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MUDLOG MD

COMPANY	ExxonMobil Production
WELL	PCU-297-11B8
FIELD	PICEANCE CREEK
REGION	ROCKY MT
COORDINATES	LAT 39.885354000 LON 108.239363000
ELEVATION	GL = 7127' KB = 7154'
COUNTY, STATE	RIO BLANCO CO. CO
API INDEX	051031137100
SPUD DATE	4/21/2009
CONTRACTOR	HELMERICH_PAYNE
CO. REP.	RICKY T. OWENS
RIG/TYPE	FLEX 3
LOGGING UNIT	MLU051
GEOLOGISTS	GEORGE BAKER BRENDA MARSH
ADD. PERSONS	DEVIN CLAAR BILL JOHANNING
CO. GEOLOGIST	MICHAEL HOWELL

LOG INTERVAL

DEPTHS:	3,717'	TO	12,715'
DATES:	11/23/2009	TO	12/04/2009
SCALE:	5" = 100'		

CASING DATA

16.00"	AT	130'
10.75"	AT	3,717'
7.00"	AT	8,622'

AT

HOLE SIZE

9.875"	TO	8,641'
6.125"	TO	12,715'
	TO	
	TO	

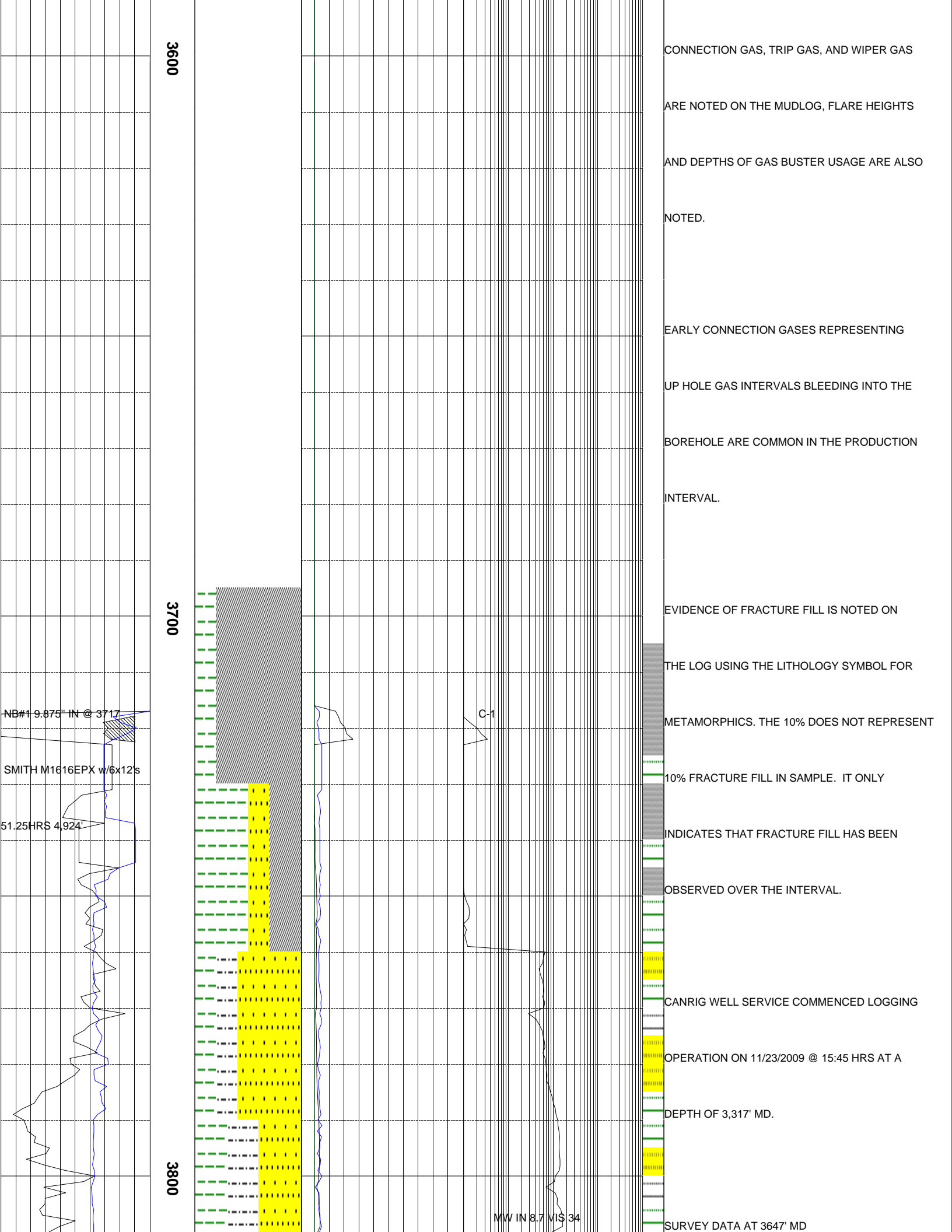
MUD TYPES

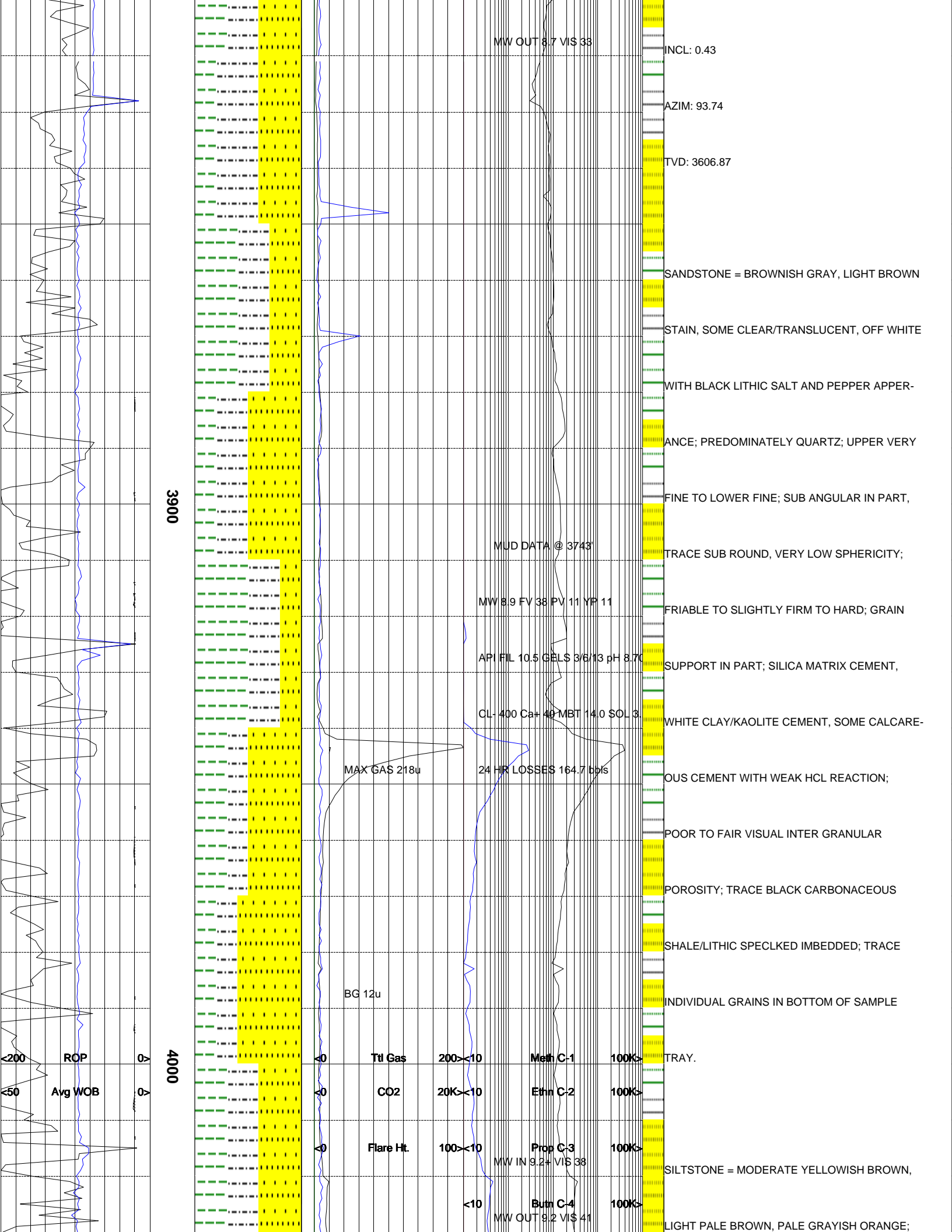
SPUD MUD	TO	3,717'
LSND	TO	12,175'
	TO	
	TO	

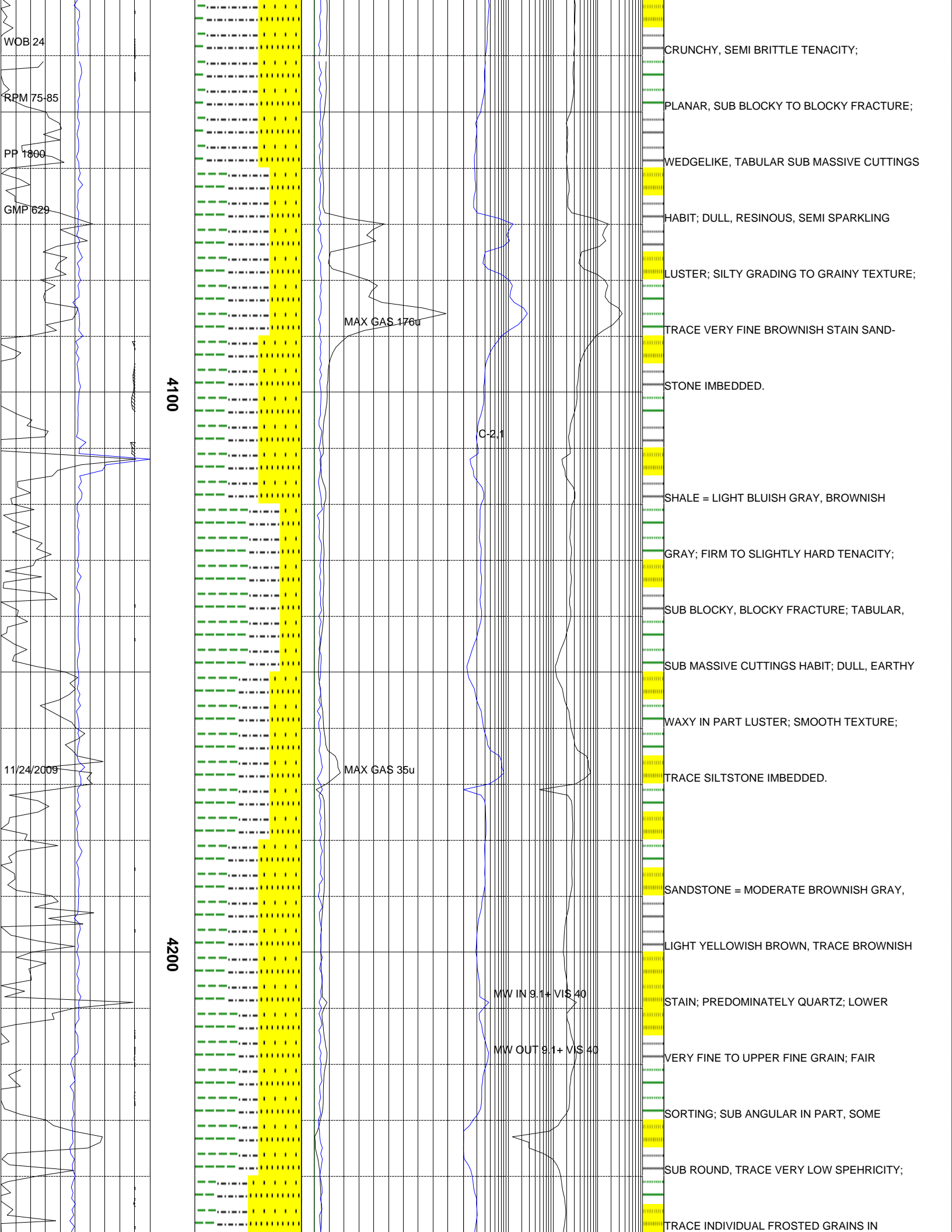
ABBREVIATIONS

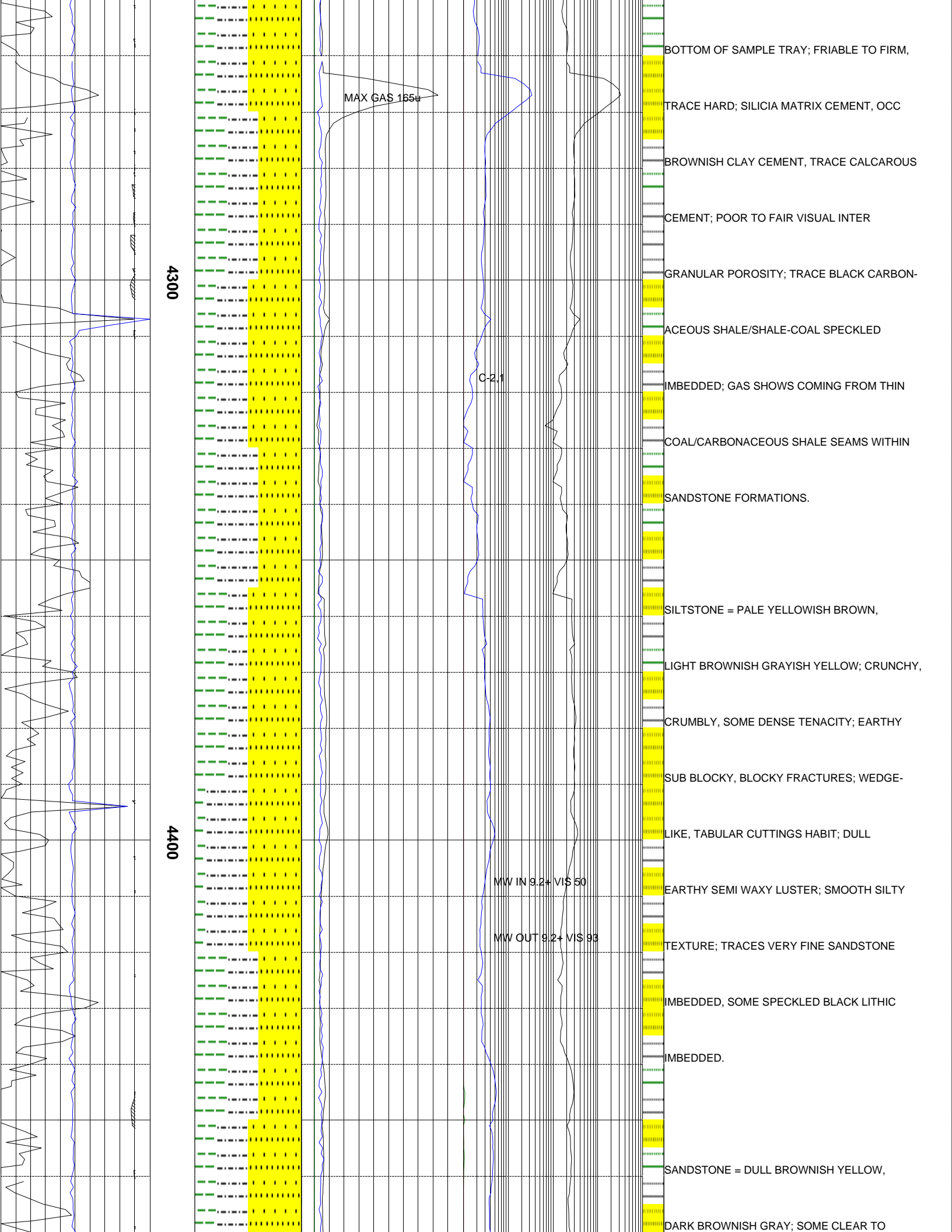
<i>NB</i> NEWBIT	<i>PV</i> PLASTIC VISCOSITY	<i>LC</i> LOST CIRCULATION
<i>RRB</i> RERUN BIT	<i>YP</i> YIELD POINT	<i>CO</i> CIRCULATE OUT
<i>CB</i> CORE BIT	<i>FL</i> FLUID LOSS	<i>NR</i> NO RETURNS
<i>WOB</i> WEIGHT ON BIT	<i>CL</i> PPM CLORIDE ION	<i>TG</i> TRIP GAS
<i>RPM</i> ROTARY REV/MIN	<i>Rm</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	

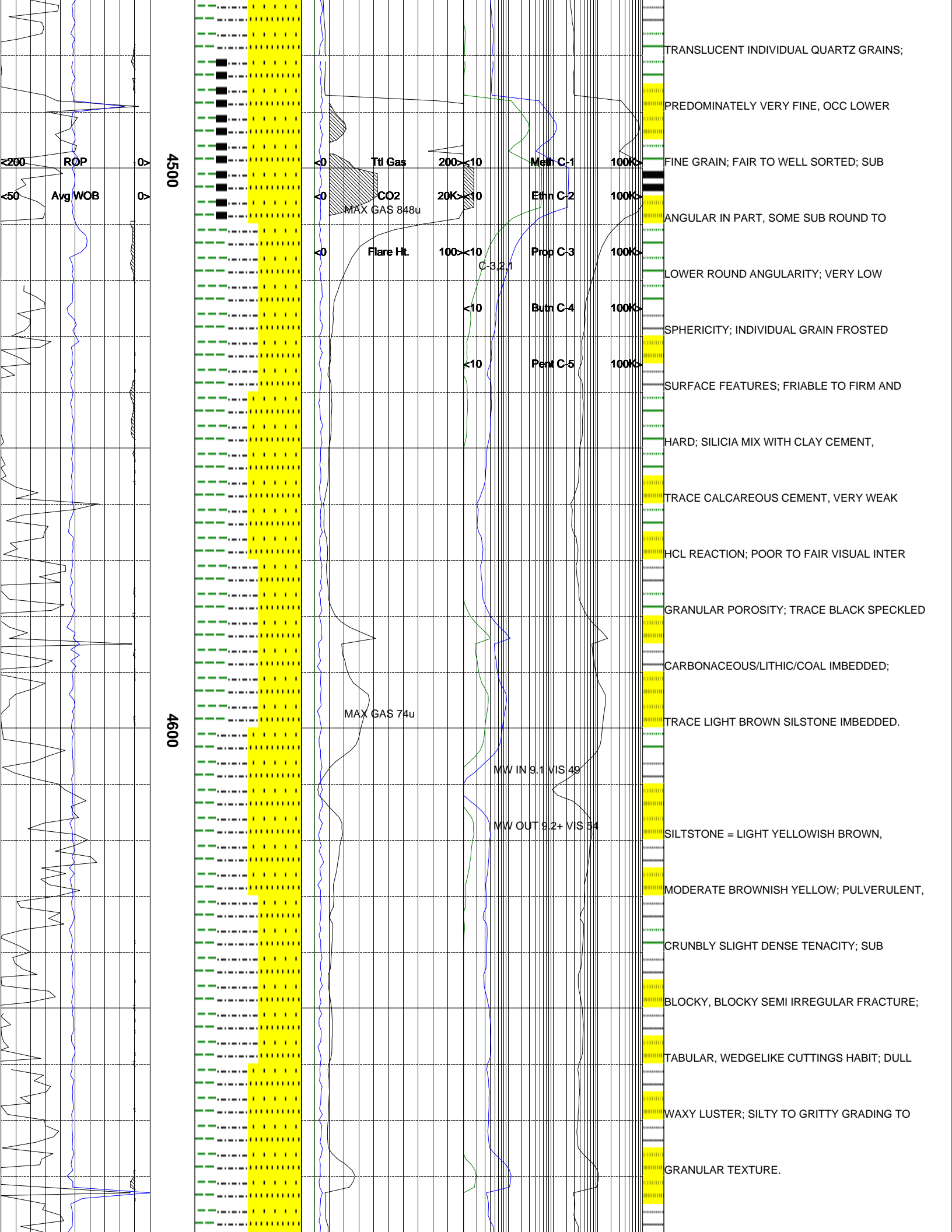


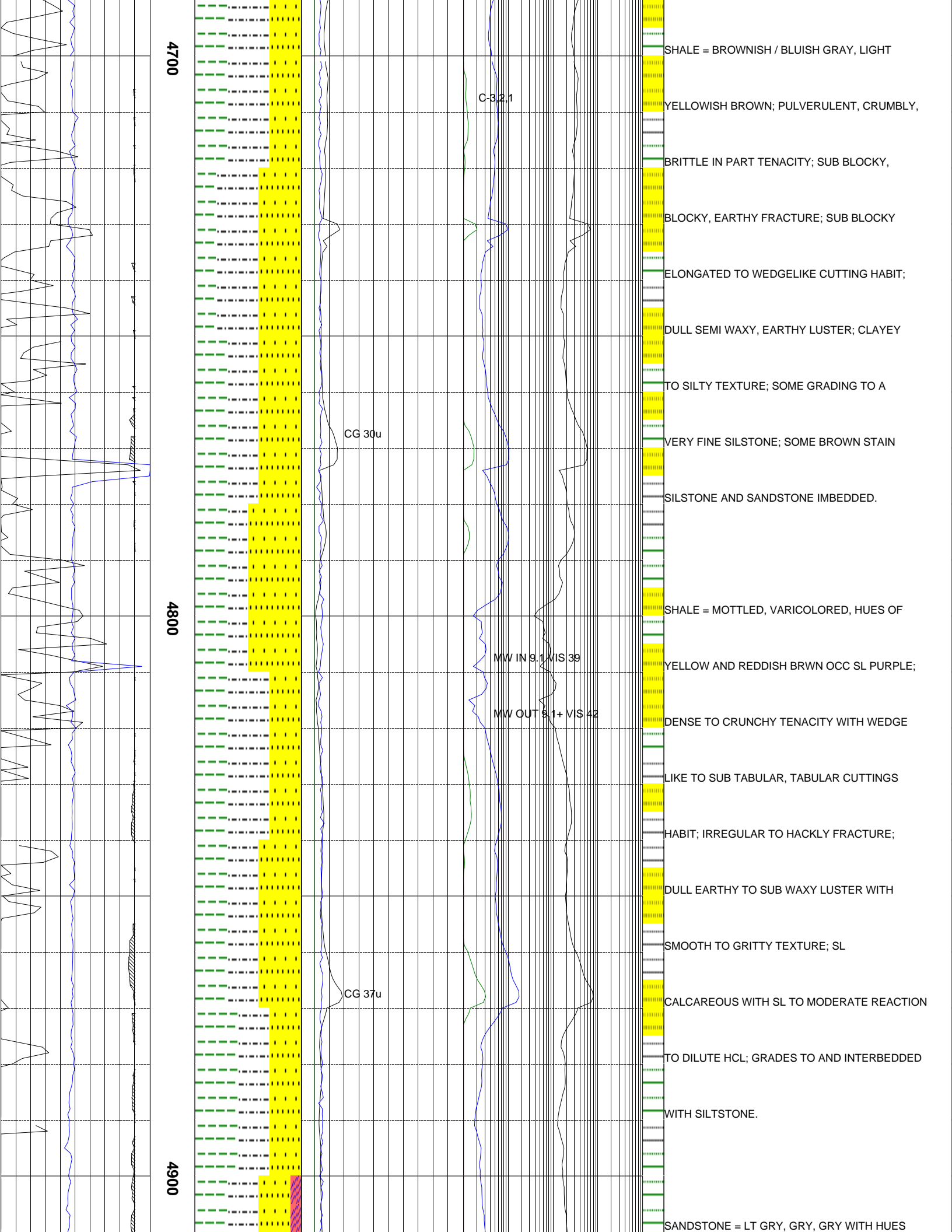


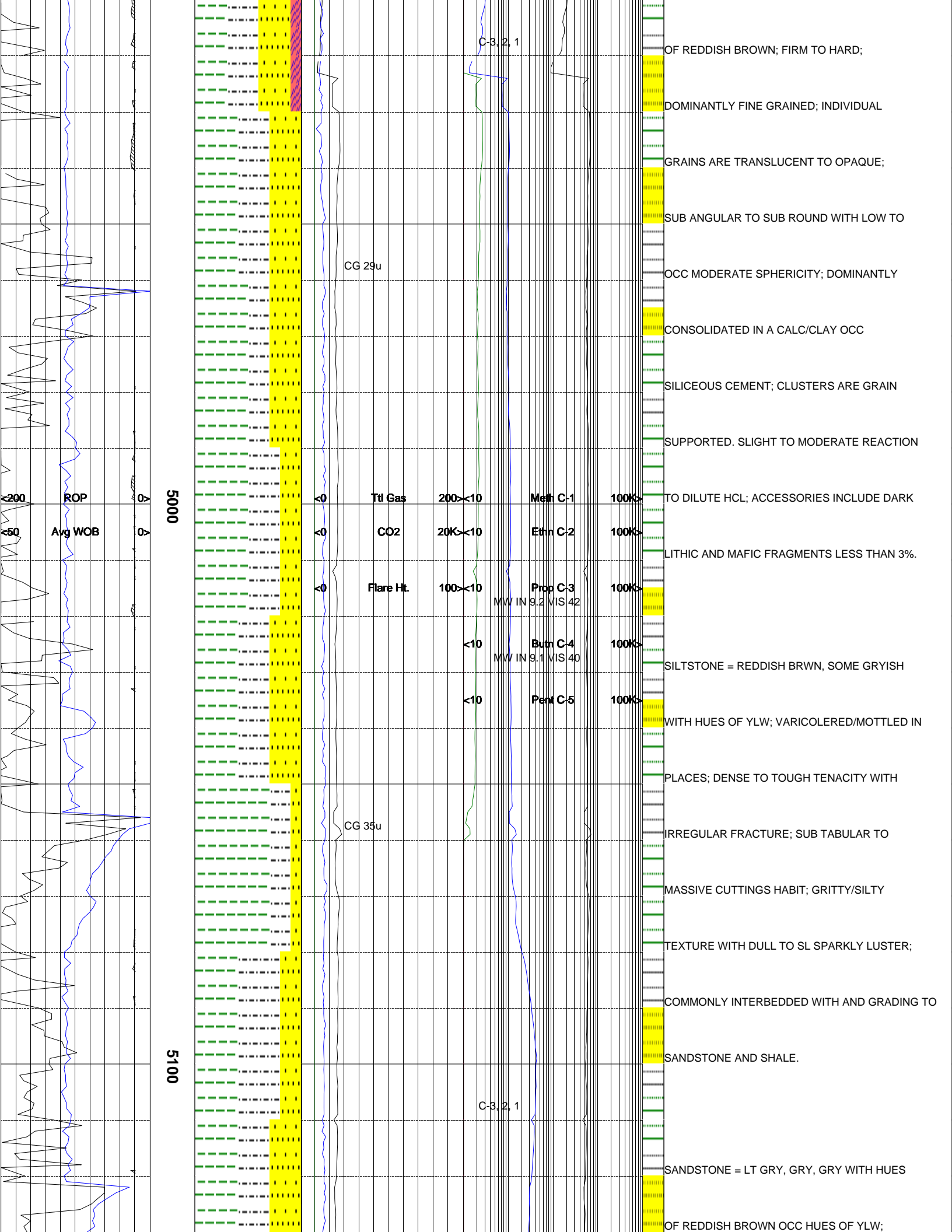


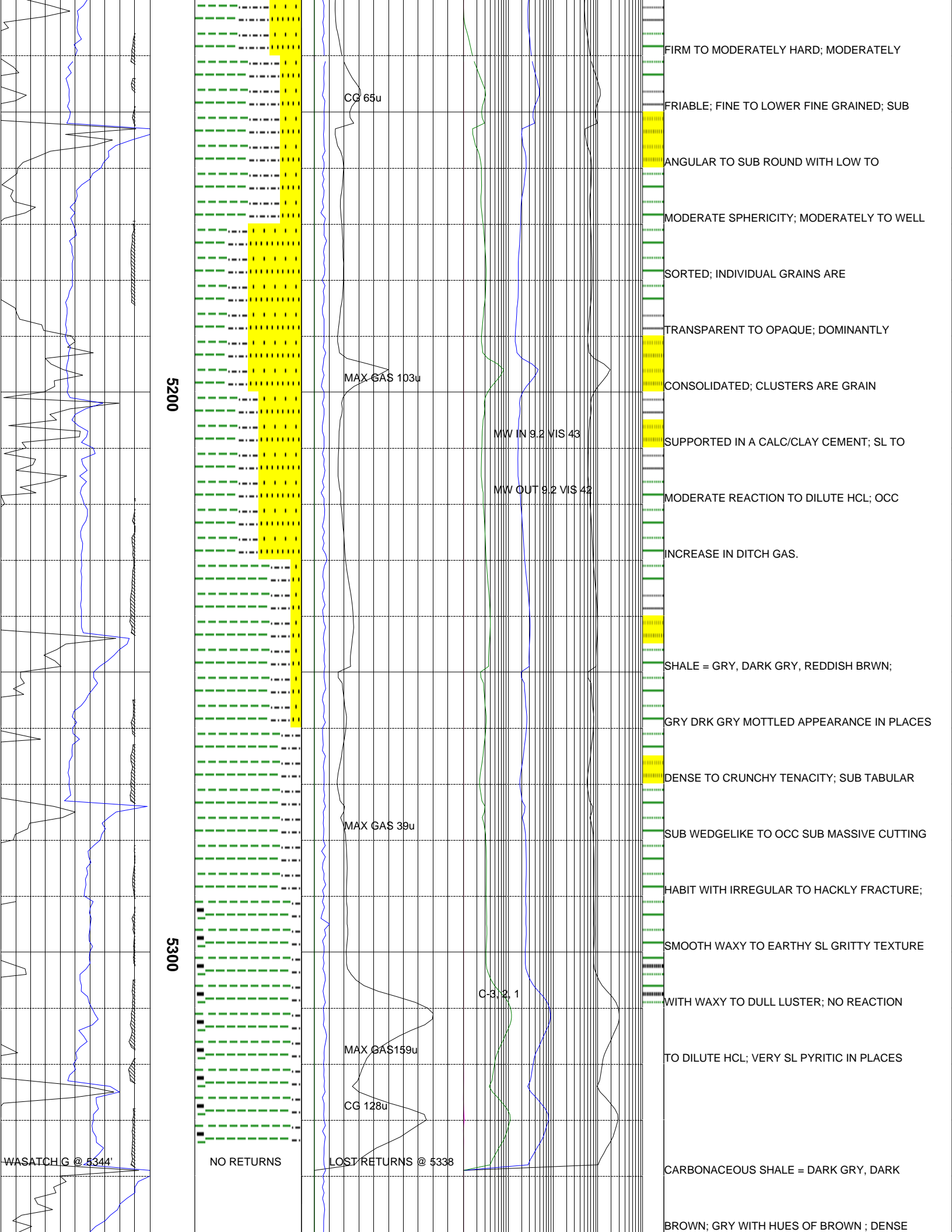












5200

5300

CG 65u

MAX GAS 103u

MW IN 9.2 VIS 43

MW OUT 9.2 VIS 42

MAX GAS 39u

MAX GAS 159u

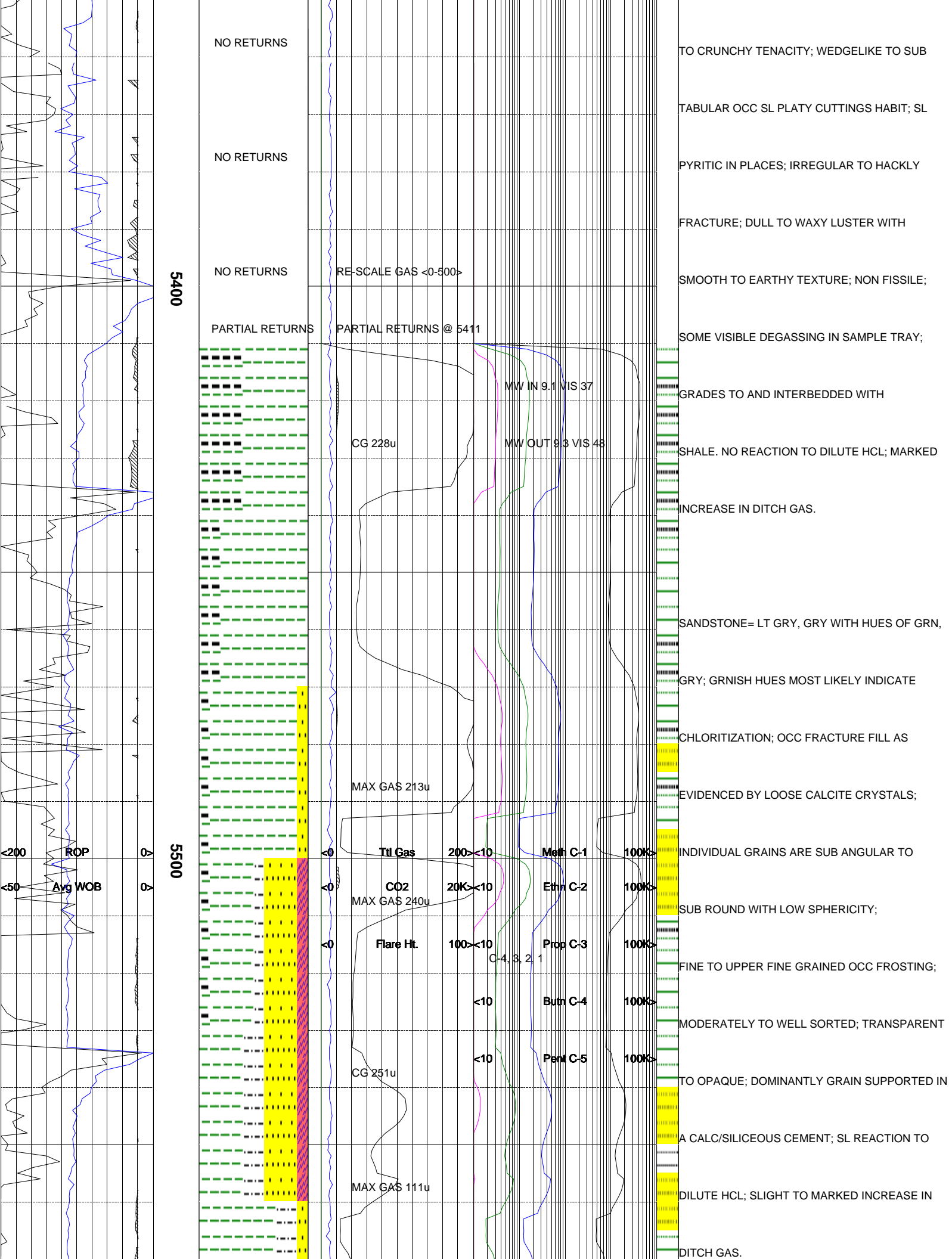
CG 128u

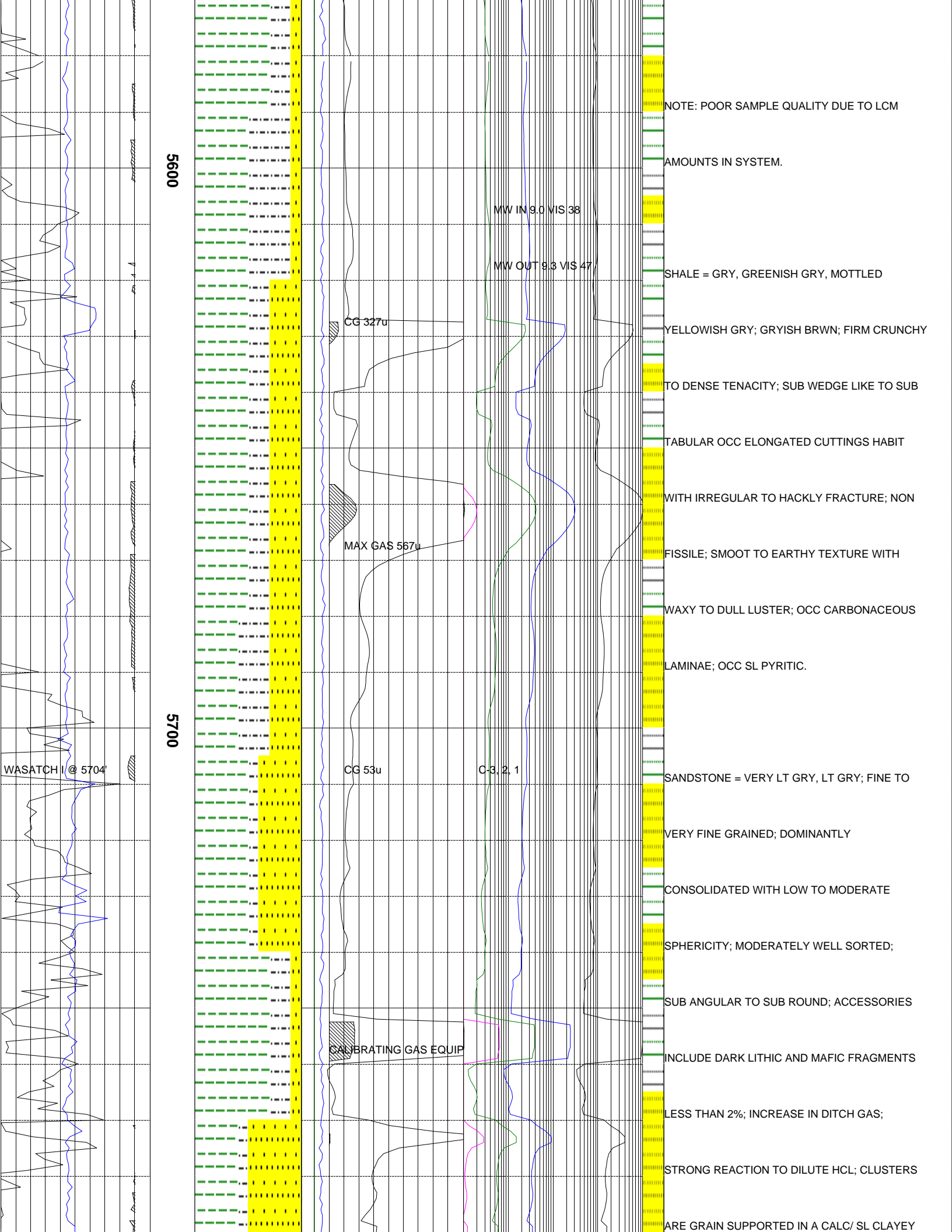
C-3 2, 1

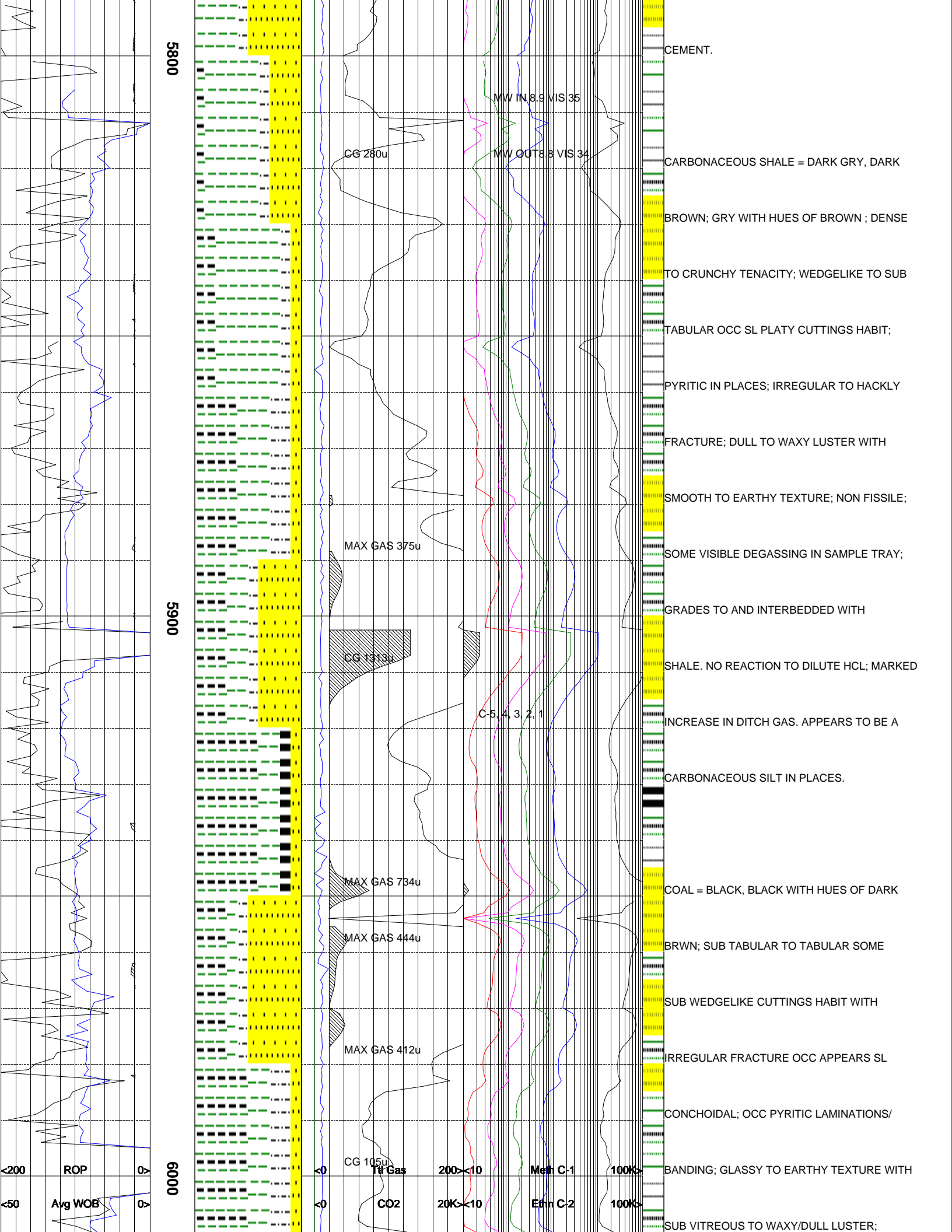
WASATCH G @ 5344

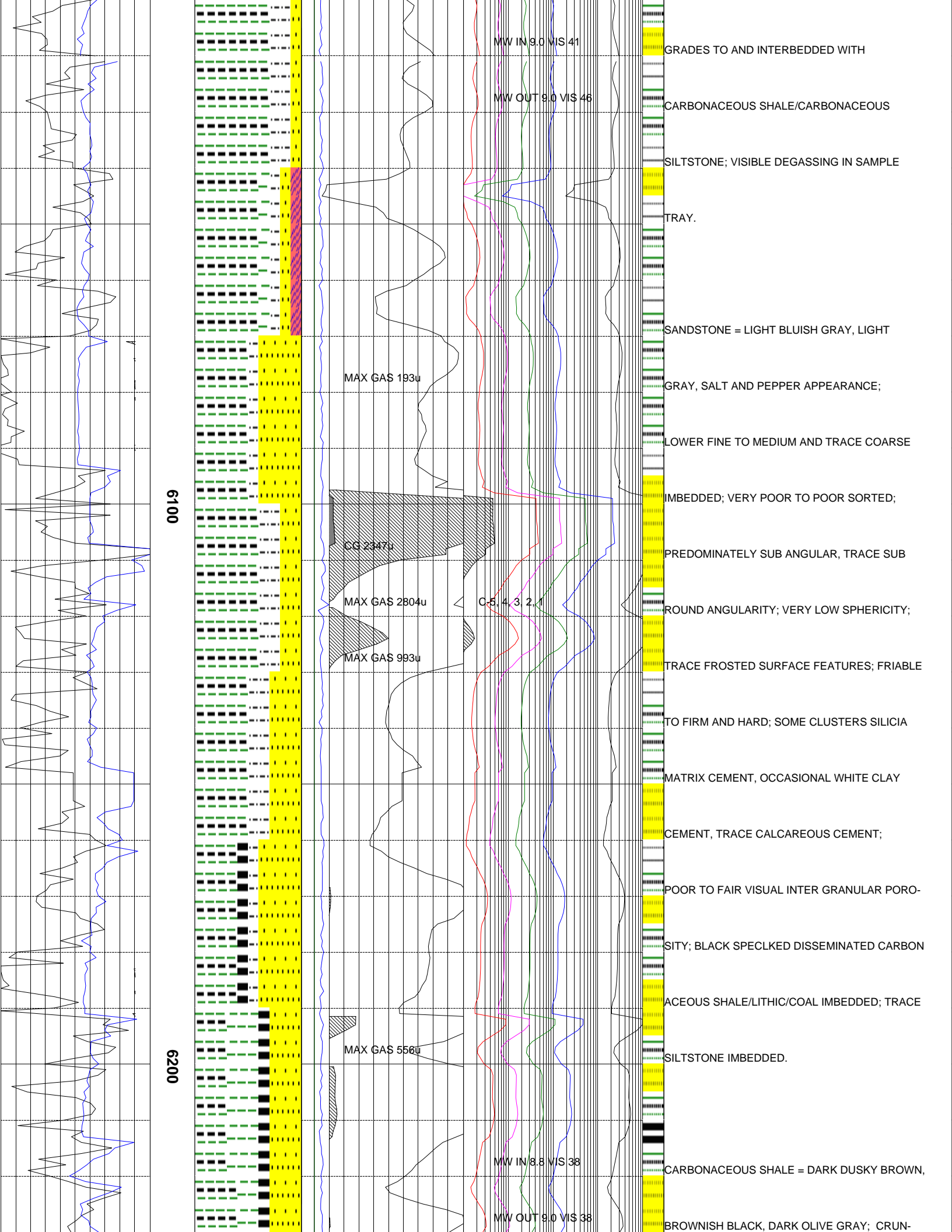
NO RETURNS

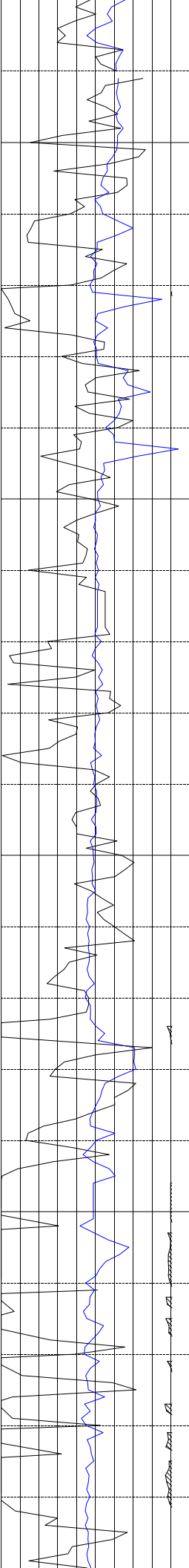
LOST RETURNS @ 5338





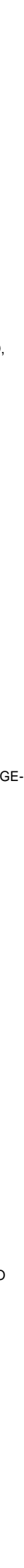
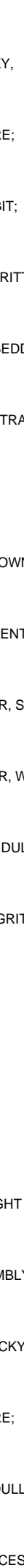
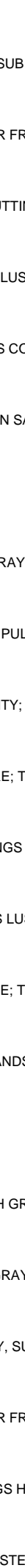
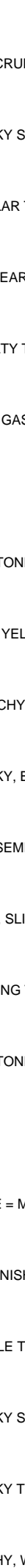
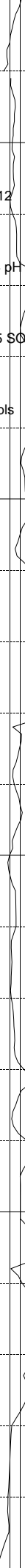
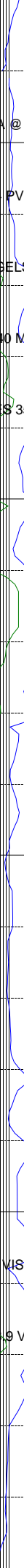
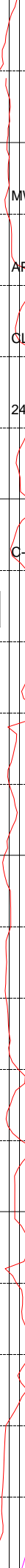
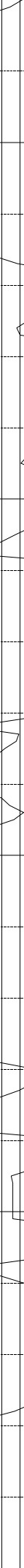
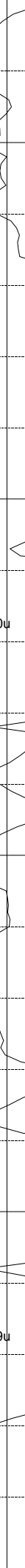
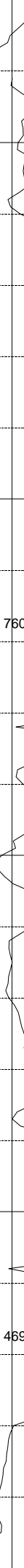
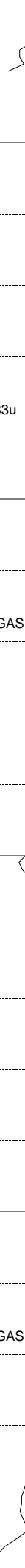
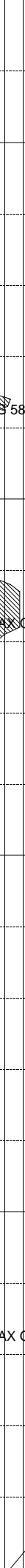
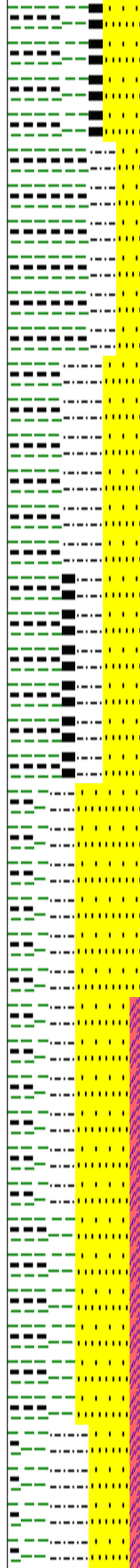






6300

6400



MUD DATA @ 6265'

MW 9.0 FV 44 PV 11 YF 12

API FIL 11.8 GELS 4/8/14 pH 10.2

CL: 400 Ca+ 40 MBT 17.5 SOL 3

24 HR LOSSES 3533/4 bbls

C-5.43.2

CG 583u

MAX GAS 760u

MW IN 8.8 VIS 36

MW OUT 8.9 VIS 39

MAX GAS 469u

CHY, CRUMBLY TENACITY; SUB BLOCKY,

BLOCKY SLIGHT IRREGULAR FRACTURE;

TABULAR TO SUB PLATY CUTTING HABIT;

DULL, EARTHY, SEMI WAXY LUSTER; GRITTY

TO SILTY TEXTURE; TRACES COAL IMBEDDED,

SOME GASSOUS BUBBLES IN SAMPLE TRAY.

SILTSTONE = MODERATE GRAYISH BROWN,

LIGHT YELLOWISH BROWN; PULVERULENT,

CRUNCHY TO HARD TENACITY; PLANAR, SUB

BLOCKY, BLOCKY FRACTURE; TABULAR, WEDGE-

LIKE, SEMI MASSIVE CUTTINGS HABIT; DULL,

WAXY, SLIGHTLY RESINOUS LUSTER; GRITTY

GRADING TO SILTY TEXTURE; TRACES

SILTSTONE GRADING TO SANDSTON.

SHALE = MODERATE BLUISH GRAY, LIGHT

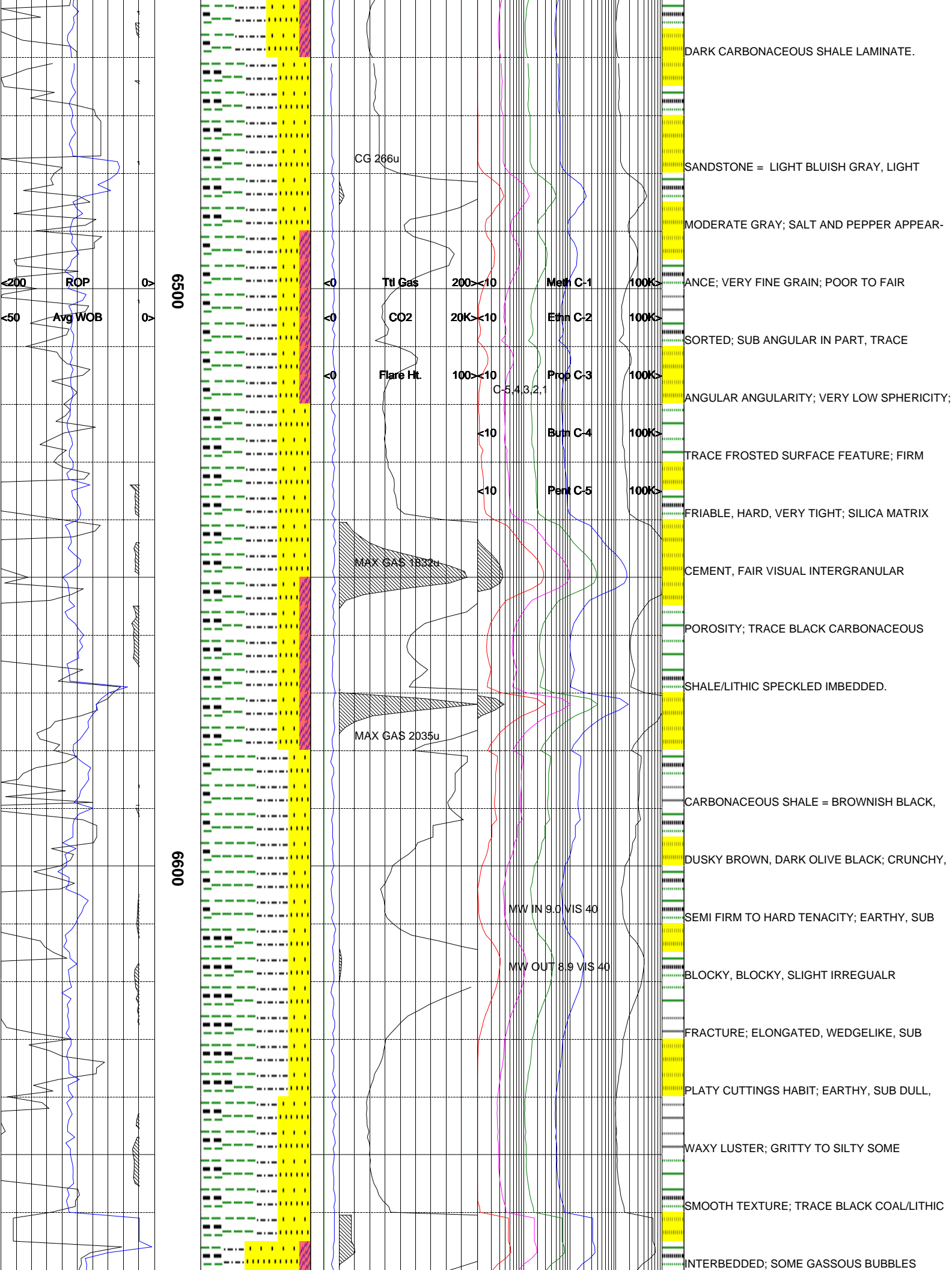
BROWNISH TO GREENISH GRAY; CRUMBLY TO

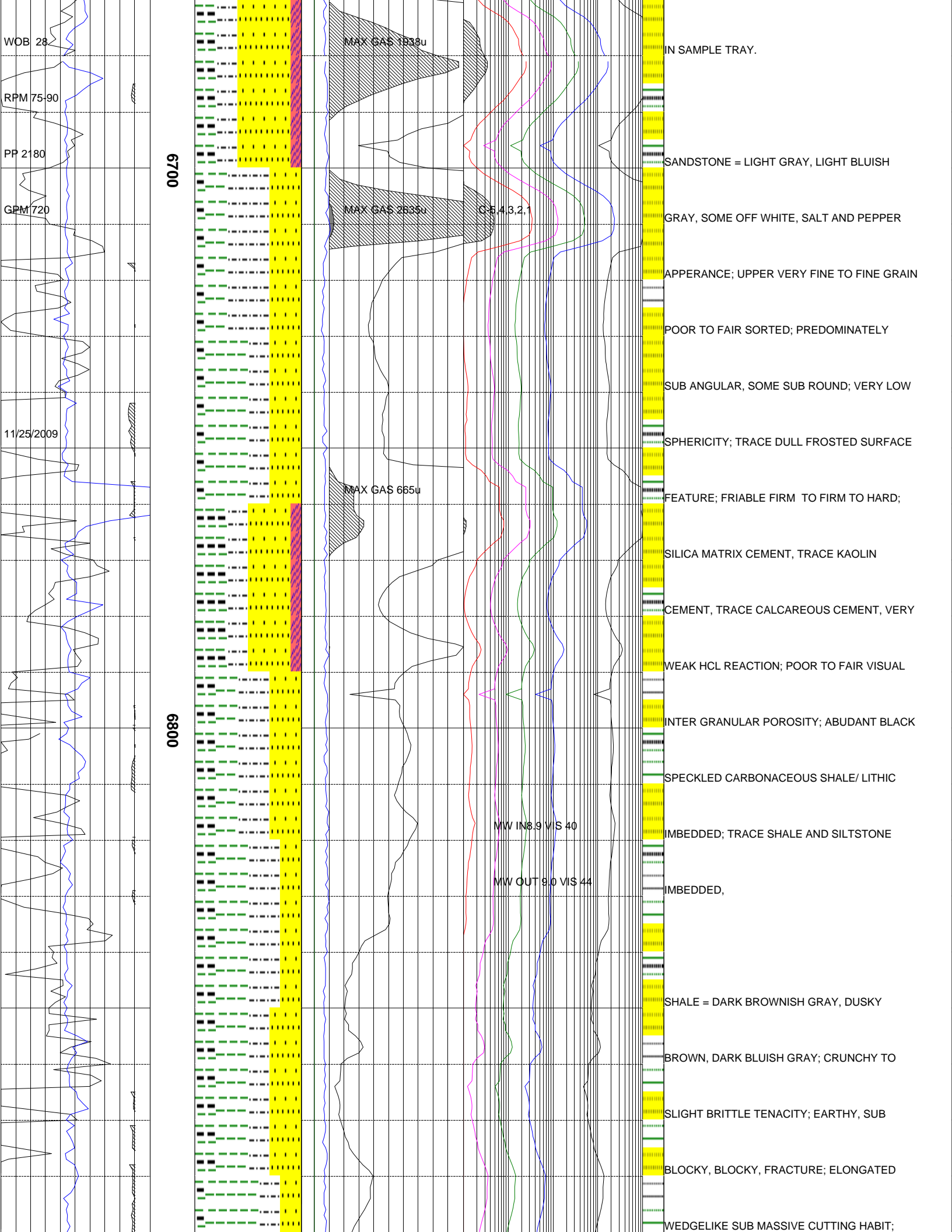
BRITTLE TENACITY; EARTHY, SUB BLOCKY,

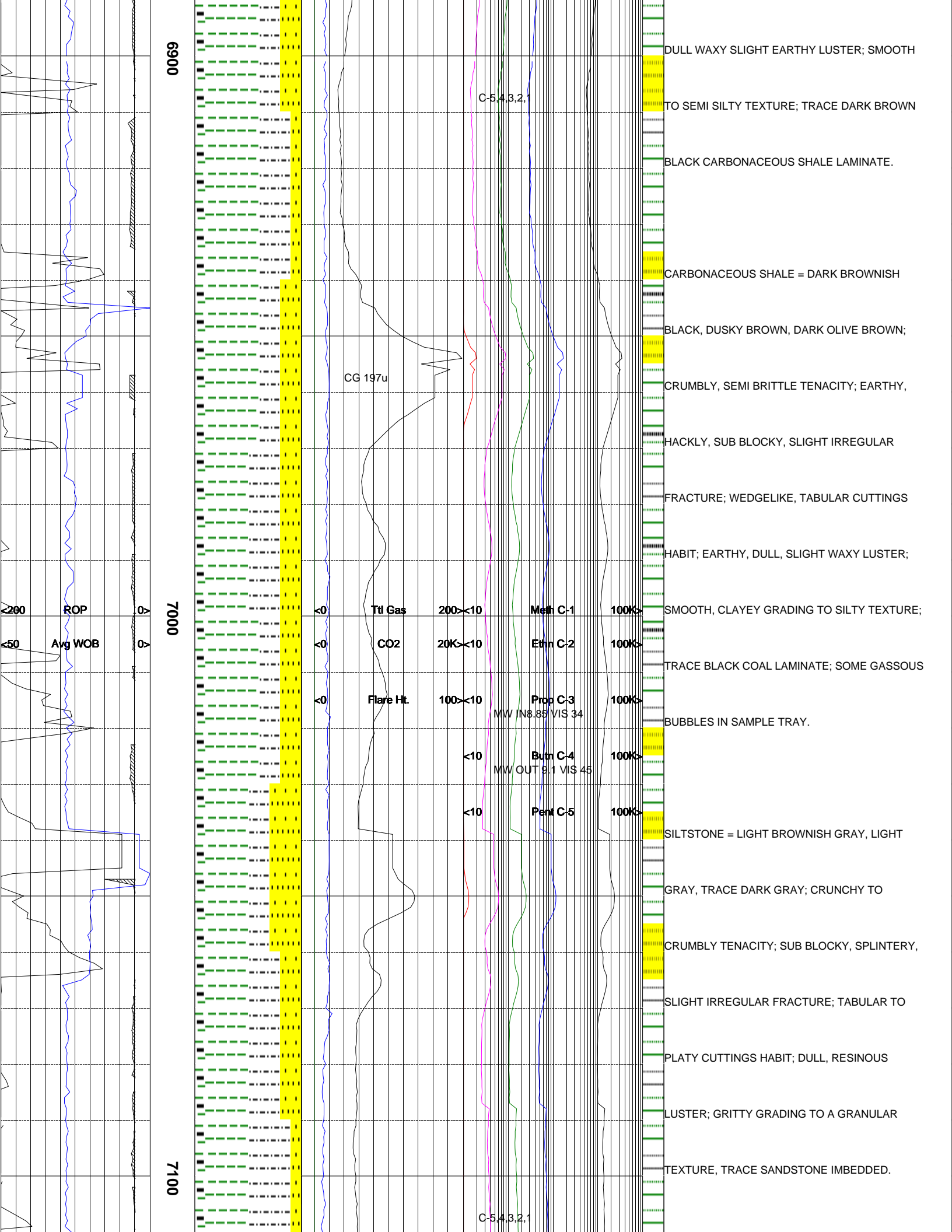
BLOCKY SLIGHT IRREGULAR FRACTURE;

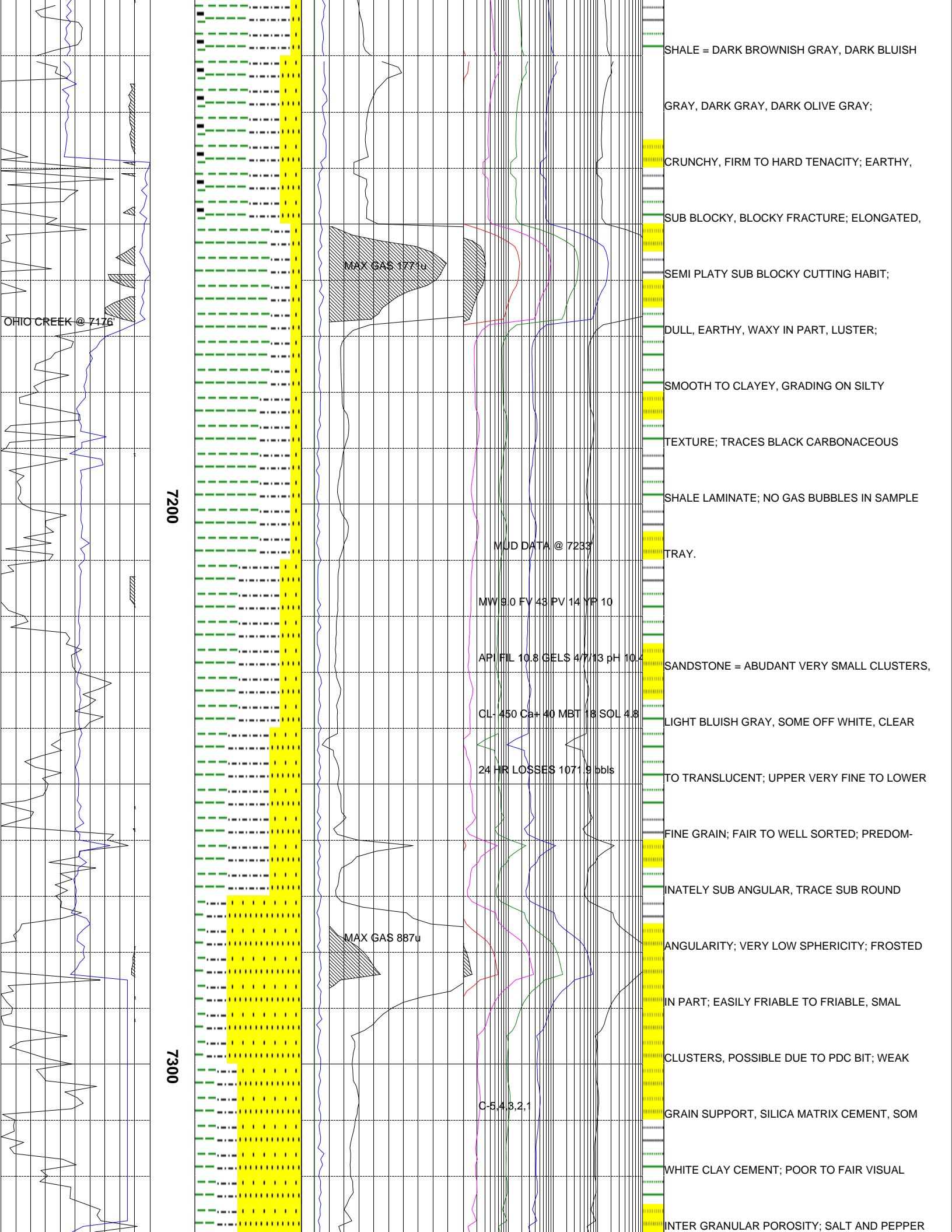
BLOCKY TO PLATY CUTTINGS HABIT; DULL

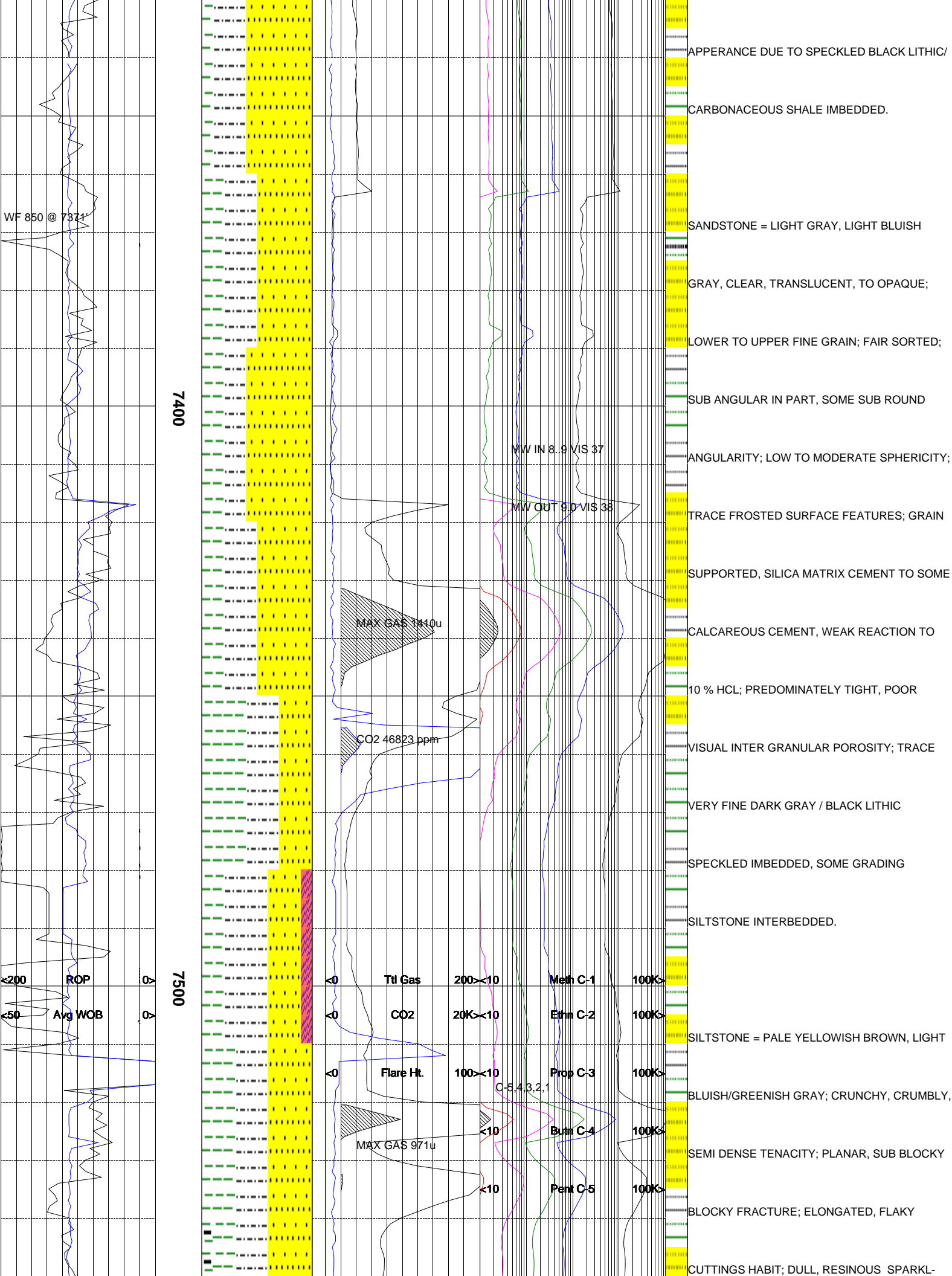
EARTHY, WAXY IN PART, LUSTER; TRACES

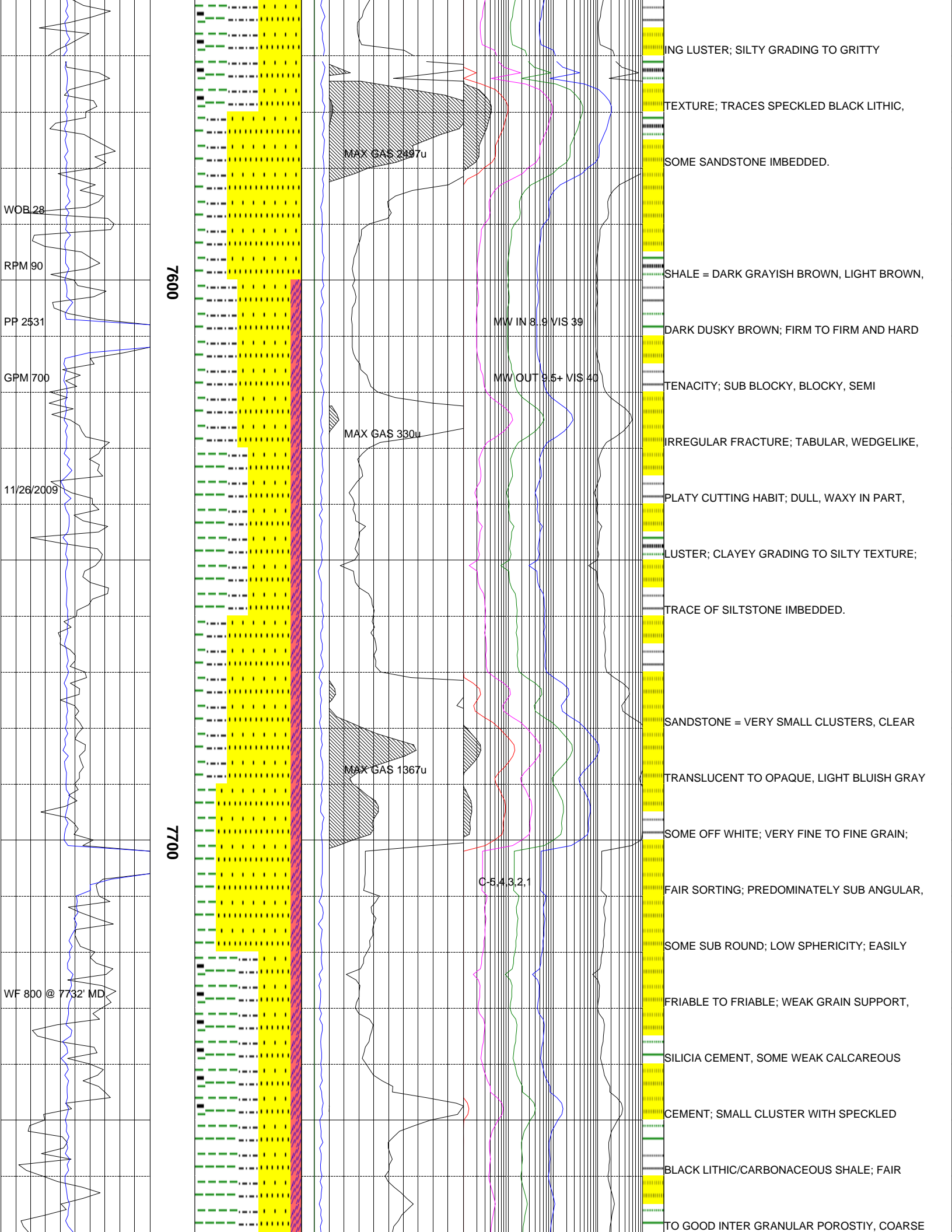


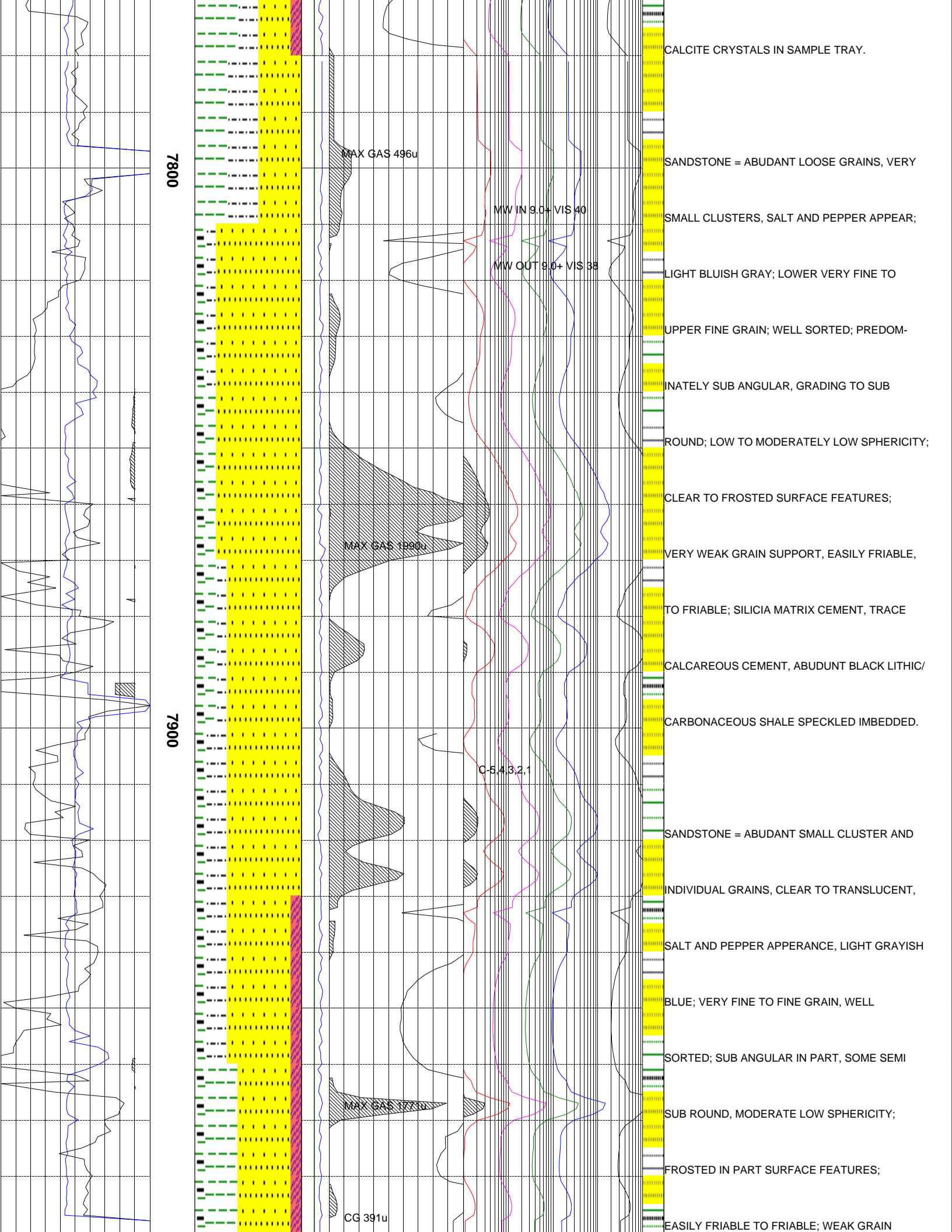


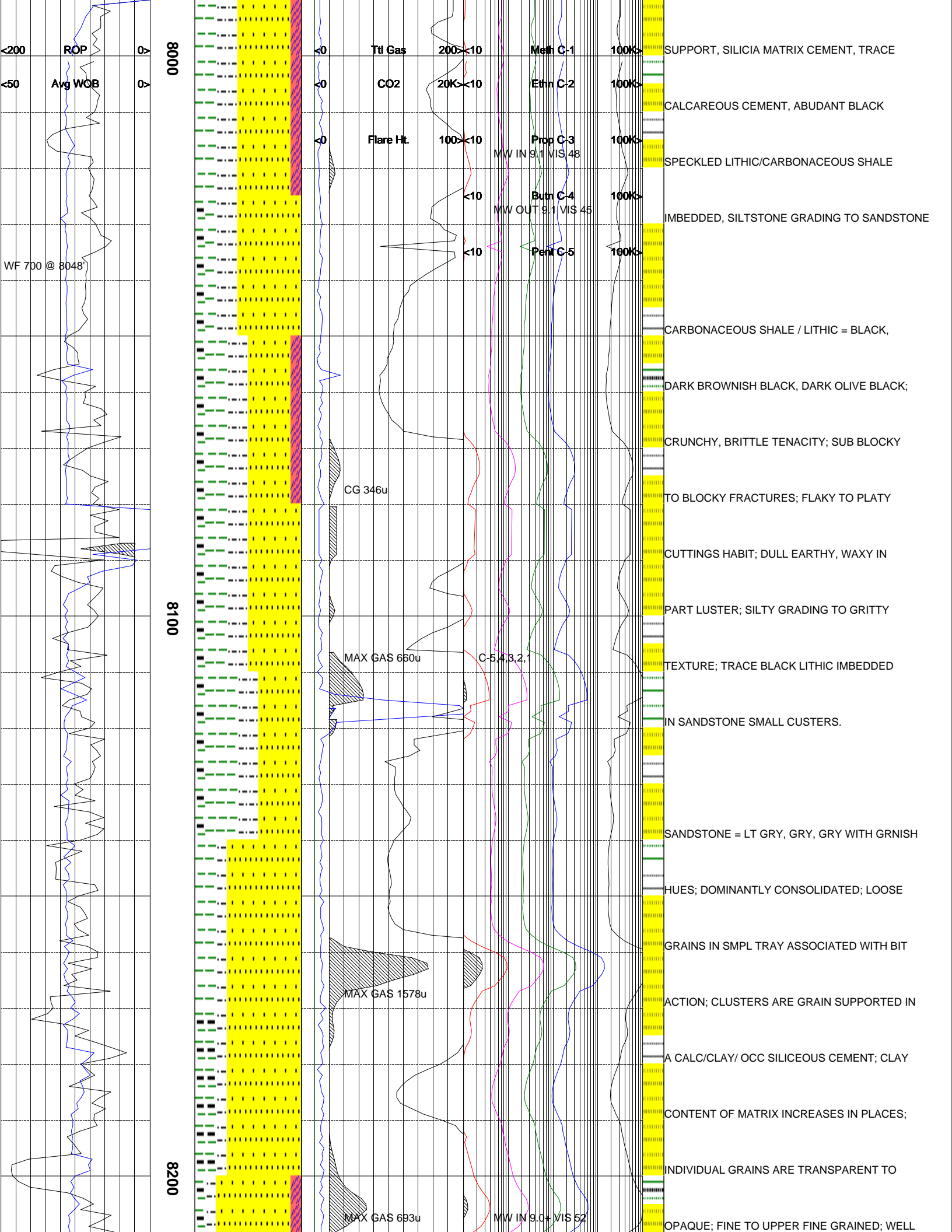


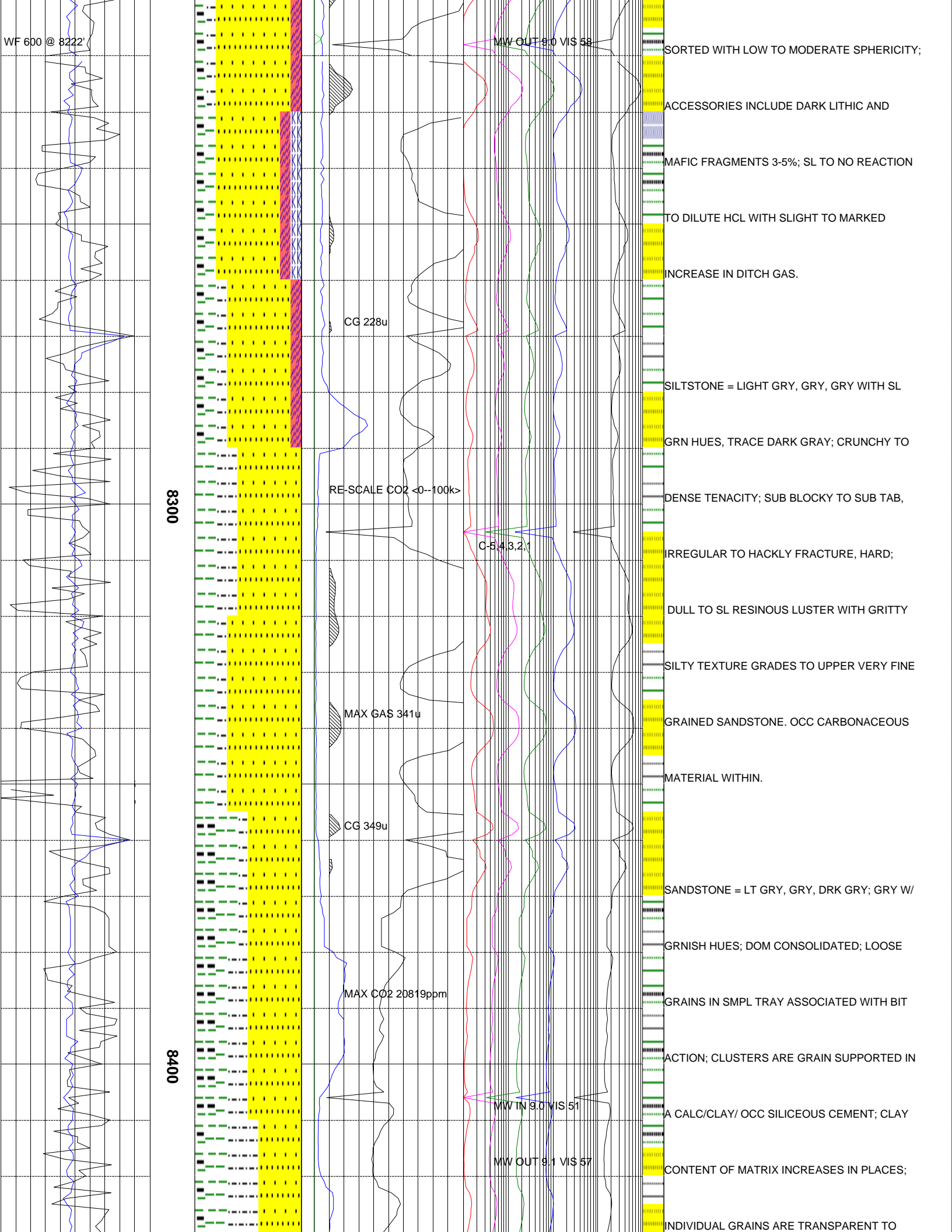


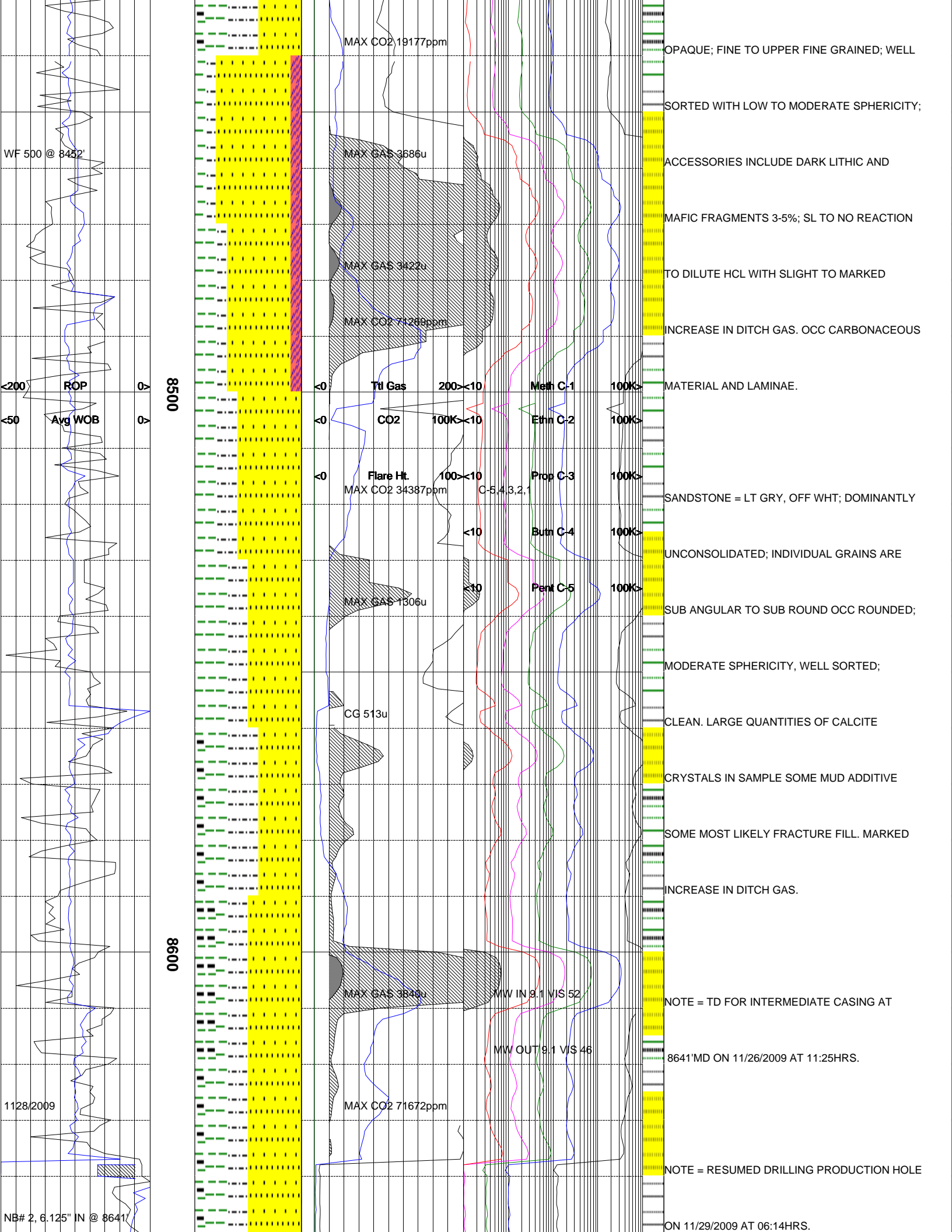


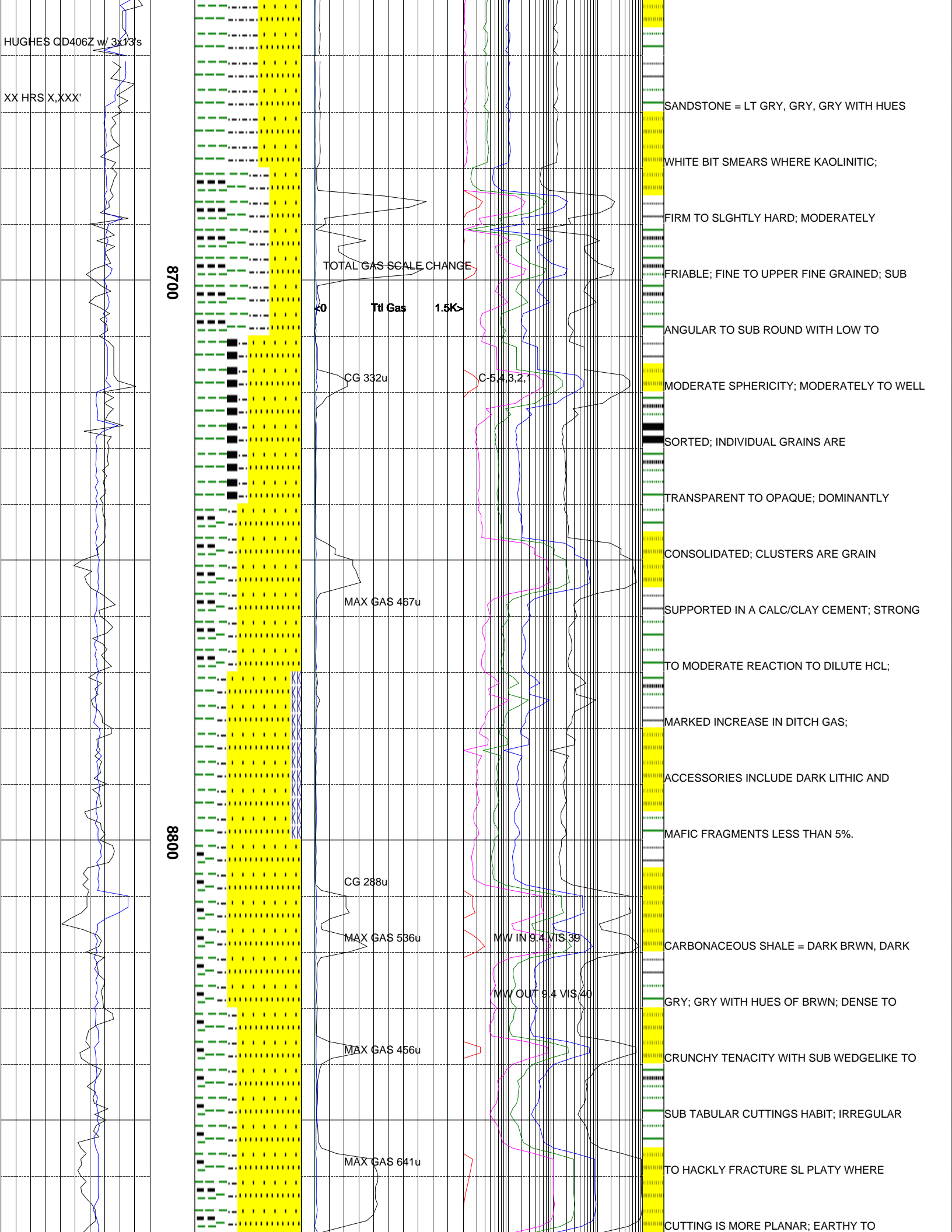


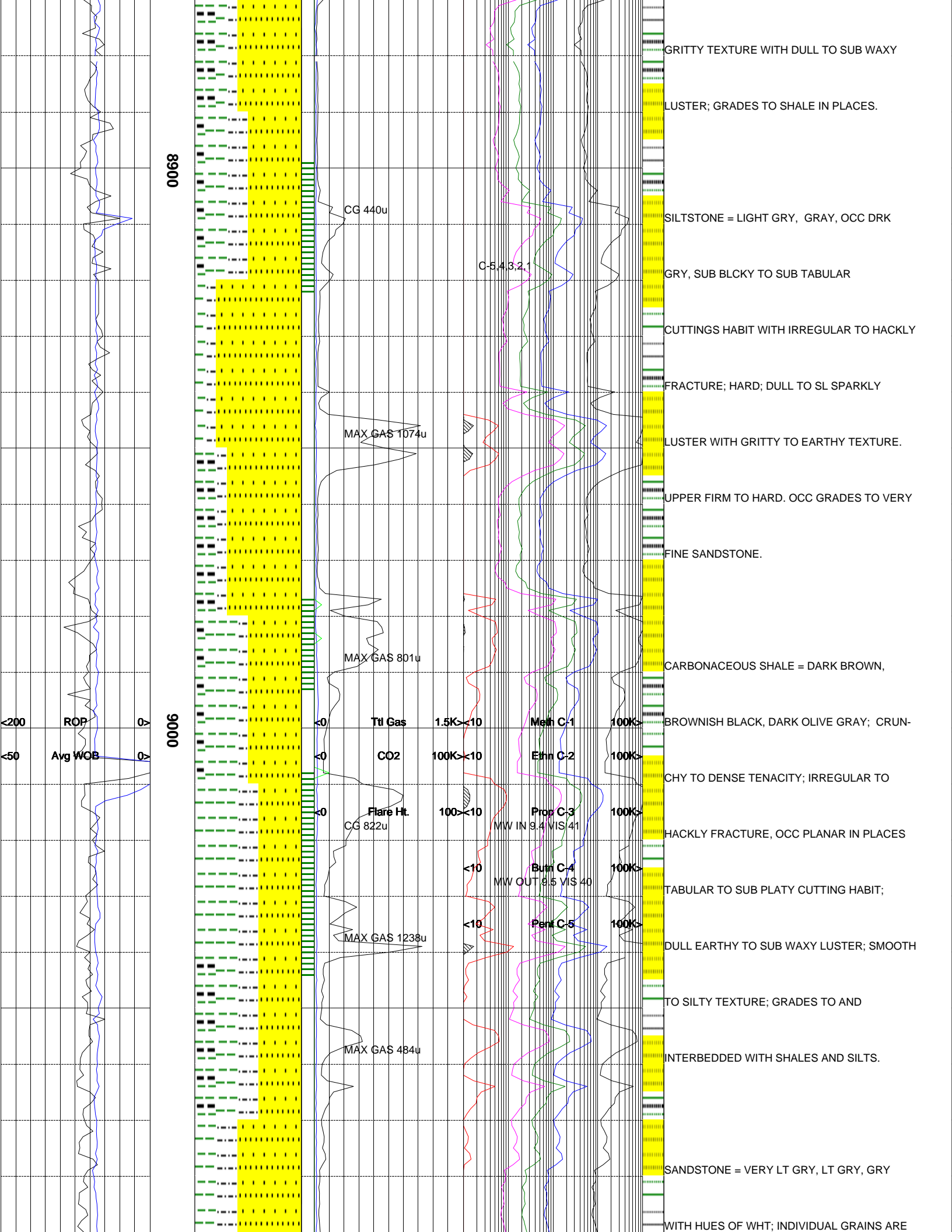


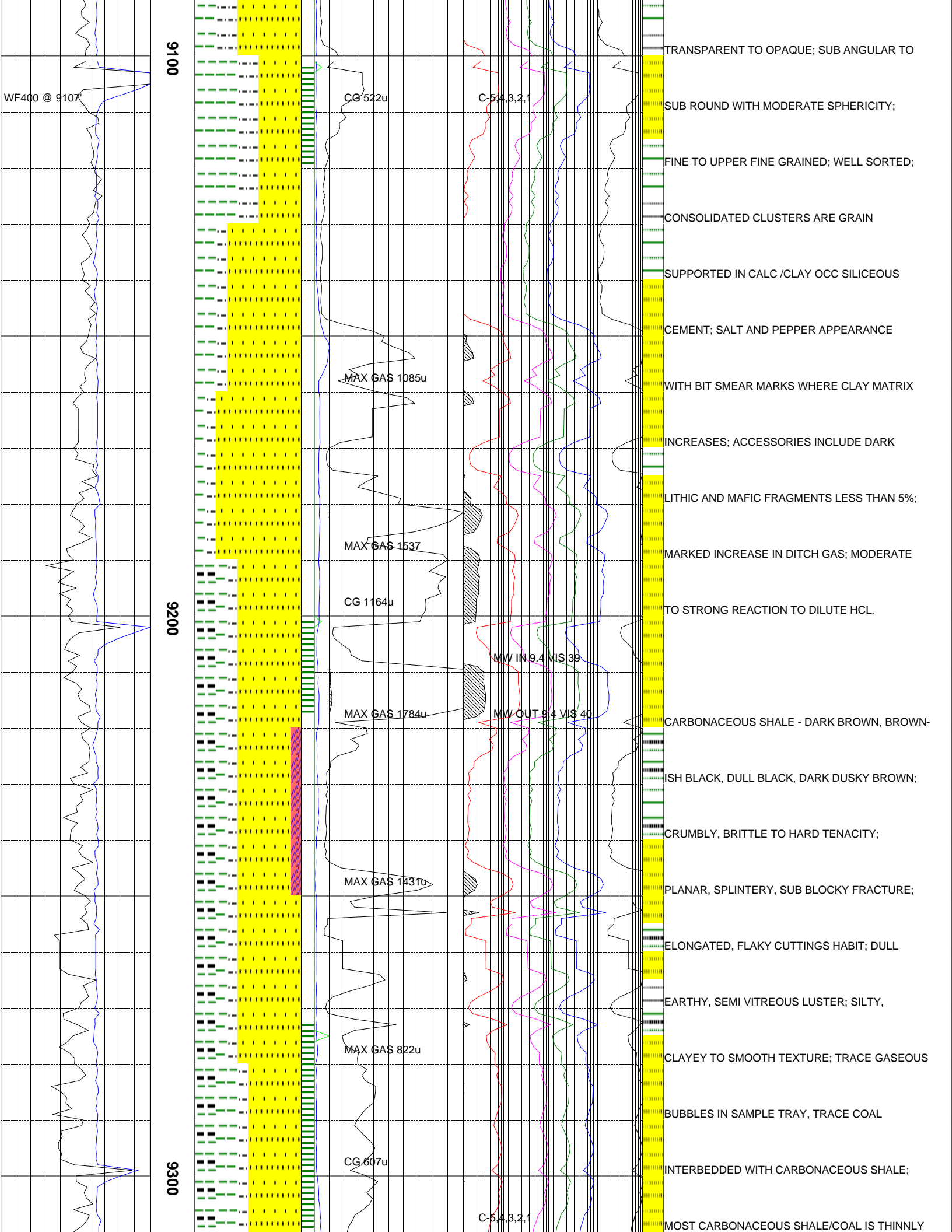


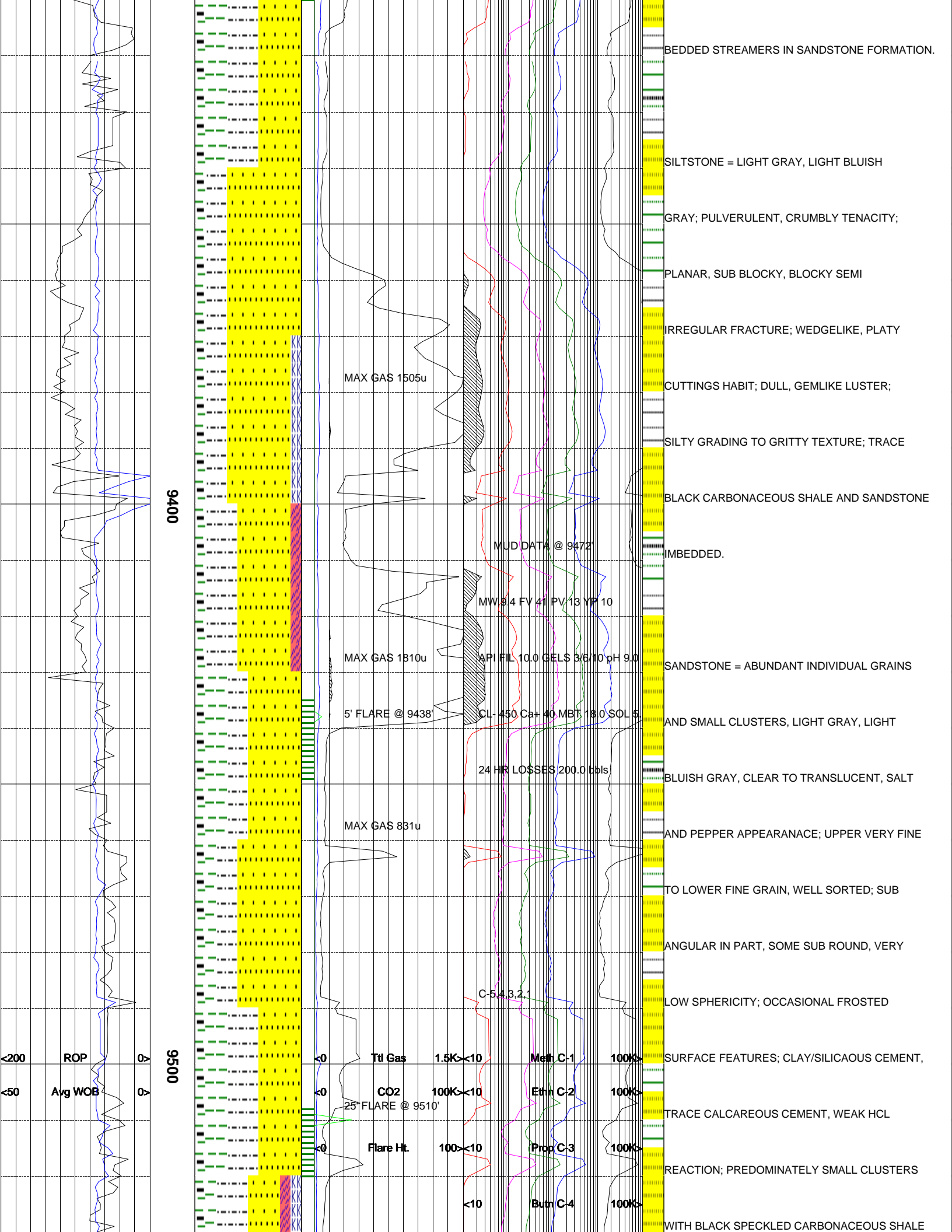


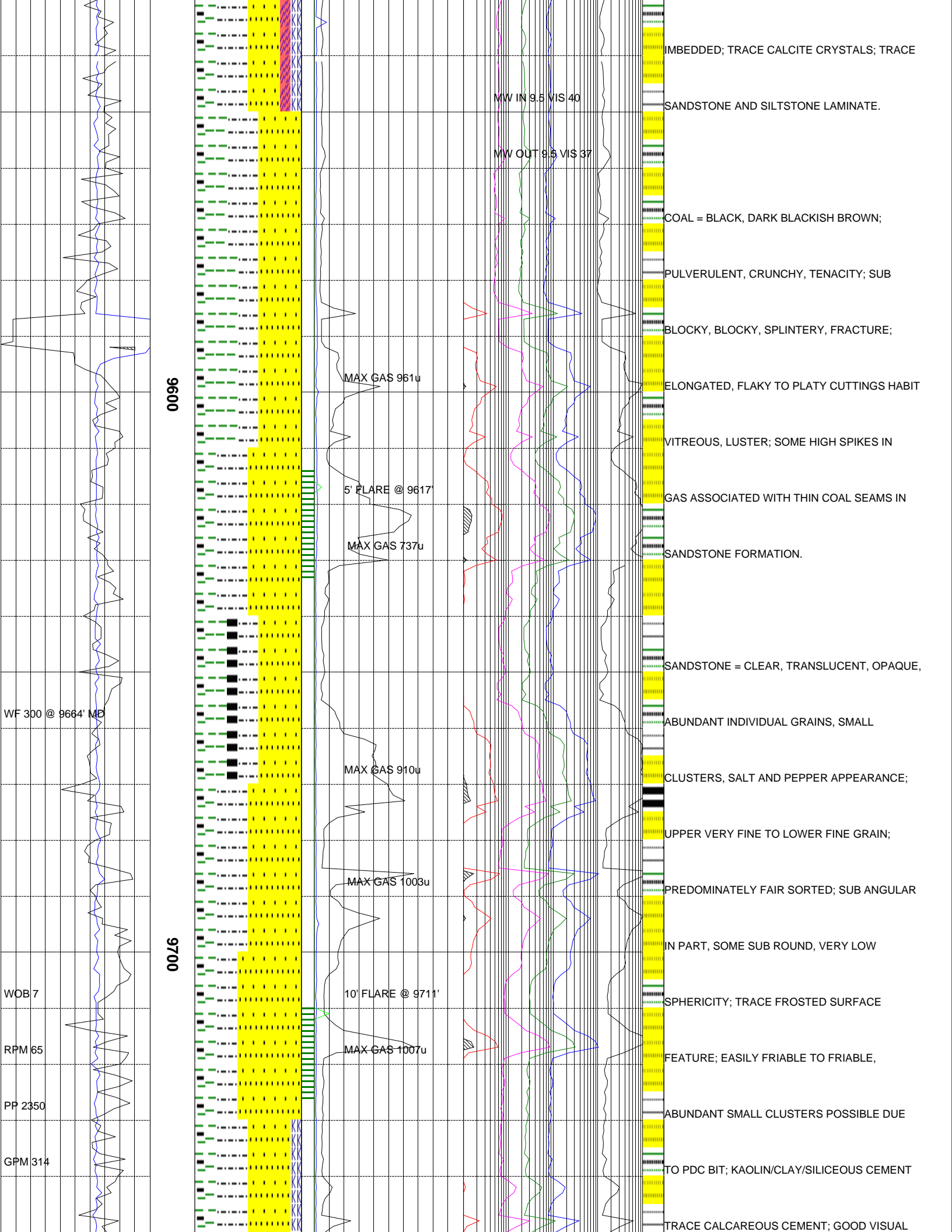












11/30/2009

MW IN 9.4+ VIS 42

MW OUT 9.5 VIS 40

0086

10' FLARE @ 9817'

C-432.1

0066

10' FLARE @ 9917'

MW IN 9.4 VIS 43

MW OUT 9.4+ VIS 38

INTERGRANULAR POROSITY; ABUNDANT BLACK

SPECKLED CARBONACEOUS SHALE/LITHIC

IMBEDDED; TRACE LIGHT GRAY SILTSTONE

LAMINATE.

CARBONACEOUS SHALE = BLACK, BLACKISH

BROWN, DUSKY GRAYISH BROWN; CRUNCHY,

CRUMBLY, SOME BRITTLE TENACITY; SUB

BLOCKY, BLOCKY, SOME SPLINTERY

FRACTURE; FLAKY TO PLATY CUTTINGS HABIT;

DULL SEMI WAXY TO RESINOUS LUSTER;

SMOOTH TO GRITTY TEXTURE; TRACE BLACK

COAL LAMINATE, TRACE SILTSTONE IMBEDED.

SANDSTONE = ABUNDANT INDIVIDUAL GRAINS,

SMALL CLUSTERS, CLEAR, TRANSLUCENT, SOME

OPAQUE, LIGHT BLUISH GRAY, SALT AND

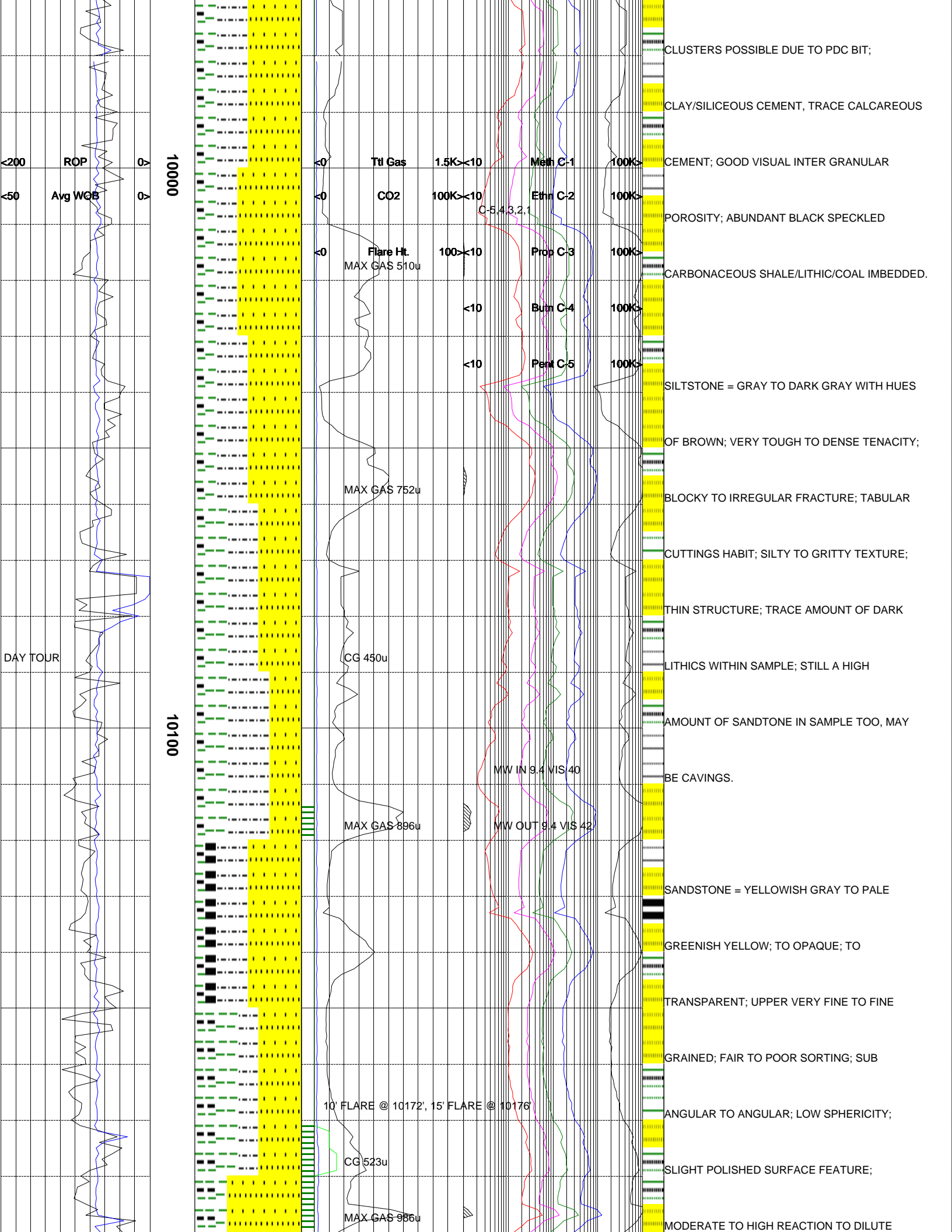
PEPPER APPEARANCE; VERY FINE TO FINE

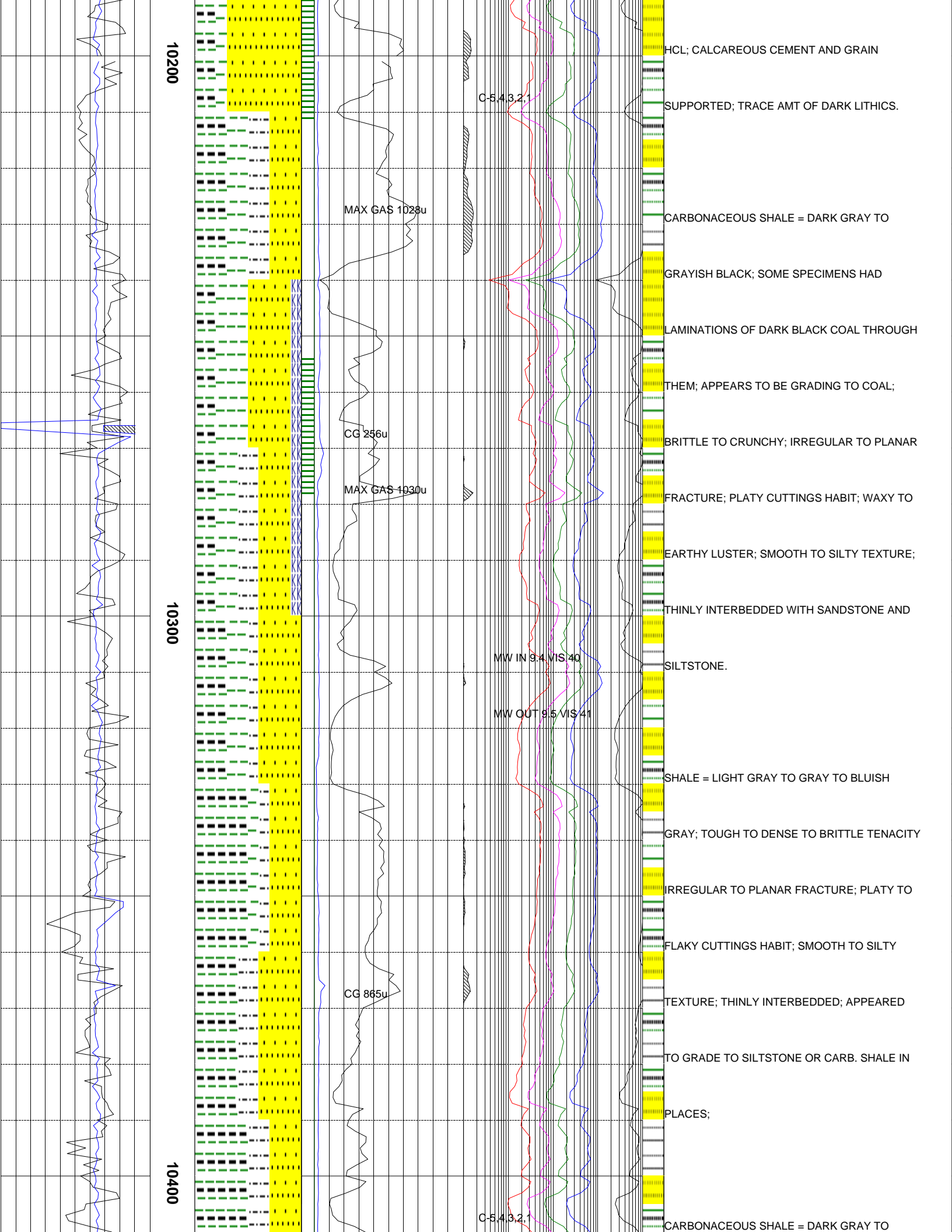
GRAIN; PREDOMINATELY WELL SORTED; SUB

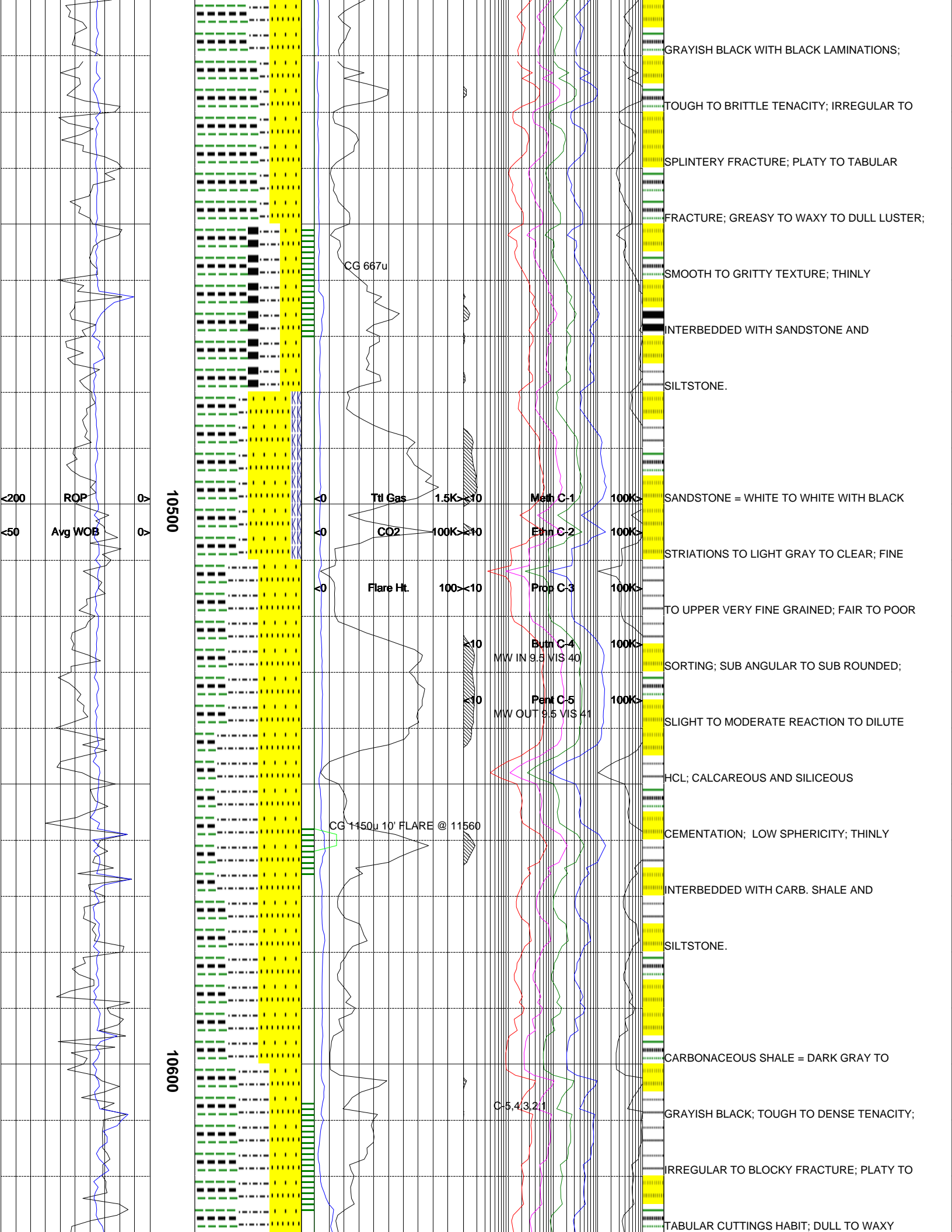
ANGULAR IN PART, SOME SUB ROUND ANGULAR-

ITY; VERY LOW SPHERICITY; FROSTED IN

PART; EASILY FRIABLE TO FRIABLE; SMALL







GRAYISH BLACK WITH BLACK LAMINATIONS;
TOUGH TO BRITTLE TENACITY; IRREGULAR TO
SPLINTERY FRACTURE; PLATY TO TABULAR
FRACTURE; GREASY TO WAXY TO DULL LUSTER;
SMOOTH TO GRITTY TEXTURE; THINLY
INTERBEDDED WITH SANDSTONE AND
SILTSTONE.
SANDSTONE = WHITE TO WHITE WITH BLACK
STRIATIONS TO LIGHT GRAY TO CLEAR; FINE
TO UPPER VERY FINE GRAINED; FAIR TO POOR
SORTING; SUB ANGULAR TO SUB ROUNDED;
SLIGHT TO MODERATE REACTION TO DILUTE
HCL; CALCAREOUS AND SILICEOUS
CEMENTATION; LOW SPHERICITY; THINLY
INTERBEDDED WITH CARB. SHALE AND
SILTSTONE.
CARBONACEOUS SHALE = DARK GRAY TO
GRAYISH BLACK; TOUGH TO DENSE TENACITY;
IRREGULAR TO BLOCKY FRACTURE; PLATY TO
TABULAR CUTTINGS HABIT; DULL TO WAXY

10500

10600

CG 667u

Ttl Gas

CO2

Flare Ht.

CG 1450u 10' FLARE @ 11560

Meth C-1

Ethn C-2

Prop C-3

Butn C-4

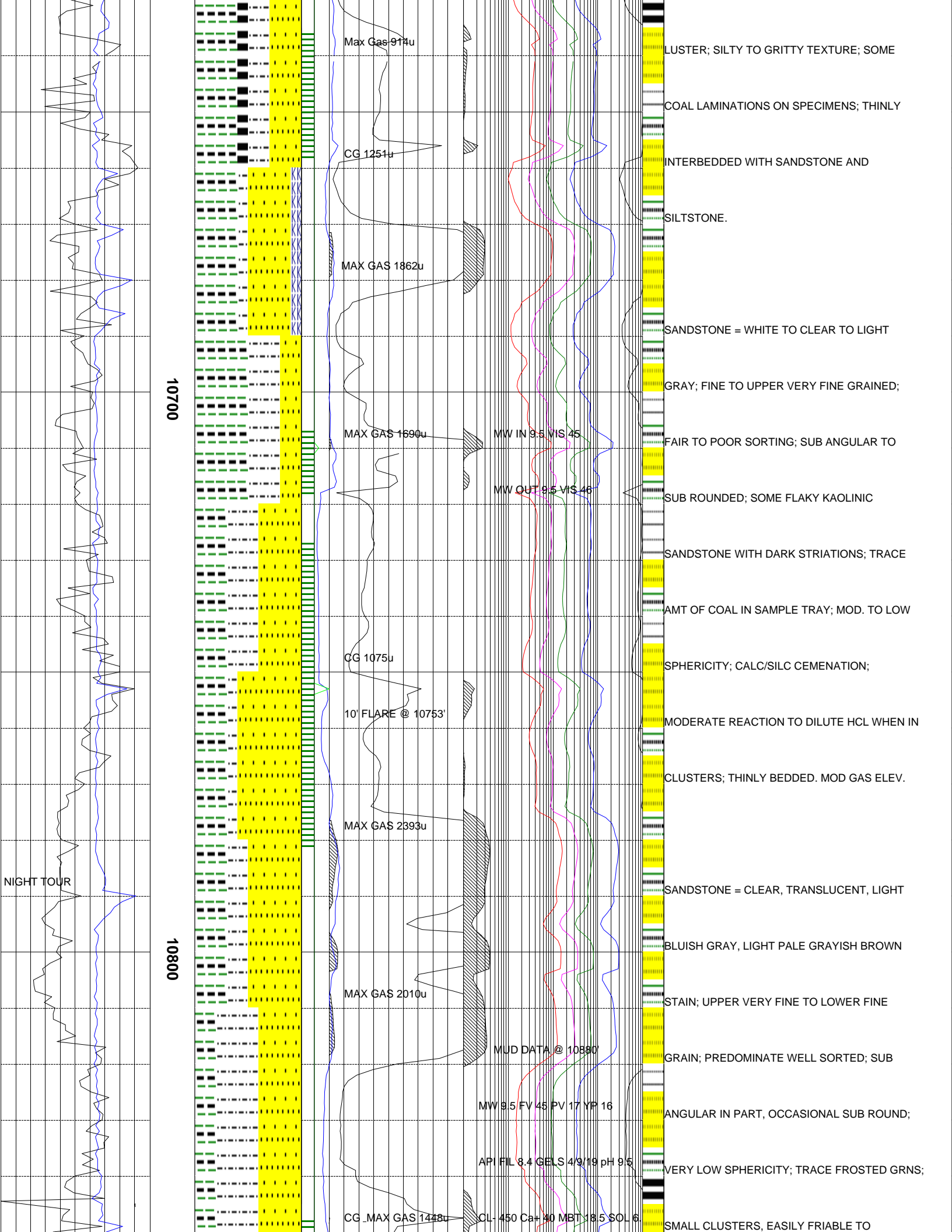
MW IN 9.5 VIS 40

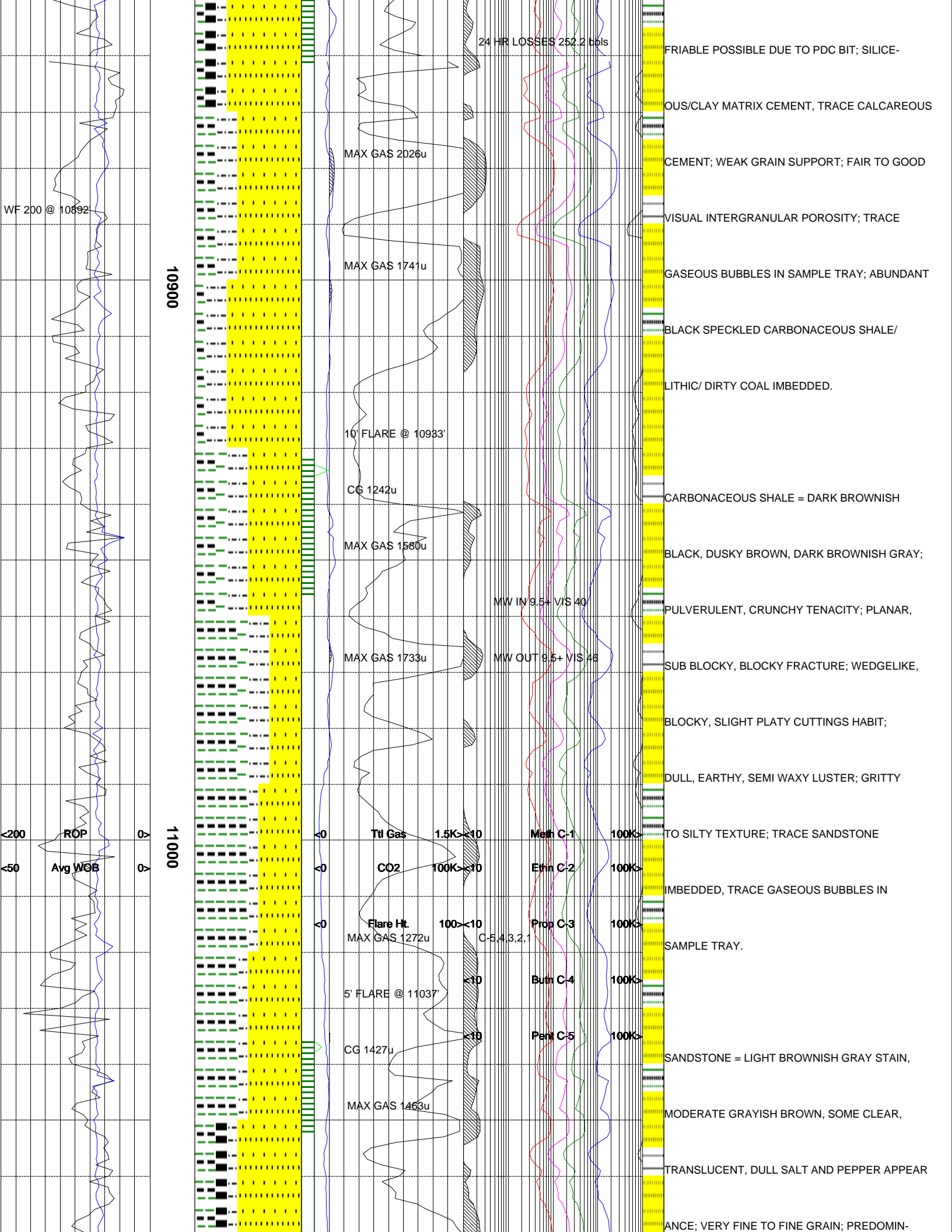
Pent C-5

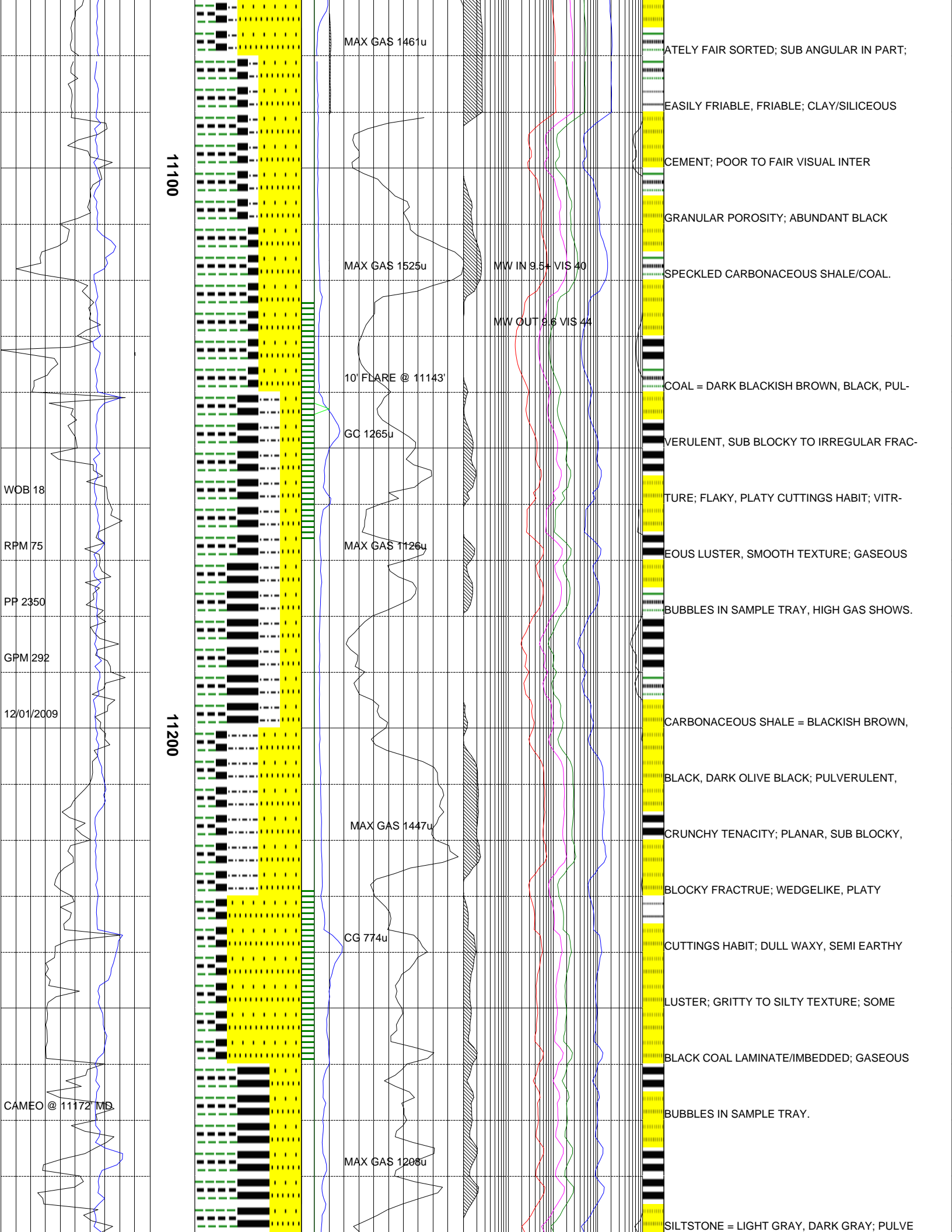
MW OUT 9.5 VIS 41

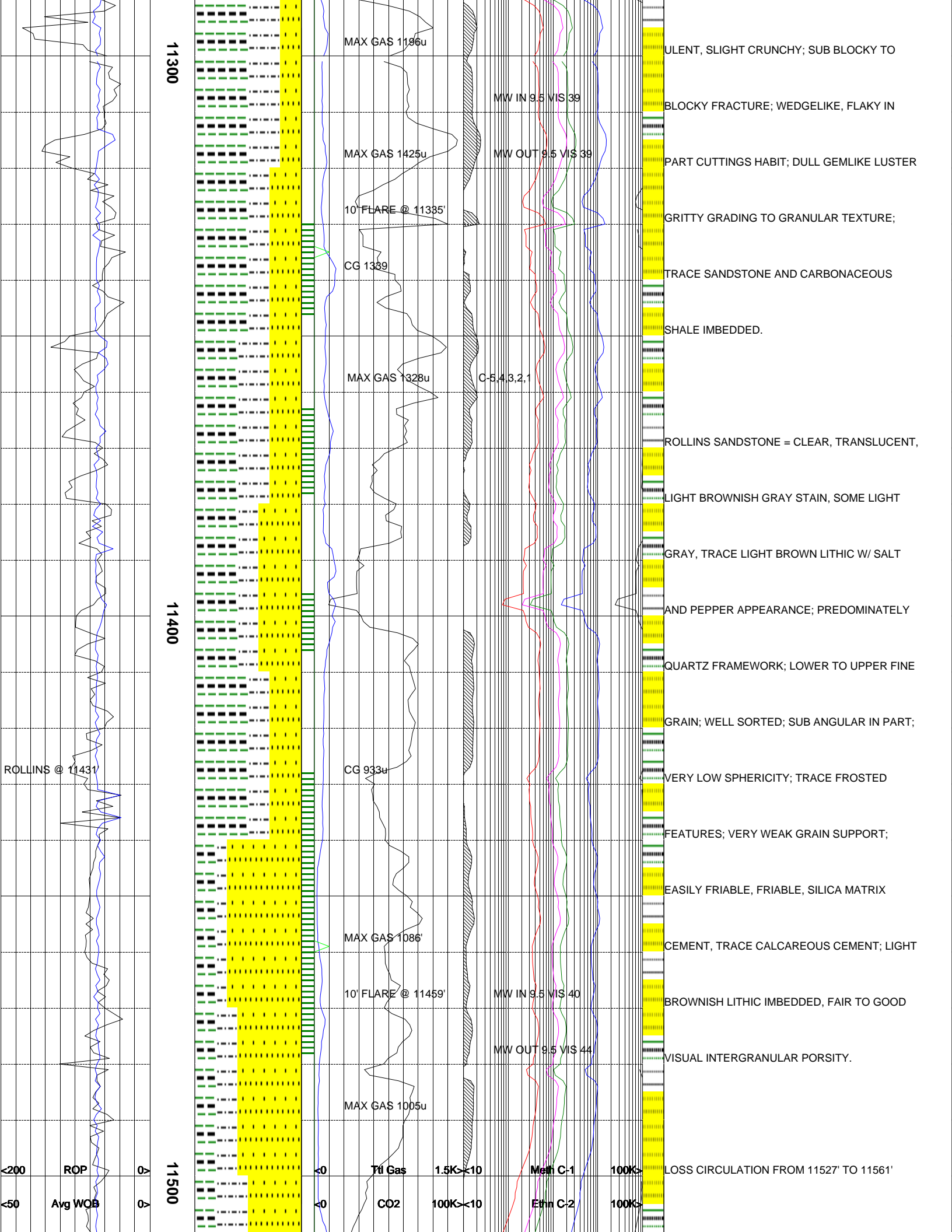
C-5.4321

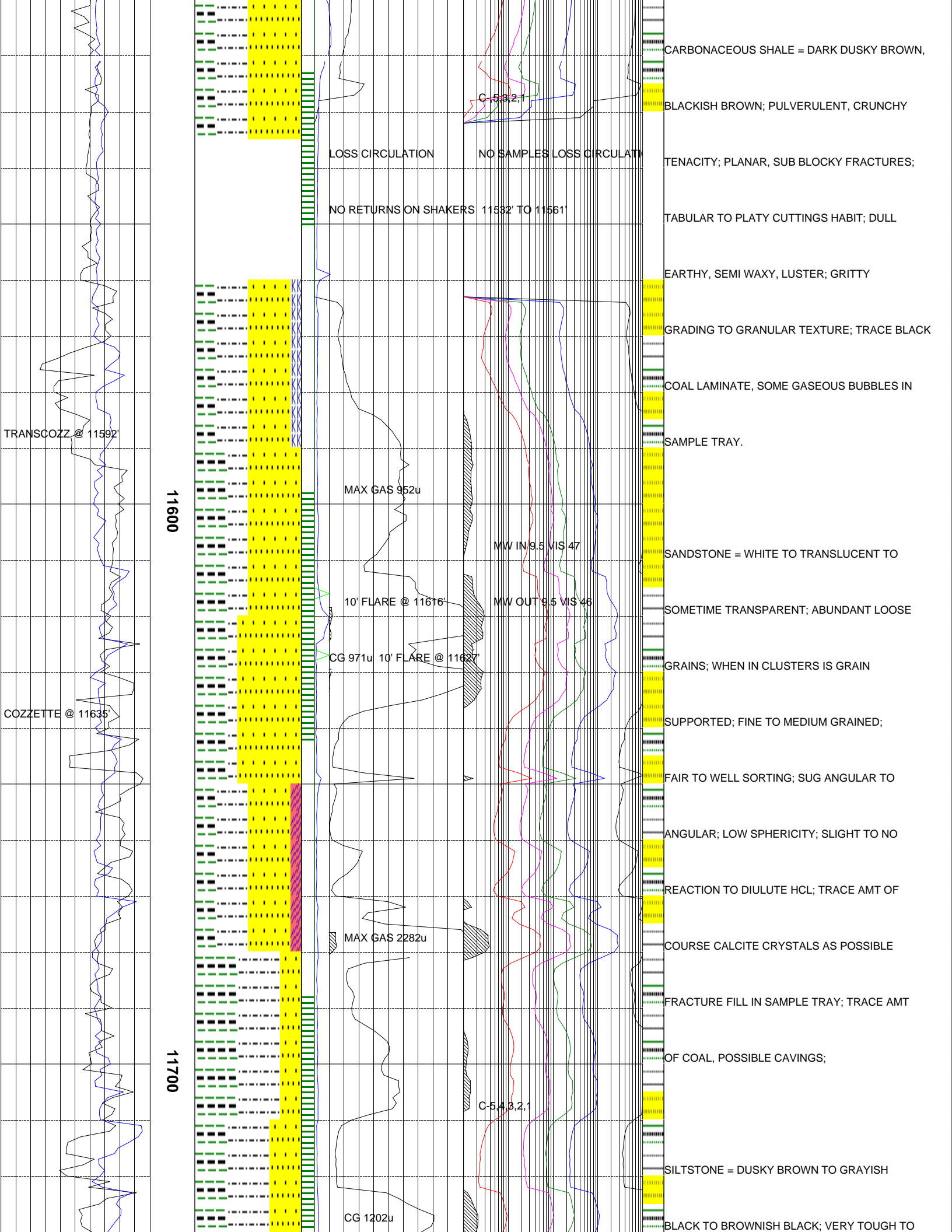
<200 ROP
<50 Avg WOB

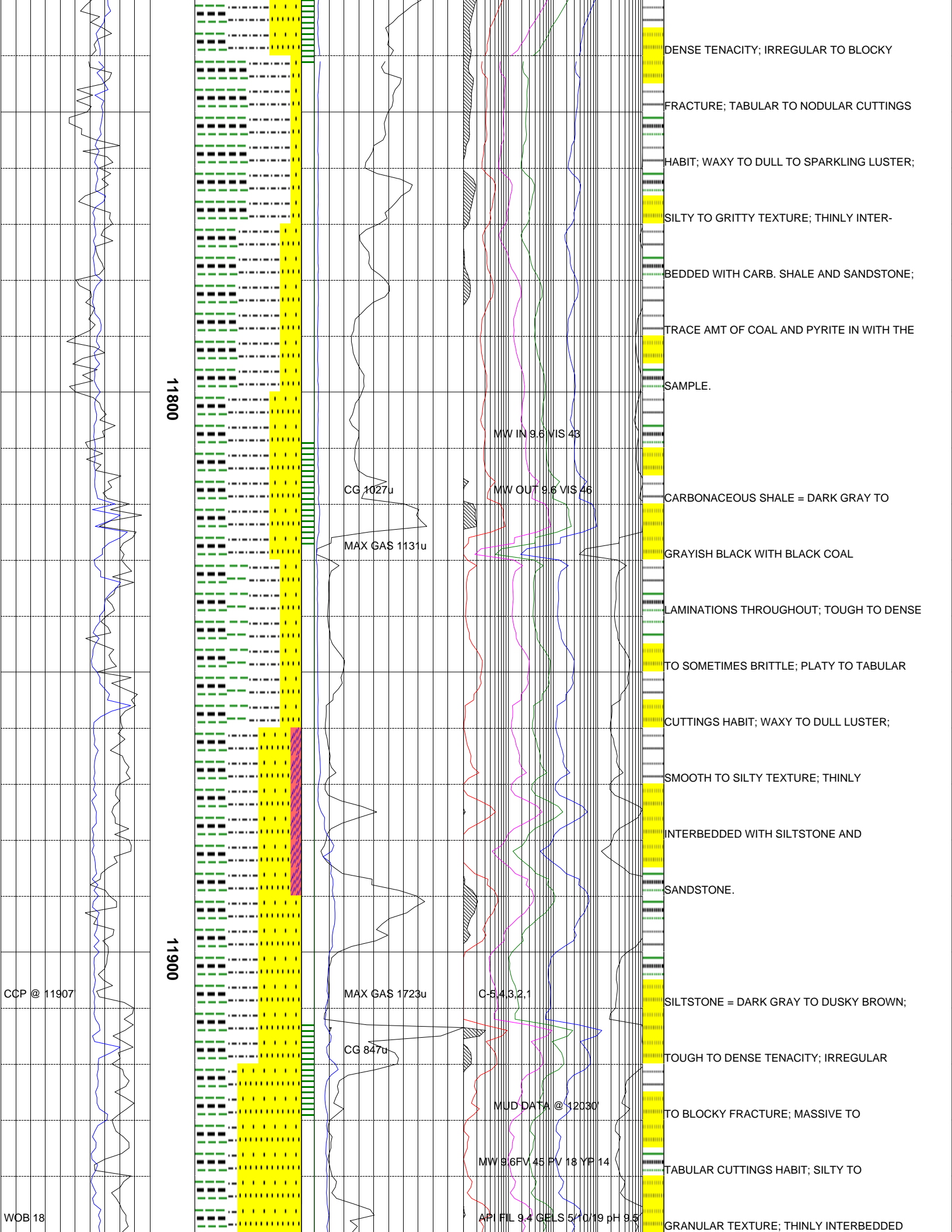


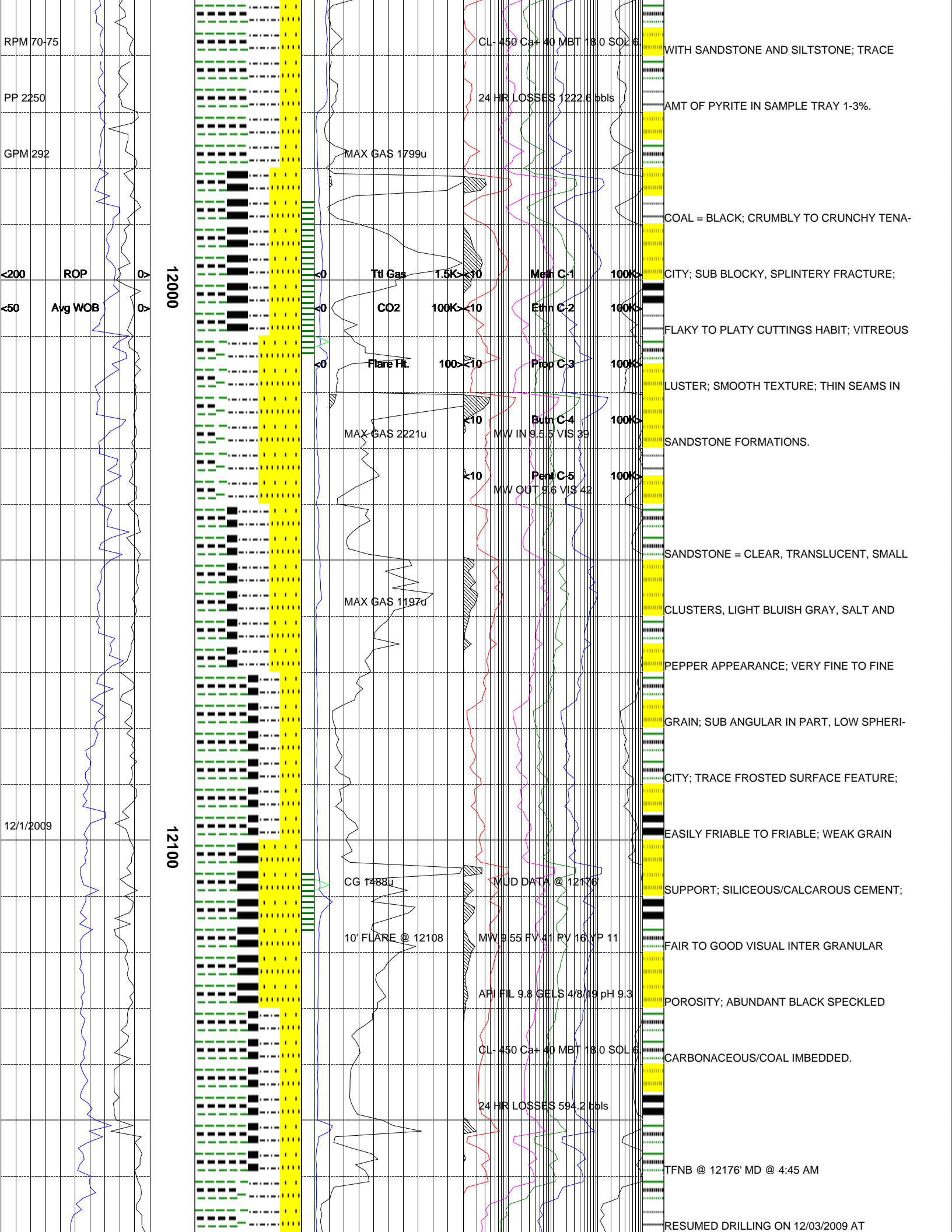


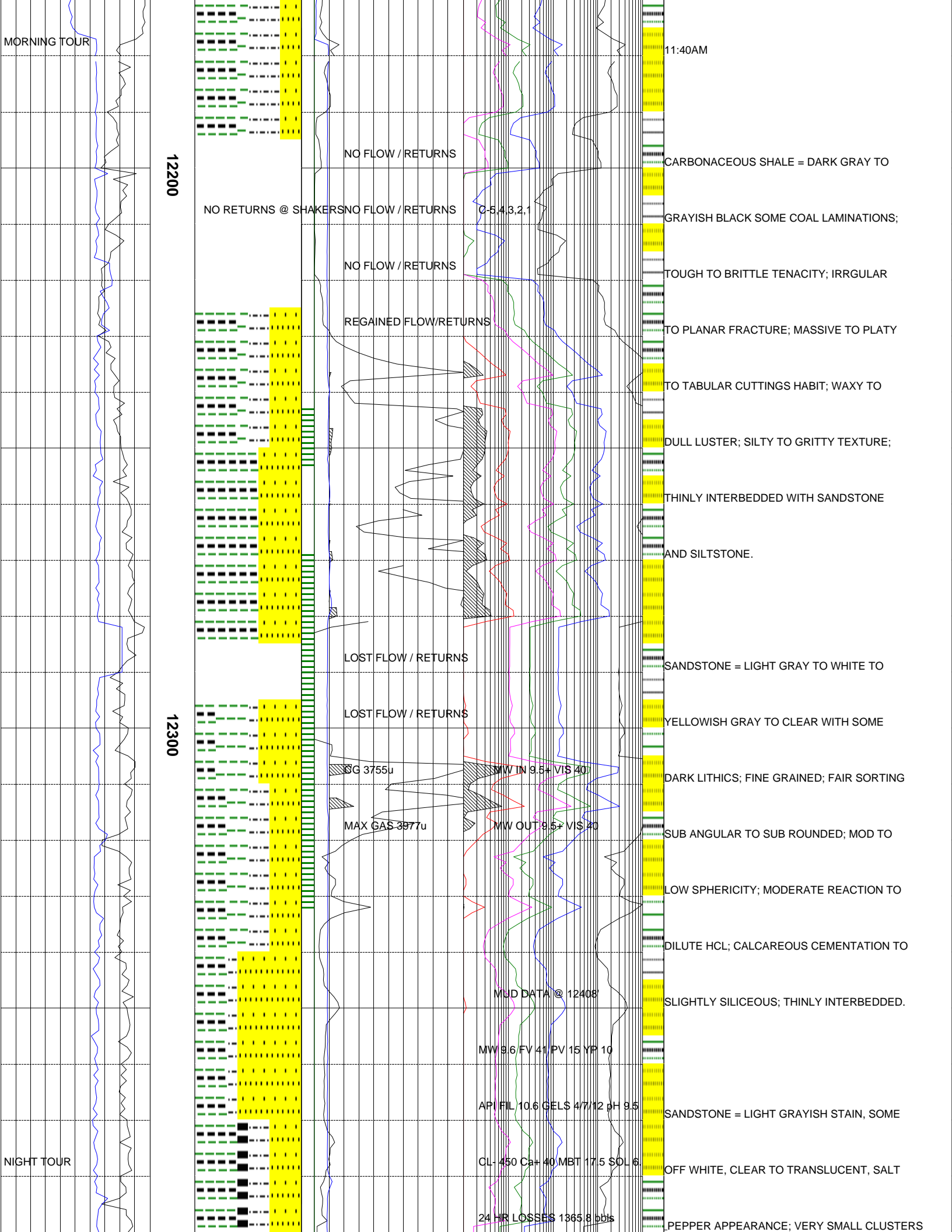


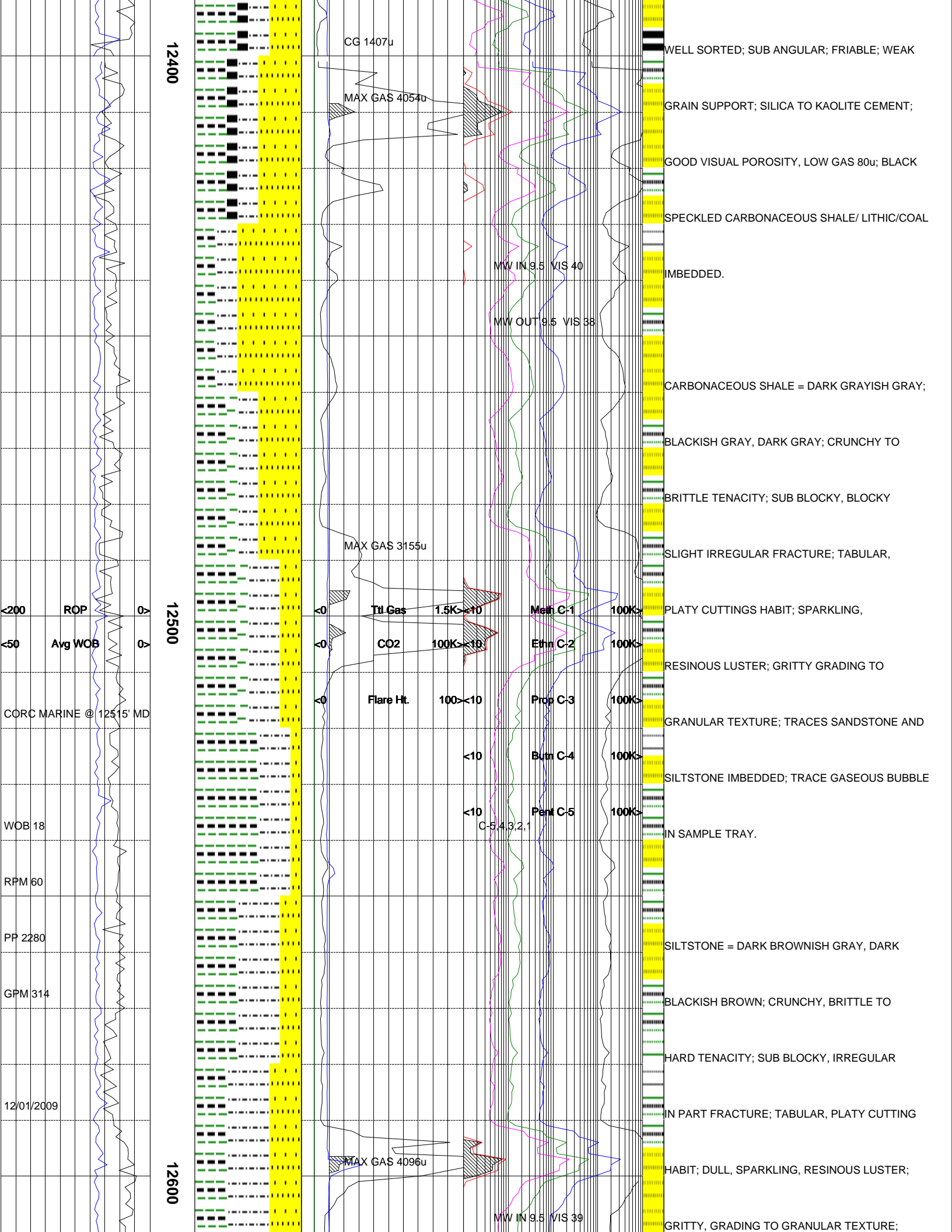


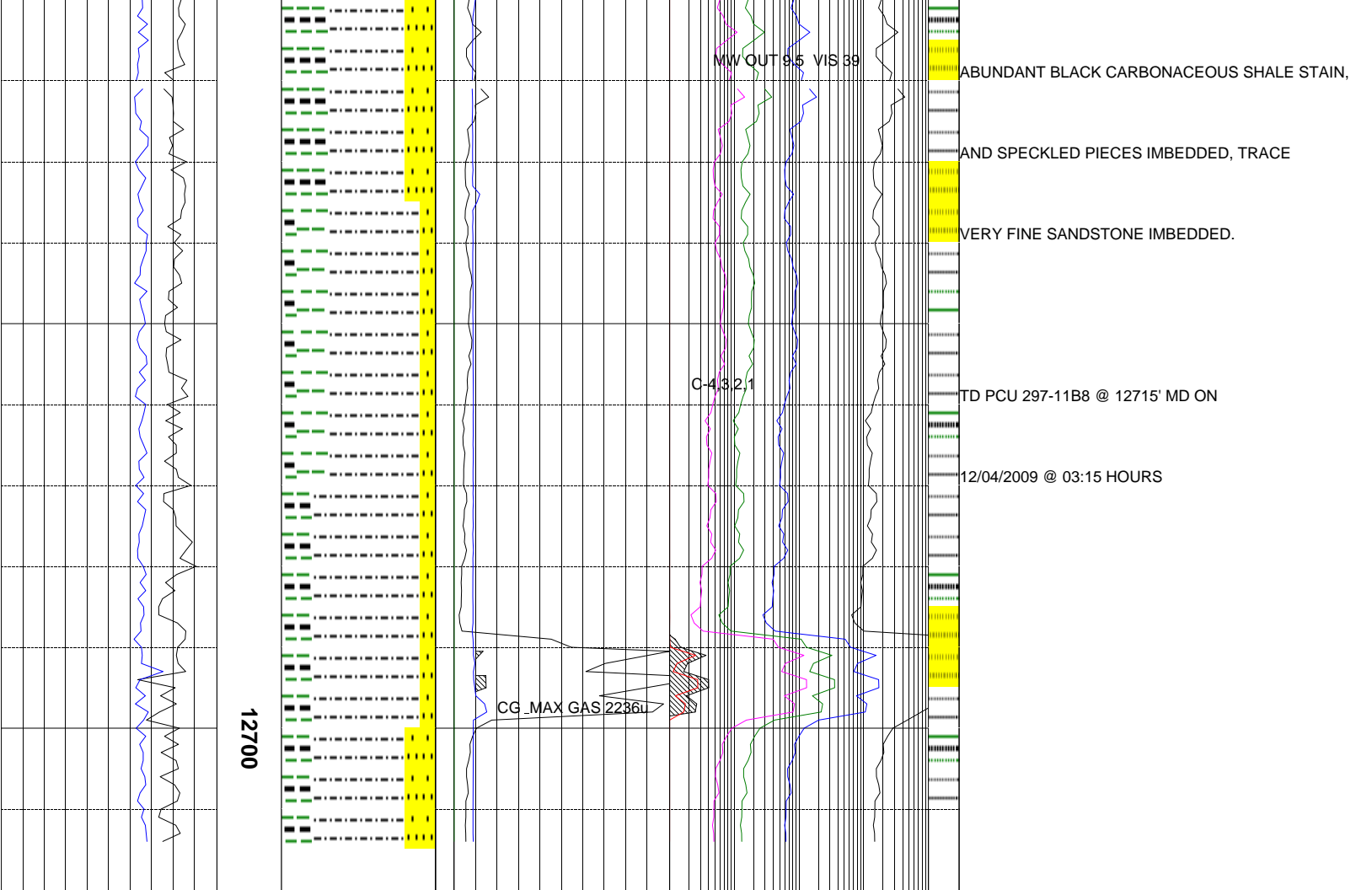












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