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**Houston, TX**  
(281) 784-5500  
**Bakersfield, CA**  
(661) 328-1595  
**New Iberia, LA**  
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## MUDLOG TVD

<b>COMPANY</b>	EXXONMOBIL
<b>WELL</b>	PCU 296-5A9
<b>FIELD</b>	PICEANCE CREEK
<b>REGION</b>	ROCKIES
<b>COORDINATES</b>	LAT: 39.911922 LONG:-108.198686
<b>ELEVATION</b>	G.L.: 7294.1' RKB: 30.2
<b>COUNTY, STATE</b>	RIO BLANCO, CO
<b>API INDEX</b>	051031124100
<b>SPUD DATE</b>	12/05/2009
<b>CONTRACTOR</b>	HELMERICH_PAYNE
<b>CO. REP.</b>	C. CURTIS
<b>RIG/TYPE</b>	FLEX 4S / HP 321
<b>LOGGING UNIT</b>	ML031
<b>GEOLOGISTS</b>	B. SMELSER, M. GROSS C. RECORD
<b>ADD. PERSONS</b>	
<b>CO. GEOLOGIST</b>	C. ALBA

### LOG INTERVAL

### CASING DATA

**DEPTHS:** 4779' **TO** 13772'

**DATES:** 01/27/2011 **TO** 04/15/2011

**SCALE:** 5" = 100'

16" **AT** 150'

10.75" **AT** 4764'

7.00" **AT** 10032'

**AT**

### MUD TYPES

### HOLE SIZE

SPUD MUD **TO** 4779'

LSND **TO** 13772'

**TO**

**TO**

14.75" **TO** 4779'

9.875" **TO** 10051'

6.125" **TO** 13772'

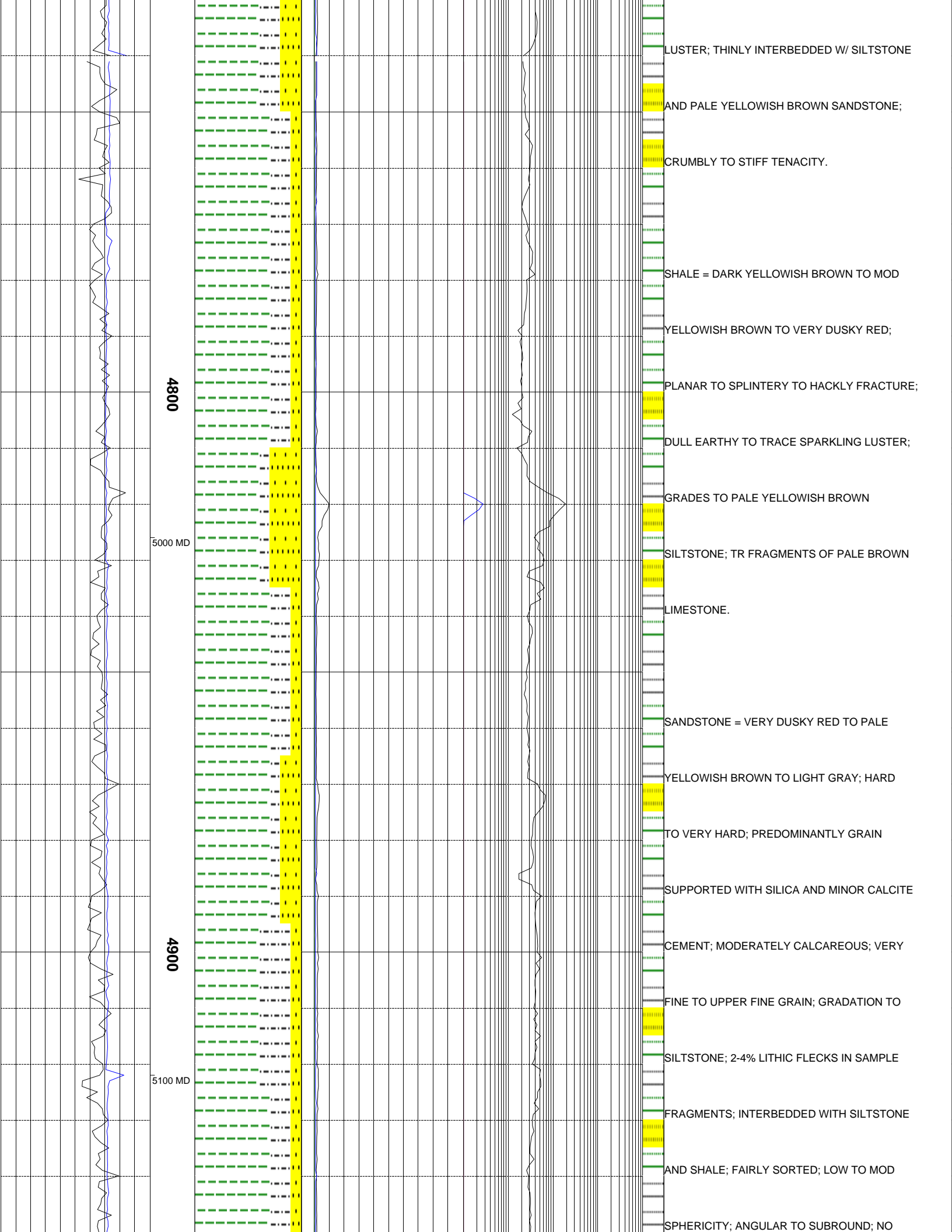
**TO**

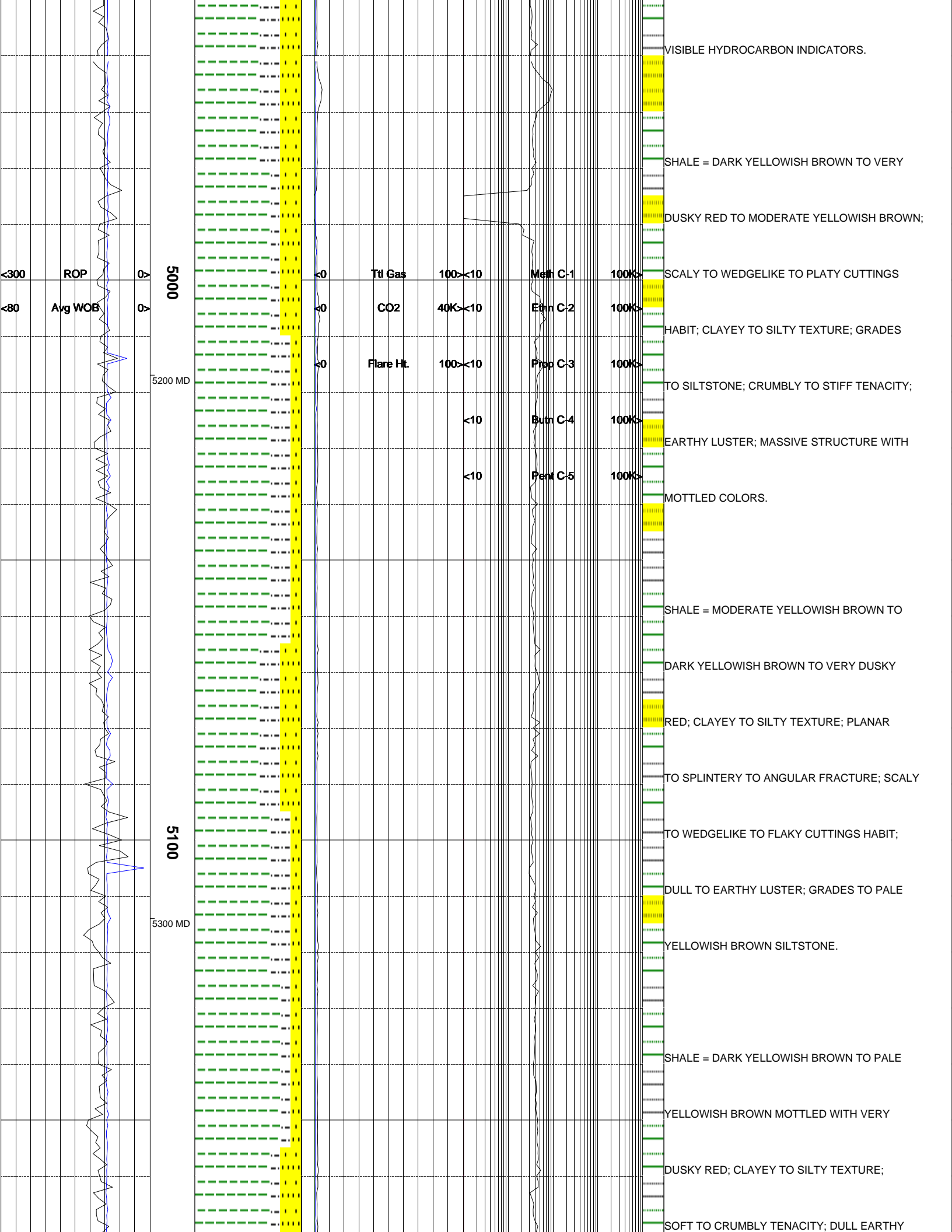
### ABBREVIATIONS

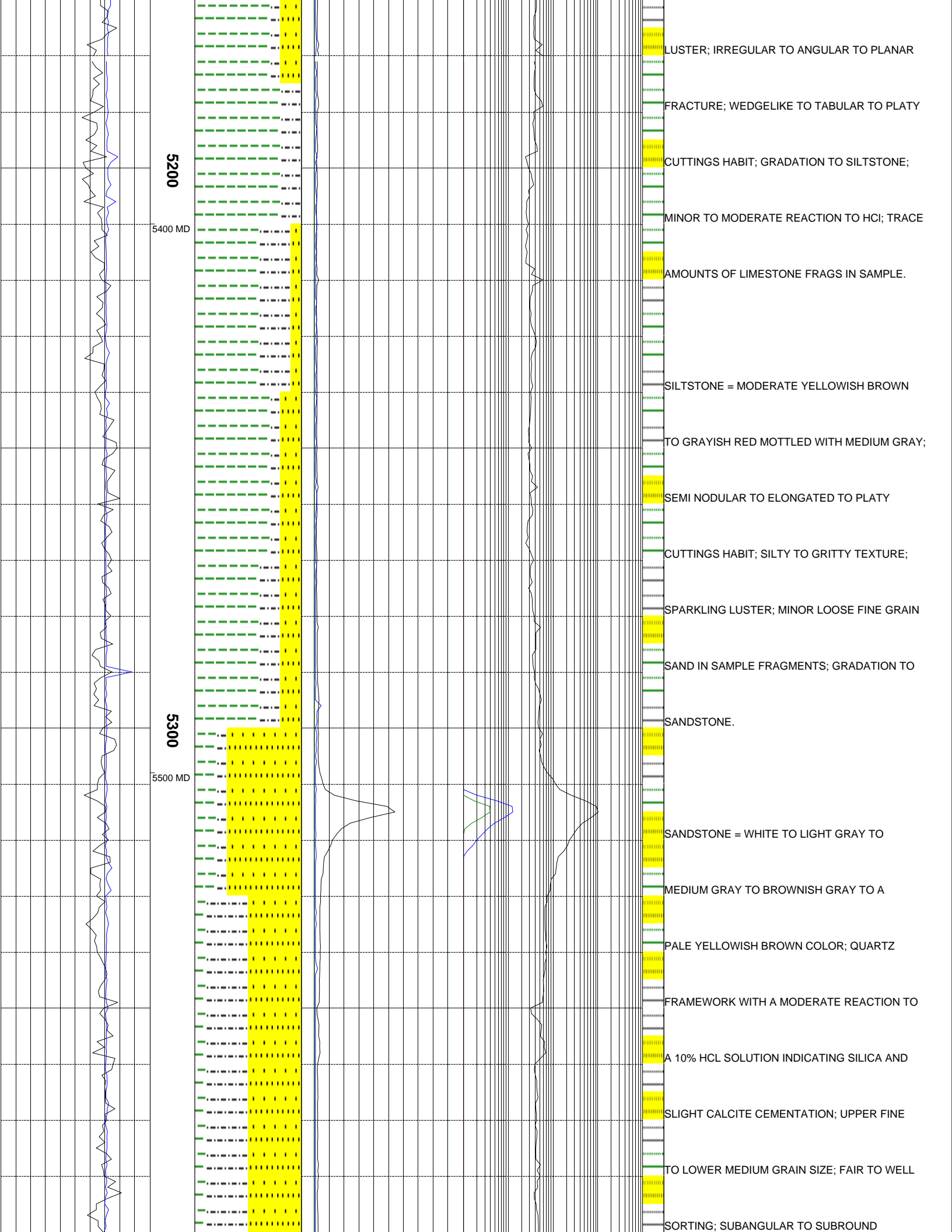
<i>NB</i> NEWBIT	<i>PV</i> PLASTIC VISCOSITY	<i>LC</i> LOST CIRCULATION
<i>RRB</i> RERUN BIT	<i>YP</i> YIELD POINT	<i>CO</i> CIRCULATE OUT
<i>CB</i> CORE BIT	<i>FL</i> FLUID LOSS	<i>NR</i> NO RETURNS
<i>WOB</i> WEIGHT ON BIT	<i>CL</i> PPM CLORIDE ION	<i>TG</i> TRIP GAS
<i>RPM</i> ROTARY REV/MIN	<i>Rm</i> MUD RESISTIVITY	<i>SG</i> SURVEY GAS
<i>PP</i> PUMP PRESSURE	<i>Rmf</i> FILTRATE RESISTIVITY	<i>WG</i> WIPER GAS
<i>SPM</i> STROKES/MIN	<i>PR</i> POOR RETURNS	<i>CG</i> CONNECTION GAS
<i>MW</i> MUD WEIGHT	<i>LAT</i> LOGGED AFTER TRIP	
<i>VIS</i> FUNNEL VISCOSITY	<i>LAS</i> LOGGED AFTER SURVEY	

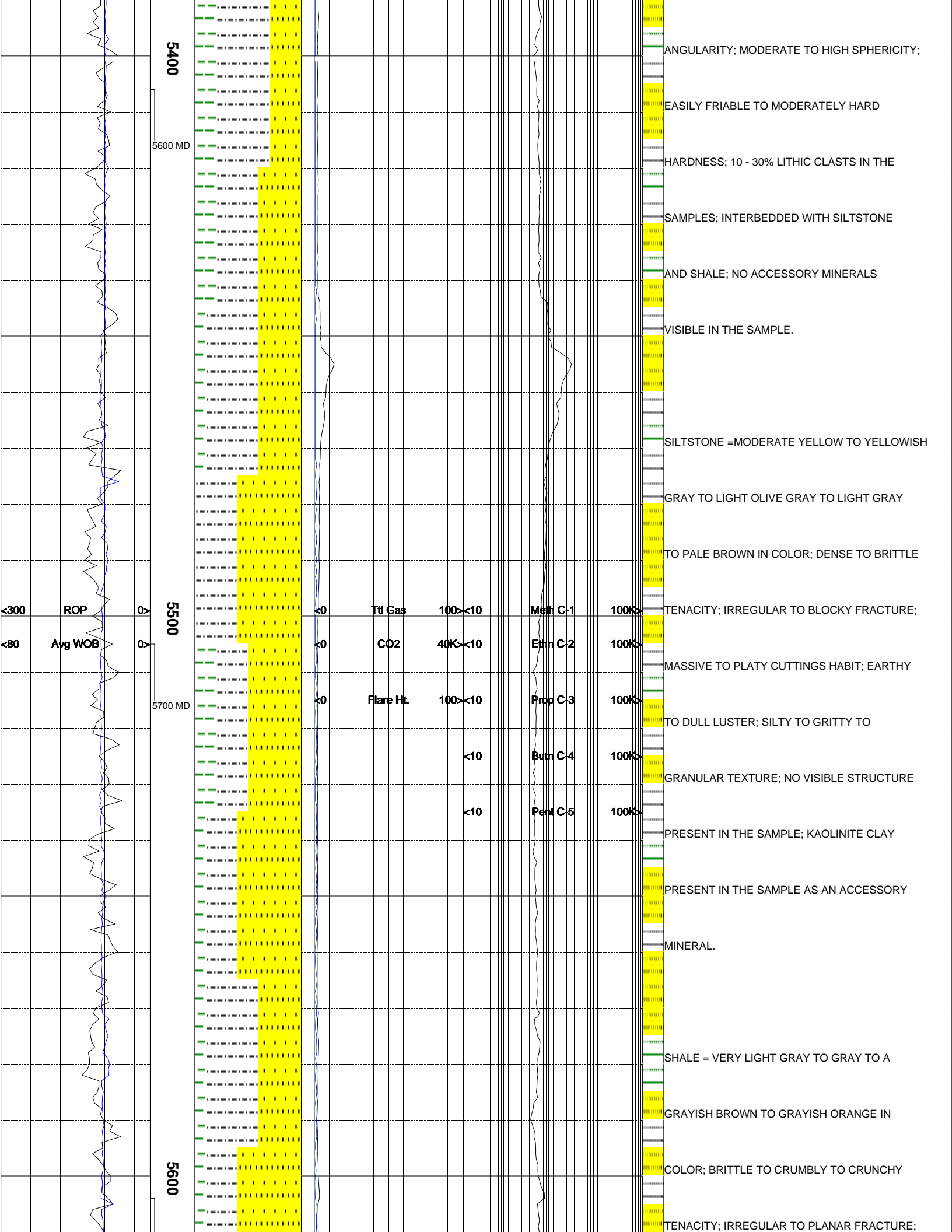


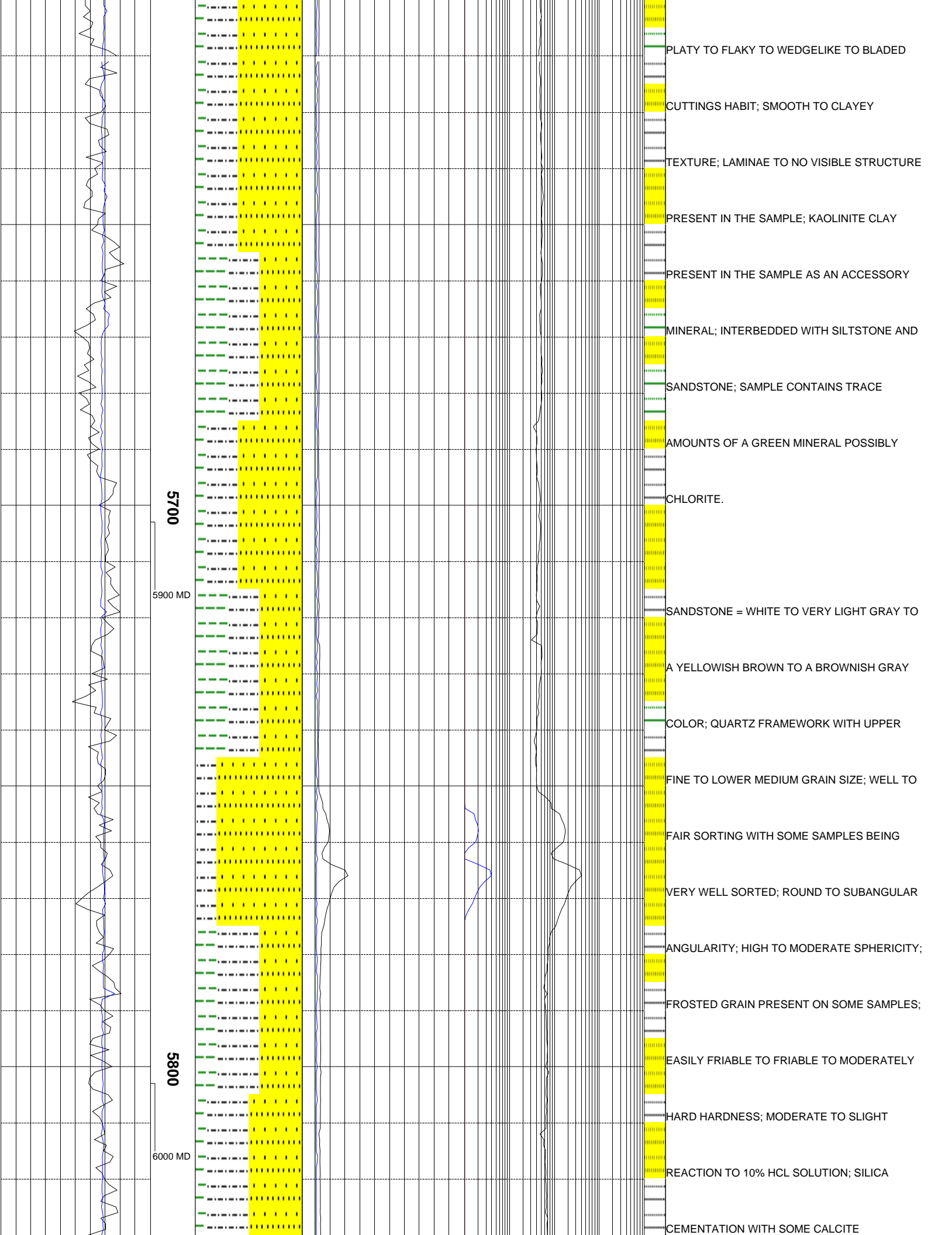
			TVD Depth	Lithology	MGS				Interp. Lith			Remarks
<100	ROP	0>				<0	Ttl Gas units	1K>	<10	Meth C-1 ppm	100K>	Survey Data, Mud Reports, Other Info.
ft/hr						<0	CO2 ppm	40K>	<10	Ethn C-2	100K>	
<80	Avg WOB	0>				<0	Flare Ht. ft	100>	<10	Prop C-3	100K>	
klbs						<0			<10	Butn C-4	100K>	
						<0			<10	Pent C-5	100K>	
						<0			<10			
EPOCH WELL SERVICES COMMENCED LOGGING												
THE PCU 296-5A 09 WELL ON 1/27/2011												
@ 4779' MD.												
SHALE = DARK YELLOWISH BROWN TO GRAYISH												
BROWN TO MODERATE YELLOWISH BROWN;												
PLATY TO FLAKY CUTTINGS HABIT; PLANAR TO												
SPLINTERY FRACTURE; EARTHY LUSTER;												
MINOR AMOUNTS OF CLAY WASHED OUT DURING												
CLEANING; THINLY INTERBEDDED WITH												
SILTSTONE.												
SHALE = DARK YELLOWISH BROWN TO VERY												
DUSKY RED TO MEDIUM GRAY; PLATY TO SCALY												
TO TABULAR CUTTINGS HABIT; CLAYEY TO												
SLIGHTLY SILTY TEXTURE; DULL TO EARTHY												

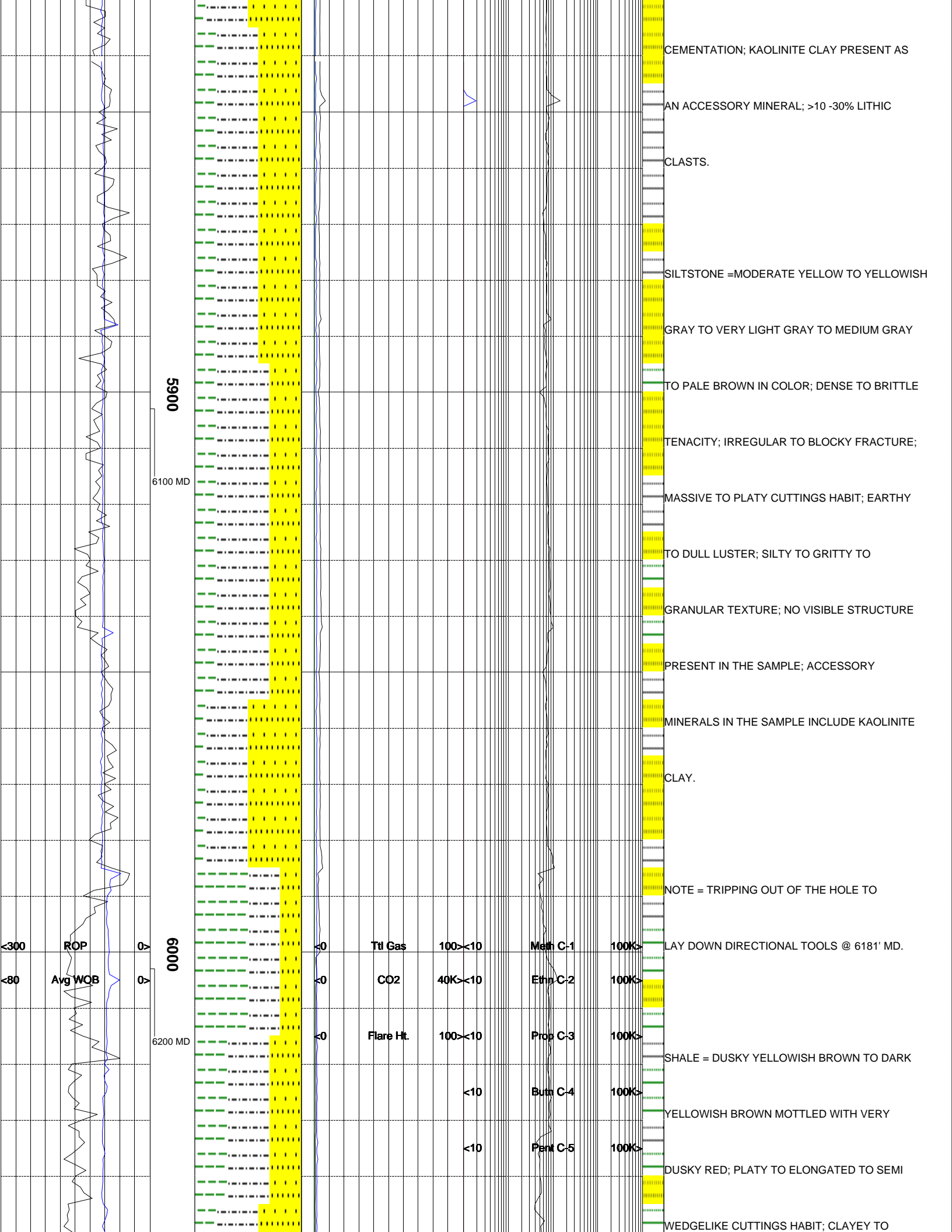


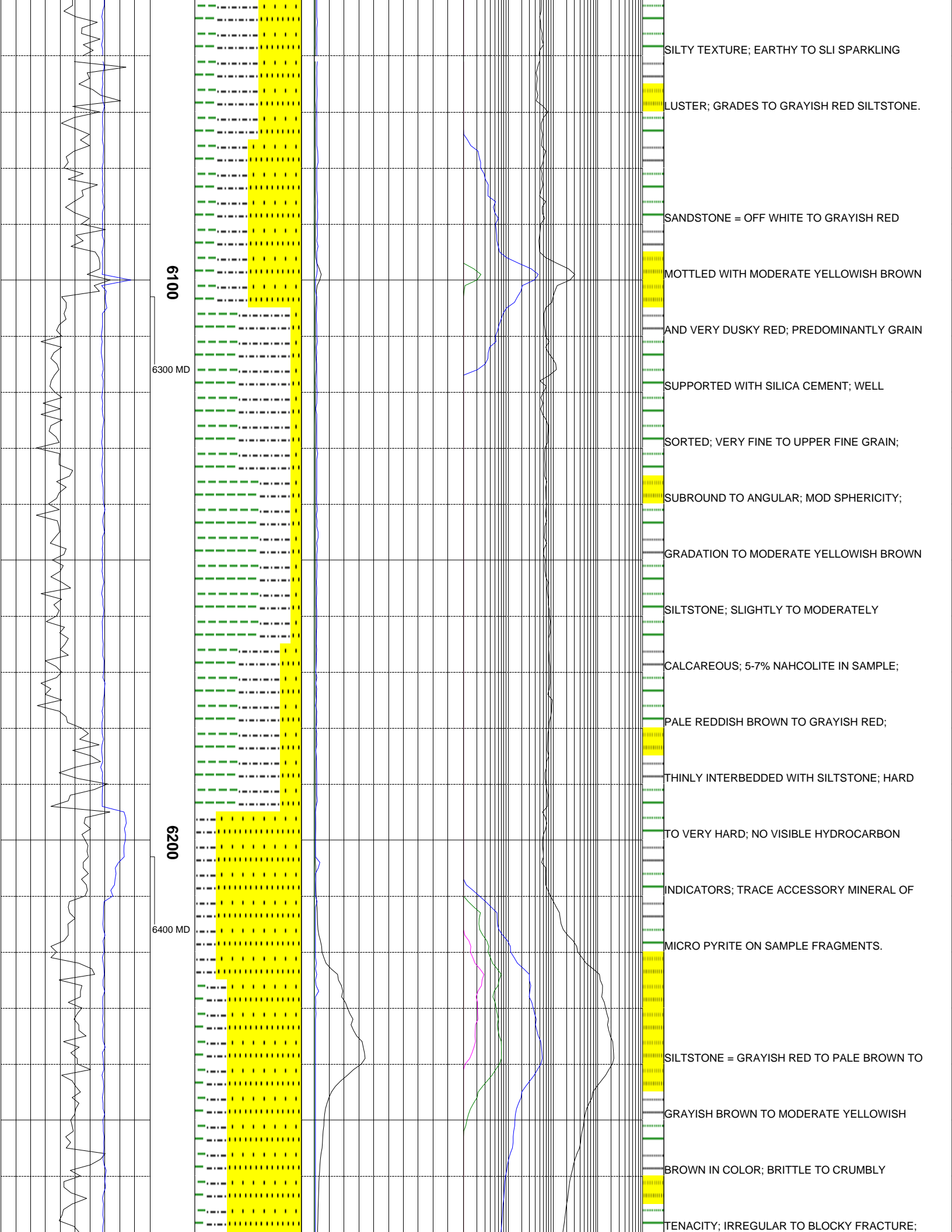


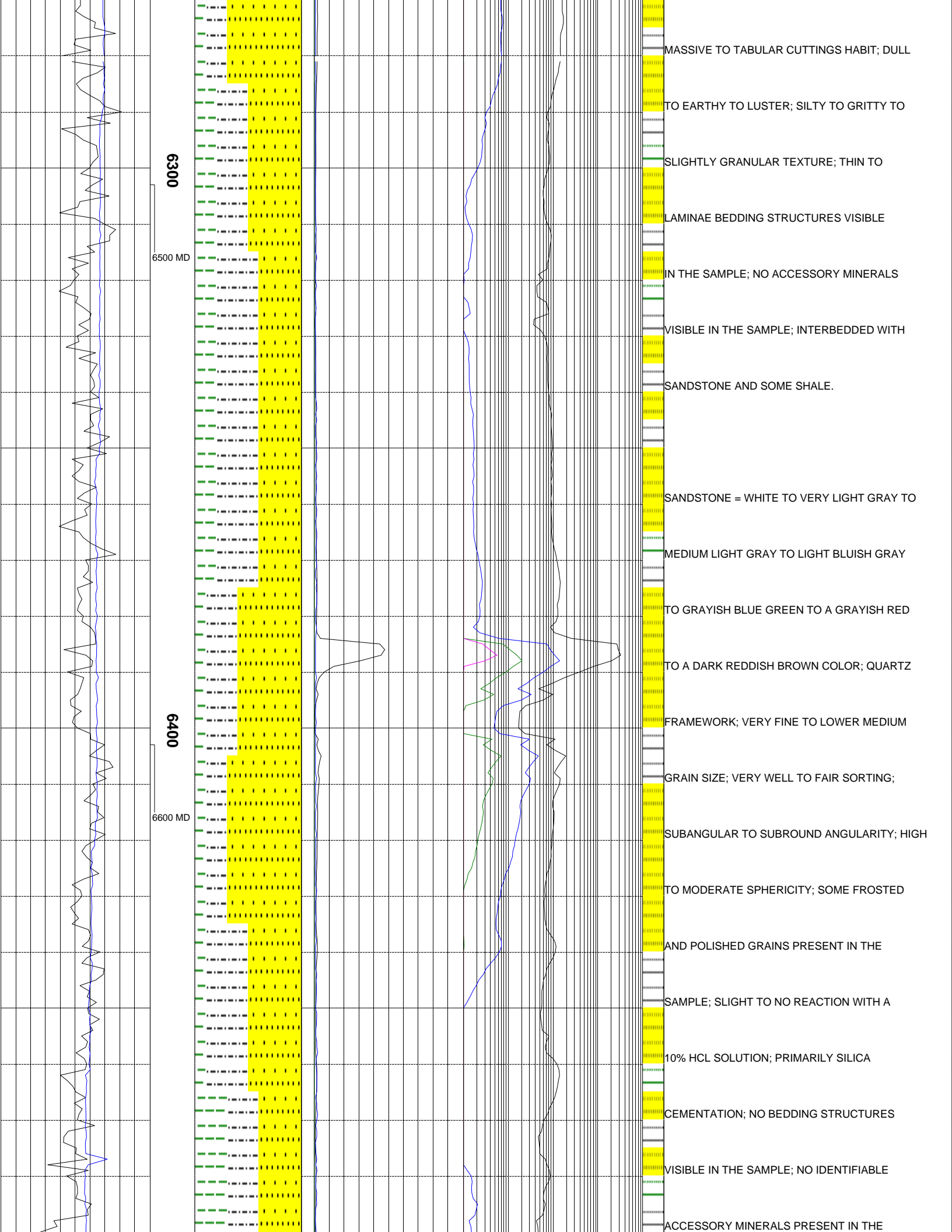


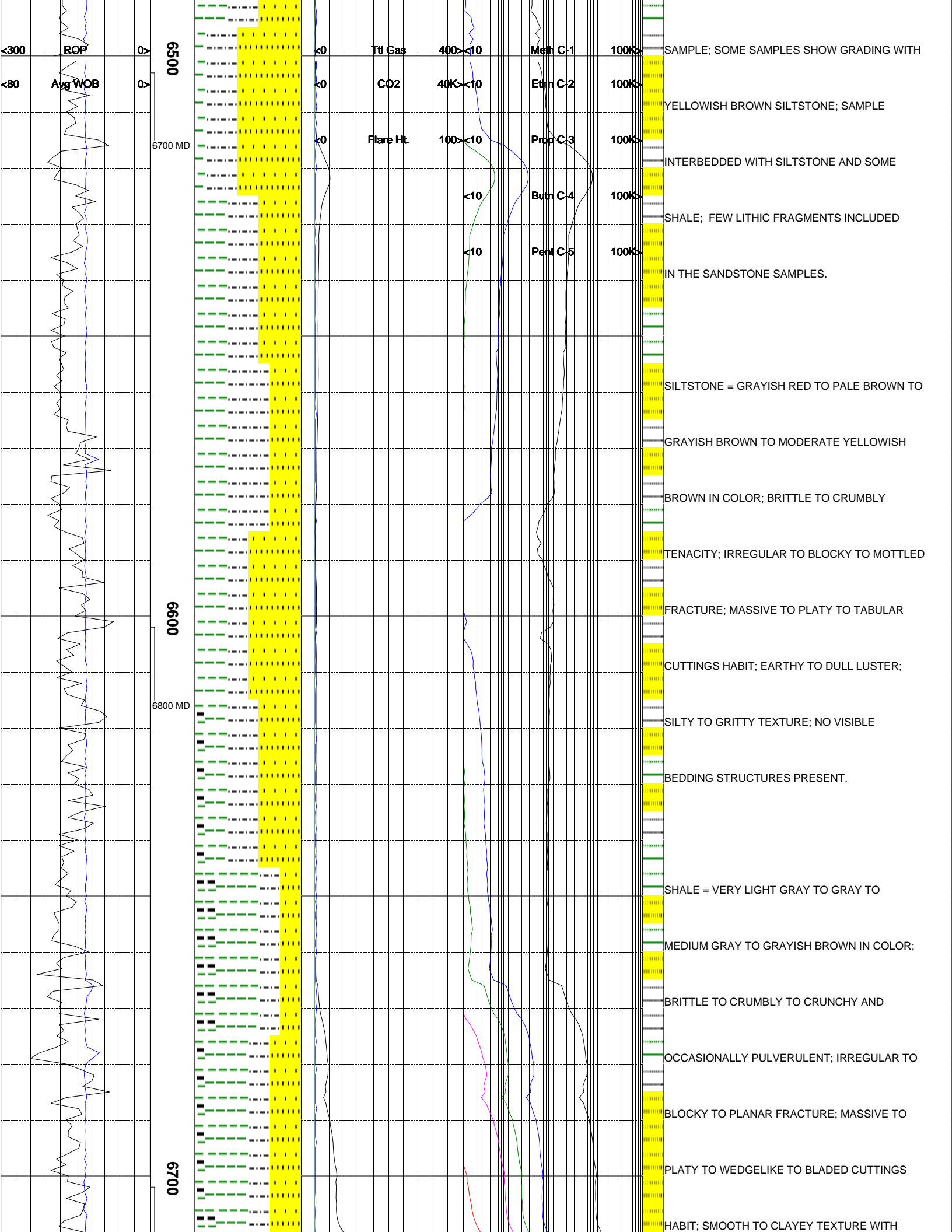


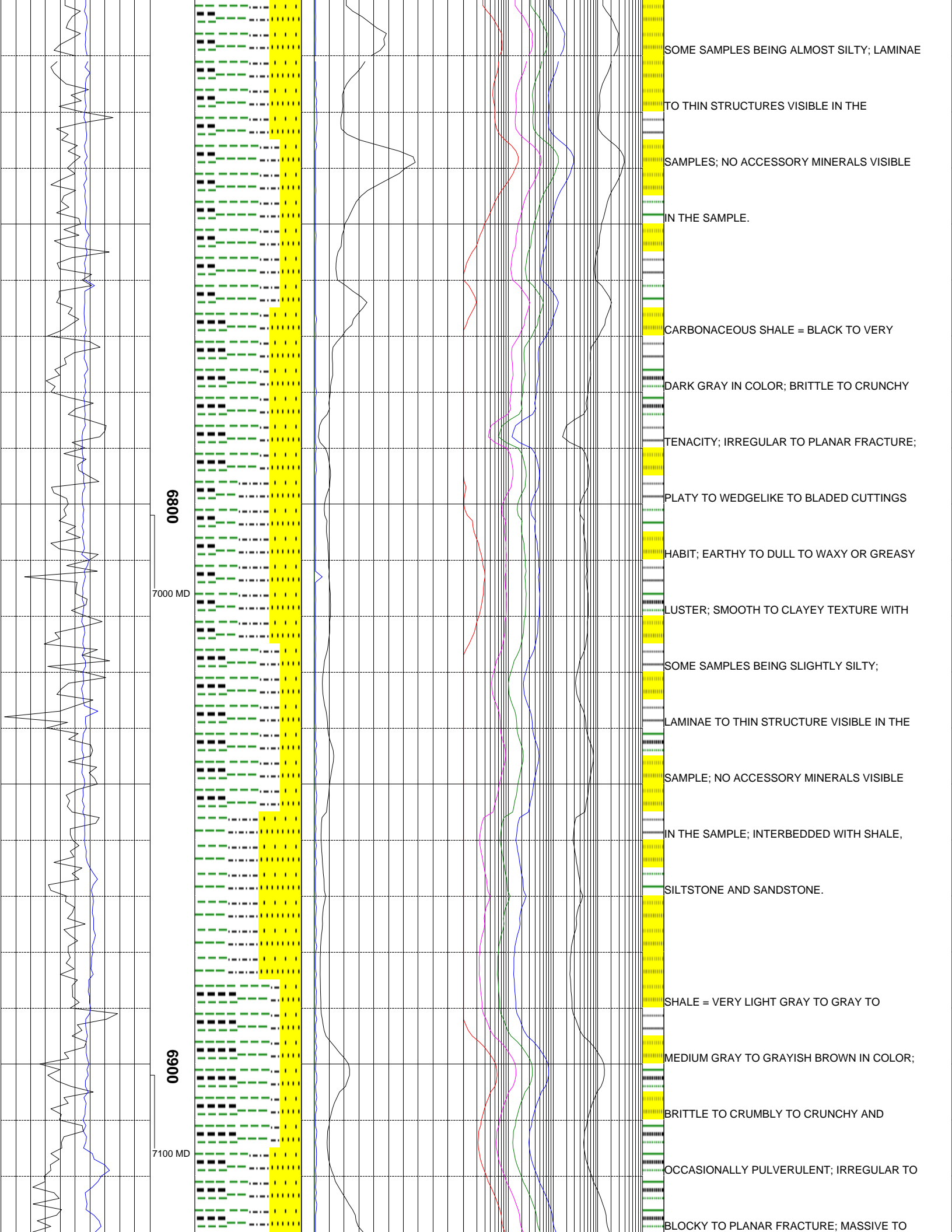


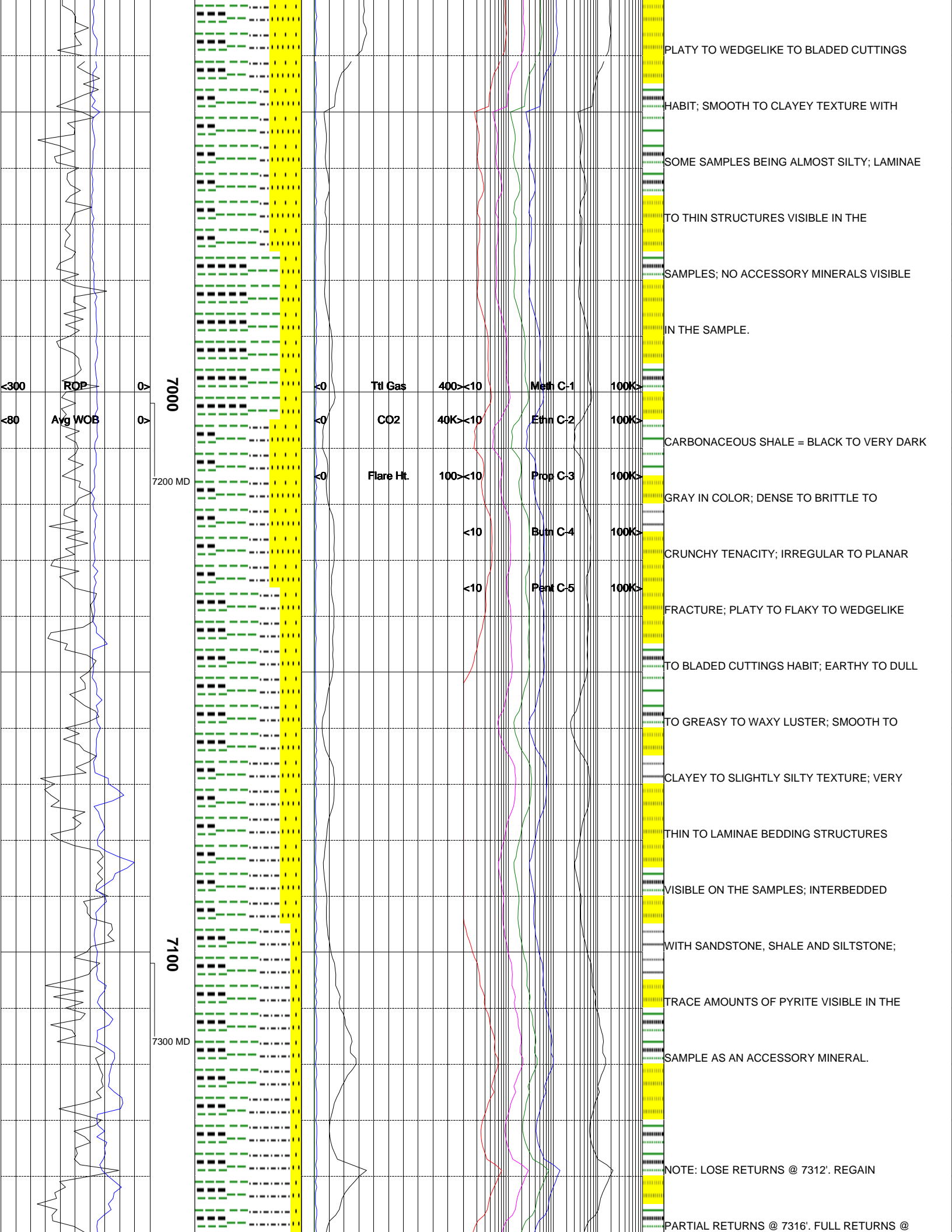


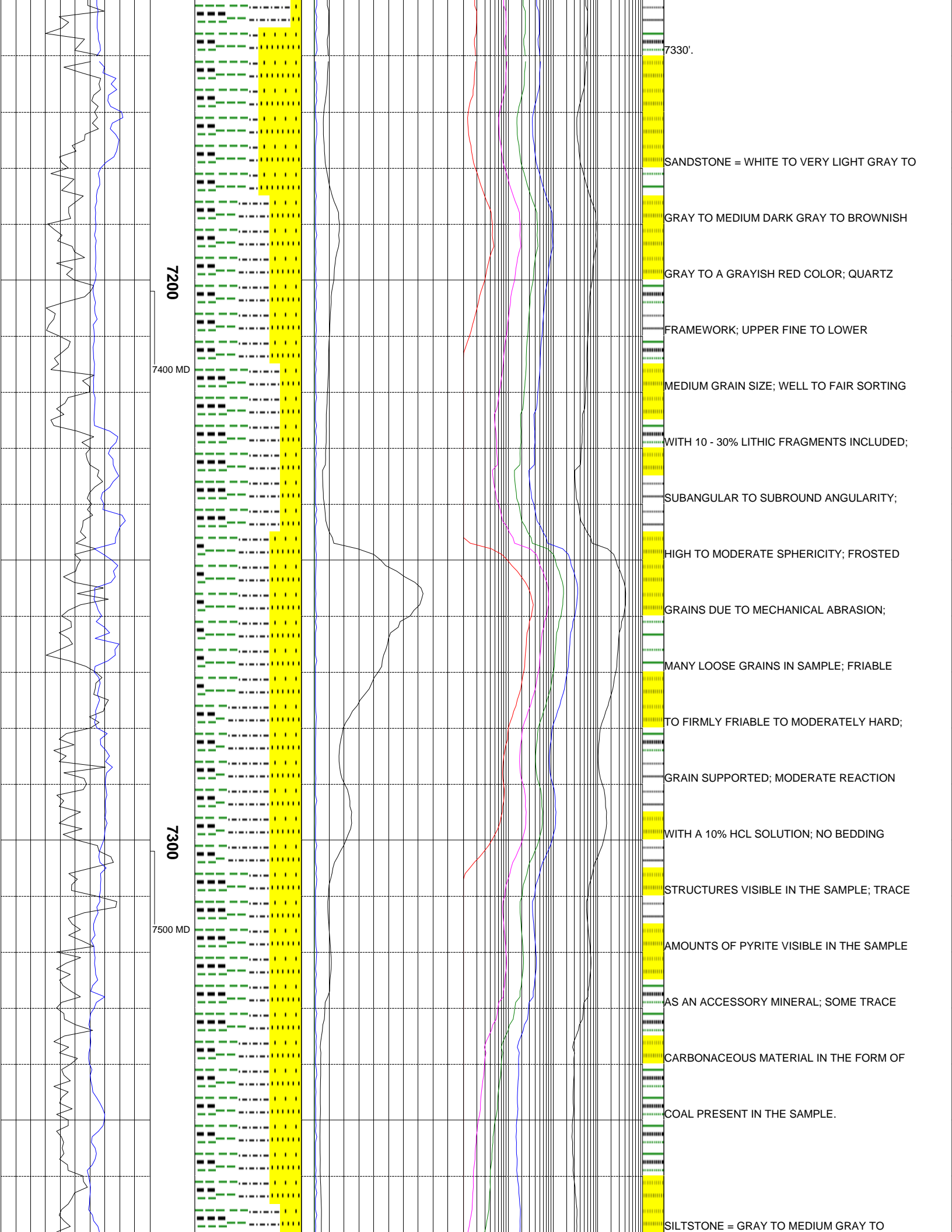


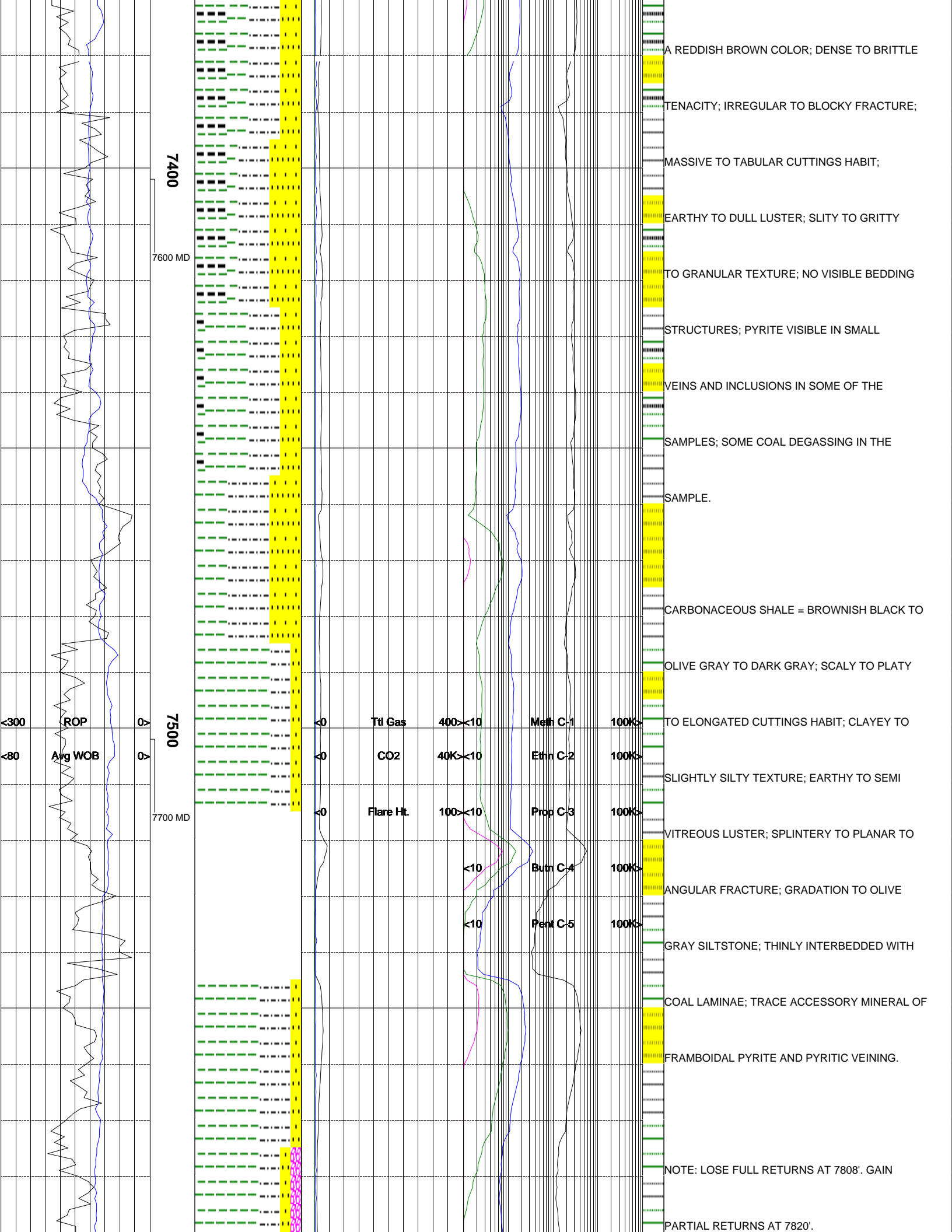


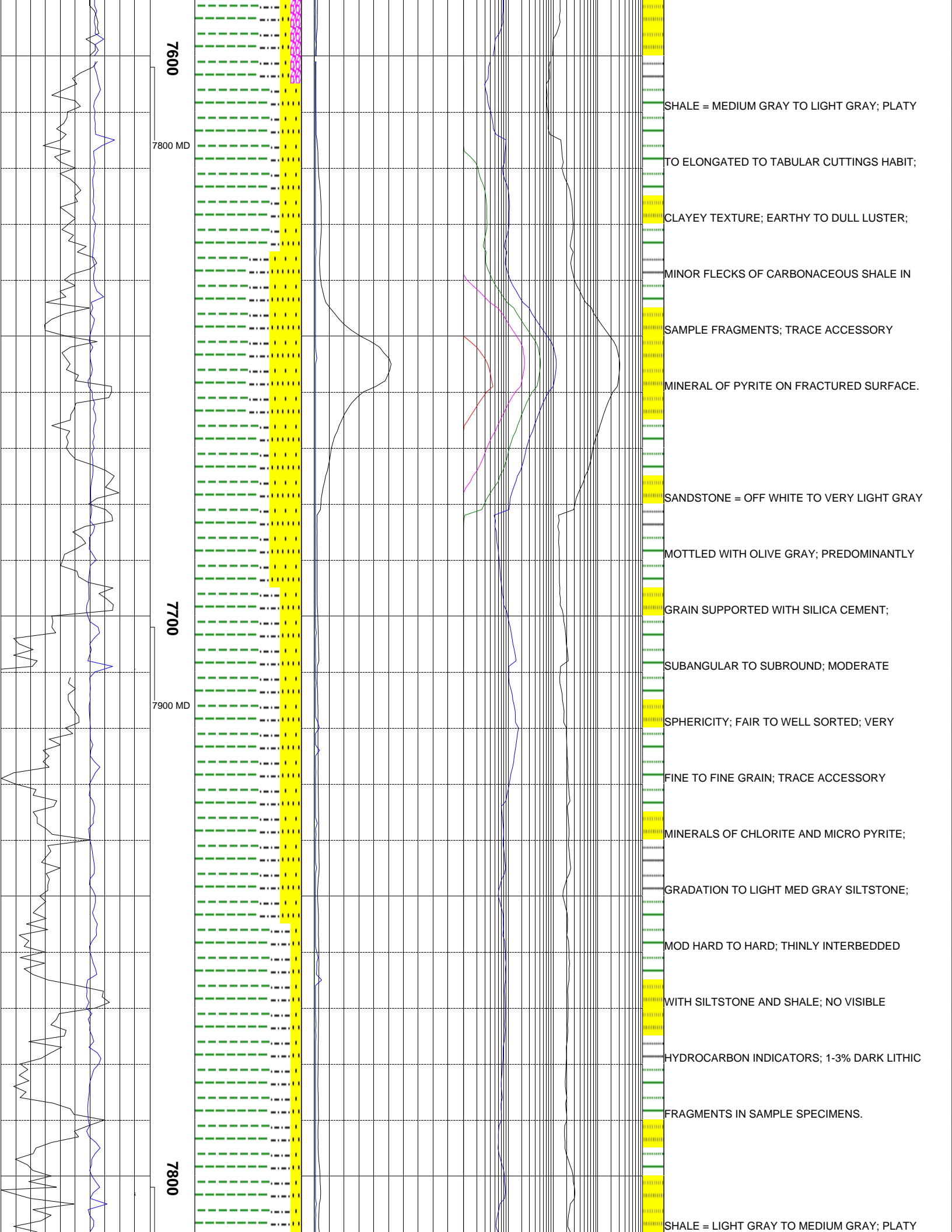


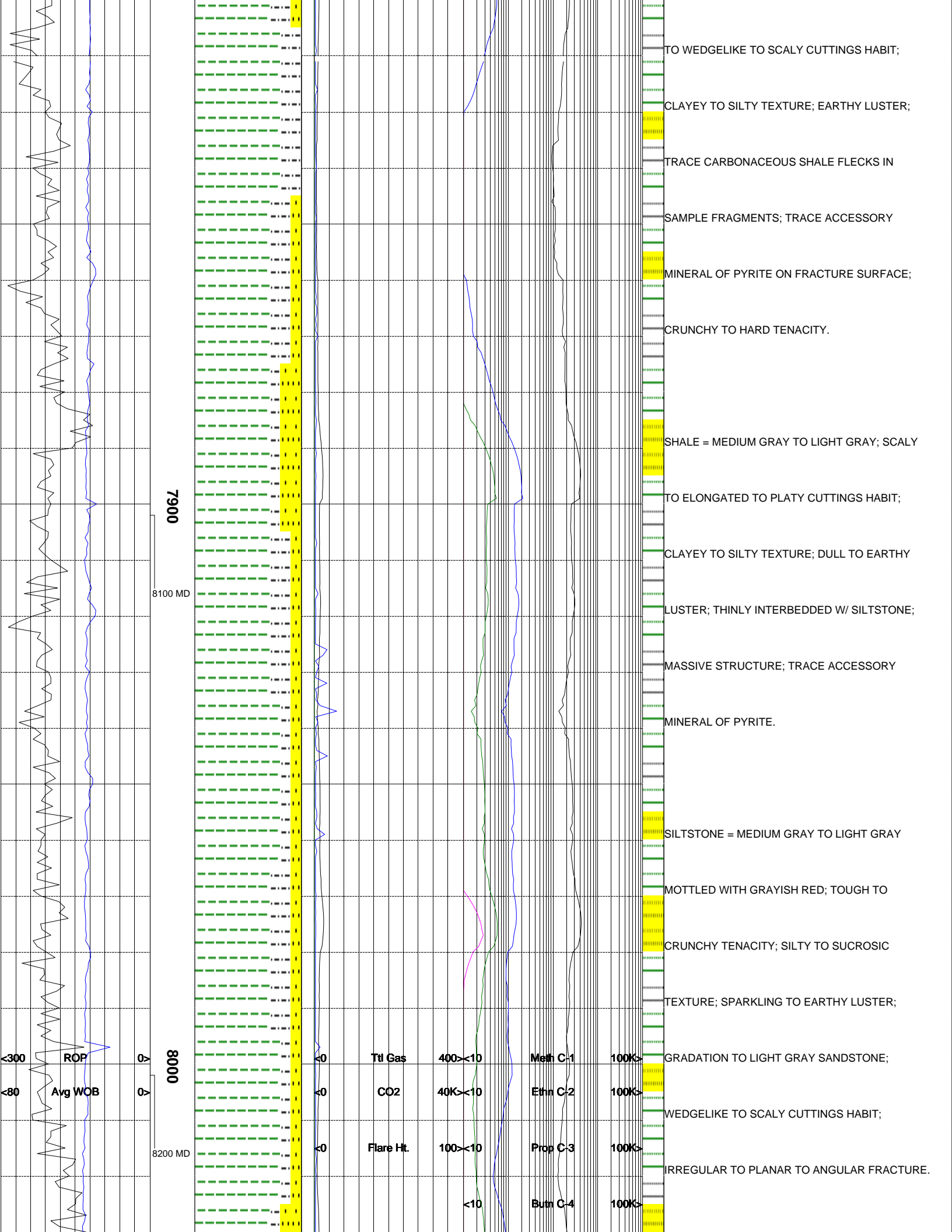


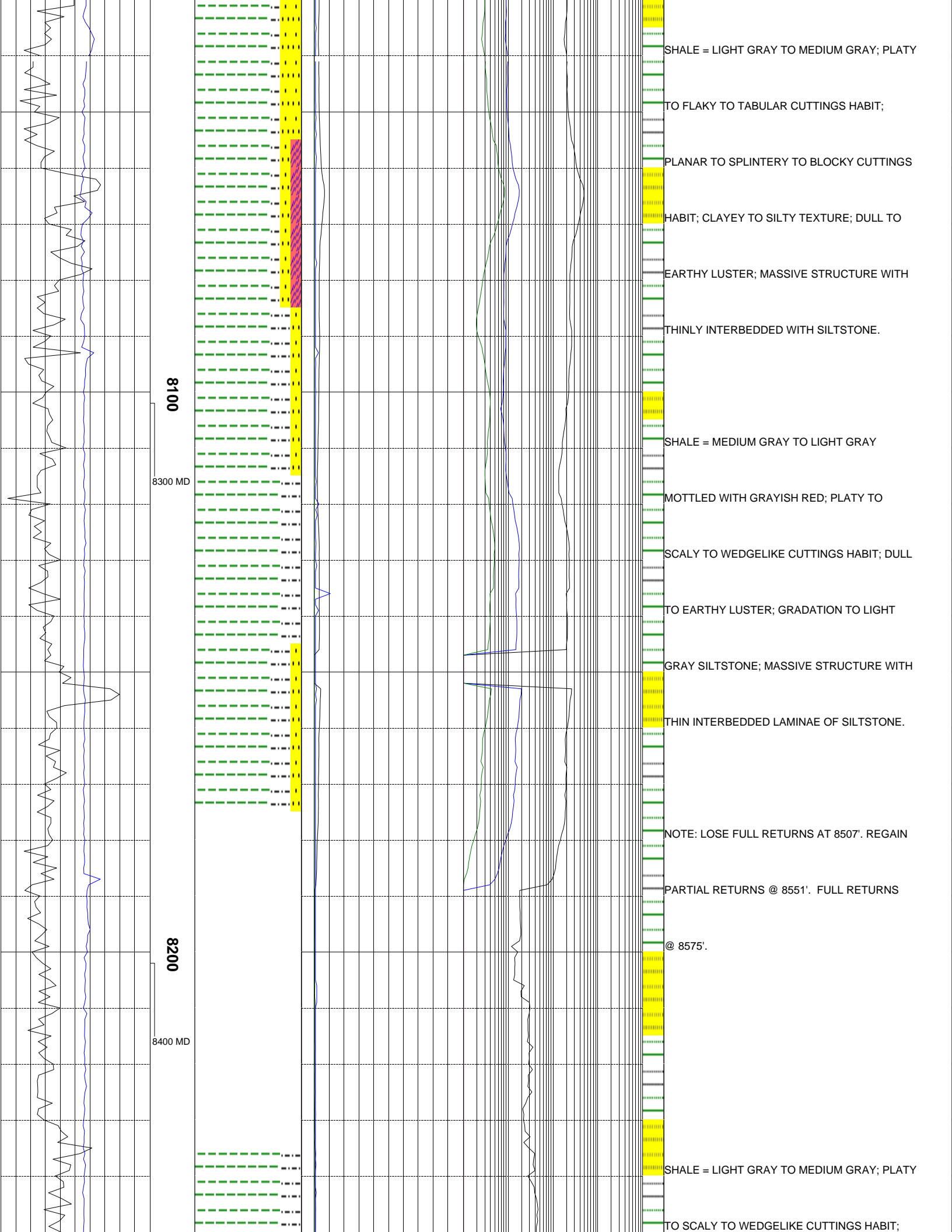


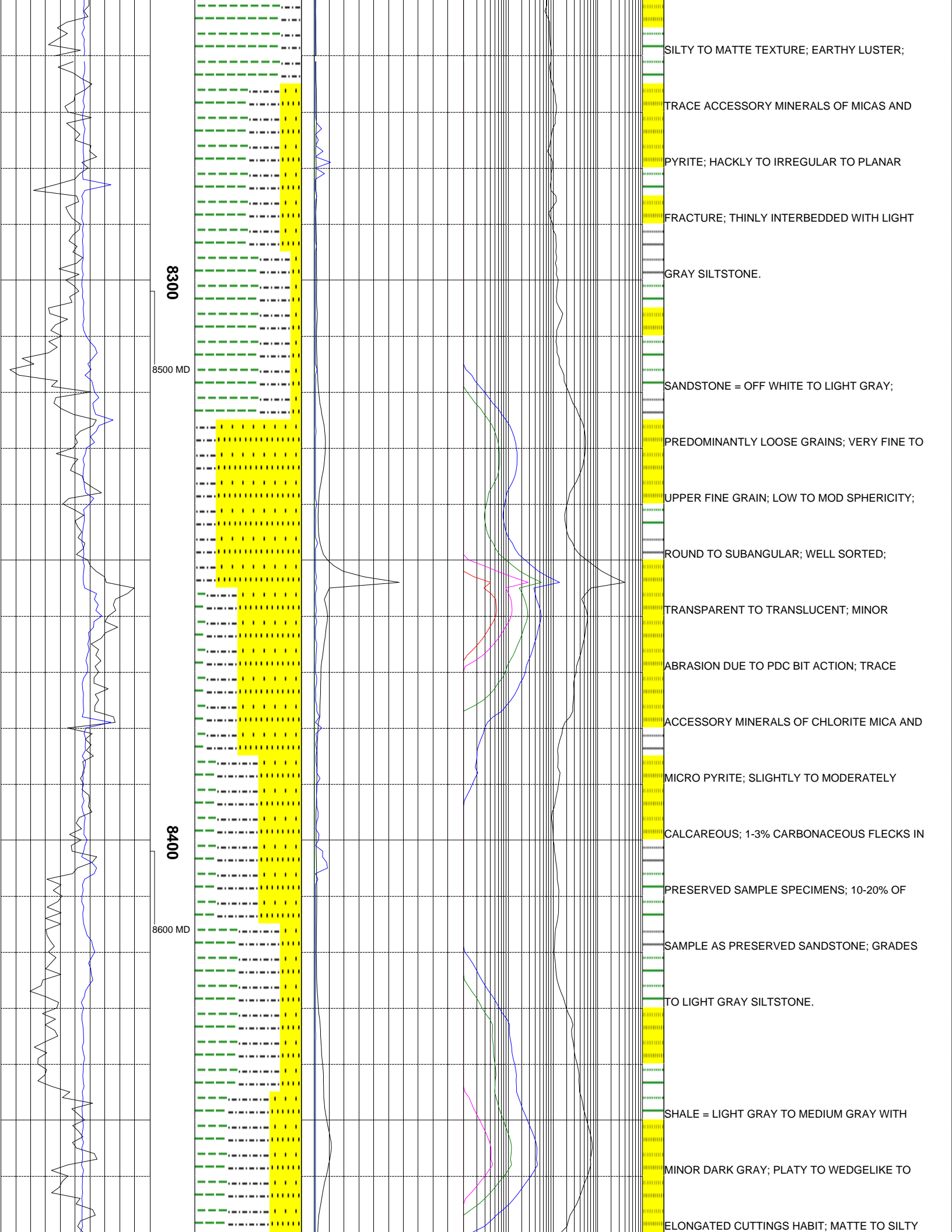


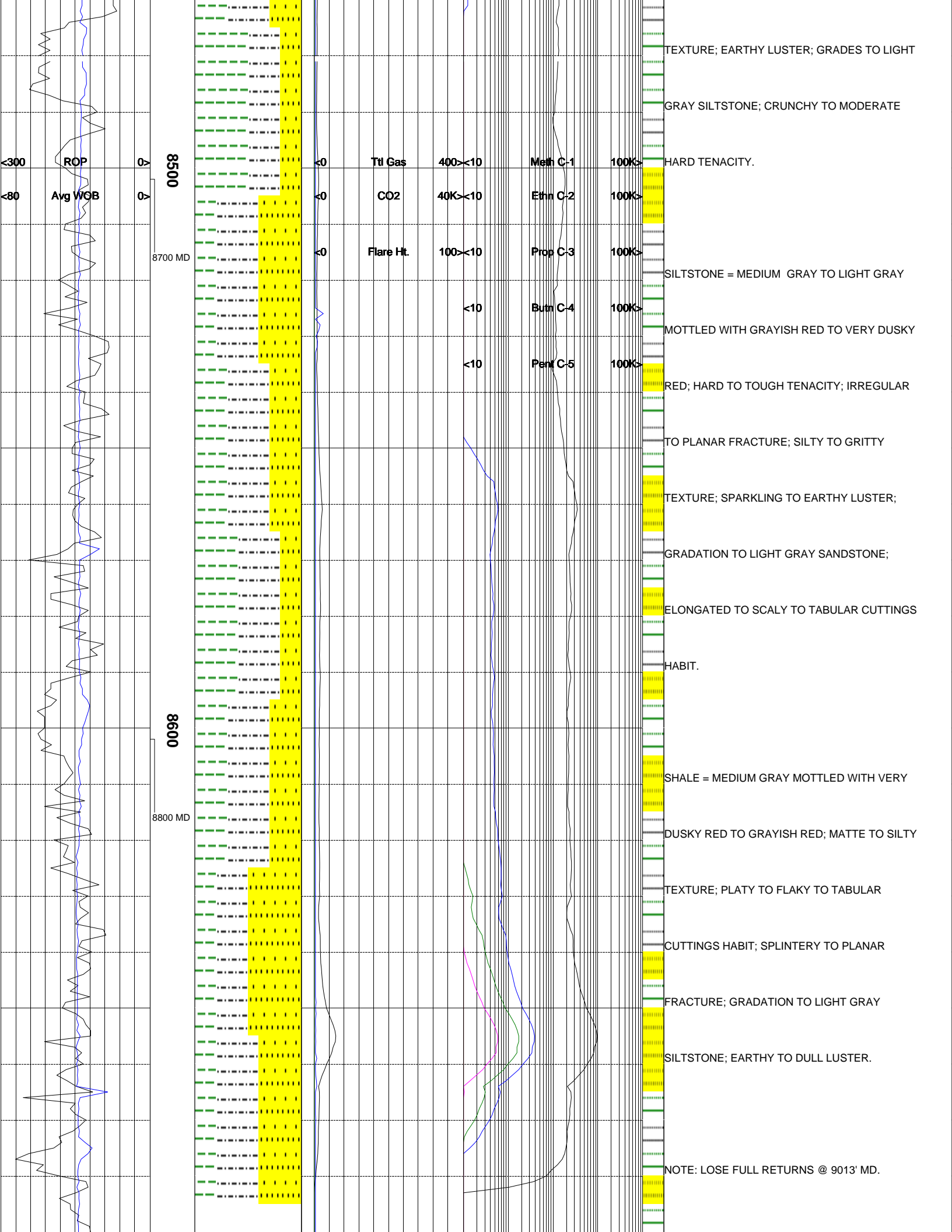


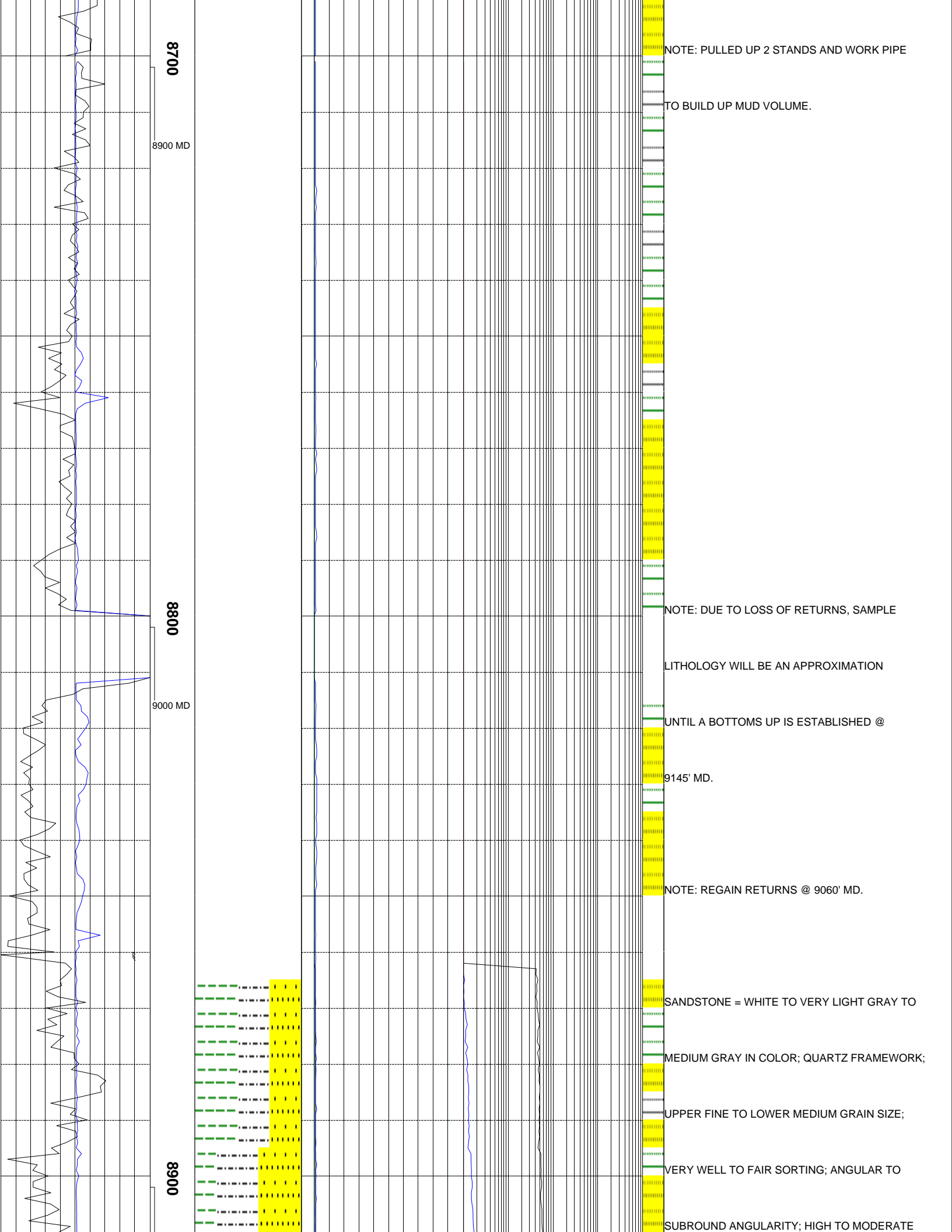


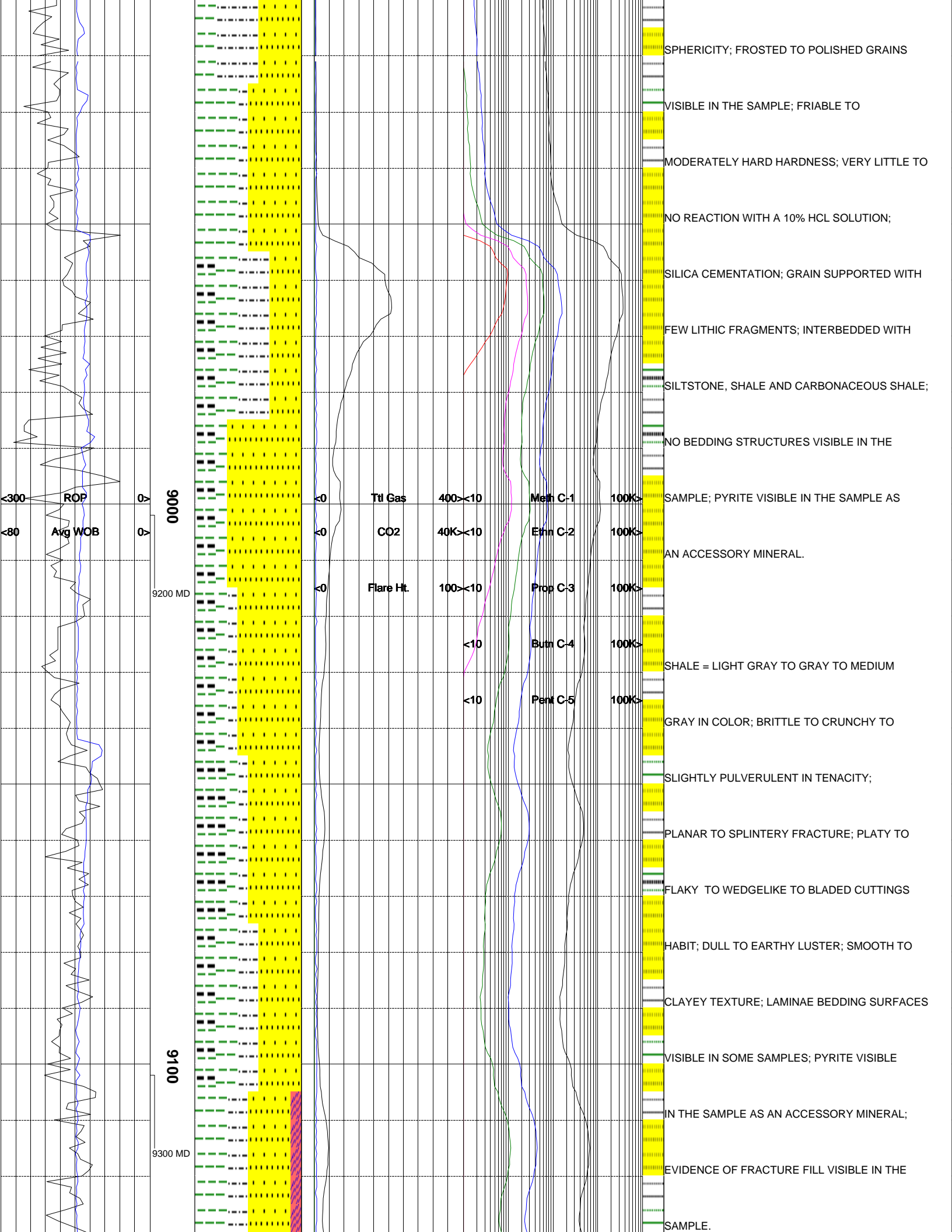


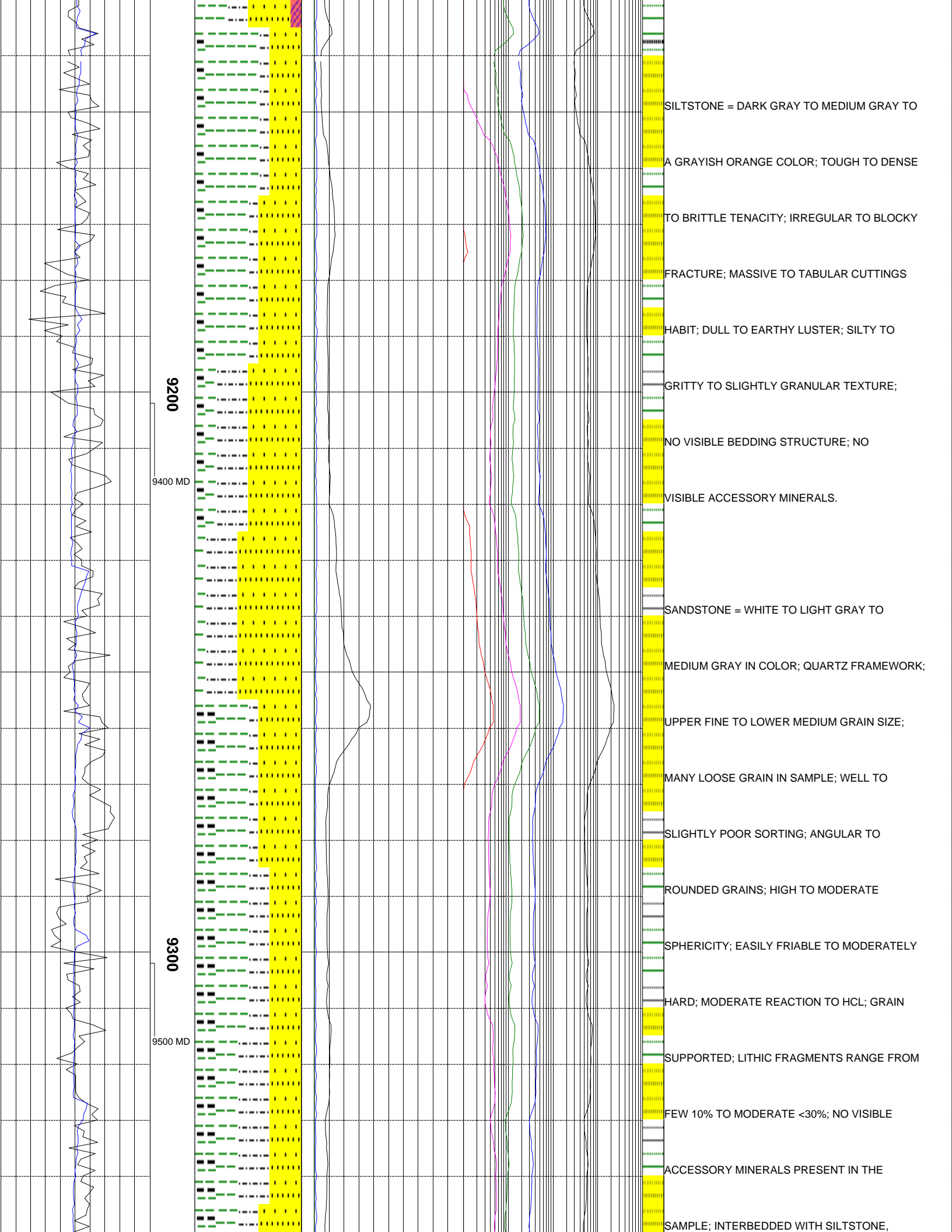


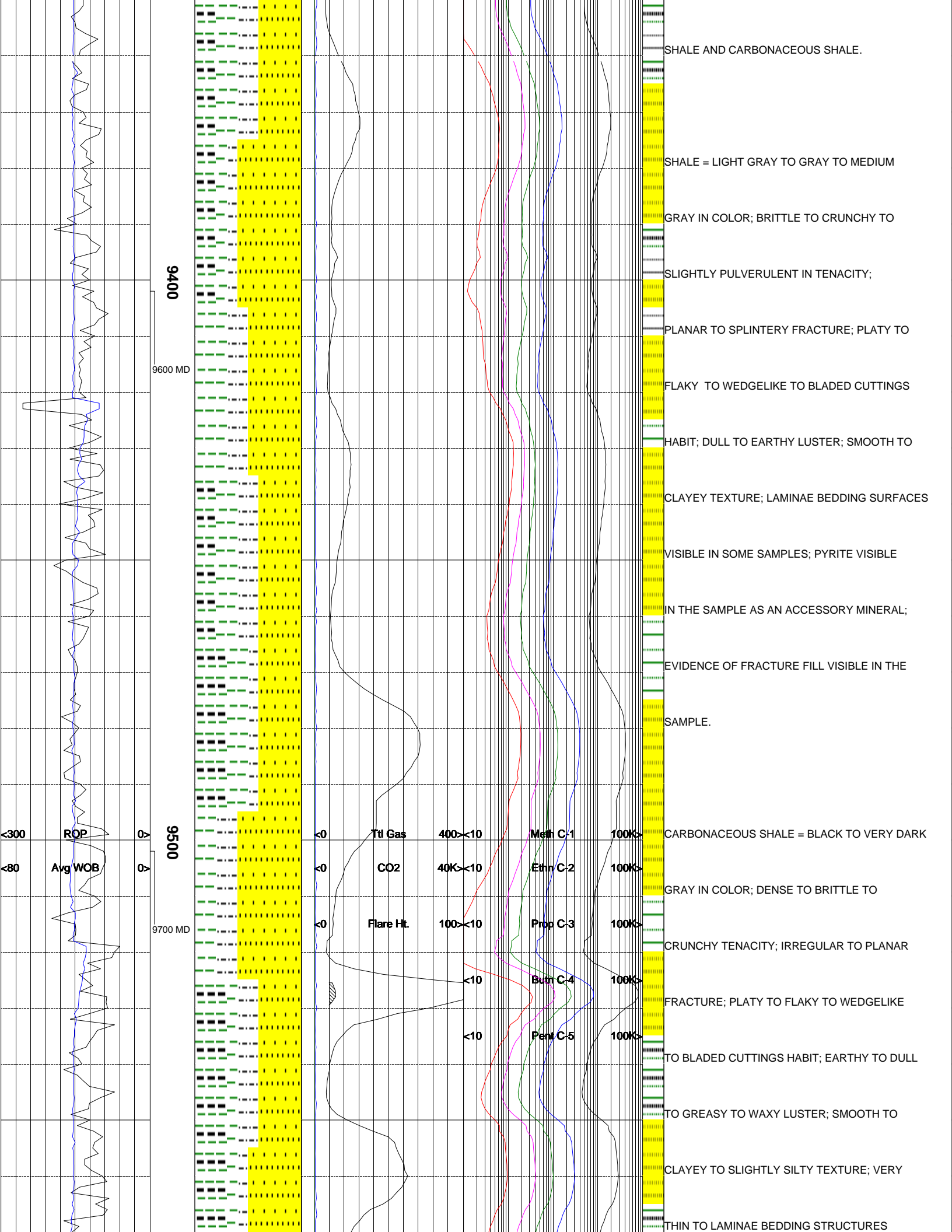


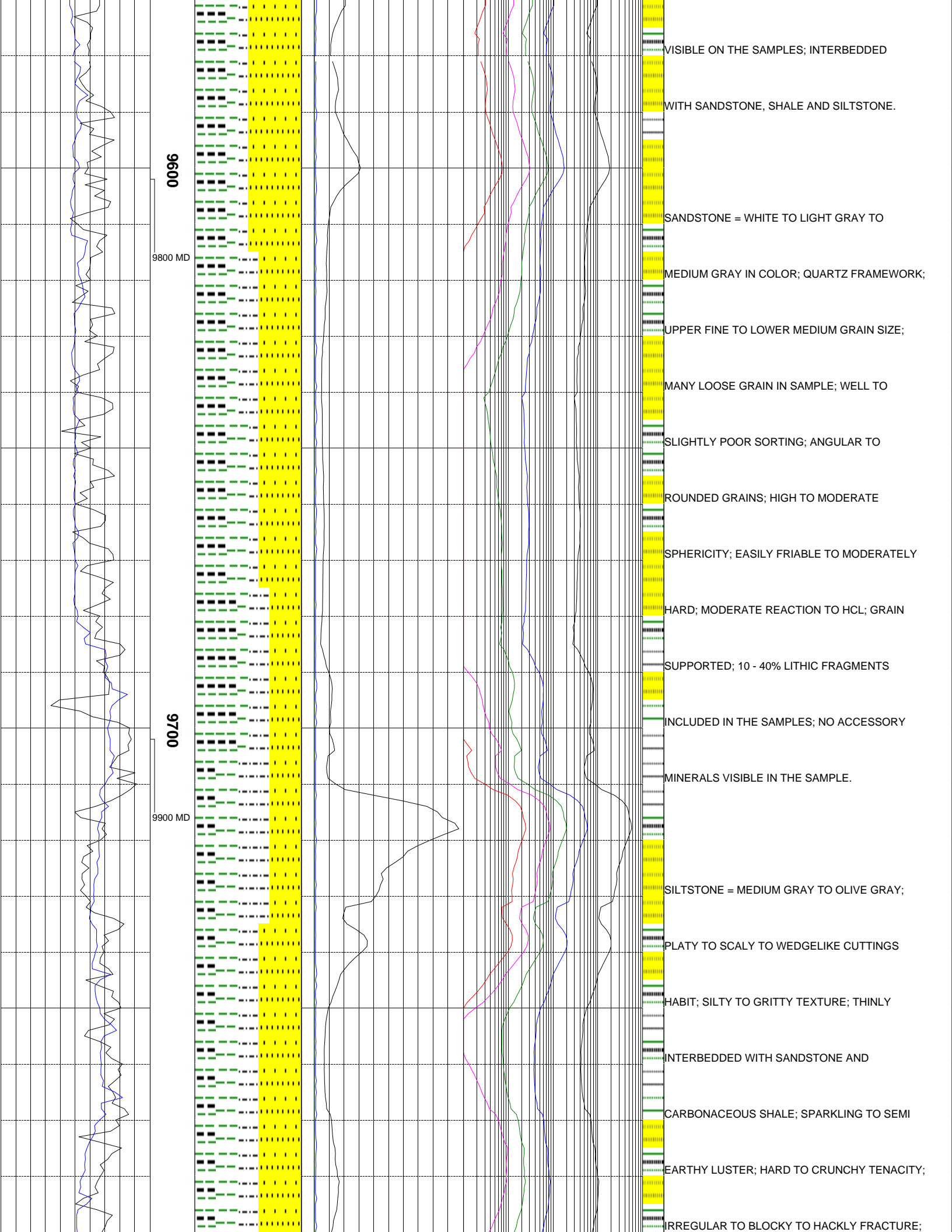


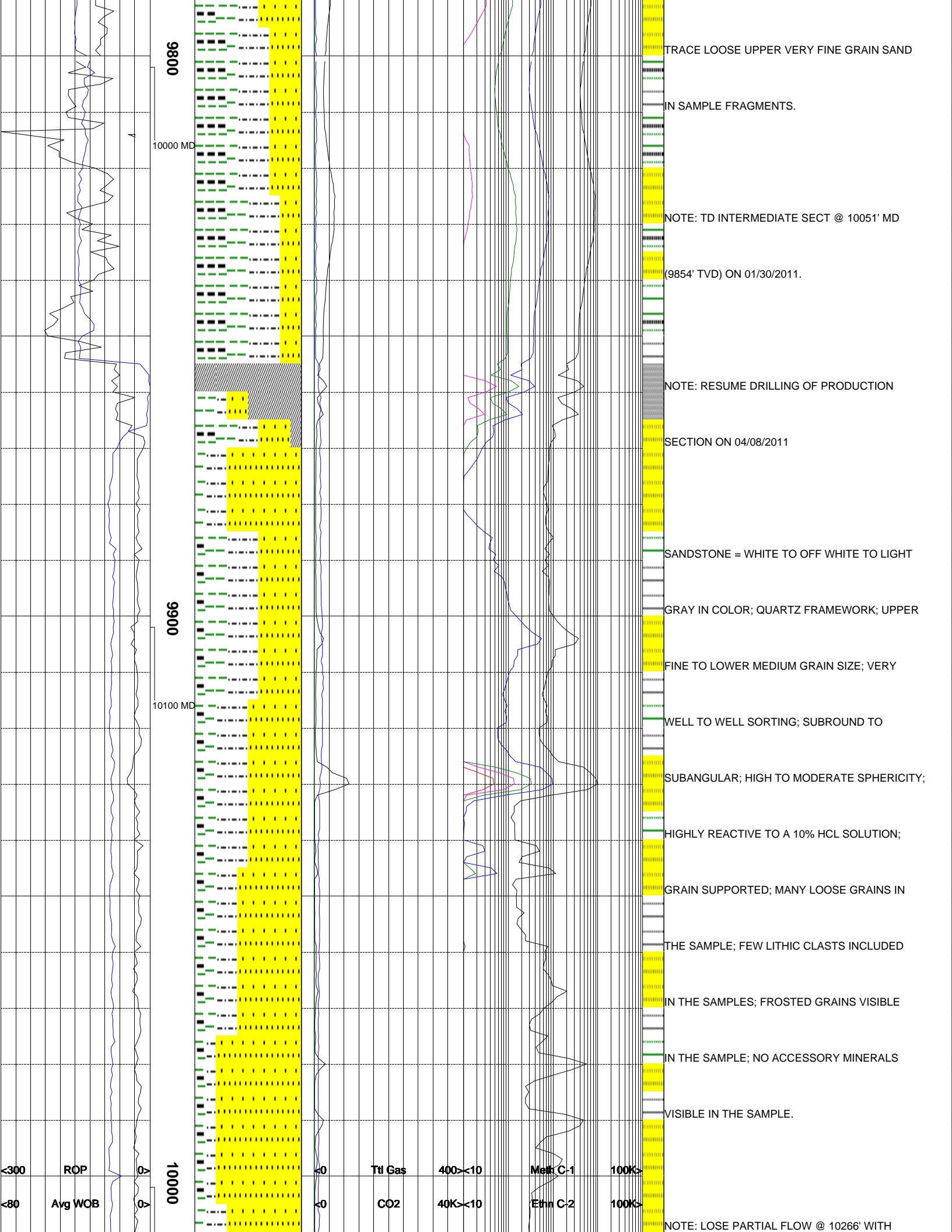


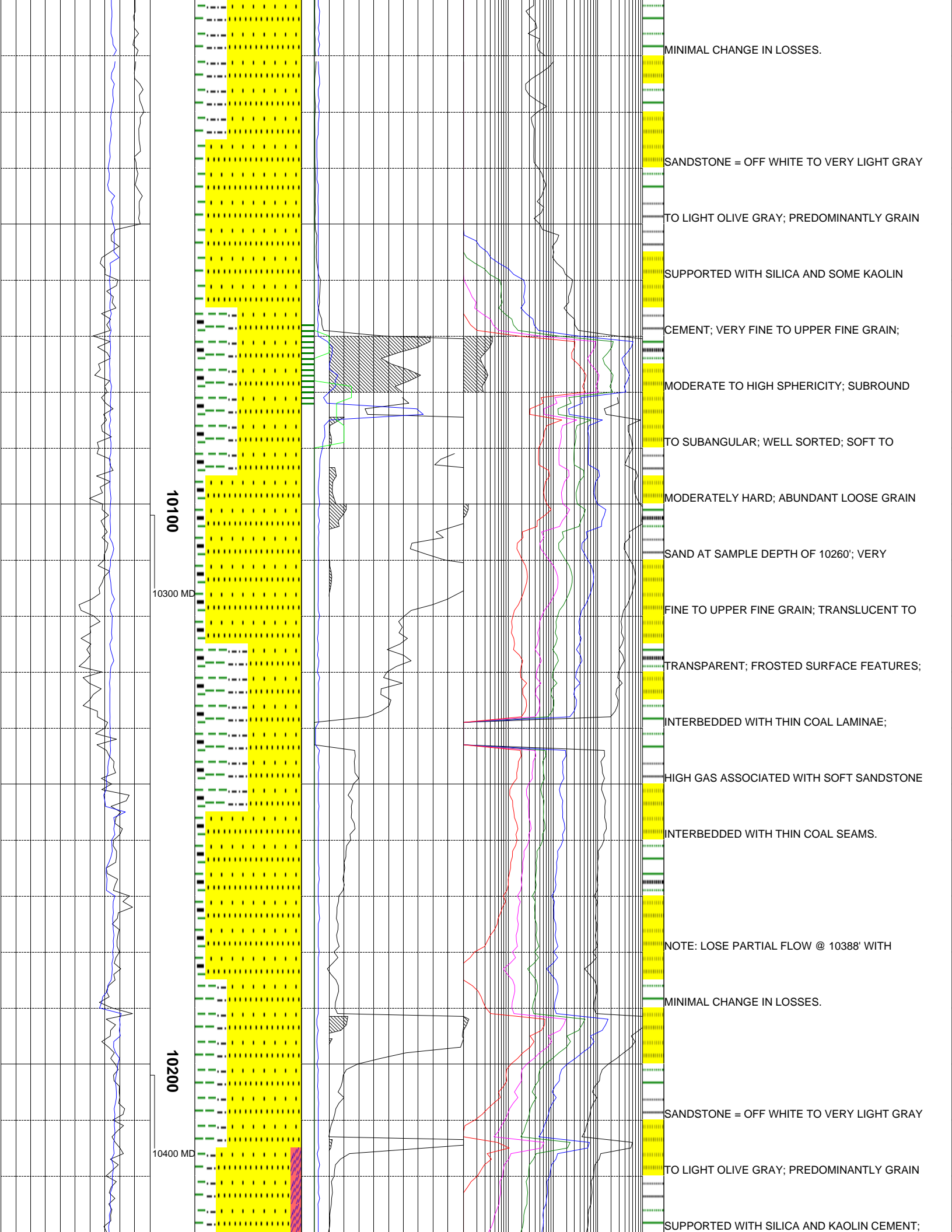


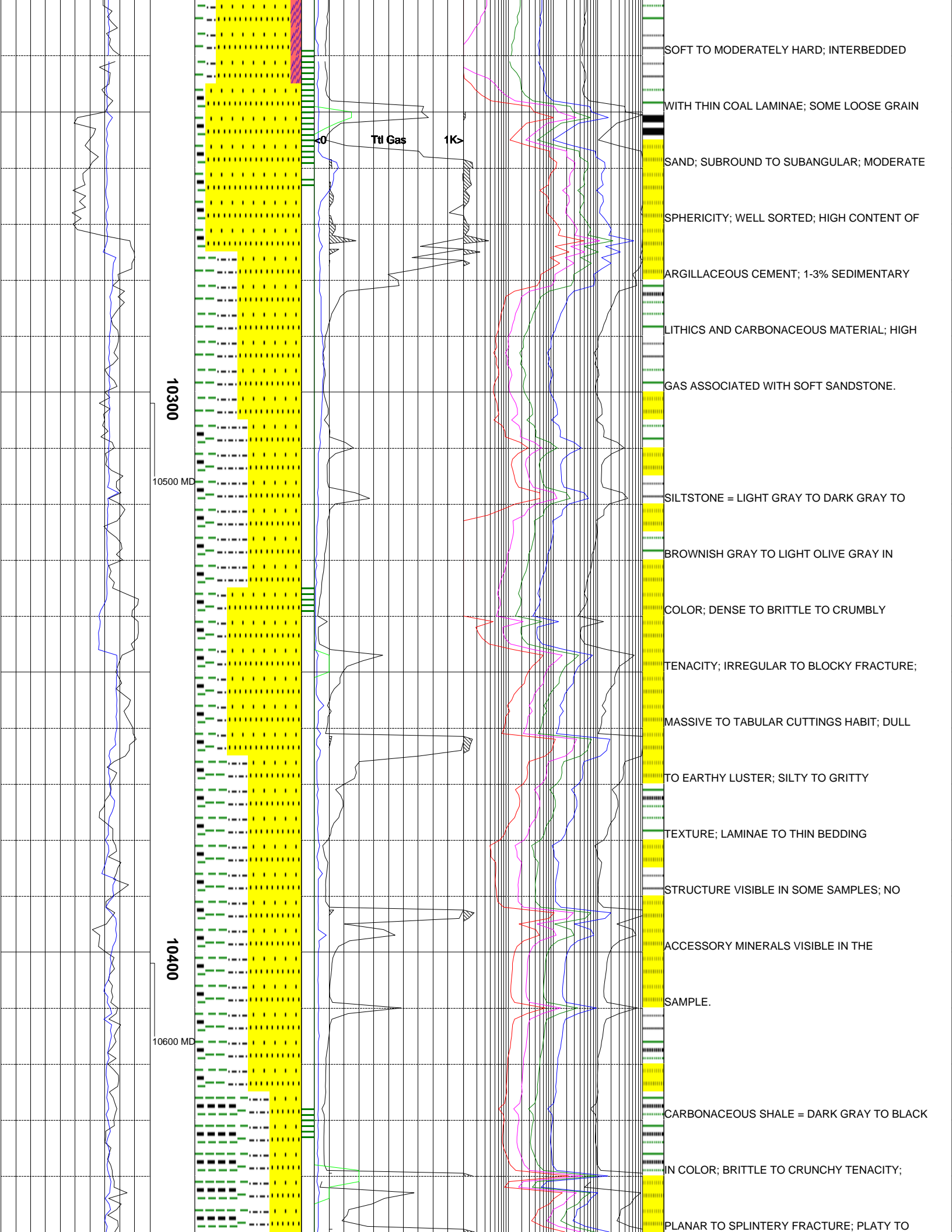


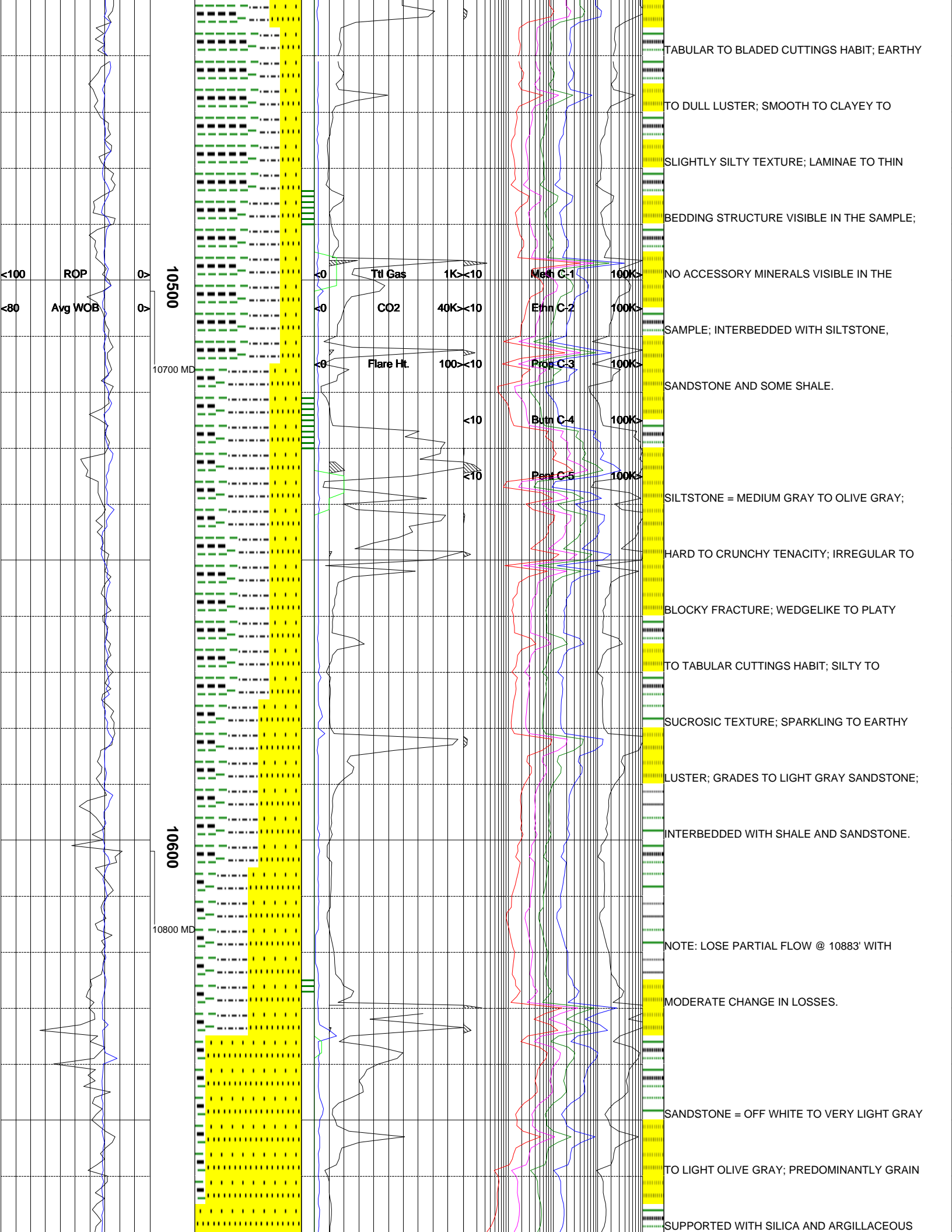


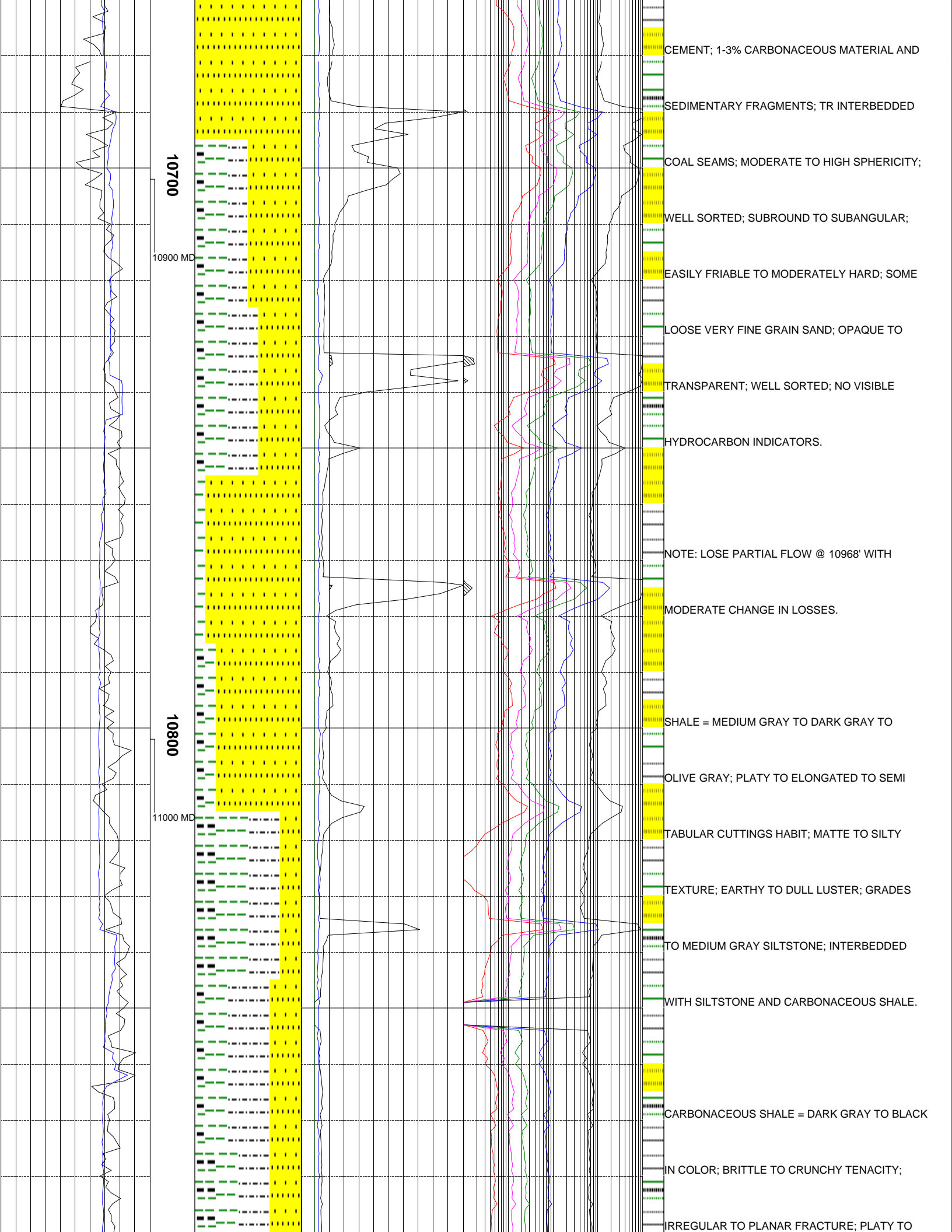


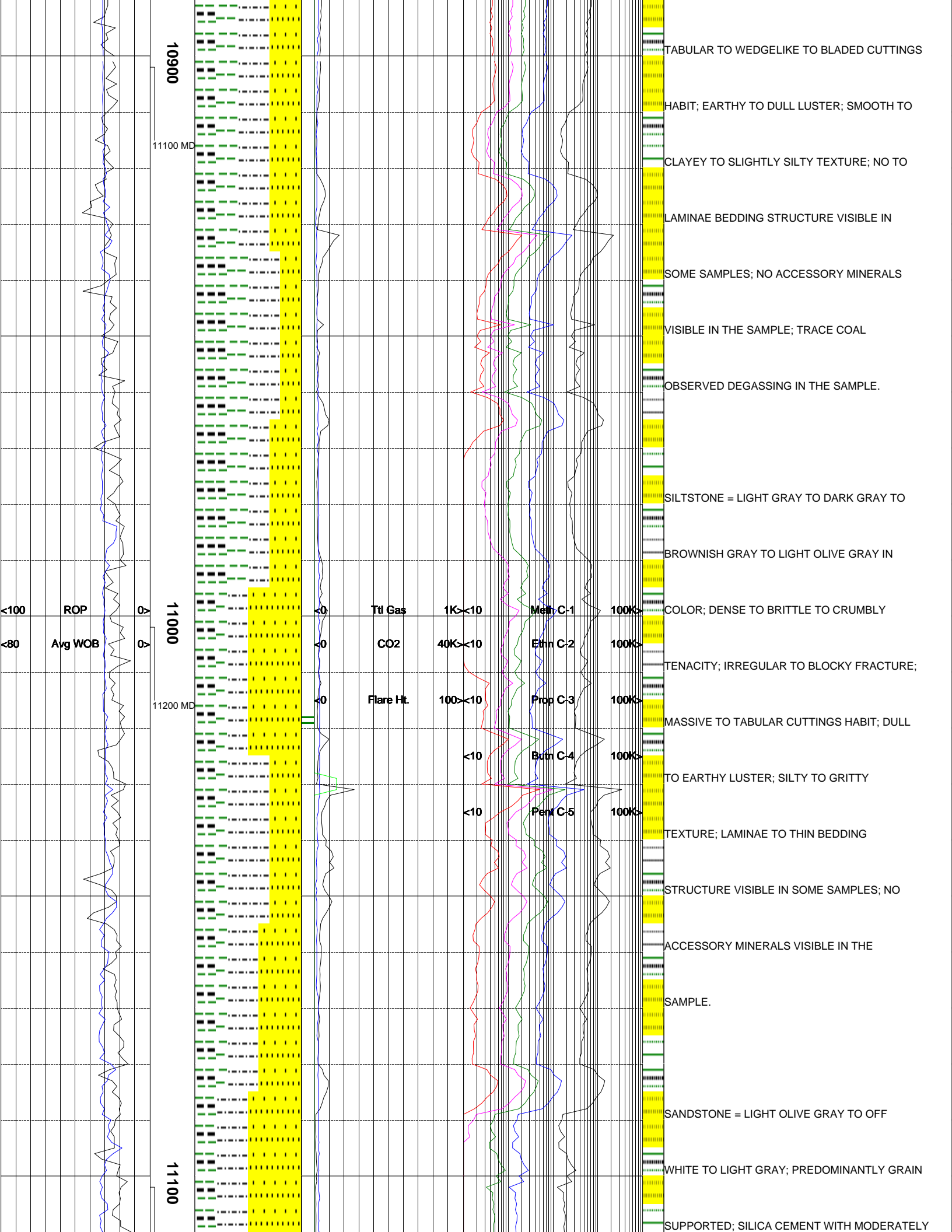


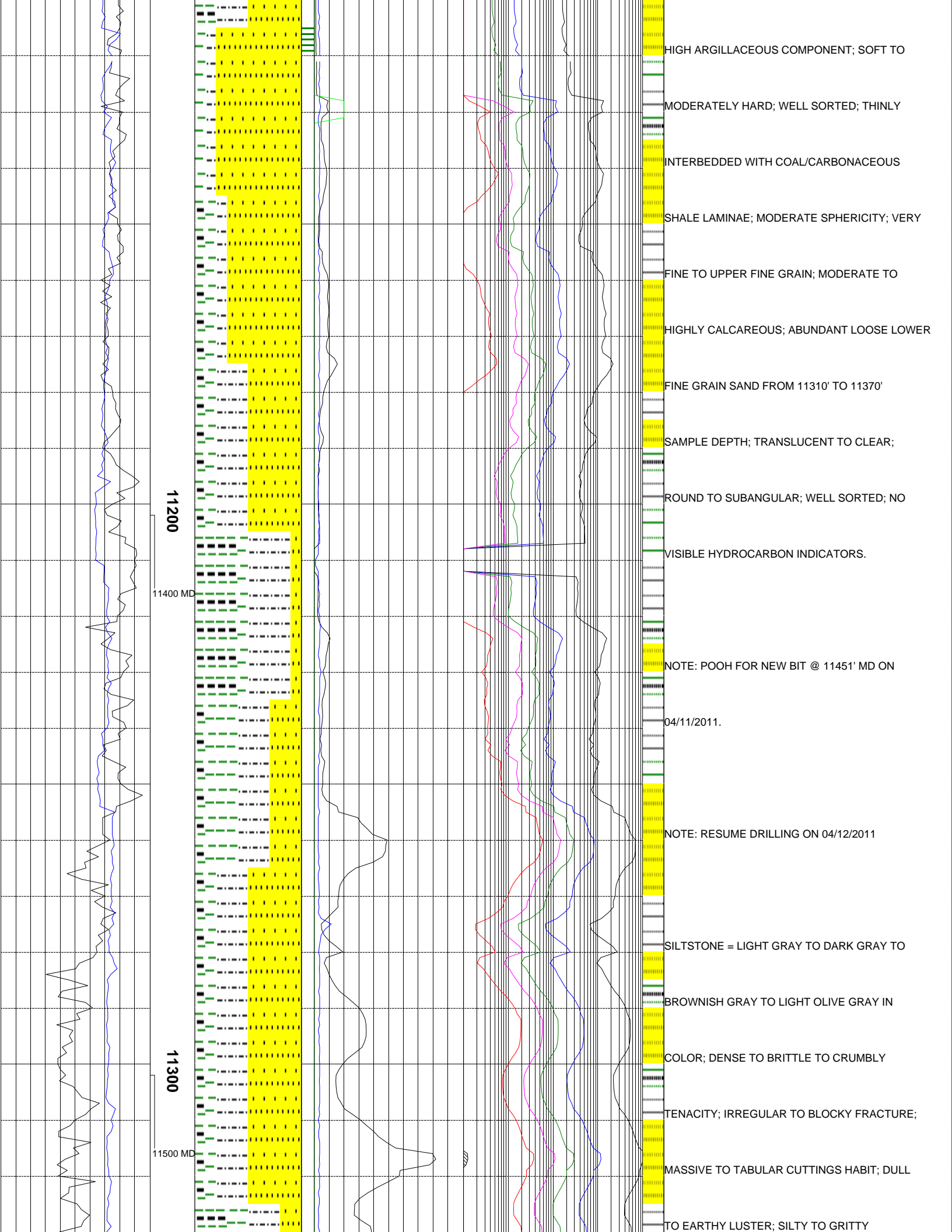


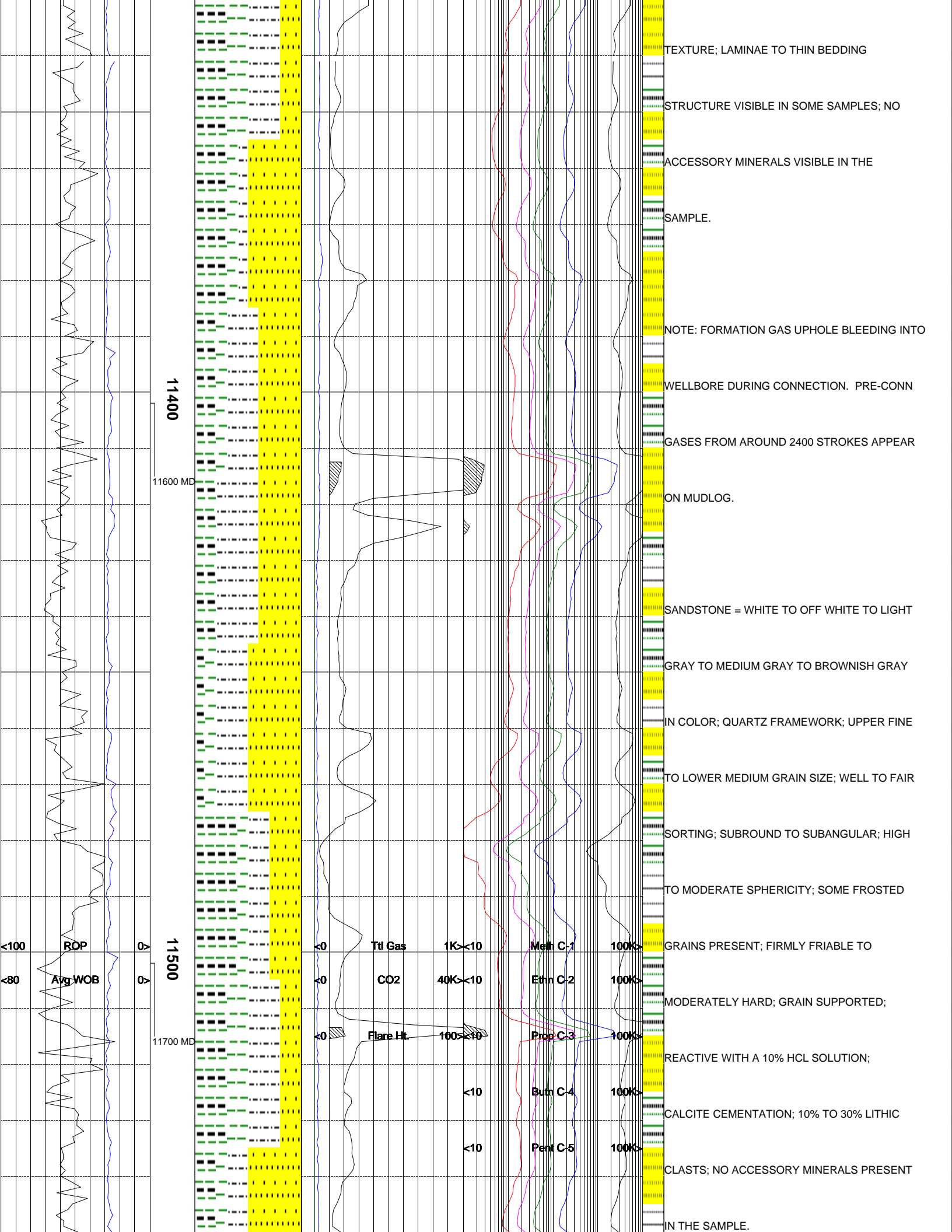


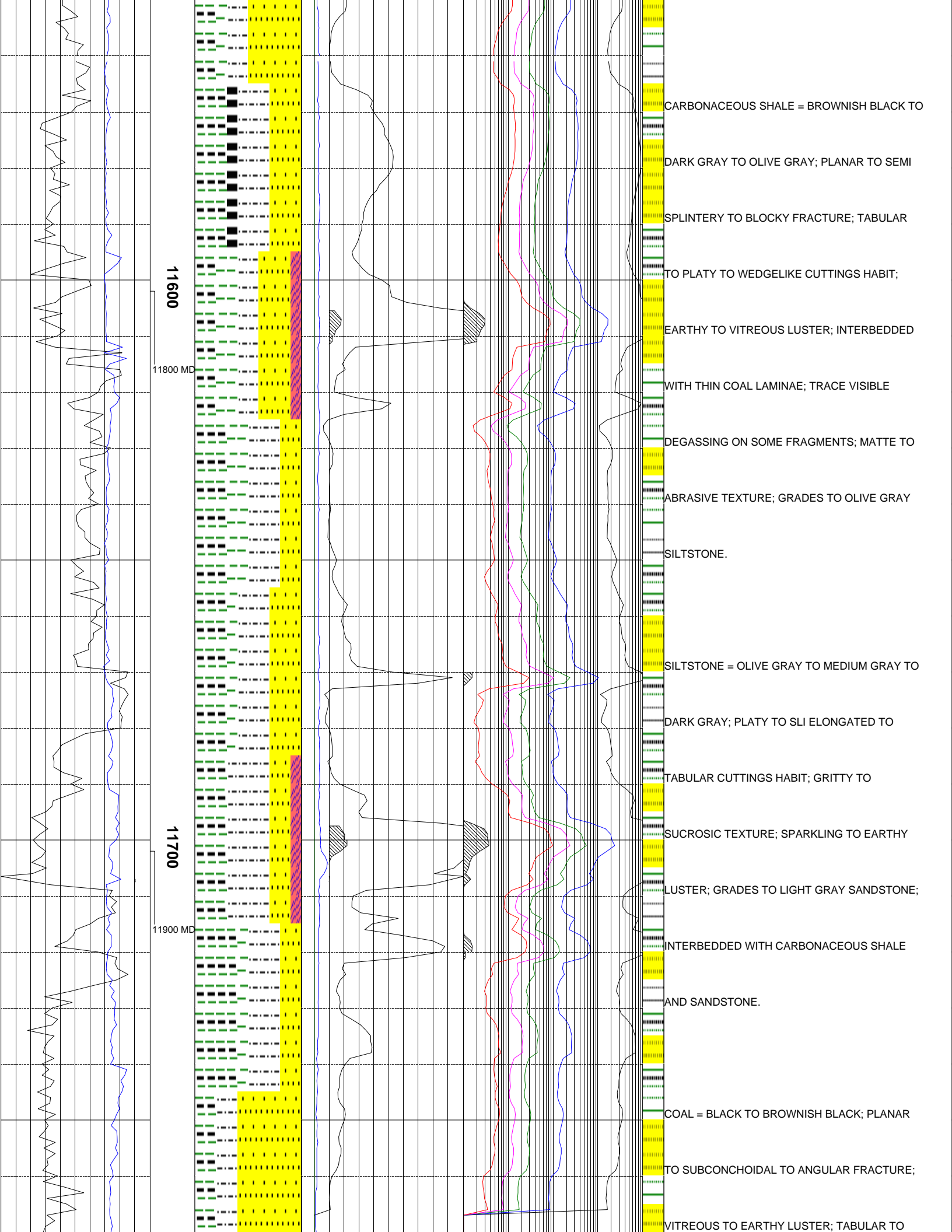


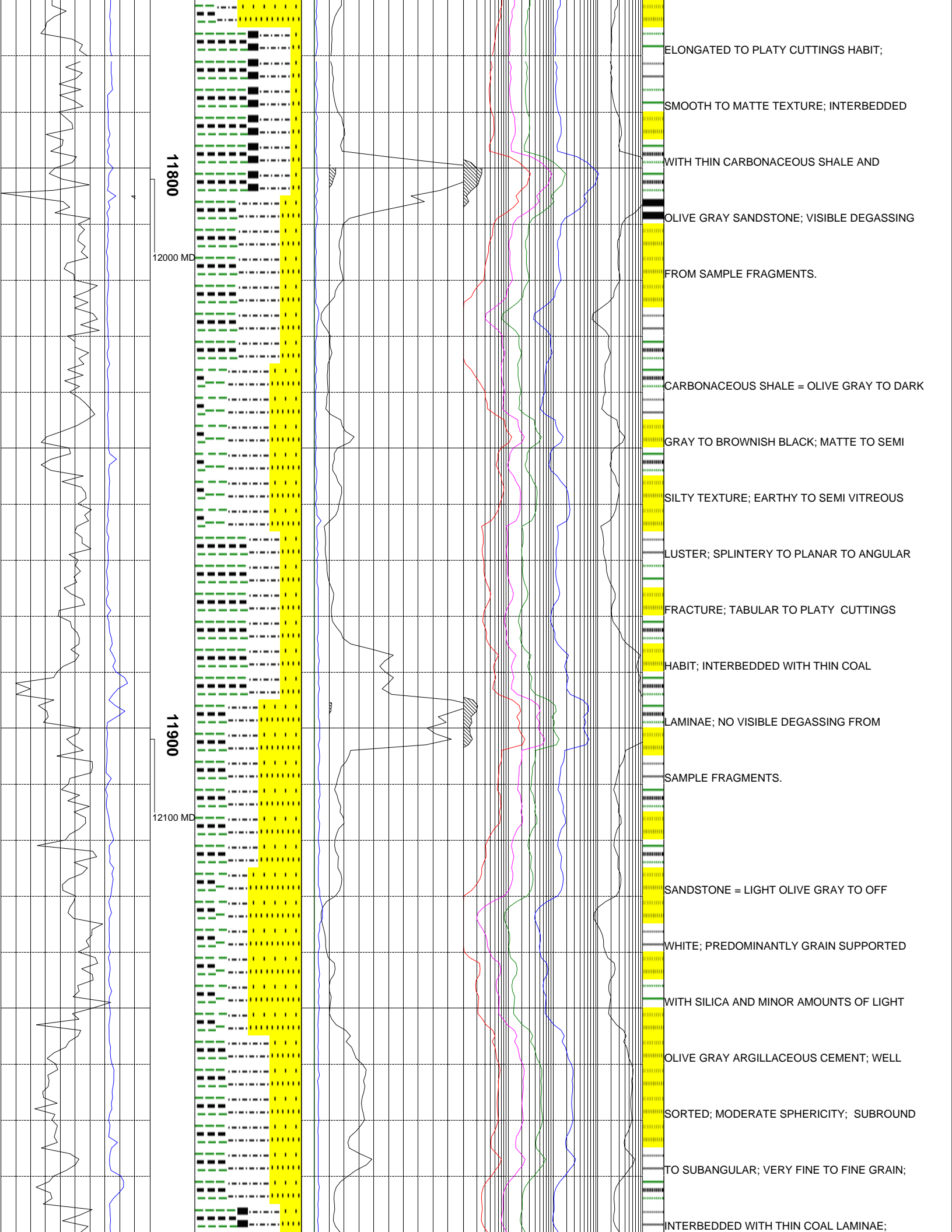


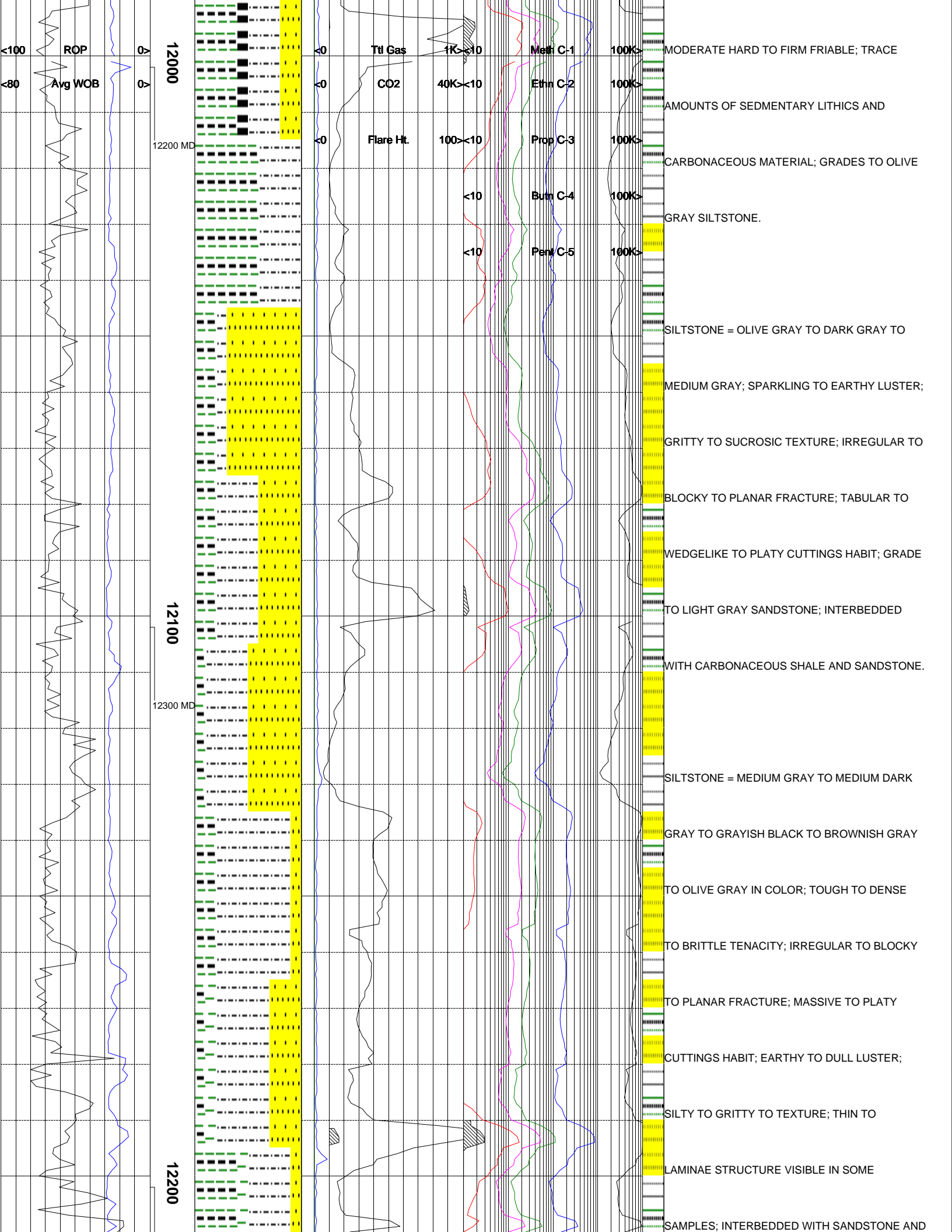


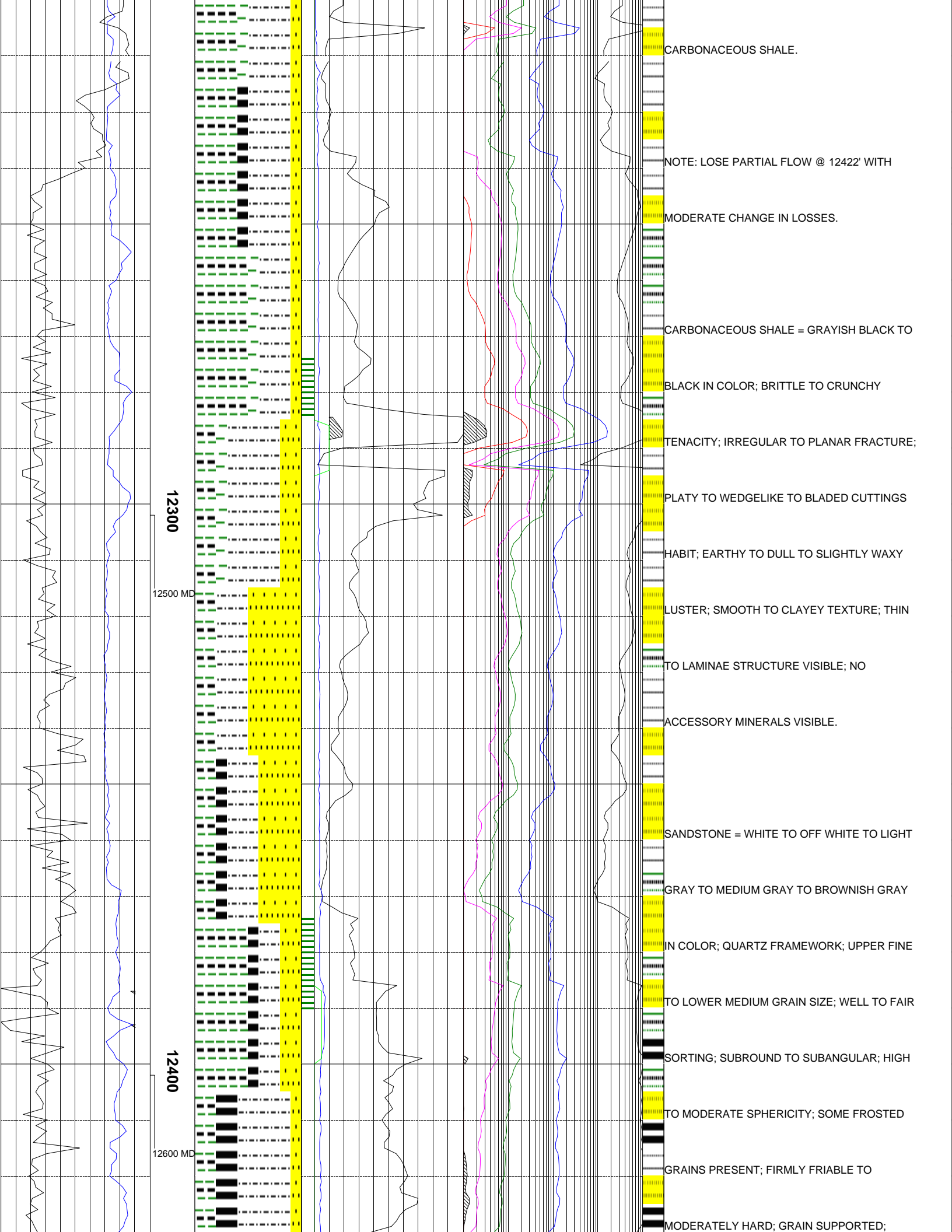












CARBONACEOUS SHALE.

NOTE: LOSE PARTIAL FLOW @ 12422' WITH

MODERATE CHANGE IN LOSSES.

CARBONACEOUS SHALE = GRAYISH BLACK TO

BLACK IN COLOR; BRITTLE TO CRUNCHY

TENACITY; IRREGULAR TO PLANAR FRACTURE;

PLATY TO WEDGELIKE TO BLADED CUTTINGS

HABIT; EARTHY TO DULL TO SLIGHTLY WAXY

LUSTER; SMOOTH TO CLAYEY TEXTURE; THIN

TO LAMINAE STRUCTURE VISIBLE; NO

ACCESSORY MINERALS VISIBLE.

SANDSTONE = WHITE TO OFF WHITE TO LIGHT

GRAY TO MEDIUM GRAY TO BROWNISH GRAY

IN COLOR; QUARTZ FRAMEWORK; UPPER FINE

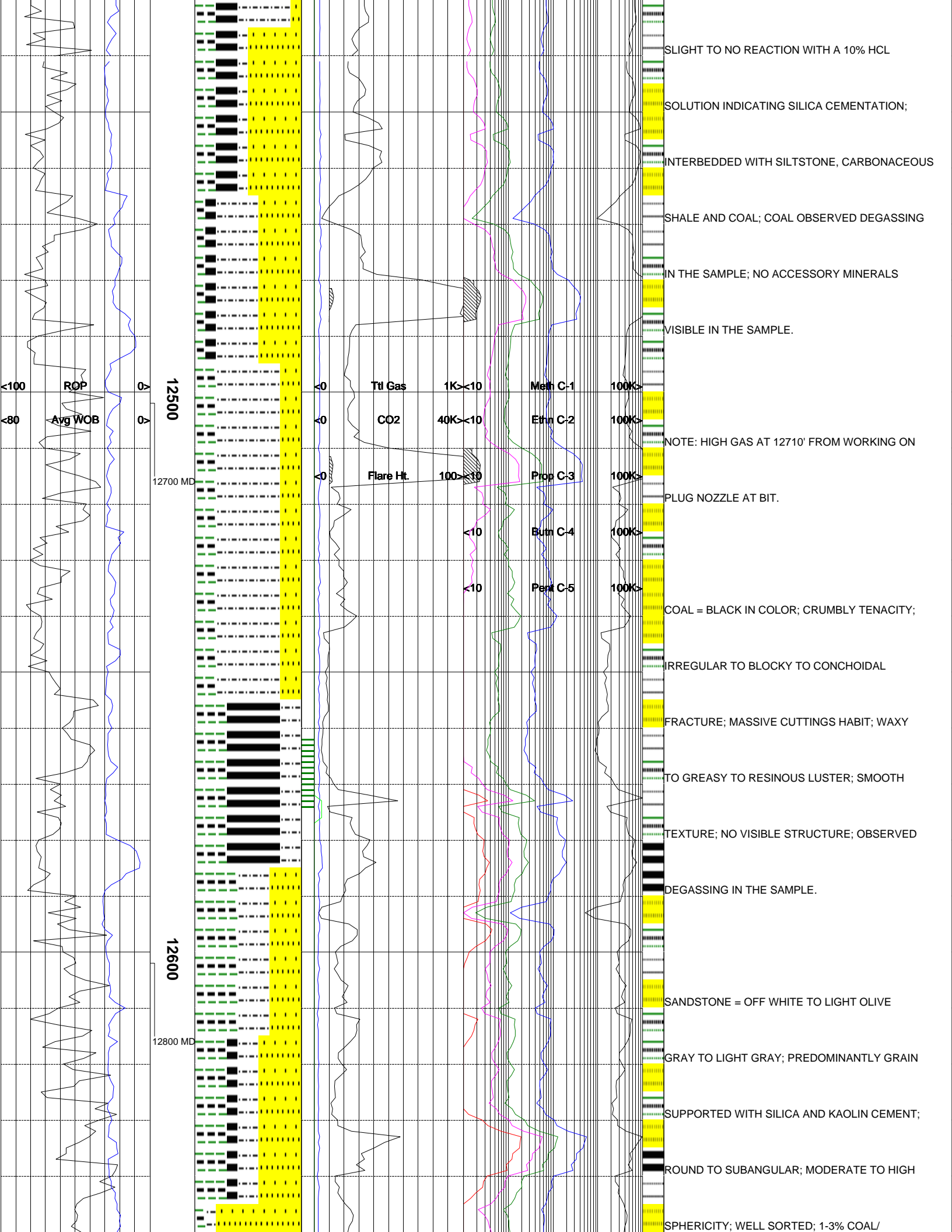
TO LOWER MEDIUM GRAIN SIZE; WELL TO FAIR

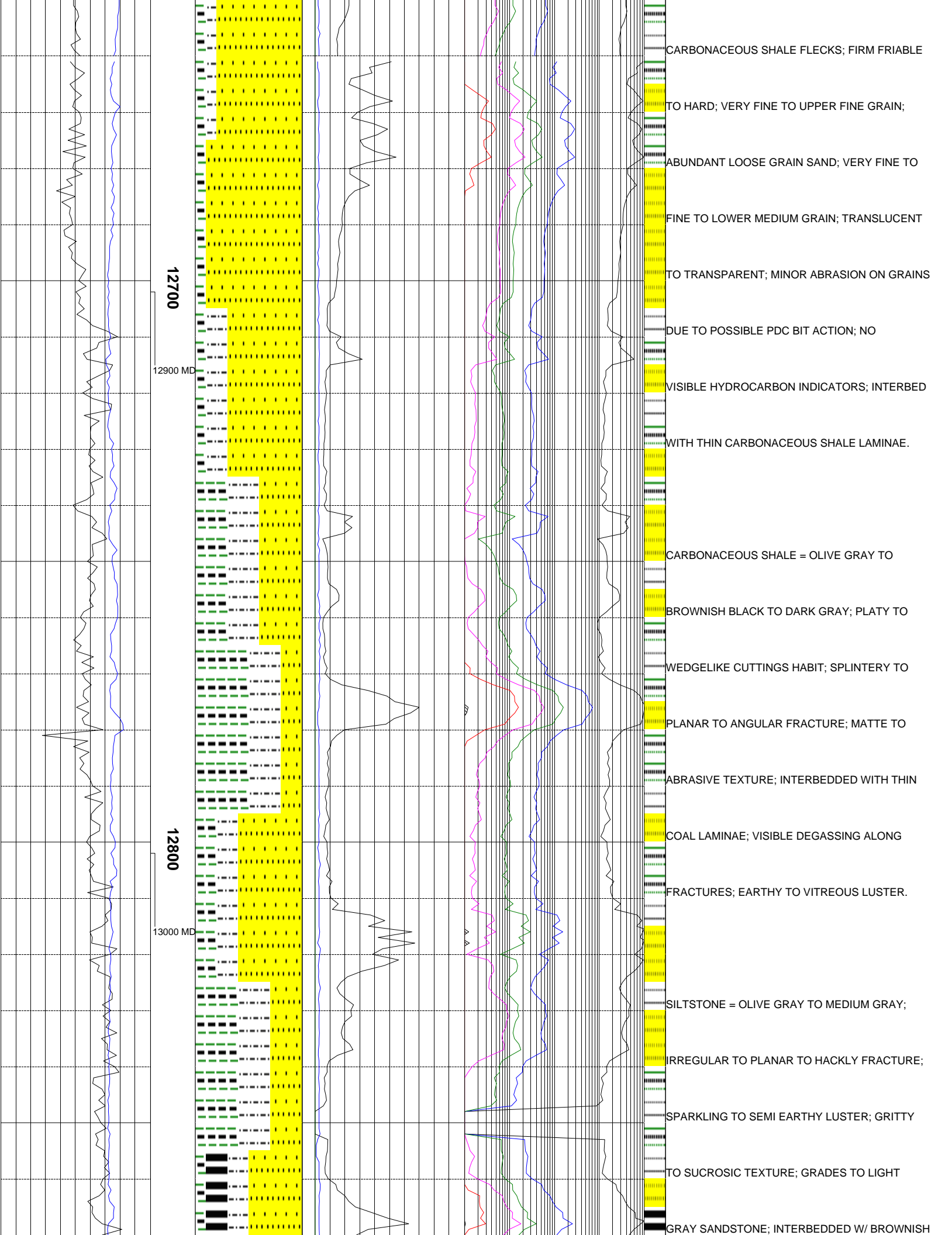
SORTING; SUBROUND TO SUBANGULAR; HIGH

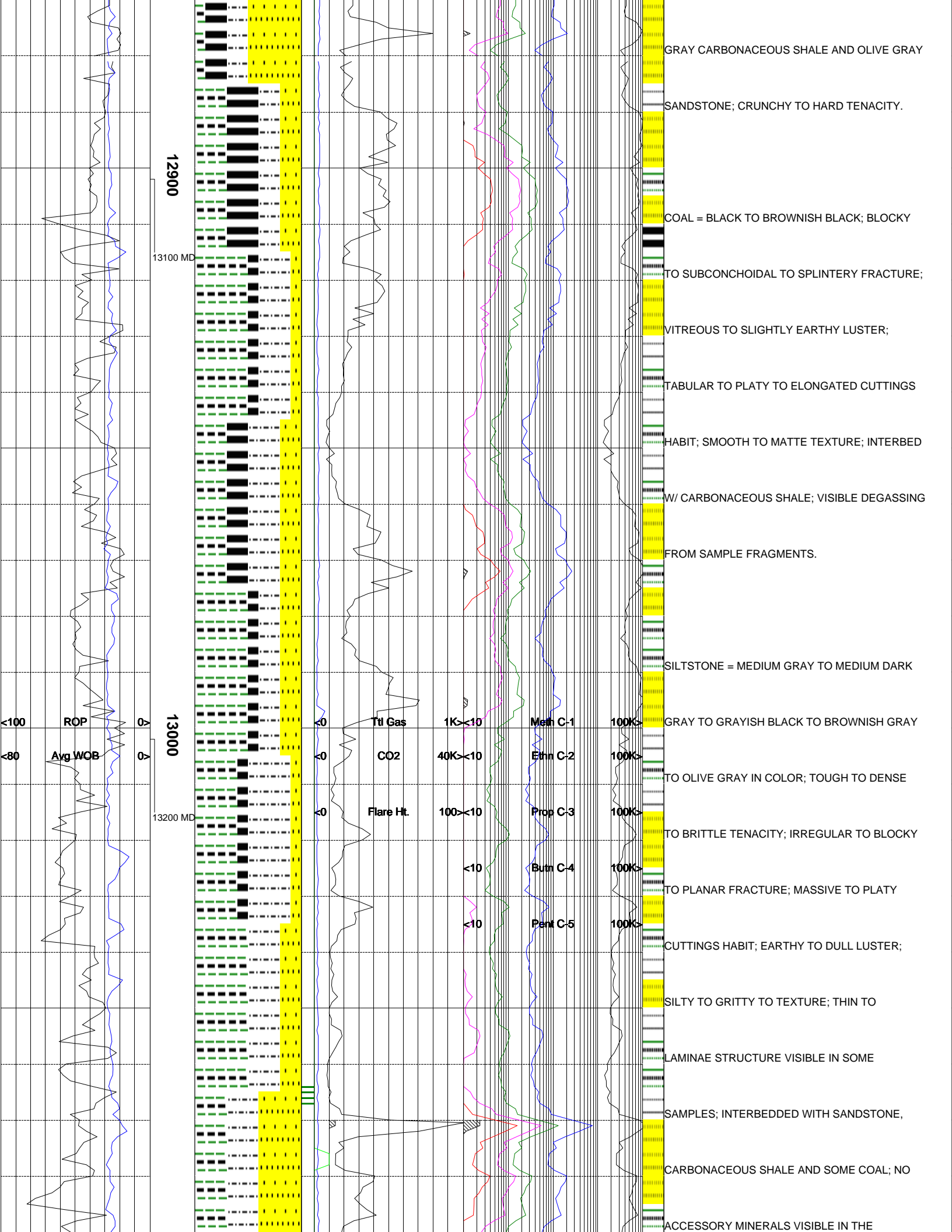
TO MODERATE SPHERICITY; SOME FROSTED

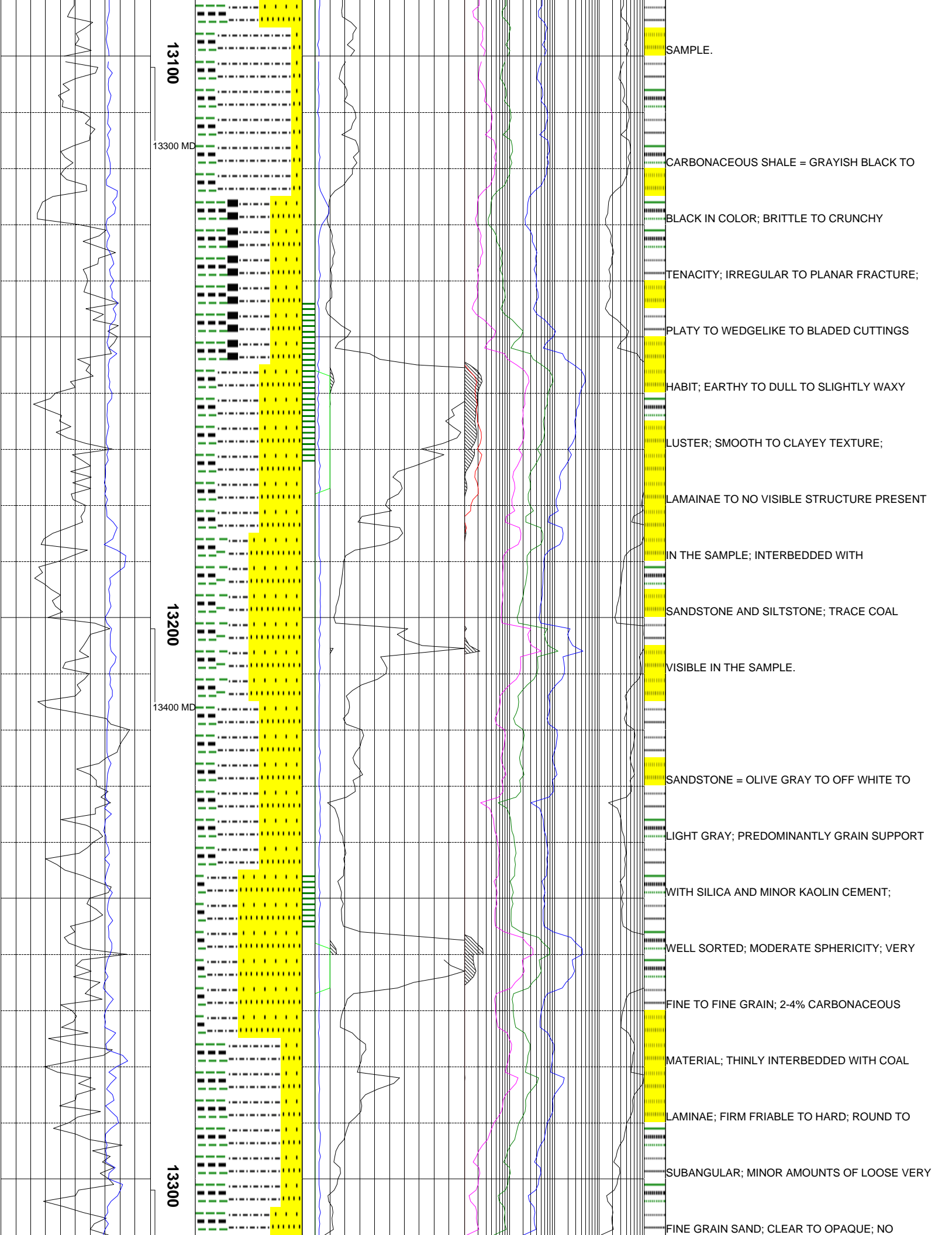
GRAINS PRESENT; FIRMLY FRIABLE TO

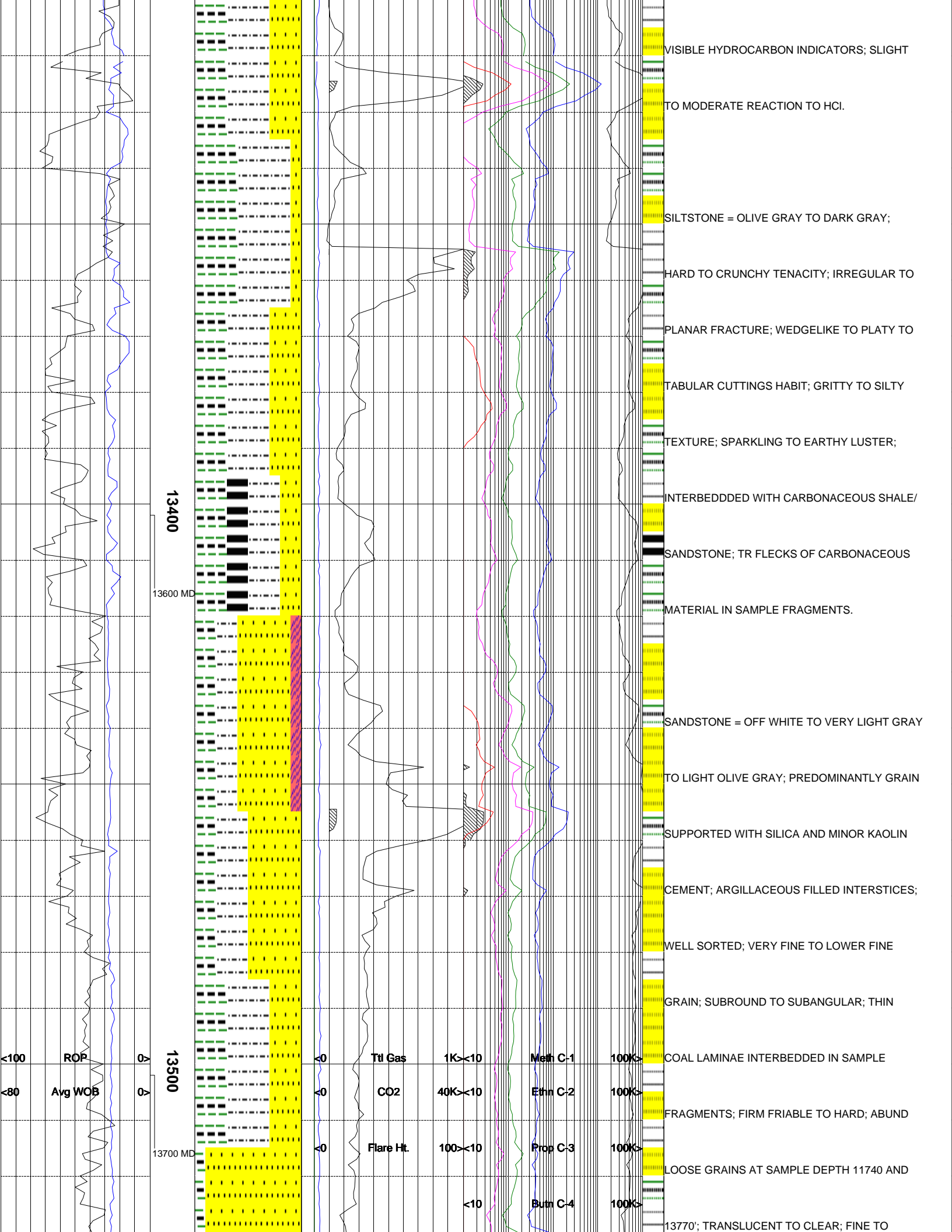
MODERATELY HARD; GRAIN SUPPORTED;

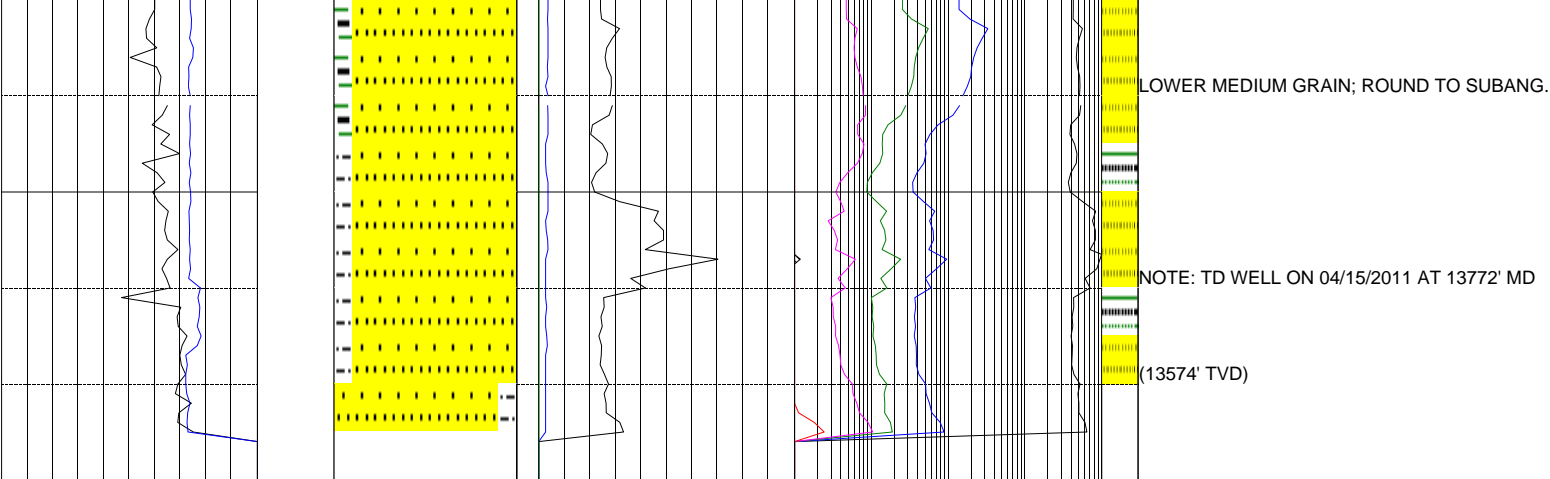












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