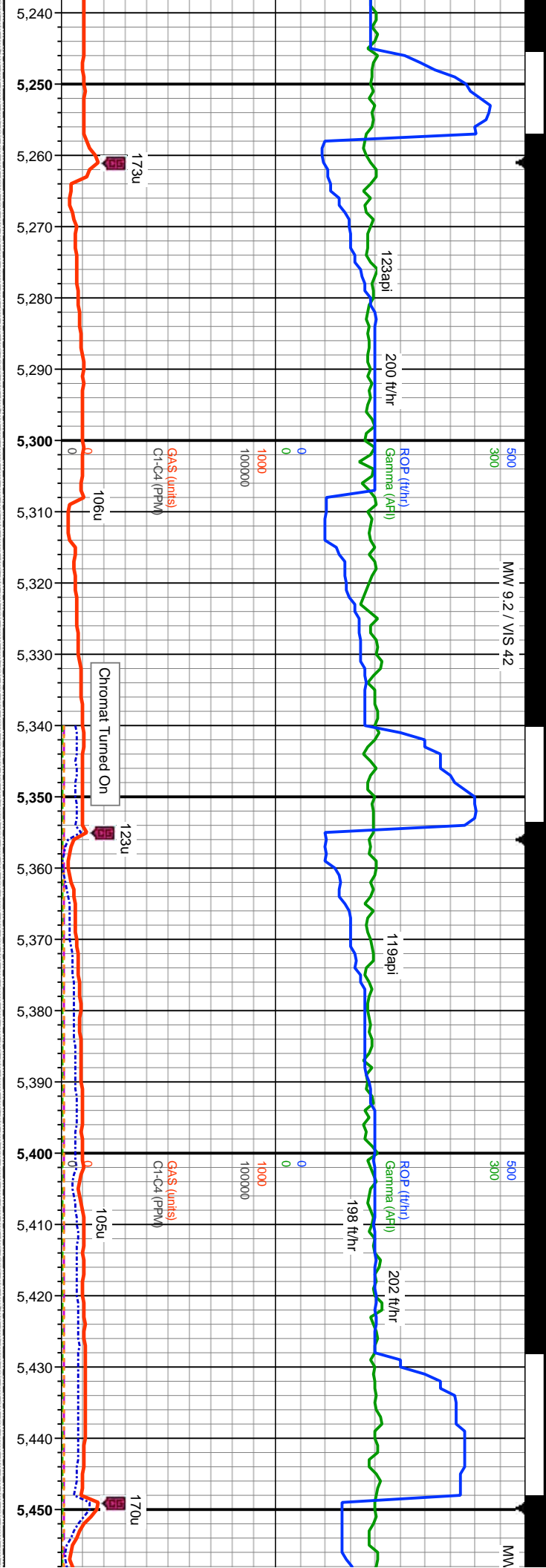
Fossils		Stringer	
F FOSSIL	— ARGILLACEOUS	↘ GLAUCONITE	
GASTROPOD	/ ARGILLITE GRAIN	〰 GYPSIFEROUS	
ALGAE	B BENTONITE	⌈ HEAVY MINERAL	
AMPHIPORA	↘ BITUMENOUS SUBSTANCE	K KAOLIN	ANHYDRITE STRINGER
BELEMNITE	☼ BRECCIA FRAGMENTS	⌈ MARLSTONE	BENTONITE STRINGER
BIODOLASTIC	⌈ CALCAREOUS	⌘ MINERAL CRYSTALS	COAL STRINGER
BRACHIOPOD	■ CARBONACEOUS FLAKES	⌘ NODULES	DOLOMITE STRINGER
BRYOZOA	▲ CHDCK	● PHOSPHATE PELLETS	GYPSUM STRINGER
CEPHALOPOD	△ CHLTIT	P PYRITE	LIMESTONE STRINGER
CORAL	— COAL - THIN BEDS	⌘ SALT CAST	MARLSTONE (CALC) STRG
CRINOID	↘ DOLOMITIC	⌘ SANDY	MARLSTONE (DOL) STRG
ECHINOID	+ FELDSPAR	↘ SILICEOUS	SANDSTONE STRINGER
FISH	● FERRUGINOUS PELLET	.. SILTY	SHALE STRINGER
FORAMINIFERA	↘ FERRUGINOUS	↘ TUFFACEOUS	SILTSTONE STRINGER
ANHYDRITIC			

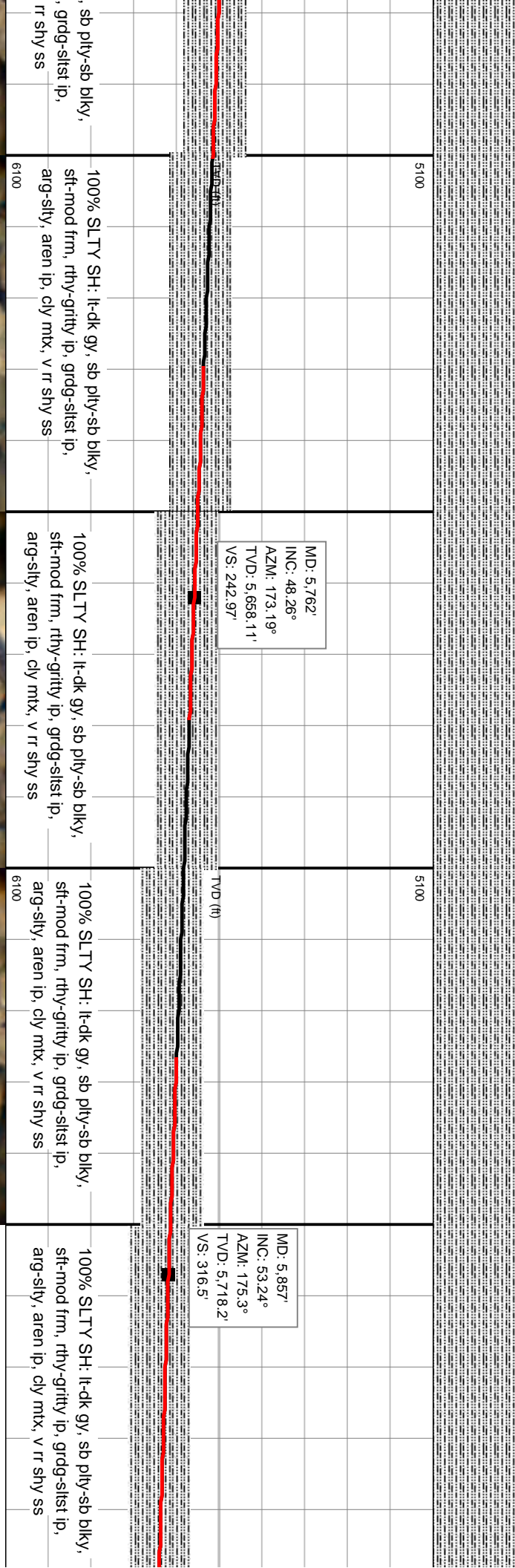
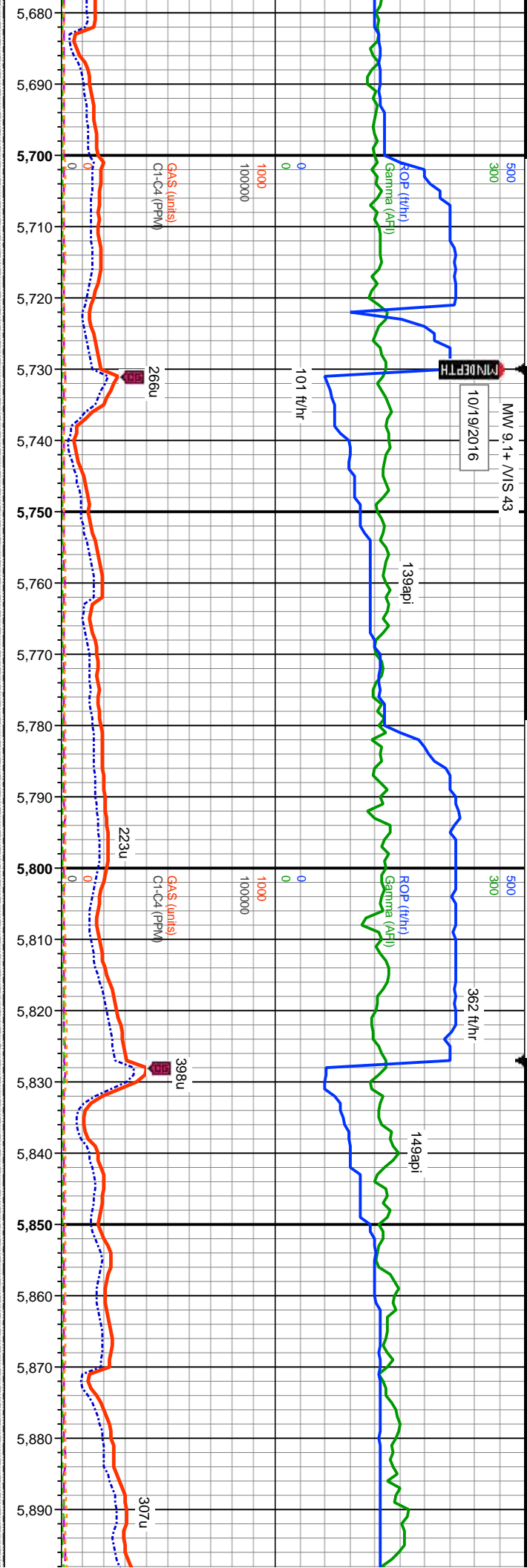
Other Symbols

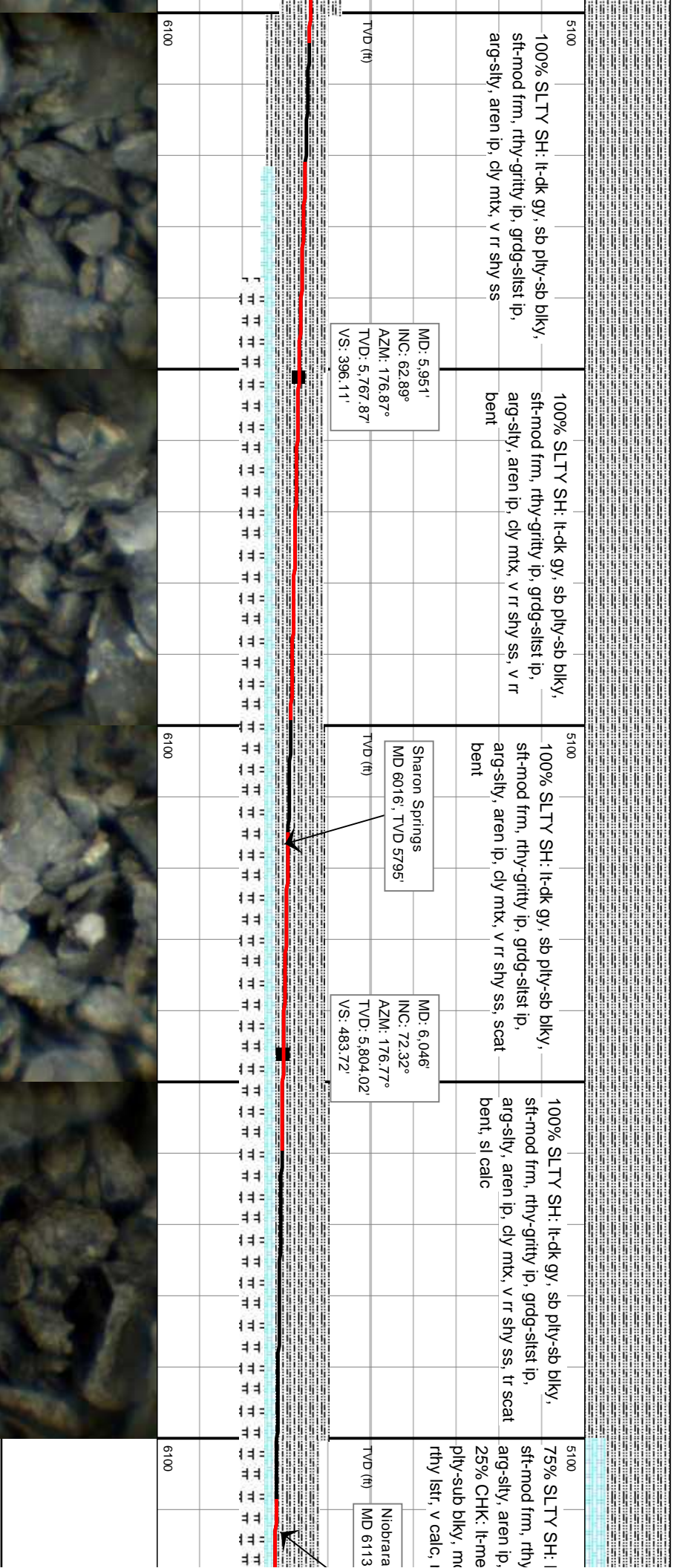
Oil Show		Rounding	
ORGANIC	FORMATION TOP	L LITHOGRAPHIC	
P PINPOINT	✖ GAS SHOW	MX MICROXLN	
DEAD	↘ VUGGY	A ANGULAR	MUDSTONE
EVEN		R ROUNDED	PACKSTONE
QUESTIONABLE	Engineering	S SUBANG	WACKESTONE
SPOTTED STAINING	BIT	⌈ OVERTURNED STRATA	P SUBRND
CASING	REVERSE FAULT		
CONNECTION (LEFT)	SIDEWALL CORE (LEFT)		
CONNECTION (DOWN)	SIDEWALL CORE (RIGHT)		
FENESTRAL	CONNECTION GAS		
F FRACTURE	↓ CORE - LOST		
INTERCRYSTALLINE	CORE - RECOVERED		
INTEROOLITIC	DST INTERVAL		
MOLDIC	FAULT		
	WIRELINE TESTED - RT		GRAINSTONE

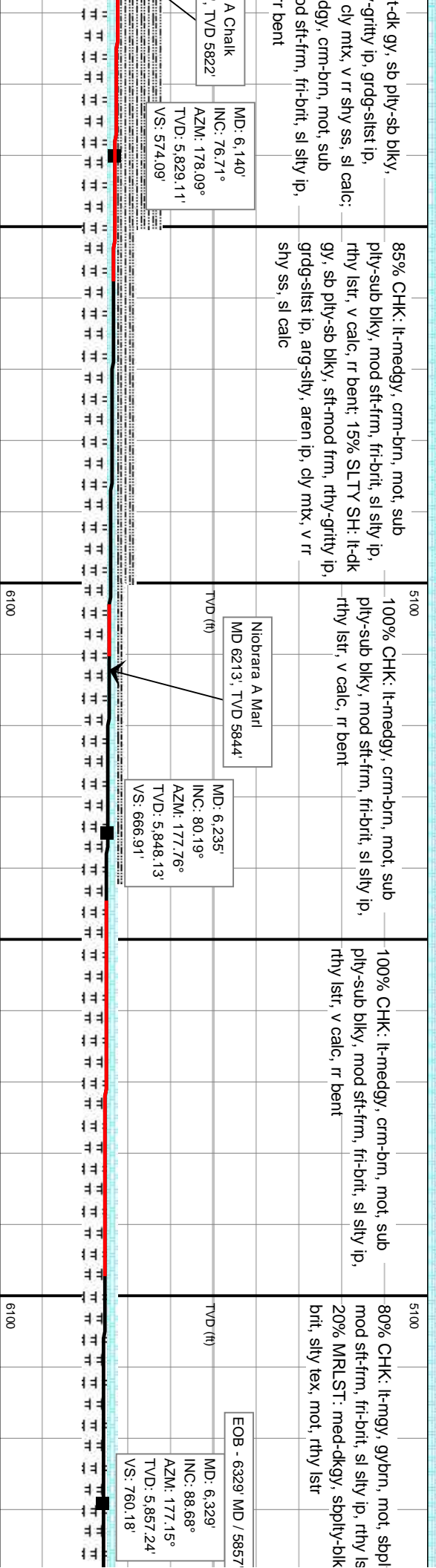
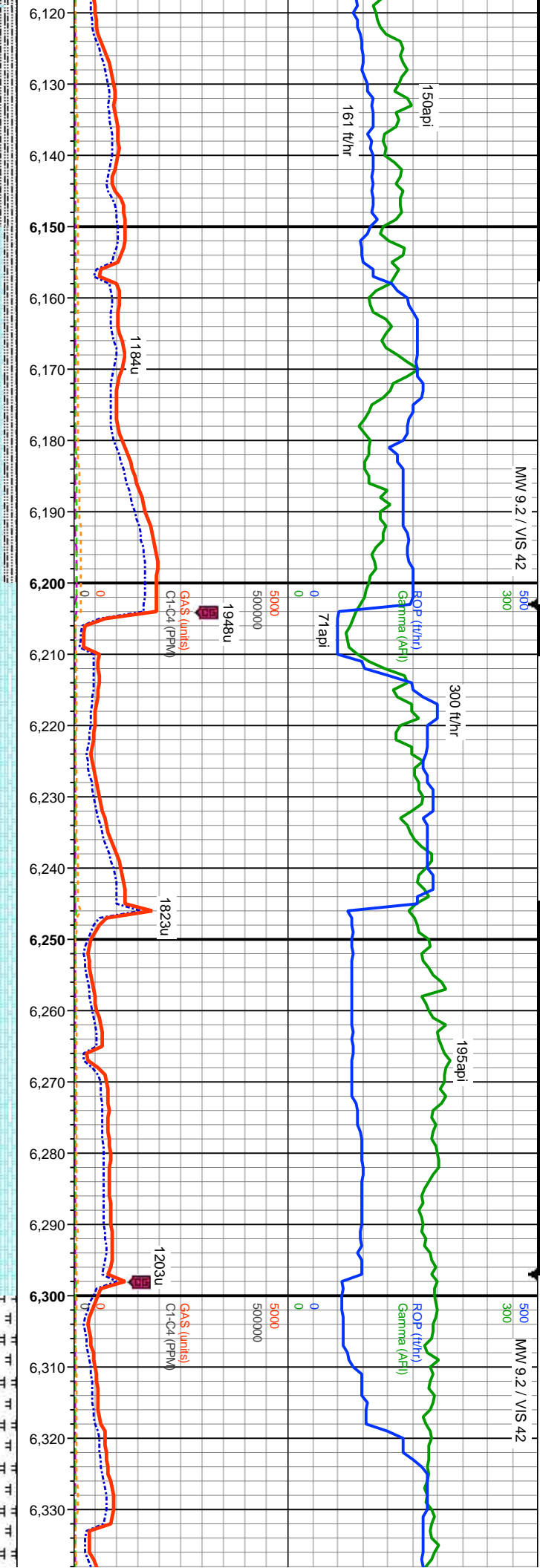
BRECCIA
TILL
TUFF
IGNEOUS
METAMORPHIC

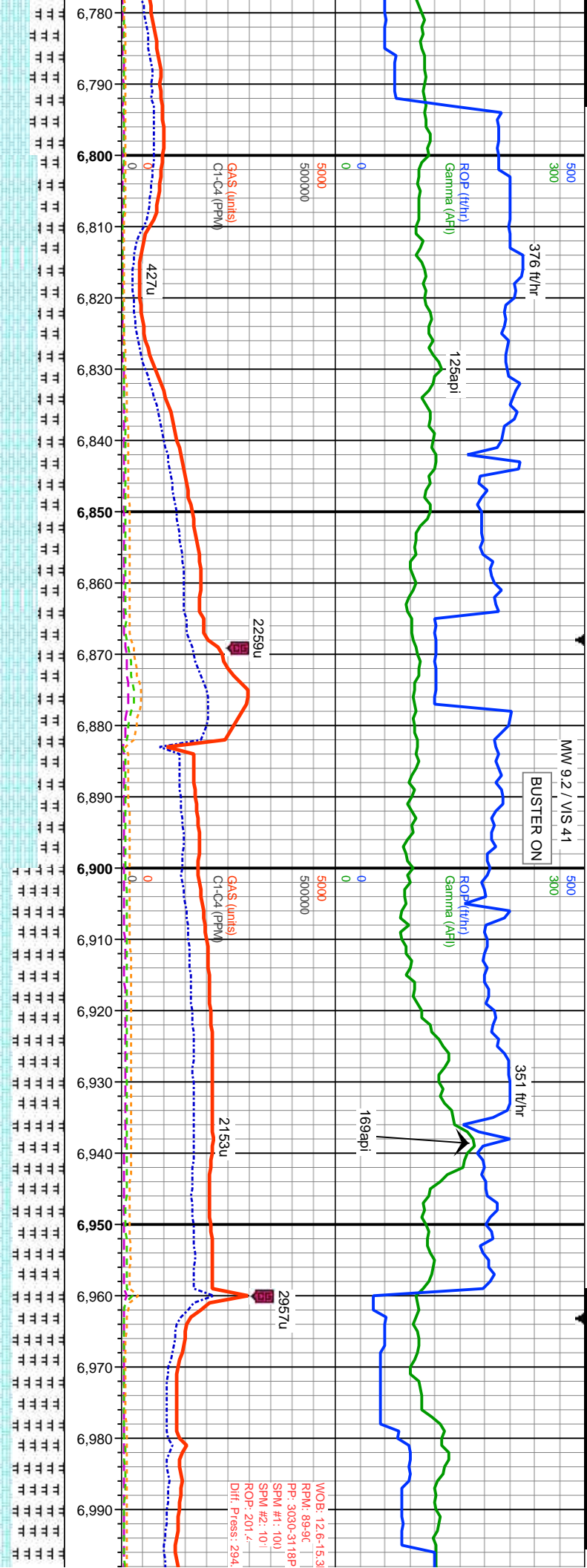




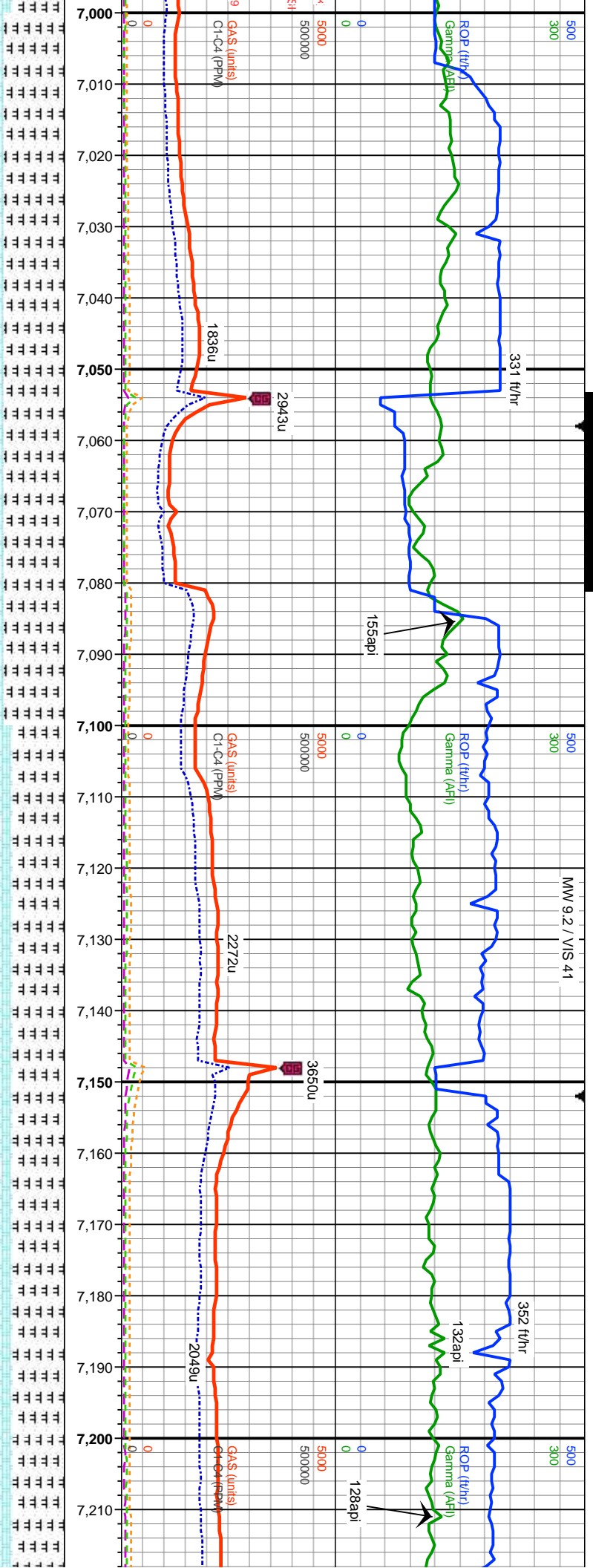






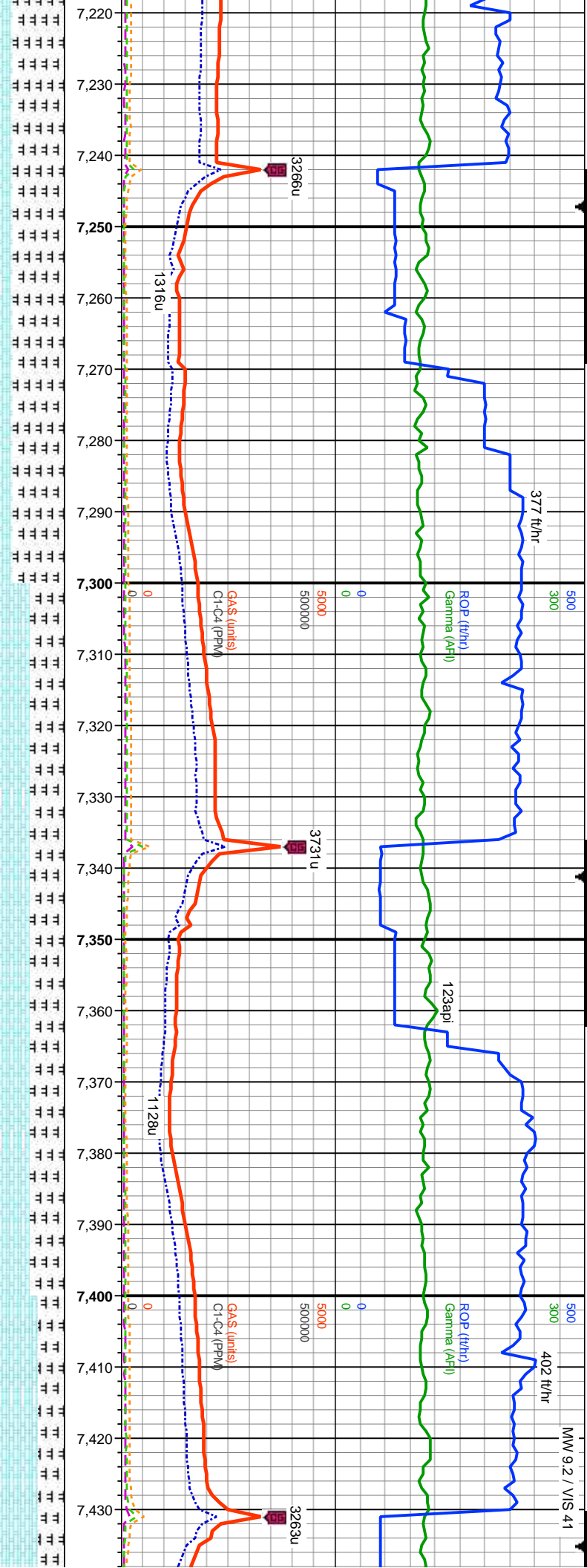


<p>70% CHK: lt-mgy, gybrn, mot, sbply-sbblky, mod sft-frn, fri-brt, sl silty ip, rthy lstr, 30% MRLST: med-dkgy, sbply-blky, frm-v frn, brit, silty tex, mot, rthy lstr, tr fos frag, tr bent</p>	<p>60% MRLST: med-dkgy, sbply-blky, v frn, brit, silty tex, mot, rthy lstr, 40% CHK: lt-mgy, gybrn, mot, sbply-sbblky, mod sft-frn, fri-brt, sl silty ip, rthy lstr, occ dissn pyr, tr fos frags, sl tr bent</p>
<p>MD: 6.802' INC: 89.45° AZM: 179.03° TVD: 5.852.9' VS: 1.232.51'</p>	<p>MD: 6.896' INC: 90.95° AZM: 179.13° TVD: 5.852.57' VS: 1.326.1'</p>
<p>5900</p>	<p>5900</p>

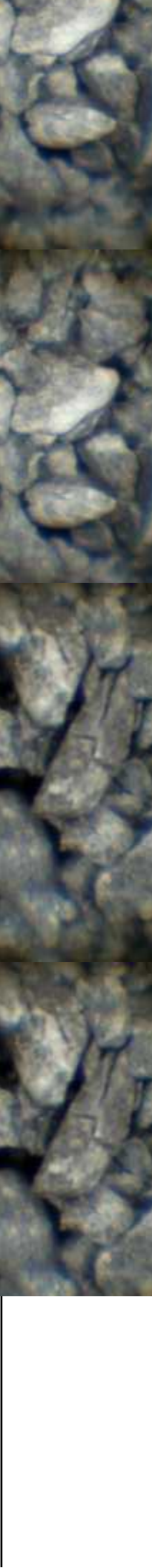


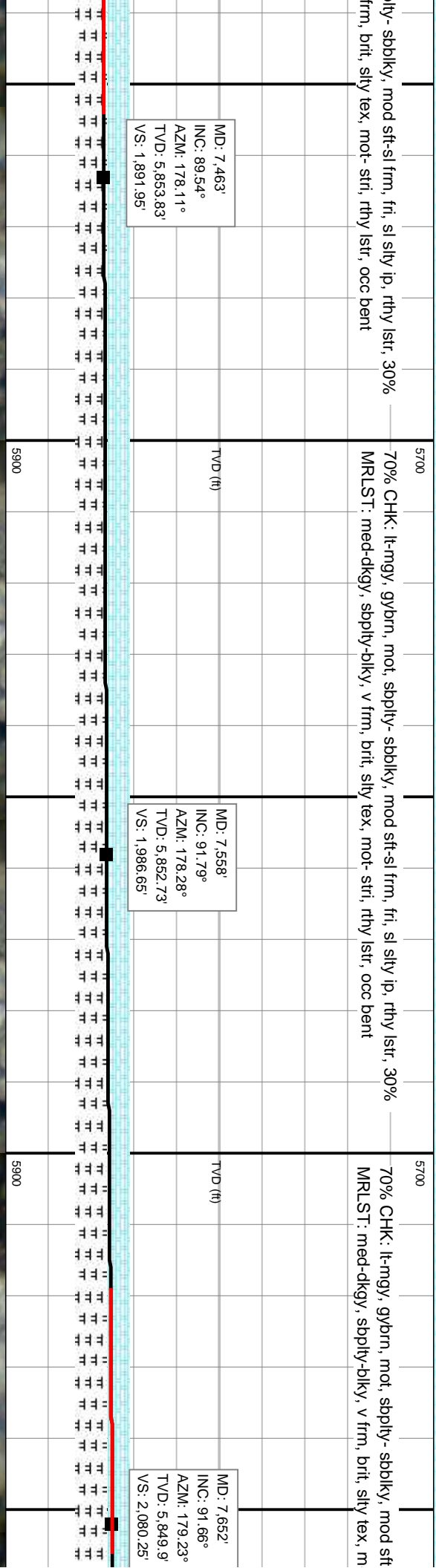
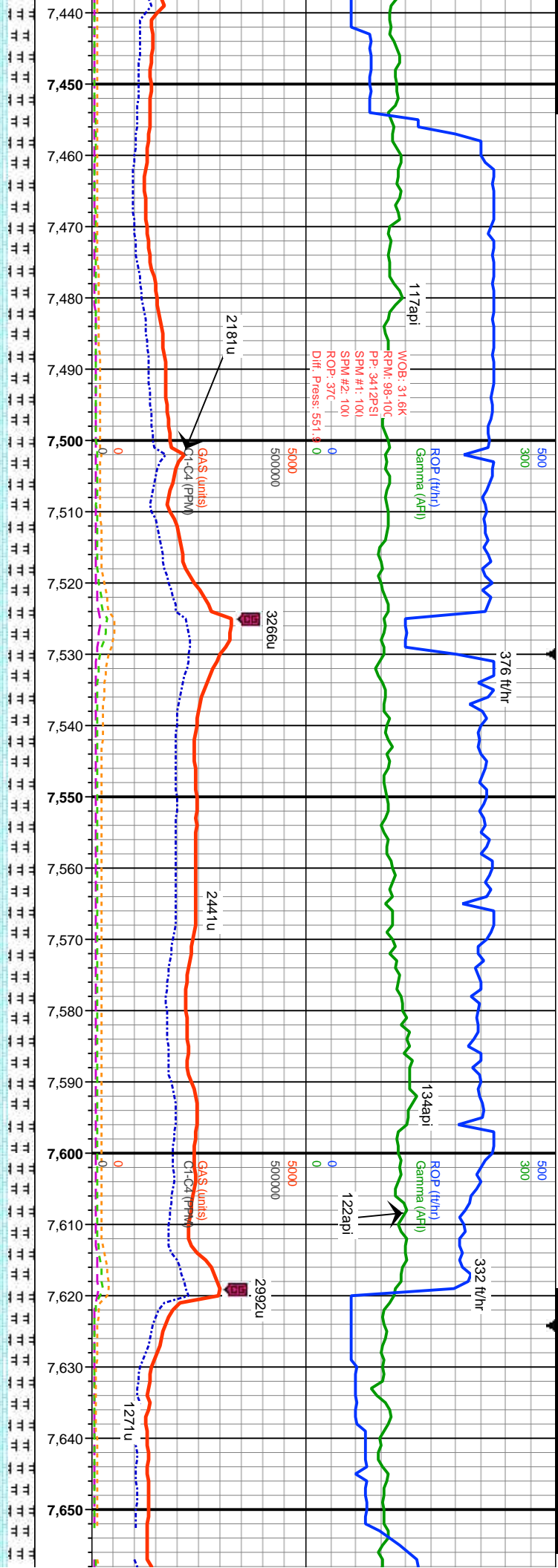
5700	70% MRLST: med-dkgy, sppltly-blky, v frm, brit, silty tex, mot, rthy lstr, tr pyr, 30% CHK: lt-mgy, gybrn, mot, sbply- sbbkly, mod sft-frm, fri-brit, sl silty ip, rthy lstr, tr los frags, occ bent	TVD (ft)	MD: 7.086' INC: 88.46° AZM: 175.4° TVD: 5.851.07' VS: 1.515.54'
5700	60% MRLST: med-dkgy, sppltly-blky, v frm, brit, silty tex, mot, rthy lstr, tr pyr, 40% CHK: lt-mgy, gybrn, mot, sbply- sbbkly, mod sft-frm, fri-brit, sl silty ip, rthy lstr, tr los frags, occ bent	TVD (ft)	MD: 7.180' INC: 89.48° AZM: 175.43° TVD: 5.852.76' VS: 1.609.48'
5700	60% MRLS: lt-mgy, gybrn abnt bent	TVD (ft)	

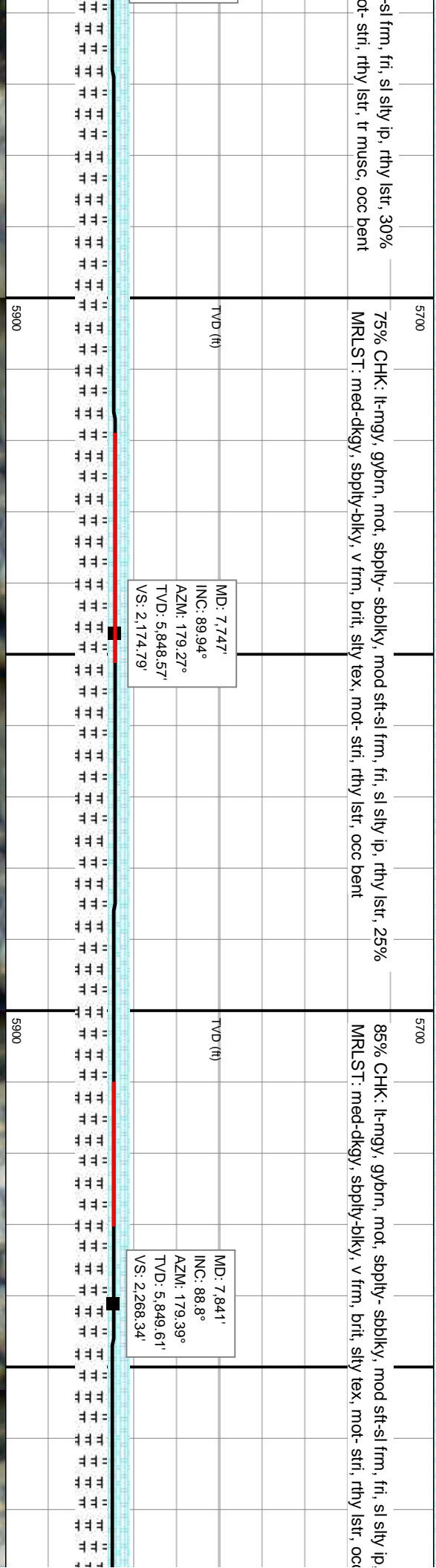
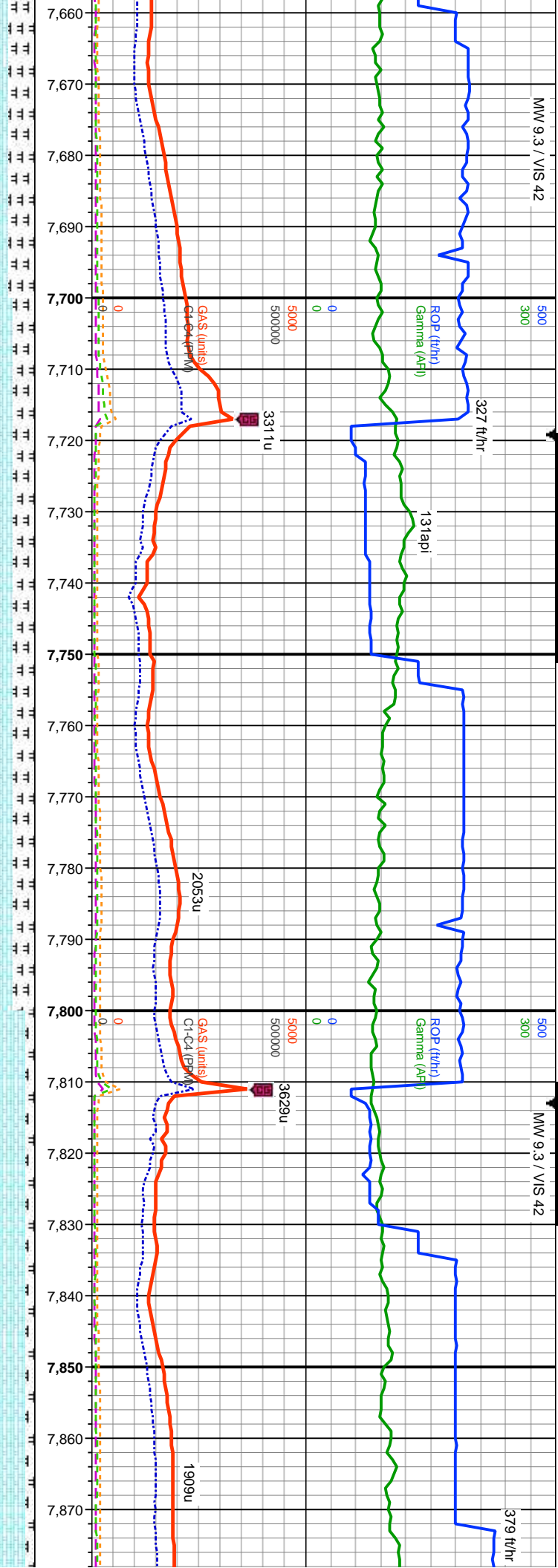


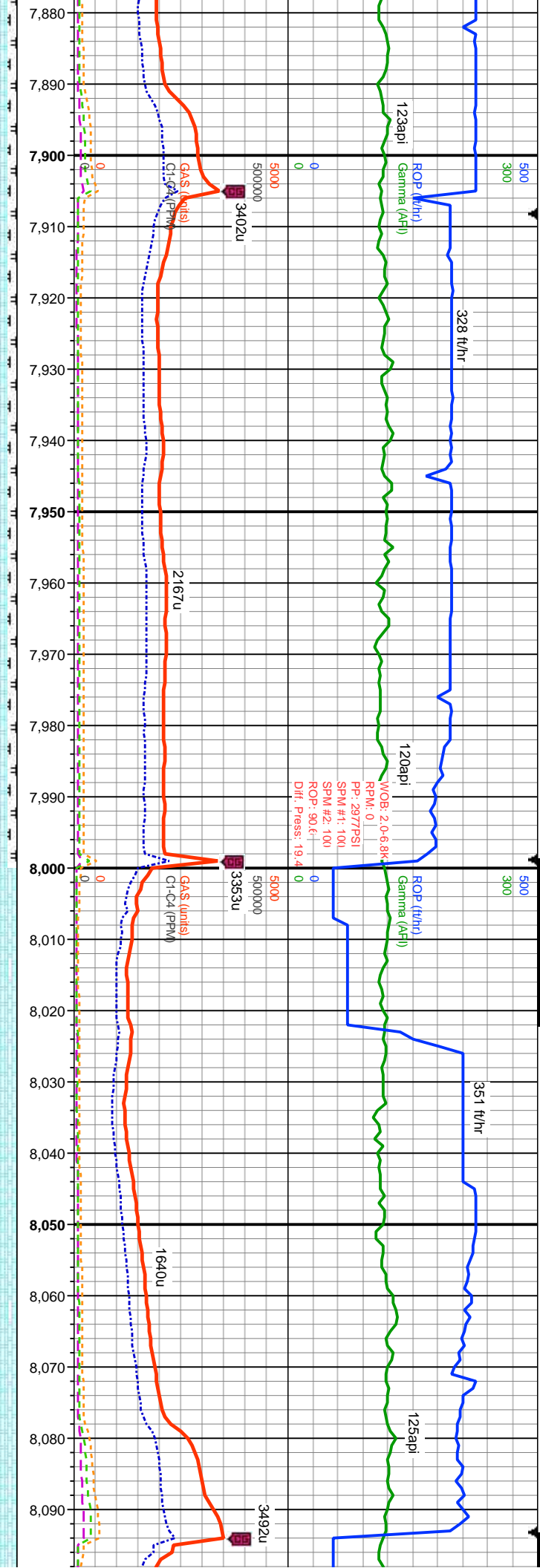


: med-dkgy, sbply-blky, v frm, brit, silty tex, mot- stri, rthy lstr, 40% CHK: n, mot, sbply- sbolky, mod sft-sl frm, fri, sl silty ip, rthy lstr, tr fos frags,	5/700 60% CHK: lt-mgy, gybrn, mot, sbply- sbolky, mod sft-sl frm, fri, sl silty ip, rthy lstr, 40% MRLST: med-dkgy, sbply-blky, v frm, brit, silty tex, mot- stri, rthy lstr, occ bent	5/700 70% CHK: lt-mgy, gybrn, mot, sbp MRLST: med-dkgy, sbply-blky, v
	TVD (ft)	TVD (ft)
	MD: 7,275' INC: 90.12° AZM: 176.96° TVD: 5,853.09' VS: 1,704.39'	MD: 7,369' INC: 89.72° AZM: 177.76° TVD: 5,853.22' VS: 1,798.2'

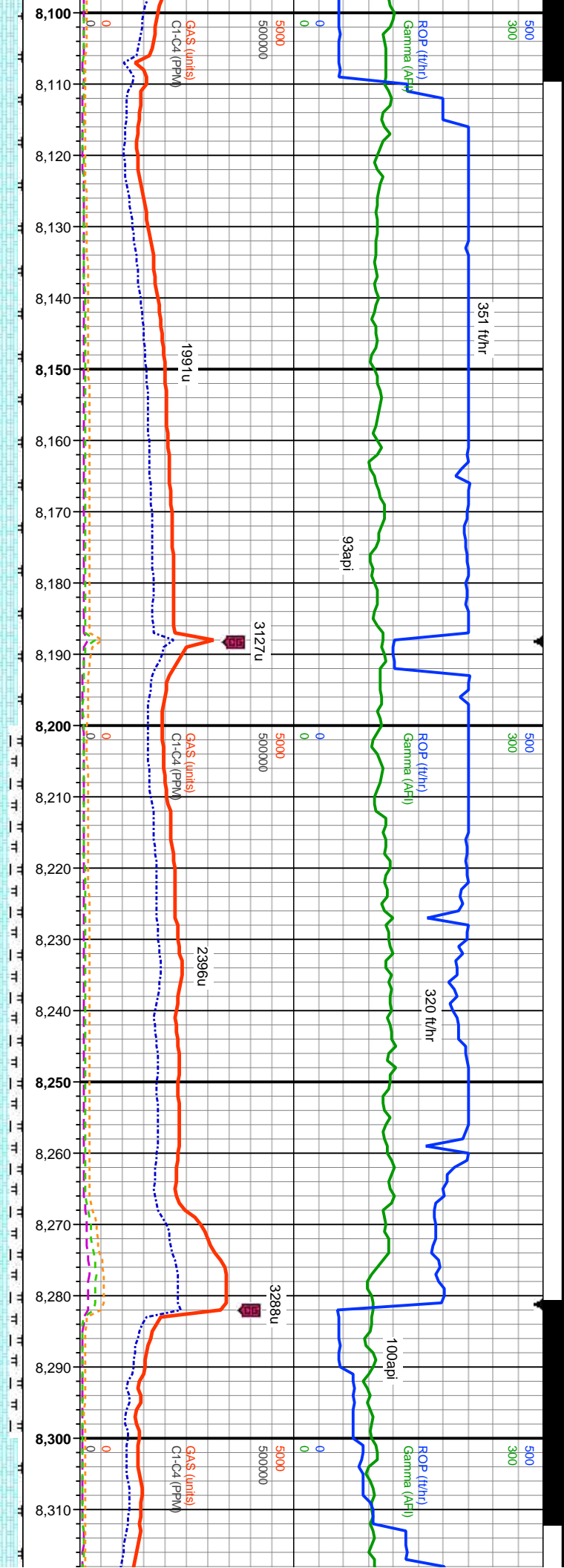




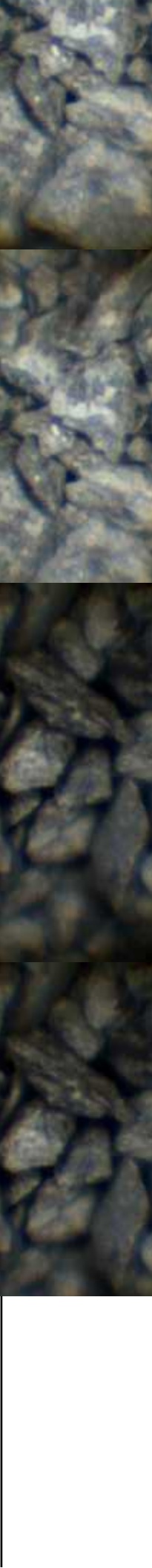
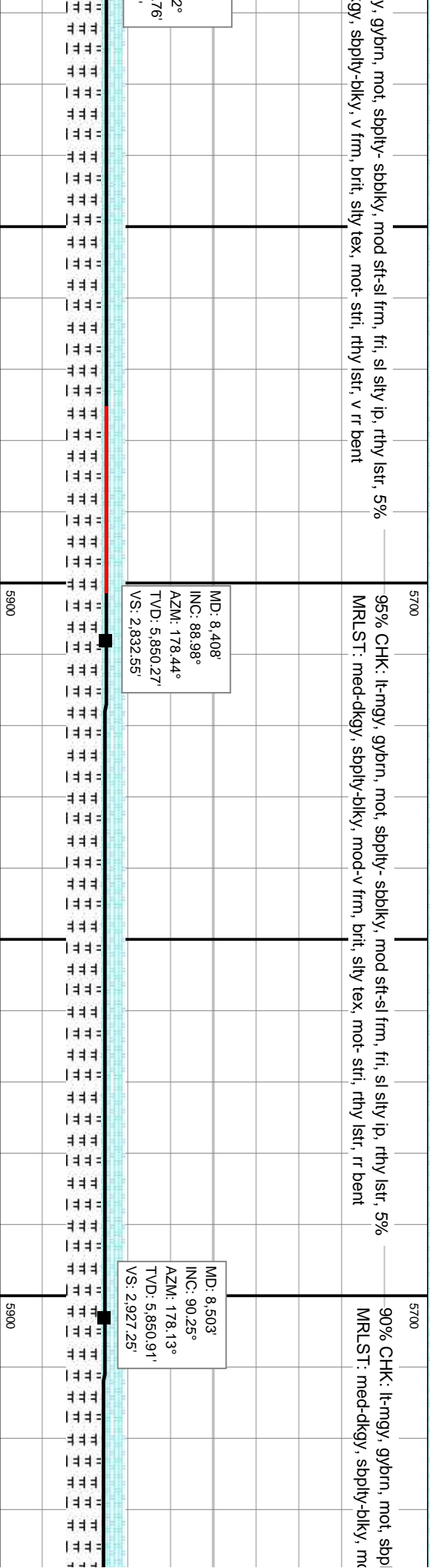
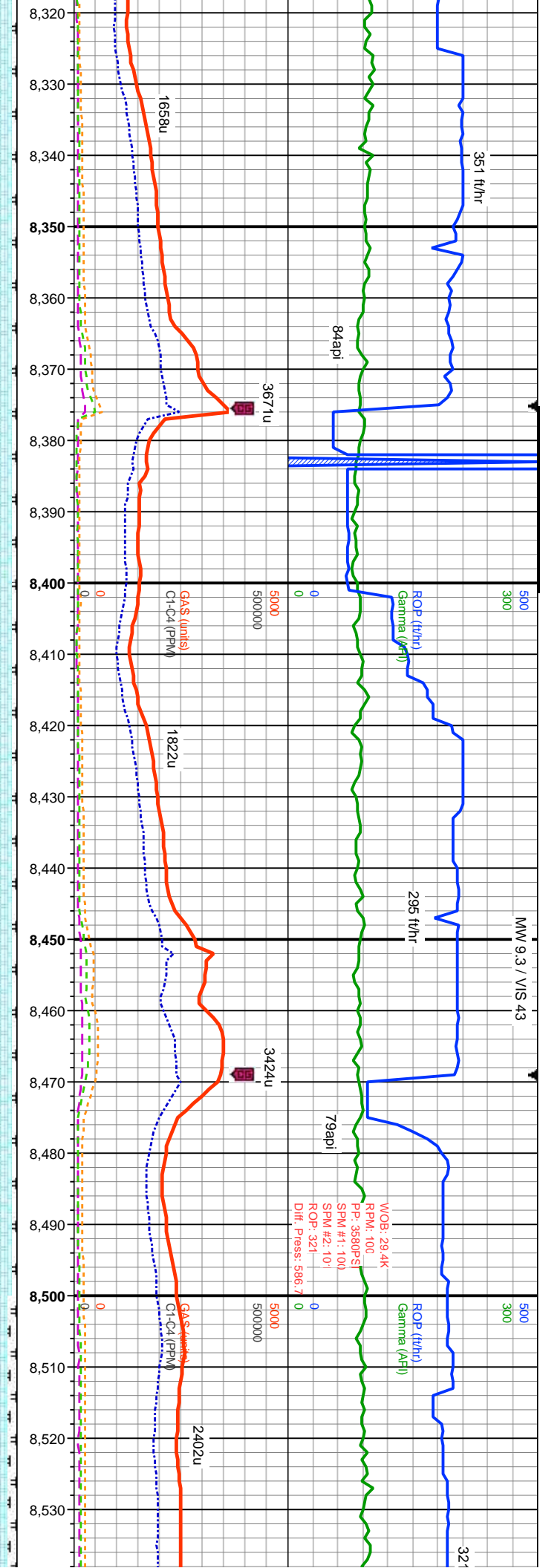


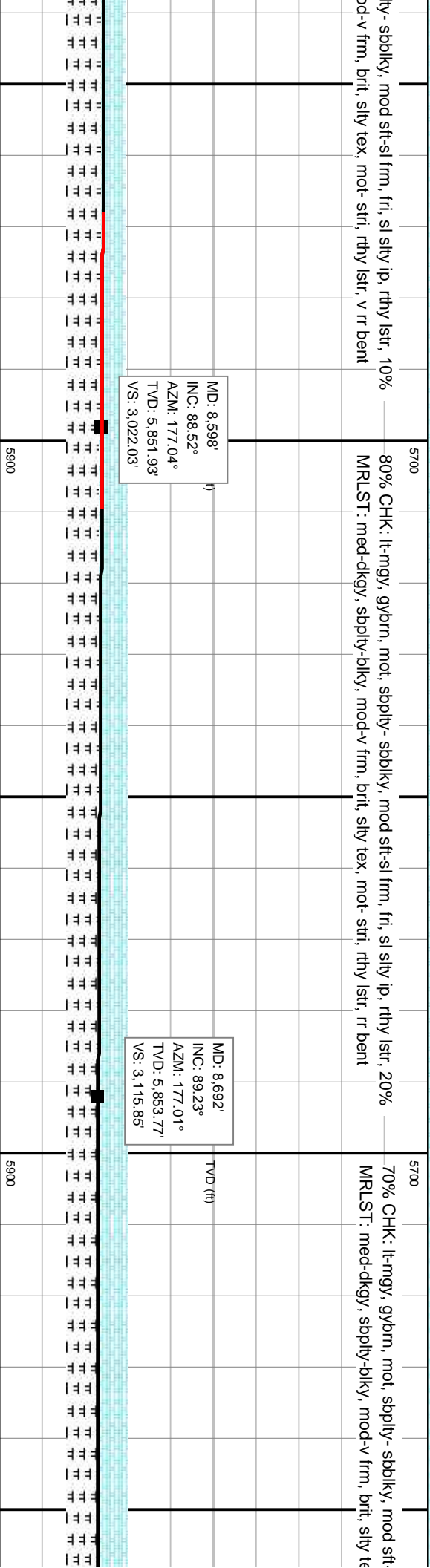
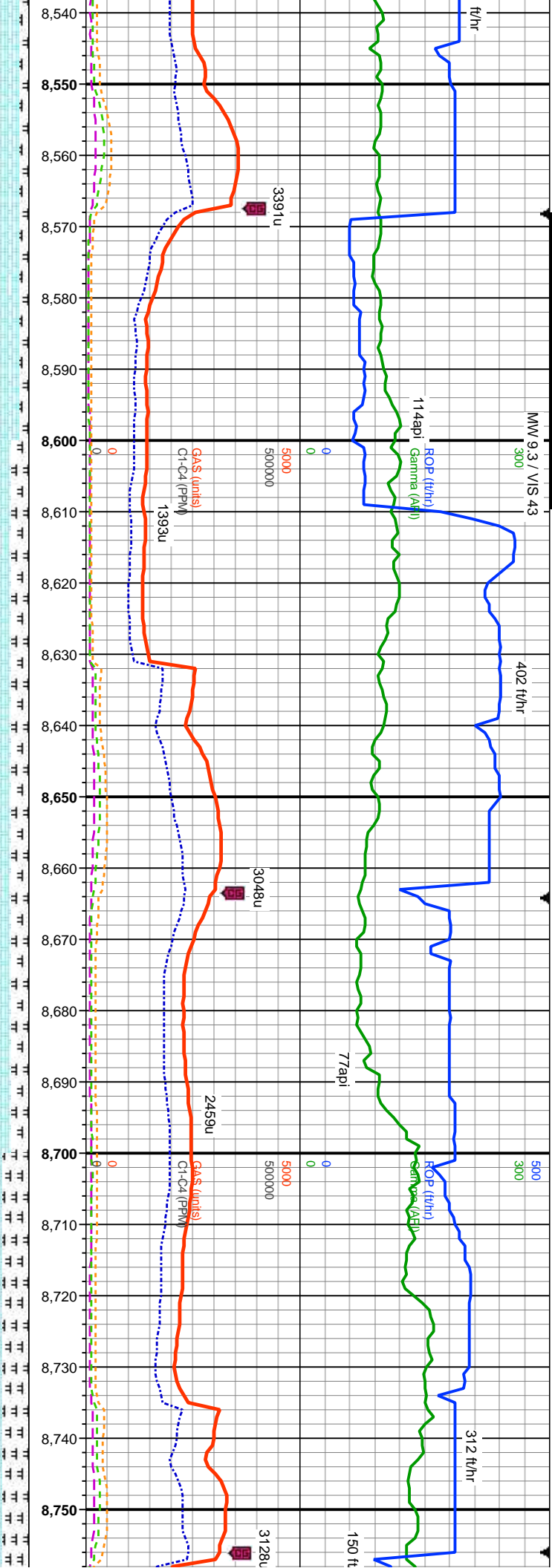


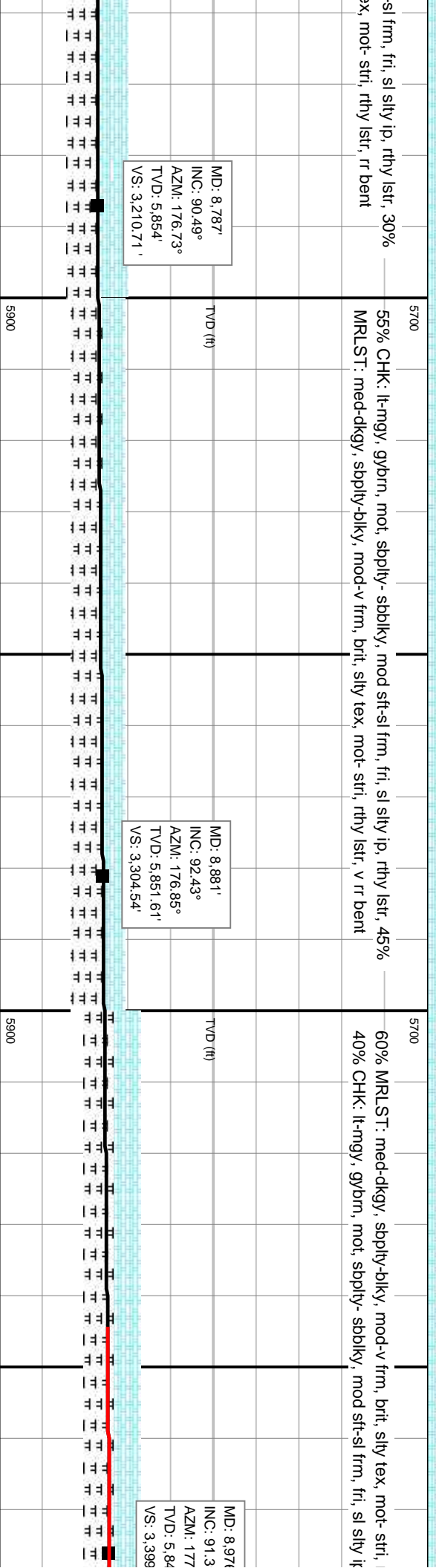
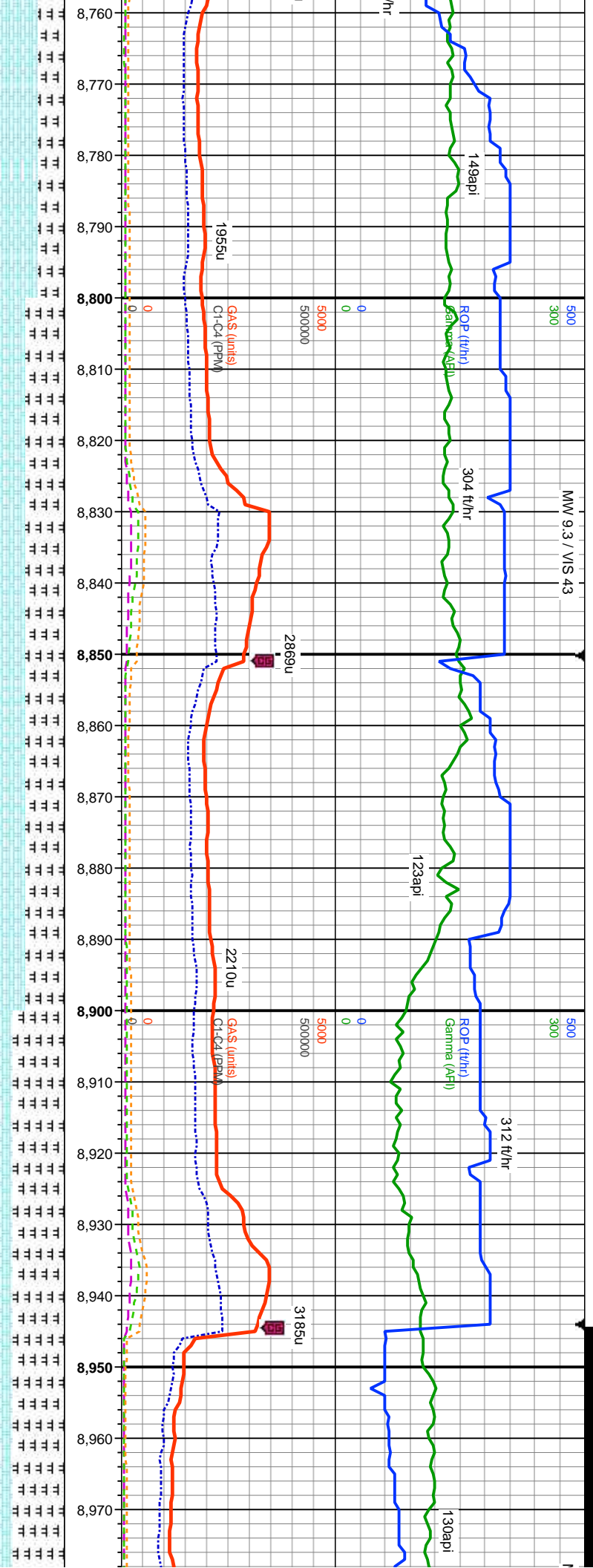
rthy lstr, 15% c bent		5700	90% CHK: lt-mgy, gybrn, mot, sbply- sbbkly, mod sft-si frm, fri, sl silty ip, rthy lstr, 10% MRLST, med-dkgy, sbply-bkly, v frm, brit, silty tex, mod- sti, rthy lstr, tr bent	5700	100% CHK: lt-mgy, gybrn, mot, sbply- sbbkly, mod sft-si frm, fri, sl silty ip, rthy lstr, occ MRLST, tr bent
TVD (ft)					
MD: 7.936' INC: 90.06° AZM: 179.49° TVD: 5.850.55' VS: 2.362.86'					
TVD (ft)					
MD: 8.030' INC: 89.48° AZM: 179.46° TVD: 5.850.93' VS: 2.456.39'					
5900					
5900					

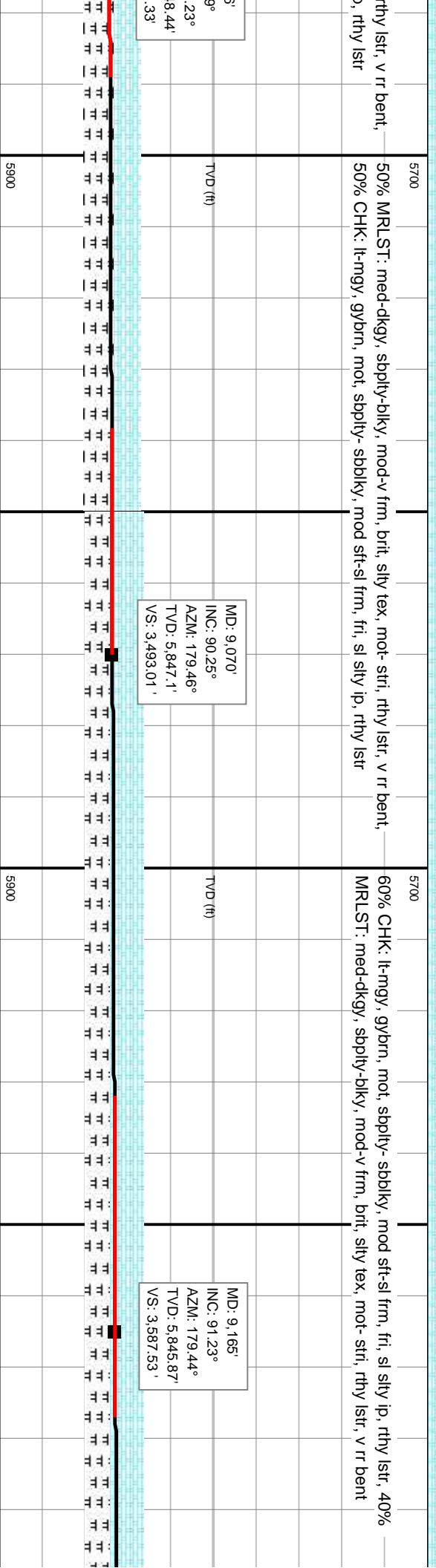
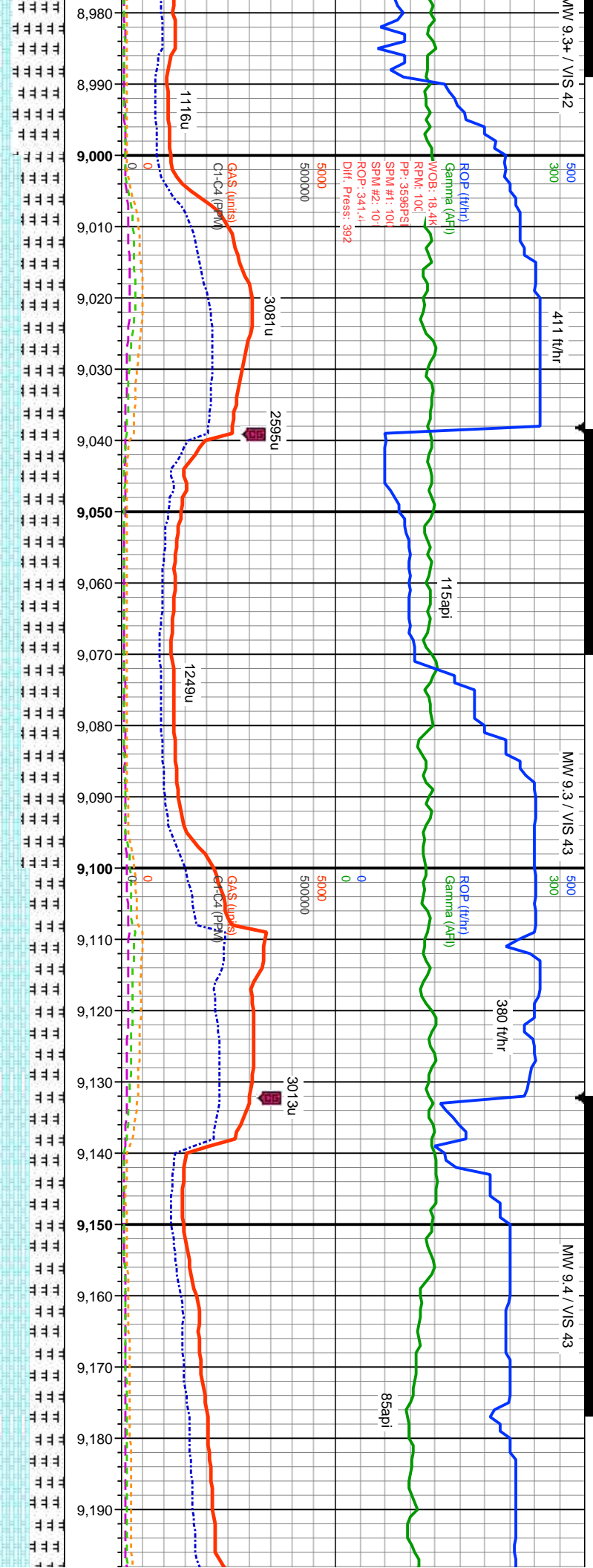


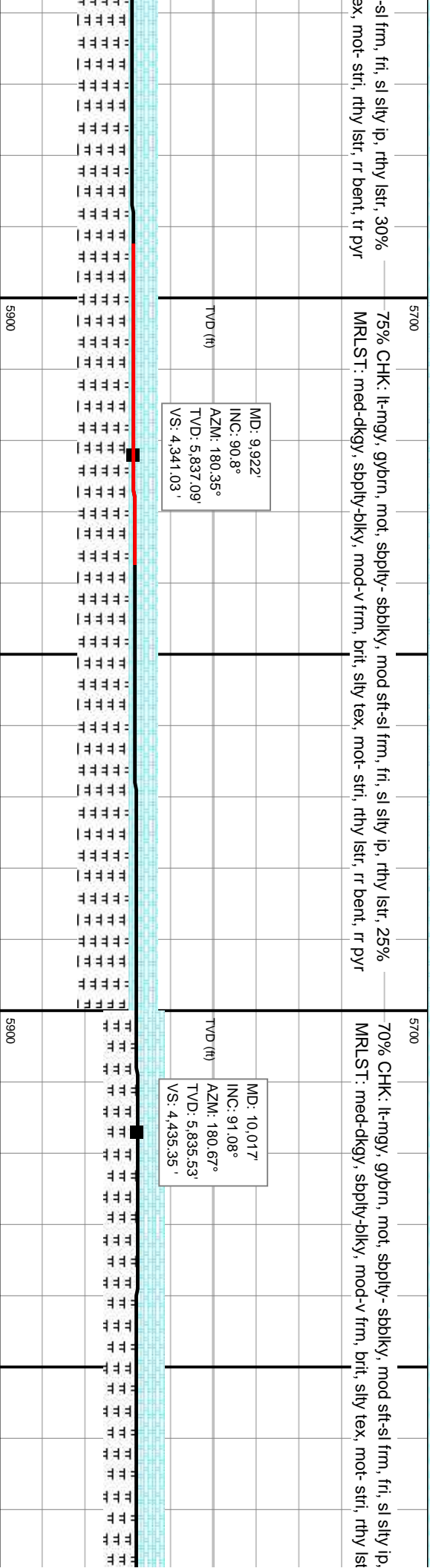
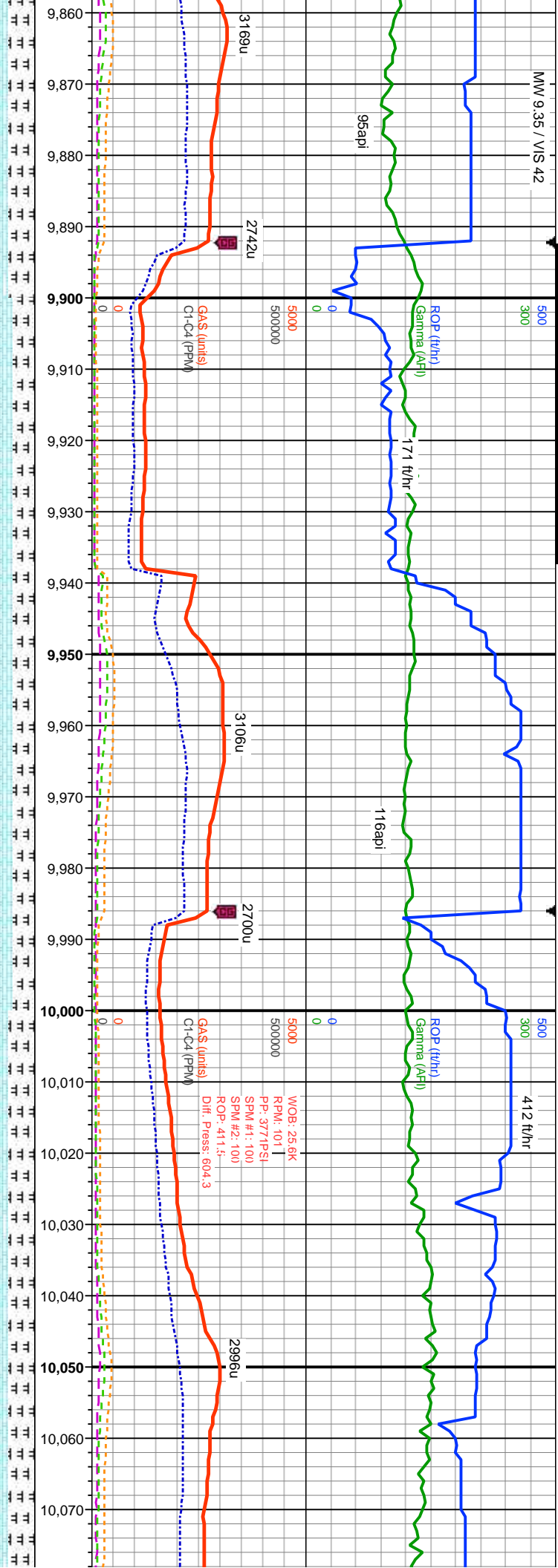
5700	95% CHK: lt-mgy, gybrn, mot, sbply- sbblky, mod sft-sl frm, fri, sl silty ip, rthy lstr, 5% MRLST: med-dkgy, sbply-blky, v frm, brit, silty tex, mot- stri, rthy lstr, rr bent	TVD (ft)	MD: 8,125' INC: 89.57° AZM: 179.76° TVD: 5,851.72' VS: 2,550.89'
5700	85% CHK: lt-mgy, gybrn, mot, sbply- sbblky, mod sft-sl frm, fri, sl silty ip, rthy lstr, 15% MRLST: med-dkgy, sbply-blky, v frm, brit, silty tex, mot- stri, rthy lstr, tr bent, v rr dissn pyr	TVD (ft)	MD: 8,219' INC: 91.2° AZM: 179.83° TVD: 5,851.09' VS: 2,644.36'
5700	95% CHK: lt-mgy MRLST: med-dk	TVD (ft)	MD: 8,314' INC: 90.4° AZM: 178.8° TVD: 5,849' VS: 2,738.9'

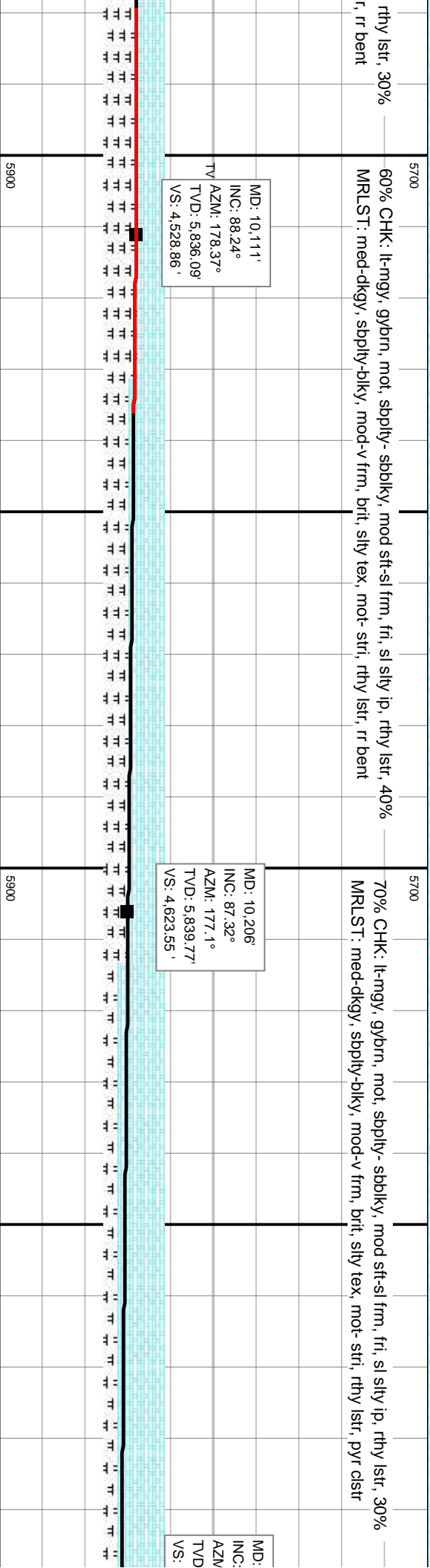
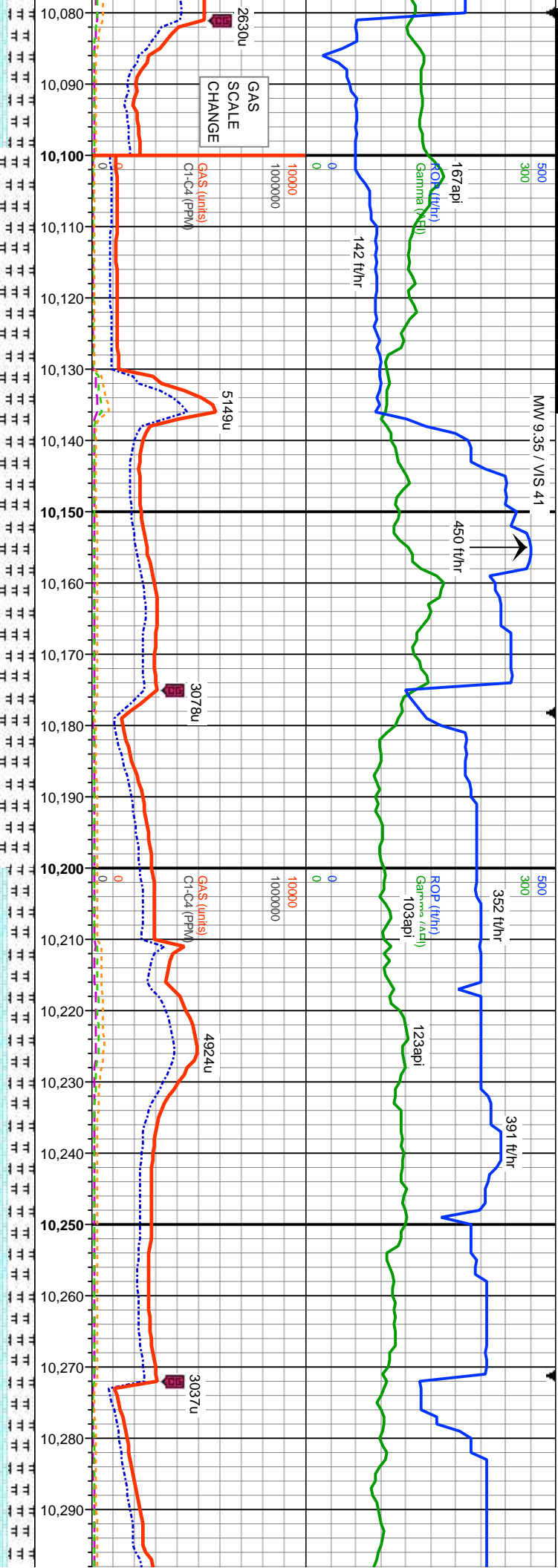


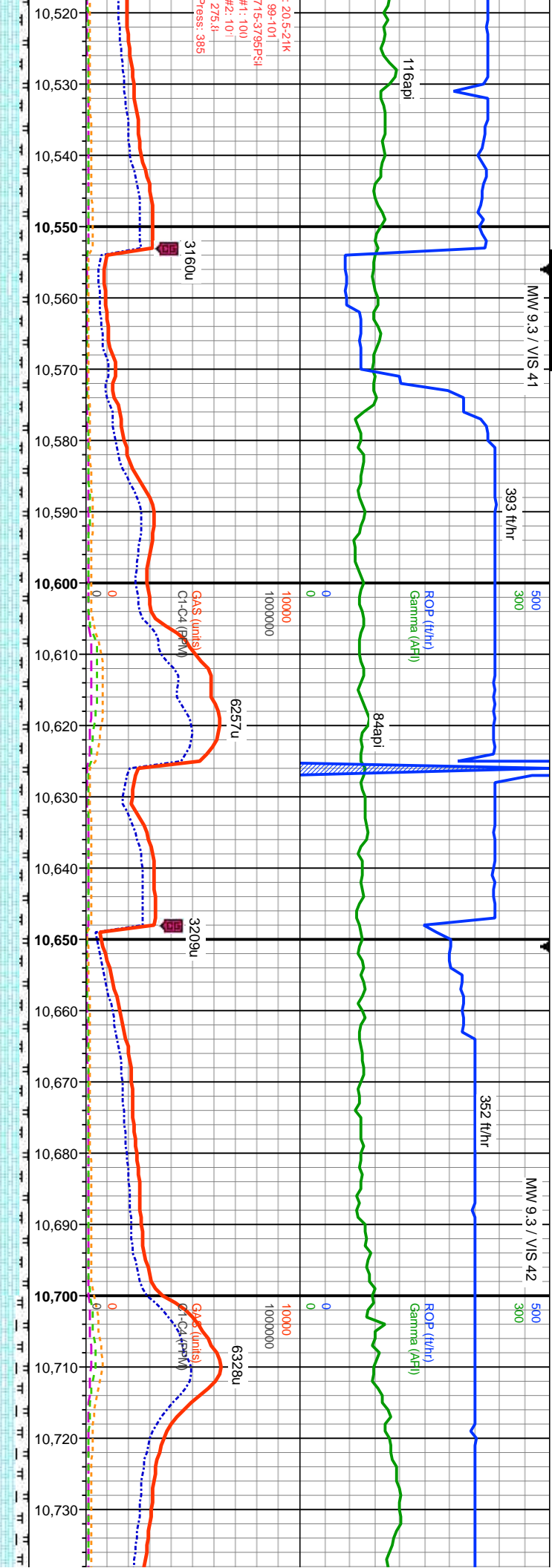












gybrn, mot, sbply-sbblky, mod sft-sl frm, fri, sl silty ip, rthy lstr, 10%
dkgy, sbply-blky, mod-v frm, brit, silty tex, mot-stri, rthy lstr, abnt bent

MD: 10,584'
INC: 89.08°
AZM: 177.56°
TVD: 5,843.77'
VS: 5,000.81'

TVD (ft)

5/700 90% CHK: lt-mgy, gybrn, mot, sbply-sbblky, mod sft-sl frm, fri, sl silty ip, rthy lstr, 10%
MRLST: med-dkgy, sbply-blky, mod-v frm, brit, silty tex, mot-stri, rthy lstr, occ fos frag, tr bent

MD: 10,679'
INC: 91.66°
AZM: 178.18°
TVD: 5,843.16'
VS: 5,095.56'

TVD (ft)

5/700 85% CHK: lt-mgy, gybrn, mot, sbply-sbblky, mod sft-sl frm, fri, sl silty ip, rthy lstr, 10%
MRLST: med-dkgy, sbply-blky, mod-v frm, brit, silty tex, mot-stri, rthy lstr, occ fos frag, tr bent

