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MUDLOG TVD

COMPANY	Exxon Mobil
WELL	FRU197-33B9
FIELD	Piceance Creek
REGION	Rockies
COORDINATES	39.921322000 -108.282561000
ELEVATION	GL: 6459.3' RKB: 30.2'
COUNTY, STATE	RIO BLANCO, CO
API INDEX	051031142200
SPUD DATE	04/08/2010
CONTRACTOR	HE
CO. REP.	C. CURTIS
RIG/TYPE	HP321
LOGGING UNIT	MLU#31
GEOLOGISTS	B.DELANEY; C.RECORD M.FRANCO
ADD. PERSONS	M.PIPER; K.WALLANDER
CO. GEOLOGIST	C.ALBA / N. ROOSMAWATI

LOG INTERVAL

DEPTHS: 3950' TO 12300'
DATES: 07/21/2010 TO 08/02/2010
SCALE: 5"=100'

CASING DATA

16.00" AT 150'
10.75" AT 3940'
4.5" AT 12285'

AT

HOLE SIZE

14.75" TO 3950'
8.75" TO 12300'
TO
TO

MUD TYPES

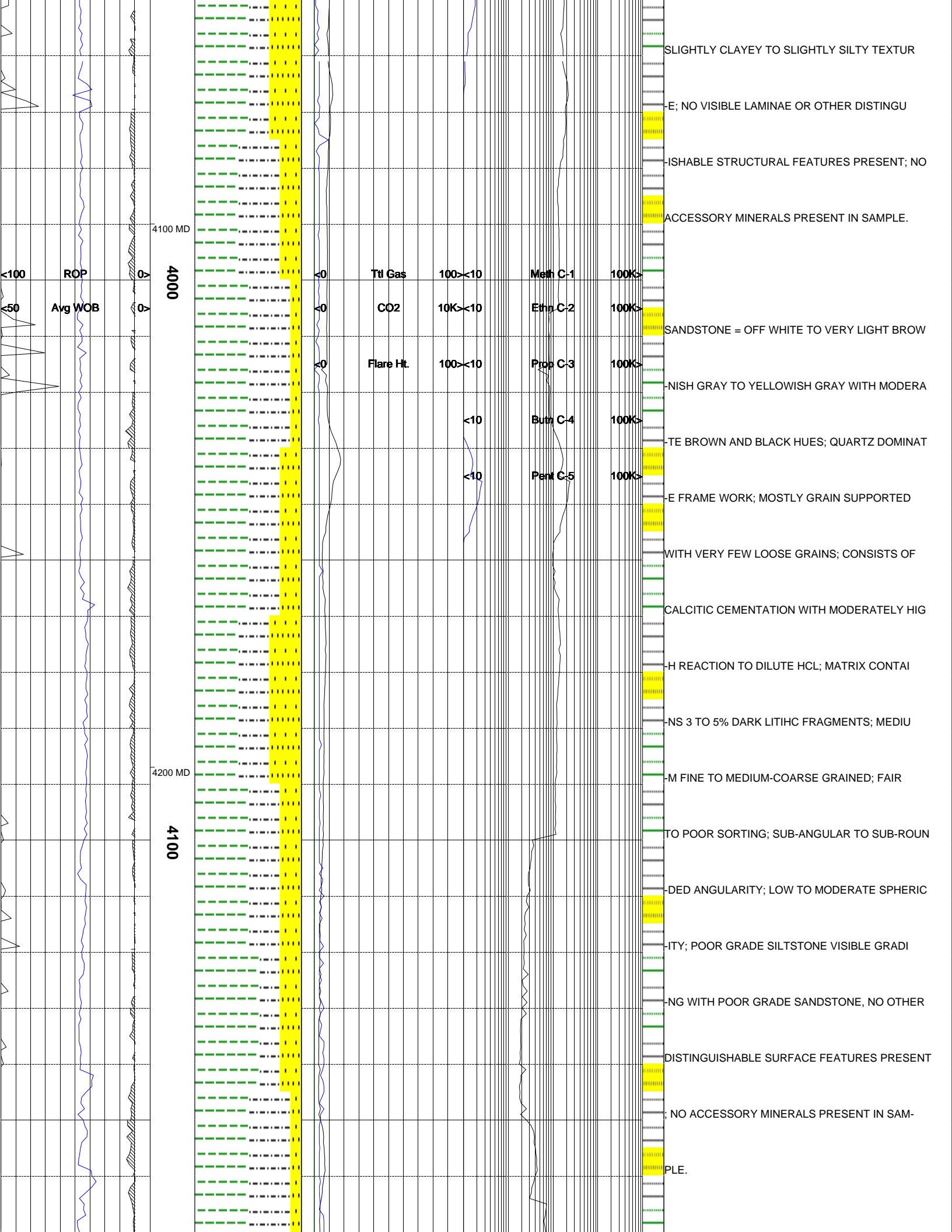
WATER-BASED TO 3950'
LSND TO 12300'
TO
TO

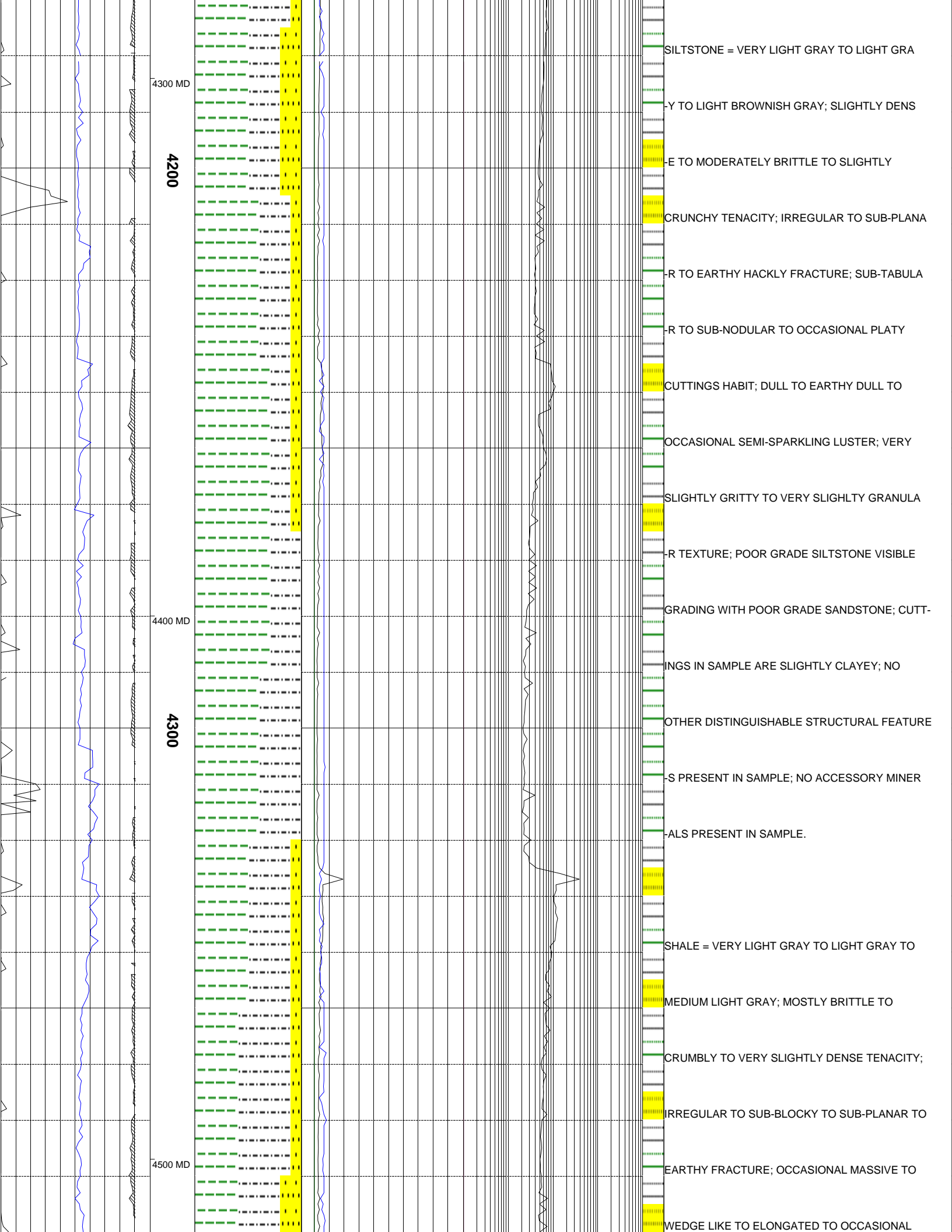
ABBREVIATIONS

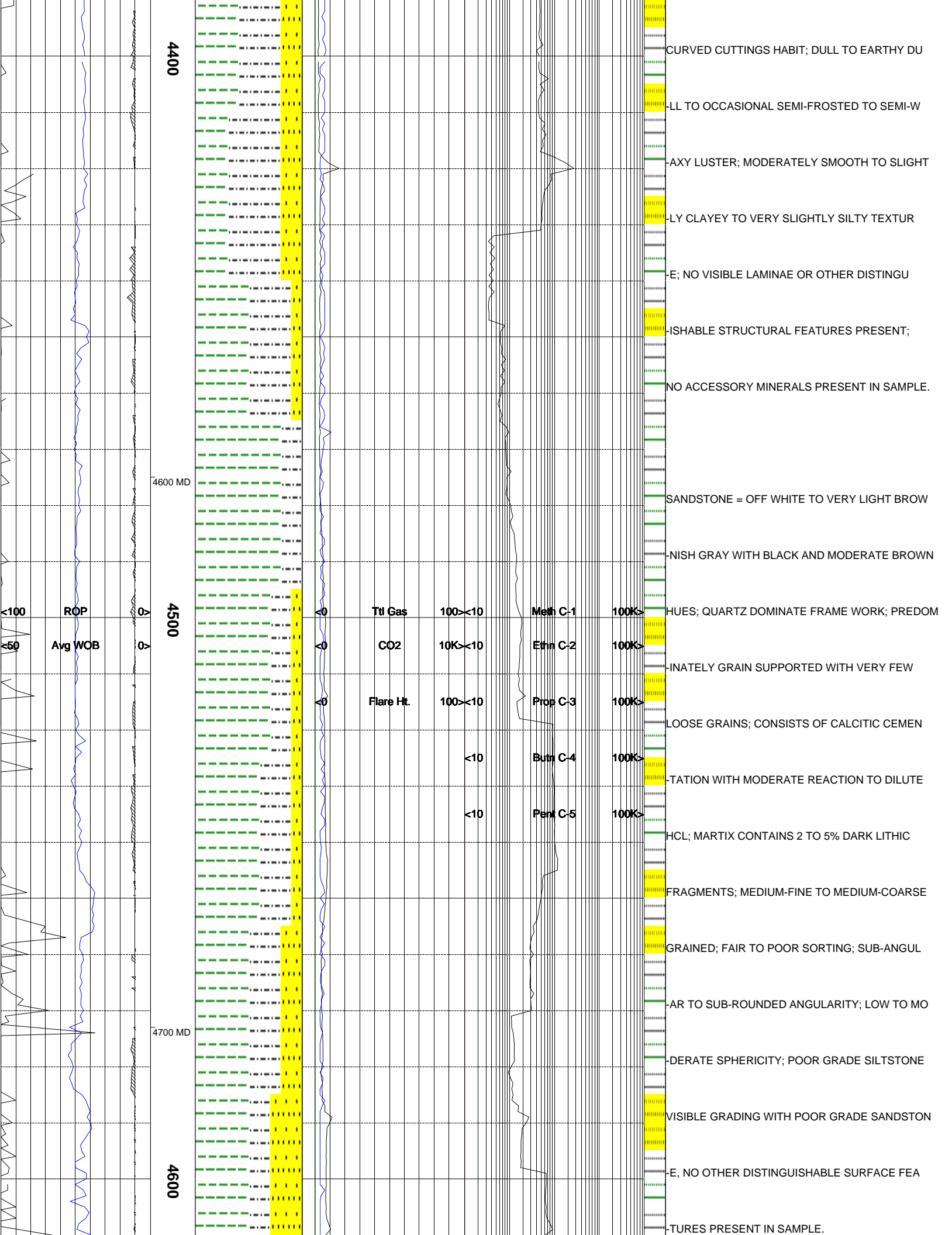
NB	NEWBIT	PV	PLASTIC VISCOSITY	LC	LOST CIRCULATION
RRB	RERUN BIT	YP	YIELD POINT	CO	CIRCULATE OUT
CB	CORE BIT	FL	FLUID LOSS	NR	NO RETURNS
WOB	WEIGHT ON BIT	CL	PPM CLORIDE ION	TG	TRIP GAS
RPM	ROTARY REV/MIN	Rm	MUD RESISTIVITY	SG	SURVEY GAS
PP	PUMP PRESSURE	Rmf	FILTRATE RESISTIVITY	WG	WIPER GAS
SPM	STROKES/MIN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

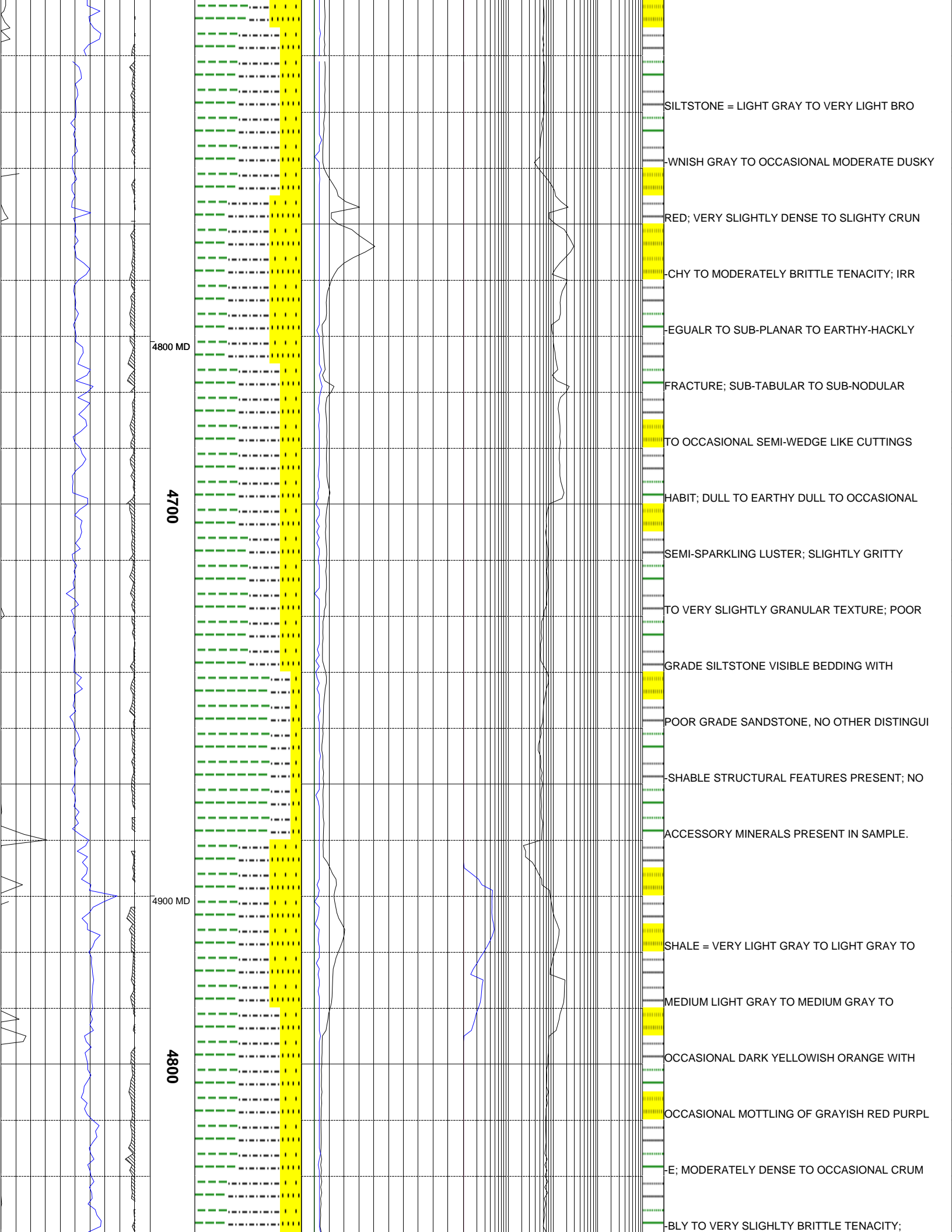
	ALTERED ZONE		CHERT - GLASSY		FELSIC SILIC DIKE		MARL - CALC		SANDSTONE
	ANDESITE		CHERT - PORCEL		FOSSIL		METAMORPHICS		SANDSTONE-TUFFACEOUS
	ANHYDRITE		CHERT - TIGER STRIPE		GABBRO		MUDSTONE		SERICITIZATION
	BASALT		CHERT - UNDIFF		GLASSY TUFF		OBSIDIAN		SERPENTINE
	BENTONITE		CLAY		GRANITE		PALEOSOL		SHALE
	BIOTITIZATION		CLAY-MUDSTONE		GRANITE WASH		PHOSPHATE		SHALE TUFFACEOUS
	BRECCIA		CLYST-TUFFACEOUS		GRANODIORITE		PORCELANITE		SHELL FRAGMENTS
	CALCARENITE		CHLORITIZATION		GYPSUM		PORCELANEOUS CLYST		SIDERITE
	CALCAREOUS TUFF		COAL		HALITE		PYRITE		SILICIFICATION
	CALCILUTITE		CONGLOMERATE		HORNBL-QTZ-DIO		PYROCLASTICS		SILTSTONE
	CARBONATES		CONGL. SAND		IGNEOUS (ACIDIC)		QUARTZ DIORITE		SILTST-TUFFACEOUS
	CARBONACEOUS MAT		CONGL. SANDSTONE		IGNEOUS (BASIC)		QUARTZ LATITE		TUFF
	CARBONACEOUS SH		COQUINA		INTRUSIVES		QUARTZ MONZONITE		VOLCANICLASTICS SEDS
	CEMENT CONTAM.		DACITE		KAOLINITIC		RECRYSTALLIZED CALCITE		VOLCANICS
	CHALK		DIATOMITE		LIMESTONE		RHYOLITE		
	CRYSTALLINE TUFF		DIORITE		LITHIC TUFF		SALT		
	CHERT - ARGILL		DOLOSTONE		MARL - DOLO		SAND		

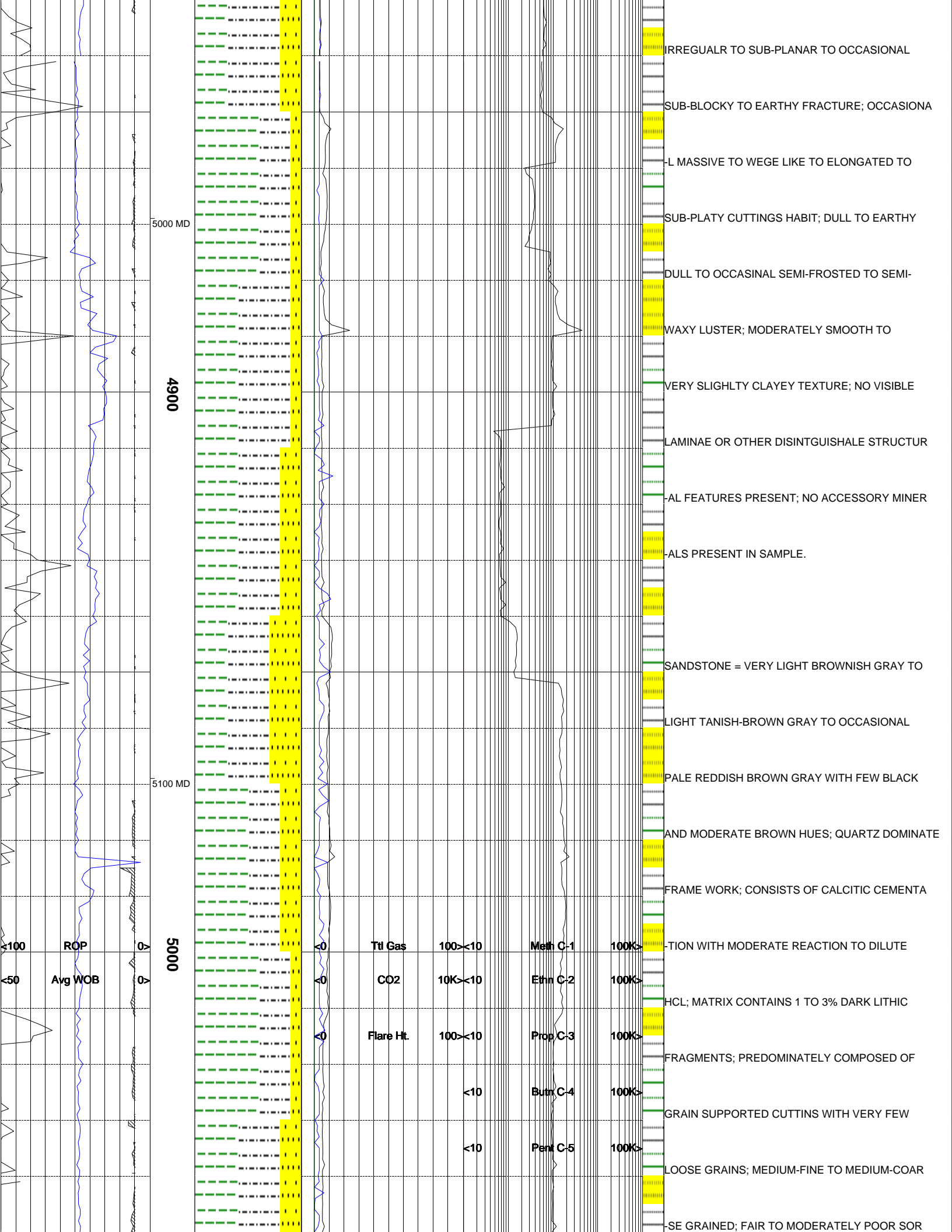
TVD Depth			Lithology	MGS			Interp. Lith			Remarks Survey Data, Mud Reports, Other Info.
<100	ROP	0>		<0	Ttl Gas units	1K>	<10	Meth C-1 ppm	100K>	
ft/hr			<0	CO2	10K>	<10	Ethn C-2	100K>		
<50	Avg WOB	0>	<0	Flare Ht.	100>	<10	Prop C-3	100K>		
klbs			<0	ft	100>	<10	Butn C-4	100K>		
			<0		100>	<10	Pent C-5	100K>		
										EPOCH WELL SERVICES COMMENCED LOGGING
										ON 7/21/2010 @ 3950'.
										SHALE = VERY LIGHT GRAY TO LIGHT GRAY TO
										OCCASIONAL MEDIUM LIGHT GRAY; VERY SLIGH
										TLY DENSE TO MOSTLY BRITTLE TO CRUMBLY
										TENACITY; IRREGULAR TO SUB-BLOCKY TO SUB
										PLANAR TO EARTHY HACKLY FRACTURE; OCCAS
										IONAL MASSIVE TO WEGE LIKE TO OCCASIONA
										L ELONGATED CUTTINGS HABIT; DULL TO EAR
										THY DULL TO OCCASIONAL SEMI-FROSTED TO
										SEMI-WAXY LUSTER; MODERATELY SMOOTH TO

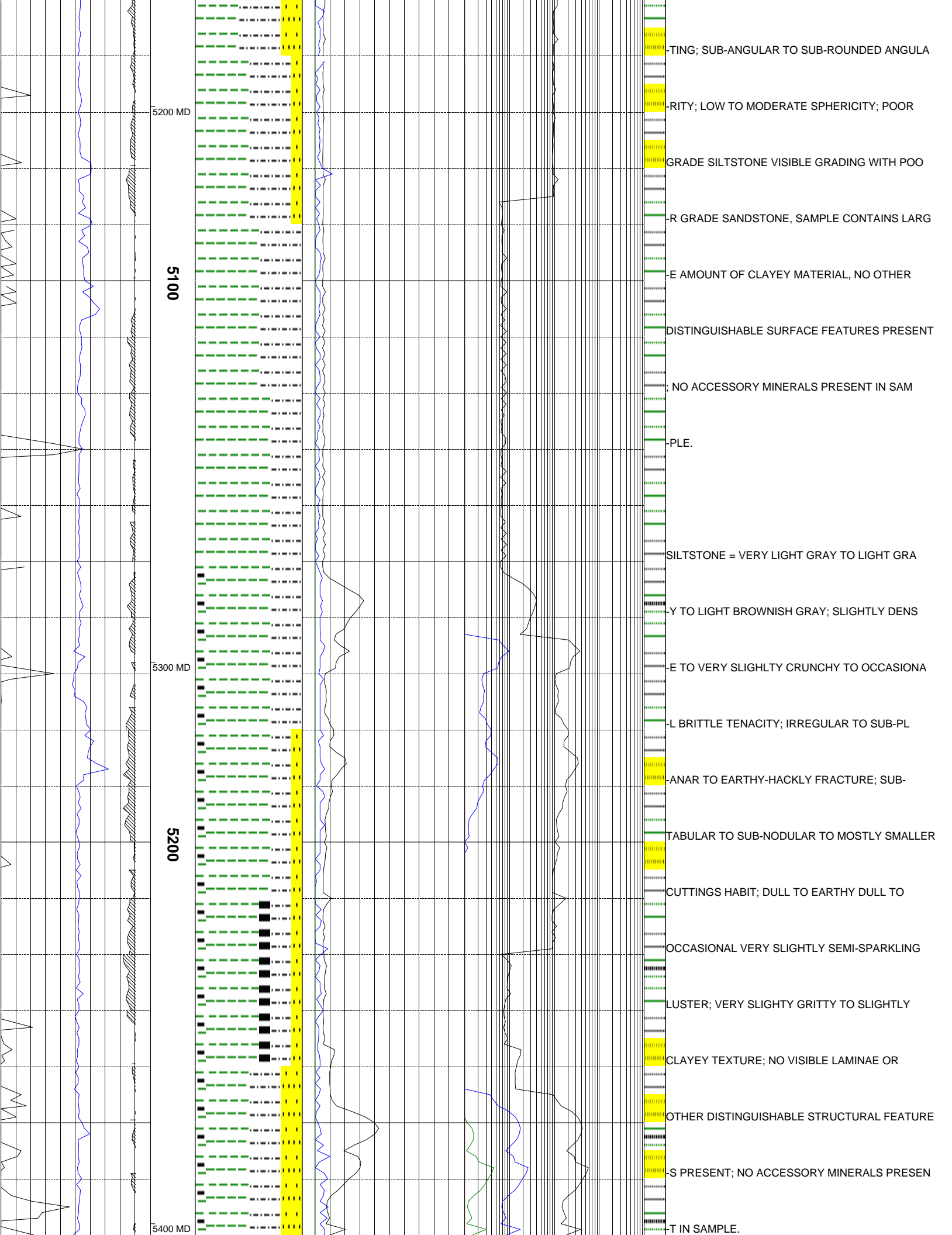


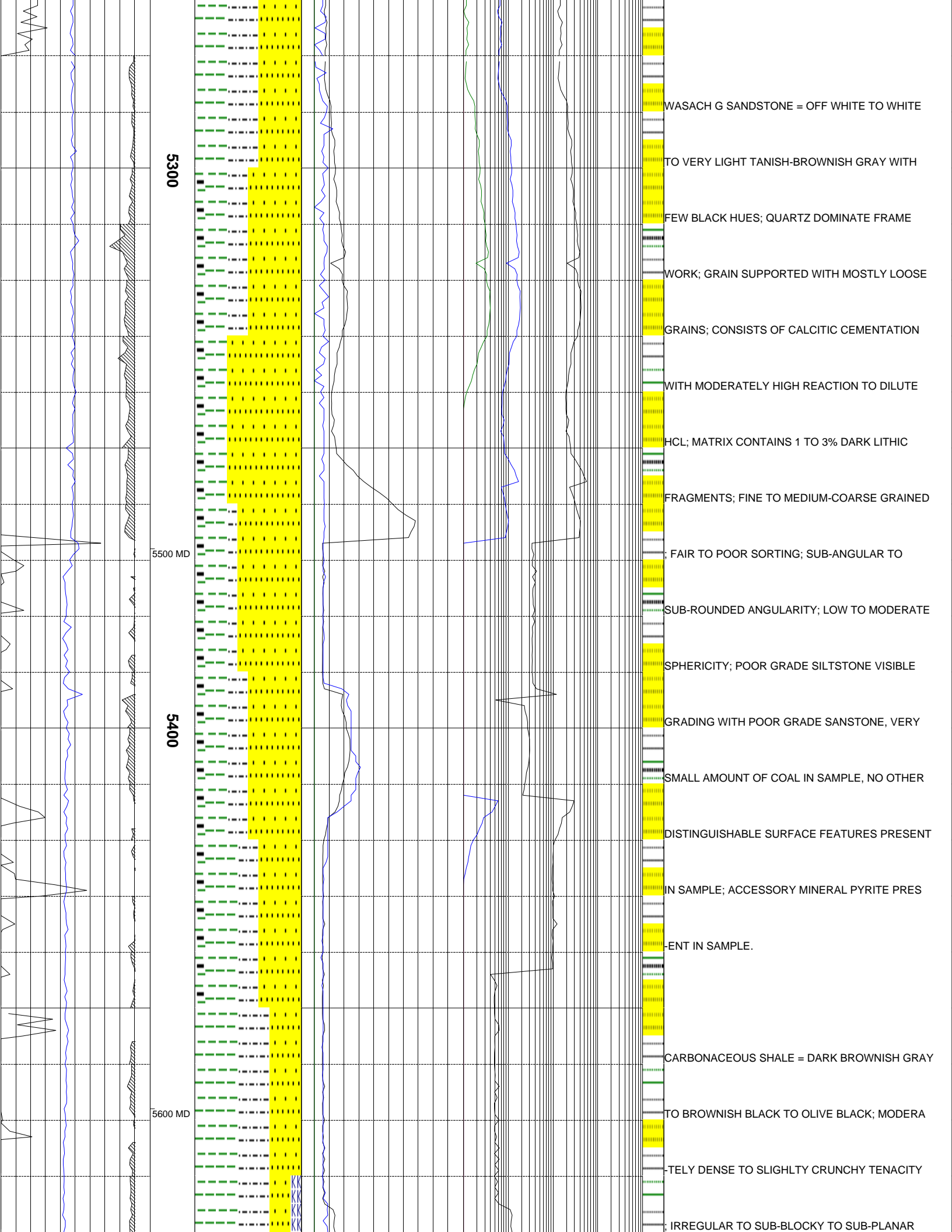


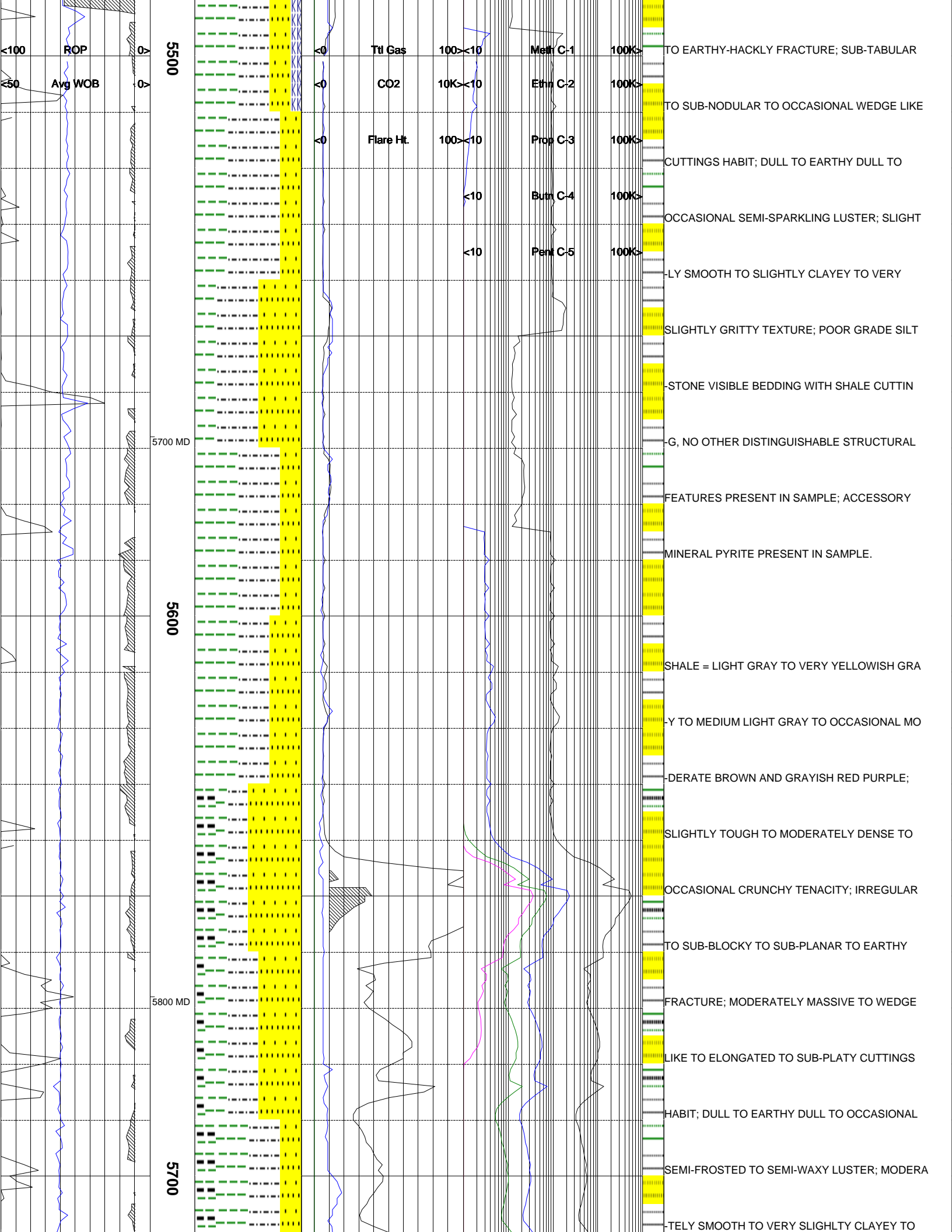


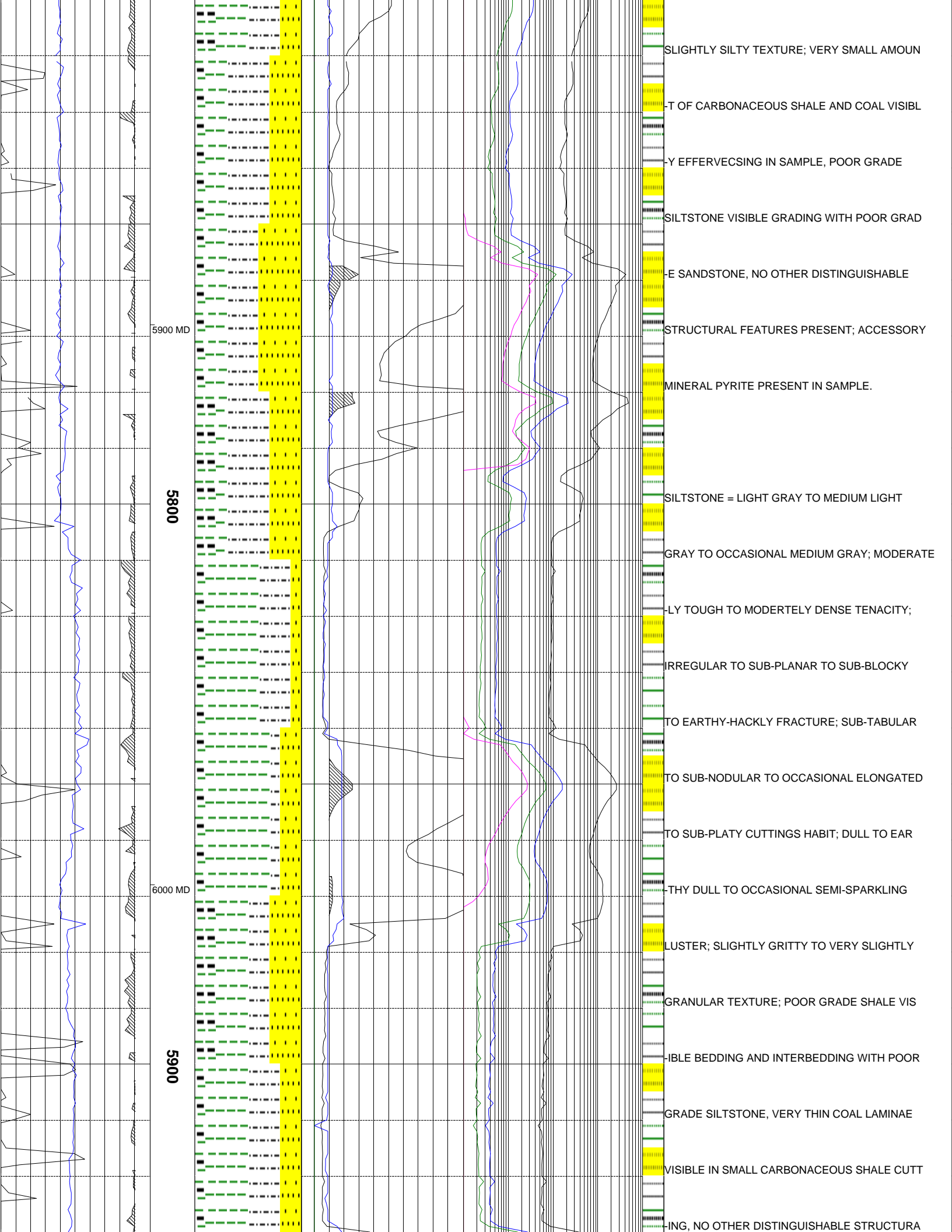


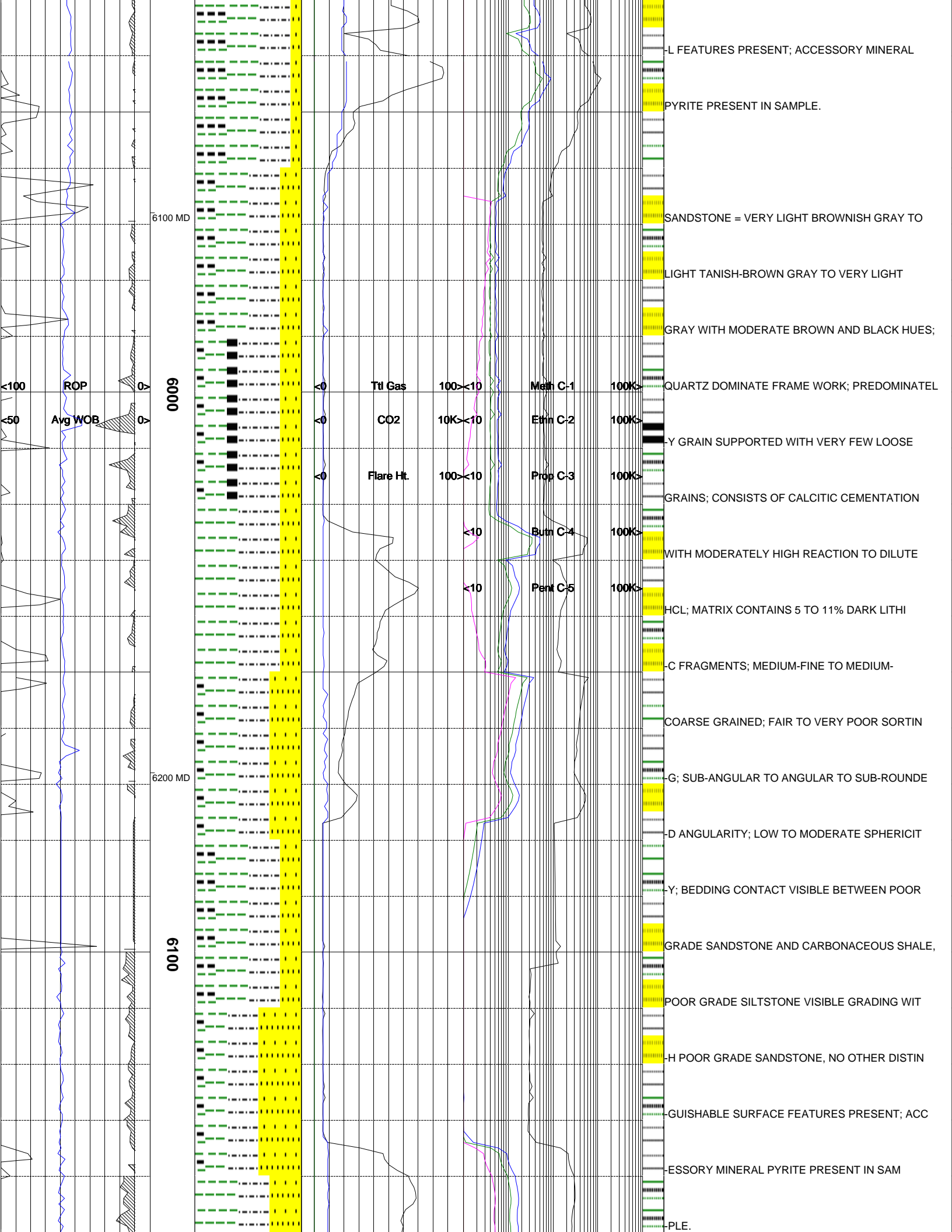


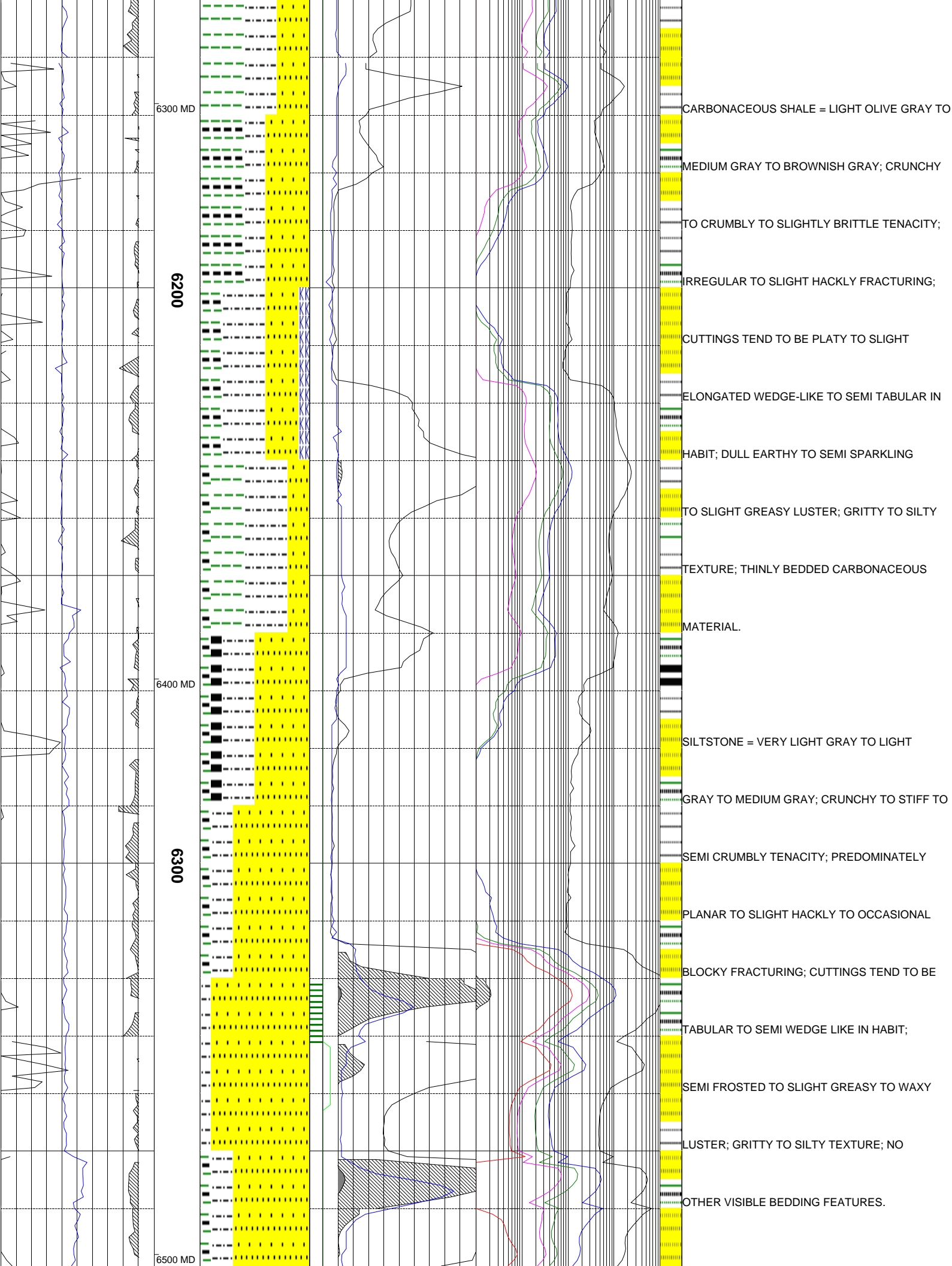


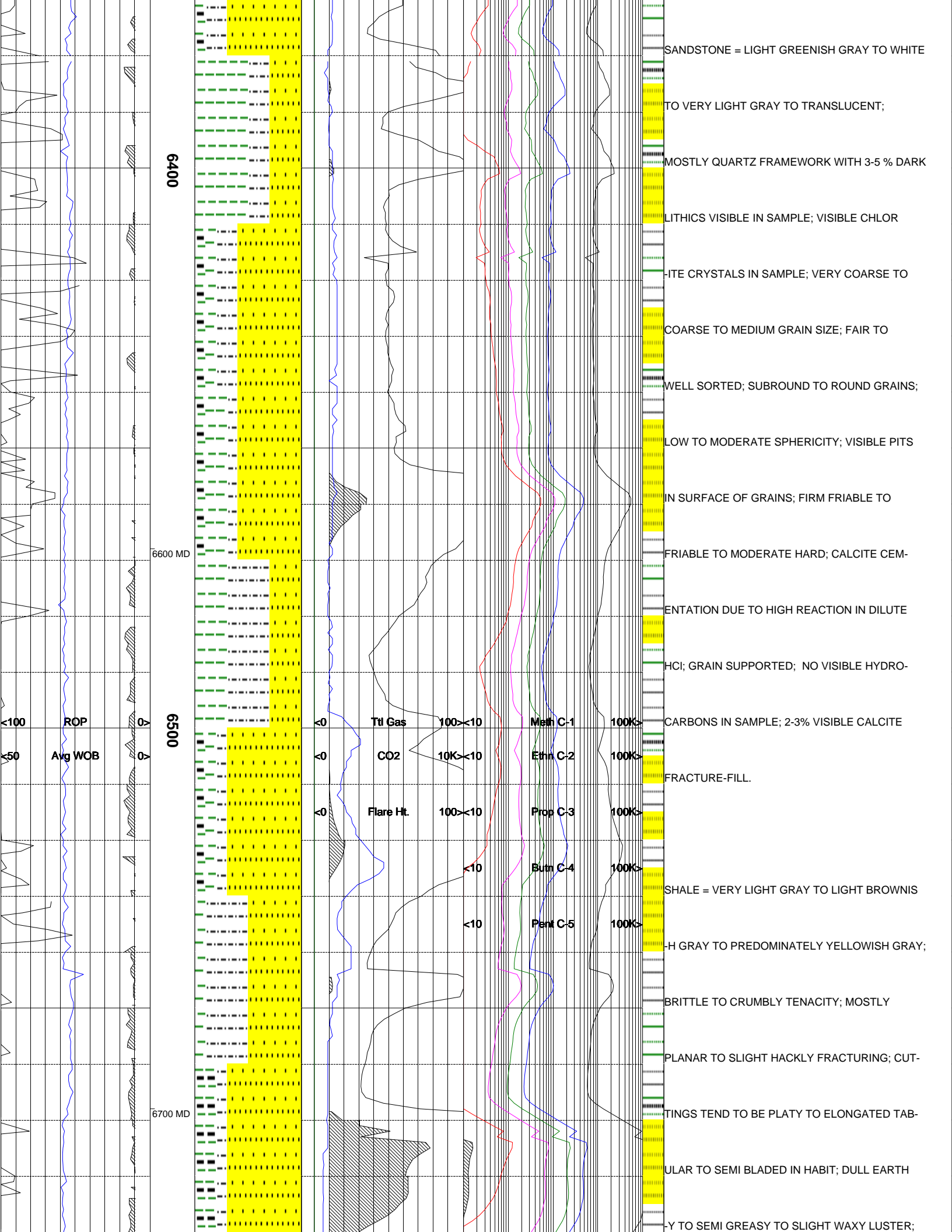


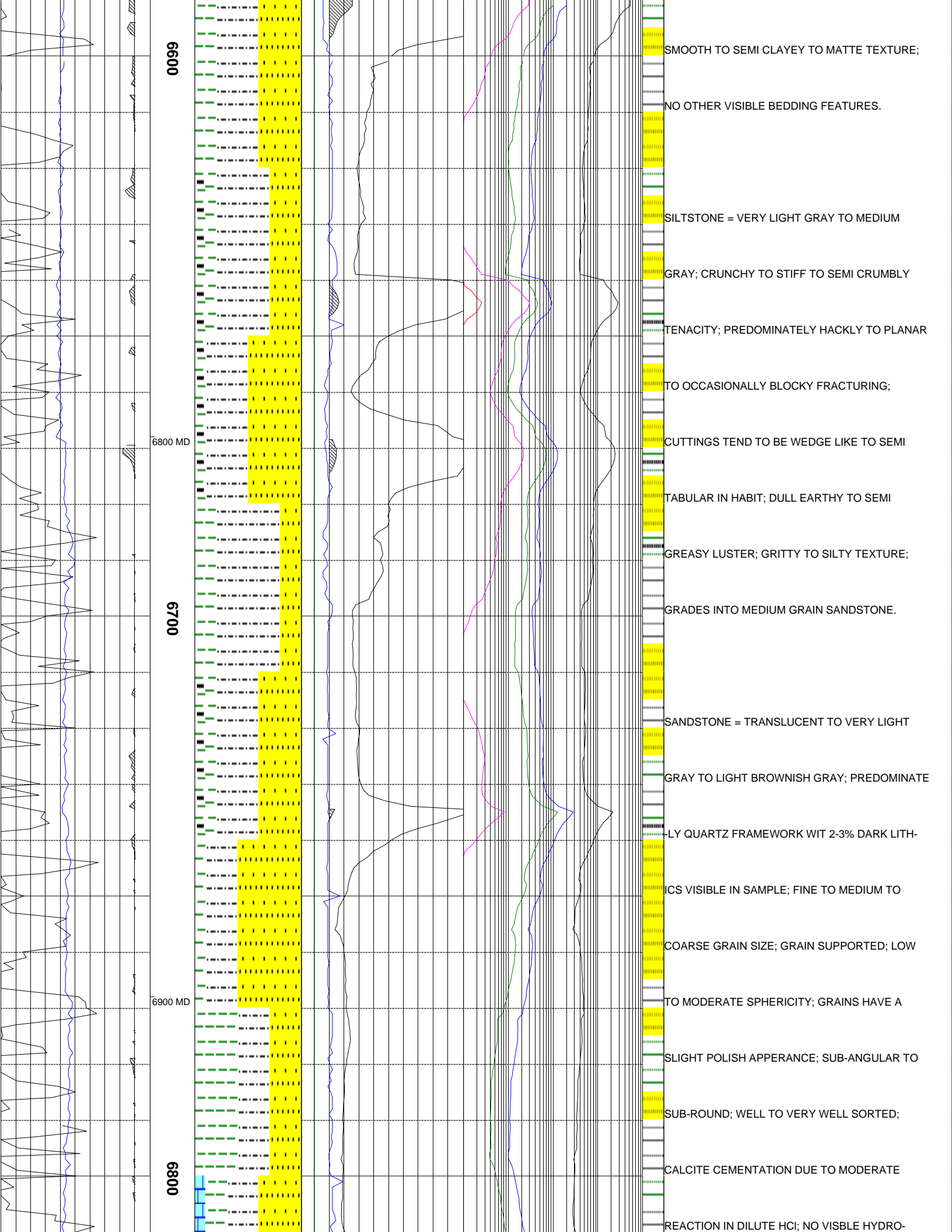


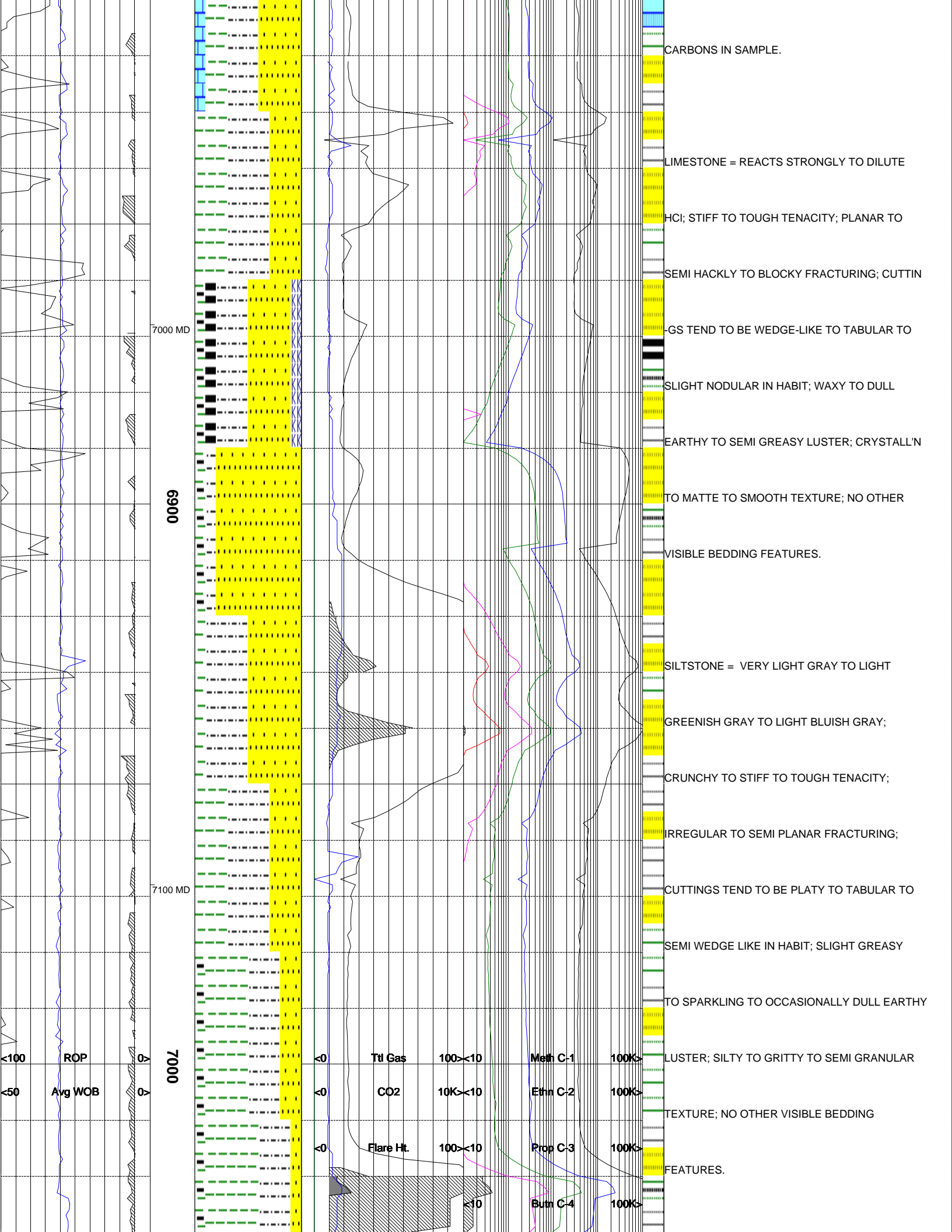


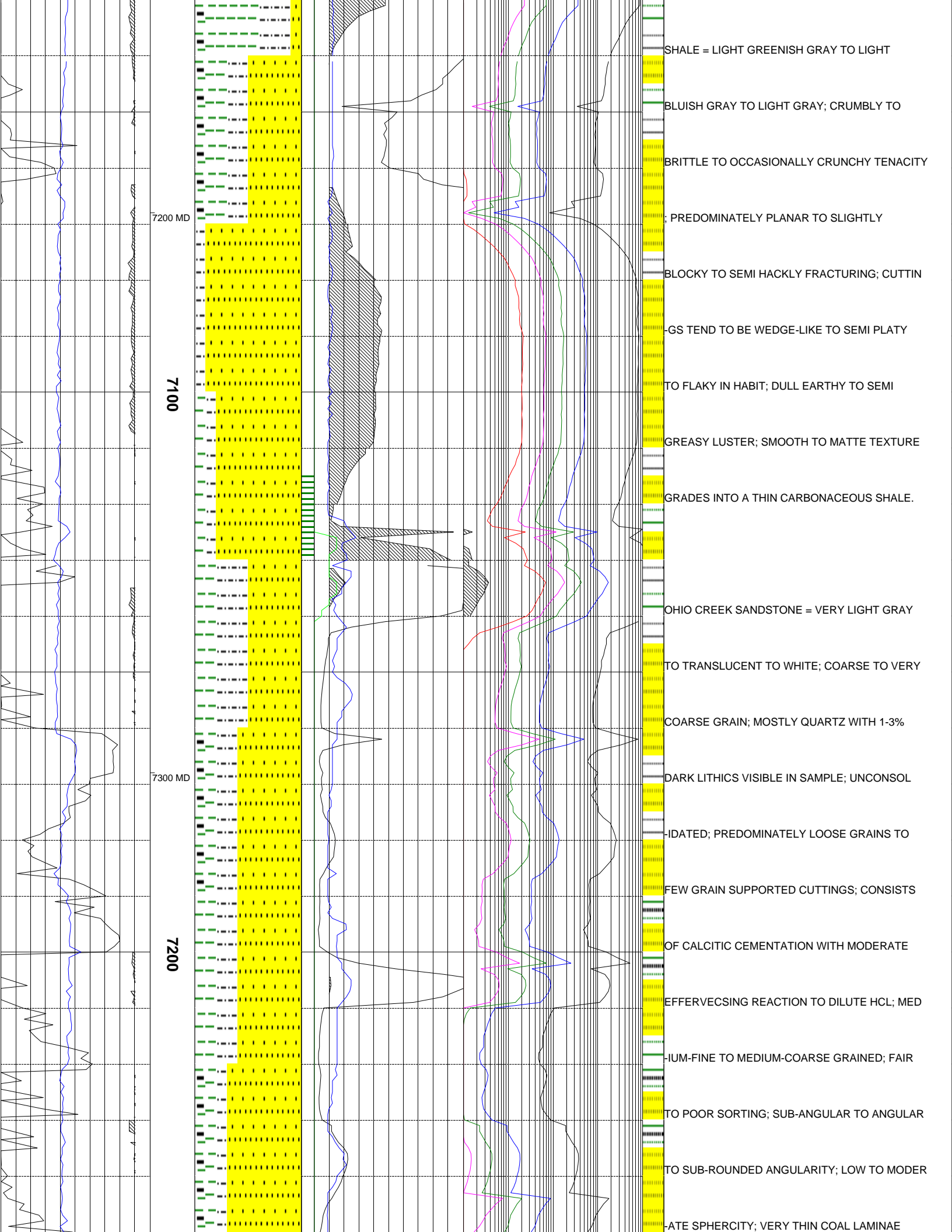


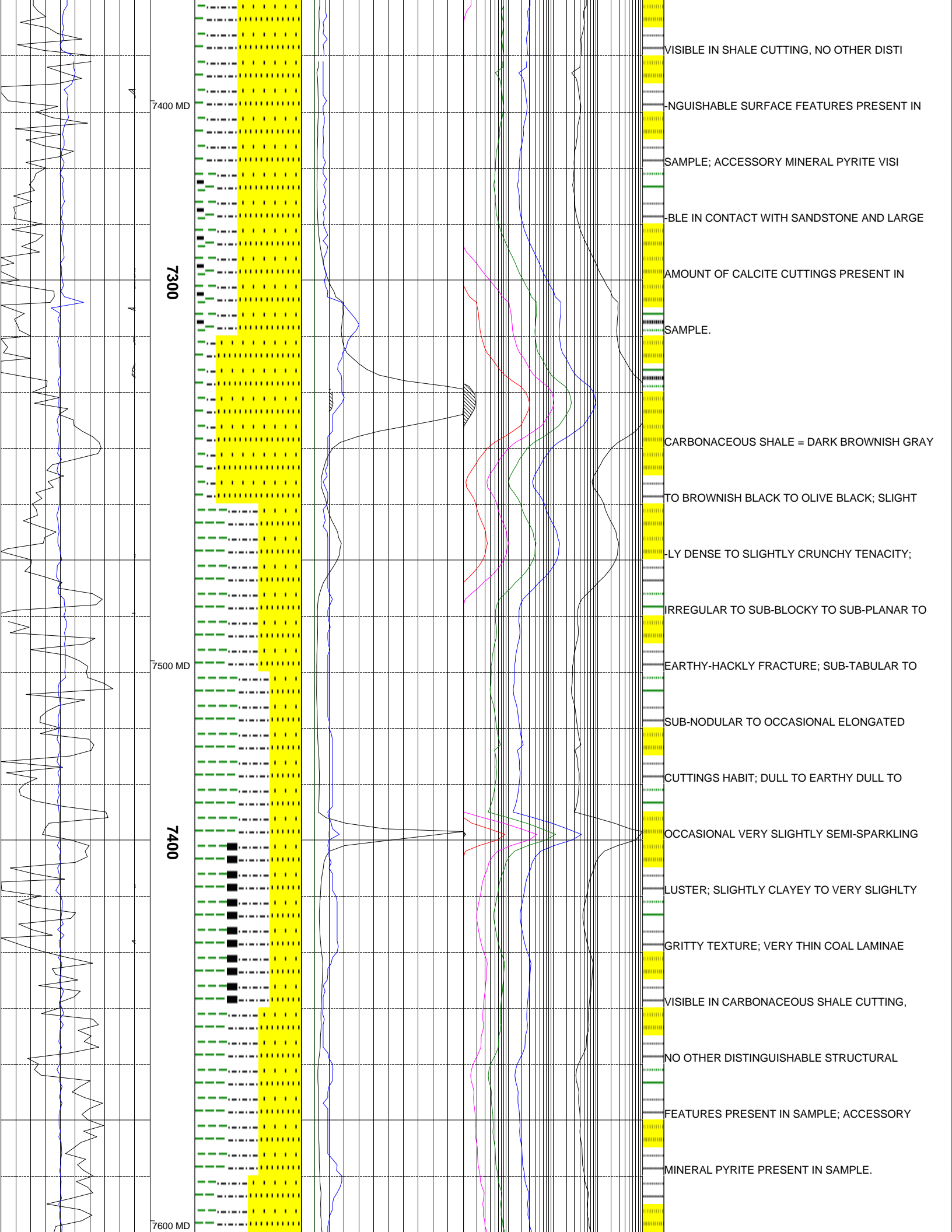


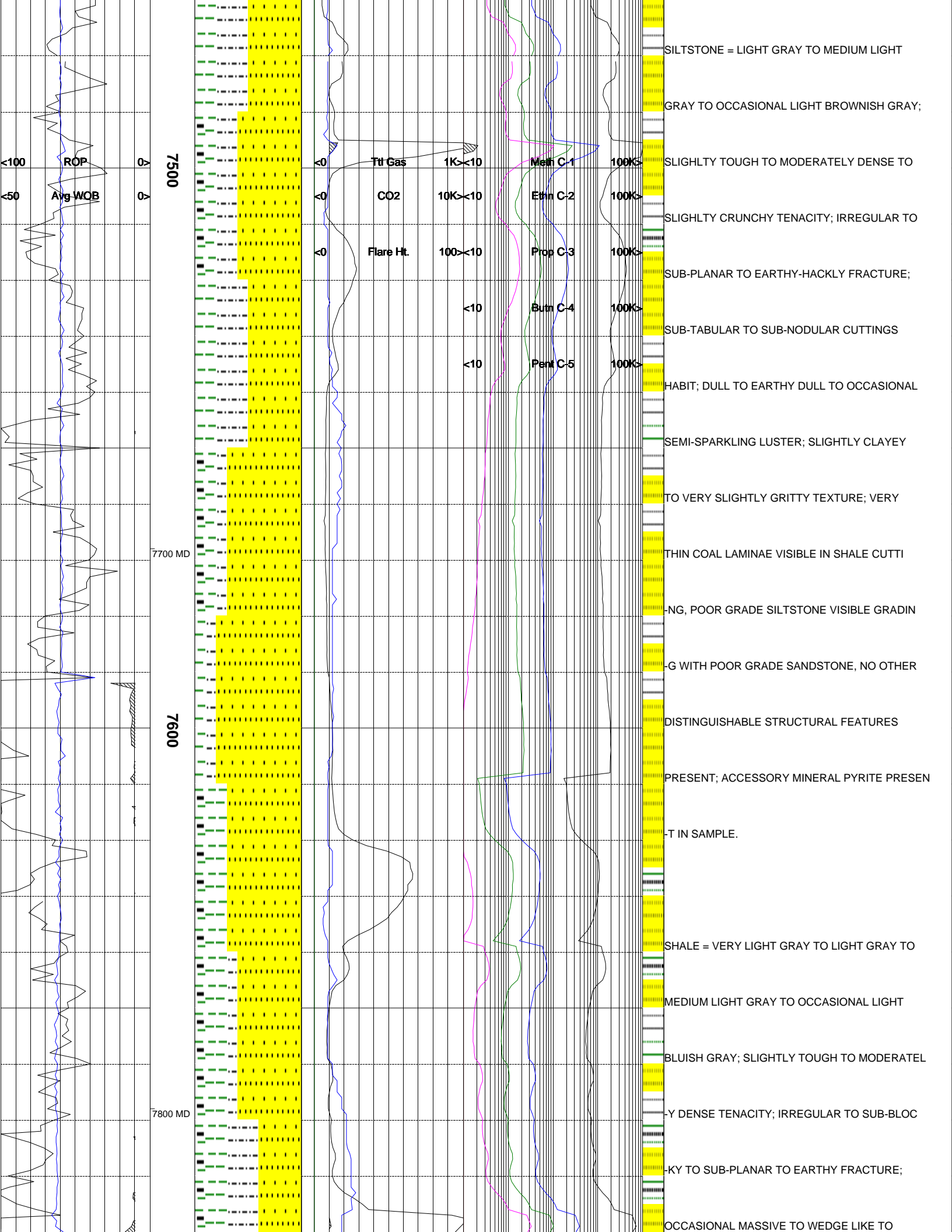


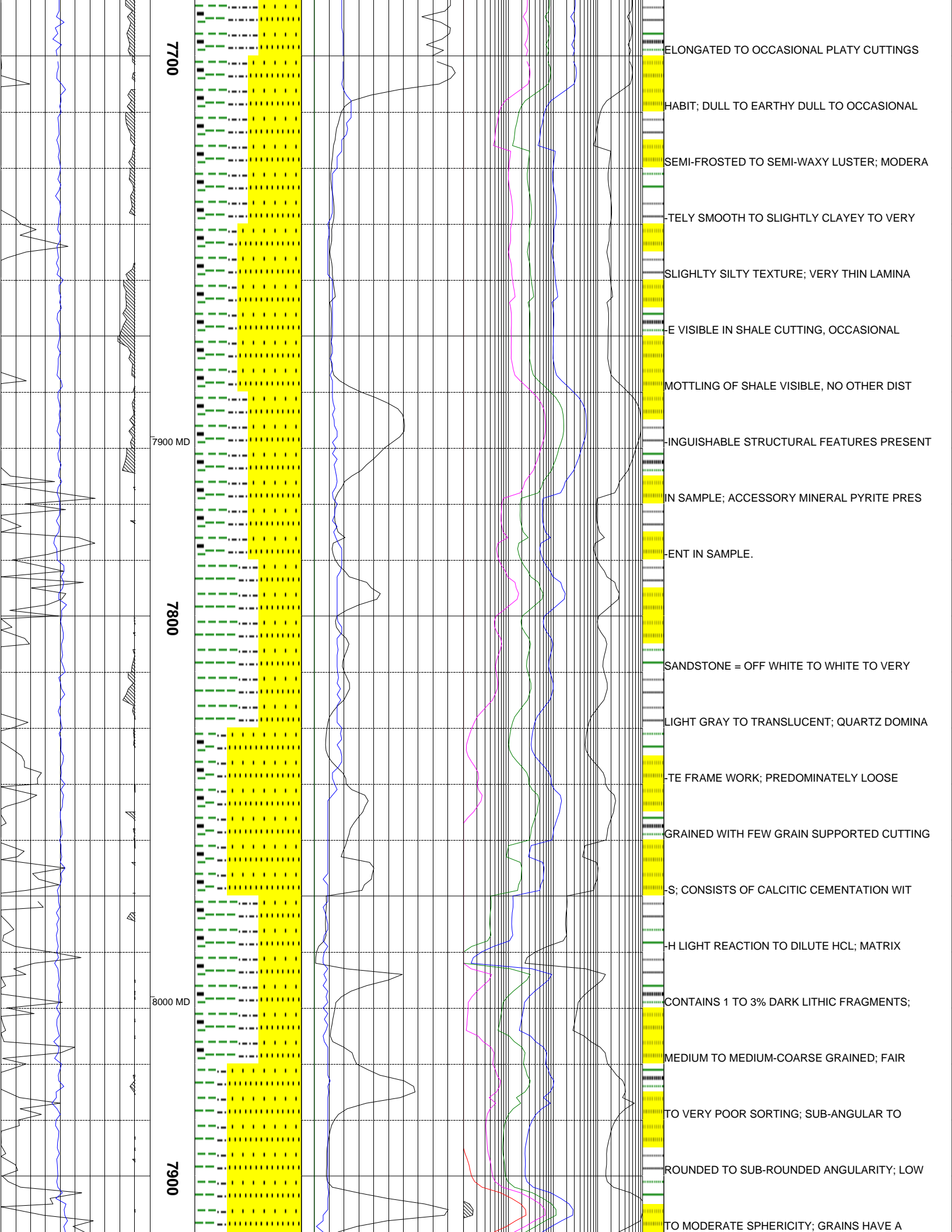


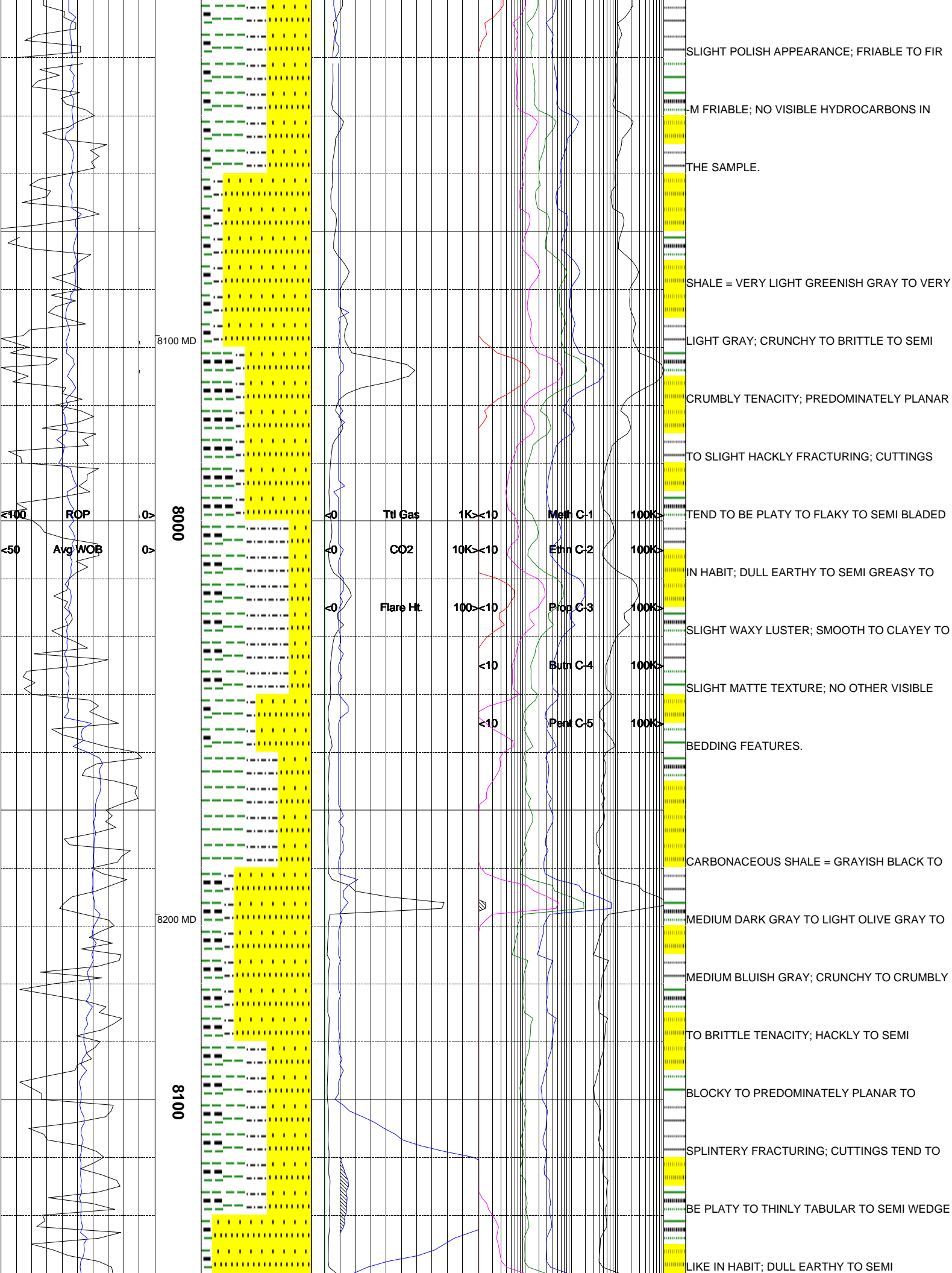


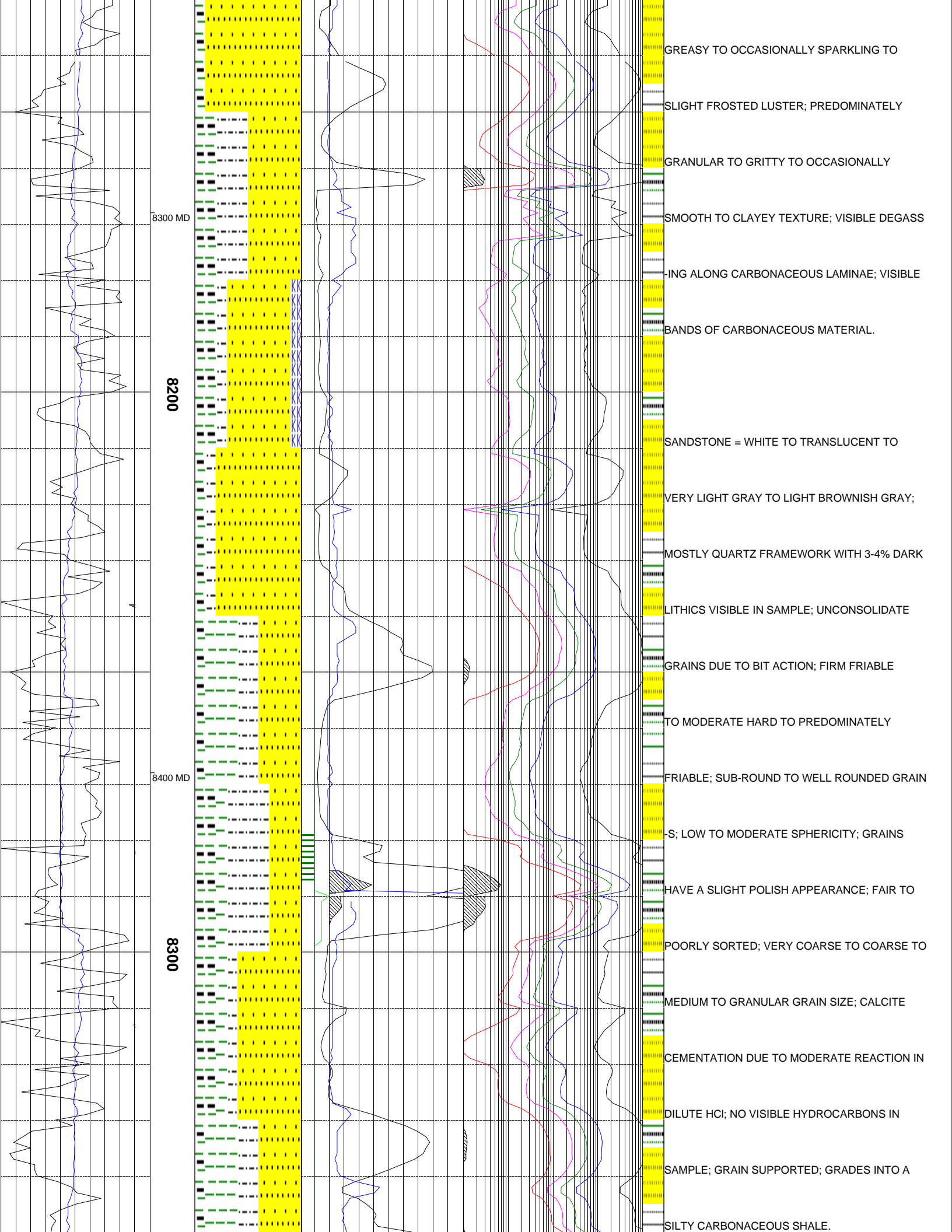


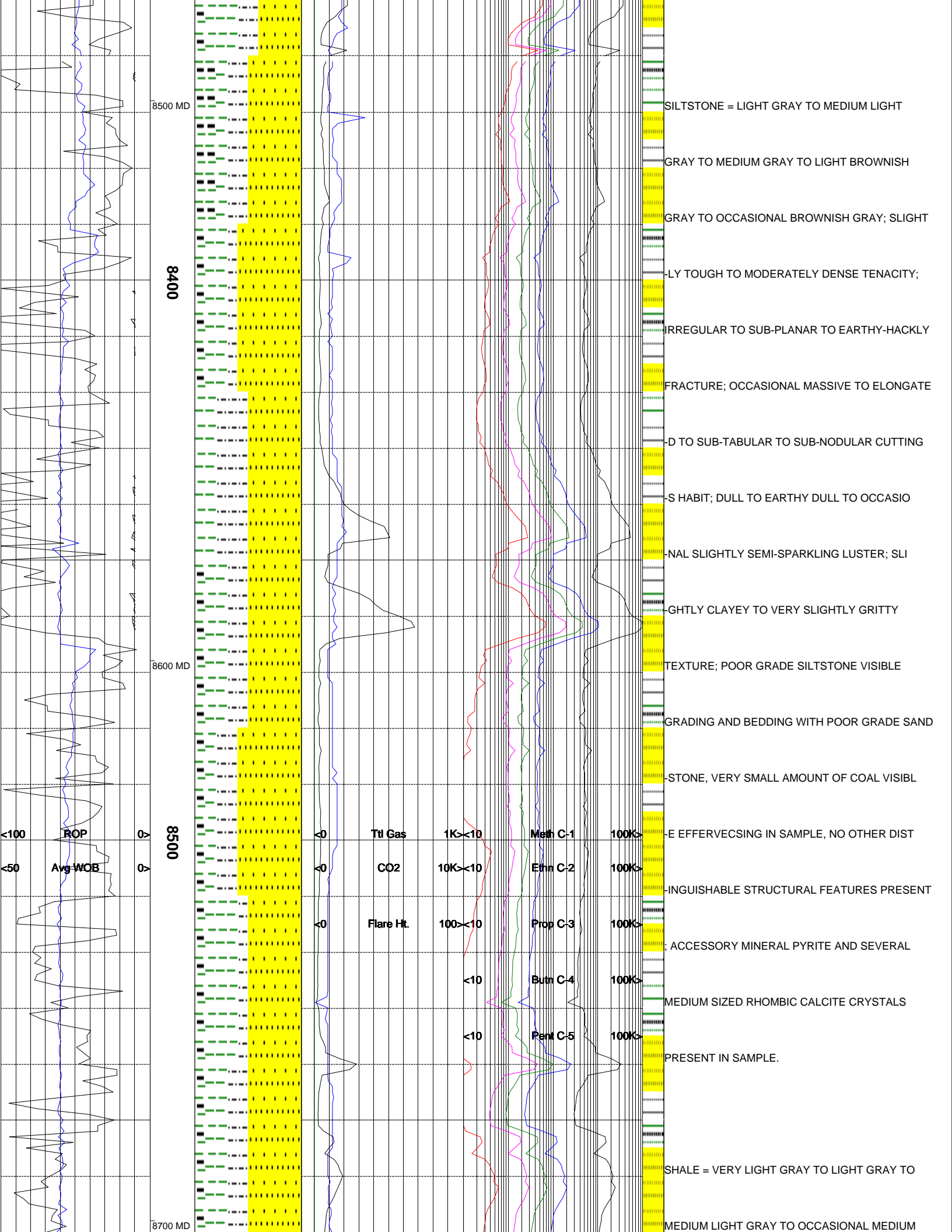


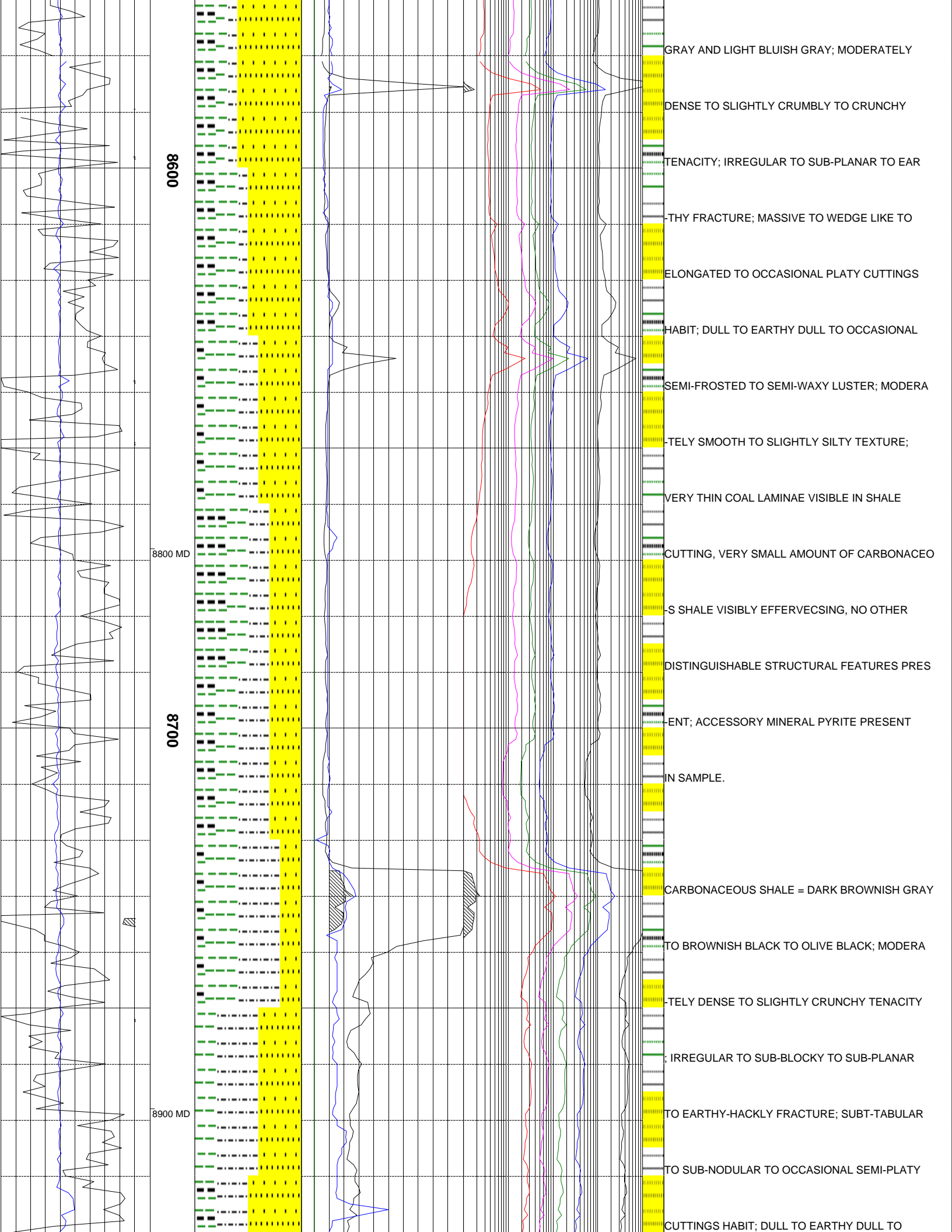


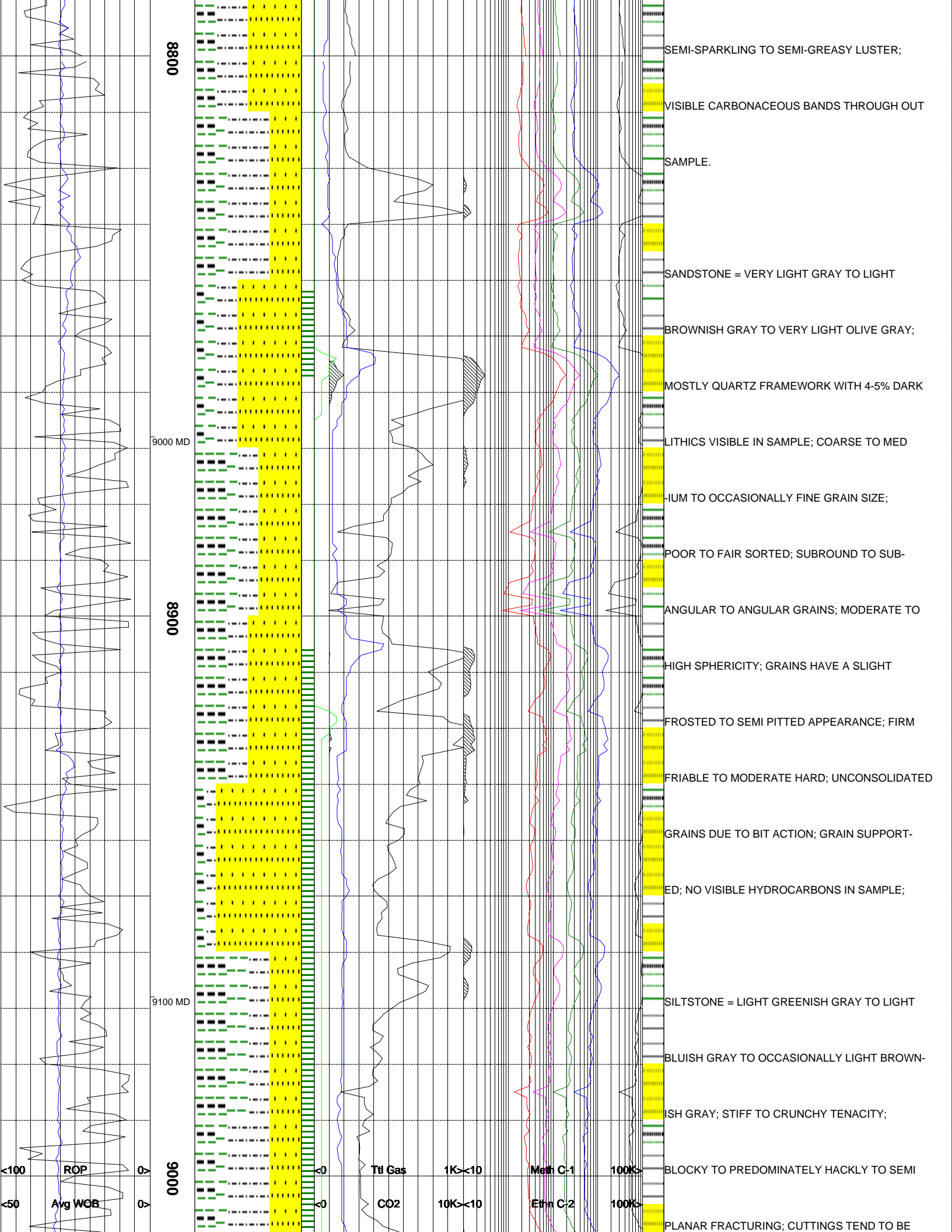


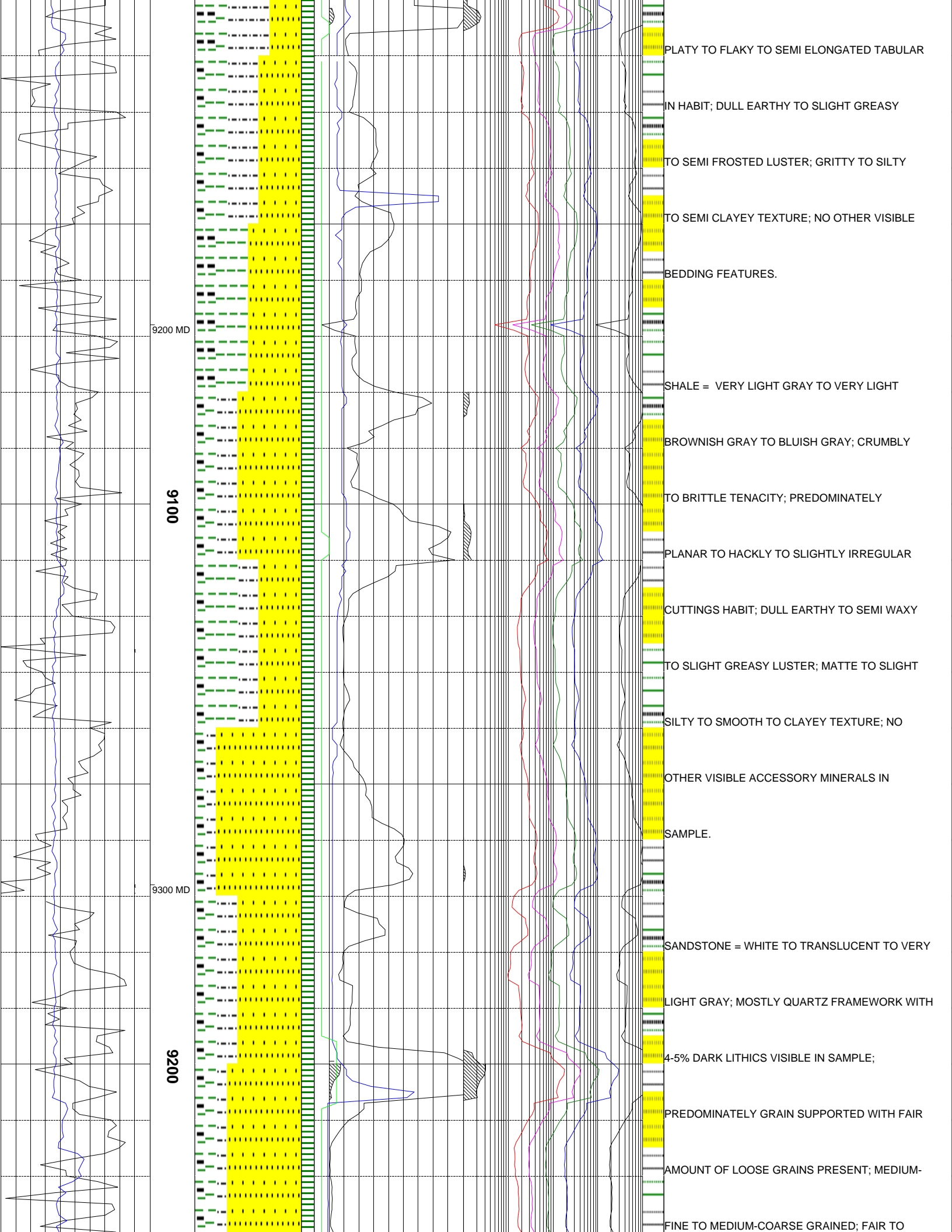


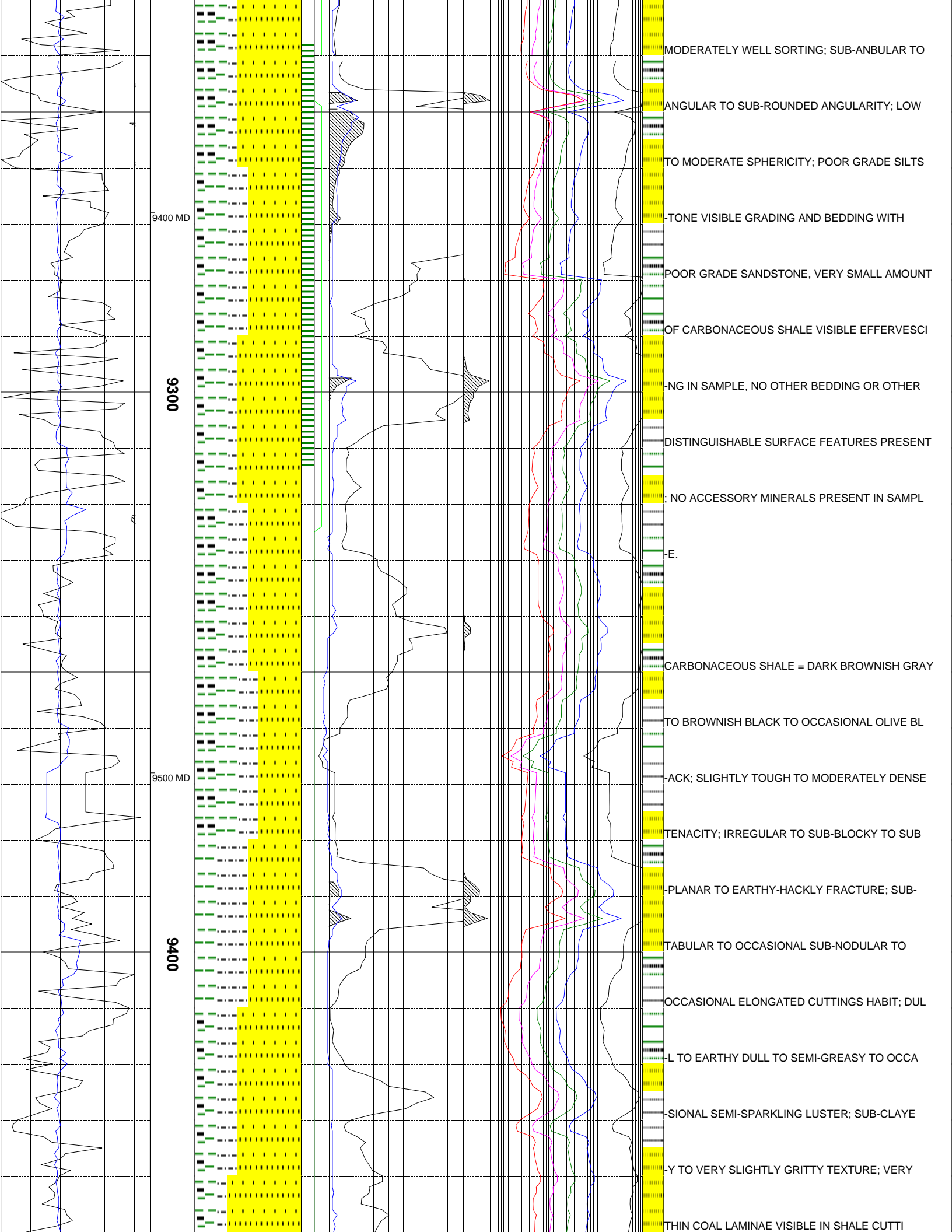


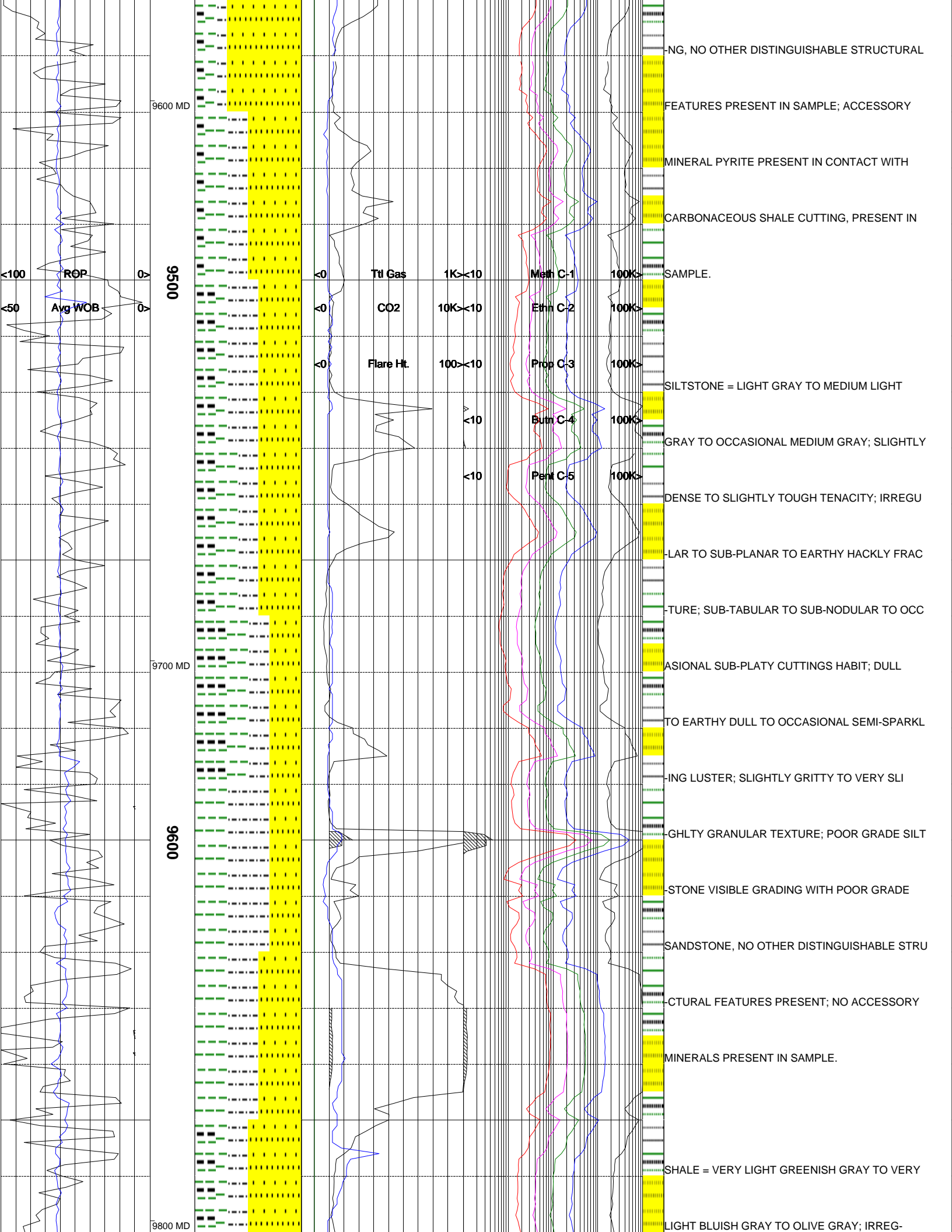


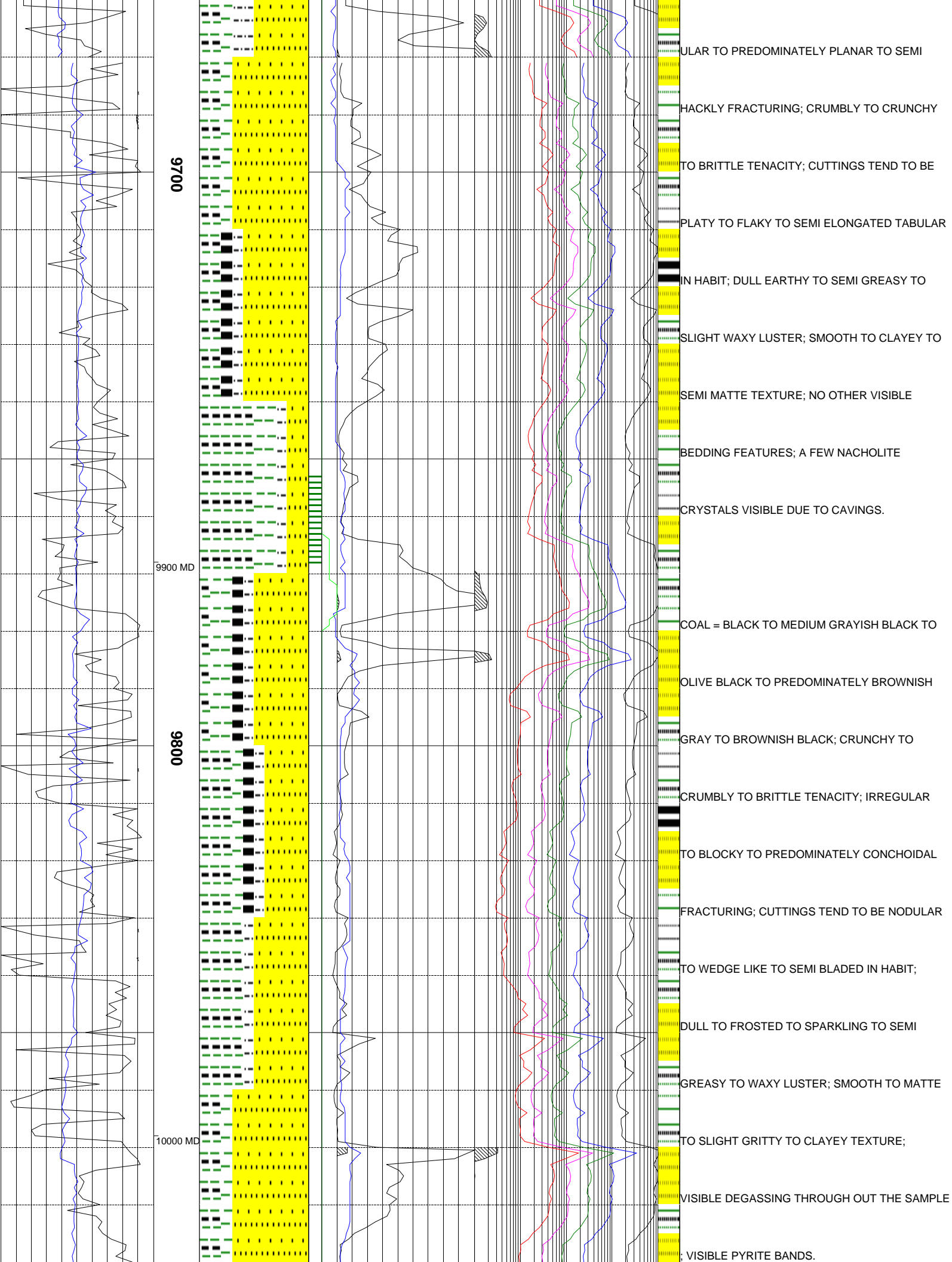


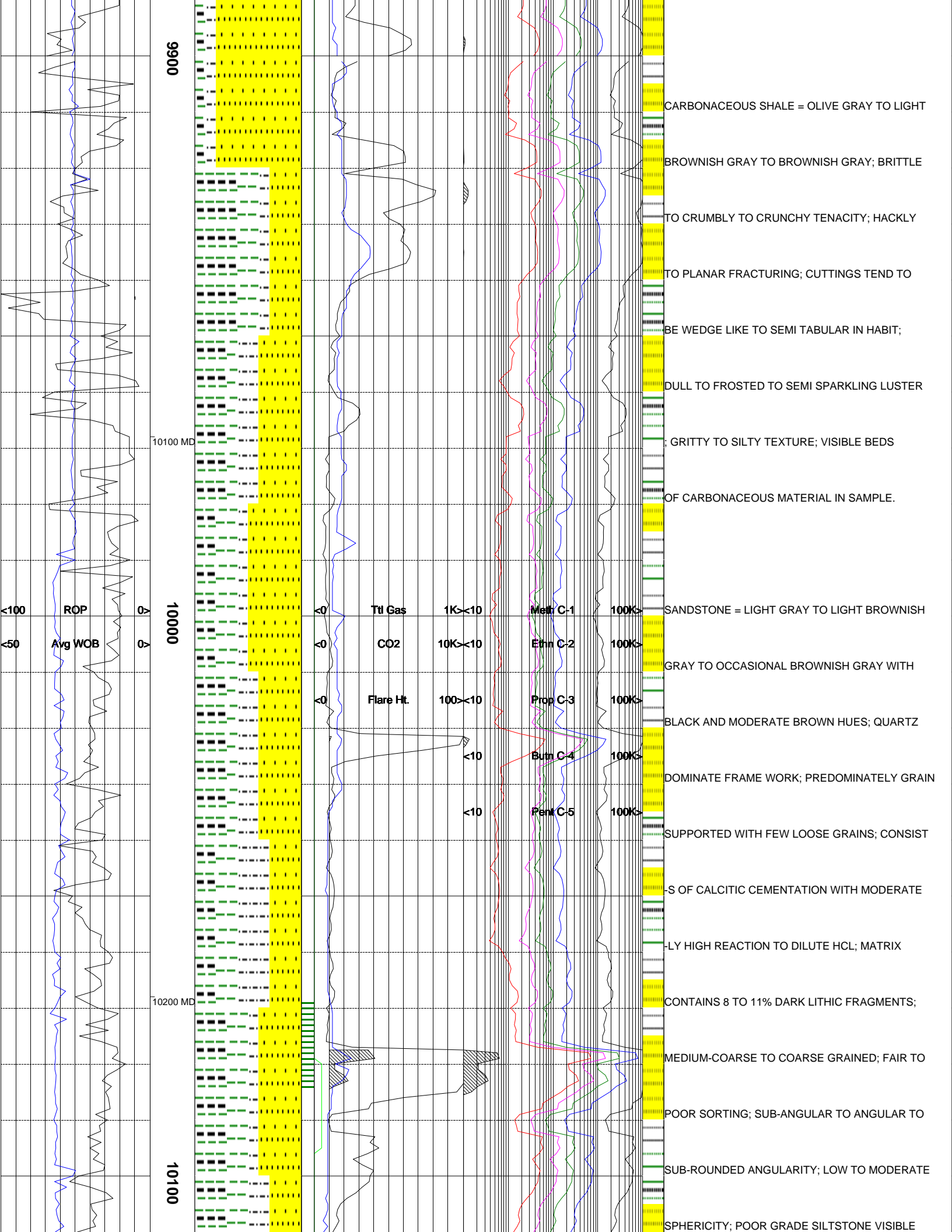


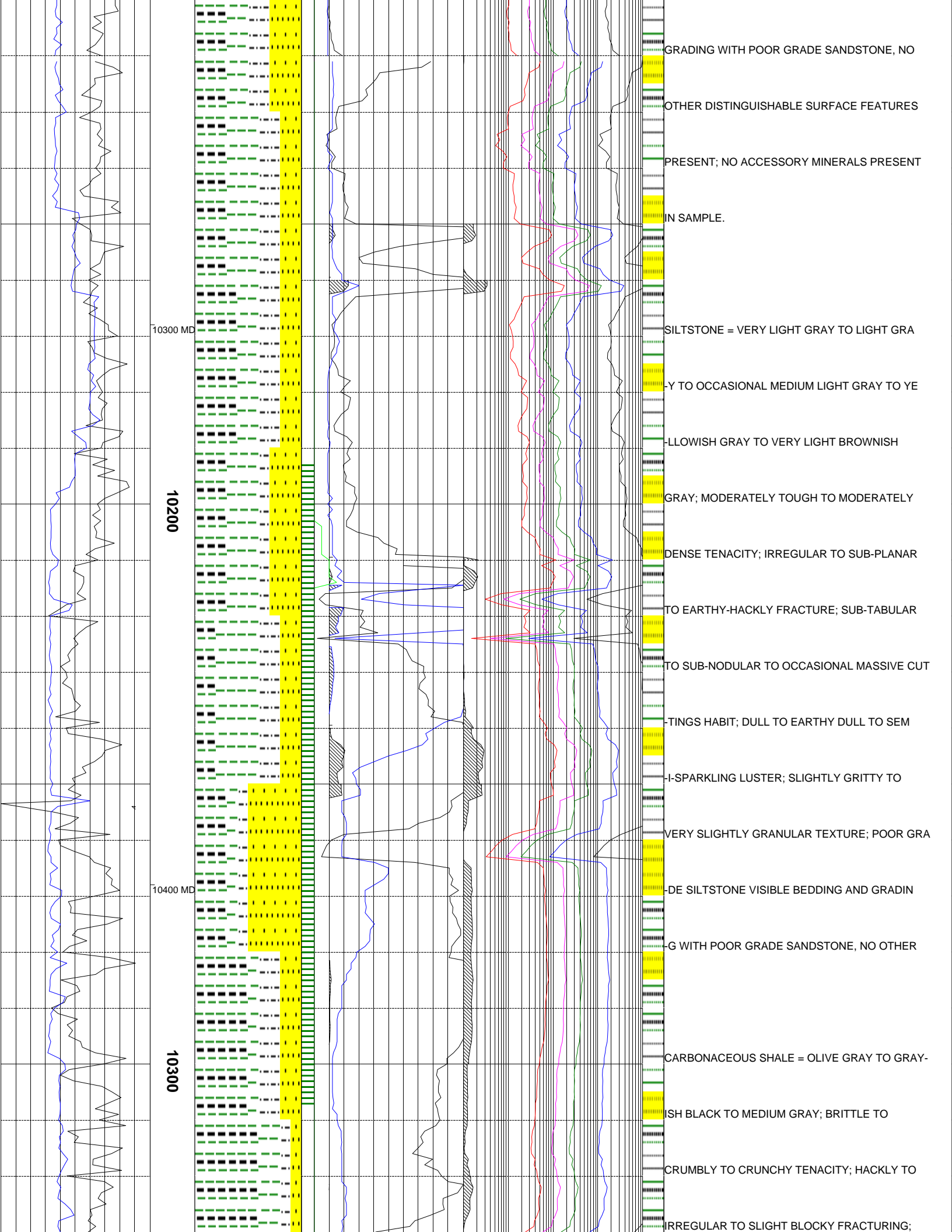


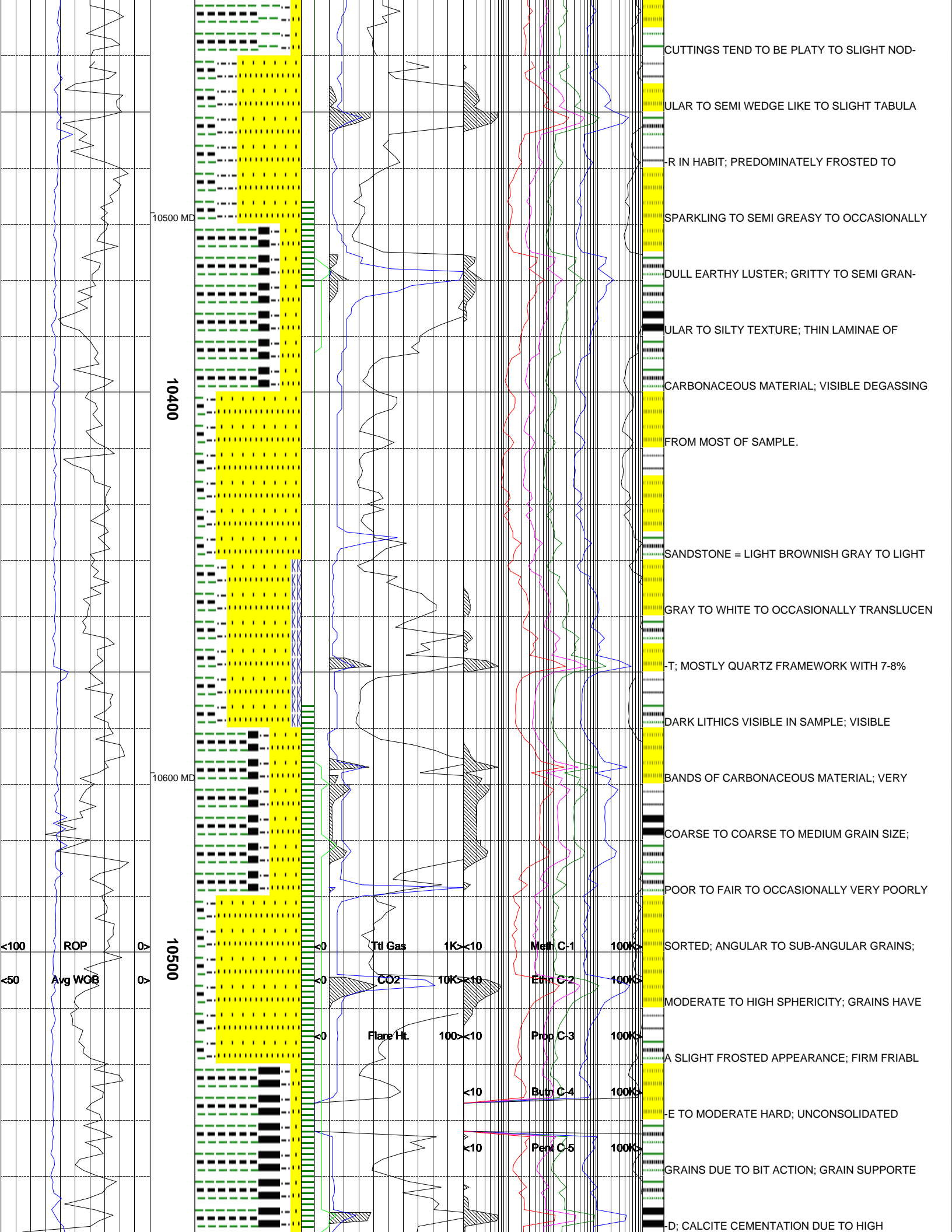


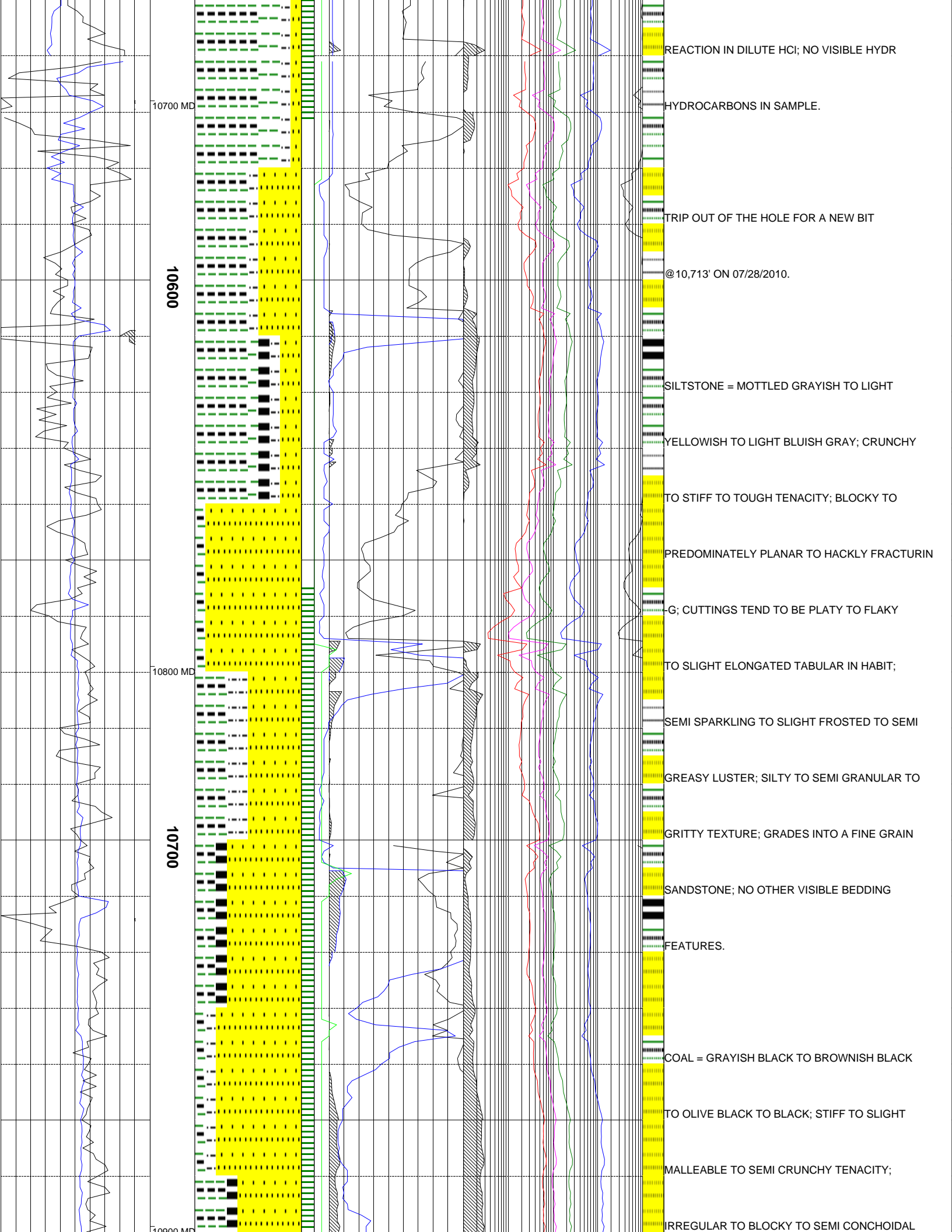


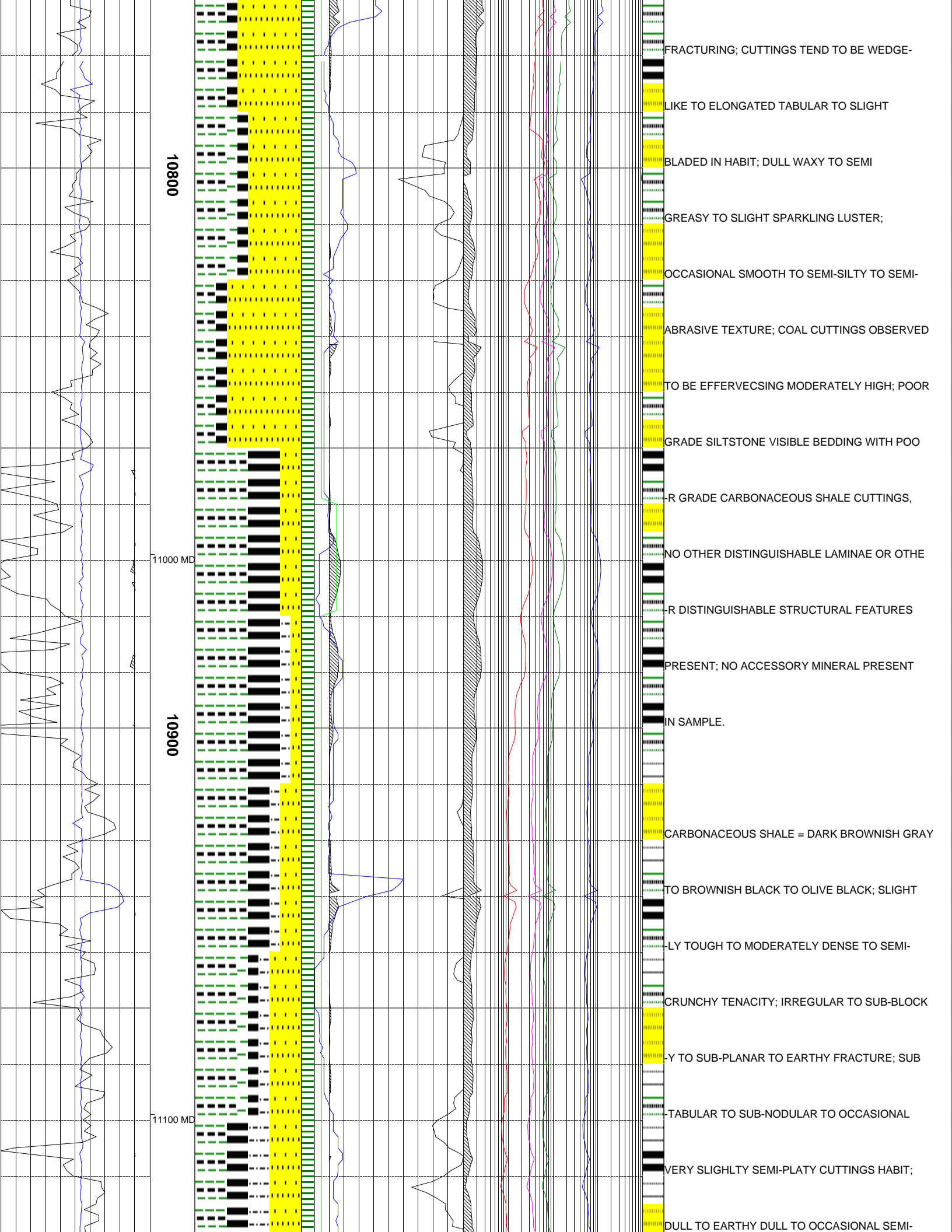


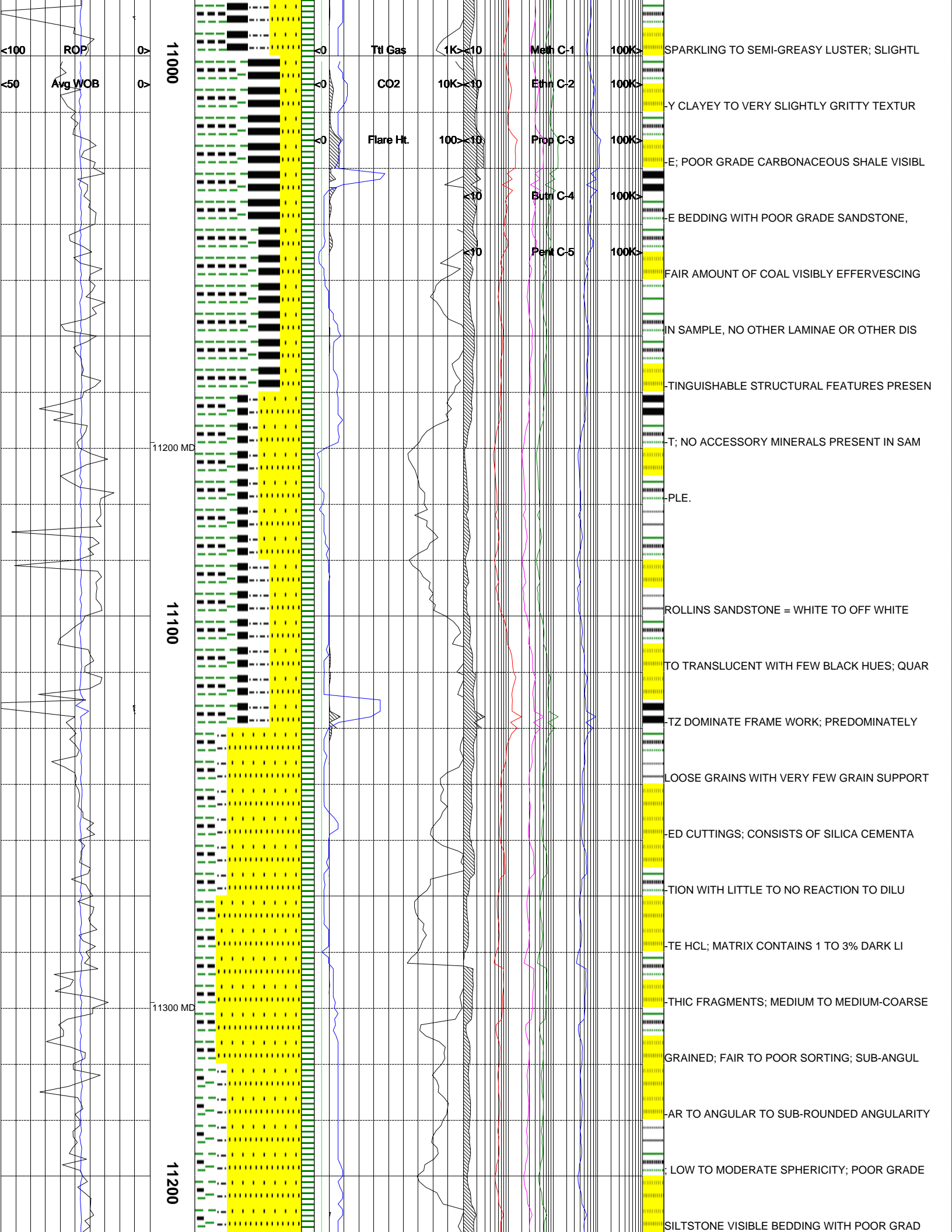


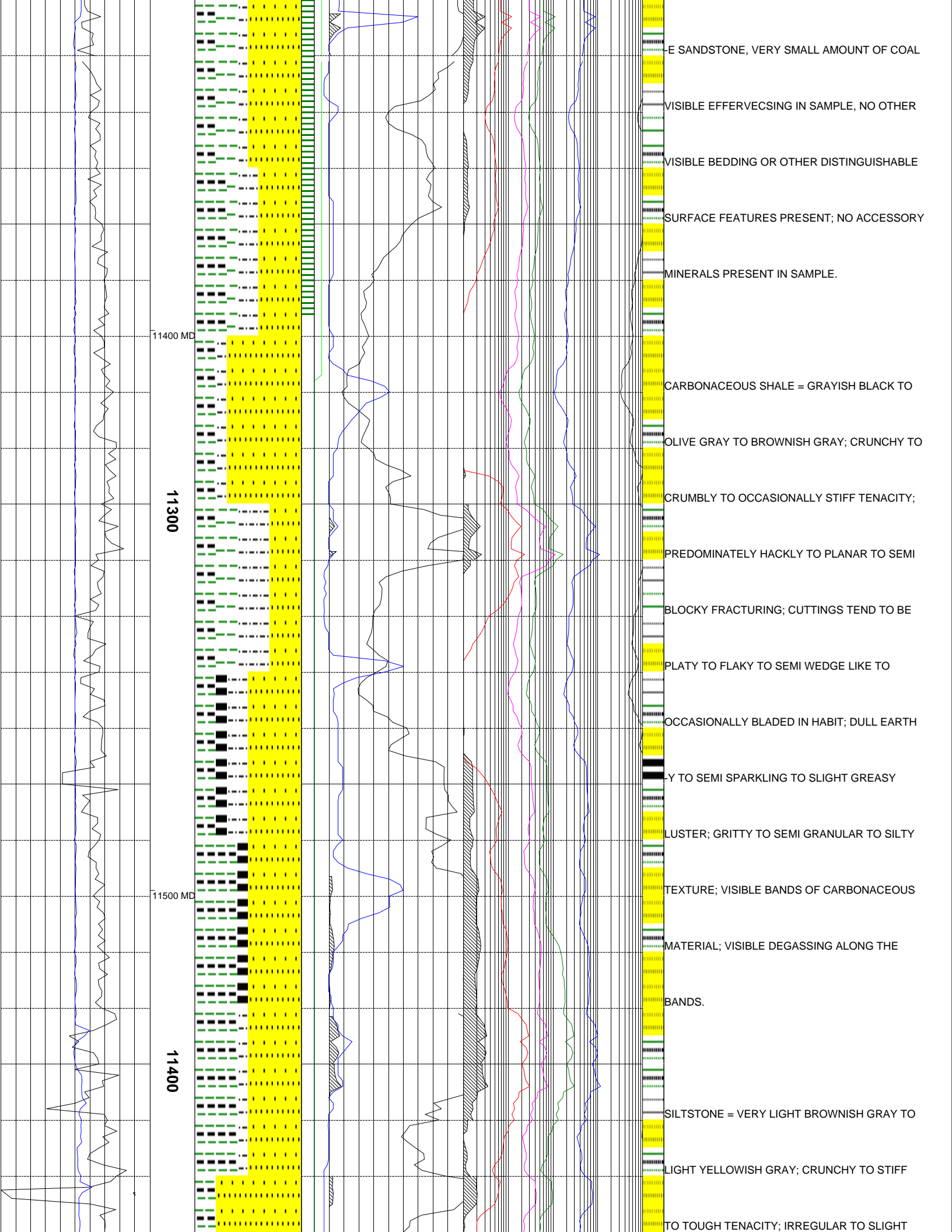












E SANDSTONE, VERY SMALL AMOUNT OF COAL

VISIBLE EFFERVECSING IN SAMPLE, NO OTHER

VISIBLE BEDDING OR OTHER DISTINGUISHABLE

SURFACE FEATURES PRESENT; NO ACCESSORY

MINERALS PRESENT IN SAMPLE.

CARBONACEOUS SHALE = GRAYISH BLACK TO

OLIVE GRAY TO BROWNISH GRAY; CRUNCHY TO

CRUMBLY TO OCCASIONALLY STIFF TENACITY;

PREDOMINATELY HACKLY TO PLANAR TO SEMI

BLOCKY FRACTURING; CUTTINGS TEND TO BE

PLATY TO FLAKY TO SEMI WEDGE LIKE TO

OCCASIONALLY BLADED IN HABIT; DULL EARTH

Y TO SEMI SPARKLING TO SLIGHT GREASY

LUSTER; GRITTY TO SEMI GRANULAR TO SILTY

TEXTURE; VISIBLE BANDS OF CARBONACEOUS

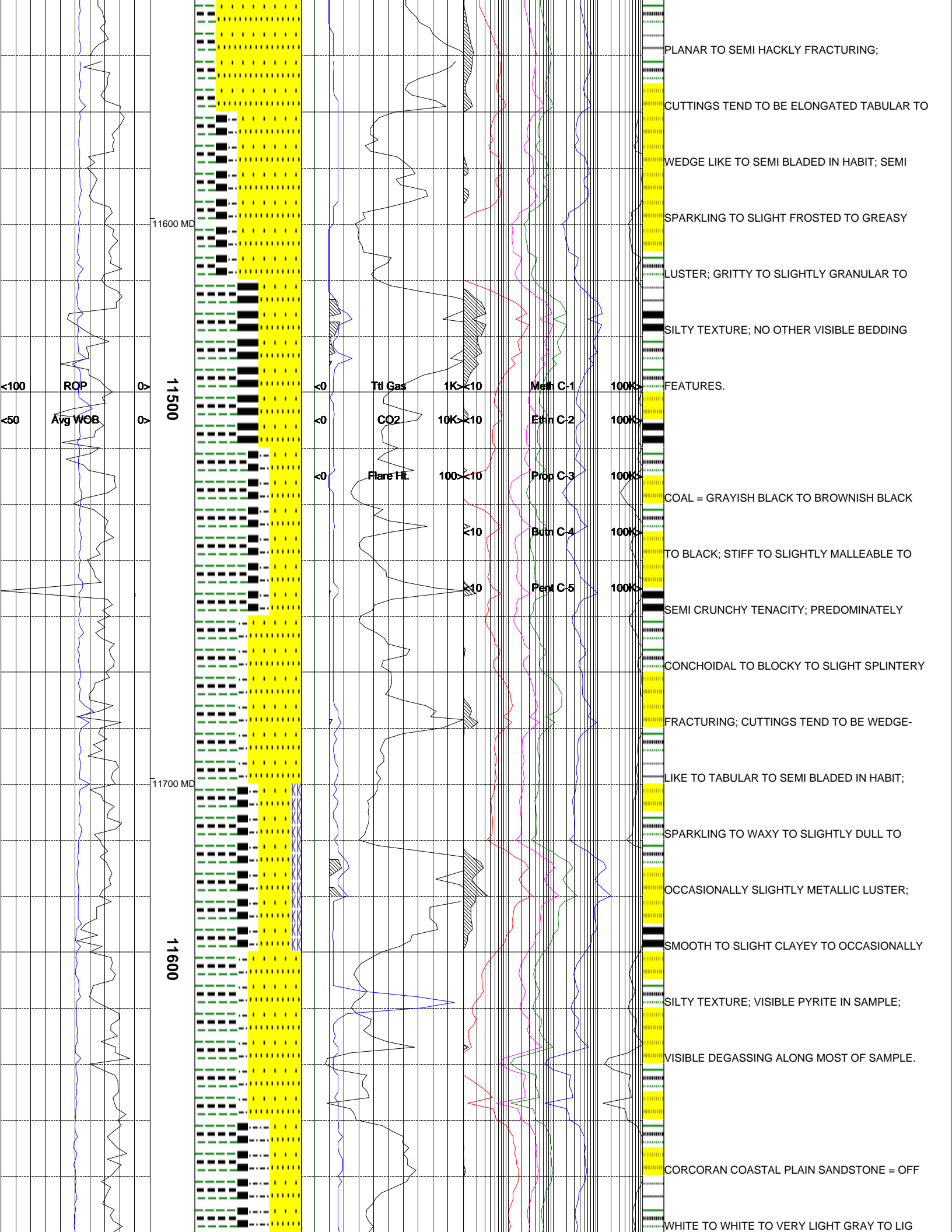
MATERIAL; VISIBLE DEGASSING ALONG THE

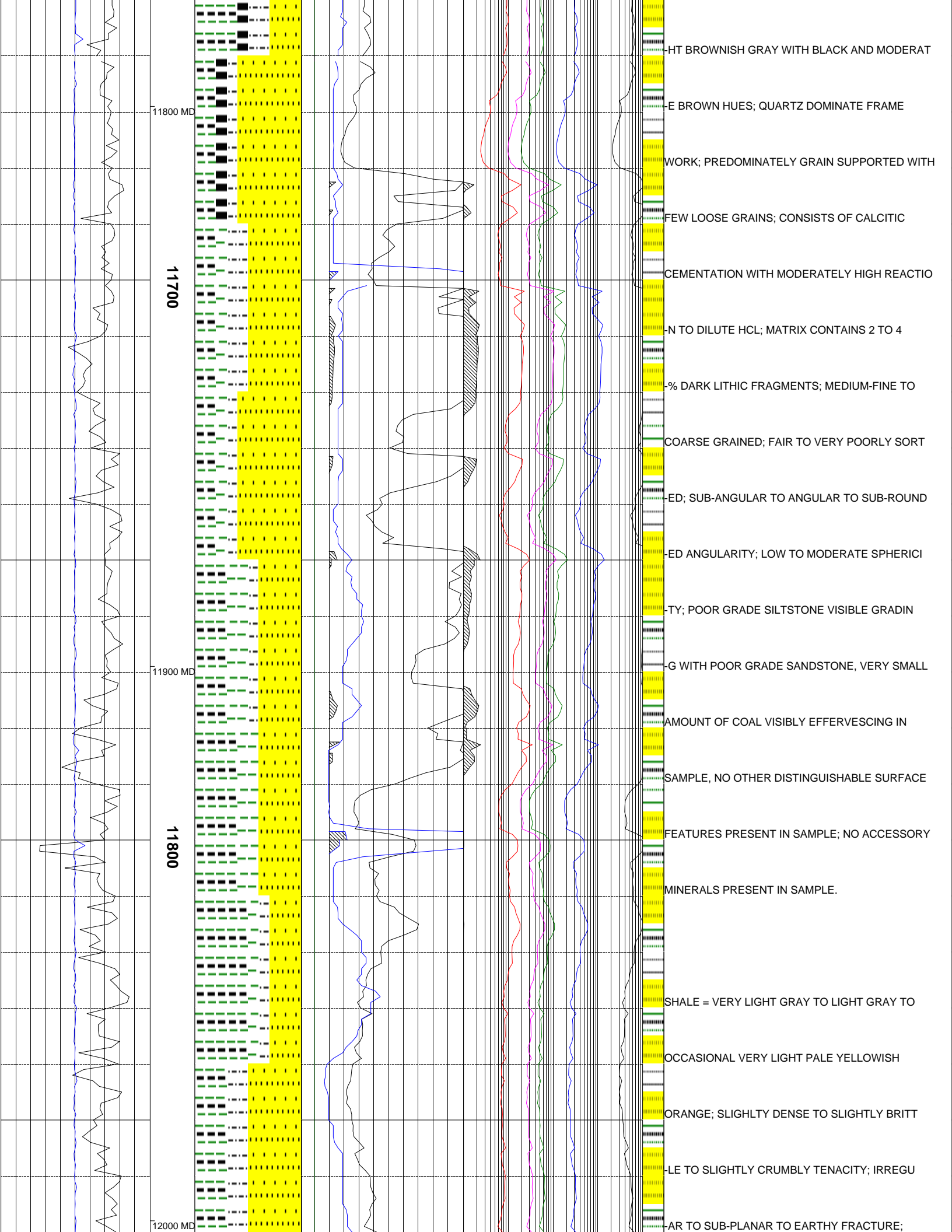
BANDS.

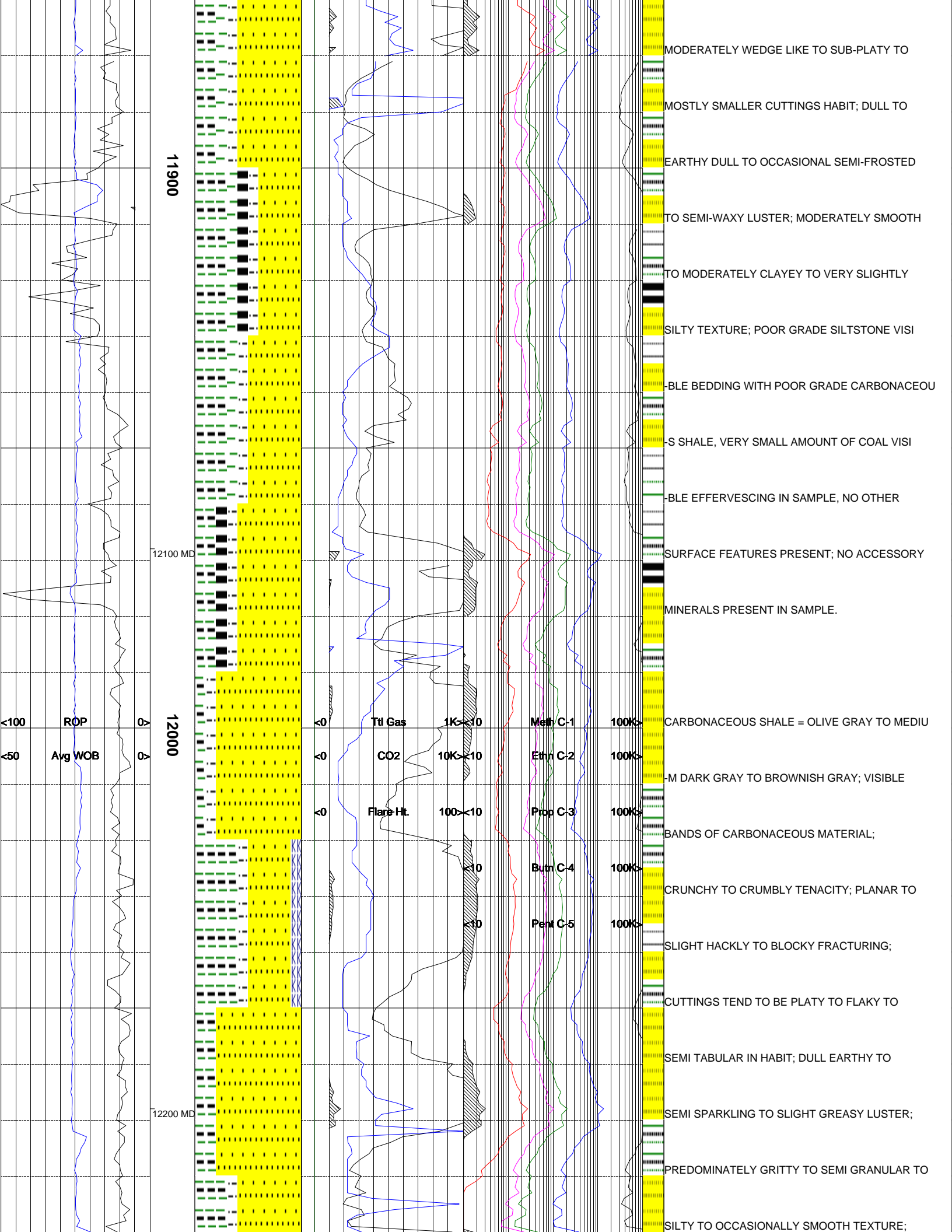
SILTSTONE = VERY LIGHT BROWNISH GRAY TO

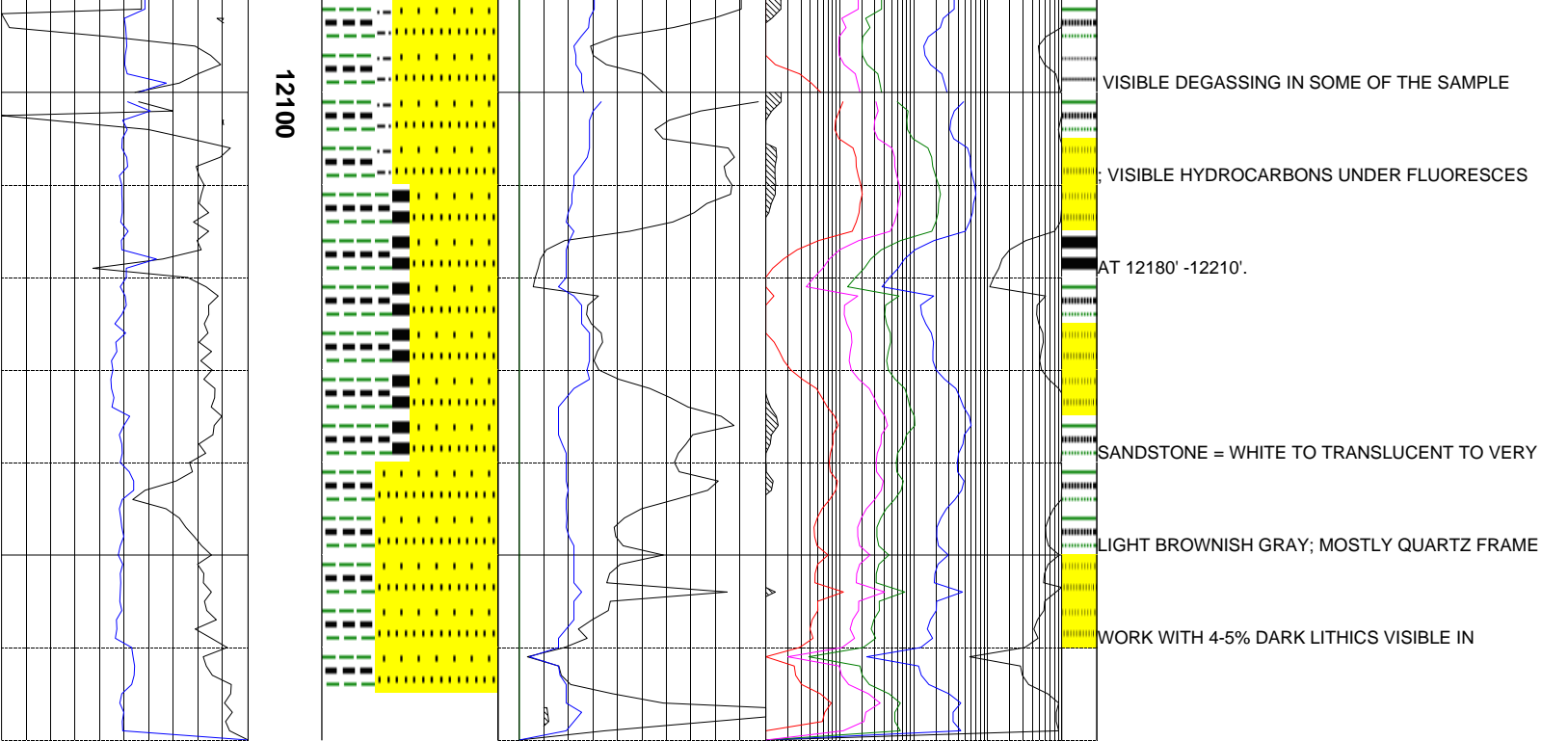
LIGHT YELLOWISH GRAY; CRUNCHY TO STIFF

TO TOUGH TENACITY; IRREGULAR TO SLIGHT









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