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MUDLOG TVD

| | |
|----------------------|---|
| COMPANY | ExxonMobil Corporation |
| WELL | PCU 296-5A08 |
| FIELD | Piceance Creek |
| REGION | Rockies |
| COORDINATES | Lat: 39.911963000 Long: -108.198677000 |
| ELEVATION | G.L.:7294.1' |
| COUNTY, STATE | Rio Blanco, CO |
| API INDEX | 051031124200 |
| SPUD DATE | 11/29/2009 |
| CONTRACTOR | Helmerich _Payne |
| CO. REP. | C. Curtis / M. Hudon |
| RIG/TYPE | 321 / Flex 4 |
| LOGGING UNIT | MLU 31 |
| GEOLOGISTS | C. Record, M. Gross B. Smelser |
| ADD. PERSONS | M. Piper |
| CO. GEOLOGIST | C. Alba |

LOG INTERVAL

| | | | |
|----------------|-----------|-----------|----------|
| DEPTHS: | 4875' | TO | 13885' |
| DATES: | 2/03/2011 | TO | 5/7/2011 |
| SCALE: | 5" = 100' | | |

CASING DATA

| | | |
|--------|-----------|--------|
| 16.00" | AT | 115' |
| 10.75" | AT | 4876' |
| 7" | AT | 10004' |
| 4.50" | AT | 13880' |

MUD TYPES

| | | |
|----------|-----------|--------|
| Spud Mud | TO | 4874' |
| LSND | TO | 13885' |
| | TO | |
| | TO | |

HOLE SIZE

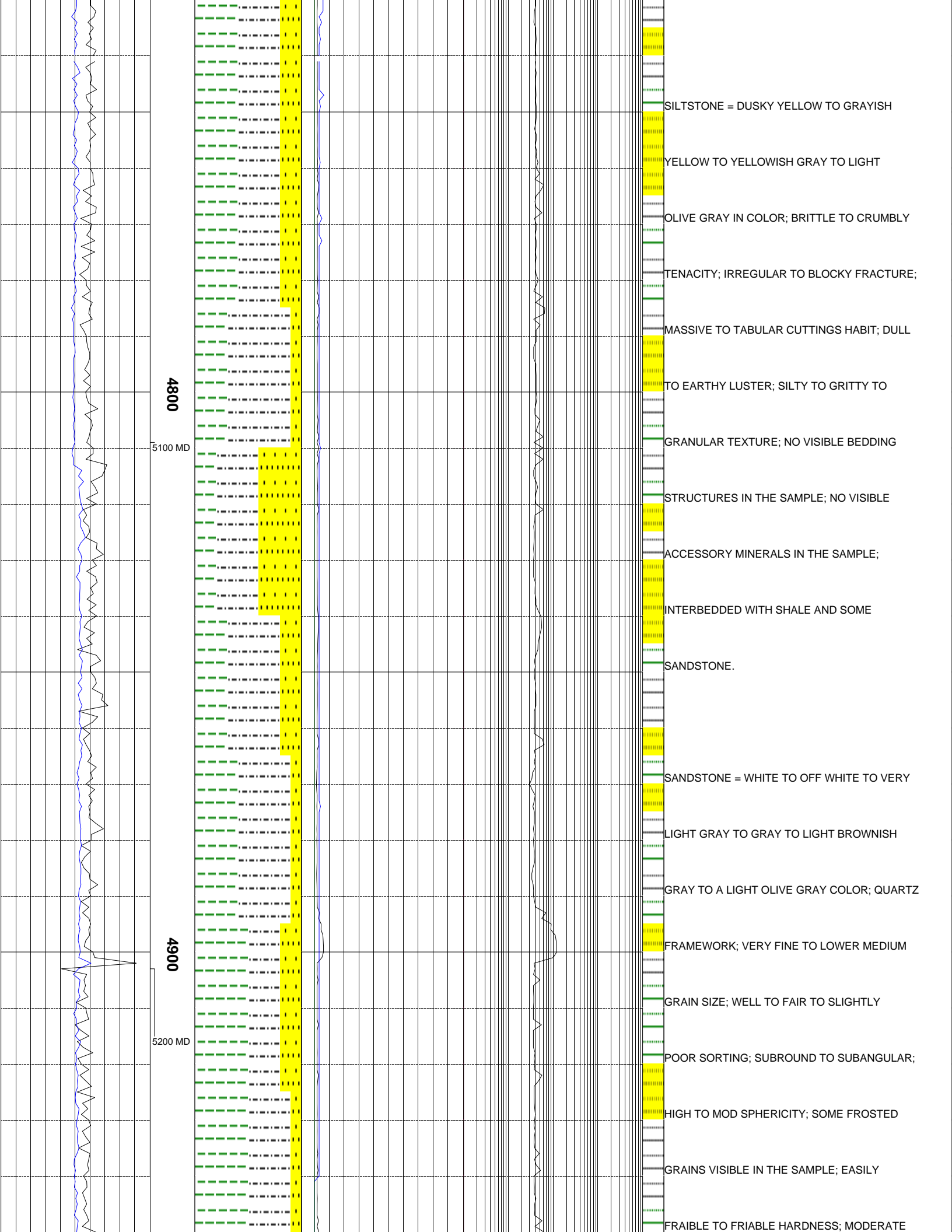
| | | |
|--------|-----------|--------|
| 14.75" | TO | 4891' |
| 9.875" | TO | 10007' |
| 6.125" | TO | 13885' |
| | TO | |

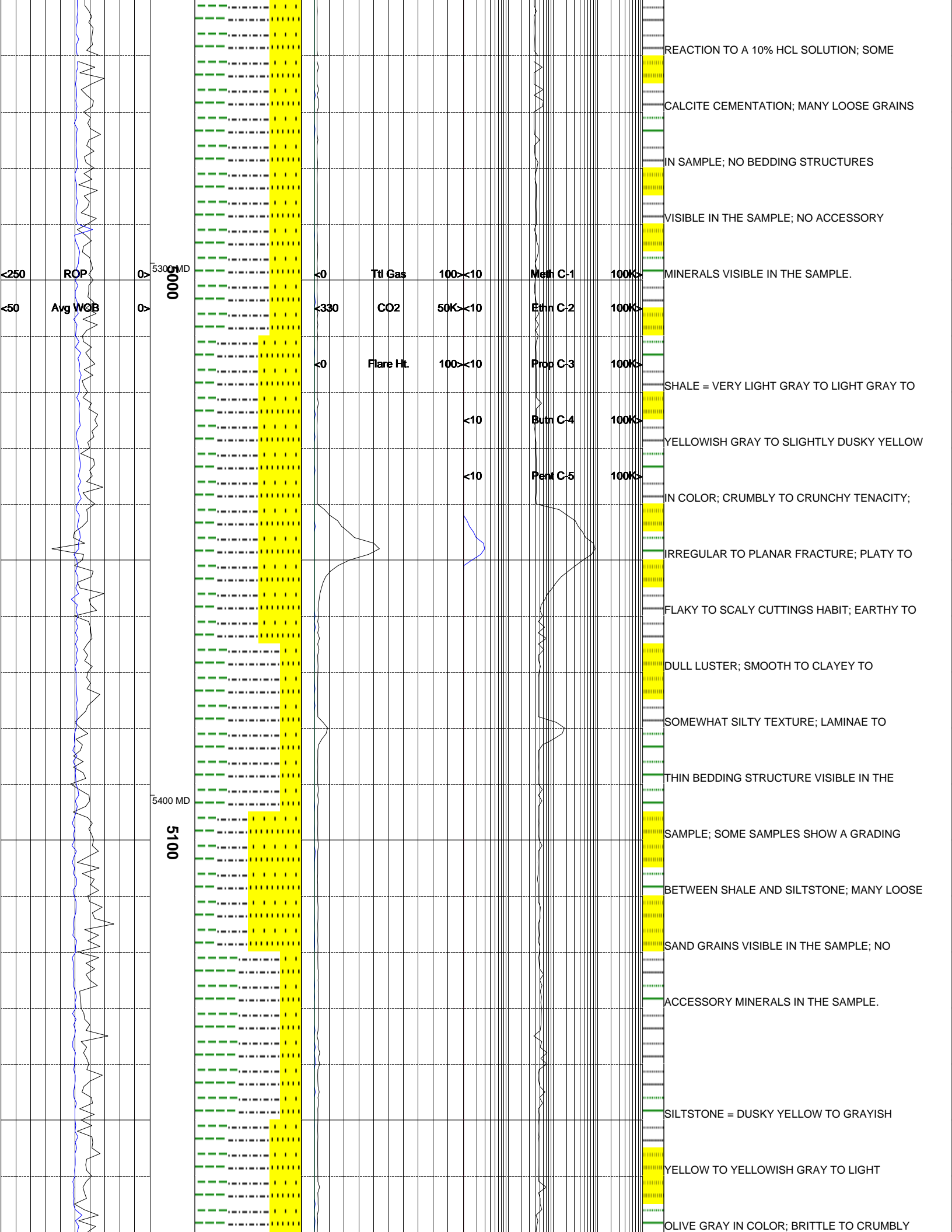
ABBREVIATIONS

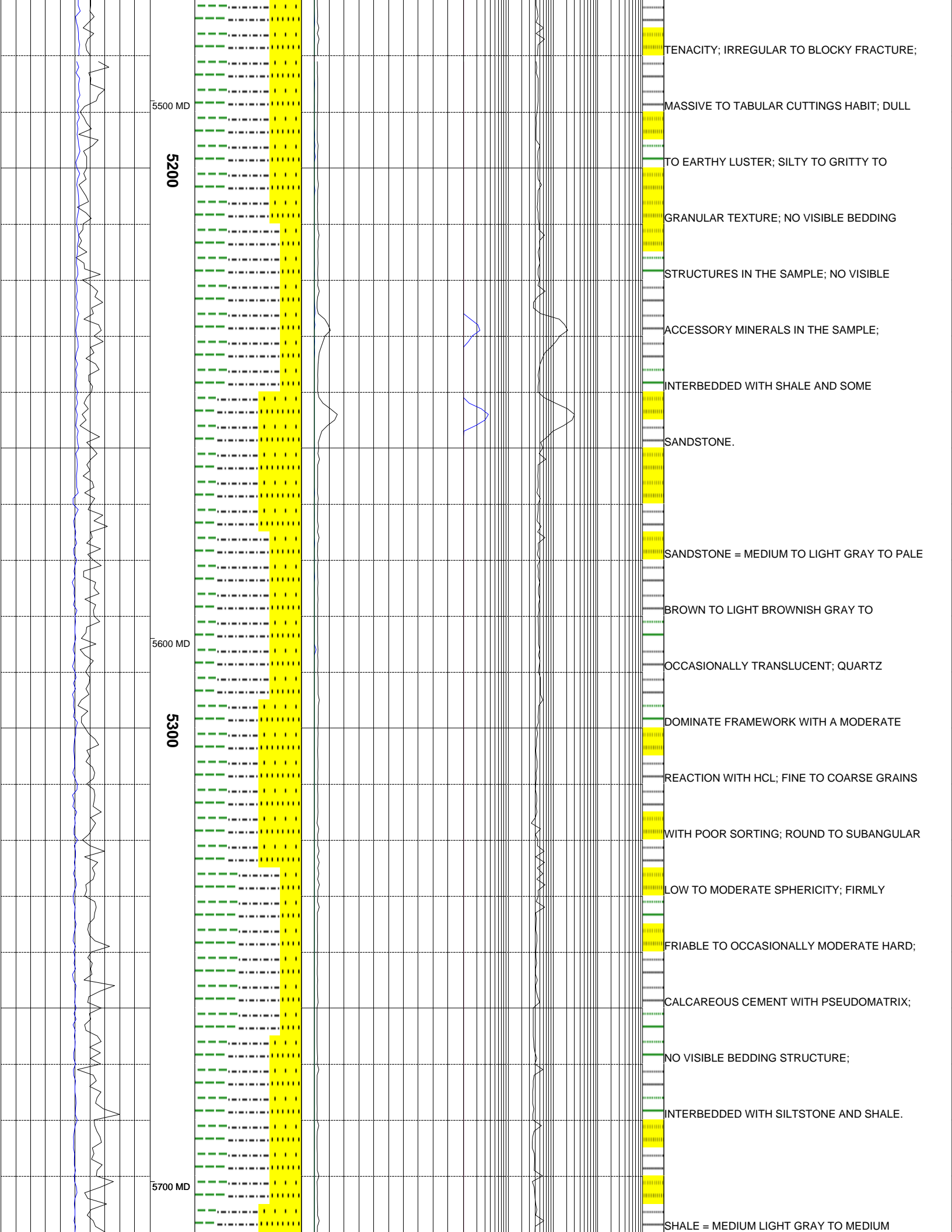
| | | |
|-----------------------------|---------------------------------|----------------------------|
| <i>NB</i> NEWBIT | <i>PV</i> PLASTIC VISCOSITY | <i>LC</i> LOST CIRCULATION |
| <i>RRB</i> RERUN BIT | <i>YP</i> YIELD POINT | <i>CO</i> CIRCULATE OUT |
| <i>CB</i> CORE BIT | <i>FL</i> FLUID LOSS | <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 | |

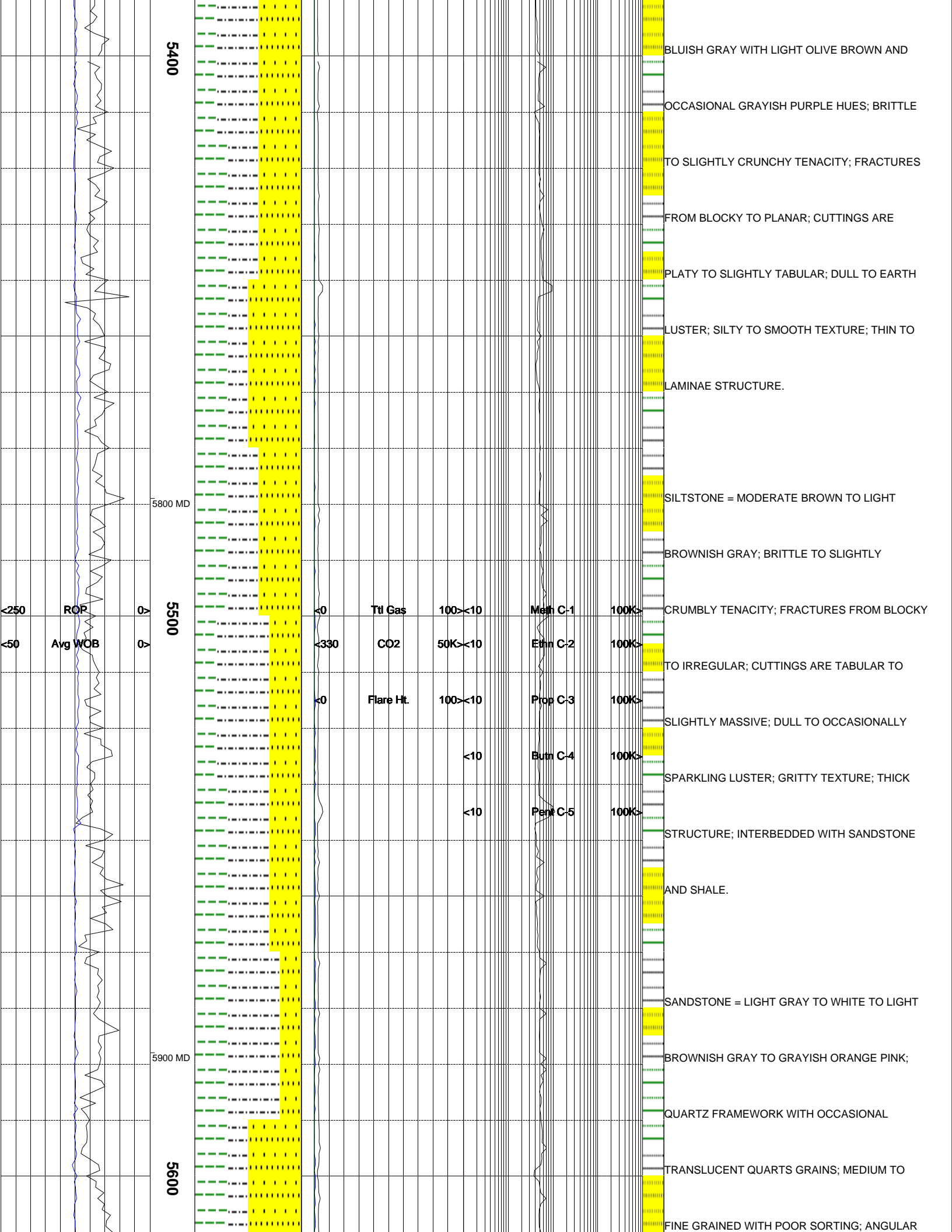


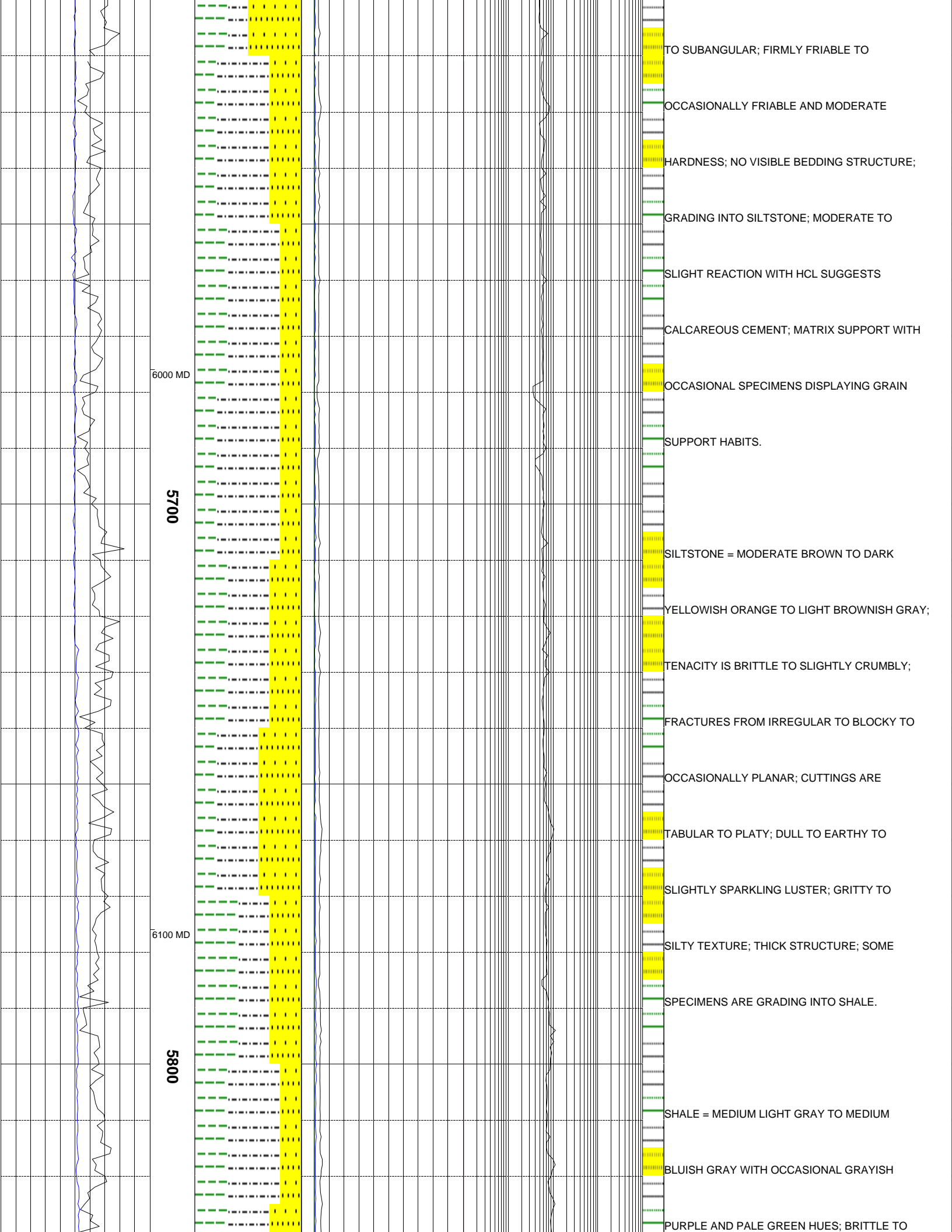
| | | | TVD Depth | Lithology | M/GS | | | | | | Interp. Lith | Remarks | | |
|-------|---------|----|--------------|-----------|------|------|--|-------|-----|----------|--------------|--|--|--|
| | | | | | | | | | | | | Survey Data, Mud Reports, Other Info. | | |
| <250 | ROP | 0> | | | | <0 | Ttl Gas | 100> | <10 | Meth C-1 | | 100K> | | |
| ft/hr | | | | | | | units | | <10 | Ethn C-2 | | 100K> | | |
| <50 | Avg WOB | 0> | | | | <330 | CO2 | 50K> | <10 | Prop C-3 | | 100K> | | |
| klbs | | | | ppm | | <10 | Butn C-4 | 100K> | | | | | | |
| | | | | Flare Ht. | 100> | <10 | Pent C-5 | 100K> | | | | | | |
| | | | | ft | | | | | | | | | | |
| | | | 4600 | | | | | | | | | EPOCH WELL SERVICES COMMENCED LOGGING | | |
| | | | | | | | THE PCU 296-5A 08 WELL ON 2/03/2010 | | | | | | | |
| | | | | | | | @ 4891' MD. | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | 4700 | | | | | | | | | SHALE = VERY LIGHT GRAY TO LIGHT GRAY TO | | |
| | | | | | | | YELLOWISH GRAY TO SLIGHTLY DUSKY YELLOW | | | | | | | |
| | | | | | | | IN COLOR; CRUMBLY TO CRUNCHY TENACITY; | | | | | | | |
| | | | | | | | IRREGULAR TO PLANAR FRACTURE; PLATY TO | | | | | | | |
| | | | | | | | FLAKY TO SCALY CUTTINGS HABIT; EARTHY TO | | | | | | | |
| | | | | | | | DULL LUSTER; SMOOTH TO CLAYEY TO | | | | | | | |
| | | | | | | | SOMEWHAT SILTY TEXTURE; NO VISIBLE | | | | | | | |
| | | | | | | | BEDDING STRUCTURES IN THE SAMPLE; SMALL | | | | | | | |
| | | | | | | | AMOUNT OF KAOLINITE CLAY PRESENT IN THE | | | | | | | |
| | | | | | | | SAMPLE; THINLY INTERBEDDED WITH | | | | | | | |
| | | | 5000 MD | | | | | | | | | SILTSTONE; MINOR SANDSTONE IN THE | | |
| | | | | | | | SAMPLE. | | | | | | | |
| | | | | | | | | | | | | | | |

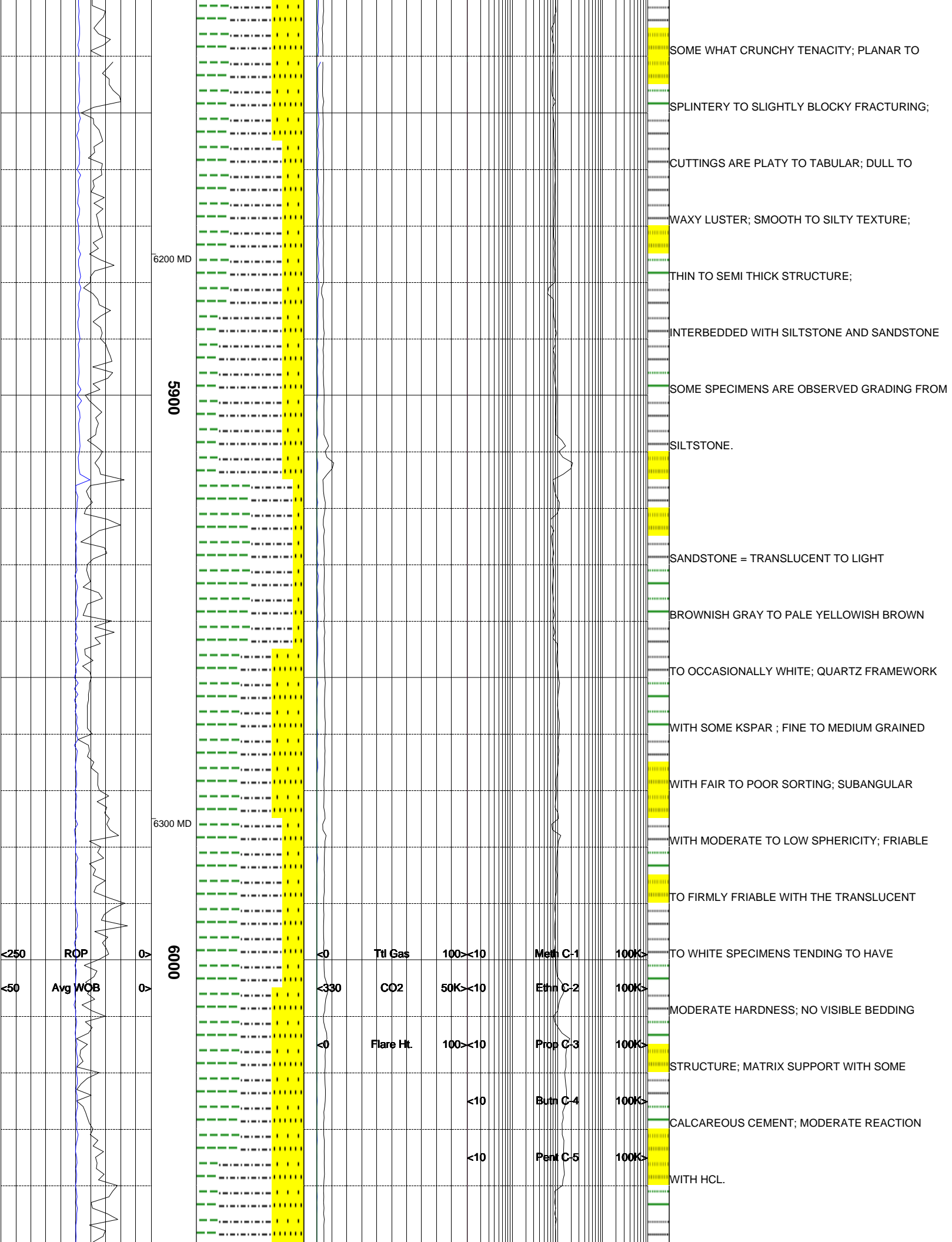


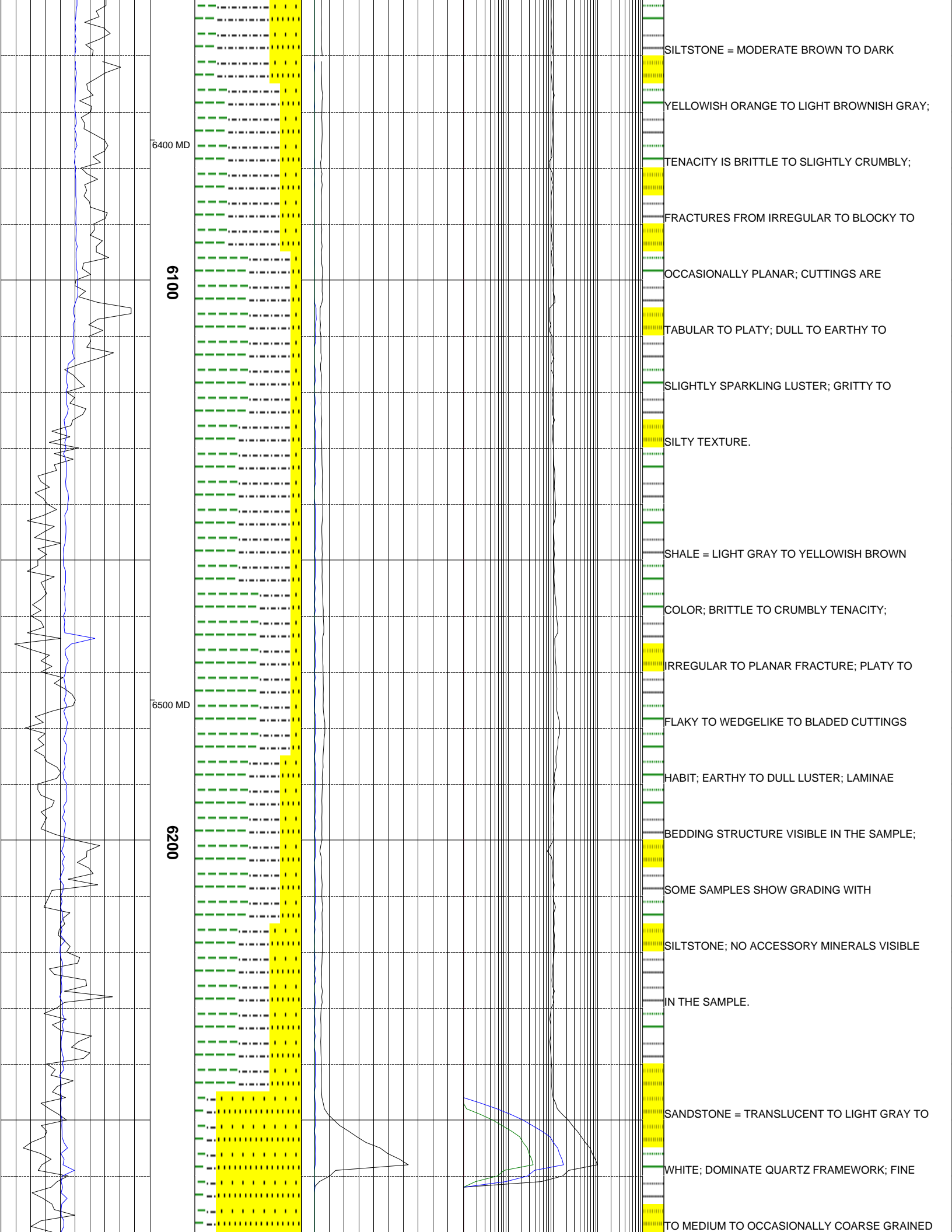


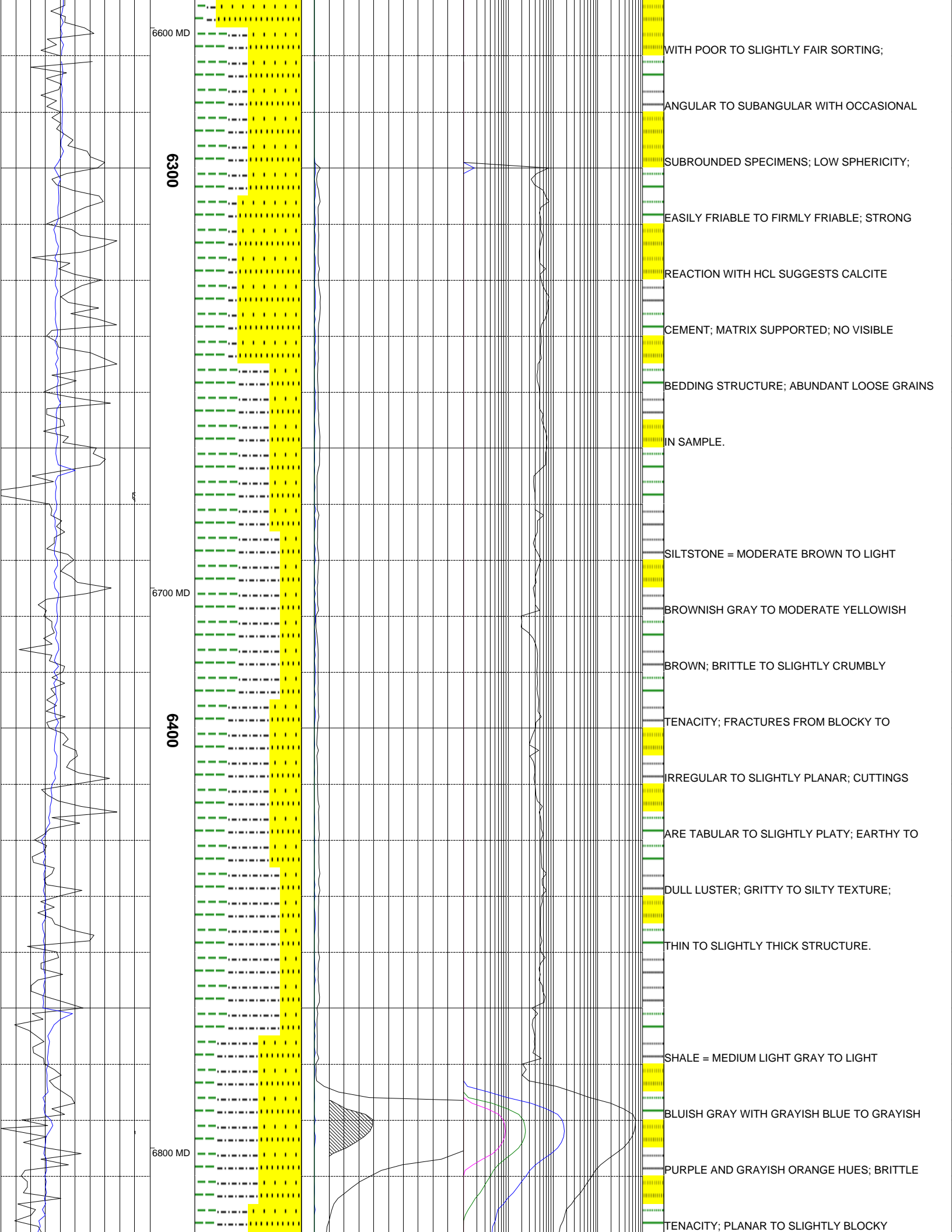


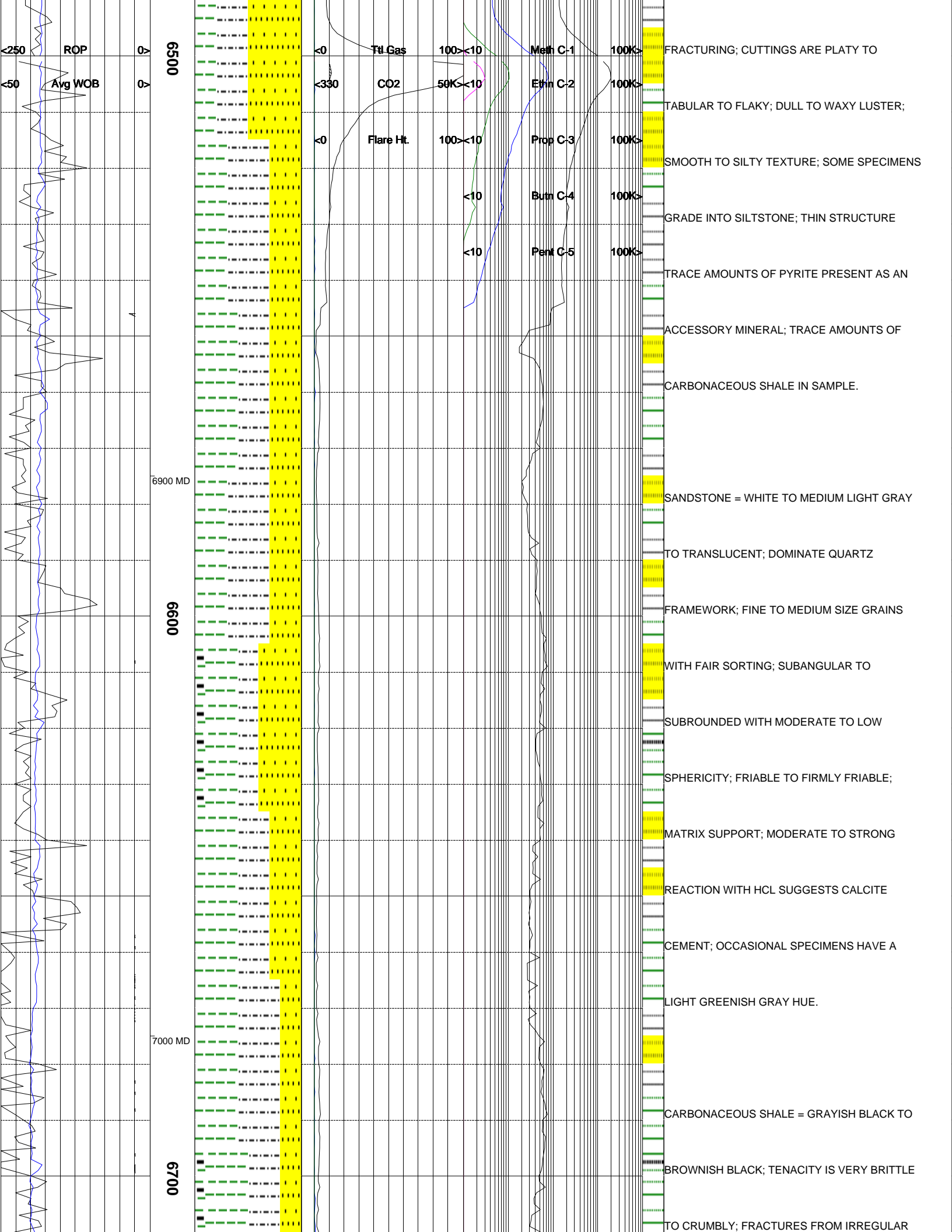


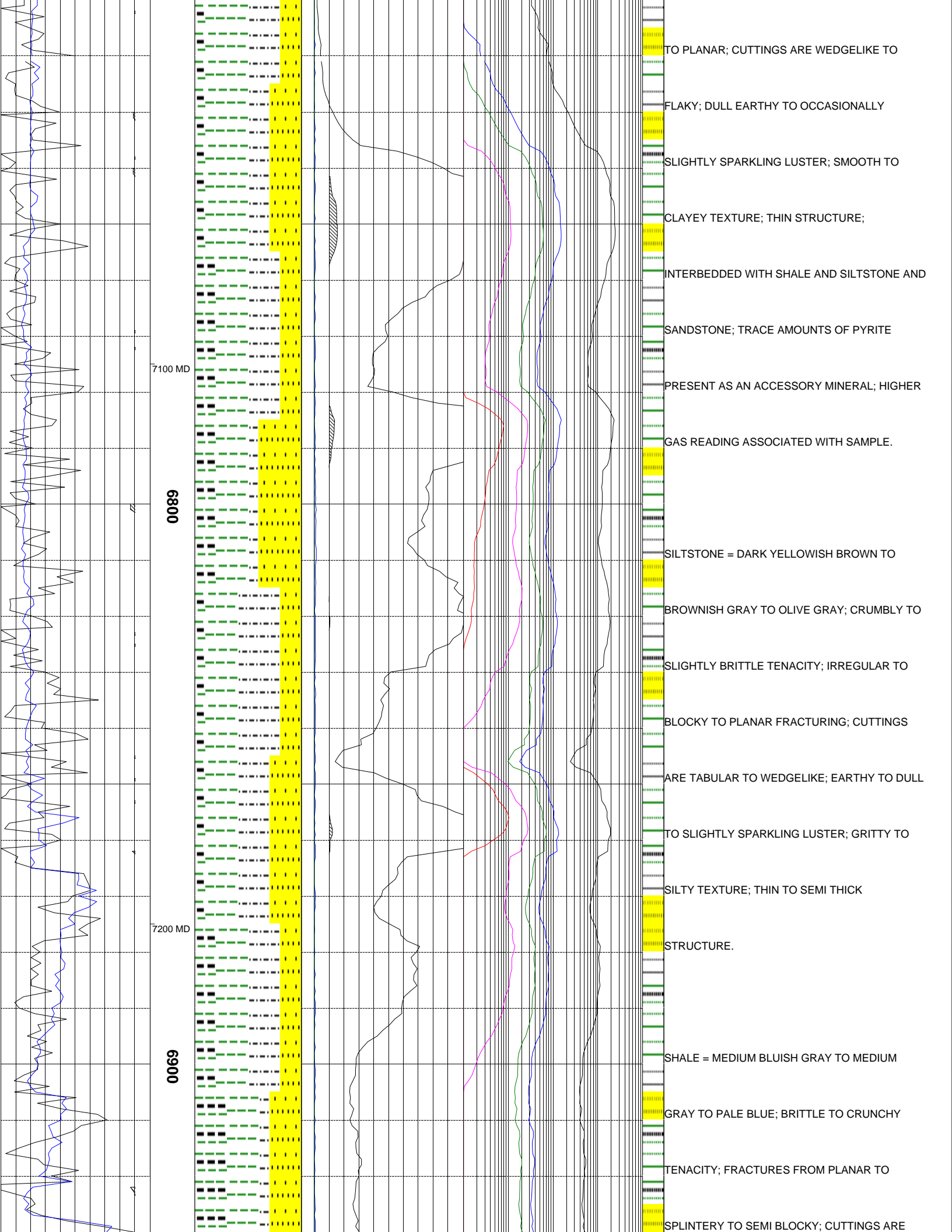


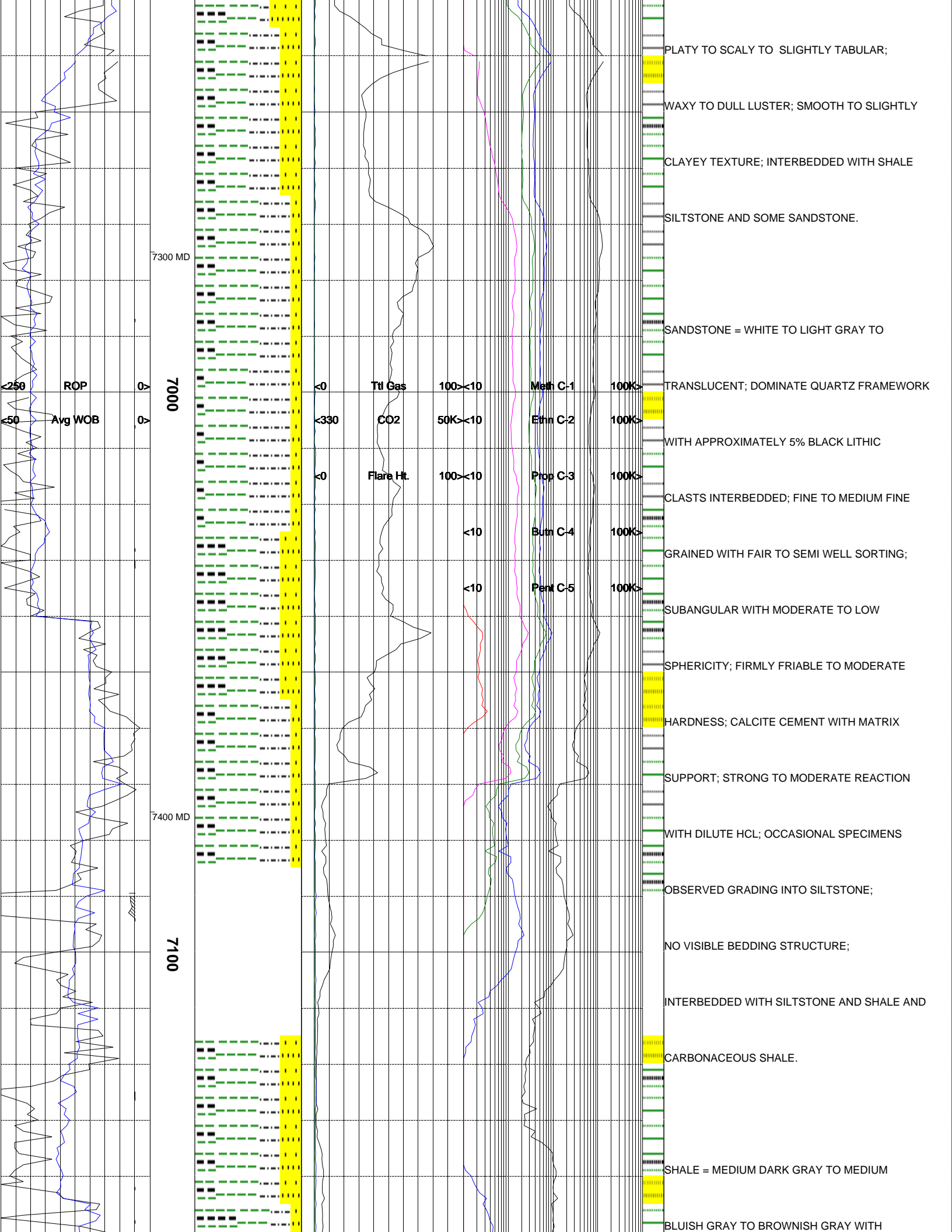


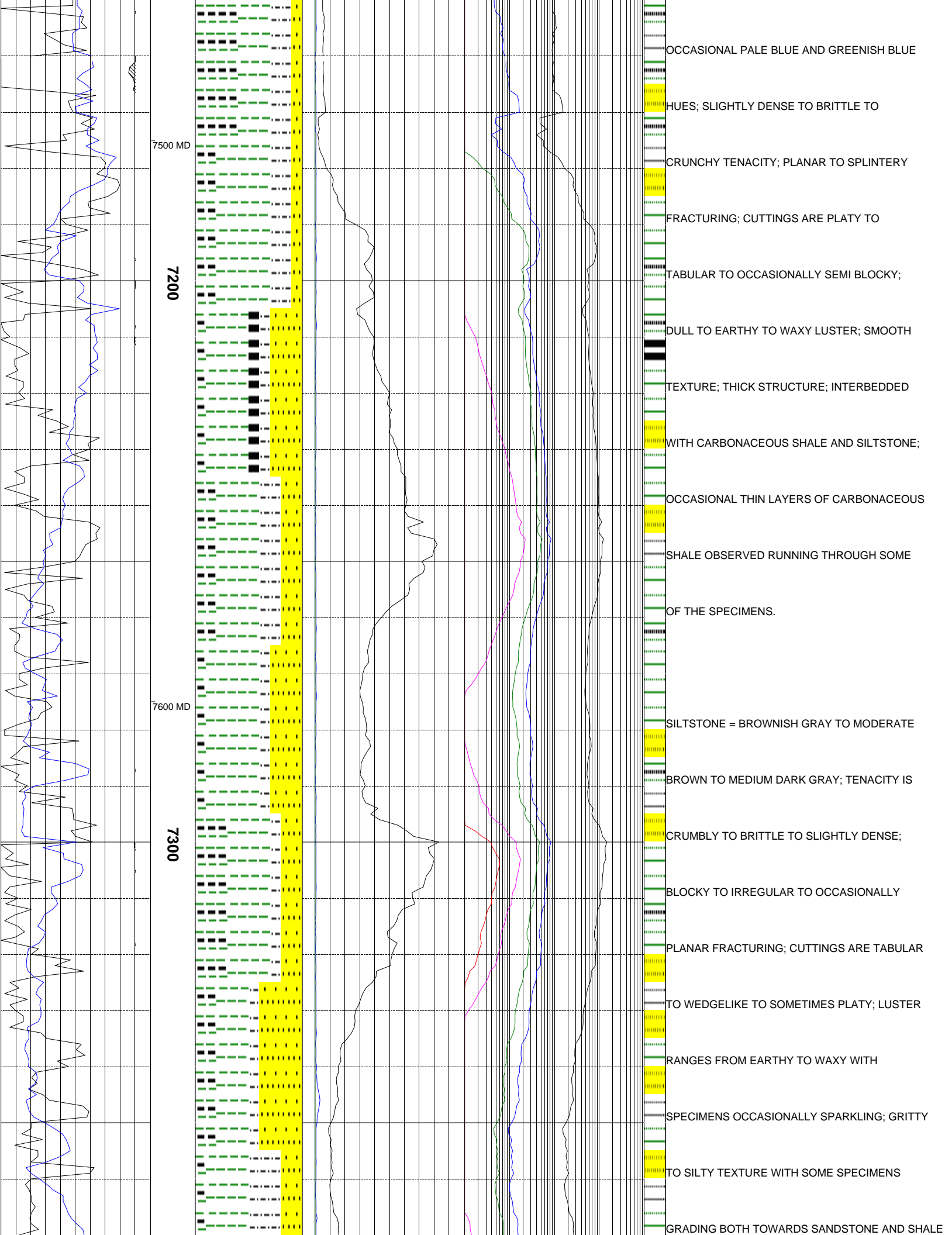


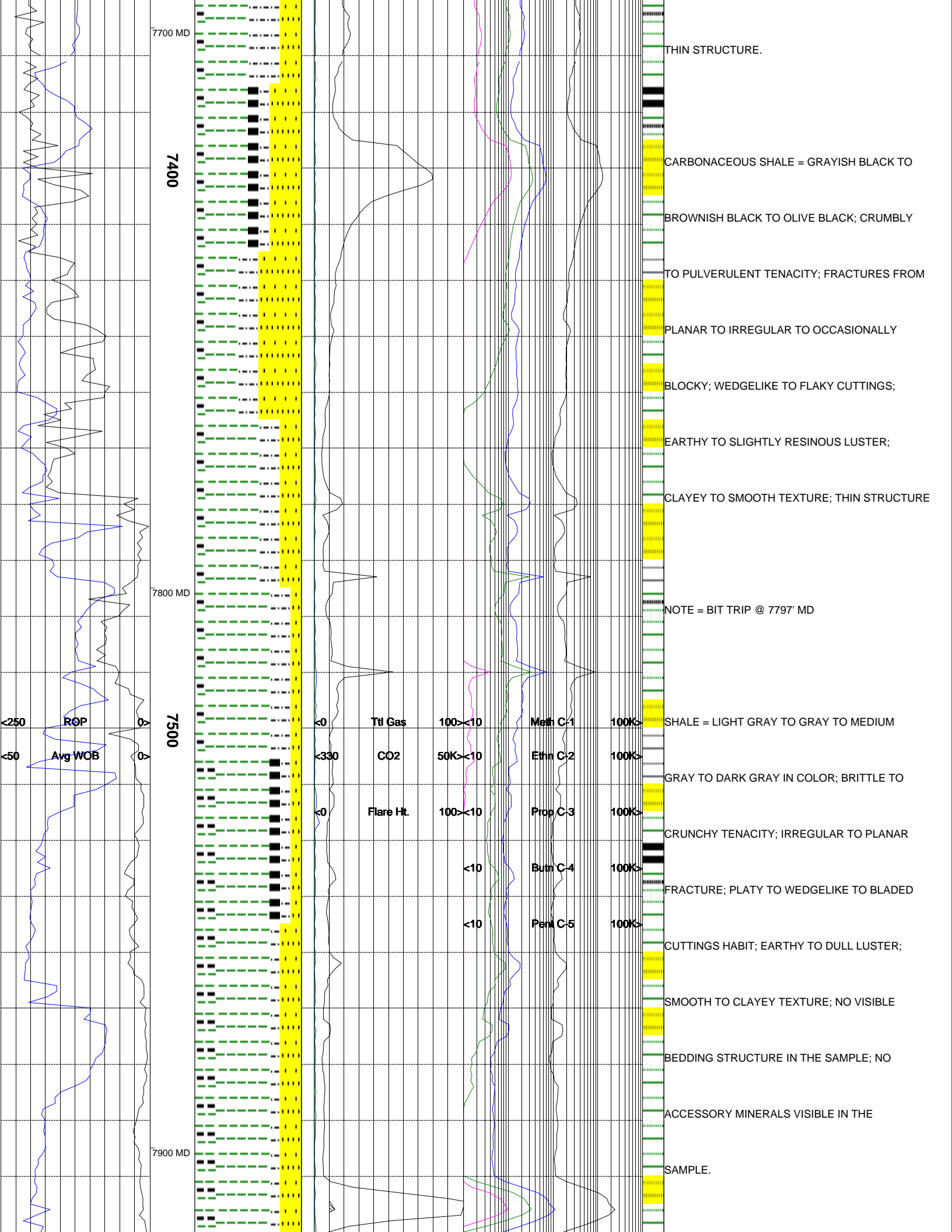


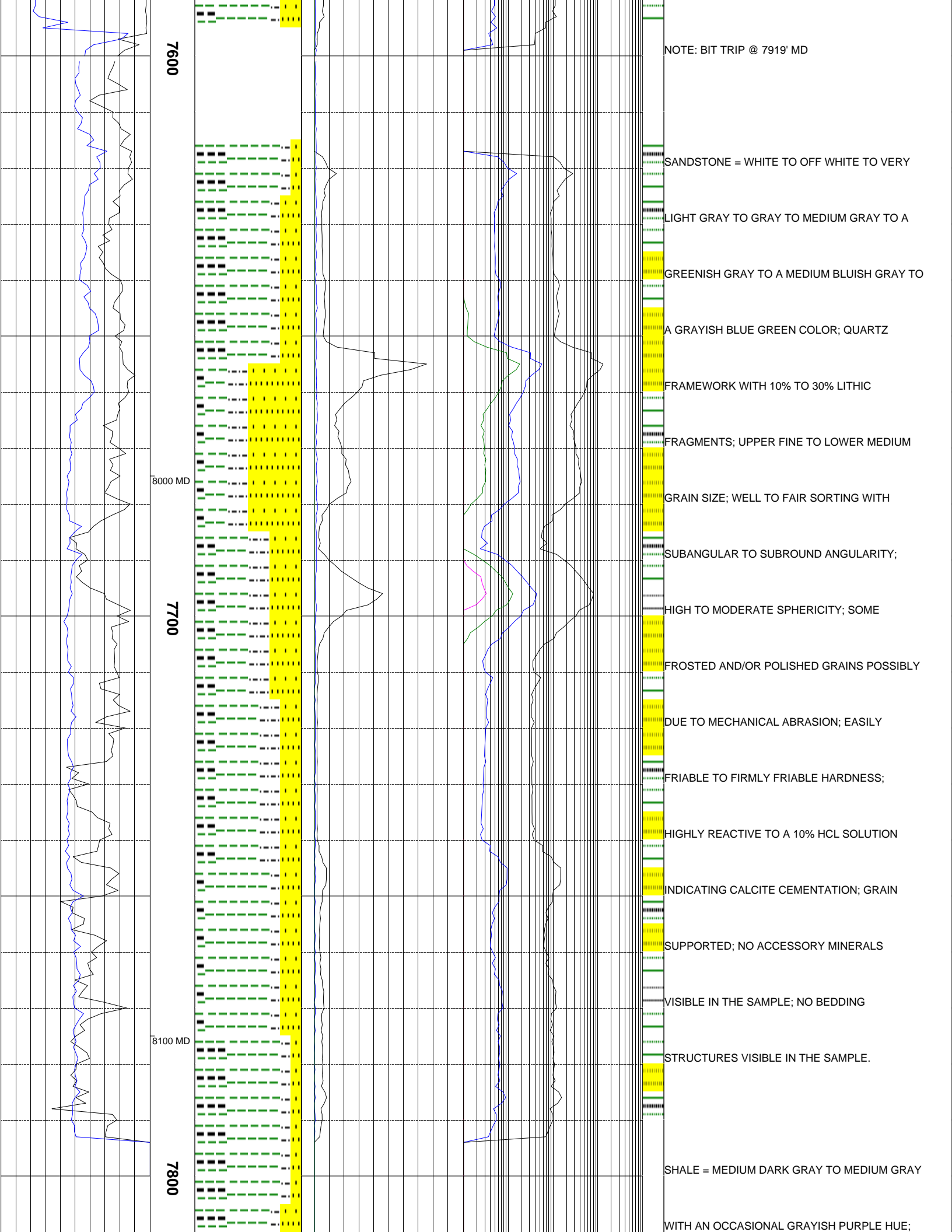




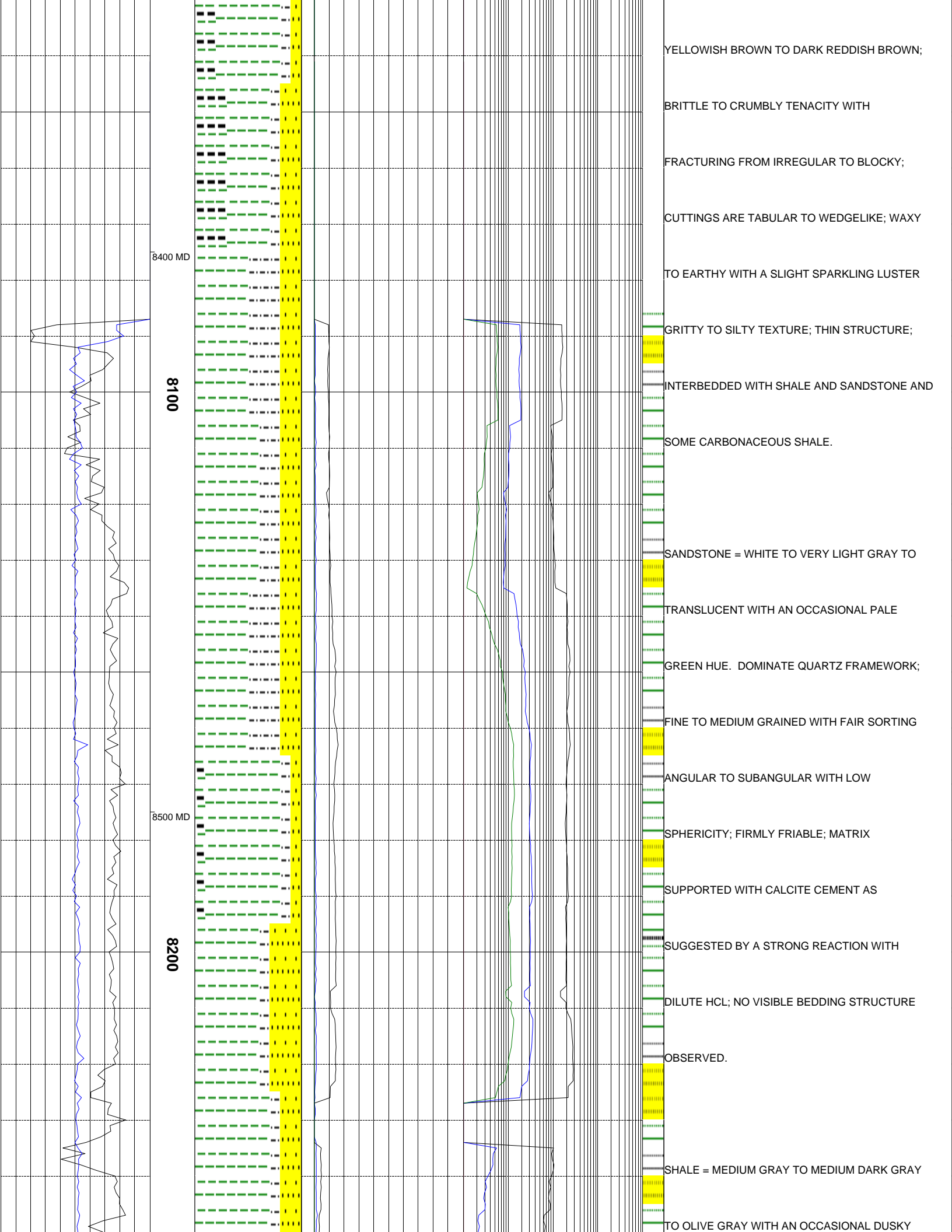


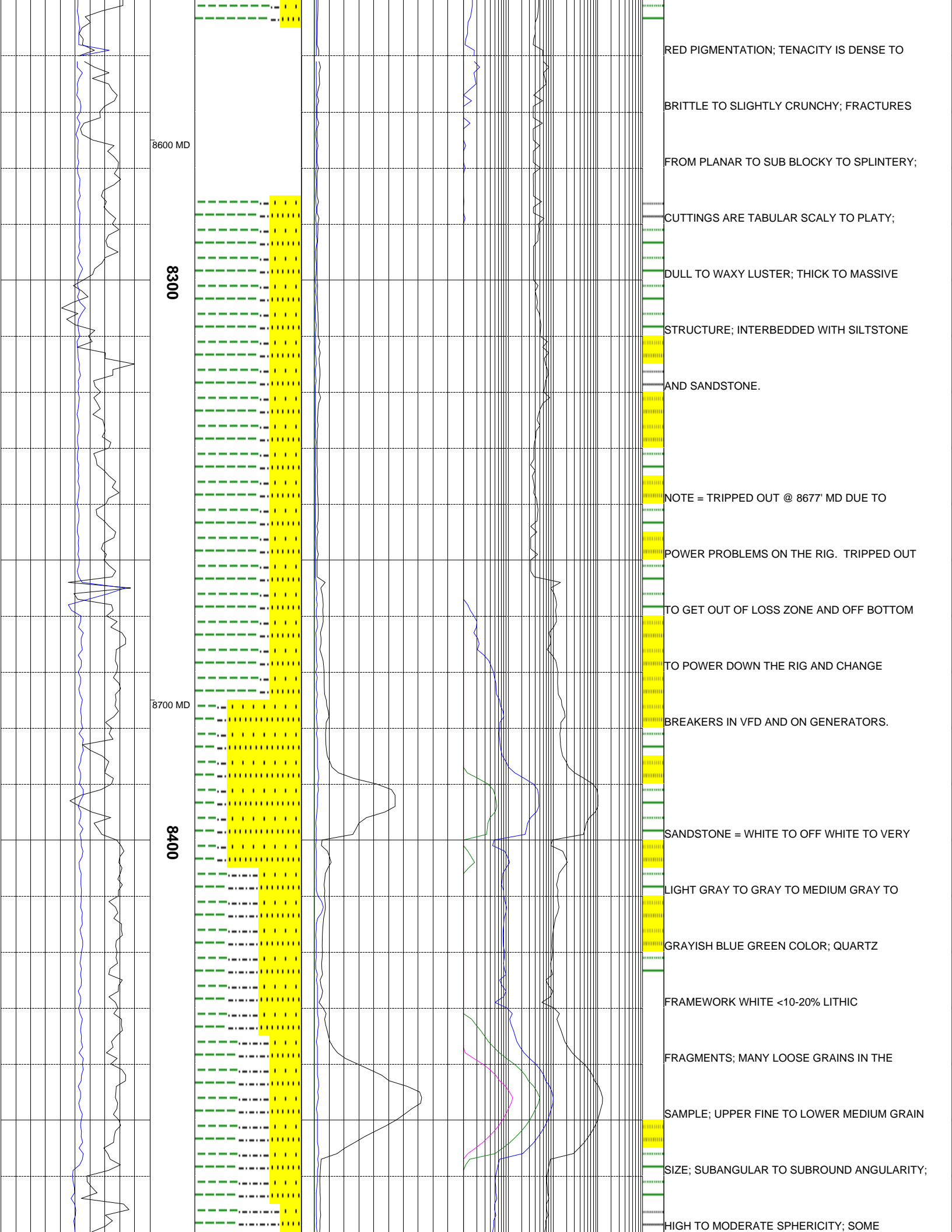


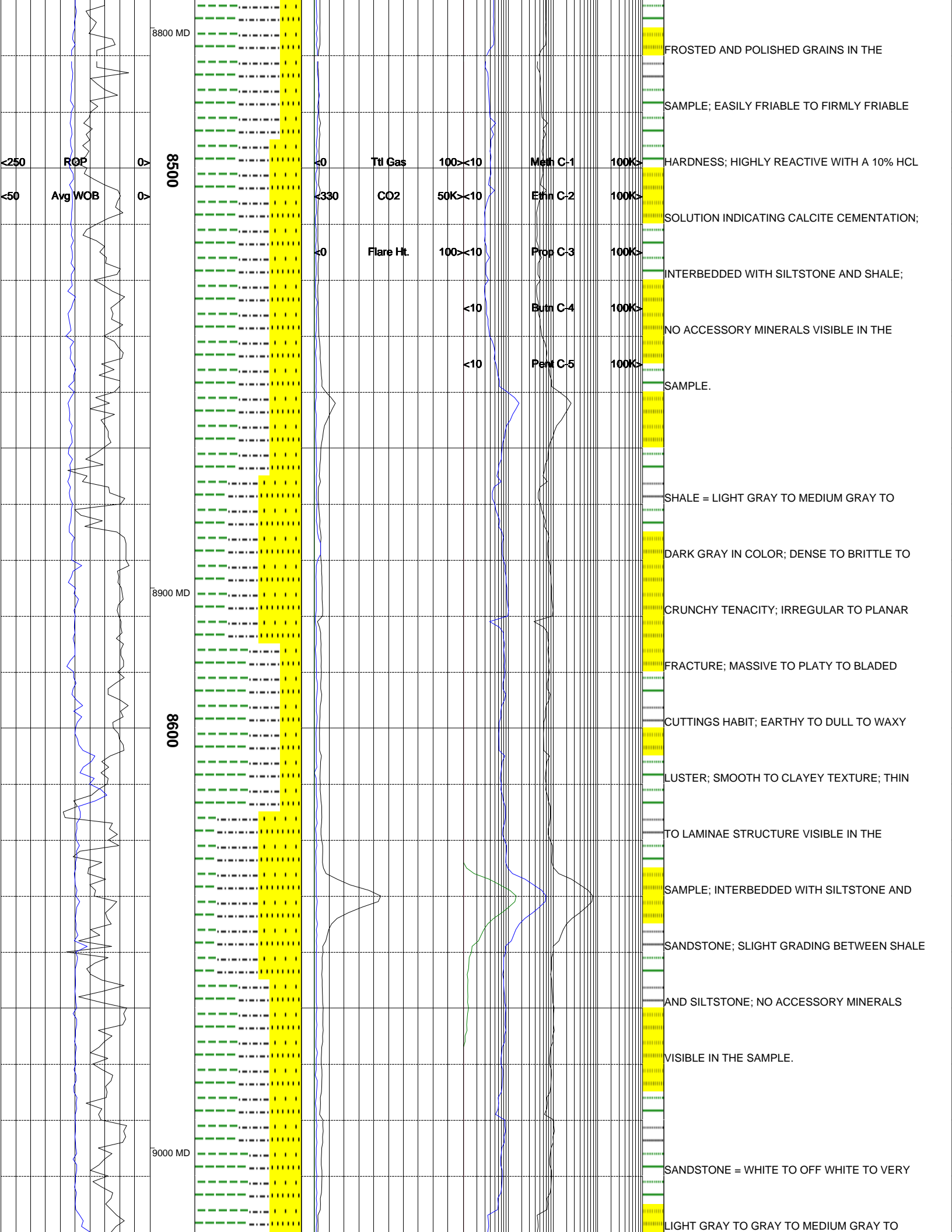


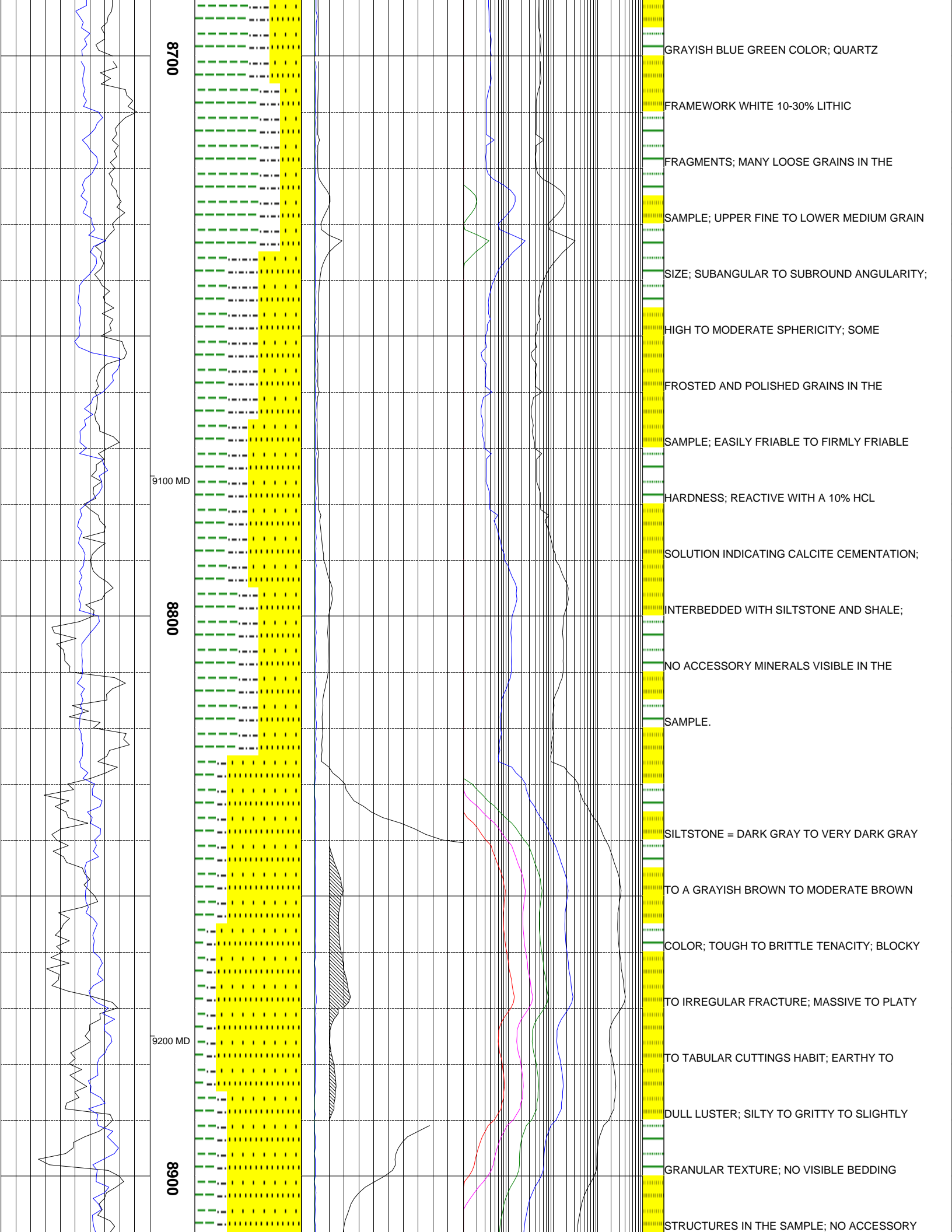


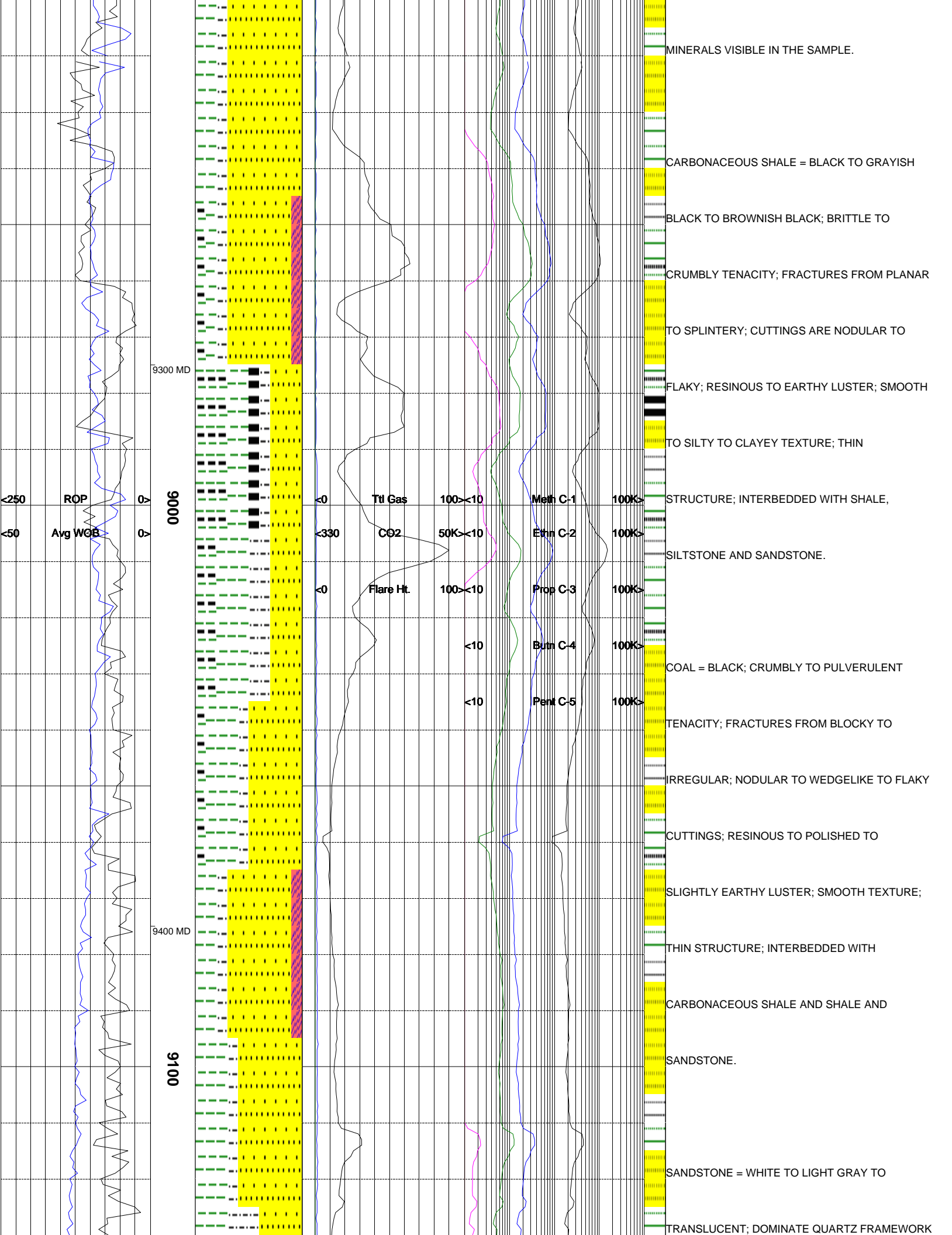
| | | | | | | |
|------|-----------|---|--|-----|----------|------|
| | | | | | | |
| | | | DENSE TO BRITTLE TENACITY; FRACTURES | | | |
| | | | FROM PLANAR TO BLOCKY TO OCCASIONALLY | | | |
| | | | IRREGULAR; CUTTINGS ARE PLATY TO SCALY; | | | |
| | | | EARTHY TO WAXY TO DULL LUSTER; SMOOTH | | | |
| | | | TEXTURE; THICK STRUCTURE; INTERBEDDED | | | |
| | | | WITH SOME CARBONACEOUS SHALE, SILTSTONE | | | |
| | | | AND SANDSTONE. | | | |
| | | | NOTE = LOST TOTCO FROM 8118' MD TO 8411' | | | |
| | | | MD. GATHERED SAMPLES BASED ON STROKES, | | | |
| | | | BUT UNABLE TO OBTAIN ANY DRILLING DATA | | | |
| | | | FROM THAT INTERVAL. | | | |
| | | | CARBONACEOUS SHALE = GRAYISH BLACK TO | | | |
| | | | BROWNISH BLACK TO BLACK; TENACITY IS | | | |
| | | | SLIGHTLY DENSE TO BRITTLE; FRACTURES | | | |
| | | | FROM SPLINTERY TO PLANAR TO SEMI BLOCKY; | | | |
| | | | CUTTINGS ARE PLATY TO TABULAR TO FLAKY; | | | |
| <250 | ROP | > | RESINOUS TO EARTHY LUSTER; SMOOTH TO | | | |
| <50 | Avg WOB | > | CLAYEY TEXTURE; THIN STRUCTURE. | | | |
| <0 | Ttl Gas | > | 100 | <10 | Meth C-1 | 100K |
| <330 | CO2 | > | 50K | <10 | Ethn C-2 | 100K |
| <0 | Flare Ht. | > | 100 | <10 | Prop C-3 | 100K |
| | | | | <10 | Butn C-4 | 100K |
| | | | SILTSTONE = MEDIUM GRAY TO MODERATE | | | |

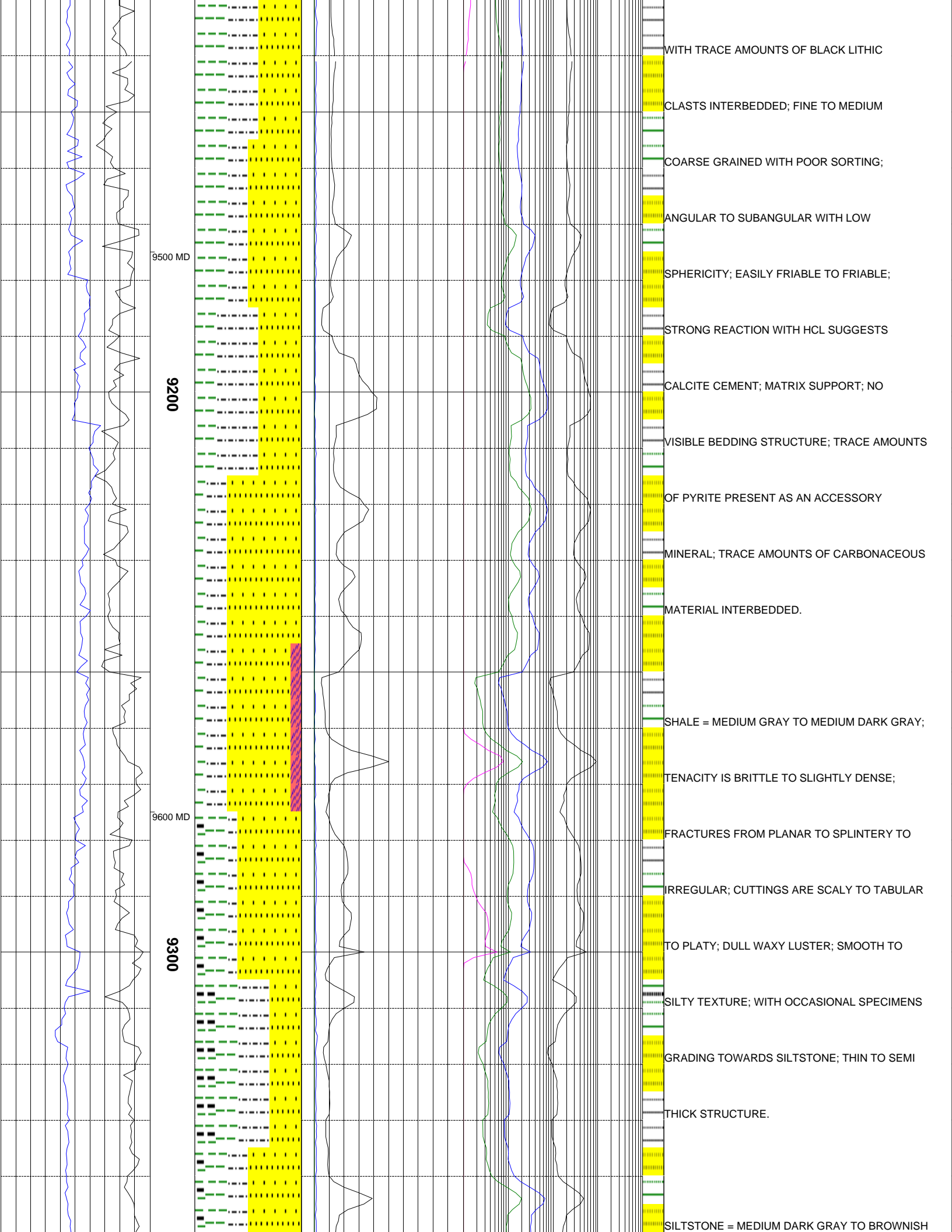


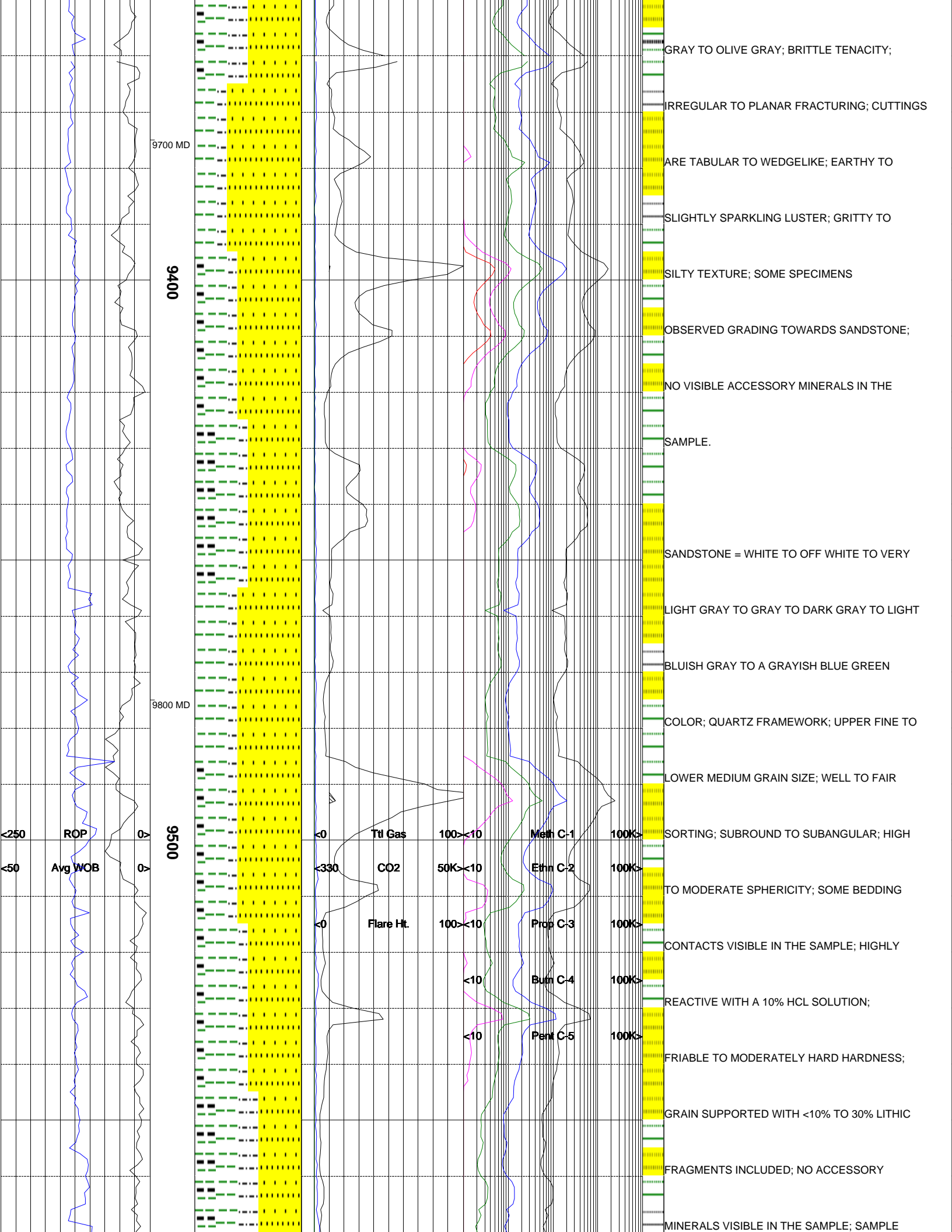


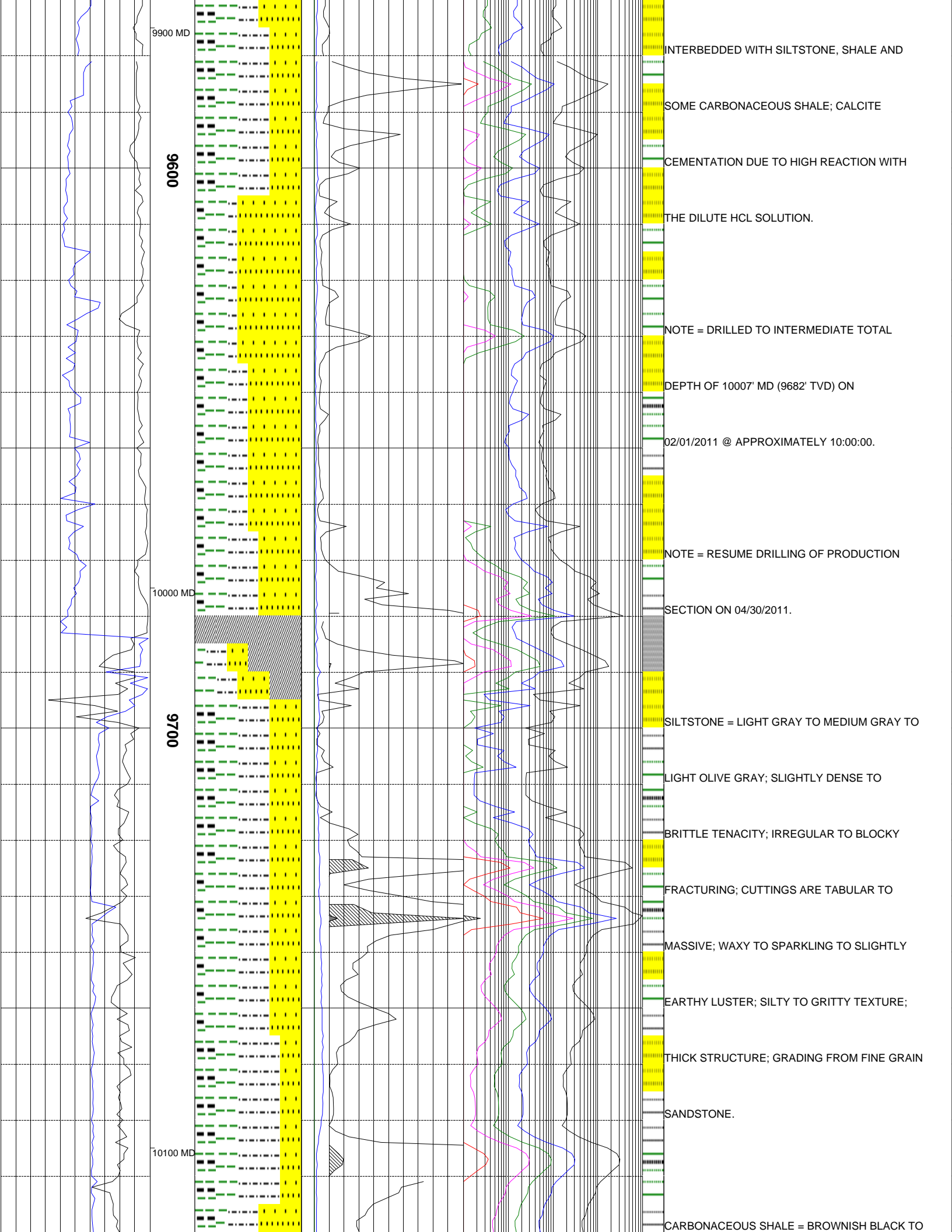


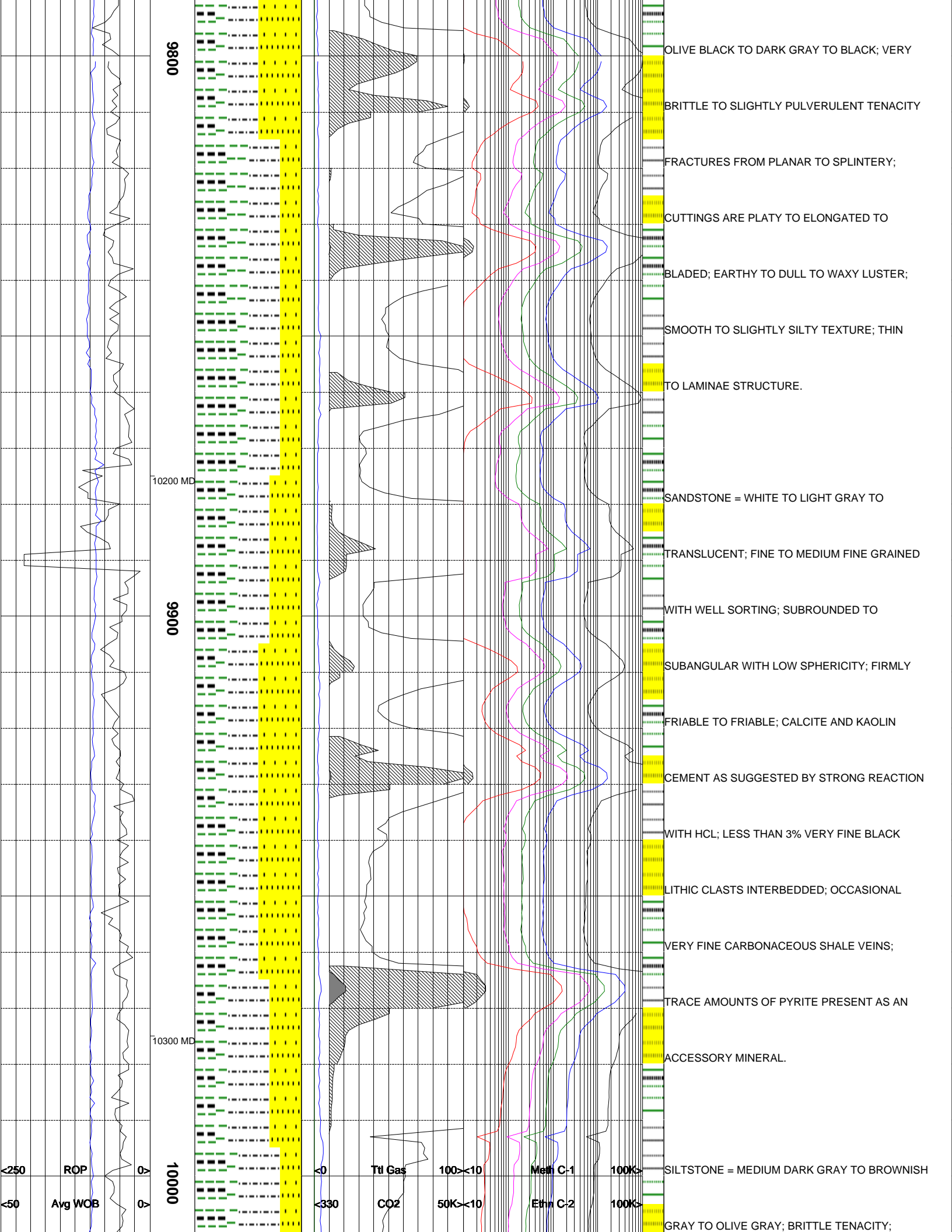


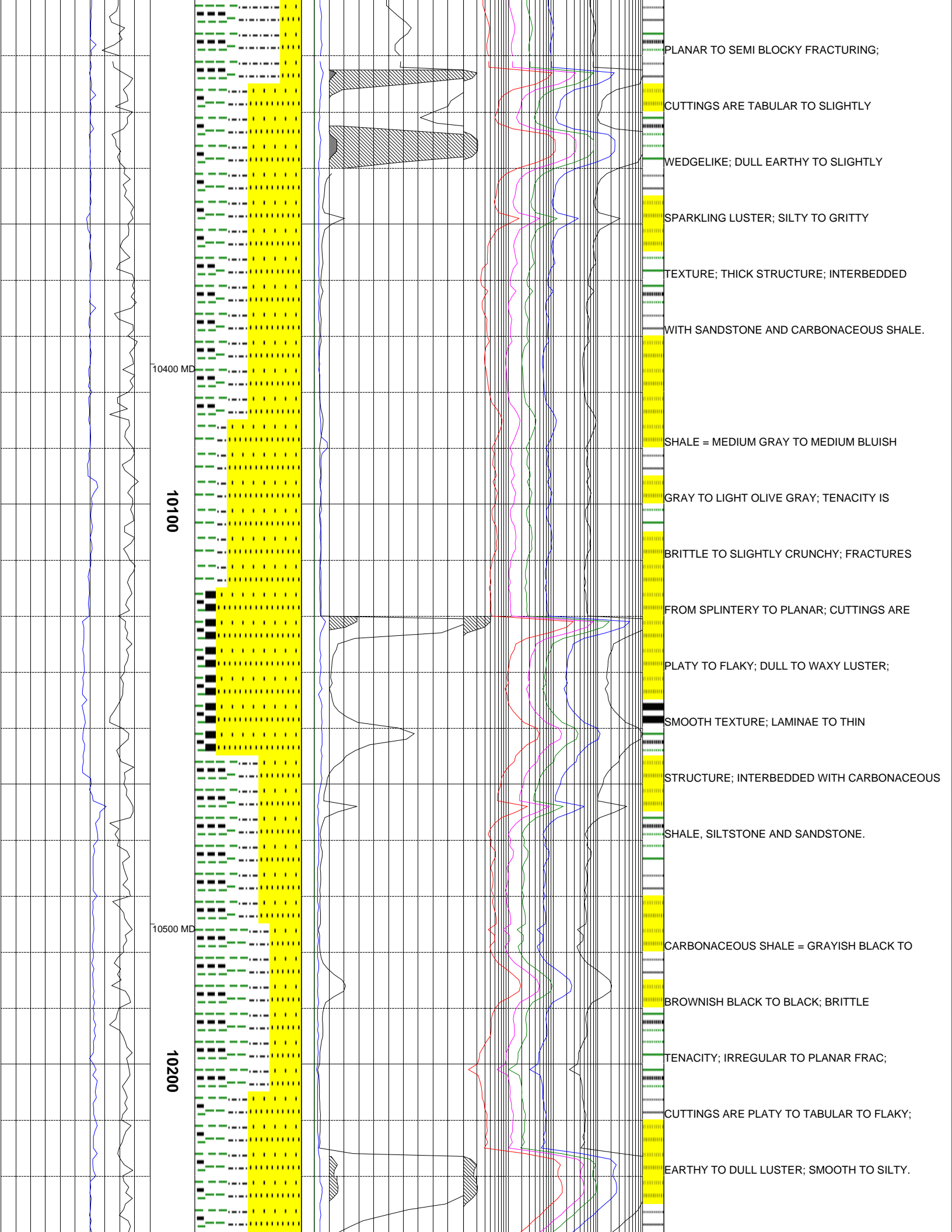


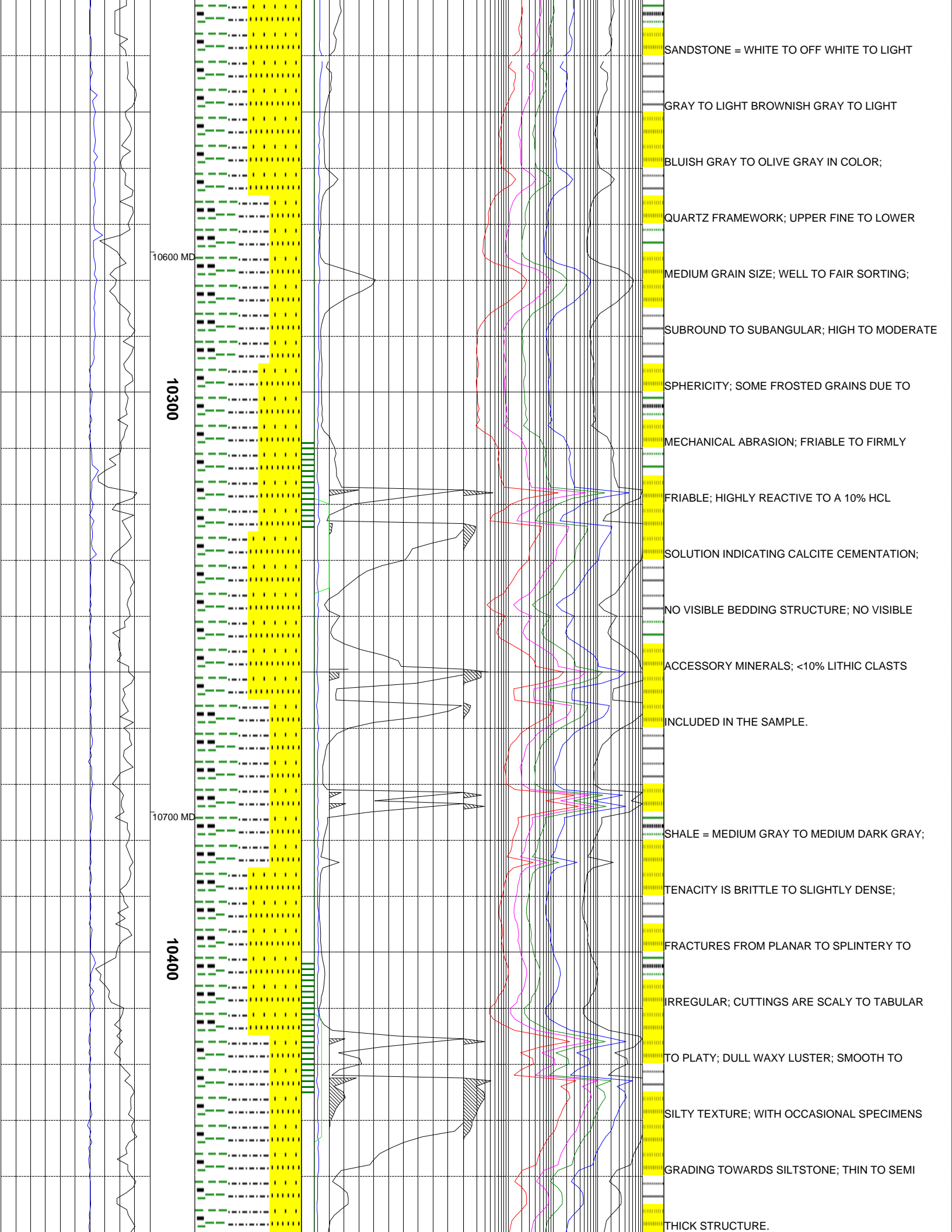


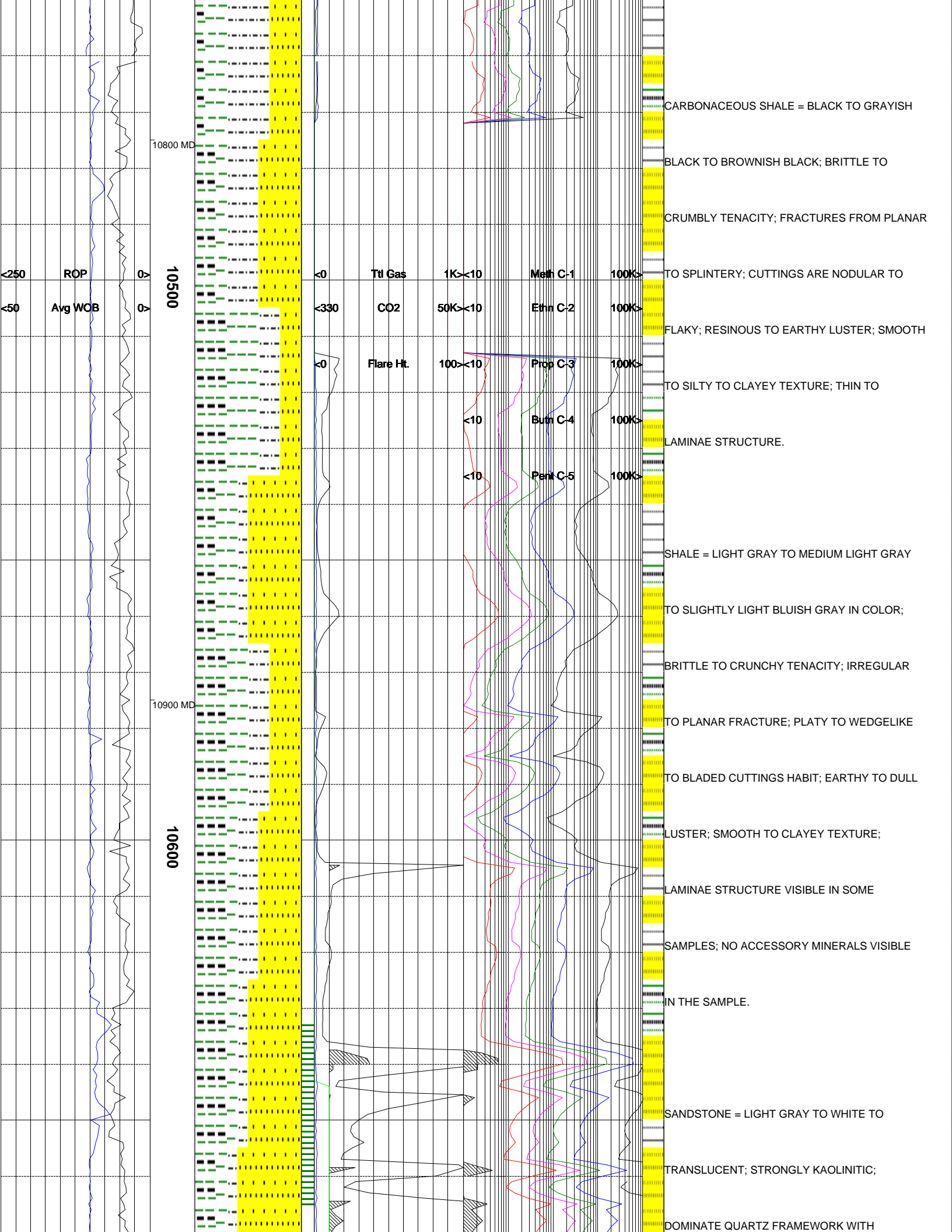


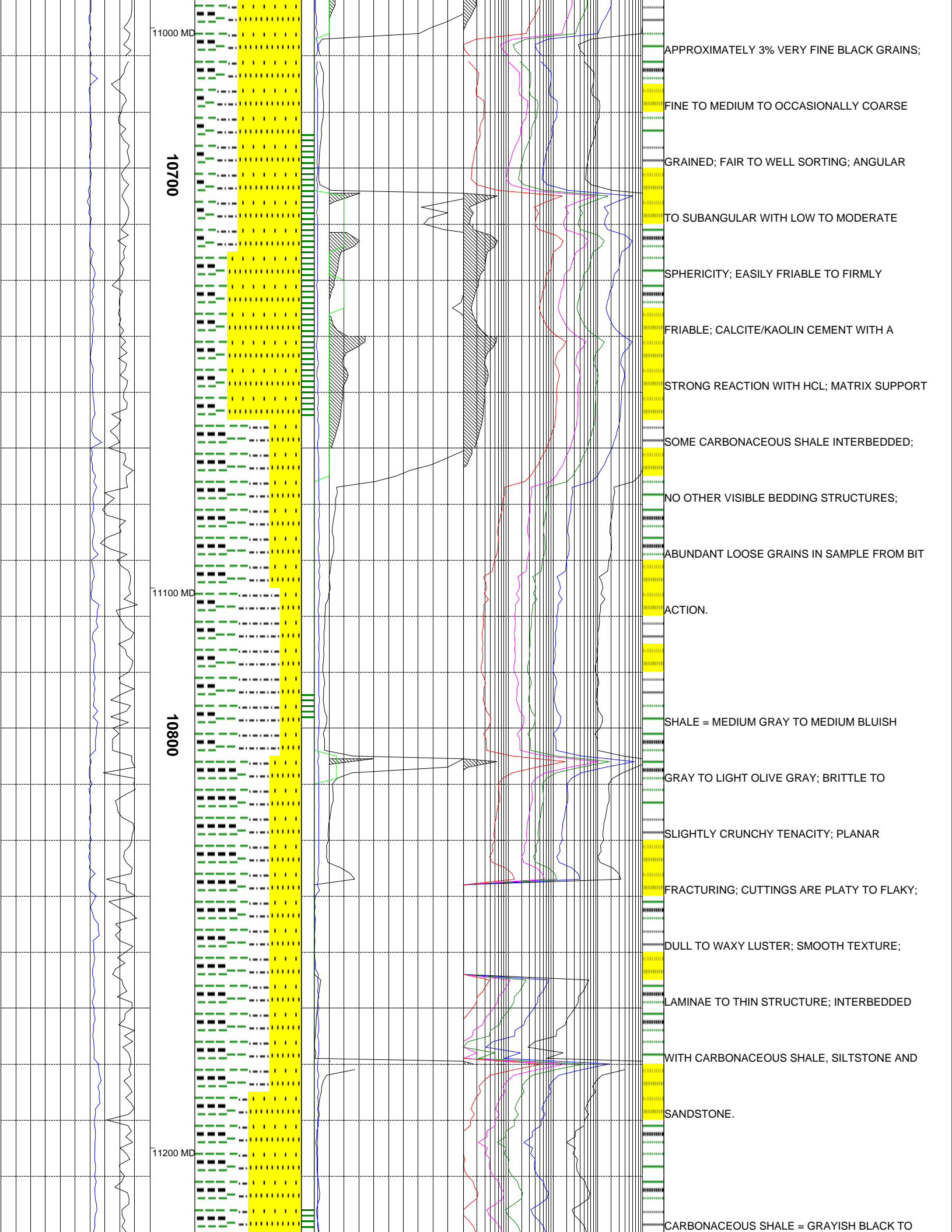


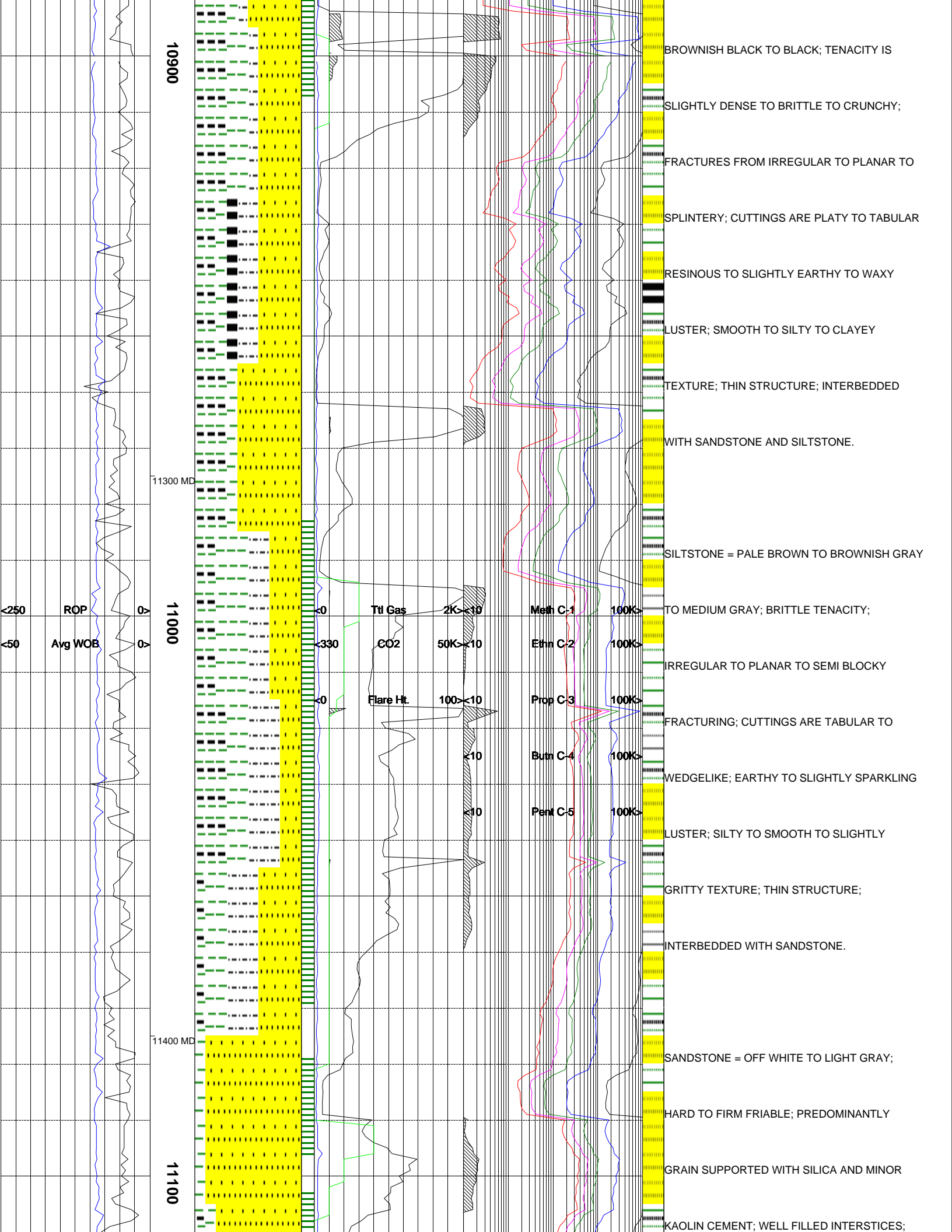


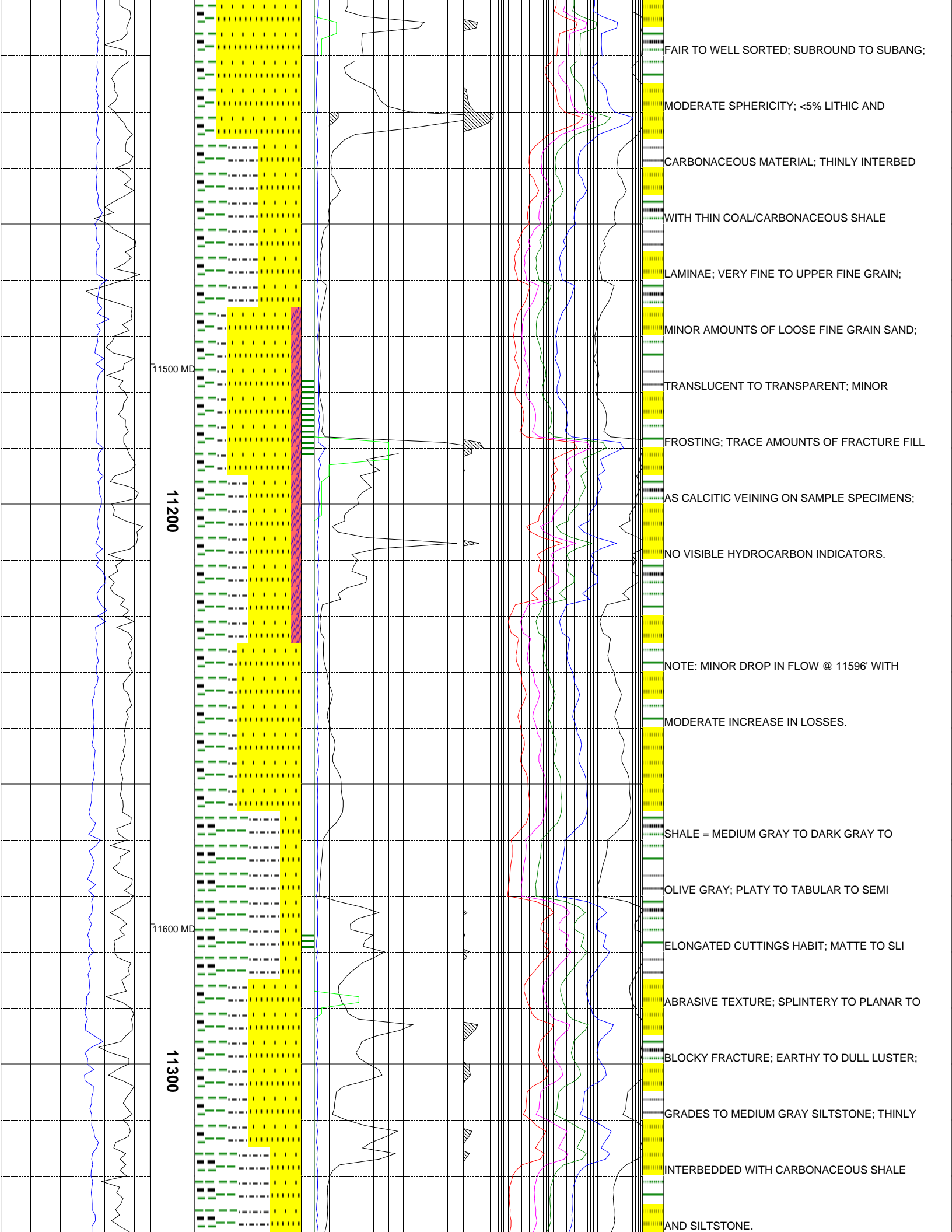


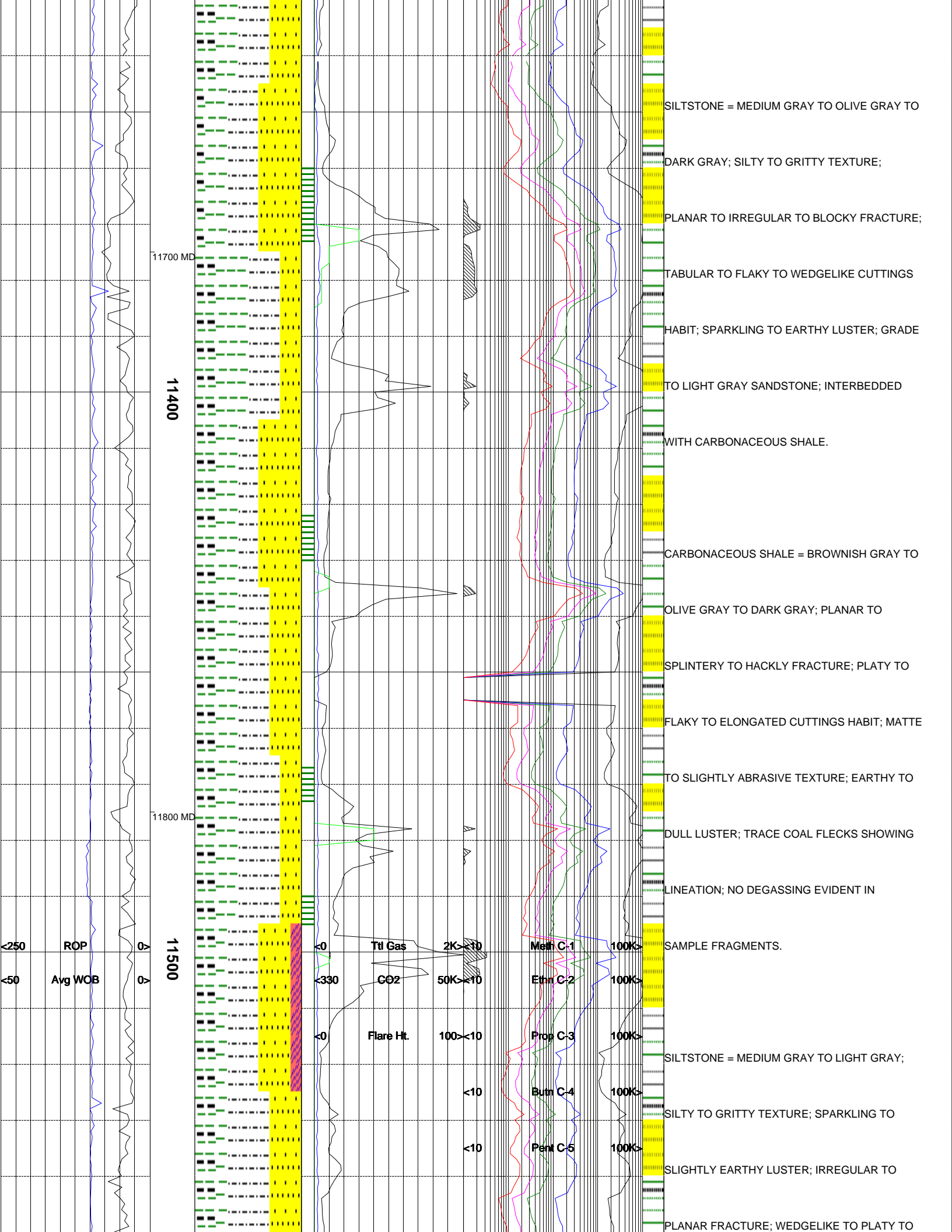


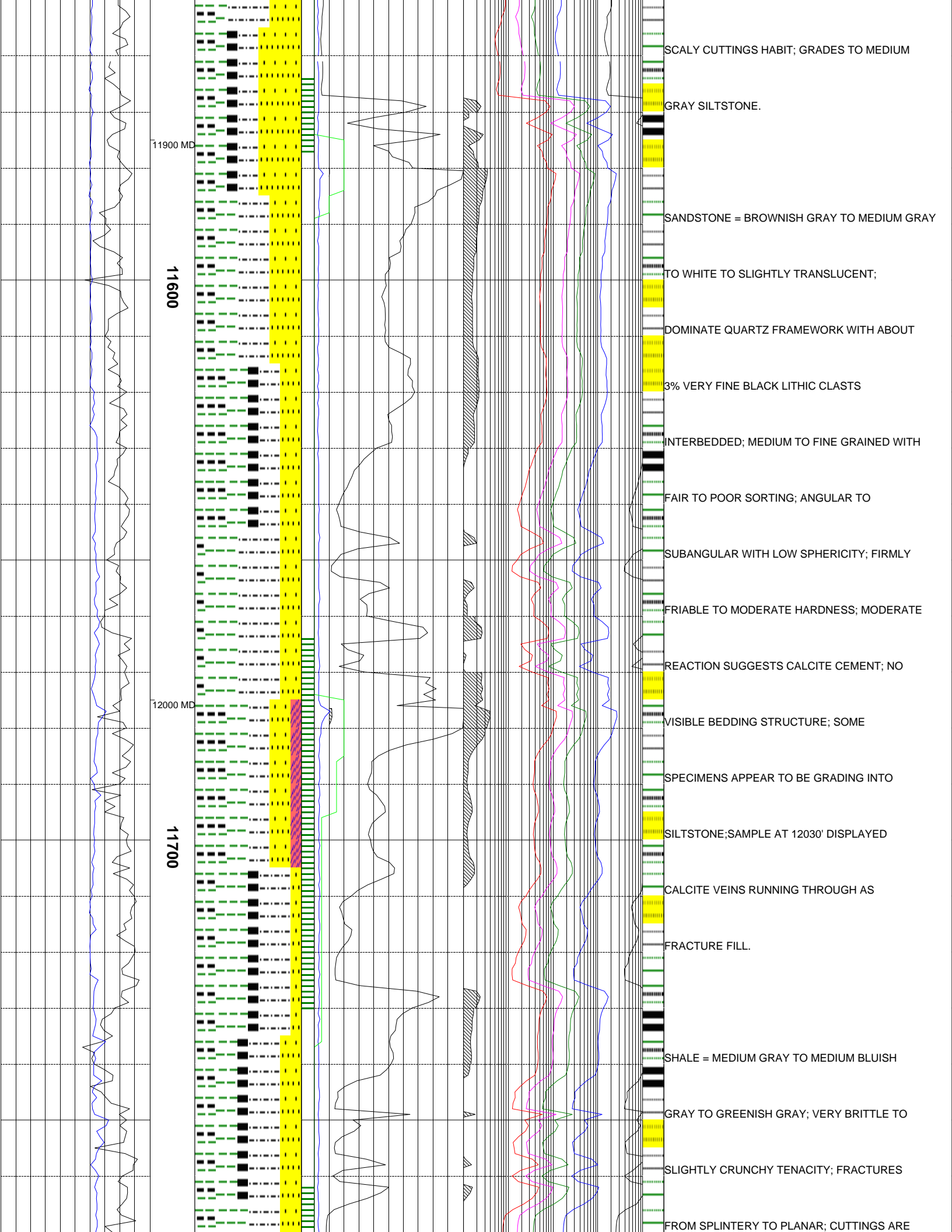


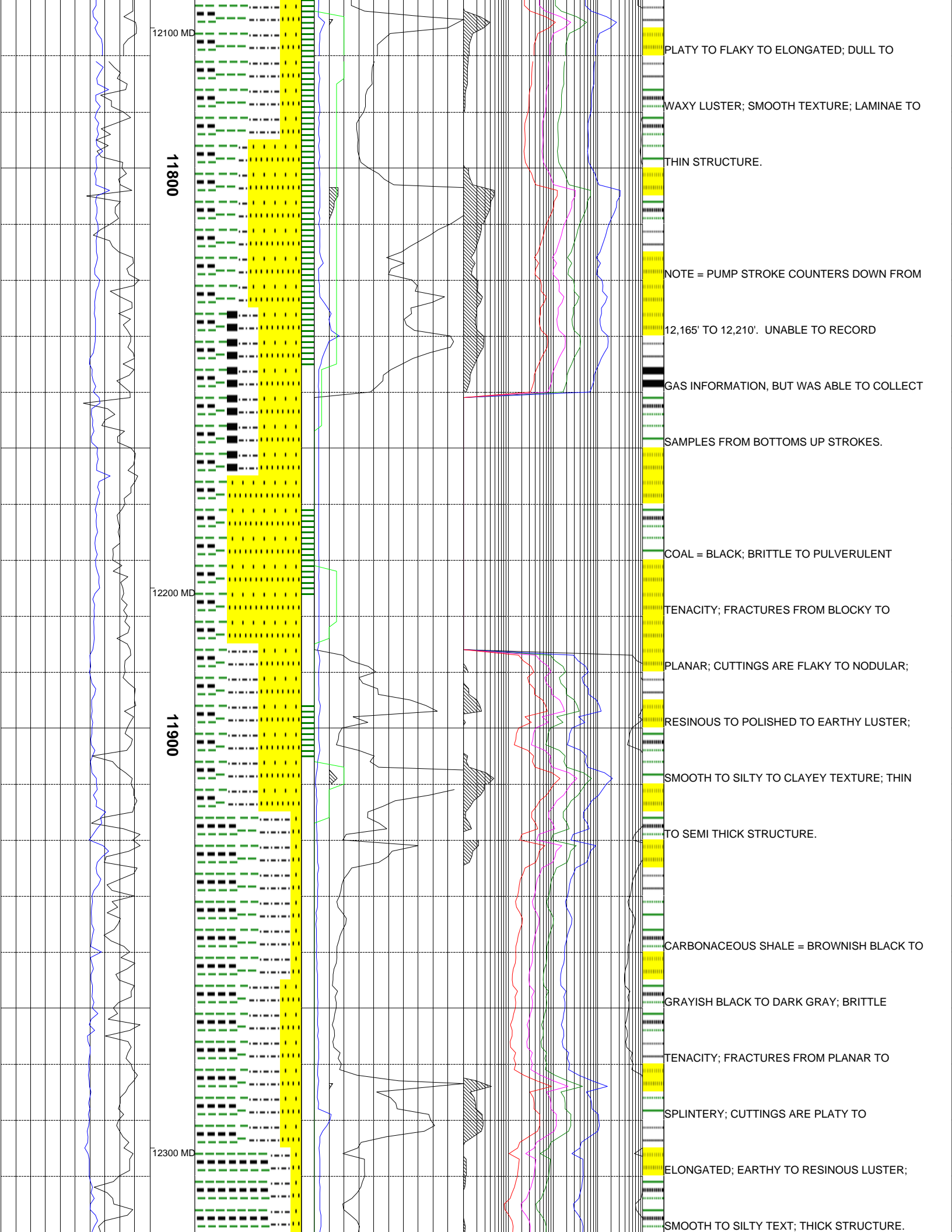


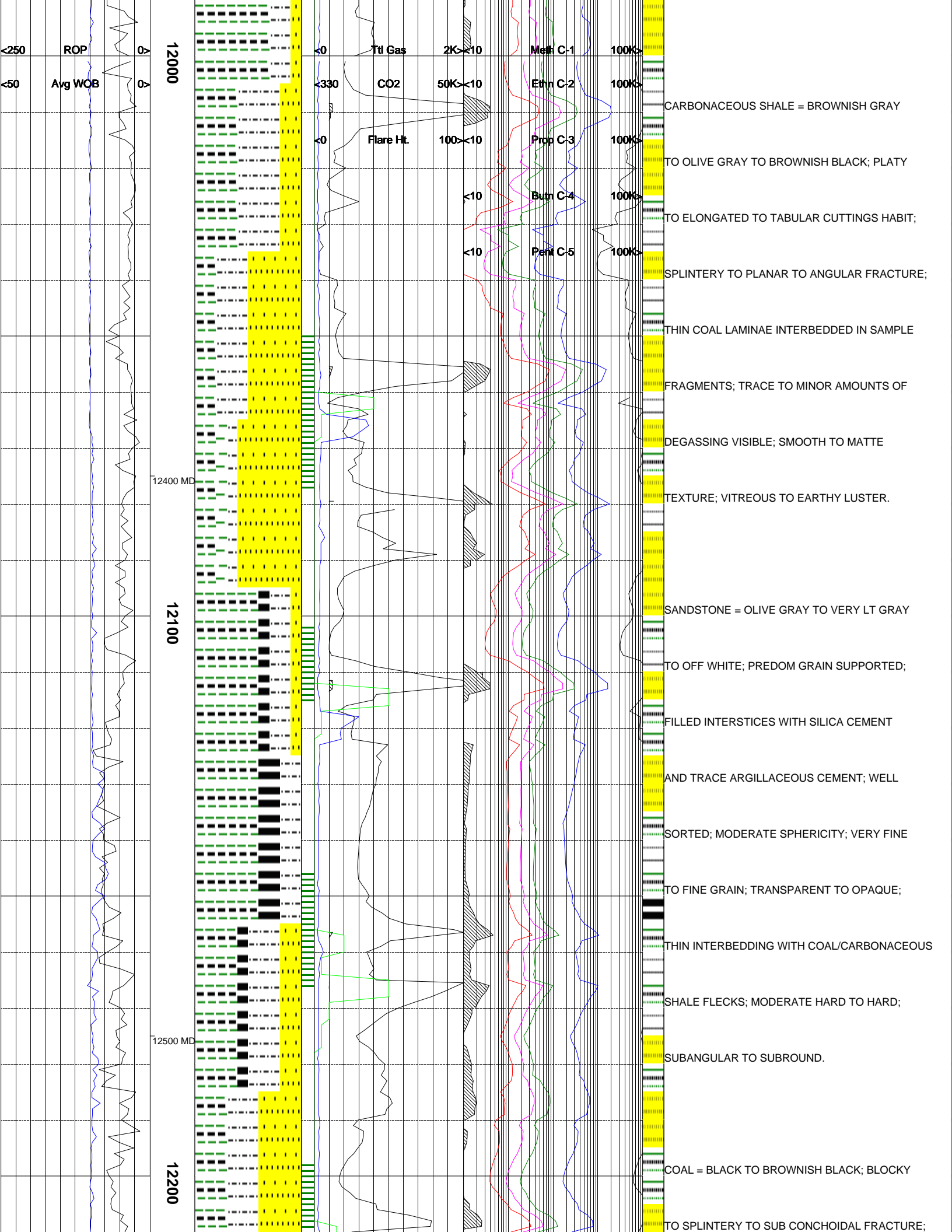


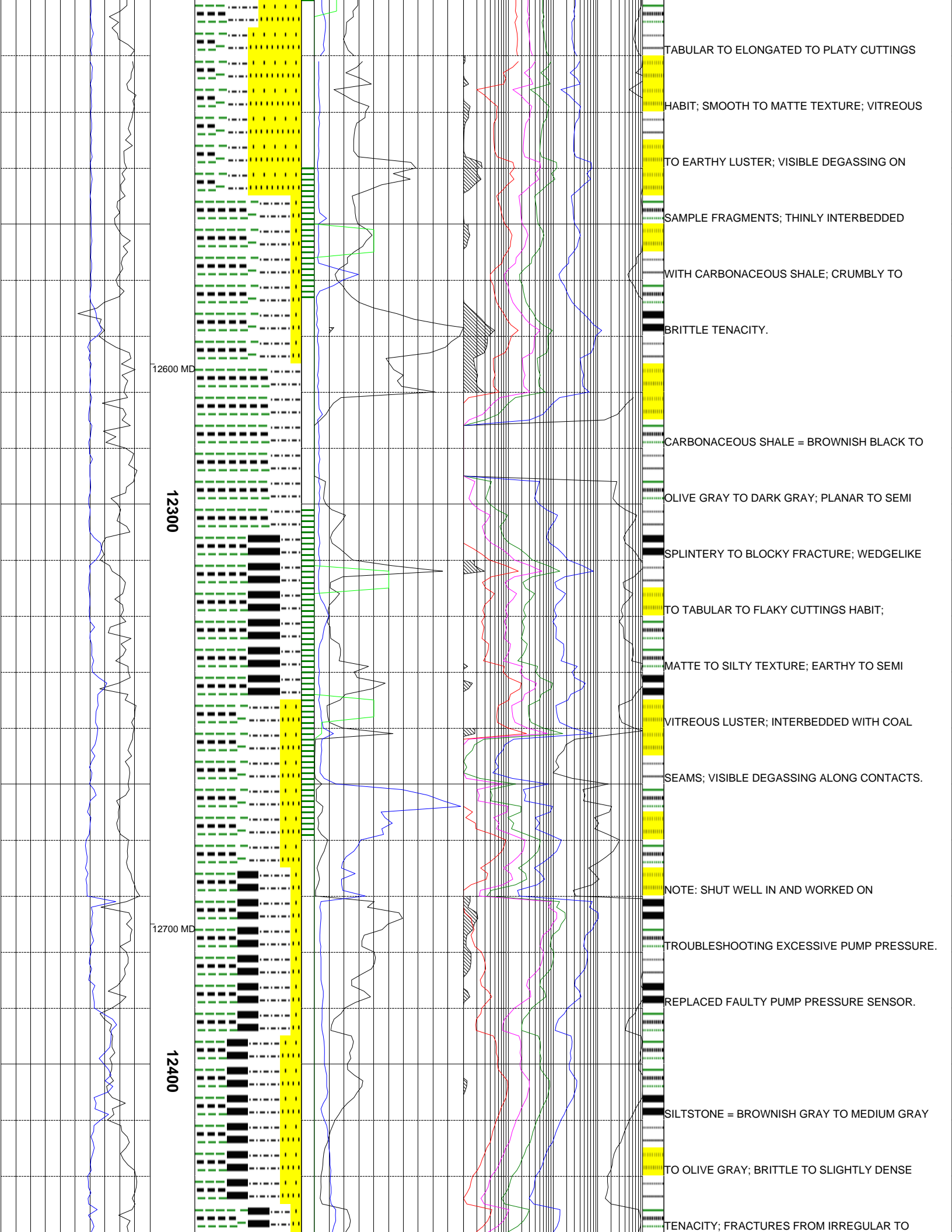


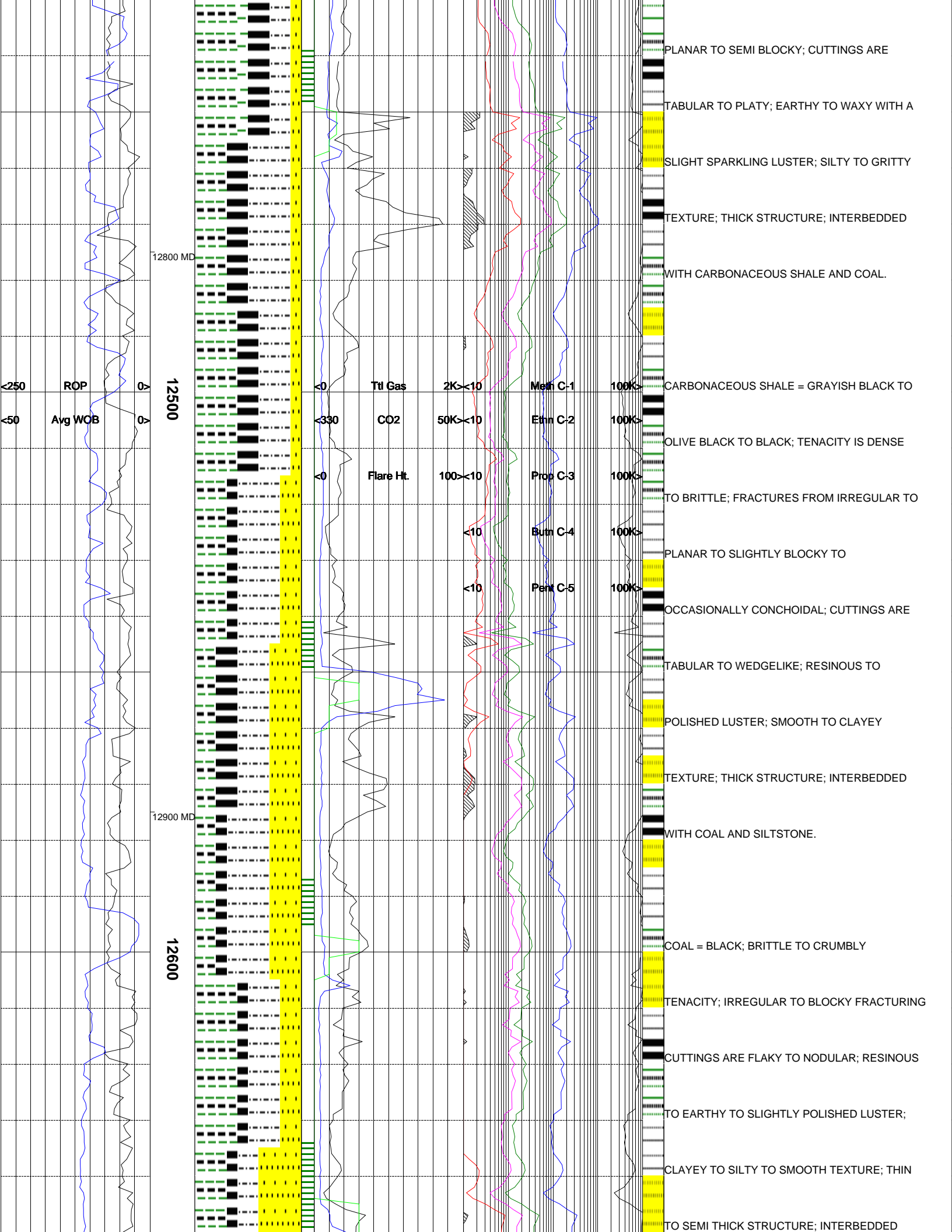


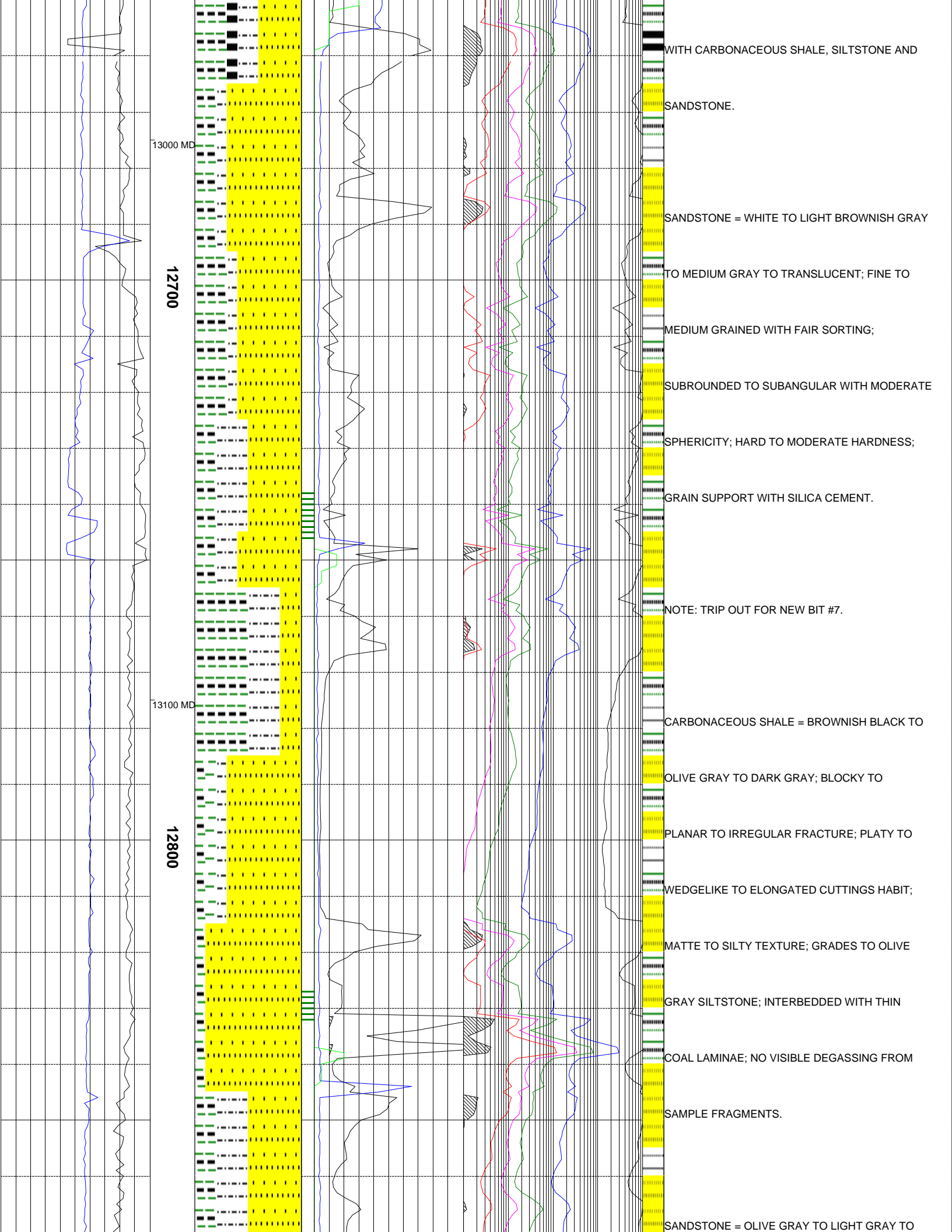


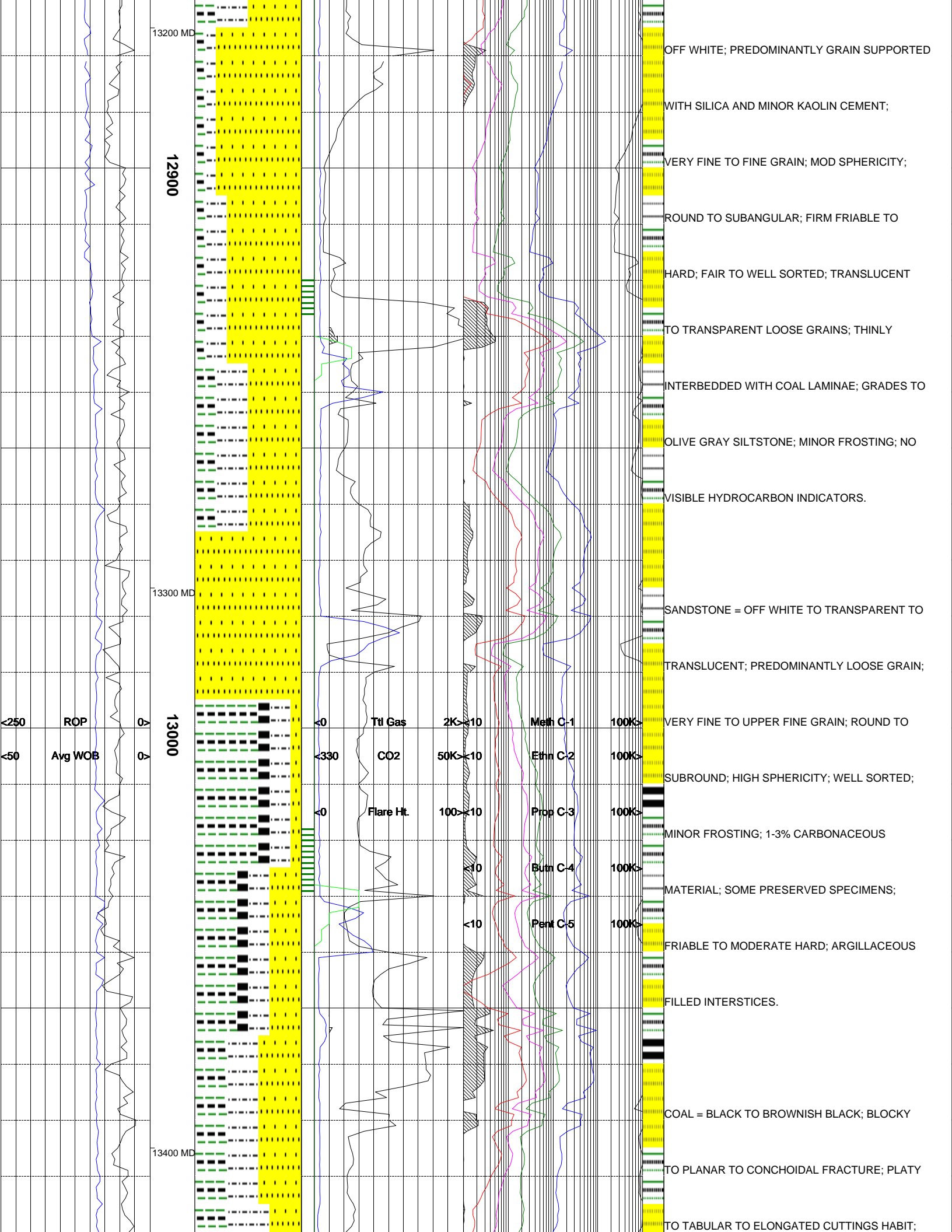


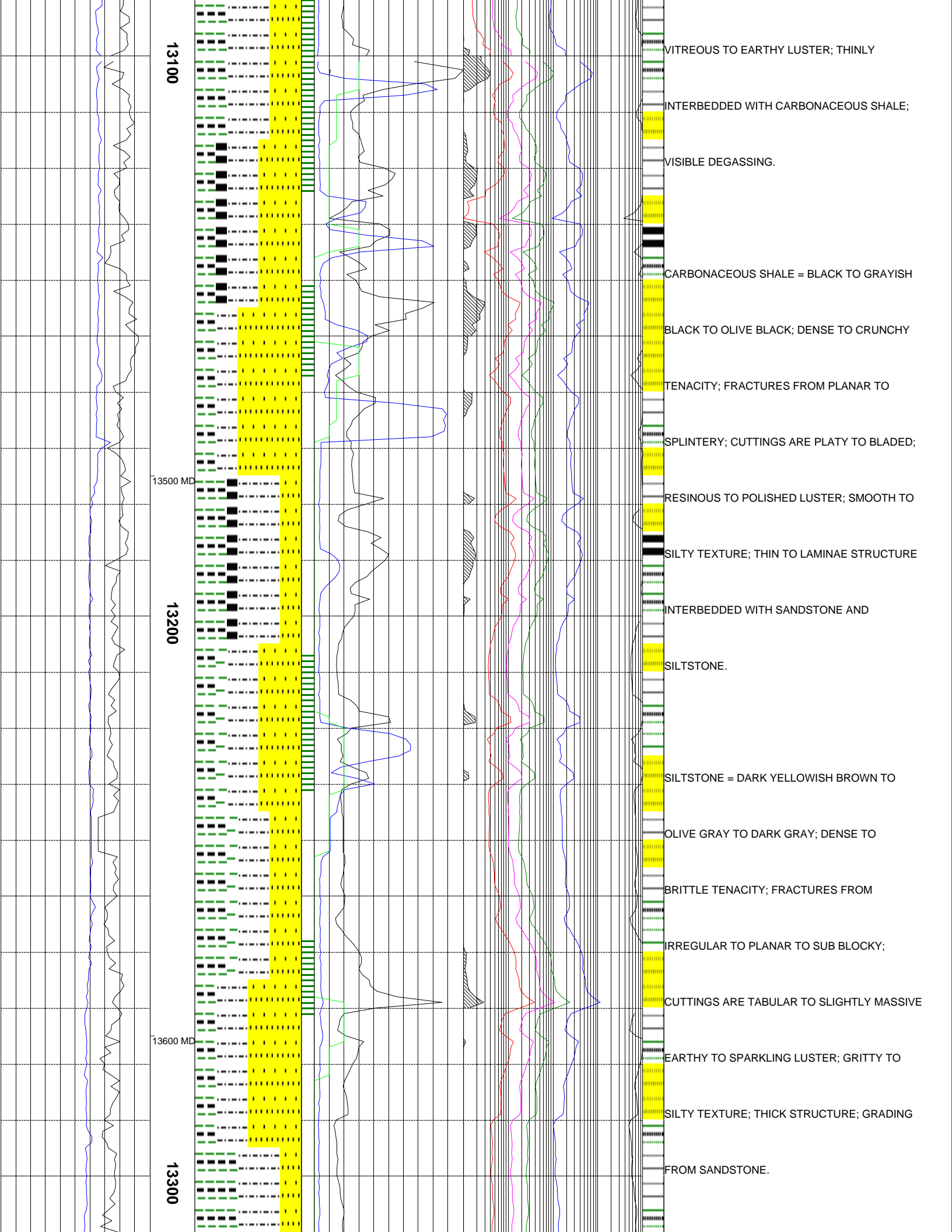


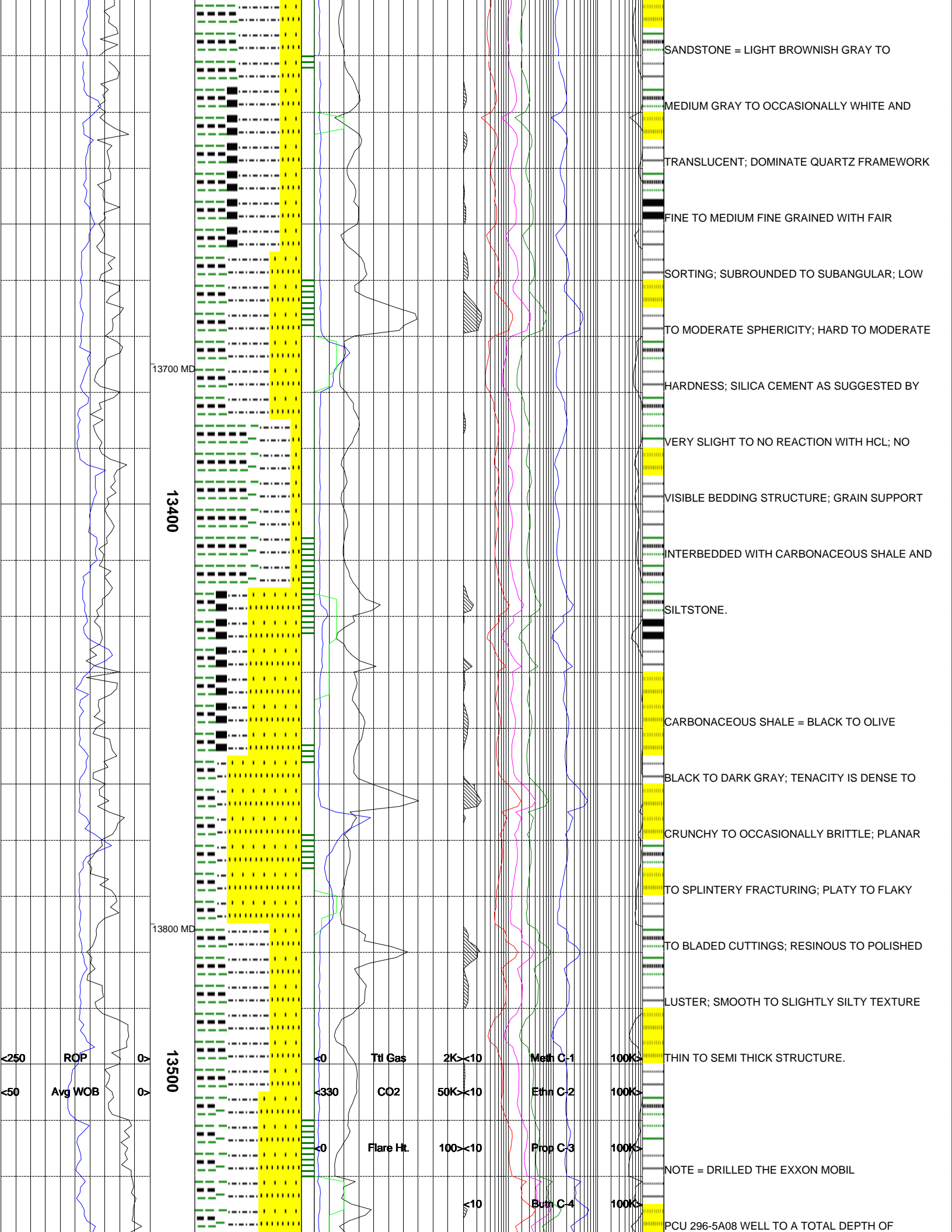


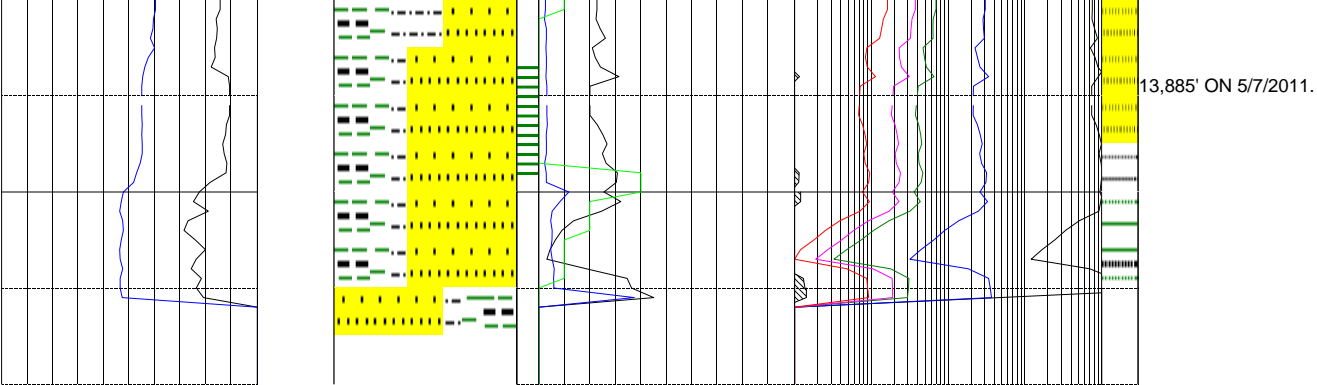












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