



Scale: 5" / 100'  
Measured Depth Log

Well Name    Badding 16C-35HZ

Location    SESE SEC 26, T2N, R66W

State    Colorado

Country    USA

API Number    05-123-38337

Region    DJ Basin

Spud Date    2/15/2014

Surface Coordinates    350' FSL & 652' FEL

Bottom Hole Coordinates    1'FSL & 919' FEL

County    Weld

Rig Number    Ensign 138

Field    Wattenberg

Drilling Completed    2/21/2014

Ground Elevation    5115'

K.B. Elevation    5123'

Logged Interval    6978'    To    13315'

Total Depth    13315'

Formation    Codell

Type of Drilling Fluid    H2O, LSND

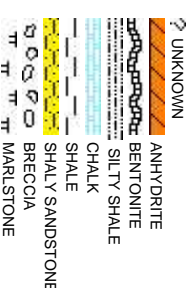
Company    Anadarko

Address    Granite Tower  
1099 18th St, S  
Denver, CO 802

Name    Zach Uber, Iren

Company    Columbine Logg

Address    2385 S. Lipan S  
Denver, CO 802



Operator

uite #1800  
202

Geologist

e-Kadel-Harder & Gabe Rubio

ging, Inc.

223

Rock Types

	CEMENT		GYPSUM		SHALE COLORED
	CHERT		IGNEOUS		SHALE GRAY
	CLAY CHOKE SAND		SIDERITE or LIMONITE		SHALY SILTSTONE
	CLAYSTONE		LIMESTONE		SILTSTONE
	COAL		METAMORPHIC		TUFF
	CONGLOMERATE		NO SAMPLE		WELDED TUFF
	DOLOMITE		SALT		
	DOLOMITIC LIMESTONE		SANDSTONE		
	GRANITE		SALT-PEPPER SAND		

Accessories

	GASTROPOD		ARGILLITE GRAIN		HEAVY MINERAL		ANHYDRITE STRINGER
	INOCERAMUS		B BENTONITE		KAOLIN		BENTONITE STRINGER
	ALGAE		BITUMENOUS SUBSTANCE		MARLSTONE		COAL STRINGER
	AMPHIPORA		BRECCIA FRAGMENTS		MICACEOUS		DOLOMITE STRINGER
	BELEMNITE		CALCAREOUS		MINERAL CRYSTALS		GYPSUM STRINGER
	BIOCLASTIC		CARBONACEOUS FLAKES		NODULES		LIMESTONE STRINGER
	BRACHIOPOD		CHERT		PHOSPHATE PELLETS		MARLSTONE (CALC) STRG
	BRYOZOA		COAL - THIN BEDS		PYRITE		MARLSTONE (DOL) STRG
	CERPHALOPOD		DOLOMITIC		SALT CAST		SANDSTONE STRINGER
	CORAL		FELDSPAR		SANDY		SHALE STRINGER
	CRINOID		FERRUGINOUS PELLET		SILTY		SILTSTONE STRINGER
	ECHINOID						
	FISH	<b>Minerals</b>	FERRUGINOUS		TUFFACEOUS		
	FORAMINIFERA		ANHYDRITIC				
	FOSSL		ARGILLACEOUS		GYPSIFEROUS		
				<b>Stringer</b>			

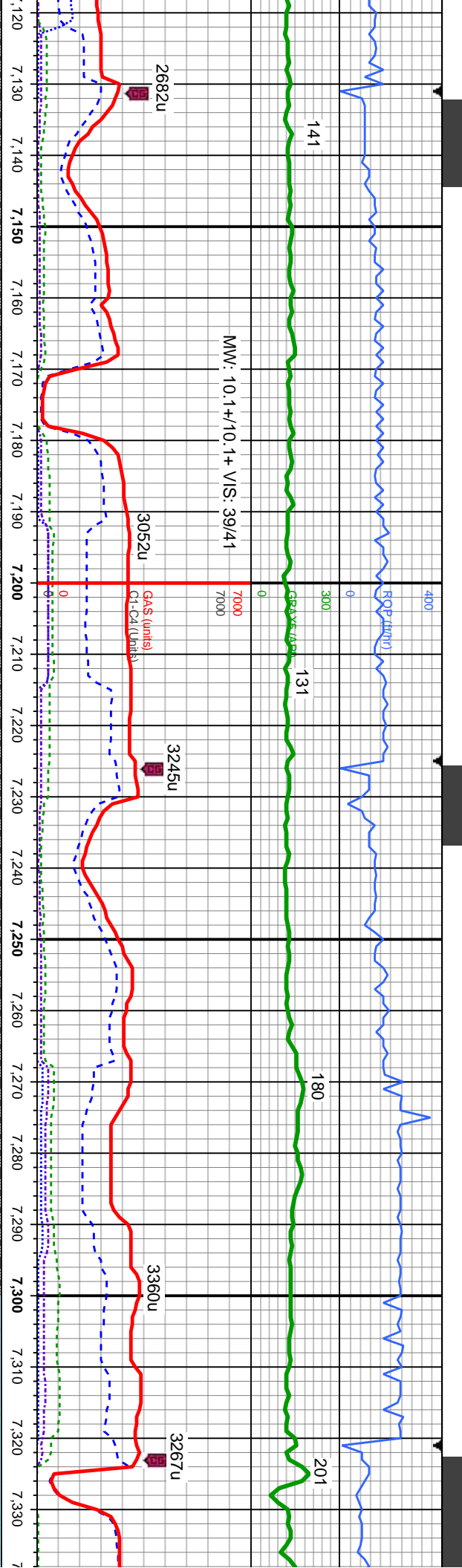
Other Symbols

<b>Oil Show</b>		P PINPOINT		DST INTERVAL		E EARTHY
		V VUGGY		FAULT		FX FINELYXLN
<b>Engineering</b>		D DEAD		FORMATION TOP		DS GRAINSTONE
		EVEN		GAS SHOW		L LITHOGRAPHIC
		QUESTIONABLE		OIL SHOW		MX MICROXLN
		BIT				
	SPOTTED STAINING			MN DEPTH UP	<b>Rounding</b>	MS MUDSTONE
	CONNECTION (UP)			MN DEPTH (DOWN)		PS PACKSTONE
<b>Porosity</b>		CONNECTION (DOWN)		NORMAL FAULT		RS WACKSTONE
		CONNECTION GAS		OVERTURNED STRATA		
	E EARTHY			REVERSE FAULT		
	F FENESTRAL			CASING		
	F FRACTURE			SIDEWALL CORE (LEFT)	<b>Textures</b>	M MODERATE
	INTERCRYSTALLINE			DOWN TIME GAS		P POOR
	INTEROOLITIC			DOWN TIME GAS (LEFT)		W WELL
	MOLDIC			CORE - LOST		
	ORGANIC			CORE - RECOVERED		CX CRYPTOXLN



Slide/Rotate	ROP SCALE: 0-400 FT/HR		
ROP ROF			
GAMMA GRAX5	GAMMA SCALE: 0-275 API		
Total Gas & Chromatograph GAS C1 C2 C3 C4	GAS SCALE: 0-5000 UNITS		
Depth Labels	6,940 6,950 6,960 6,970 6,980 6,990 7,000 7,010 7,020 7,030 7,040 7,050 7,060 7,070 7,080 7,090 7,100 7,110		
% Lith			
Well Bore TVD	<p>KOP: 6978' MD 100' SAMPLE INTERVALS</p> <p><b>Bit Data:</b> Type: Smith/ SDI 611 Size: 8.75" Jets: 3x15/3x14</p> <p>MD: 6,987' TVD: 6,948.65' Inclination: 2.1 ° Azimuth: 205.3 ° VS: -305.34'</p> <p>MD: 7,034' TVD: 6,995.52' Inclination: 6.3 ° Azimuth: 190.5 ° VS: -302.03'</p> <p>MD: 7,082' TVD: 7,042.97' Inclination: 10.8 ° Azimuth: 188.8 ° VS: -295.01'</p>		
Oil Show	<p>COLUMBINE LOGGING RIGGED UP ON 02/16/2014 USING MANNED TWO-PERSON LOGGING WITH BLOOHOUND GAS CHROMATOGRAPH UNIT #331 HZ BEGAN ON 02/17/2014 @ 07:24 HRS MST</p>		
Images			





MD: 7,176'  
TVD: 7,133.55'  
Inclination: 19.8 °  
Azimuth: 187.2 °  
VS: -270.49'

MD: 7,271'  
TVD: 7,220.08'  
Inclination: 28.7 °  
Azimuth: 186.3 °  
VS: -231.82'

SHARON SPRINGS TOP:  
7266' MD, 7216' TVD

NIORARA TOP:  
7329' MD, 7270' TVD

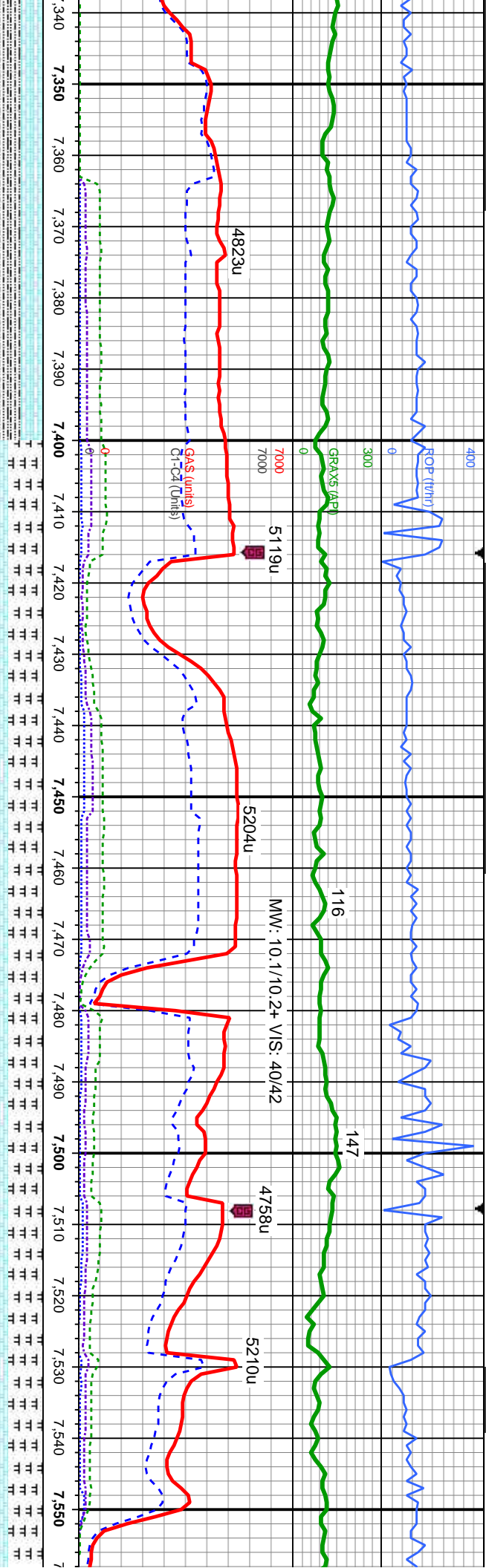
SH: lt-med gy, sme dk gy, mot ip, frm-hd, sb blk-y-sb ply, silty tex, tr bent, tr SS

100% SLTY SH: lt-med gy, sme dk gy, mot ip, frm-hd, sb blk-y-sb ply, silty tex, sme bent, v sl calc, tr SS; OIL SHOW: dim lt yel cut, dim yel-gn thn ring, no stn

75% SLTY SH: lt-gy gy, sme blk 25% CHK: lt-med gy, tr wh, sb t calc; OIL SHOW: dim lt gn slow





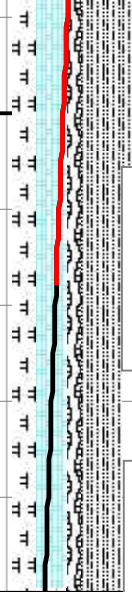


MD: 7,366'  
TVD: 7,299.33'  
Inclination: 38.2 °  
Azimuth: 175 °  
VS: -179.71'

<<TVD SCALE CHANGE>>

NIORARA B CHALK TOP:  
7423' MD, 7342' TVD

NIORARA C CHALK TOP:  
7521' MD, 7406' TVD

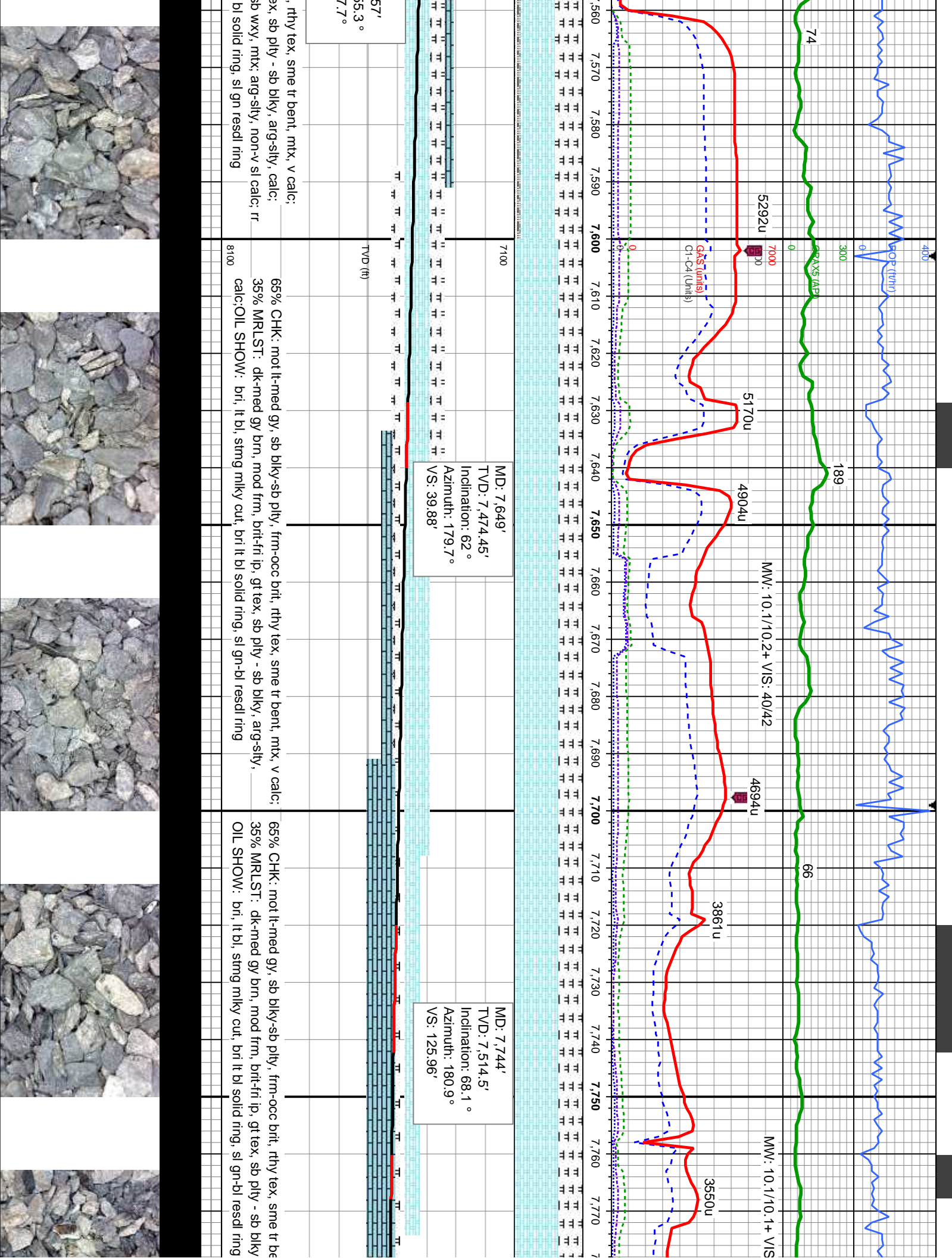


MD: 7,460'  
TVD: 7,367.3'  
Inclination: 49 °  
Azimuth: 174.9 °  
VS: -115.19'

MD: 7,555'  
TVD: 7,425.  
Inclination: 4  
Azimuth: 17  
VS: -40.34'

40% CHK: lt-med gy, tr wh, sb blk-sb pty, frm-occ brt, rthy tex, sme tr bent, mtx;calc;  
40% MRLST: dk-med gy, mod frm, britfri ip, gt tex, sb pty - sb blk, arg-sly, calc: 20%  
SLTY SH: lt-dk gy, blk-sb pty-sb blk, frm, rthy-sb wxy, mtx; arg-sly, non-v sl calc; r  
pyr;OIL SHOW: mod bri, lt bl, stmg mlky cut, bri wh-lt bl solid ring, sl gn resd ring

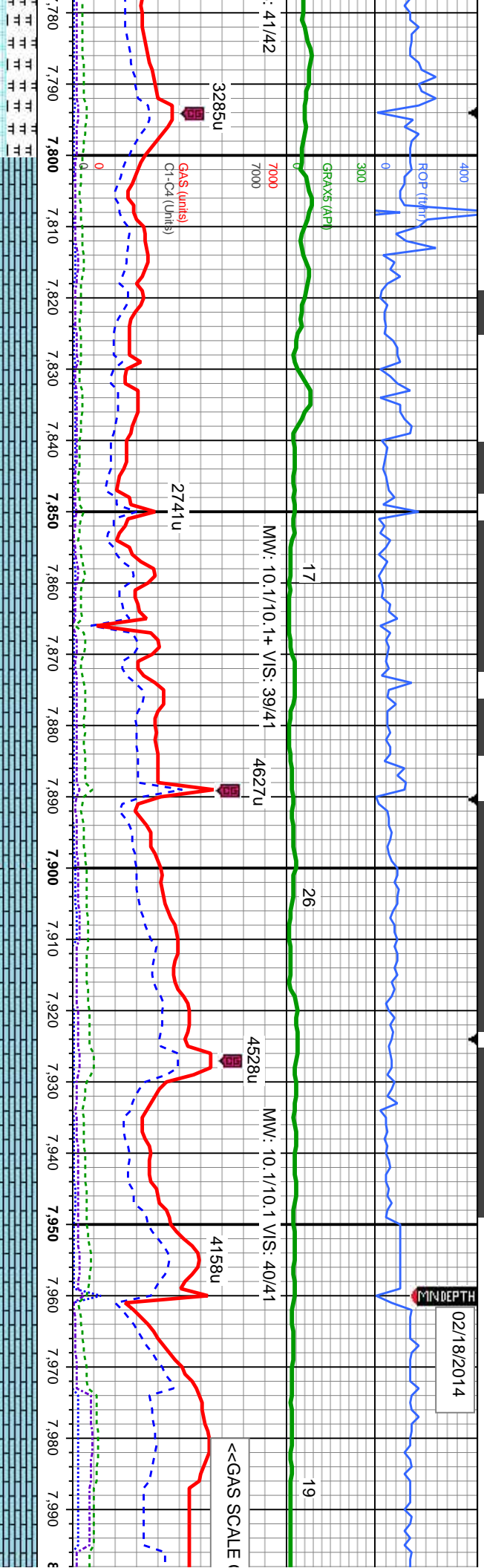






02/18/2014

MINDEPTH



FORT HAYS TOP:

7837' MD, 7544' TVD

MD: 7,839'  
TVD: 7,544.24'  
Inclination: 75.4 °  
Azimuth: 182.5 °  
VS: 216.05'

MD: 7,886'  
TVD: 7,553.96'  
Inclination: 80.7 °  
Azimuth: 182.1 °  
VS: 261.96'

MD: 7,913'  
TVD: 7,557.54'  
Inclination: 84.1 °  
Azimuth: 179.9 °  
VS: 288.71'

TOOH @ 7960' MD FOR INTERMEDIATE CASING 22:29 HRS ON 02/17/14

MD: 7,964'  
TVD: 7,560.56'  
Inclination: 89.1 °  
Azimuth: 179 °  
VS: 339.6'

TVD (ft)

LATERAL BEGAN @ 14:11 HRS ON 02/19/14

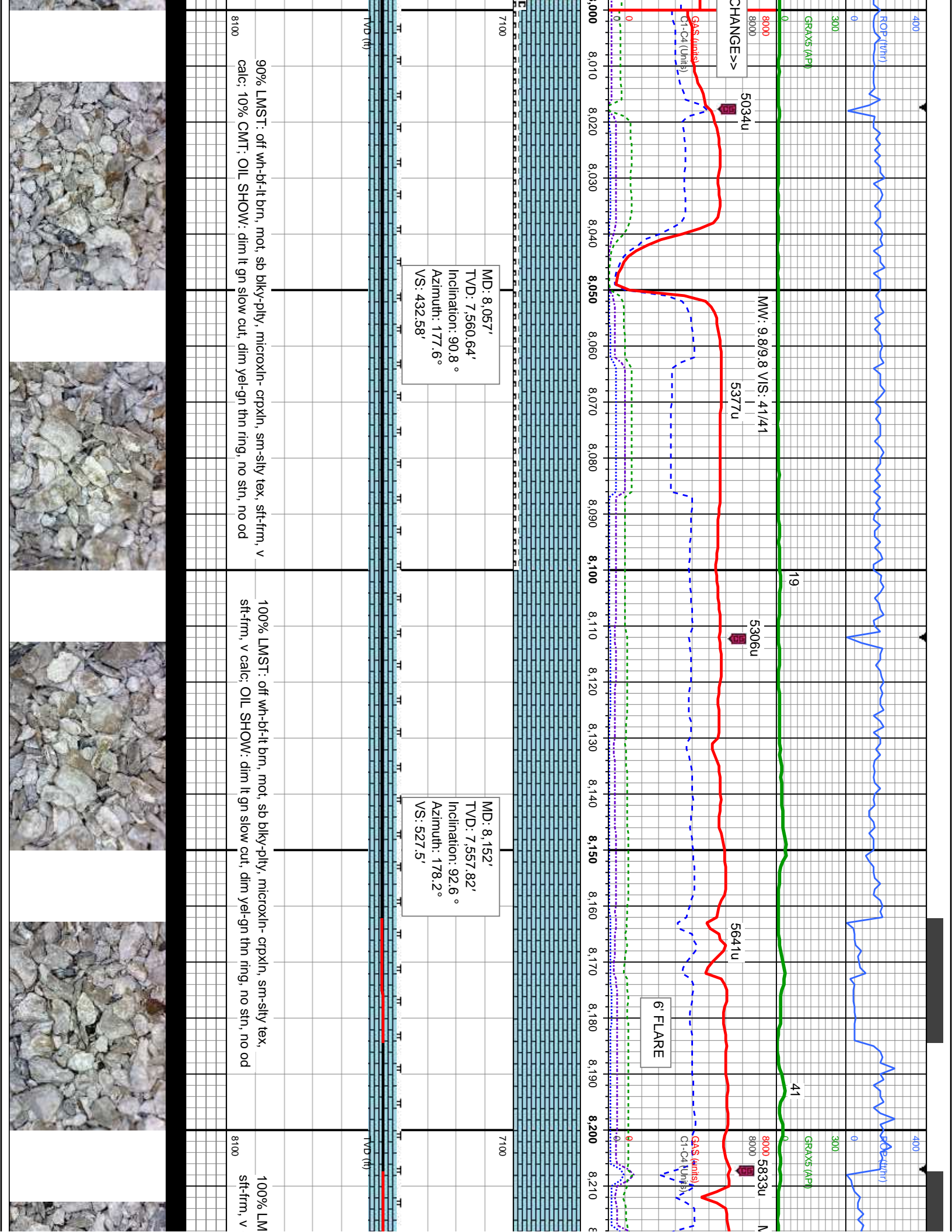
Bit Data Type: Varrel/VS 513D Size: 6.12 Depth In: 7.960' Jets: 5x16

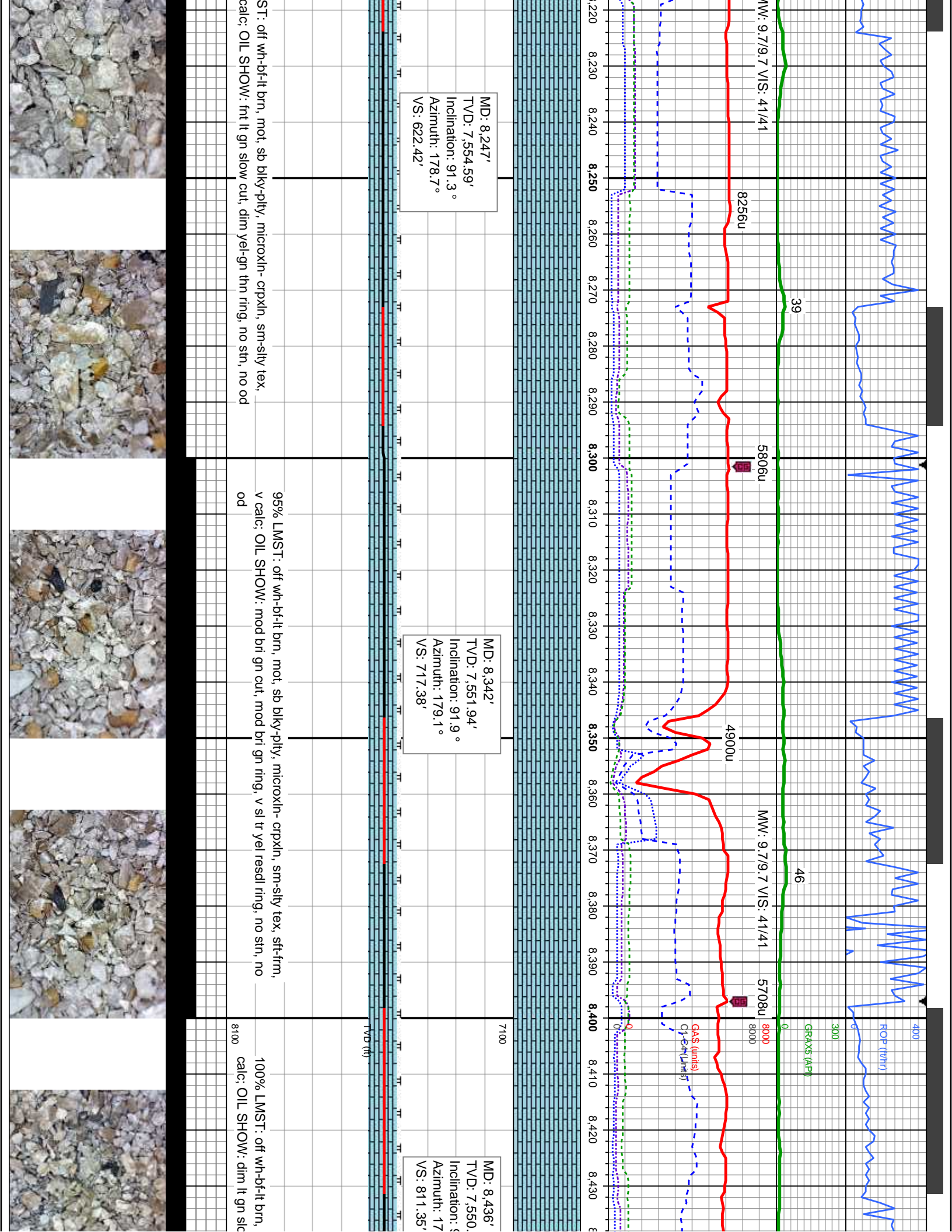
70% LMST: off wh-bf-lt brn, mot, sb blk-y-ply, microxln-crpnl, sm-sly tex, sft-frm, v calc; 30% CHK: mot lt-med gy brn, sb blk-y-sb ply, frm-occ brit, rthy tex, sme tr bent, mt, mtx, v calc; arg-sly, calc; 80% LMST: off wh-bf-lt brn, mot, sb blk-y-ply, microxln-crpnl, sm-sly tex, sft-frm, v calc; 20% CMT: OIL SHOW: dim lt gn slow cut, dim yel-gn thn ring, no sln, no od

80% LMST: off wh-bf-lt brn, mot, sb blk-y-ply, microxln-crpnl, sm-sly tex, sft-frm, v calc; 20% CMT: OIL SHOW: dim lt gn slow cut, dim yel-gn thn ring, no sln, no od



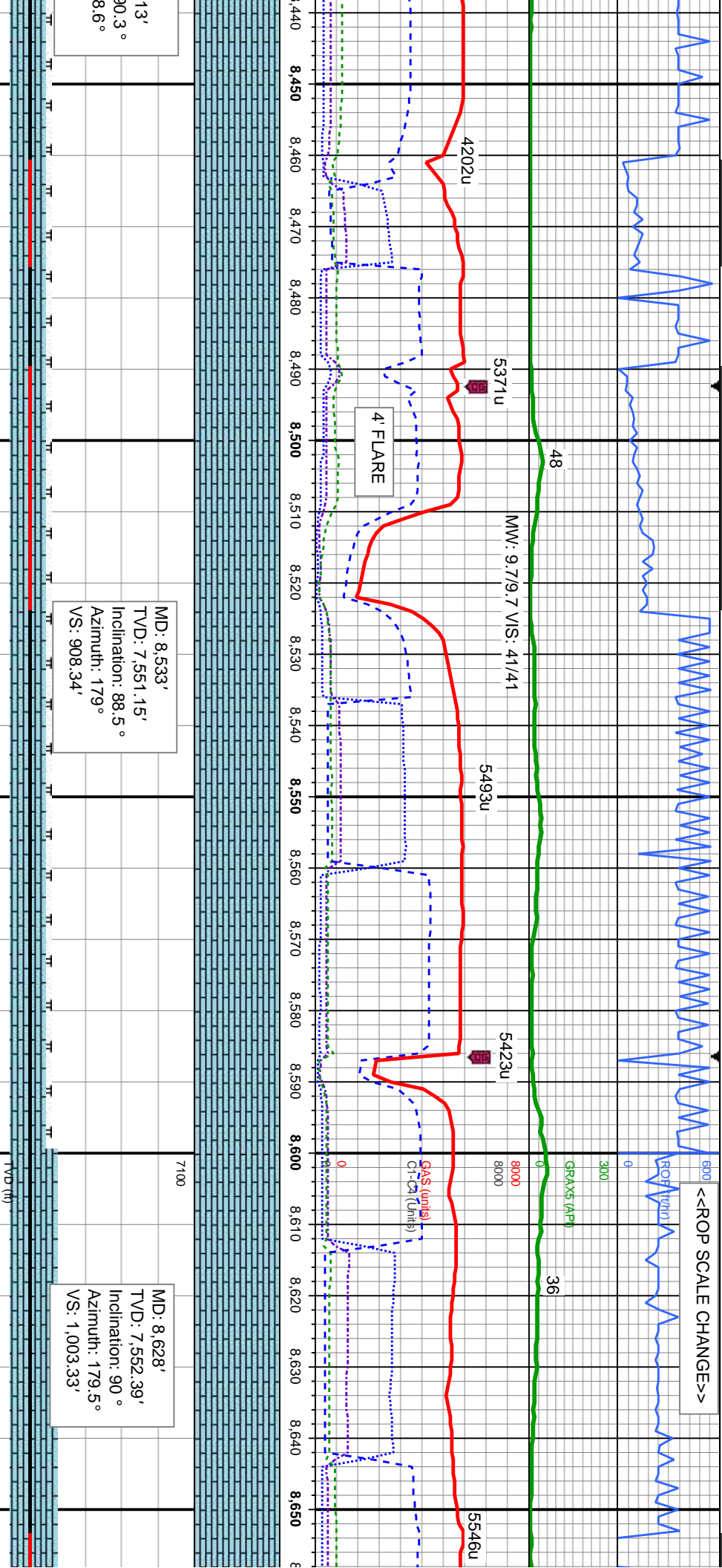








<<ROP SCALE CHANGE>>



MD: 8,533'  
TVD: 7,551.15'  
Inclination: 88.5°  
Azimuth: 179°  
VS: 908.34'

MD: 8,628'  
TVD: 7,552.39'  
Inclination: 90°  
Azimuth: 179.5°  
VS: 1,003.33'

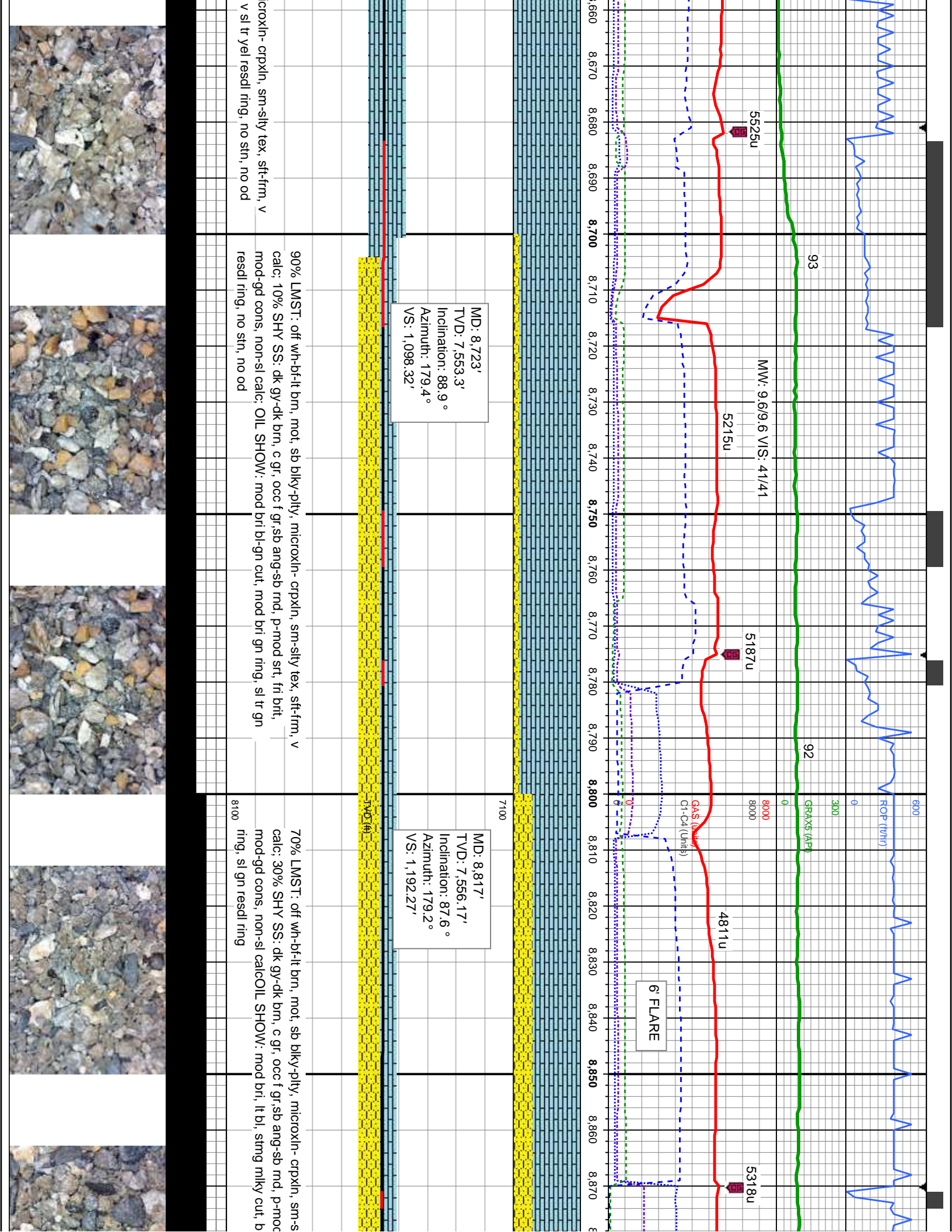
mot, sb blk-y-pty, microxn- cpxln, sm-sily tex, sft-frm, v  
w cut, dim yel-gn thn ring, no stn, no od

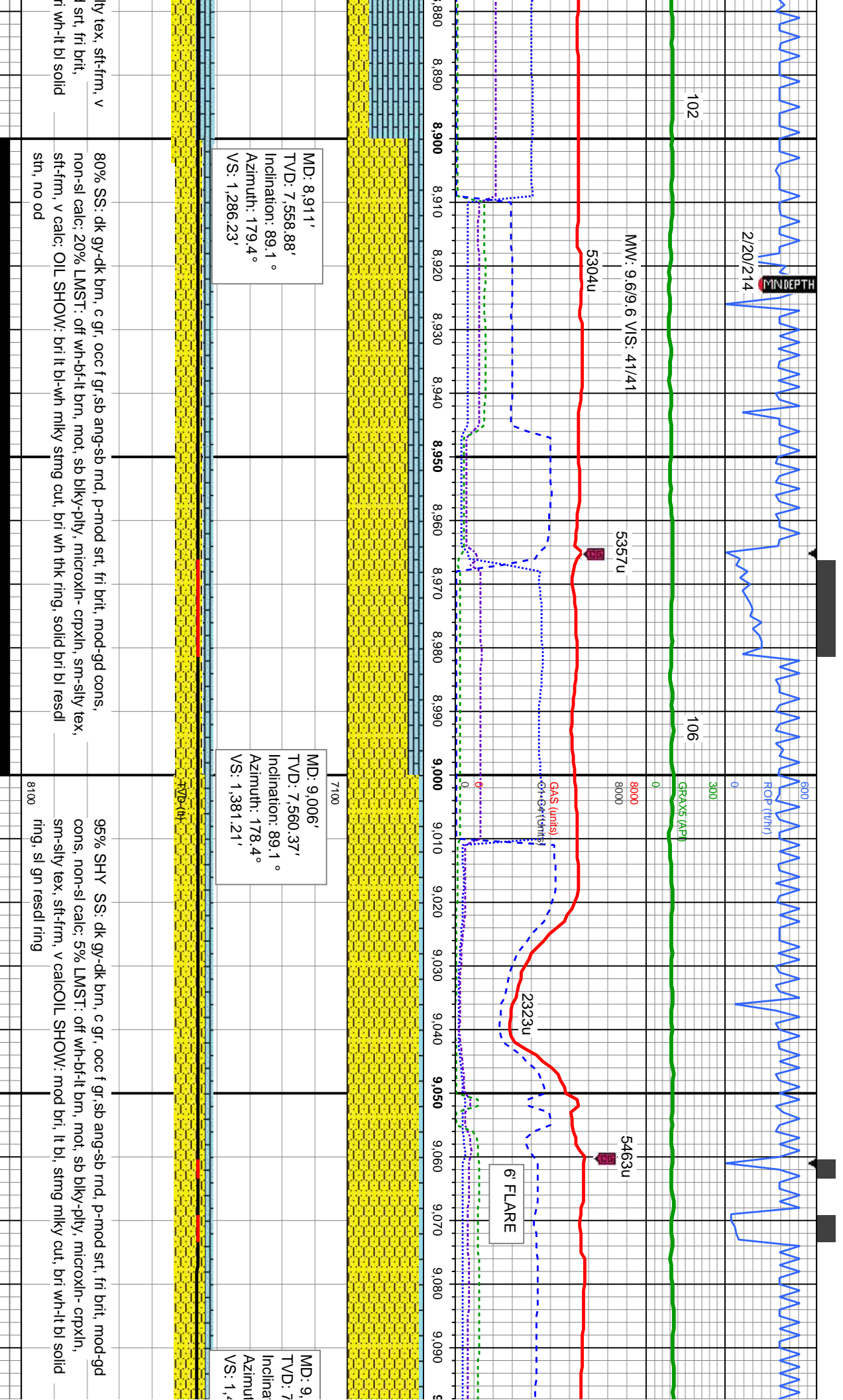
100% LMST: off wh-bt-lt brn, mot, sb blk-y-pty, microxn- cpxln, sm-sily tex, sft-frm, v  
calc; OIL SHOW: dim lt gn slow cut, dim yel-gn thn ring, no stn, no od

100% LMST: off wh-bt-lt brn, mot, sb blk-y-pty, m  
calc; OIL SHOW: mod bri gn cut, mod bri gn ring,

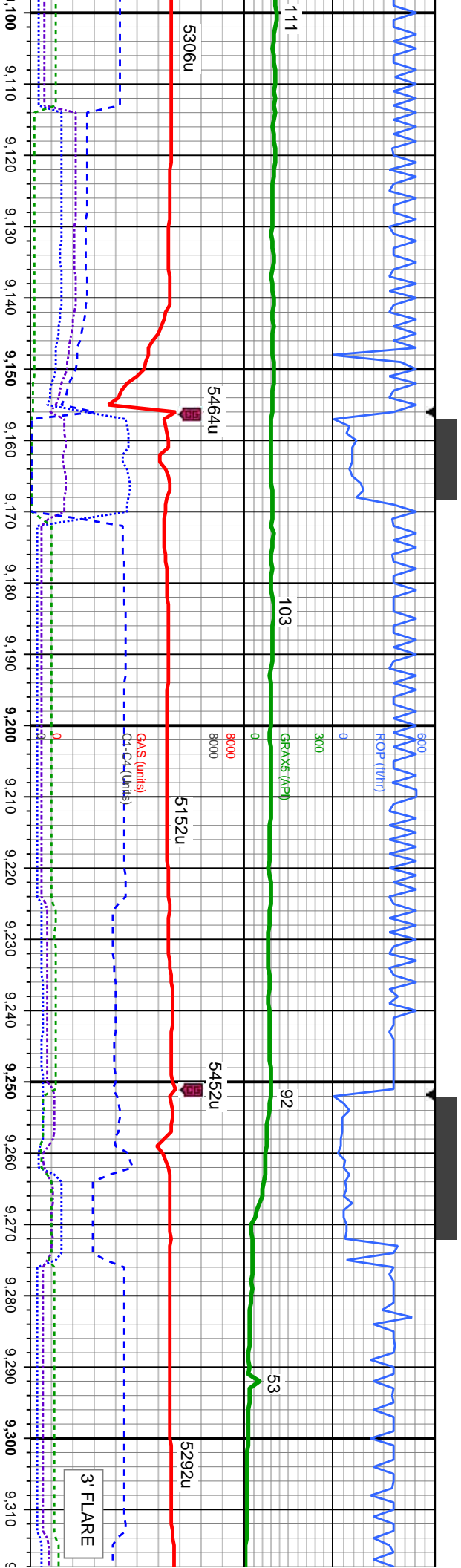












101'  
561.12'  
ion: 90 °  
h: 178.5°  
176.2'

MD: 9,197'  
TVD: 7,560.53'  
Inclination: 90.7 °  
Azimuth: 178.2°  
VS: 1,572.17'

MD: 9,291'  
TVD: 7,559.47'  
Inclination: 90.6 °  
Azimuth: 179.2°  
VS: 1,666.16'

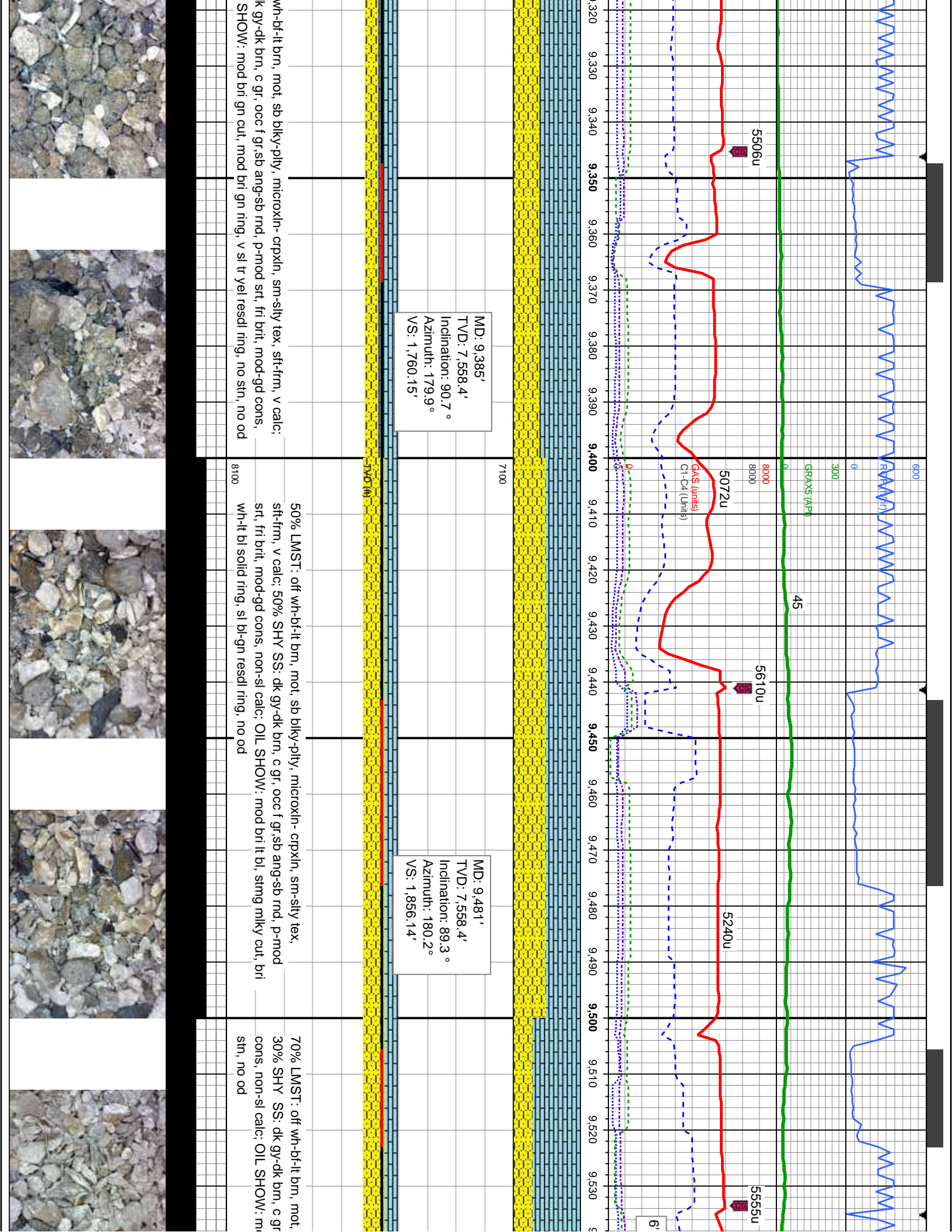
95% SHY SS: dk gy-dk brn, c gr, occ f gr, sb ang-sb md, p-mod srt, fri brit, mod-gd cons, non-sl calc; 5% LMST: off wh-bl-lt brn, mot, sb blk-y-pty, microxln- crpxln, sm-sily tex, sft-frn, v calcoil SHOW: mod bri, lt bl, strng milky cut, bri wh-lt bl solid ring, sl gn resdl

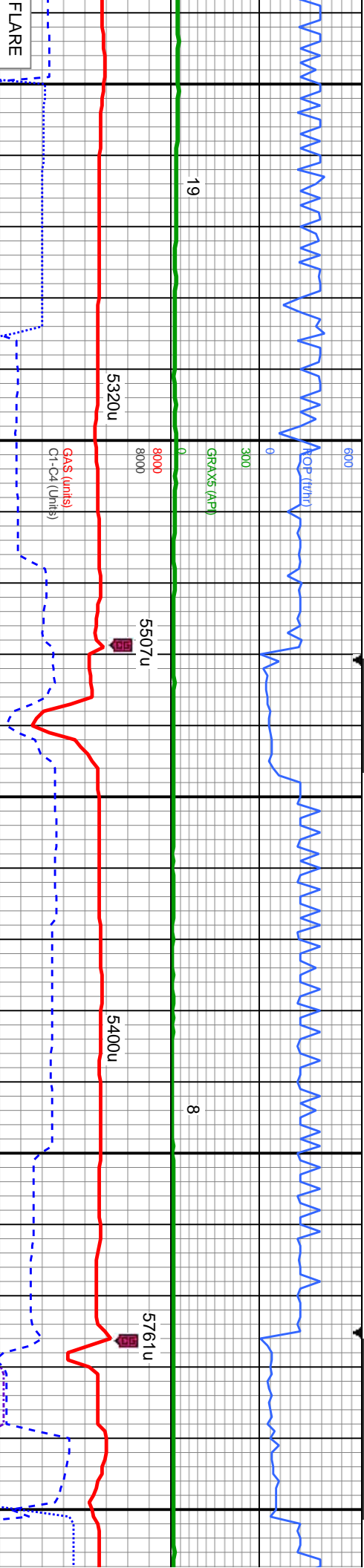
75% LMST: off wh-bl-lt brn, mot, sb blk-y-pty, microxln- crpxln, sm-sily tex, sft-frn, v calc; 25% SHY SS: dk gy-dk brn, c gr, occ f gr, sb ang-sb md, p-mod srt, fri brit, mod-gd cons, non-sl calcoil SHOW: mod bri, lt bl, strng milky cut, bri wh-lt bl solid ring, sl gn resdl

60% LMST: off non-sl calc; OIL









MD: 9,575'  
TVD: 7,559.55'  
Inclination: 89.3°  
Azimuth: 180.4°  
VS: 1,950.13'

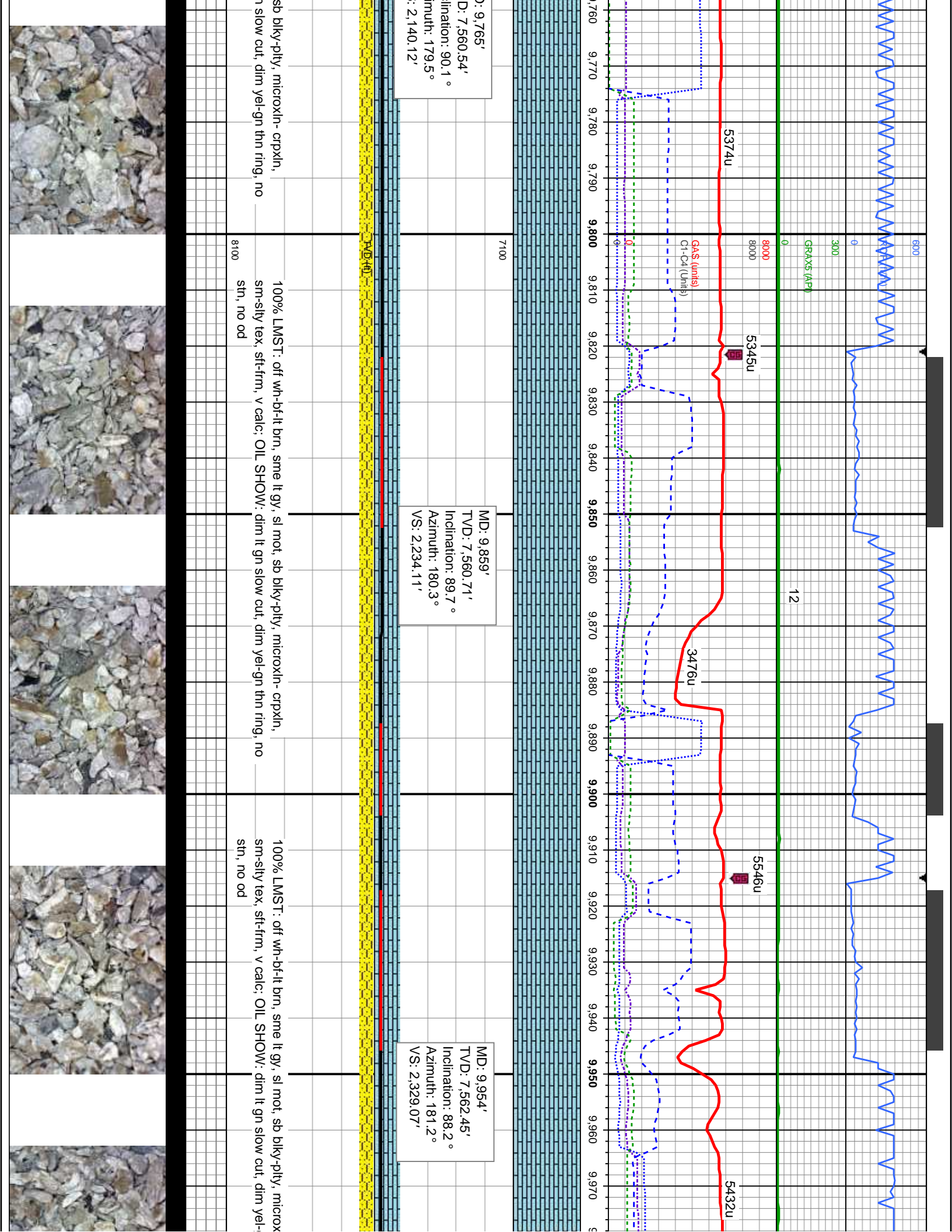
MD: 9,670'  
TVD: 7,560.38'  
Inclination: 89.7°  
Azimuth: 179.7°  
VS: 2,045.12'

sb blkly-pty, microxh- crpxln, sm-sily tex, sft-frn, v calc;  
occ f gr, sb ang-sb md, p-mod srt, fri brit, mod-gd  
od bri gn cut, mod bri gn ring, v sl tr yel resdl ring, no

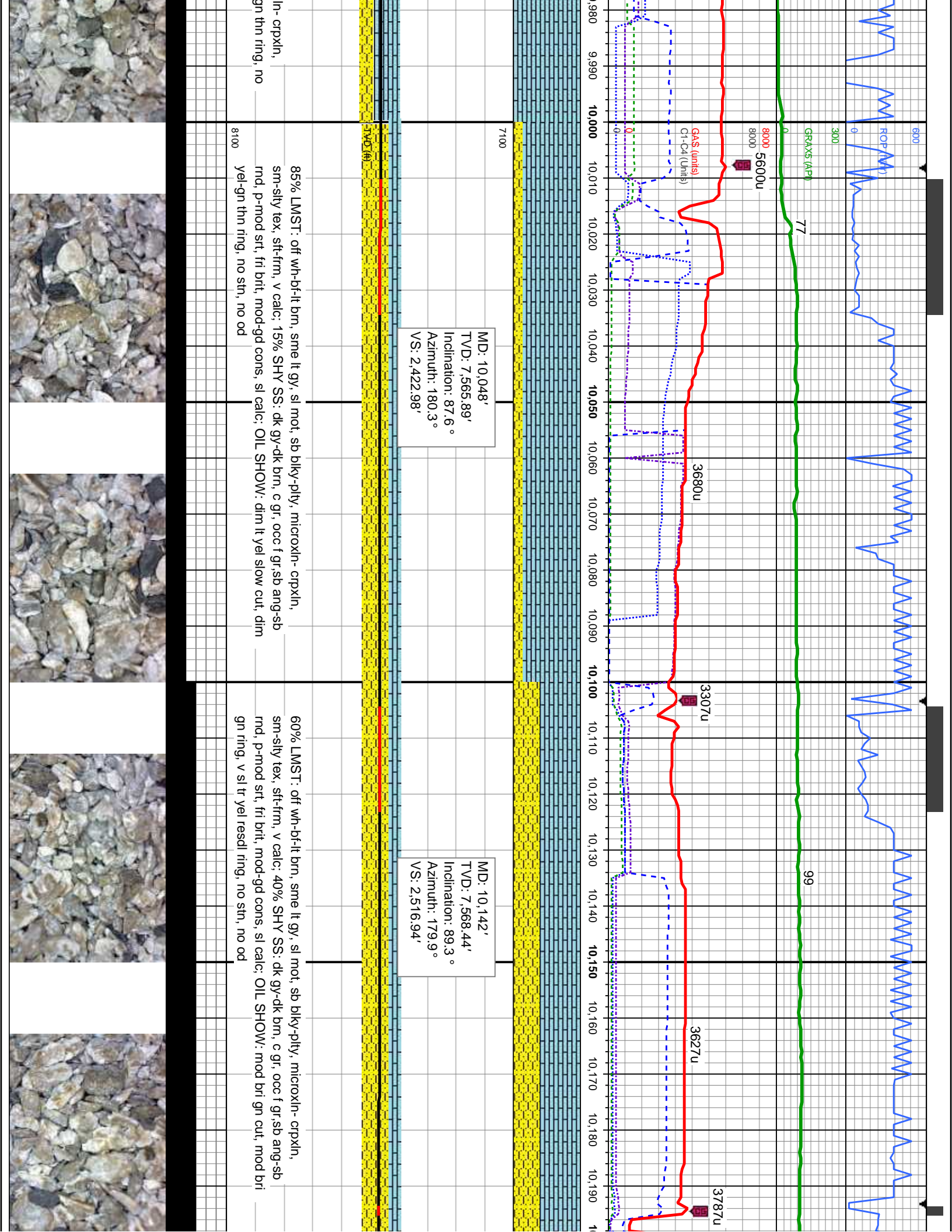
100% LMST: off wh-bl-tt brn, sme lt gy, sl mot, sb blkly-pty, microxh- crpxln,  
sm-sily tex, sft-frn, v calc; OIL SHOW: dim lt gn slow cut, dim yel-gn thn ring, no  
stin, no od





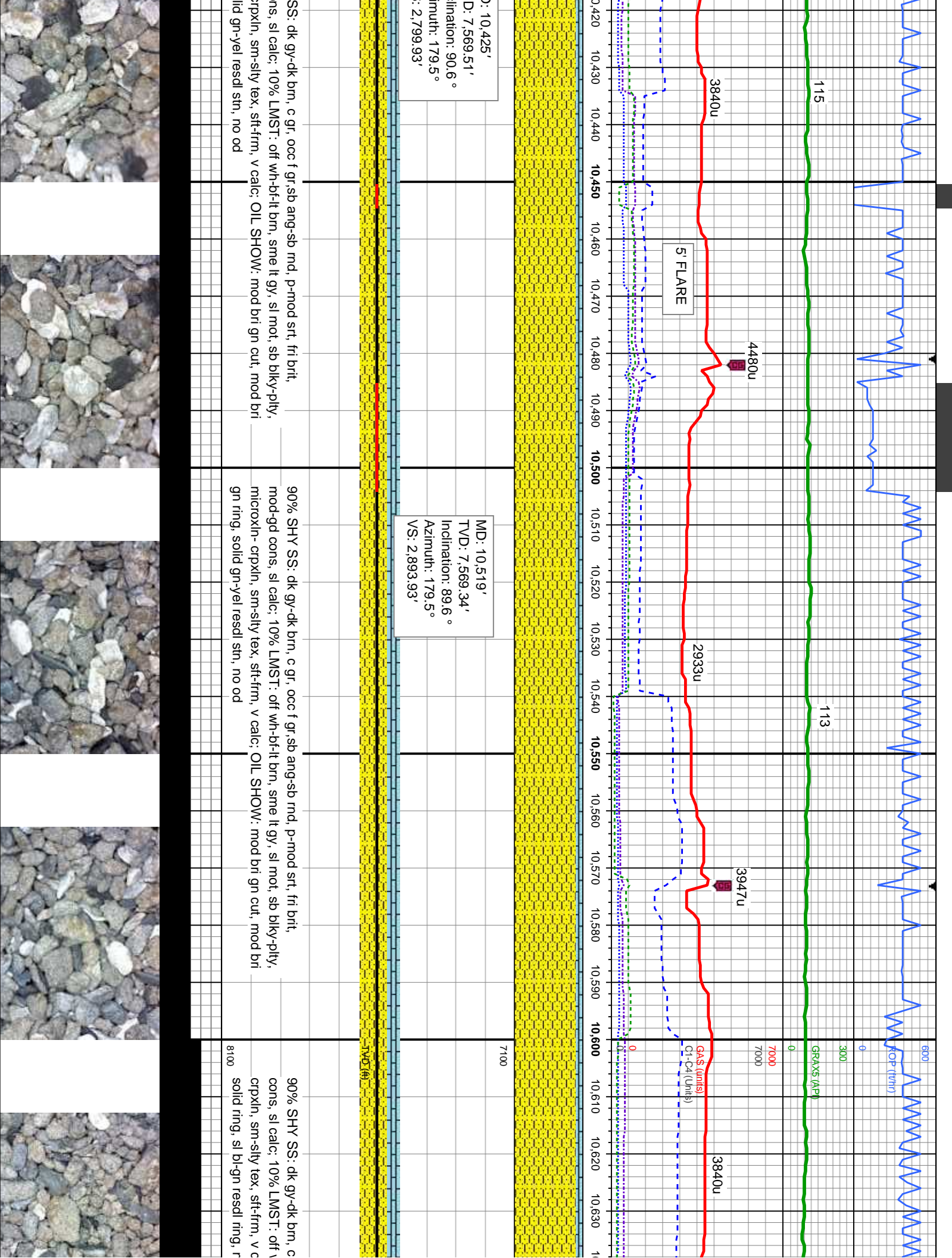


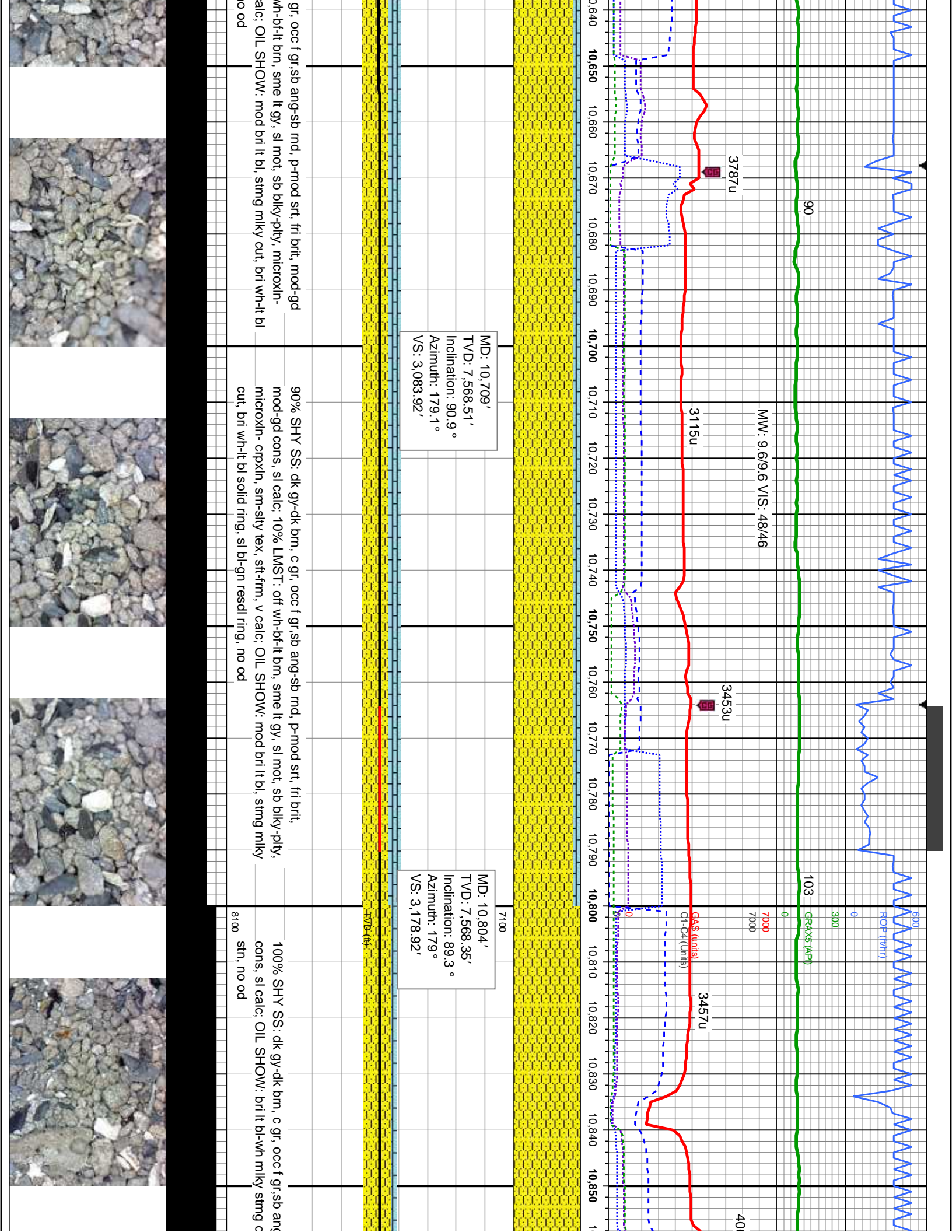




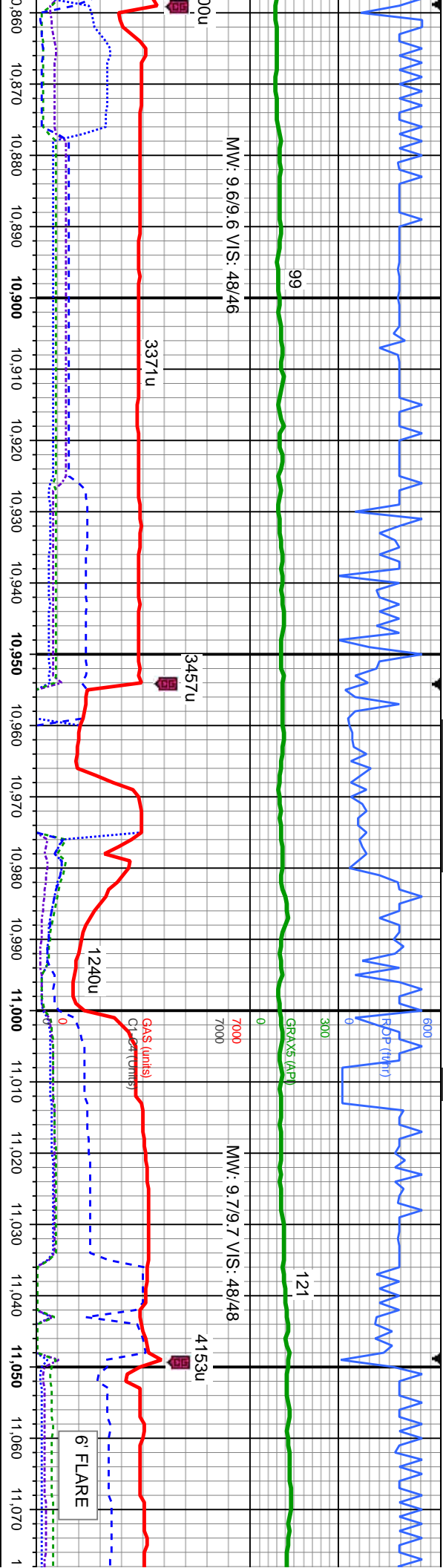










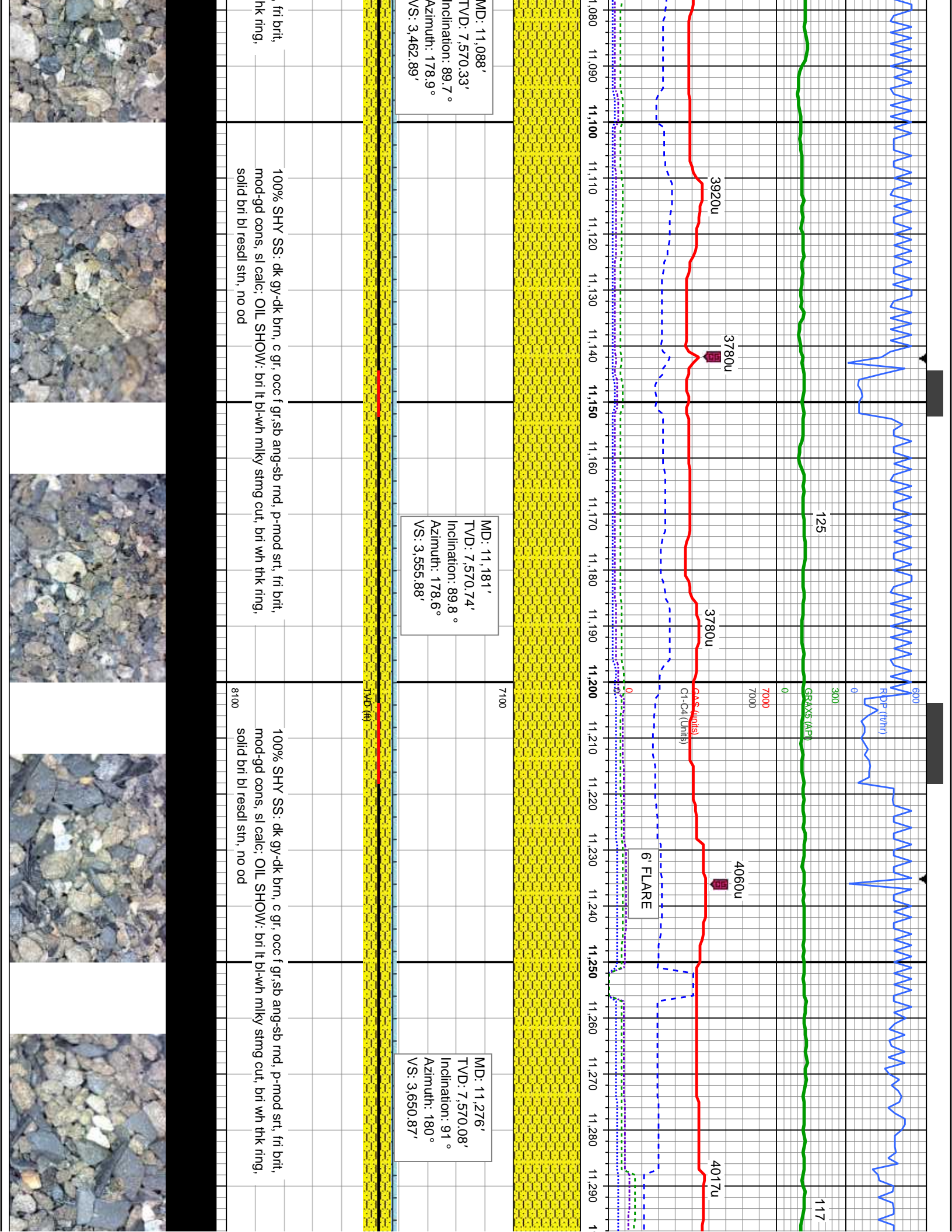


MD: 10,898'  
TVD: 7,568.68'  
Inclination: 90.3°  
Azimuth: 179.2°  
VS: 3,272.91'

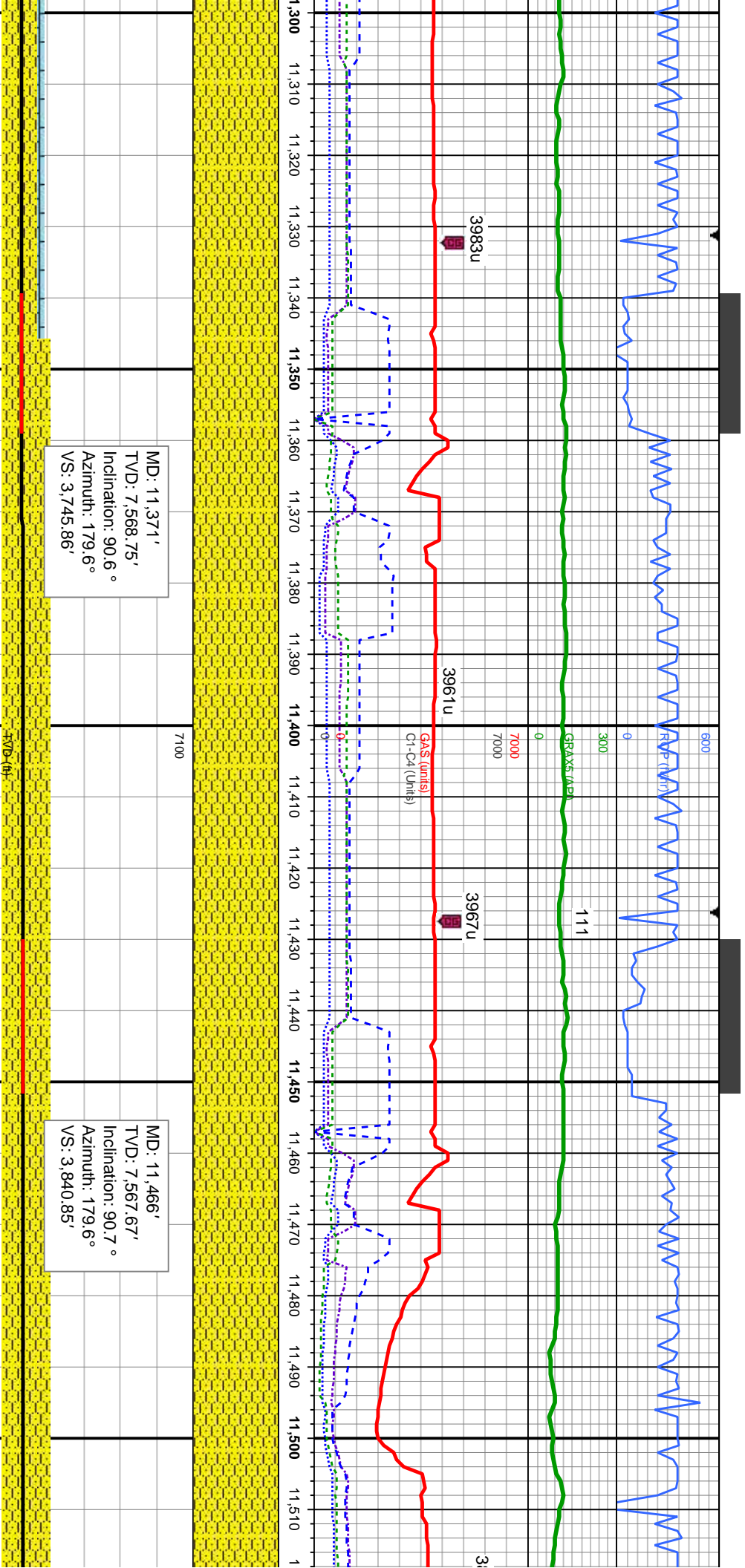
MD: 10,993'  
TVD: 7,569.26'  
Inclination: 89°  
Azimuth: 178.5°  
VS: 3,367.9'

MD (ft)	Log Description
10,860 - 10,993	100% SHY SS: dk gy-dk brn, c gr, occ f gr, sb ang-sb rnd, p-mod srt, fri brt, mod-gd cons, sl calc; OIL SHOW: mod bri lt bl, stmg milky cut, bri wh-lt bl solid ring, sl bl-gn resdl ring, no od
10,993 - 11,070	100% SHY SS: dk gy-dk brn, c gr, occ f gr, sb ang-sb rnd, p-mod srt, fri brt, mod-gd cons, sl calc; OIL SHOW: bri lt bl-wh milky stmg cut, bri wh t









MD: 11,371'  
TVD: 7,568.75'  
Inclination: 90.6 °  
Azimuth: 179.6 °  
VS: 3,745.86'

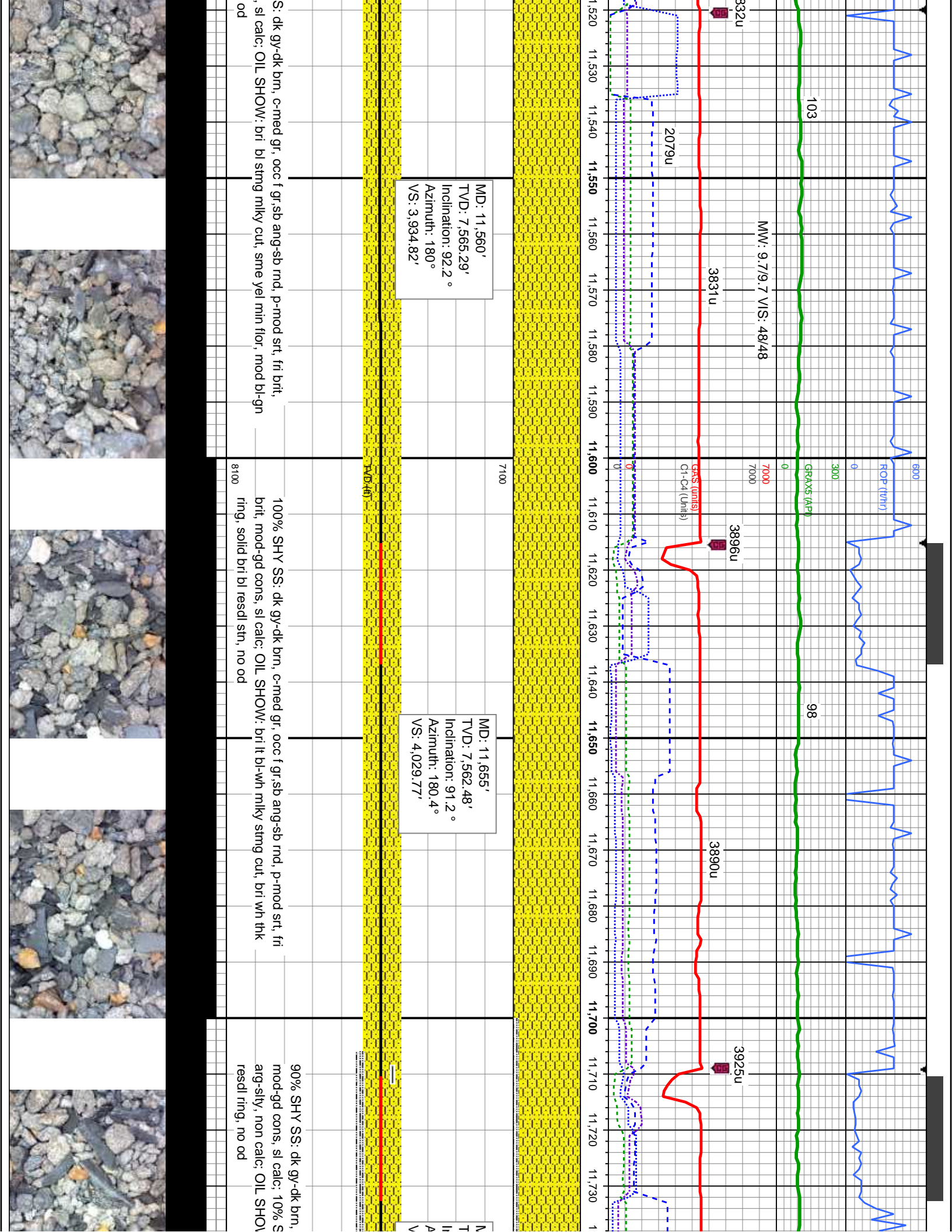
MD: 11,466'  
TVD: 7,567.67'  
Inclination: 90.7 °  
Azimuth: 179.6 °  
VS: 3,840.85'

100% SHY SS: dk gy-dk brn, c gr, occ f gr, sb ang-sb rnd, p-mod srt, fri brit, mod-gd cons, sl calc; OIL SHOW: mod bri lt bl, strng milky cut, bri wh-lt bl solid ring, sl bl-gn resdl ring, no od

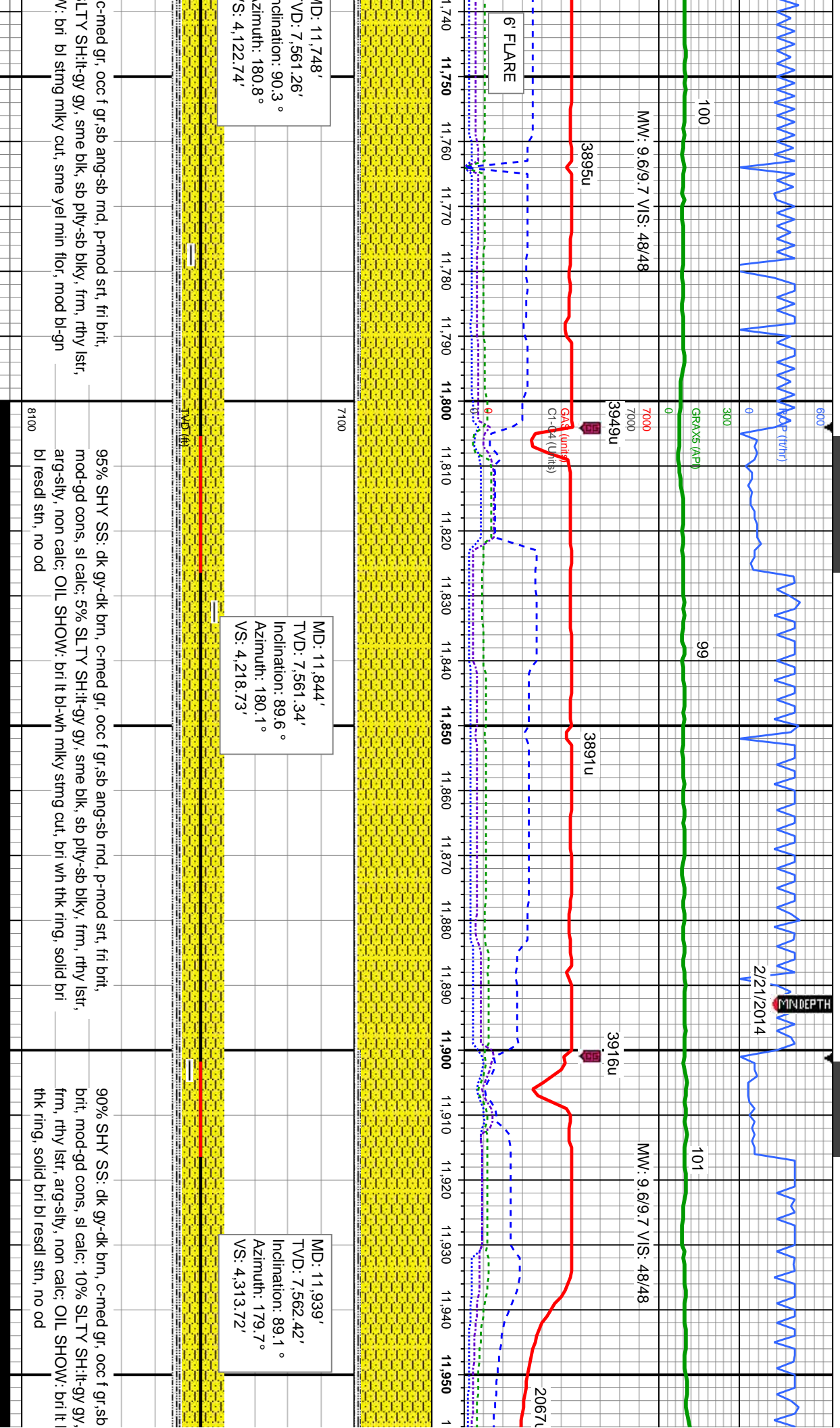
100% SHY SS: dk gy-dk brn, c gr, occ f gr, sb ang-sb rnd, p-mod srt, fri brit, mod-gd cons, sl calc; OIL SHOW: bri bl strng milky cut, sme yel min flor, mod bl-gn resdl ring, no od

100% SHY S mod-gd cons resdl ring, no

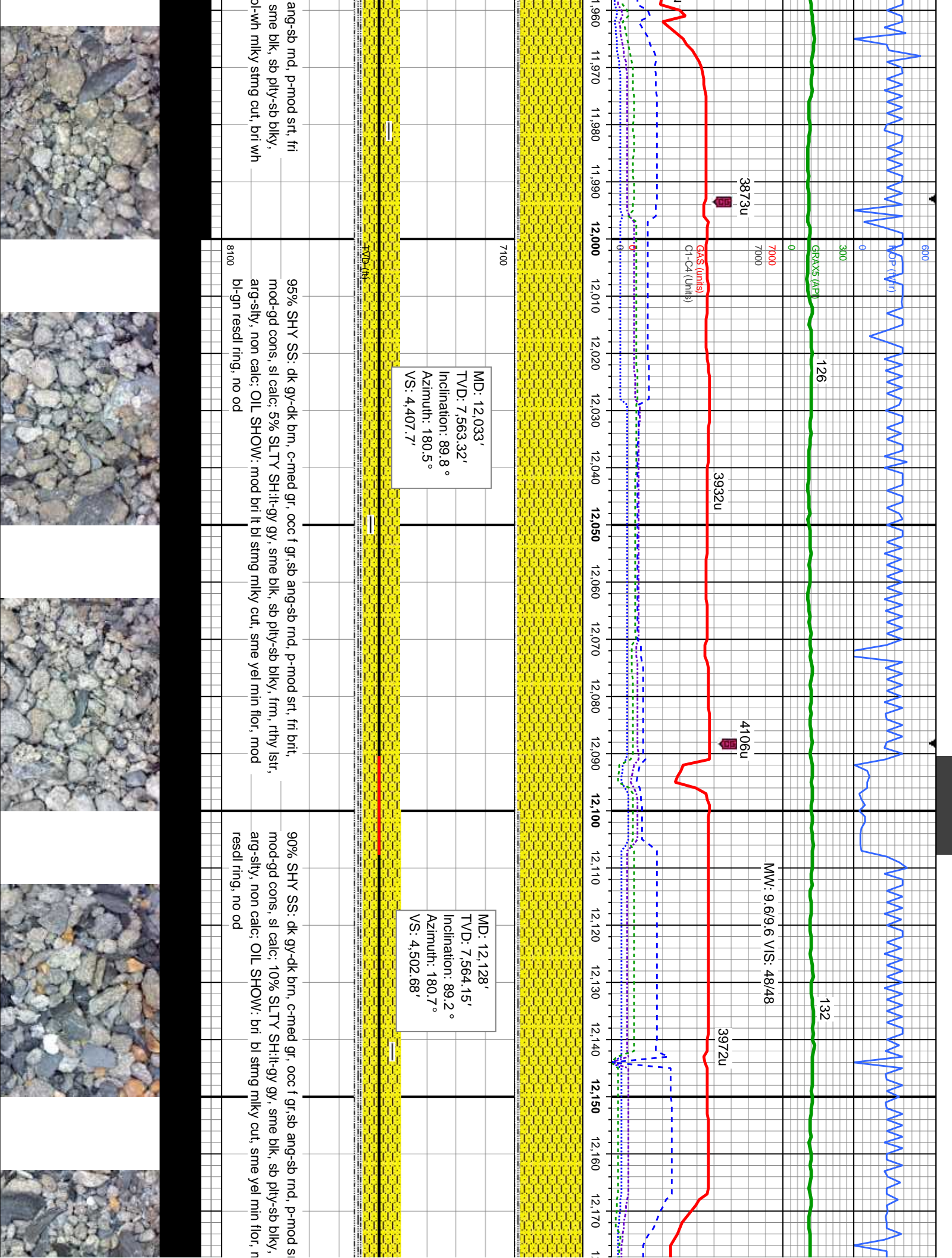




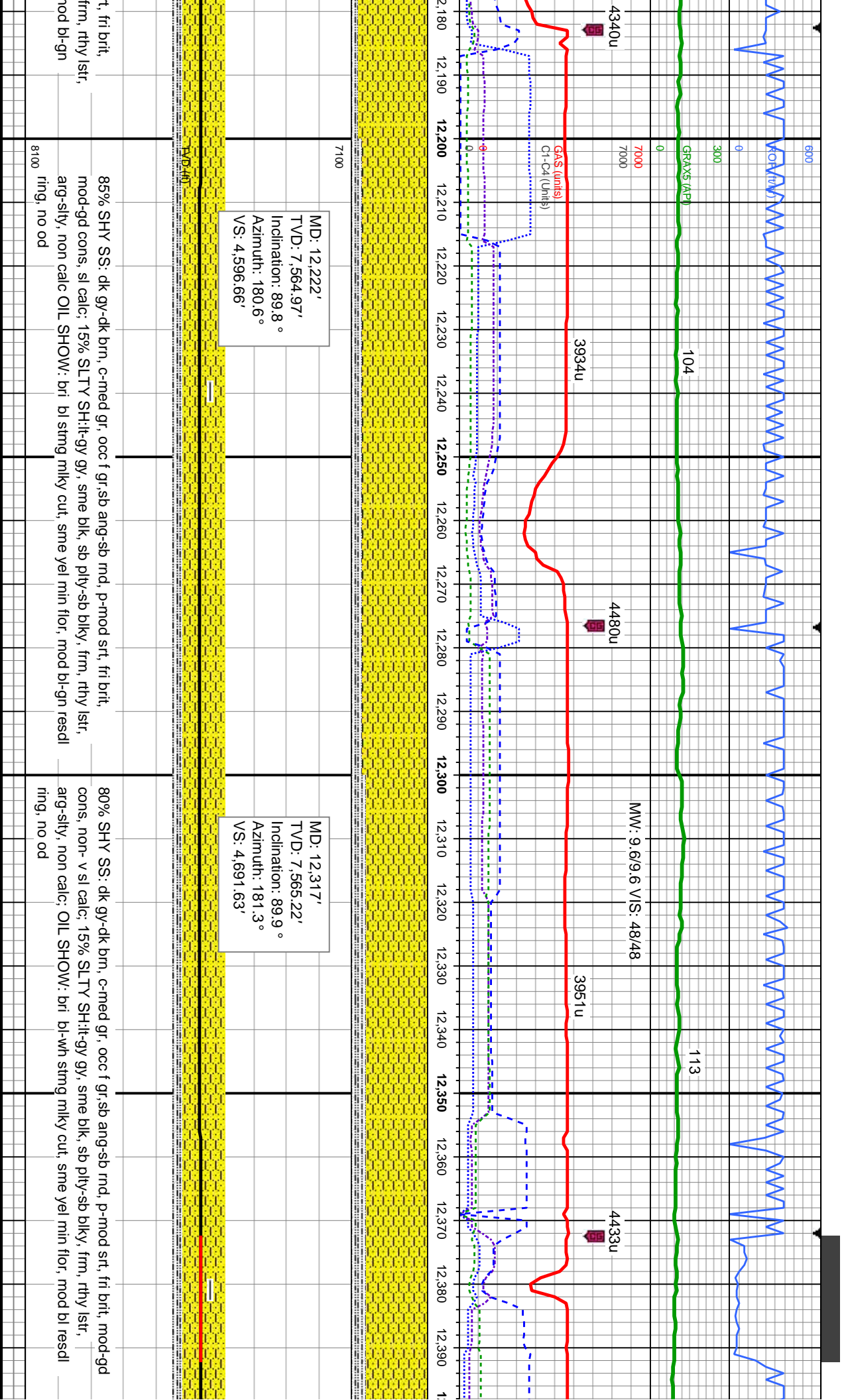








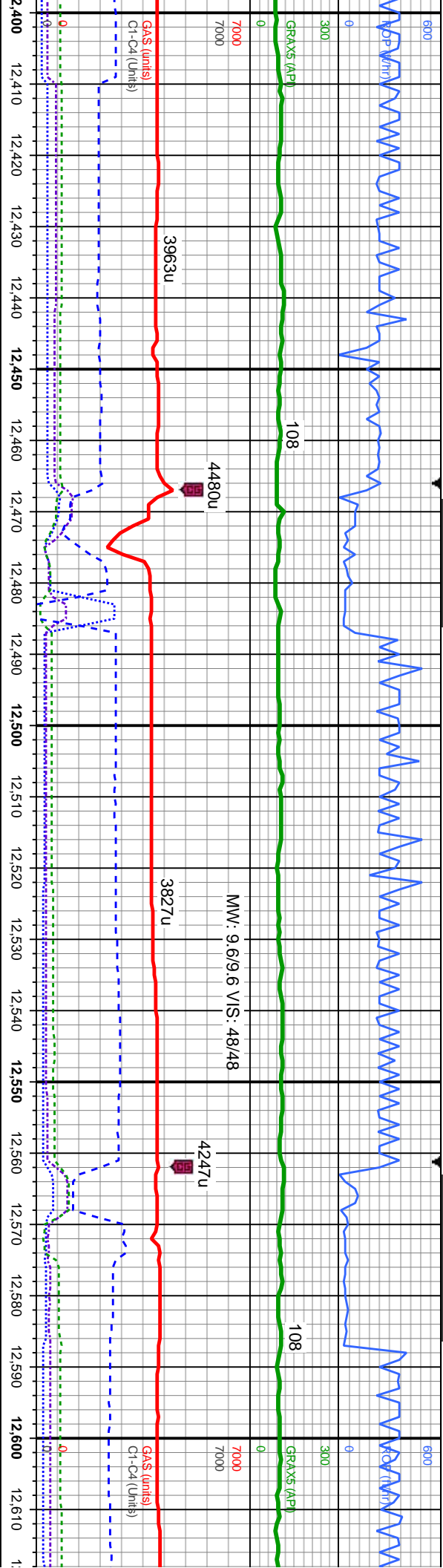




85% SHY SS: dk gy-dk brn, c-med gr, occ f gr, sb ang-sb rnd, p-mod srt, fri brit, mod-gd cons, sl calc: 15% SLTY SH:lt-gy gy, sme blk, sb pty-sb blk, frm, rthy lstr, arg-slv, non calc OIL SHOW: bri bl stmg milky cut, sme yel min flor, mod bl-gn resdl ring, no od

80% SHY SS: dk gy-dk brn, c-med gr, occ f gr, sb ang-sb rnd, p-mod srt, fri brit, mod-gd cons, non- v sl calc: 15% SLTY SH:lt-gy gy, sme blk, sb pty-sb blk, frm, rthy lstr, arg-slv, non calc: OIL SHOW: bri bl-wh stmg milky cut, sme yel min flor, mod bl resdl ring, no od





MD: 12,411'  
TVD: 7,564.32'  
Inclination: 91.2 °  
Azimuth: 180.8 °  
VS: 4,785.58'

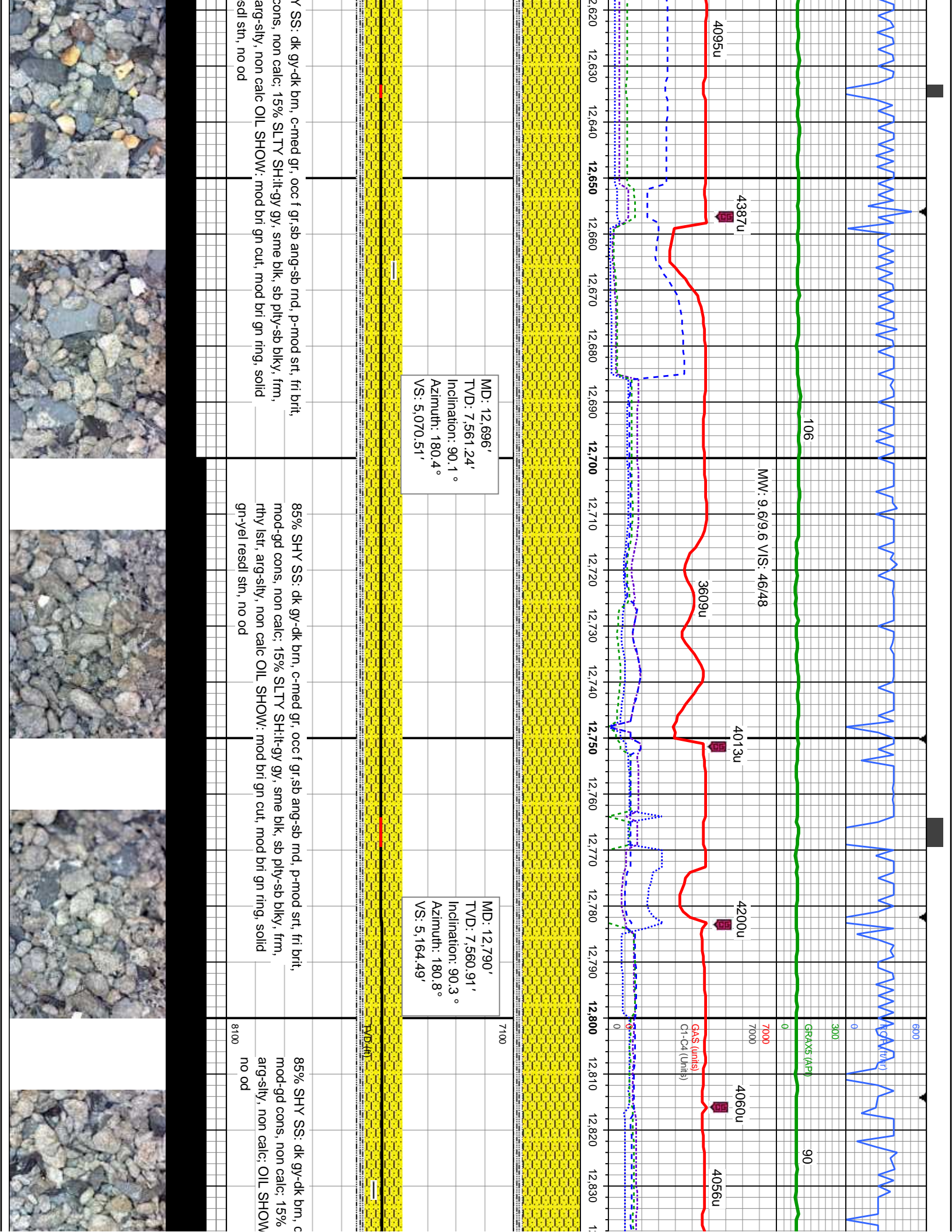
MD: 12,507'  
TVD: 7,562.31'  
Inclination: 91.2 °  
Azimuth: 180.5 °  
VS: 4,881.54'

MD: 12,601'  
TVD: 7,561.32'  
Inclination: 90 °  
Azimuth: 180.2 °  
VS: 4,975.52'

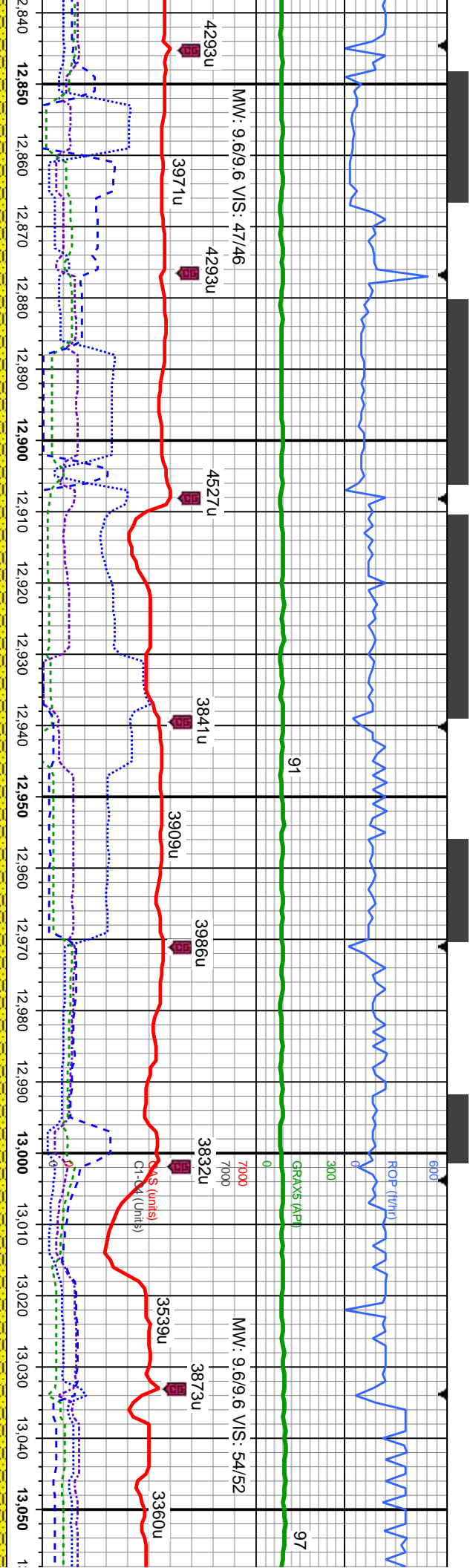
80% SHY SS: dk gy-dk brn, c-med gr, occ f gr, sb ang-sb md, p-mod srt, fri brit, mod-gd cons, non- v sl calc: 20% SLTY SH:lt-gy gy, sme blk, sb pty-sb blk, frm, rthy lstr, arg-sily, non calc: OIL SHOW: bri bl-wh strng milky cut, sme yel min flor, mod bl resdl ring, no od	80% SHY SS: dk gy-dk brn, c-med gr, occ f gr, sb ang-sb md, p-mod srt, fri brit, mod-gd cons, non- v sl calc: 20% SLTY SH:lt-gy gy, sme blk, sb pty-sb blk, frm, rthy lstr, arg-sily, non calc: OIL SHOW: bri bl-wh strng milky cut, sme yel min flor, mod bl resdl ring, no od
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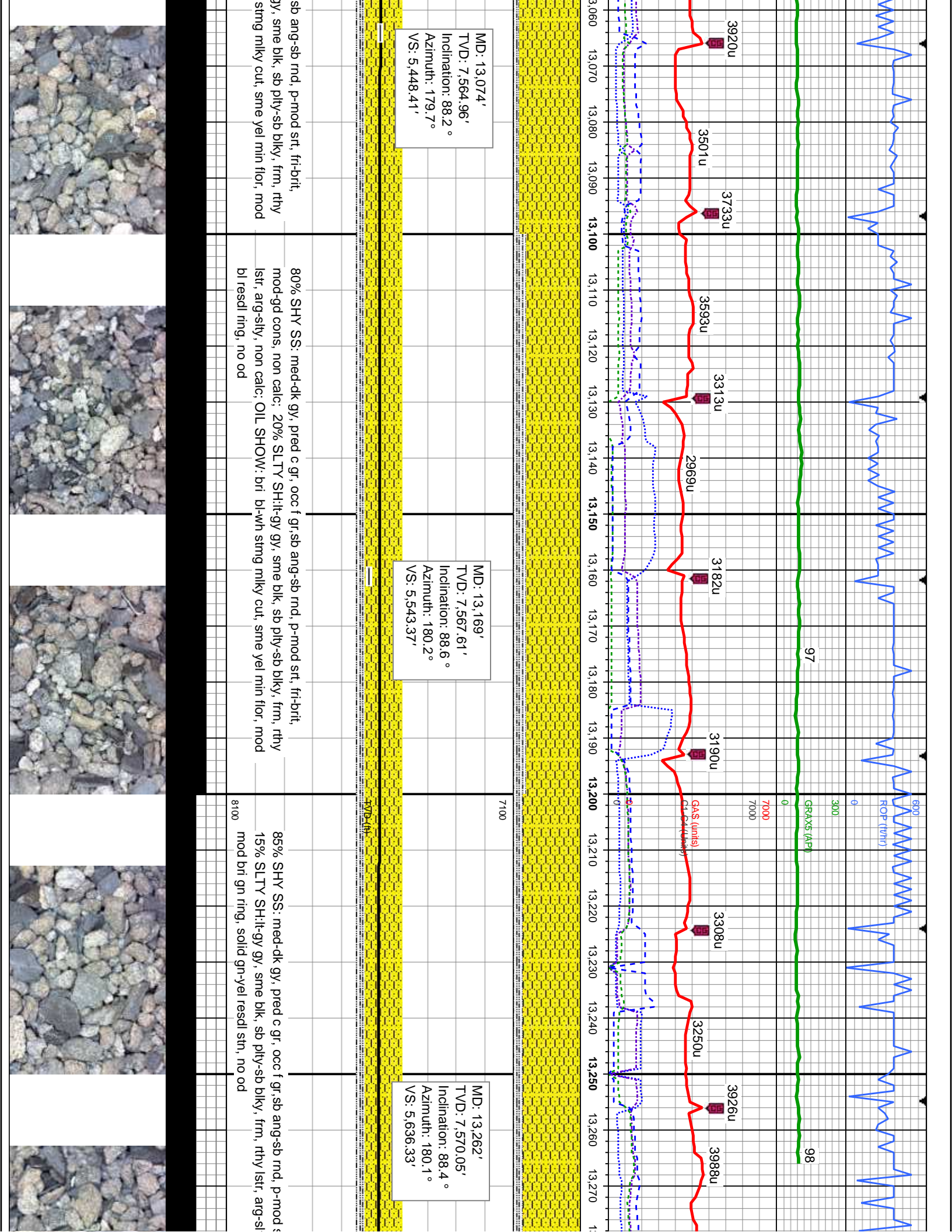
MD: 12,885'  
TVD: 7,560.66'  
Inclination: 90 °  
Azimuth: 180.4°  
VS: 5,259.48'

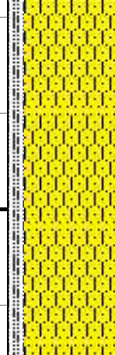
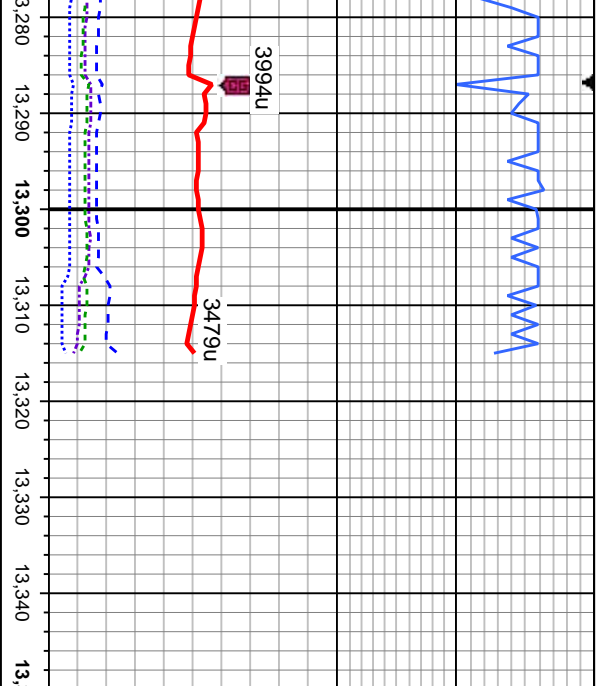
MD: 12,979'  
TVD: 7,562.06'  
Inclination: 88.3 °  
Azimuth: 179.3°  
VS: 5,353.46'

med gr, occ f gr, sb ang-sb rnd, p-mod srt, fri brit, SLTY SH:lt-gy gy, sme blk, sb pily-sb blk, frm, rthy lstr, mod bri gn cut, mod bri gn ring, solid gn-yel resdl str,	90% SHY SS: med-dk gy, pred c gr, occ f gr, sb ang-sb rnd, p-mod srt, fri-brit, mod-gd cons, non calc; 10% SLTY SH:lt-gy gy, sme blk, sb pily-sb blk, frm, rthy lstr, arg-sily, non calc OIL SHOW: bri lt bl-wh milky stmg cut, bri wh thk ring, solid bri bl resdl str, no od	90% SHY SS: med-dk gy, pred c gr, occ f gr, mod-gd cons, non calc; 10% SLTY SH:lt-gy lstr, arg-sily, non calc; OIL SHOW: bri bl-wh bl resdl ring, no od
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MD: 13,315'  
TVD: 7,570.05'  
Inclination: 88.4°  
Azimuth: 180.1°  
VS: 5,639.23'

TD @ 13315' MD  
@ 13:46 HRS MST  
on 2/21/14

Thank you for using  
Columbine Logging, Inc.

srt, fri-brit, mod-gd cons, non calc;  
ly, non calc; OIL SHOW: mod bri gn cut,

