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(281) 784-5500
Bakersfield, CA
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Anchorage, AK
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MUDLOG MD

COMPANY EXXONMOBIL
WELL PCU_197-34A7
FIELD PICEANCE CREEK
REGION ROCKY MOUNTAIN
COORDINATES LAT: 39.917998000
LONG: 108.277020000
ELEVATION G.L.:6487.3'
RKB: 30.2'
COUNTY, STATE RIO BLANCO, CO
API INDEX 051031153800
SPUD DATE 01/04/2010
CONTRACTOR HELMRICH_PAYNE
CO. REP. JOSH LOVE
RIG/TYPE 325/FLEX 4S
LOGGING UNIT MLU 48
GEOLOGISTS MARK GROSS
DONNA NEW
ADD. PERSONS JENN SELL
CO. GEOLOGIST MELISSA J. SAURBORN

LOG INTERVAL

CASING DATA

DEPTHS: 3815' TO 12652'
DATES: 05/02/2010 TO 09/25/2010
SCALE: 5" = 100'

10.75" AT 3808'
7" AT 8585'
4" AT
AT

MUD TYPES

HOLE SIZE

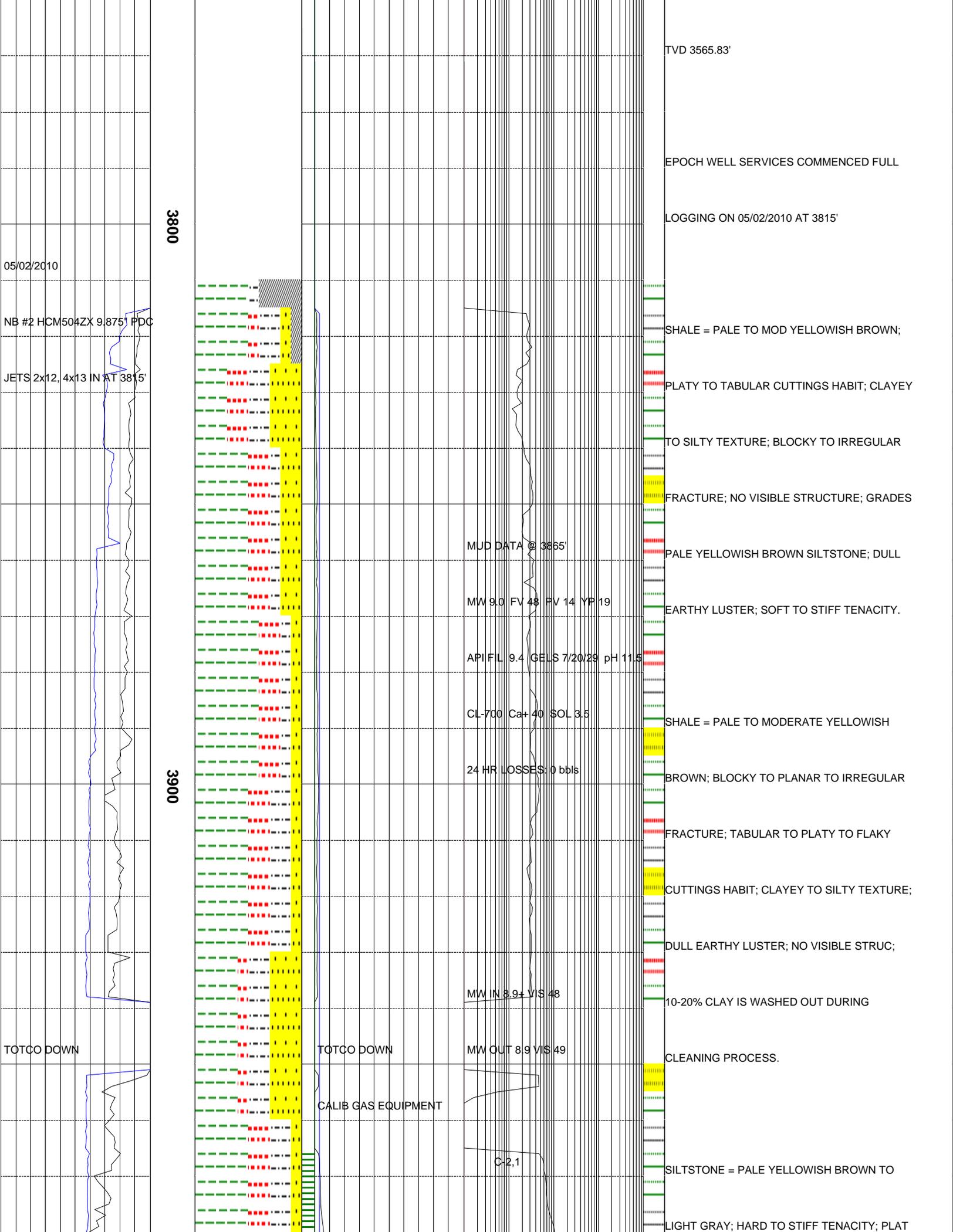
SPUD MUD TO 3815'
LSND TO 12652'
TO
TO

14.75" TO 3815'
9.875" TO 8600'
6.125" TO 12652'
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	KAOLINIC	RECRYSTALLIZED CALCITE	VOLCANICS
CHALK	DIATOMITE	LIMESTONE	RHYOLITE	
CRYSTALLINE TUFF	DIORITE	LITHIC TUFF	SALT	
CHERT - ARGILL	DOLOSTONE	MARL - DOLO	SAND	



TVD 3565.83'

EPOCH WELL SERVICES COMMENCED FULL

LOGGING ON 05/02/2010 AT 3815'

3800

05/02/2010

NB #2 HCM504ZX 9.875' PDC

JETS 2x12, 4x13 IN AT 3815'

SHALE = PALE TO MOD YELLOWISH BROWN;

PLATY TO TABULAR CUTTINGS HABIT; CLAYEY

TO SILTY TEXTURE; BLOCKY TO IRREGULAR

FRACTURE; NO VISIBLE STRUCTURE; GRADES

MUD DATA @ 3865'

PALE YELLOWISH BROWN SILTSTONE; DULL

MW 9.0 FV 48 PV 14 YP 19

EARTHY LUSTER; SOFT TO STIFF TENACITY.

API FIL 9.4 GELS 7/20/29 pH 11.5

CL-700 Cat 40 SOL 3.5

SHALE = PALE TO MODERATE YELLOWISH

24 HR LOSSES: 0 bbls

BROWN; BLOCKY TO PLANAR TO IRREGULAR

FRACTURE; TABULAR TO PLATY TO FLAKY

CUTTINGS HABIT; CLAYEY TO SILTY TEXTURE;

DULL EARTHY LUSTER; NO VISIBLE STRUC;

MW IN 8.9+ VIS 48

10-20% CLAY IS WASHED OUT DURING

TOTCO DOWN

TOTCO DOWN

MW OUT 8.9 VIS 49

CLEANING PROCESS.

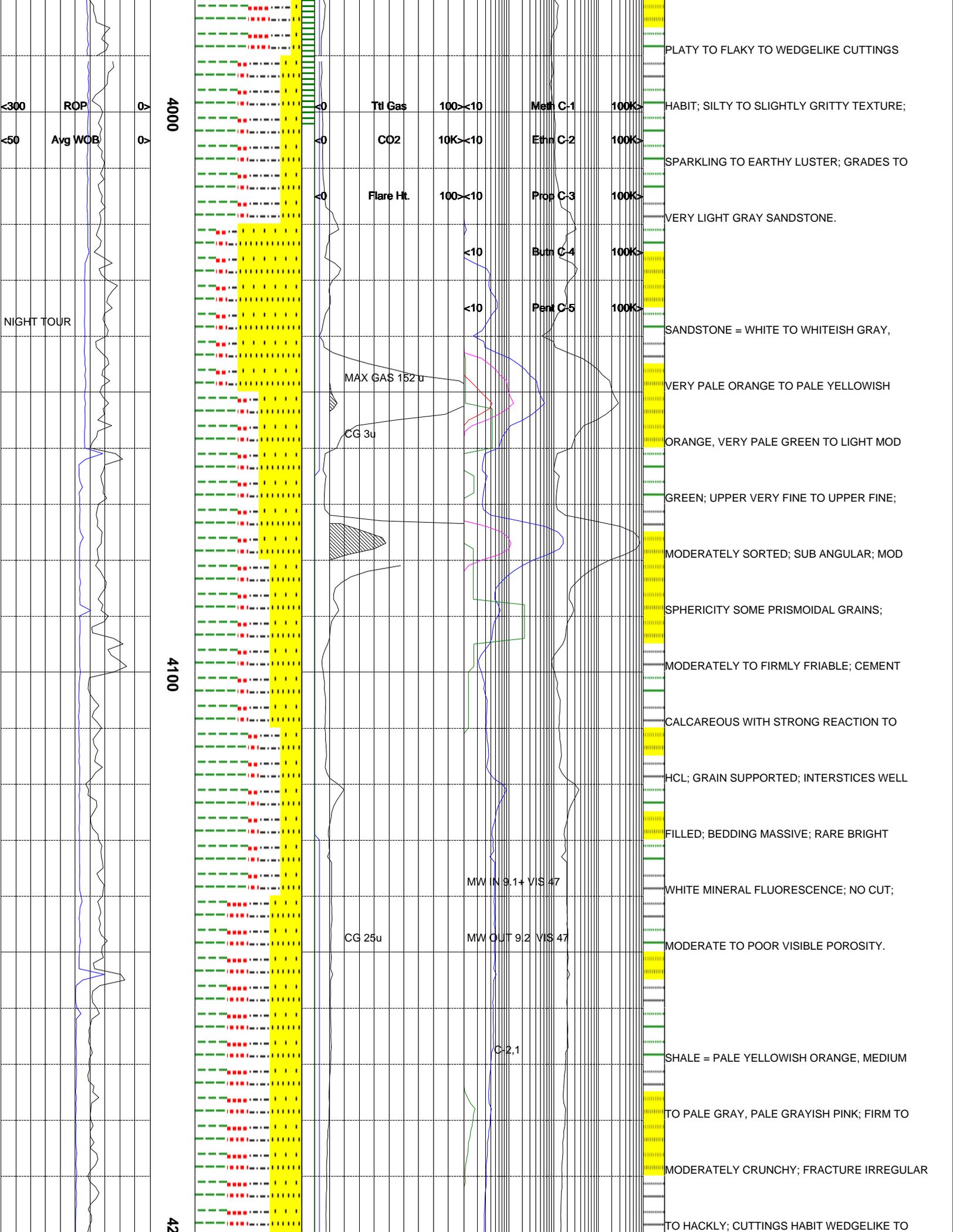
CALIB GAS EQUIPMENT

C-2.1

SILTSTONE = PALE YELLOWISH BROWN TO

LIGHT GRAY; HARD TO STIFF TENACITY; PLAT

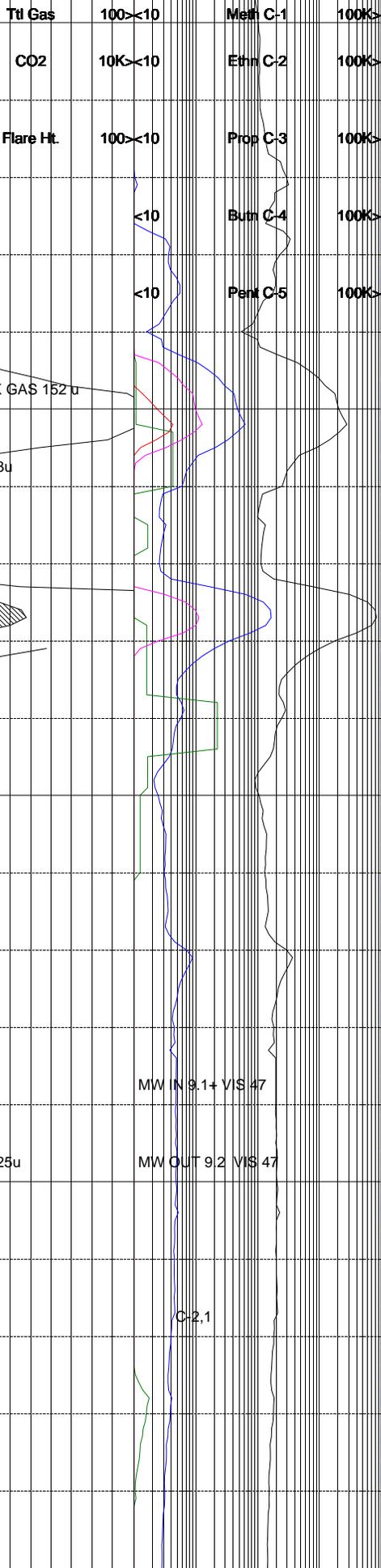
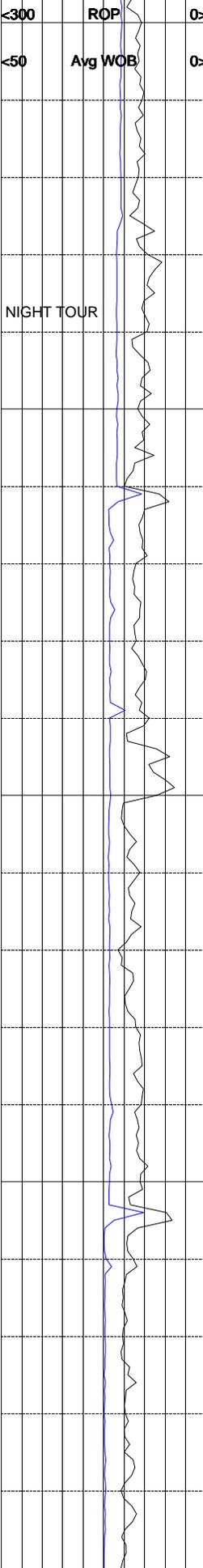
3900



4000

4100

42



PLATY TO FLAKY TO WEDGELIKE CUTTINGS

HABIT; SILTY TO SLIGHTLY GRITTY TEXTURE;

SPARKLING TO EARTHY LUSTER; GRADES TO

VERY LIGHT GRAY SANDSTONE.

SANDSTONE = WHITE TO WHITEISH GRAY,

VERY PALE ORANGE TO PALE YELLOWISH

ORANGE, VERY PALE GREEN TO LIGHT MOD

GREEN; UPPER VERY FINE TO UPPER FINE;

MODERATELY SORTED; SUB ANGULAR; MOD

SPHERICITY SOME PRISMOIDAL GRAINS;

MODERATELY TO FIRMLY FRIABLE; CEMENT

CALCAREOUS WITH STRONG REACTION TO

HCL; GRAIN SUPPORTED; INTERSTICES WELL

FILLED; BEDDING MASSIVE; RARE BRIGHT

WHITE MINERAL FLUORESCENCE; NO CUT;

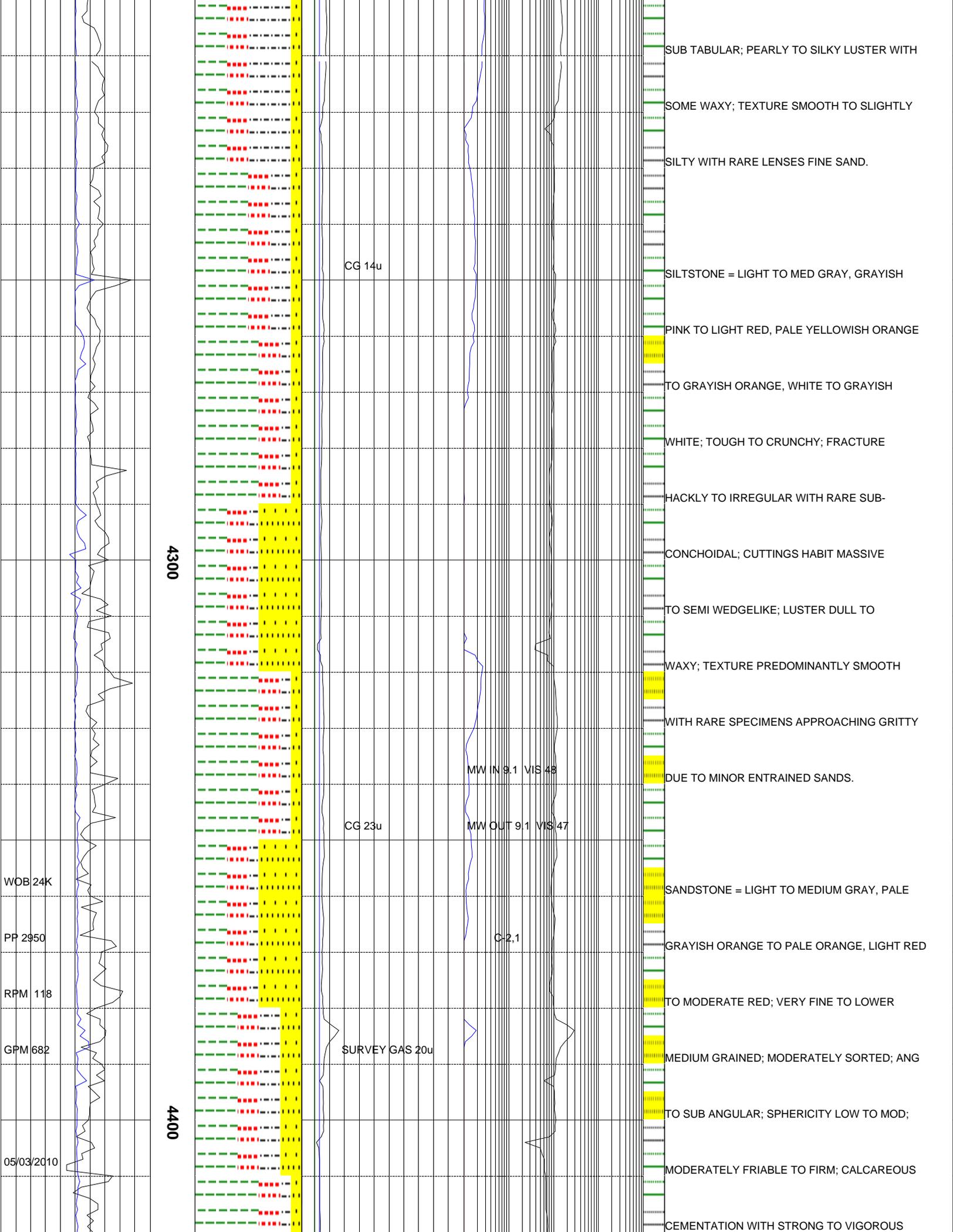
MODERATE TO POOR VISIBLE POROSITY.

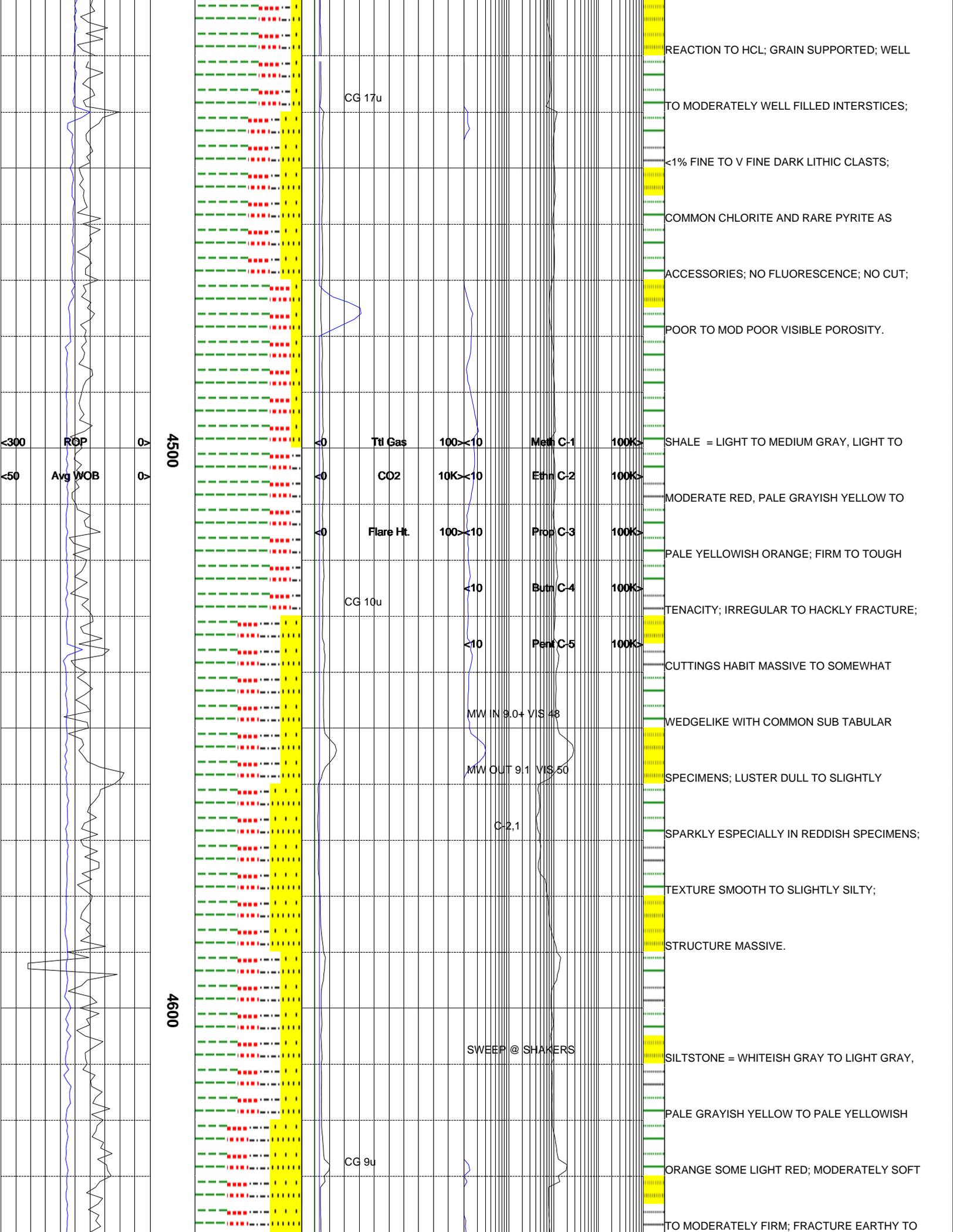
SHALE = PALE YELLOWISH ORANGE, MEDIUM

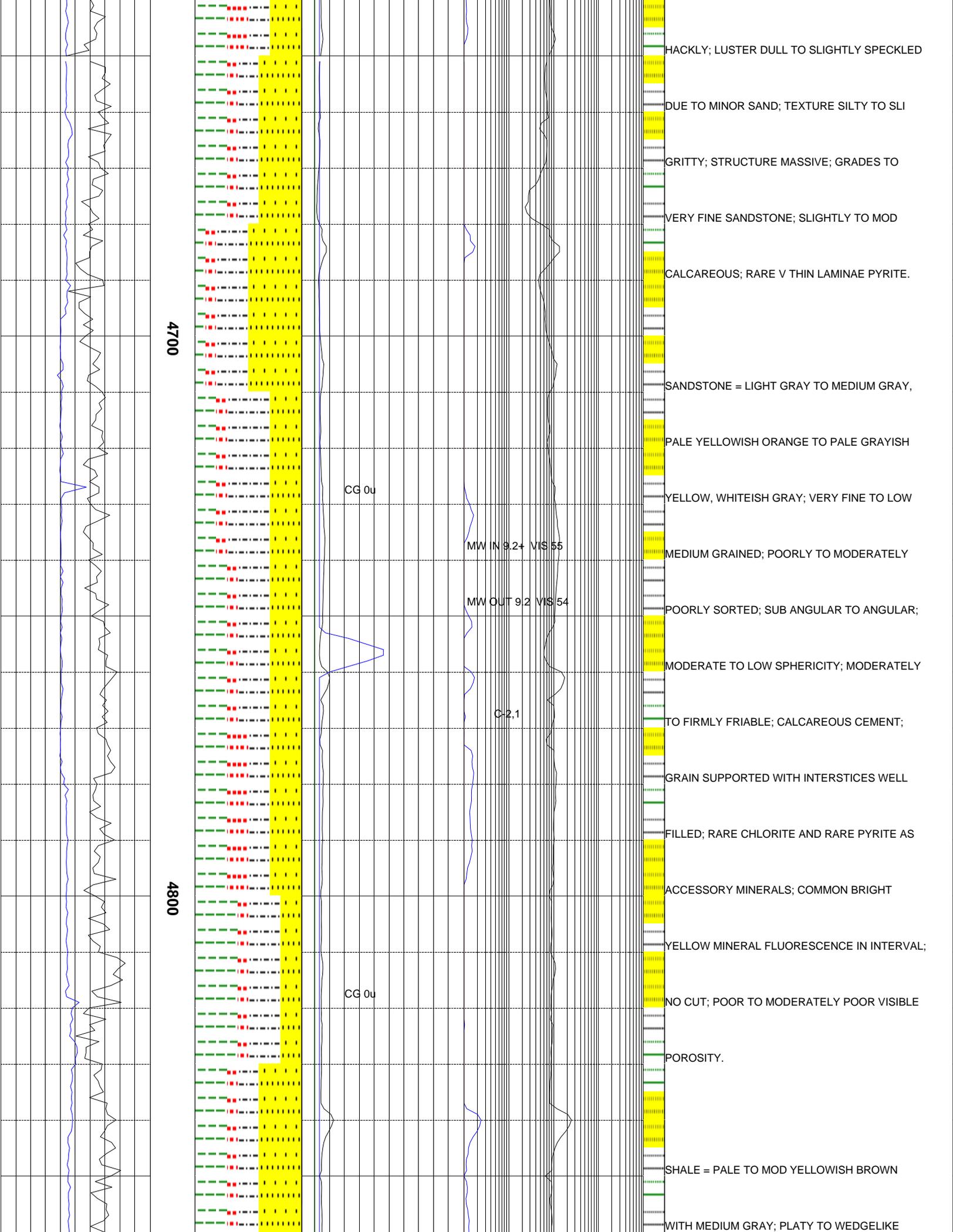
TO PALE GRAY, PALE GRAYISH PINK; FIRM TO

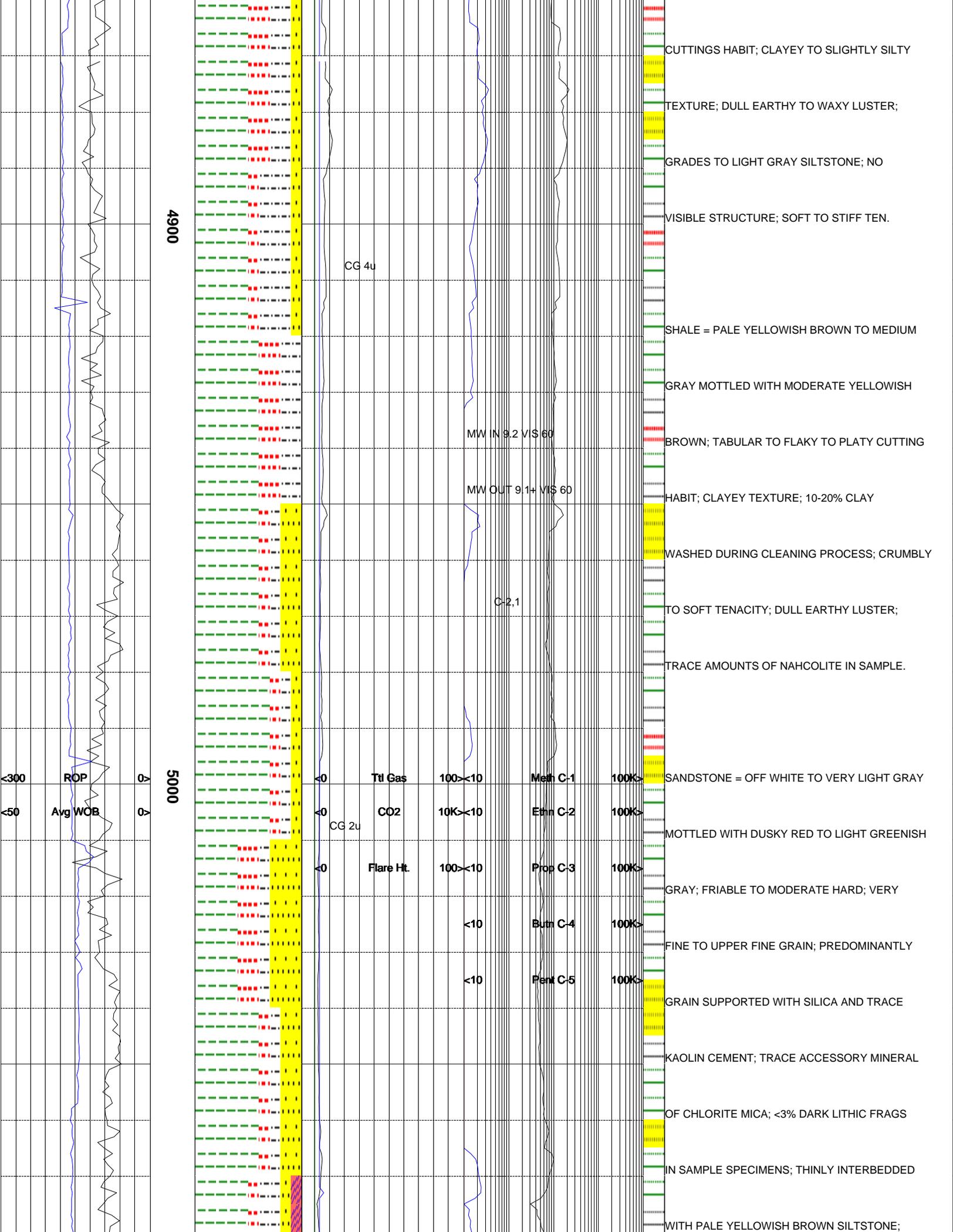
MODERATELY CRUNCHY; FRACTURE IRREGULAR

TO HACKLY; CUTTINGS HABIT WEDGELIKE TO









4900

5000

CG 4u

MW IN 9.2 VIS 60

MW OUT 9.1+ VIS 60

C-2.1

CG 2u

Ttl Gas

CO2

Flare Ht.

Meth C-1

Ethn C-2

Prop C-3

Burn C-4

Pent C-5

CUTTINGS HABIT; CLAYEY TO SLIGHTLY SILTY

TEXTURE; DULL EARTHY TO WAXY LUSTER;

GRADES TO LIGHT GRAY SILTSTONE; NO

VISIBLE STRUCTURE; SOFT TO STIFF TEN.

SHALE = PALE YELLOWISH BROWN TO MEDIUM

GRAY MOTTLED WITH MODERATE YELLOWISH

BROWN; TABULAR TO FLAKY TO PLATY CUTTING

HABIT; CLAYEY TEXTURE; 10-20% CLAY

WASHED DURING CLEANING PROCESS; CRUMBLY

TO SOFT TENACITY; DULL EARTHY LUSTER;

TRACE AMOUNTS OF NAHCOLITE IN SAMPLE.

SANDSTONE = OFF WHITE TO VERY LIGHT GRAY

MOTTLED WITH DUSKY RED TO LIGHT GREENISH

GRAY; FRIABLE TO MODERATE HARD; VERY

FINE TO UPPER FINE GRAIN; PREDOMINANTLY

GRAIN SUPPORTED WITH SILICA AND TRACE

KAOLIN CEMENT; TRACE ACCESSORY MINERAL

OF CHLORITE MICA; <3% DARK LITHIC FRAGS

IN SAMPLE SPECIMENS; THINLY INTERBEDDED

WITH PALE YELLOWISH BROWN SILTSTONE;

<300 ROP

<50 Avg WOB

<0 100 < 10

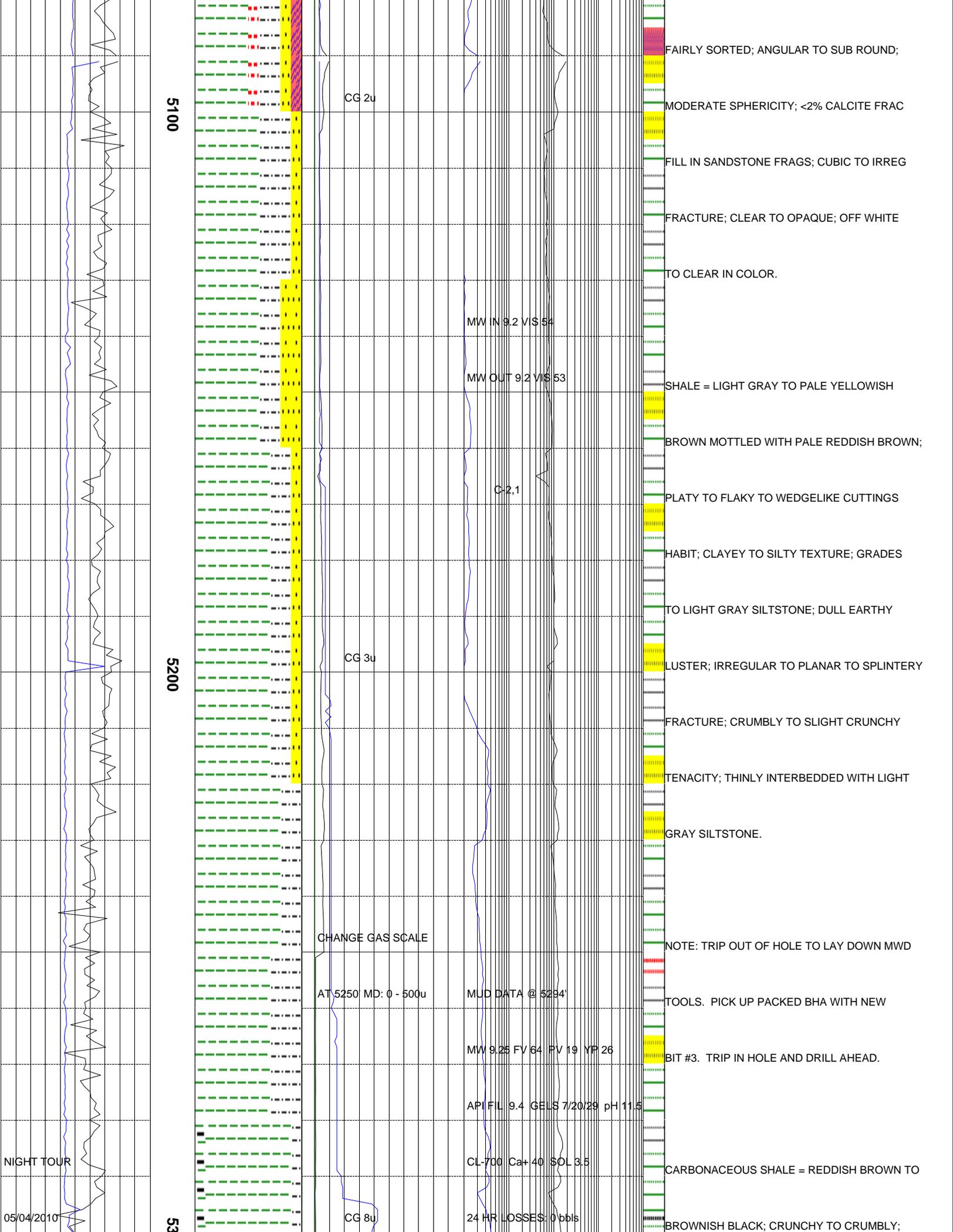
<0 10K < 10

<0 100 < 10

<10

<10

100K >



5100

5200

53

CG 2u

CG 3u

CHANGE GAS SCALE

AT 5250 MD: 0 - 500u

CG 8u

MW IN 9.2 V/S 54

MW OUT 9.2 V/S 53

C-2.1

MUD DATA @ 5294

MW 9.25 FV 64 PV 19 YF 26

API FIL 9.4 GELS 7/20/29 pH 11.5

CL-700 Ca+ 40 SOL 3.5

24 HR LOSSES: 0 bbis

FAIRLY SORTED; ANGULAR TO SUB ROUND;

MODERATE SPHERICITY; <2% CALCITE FRAC

FILL IN SANDSTONE FRAGS; CUBIC TO IRREG

FRACTURE; CLEAR TO OPAQUE; OFF WHITE

TO CLEAR IN COLOR.

SHALE = LIGHT GRAY TO PALE YELLOWISH

BROWN MOTTLED WITH PALE REDDISH BROWN;

PLATY TO FLAKY TO WEDGELIKE CUTTINGS

HABIT; CLAYEY TO SILTY TEXTURE; GRADES

TO LIGHT GRAY SILTSTONE; DULL EARTHY

LUSTER; IRREGULAR TO PLANAR TO SPLINTERY

FRACTURE; CRUMBLY TO SLIGHT CRUNCHY

TENACITY; THINLY INTERBEDDED WITH LIGHT

GRAY SILTSTONE.

NOTE: TRIP OUT OF HOLE TO LAY DOWN MWD

TOOLS. PICK UP PACKED BHA WITH NEW

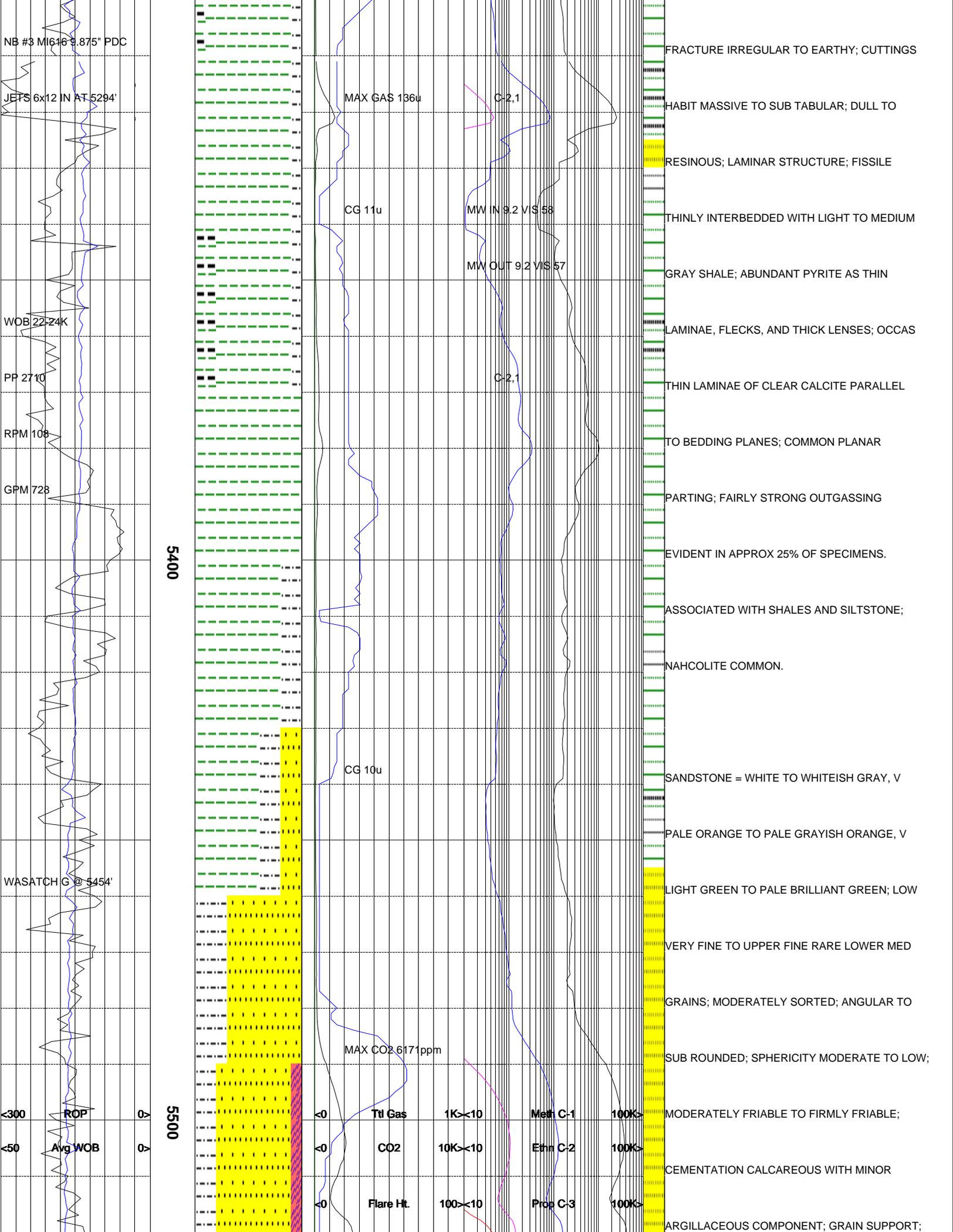
BIT #3. TRIP IN HOLE AND DRILL AHEAD.

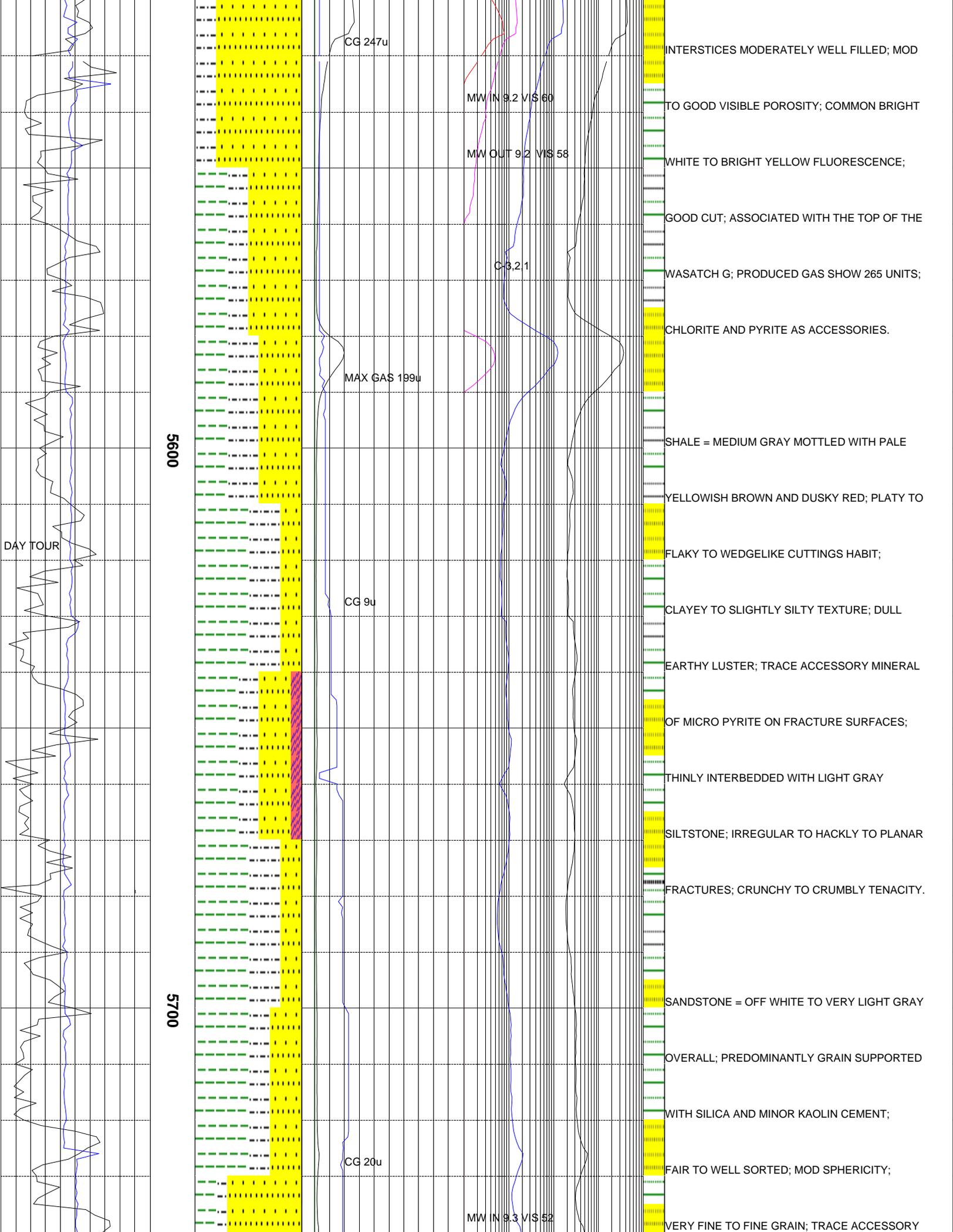
CARBONACEOUS SHALE = REDDISH BROWN TO

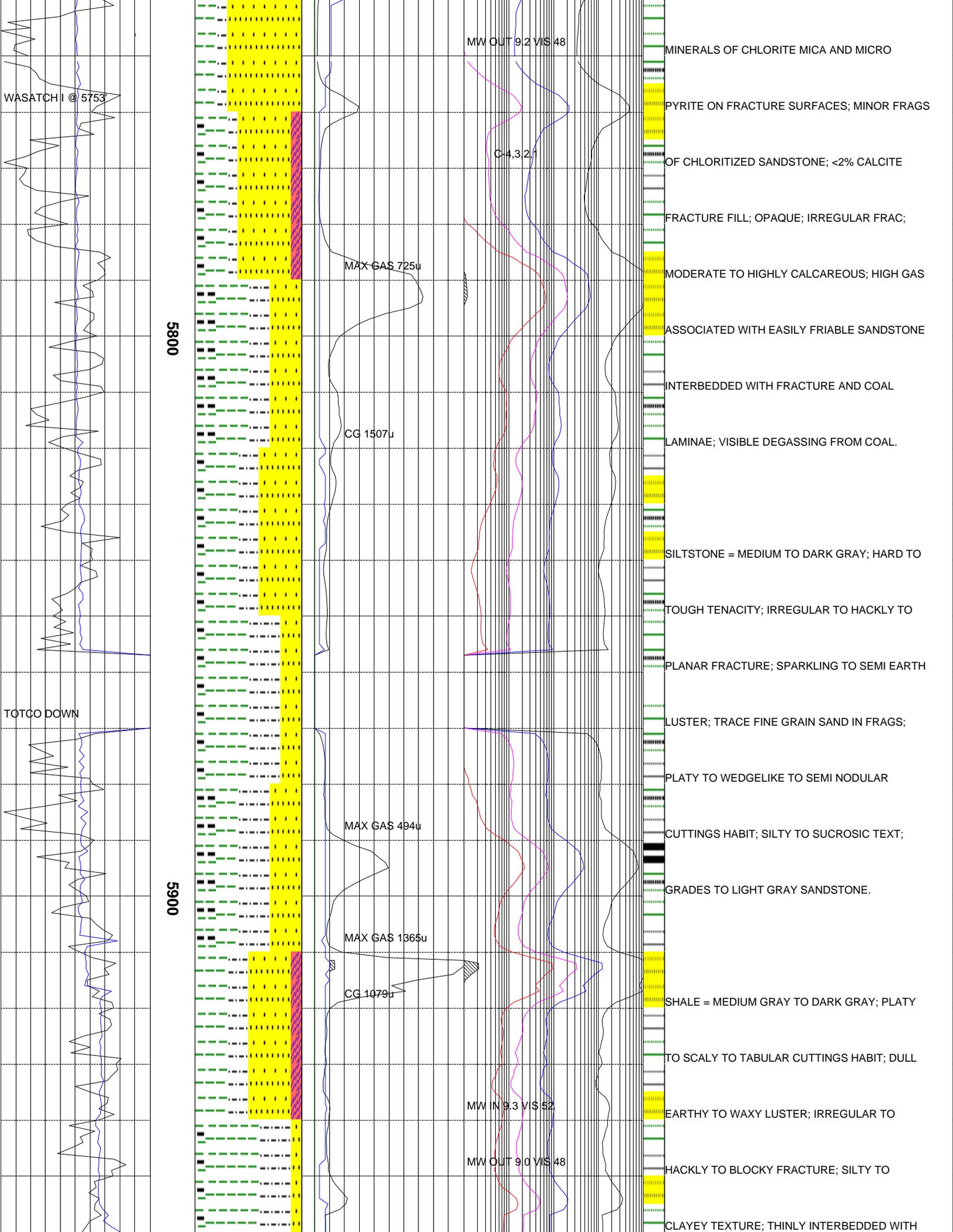
BROWNISH BLACK; CRUNCHY TO CRUMBLY;

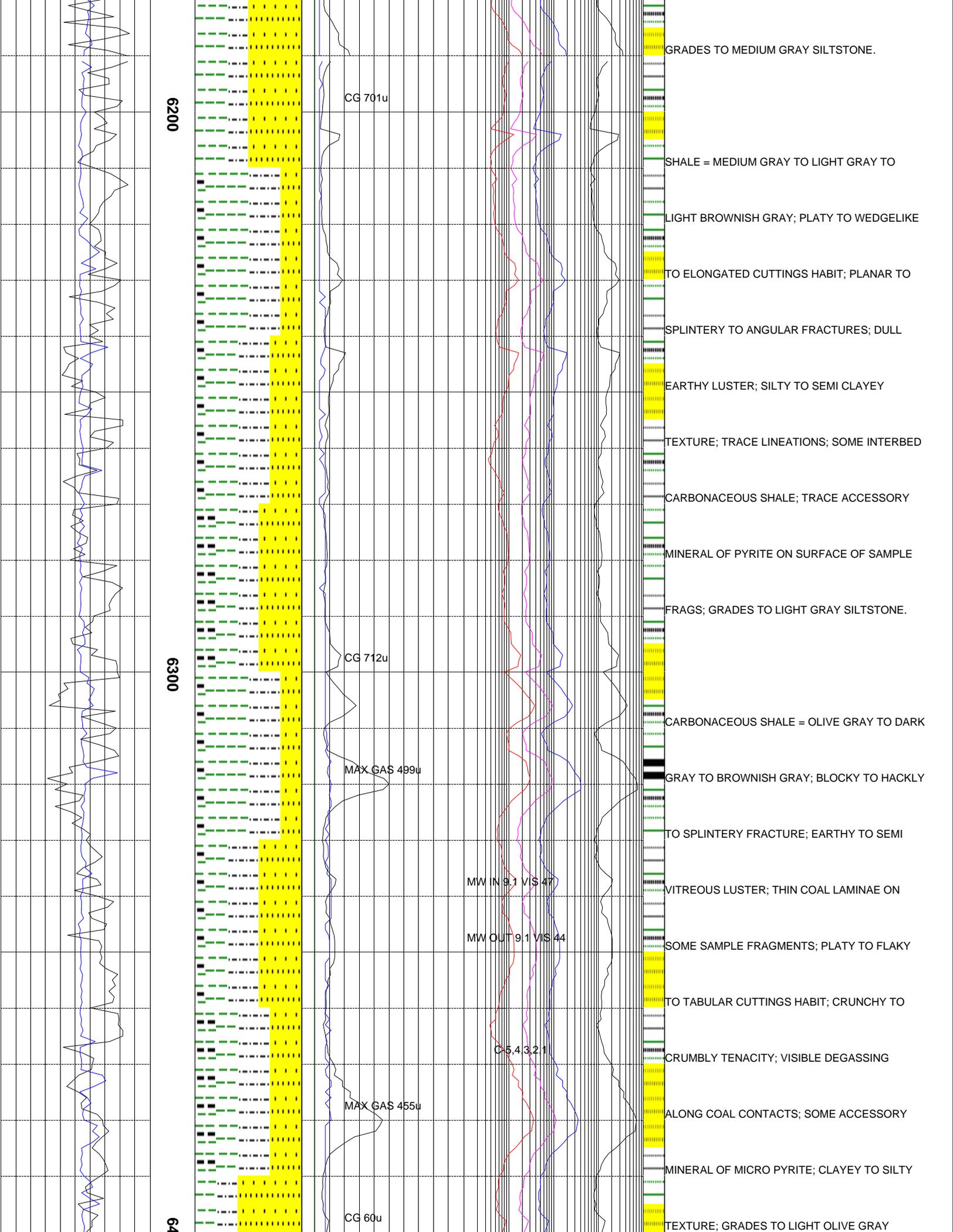
NIGHT TOUR

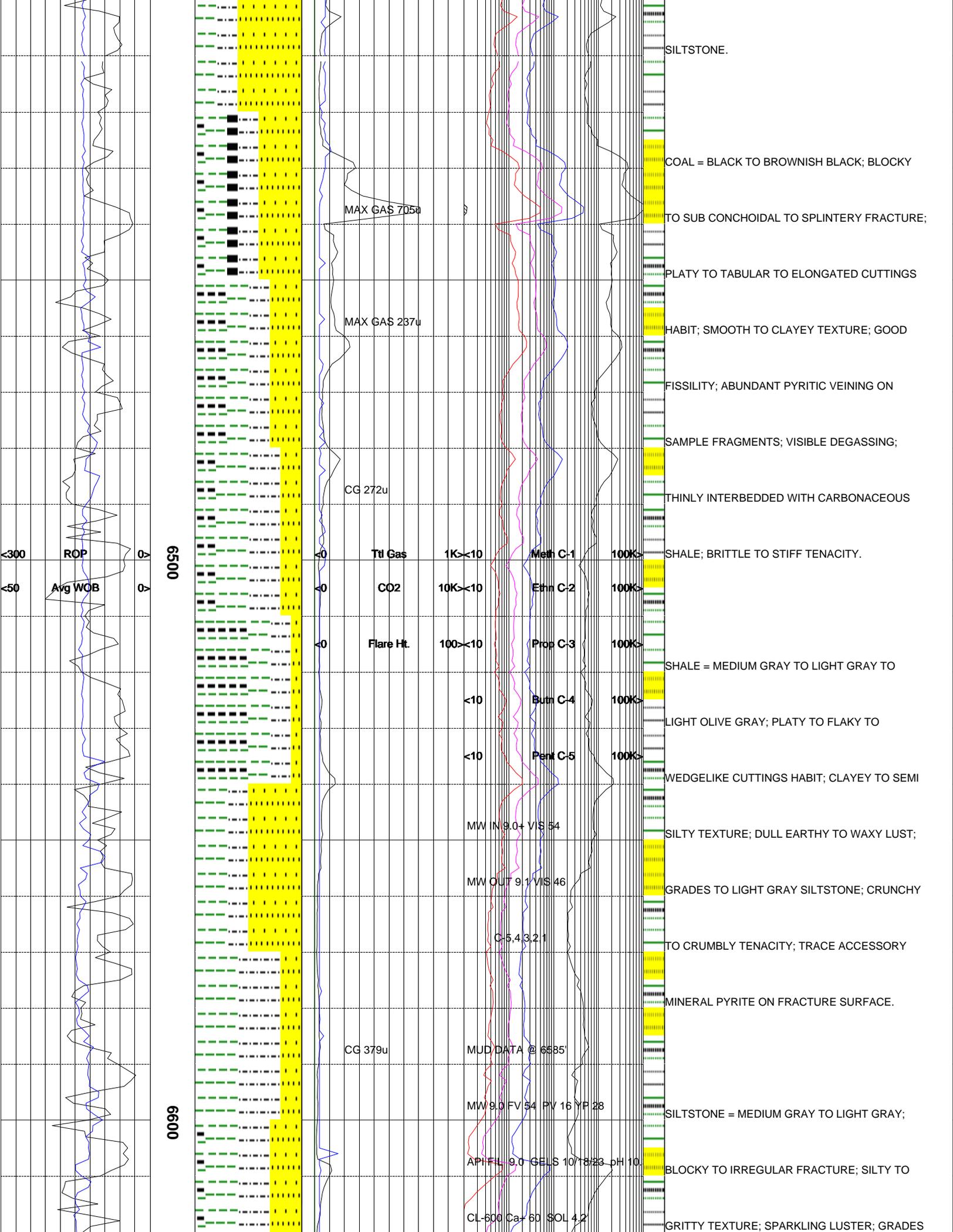
05/04/2010

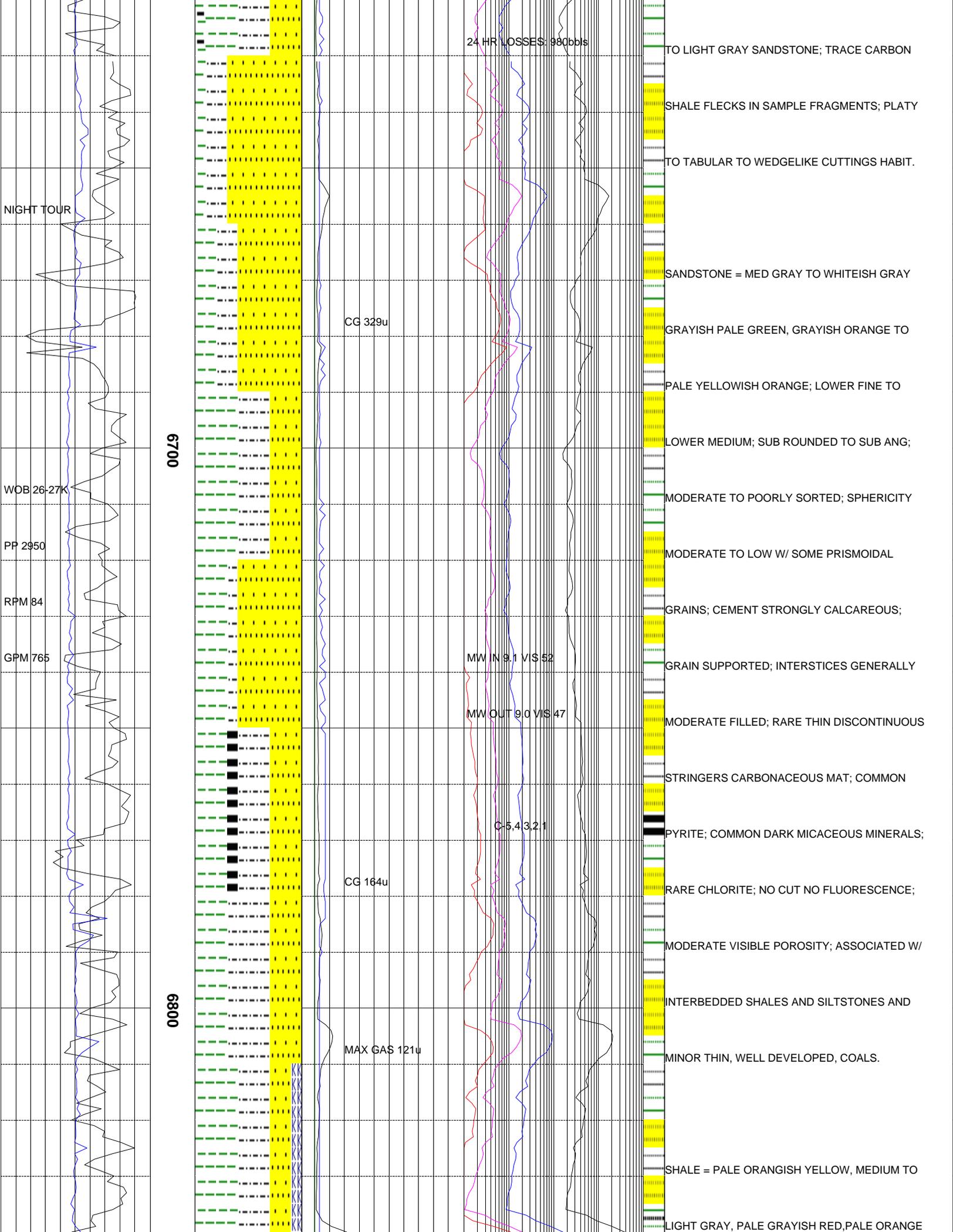


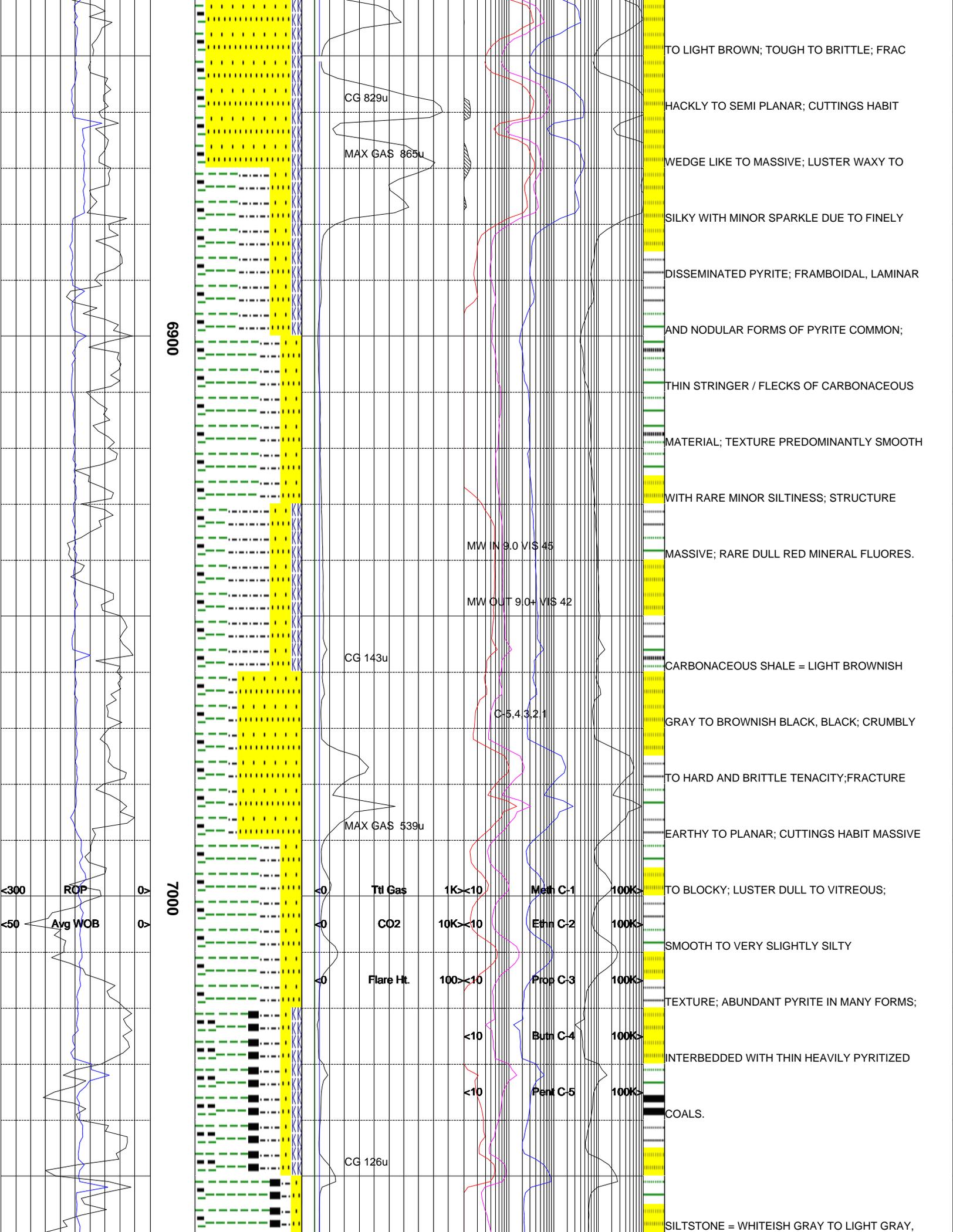


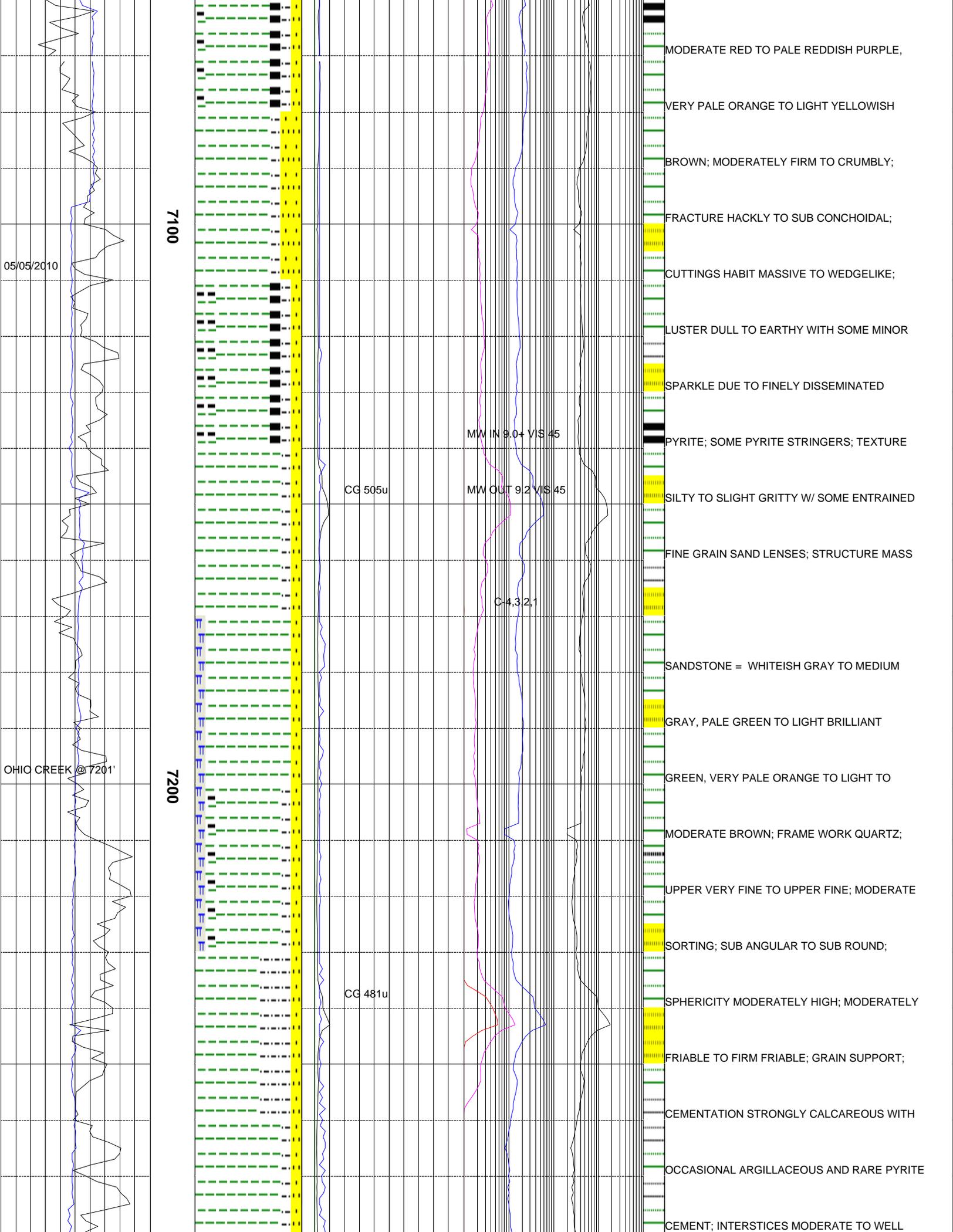


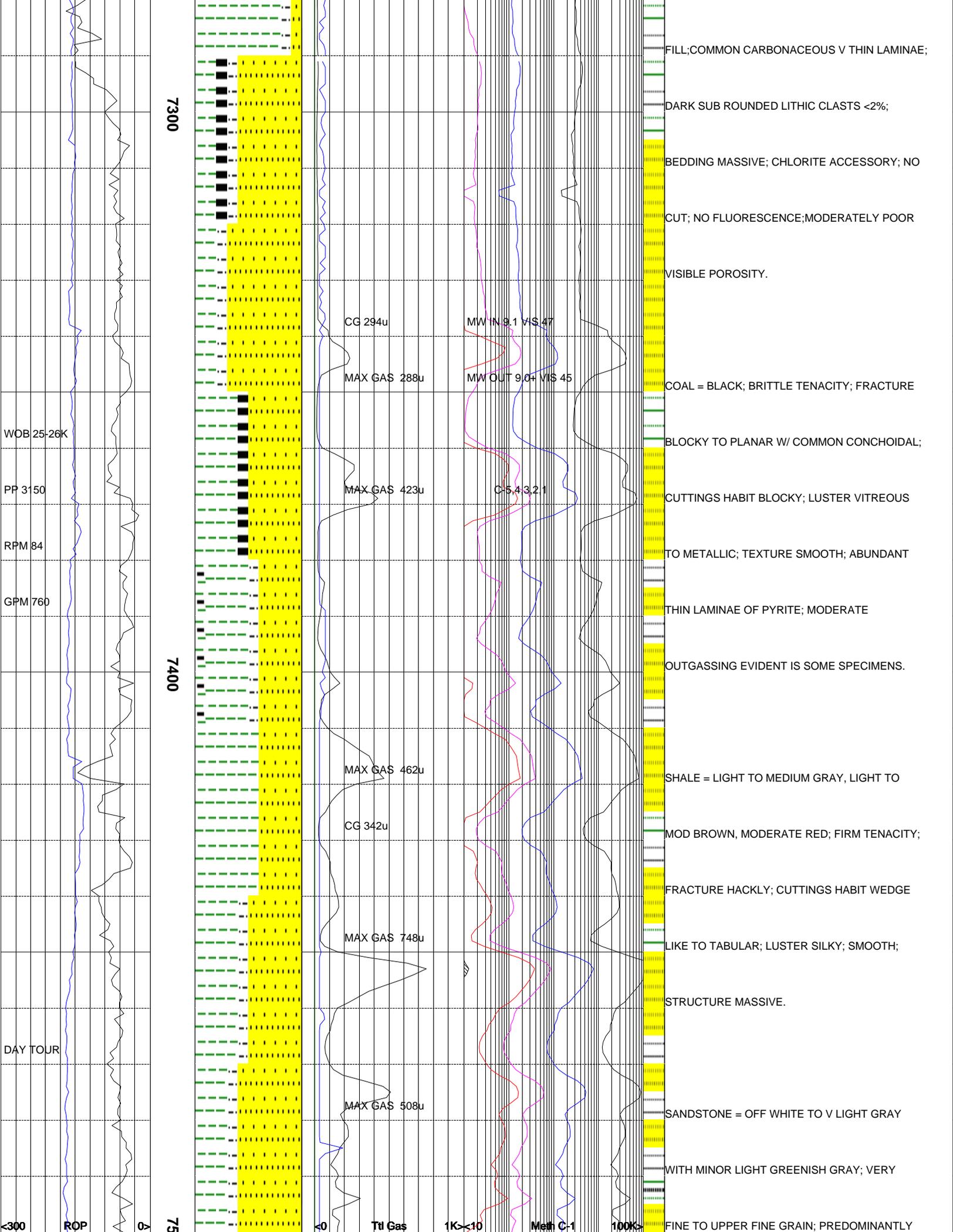












7300

7400

7500

WOB 25-26K

PP 3150

RPM 84

GPM 760

DAY TOUR

<300

ROP

Δ

0

Ttl Gas

1K<10

Meth C-1

100K>

CG 294u

MAX GAS 288u

MAX GAS 423u

MAX GAS 462u

CG 342u

MAX GAS 748u

MAX GAS 508u

MW IN 9.1 VIS 47

MW OUT 9.0+ VIS 45

C=5.4321

FILL; COMMON CARBONACEOUS V THIN LAMINAE;

DARK SUB ROUNDED LITHIC CLASTS <2%;

BEDDING MASSIVE; CHLORITE ACCESSORY; NO

CUT; NO FLUORESCENCE; MODERATELY POOR

VISIBLE POROSITY.

COAL = BLACK; BRITTLE TENACITY; FRACTURE

BLOCKY TO PLANAR W/ COMMON CONCHOIDAL;

CUTTINGS HABIT BLOCKY; LUSTER VITREOUS

TO METALLIC; TEXTURE SMOOTH; ABUNDANT

THIN LAMINAE OF PYRITE; MODERATE

OUTGASSING EVIDENT IN SOME SPECIMENS.

SHALE = LIGHT TO MEDIUM GRAY, LIGHT TO

MOD BROWN, MODERATE RED; FIRM TENACITY;

FRACTURE HACKLY; CUTTINGS HABIT WEDGE

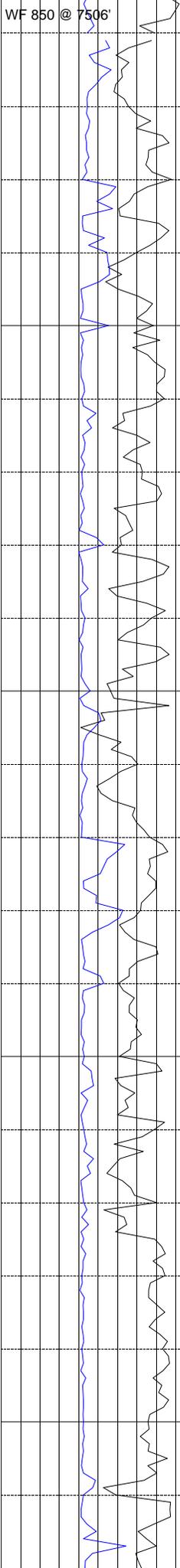
LIKE TO TABULAR; LUSTER SILKY; SMOOTH;

STRUCTURE MASSIVE.

SANDSTONE = OFF WHITE TO V LIGHT GRAY

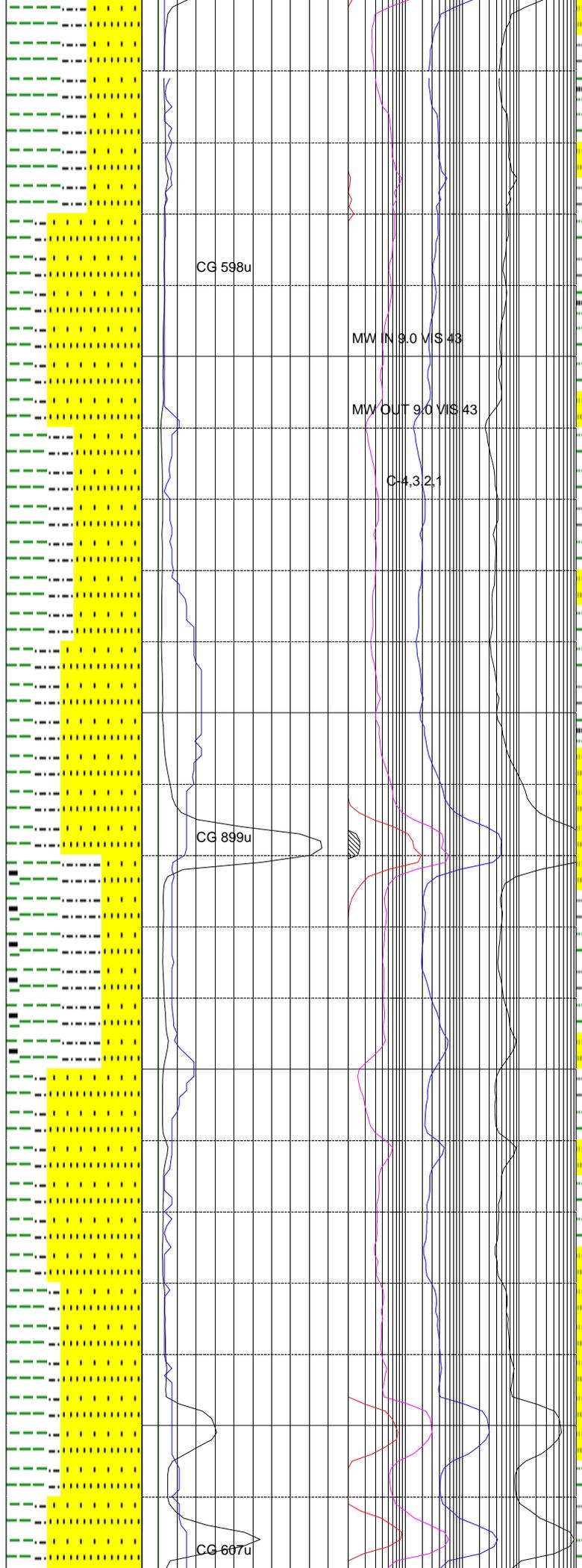
WITH MINOR LIGHT GREENISH GRAY; VERY

FINE TO UPPER FINE GRAIN; PREDOMINANTLY



7600

7700



- GRAIN SUPPORTED WITH SILICA AND MINOR
- KAOLIN CEMENT; ABUNDANT LOOSE GRAINS;
- TRANSPARENT TO TRANSLUCENT; MINOR
- ETCHING ON SOME GRAINS; TRACE ACCESSORY
- MINERALS OF CHLORITE MICA AND MICRO
- PYRITE; MINOR CHLORITIZED SANDSTONE
- FRAGMENTS; TRACE CARBONACEOUS SHALE/
- COAL FLECKS IN PRESERVED SPECIMENS;
- ROUND TO SUB ANGULAR; MODERATE TO HIGH
- SPHERICITY; FAIRLY SORTED; MODERATE TO
- HIGH CALCAREOUS; FRIABLE TO MODERATELY
- HARD.
- SILTSTONE = MEDIUM GRAY TO LIGHT GRAY TO
- DARK GRAY; HARD TO TOUGH TENACITY; PLATY
- TO WEDGELIKE CUTTINGS HABIT; SPARKLING
- TO SEMI EARTHY LUSTER; SILTY TO GRITTY
- TEXTURE; IRREGULAR TO HACKLY TO BLOCKY
- FRAC; GRADES TO LIGHT GRAY SANDSTONE;
- TRACE LOOSE FINE GRAIN SAND IN SAMPLE
- FRAGMENTS.

WF 800 @ 7733'

7800

7900

MW IN 9.0+ VIS 42

MW OUT 9.0 VIS 44

C-54321

CG 533u

CG 1182u

MAX GAS 992u

MW IN 9.1 VIS 47

SANDSTONE = OFF WHITE TO V LIGHT GRAY

W/ TRACE LIGHT GREENISH GRAY; LOWER

VERY FINE TO FINE GRAIN W/ MINOR LOWER

MEDIUM GRAIN; PREDOMINANT LOOSE GRAIN

W/ SOME PRESERVED SPECIMENS; ROUND TO

SUB ANGULAR; MOD TO WELL SPHERICITY;

WELL SORTED; TRACE ACCESS MINERALS OF

PYRITE AND CHLORITE MICA; 2-4% CARBON

SHALE/COAL FLECKS IN SAMPLE FRAGMENTS;

HIGH GAS AND HIGH ROP DUE TO EASILY

FRIABLE TO MODERATE HARD SANDSTONE;

PRESERVED SAMPLE FRAGMENTS SHOW

SILICA AND SOME KAOLIN CEMENT; THIN

SHALE AND SILTSTONE INTERVALS; MINOR

ETCHING POSSIBLE DUE TO PDC BIT ACTION.

SHALE = VERY LIGHT GRAY TO MEDIUM GRAY

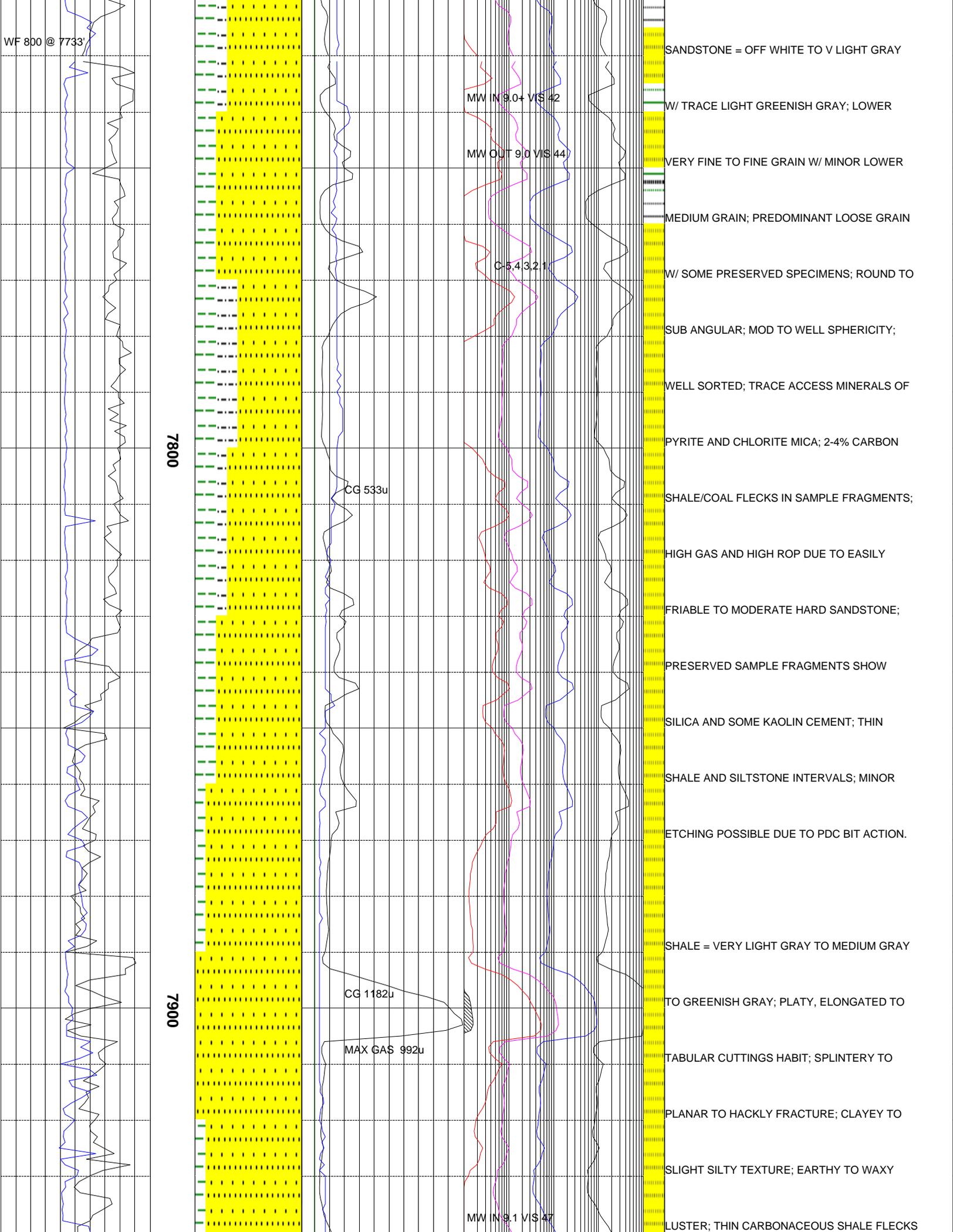
TO GREENISH GRAY; PLATY, ELONGATED TO

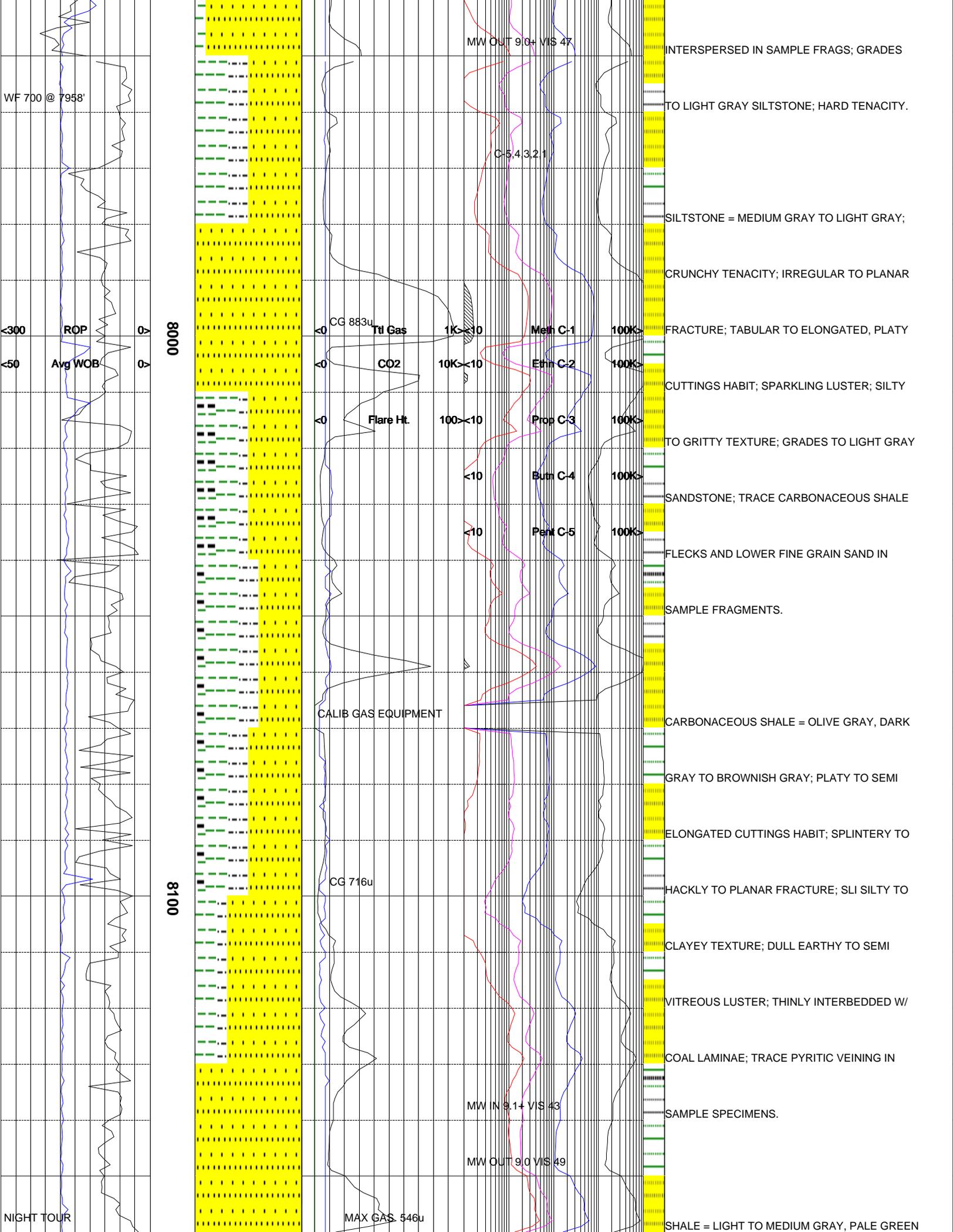
TABULAR CUTTINGS HABIT; SPLINTERY TO

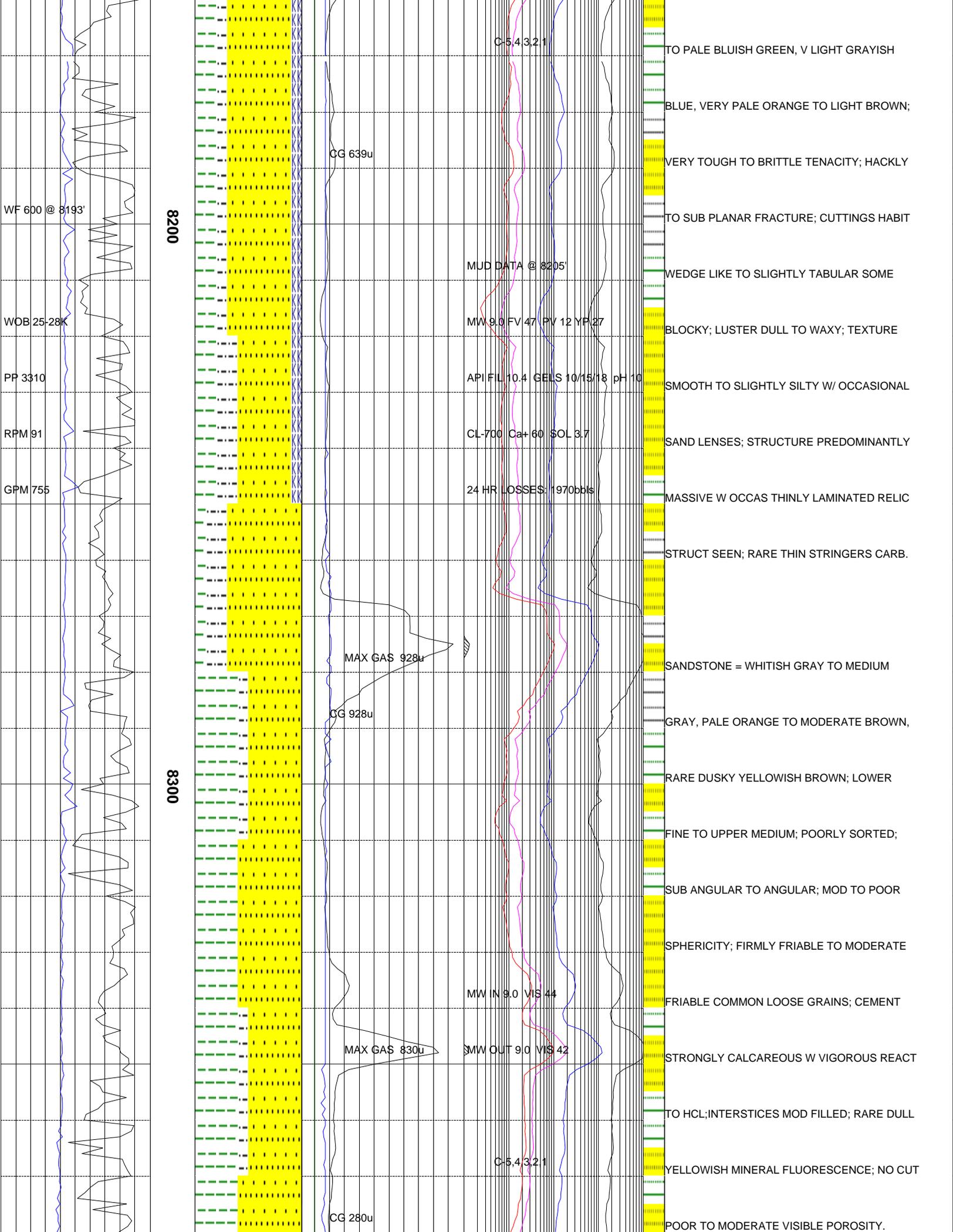
PLANAR TO HACKLY FRACTURE; CLAYEY TO

SLIGHT SILTY TEXTURE; EARTHY TO WAXY

LUSTER; THIN CARBONACEOUS SHALE FLECKS







8200

8300

WF 600 @ 8193'
WOB 25-28K
PP 3310
RPM 91
GPM 755

CG 639u

MAX GAS 928u

CG 928u

MAX GAS 830u

CG 280u

C-5.4321

MUD DATA @ 8205

MW 9.0 FV 47 PV 12 YP 27

API FIL 10.4 GELS 10/15/18 pH 10

CL-700 Ca+ 60 SOL 3.7

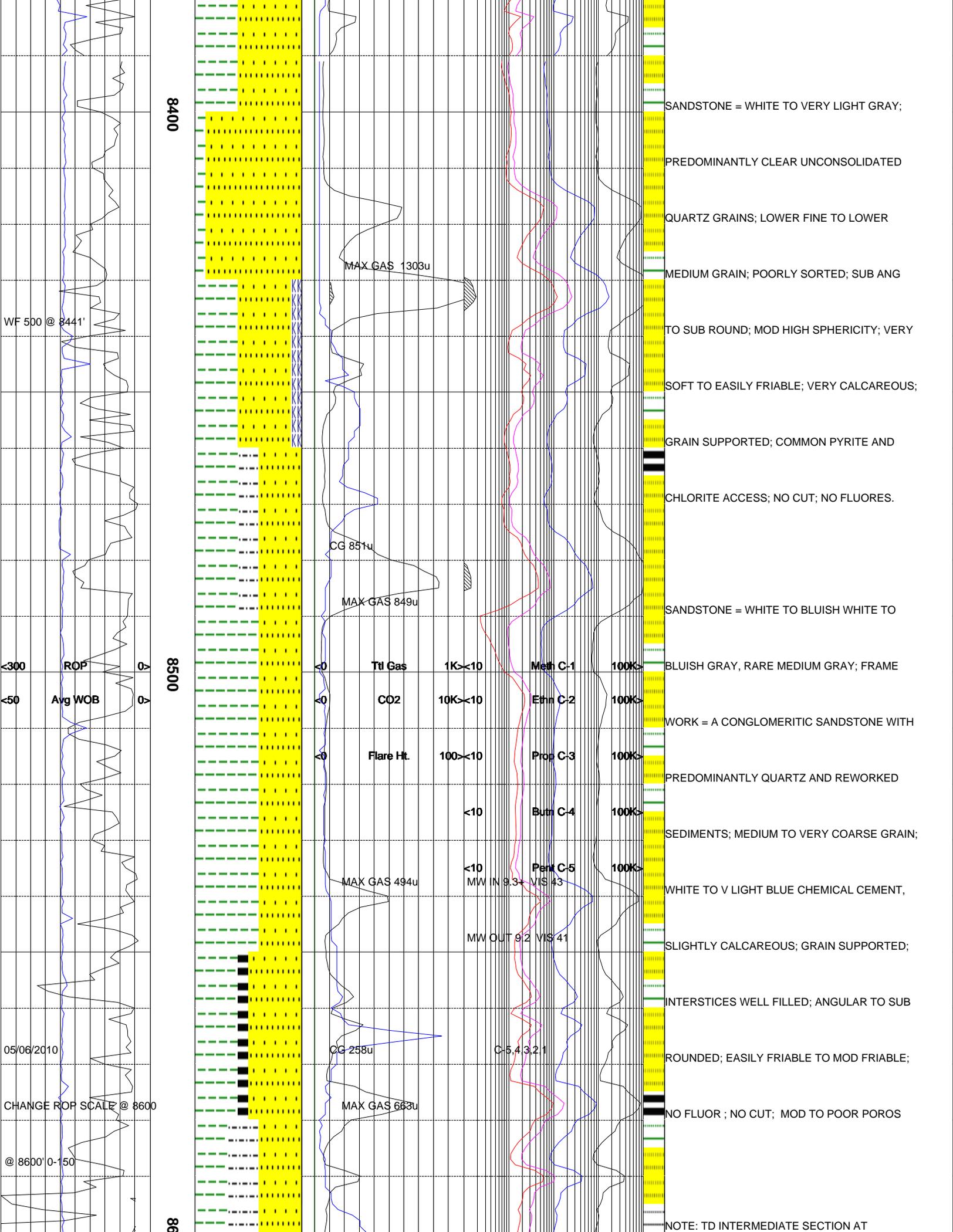
24 HR LOSSES: 1970bbls

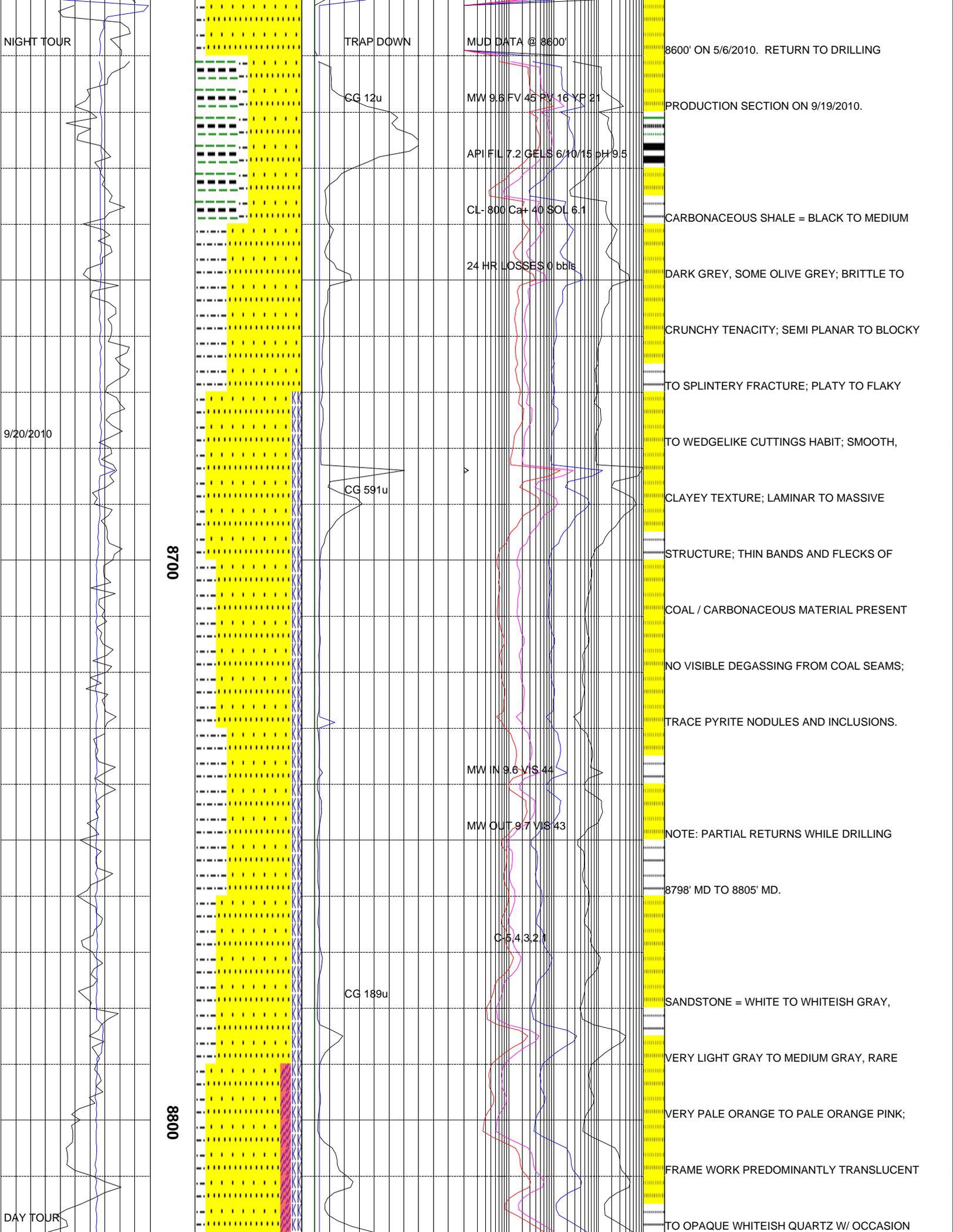
MW IN 9.0 VIS 44

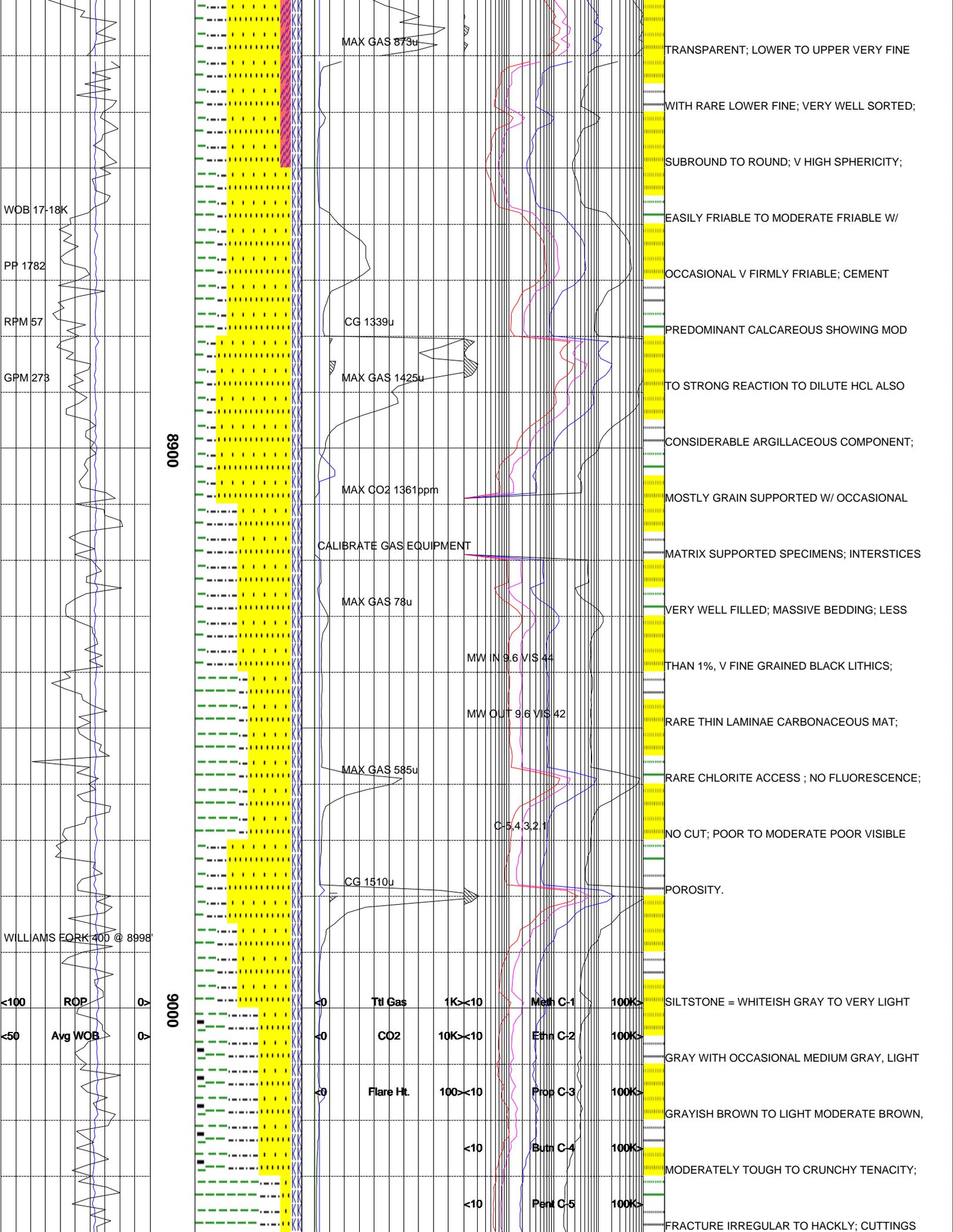
MW OUT 9.0 VIS 42

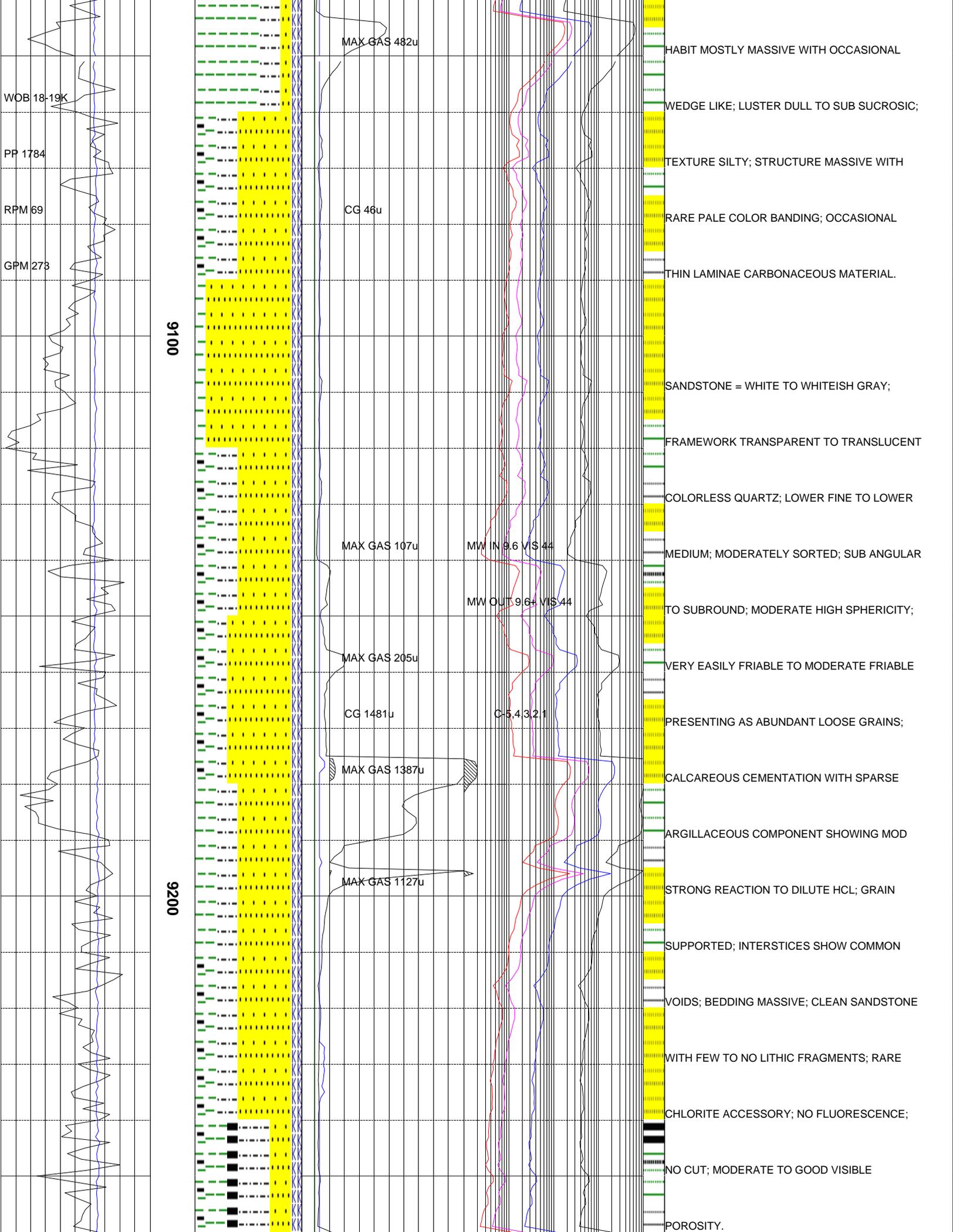
C-5.4321

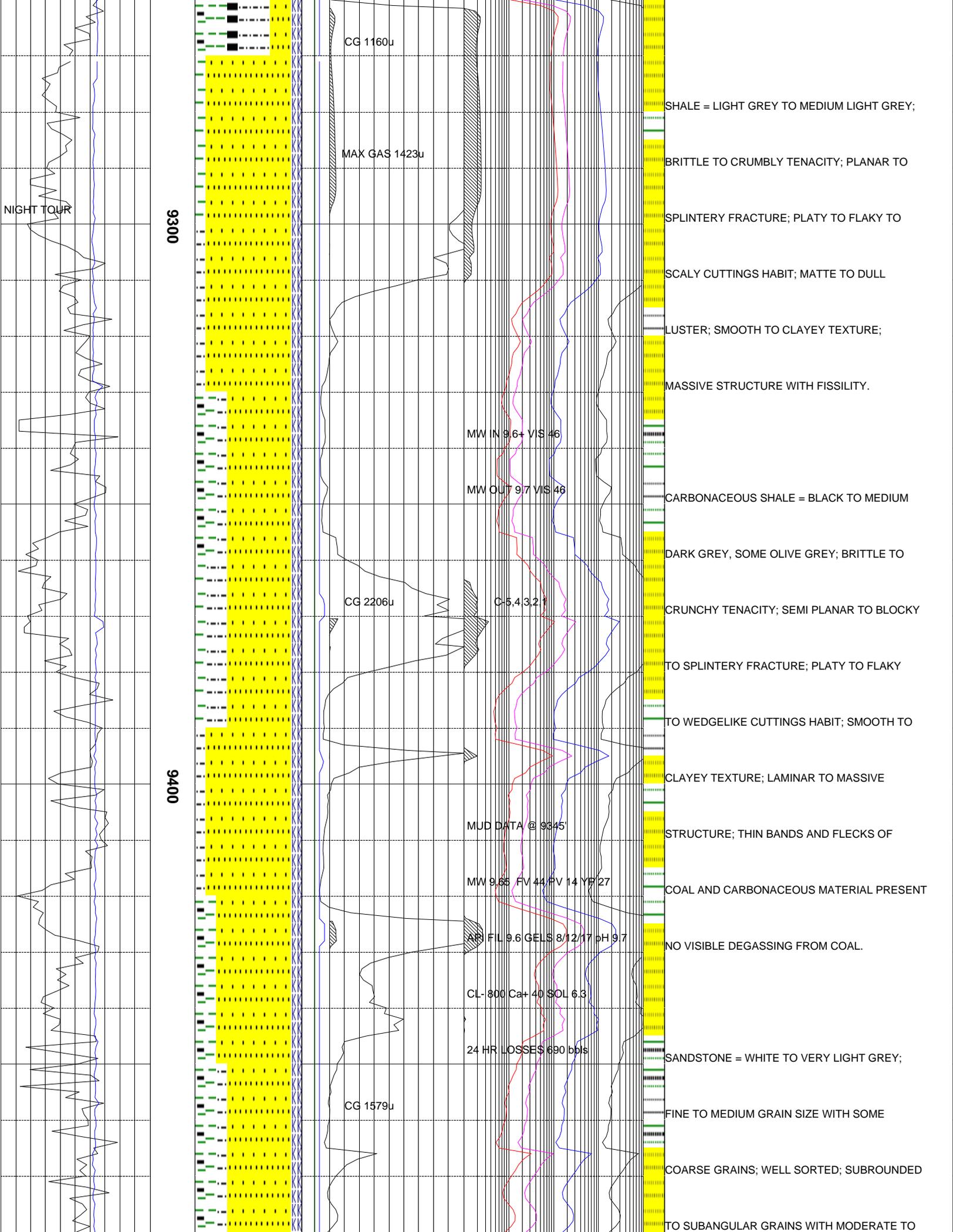
TO PALE BLUISH GREEN, V LIGHT GRAYISH
 BLUE, VERY PALE ORANGE TO LIGHT BROWN;
 VERY TOUGH TO BRITTLE TENACITY; HACKLY
 TO SUB PLANAR FRACTURE; CUTTINGS HABIT
 WEDGE LIKE TO SLIGHTLY TABULAR SOME
 BLOCKY; LUSTER DULL TO WAXY; TEXTURE
 SMOOTH TO SLIGHTLY SILTY W/ OCCASIONAL
 SAND LENSES; STRUCTURE PREDOMINANTLY
 MASSIVE W OCCAS THINLY LAMINATED RELIC
 STRUCT SEEN; RARE THIN STRINGERS CARB.
 SANDSTONE = WHITISH GRAY TO MEDIUM
 GRAY, PALE ORANGE TO MODERATE BROWN,
 RARE DUSKY YELLOWISH BROWN; LOWER
 FINE TO UPPER MEDIUM; POORLY SORTED;
 SUB ANGULAR TO ANGULAR; MOD TO POOR
 SPHERICITY; FIRMLY FRIABLE TO MODERATE
 FRIABLE COMMON LOOSE GRAINS; CEMENT
 STRONGLY CALCAREOUS W VIGOROUS REACT
 TO HCL; INTERSTICES MOD FILLED; RARE DULL
 YELLOWISH MINERAL FLUORESCENCE; NO CUT
 POOR TO MODERATE VISIBLE POROSITY.

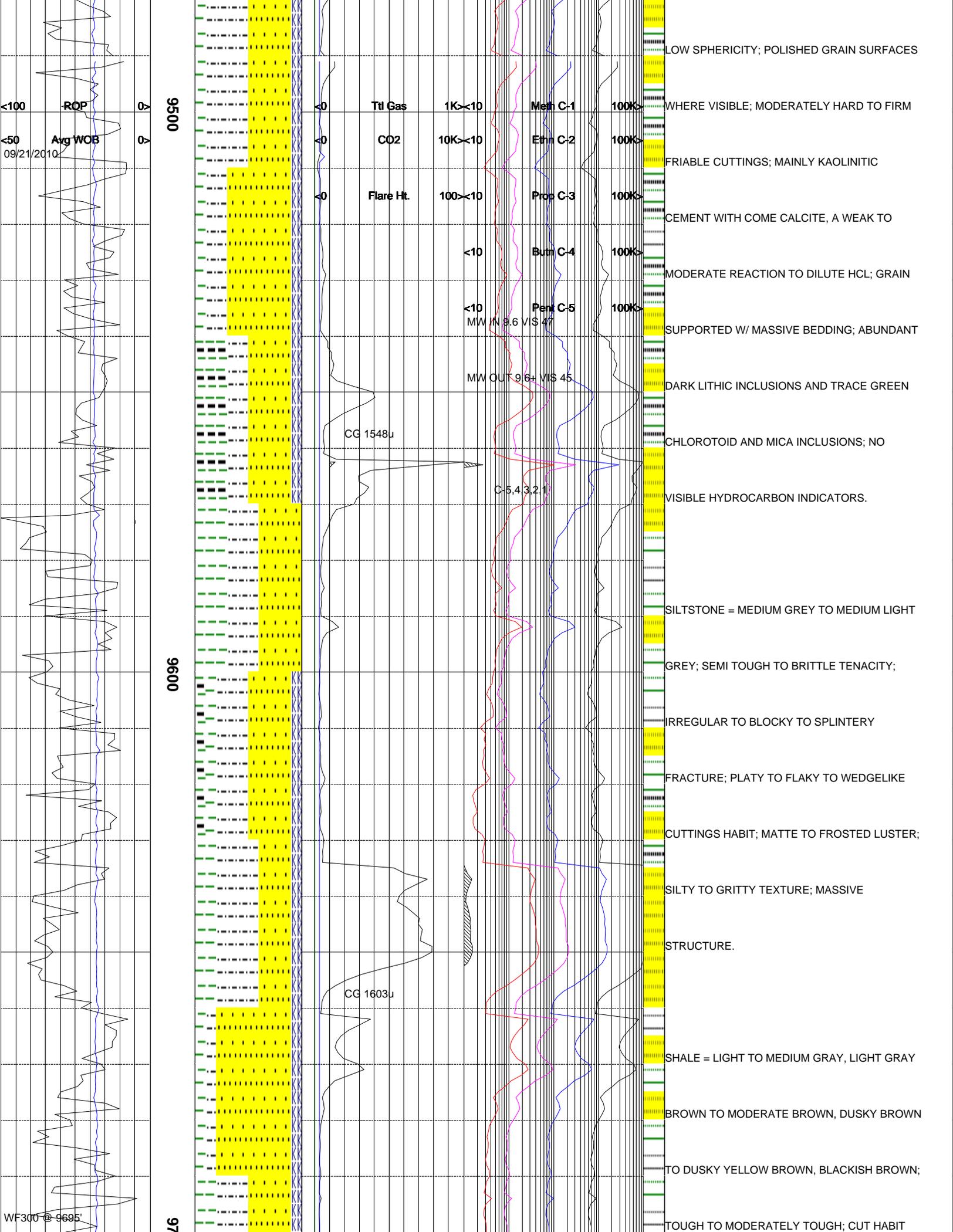


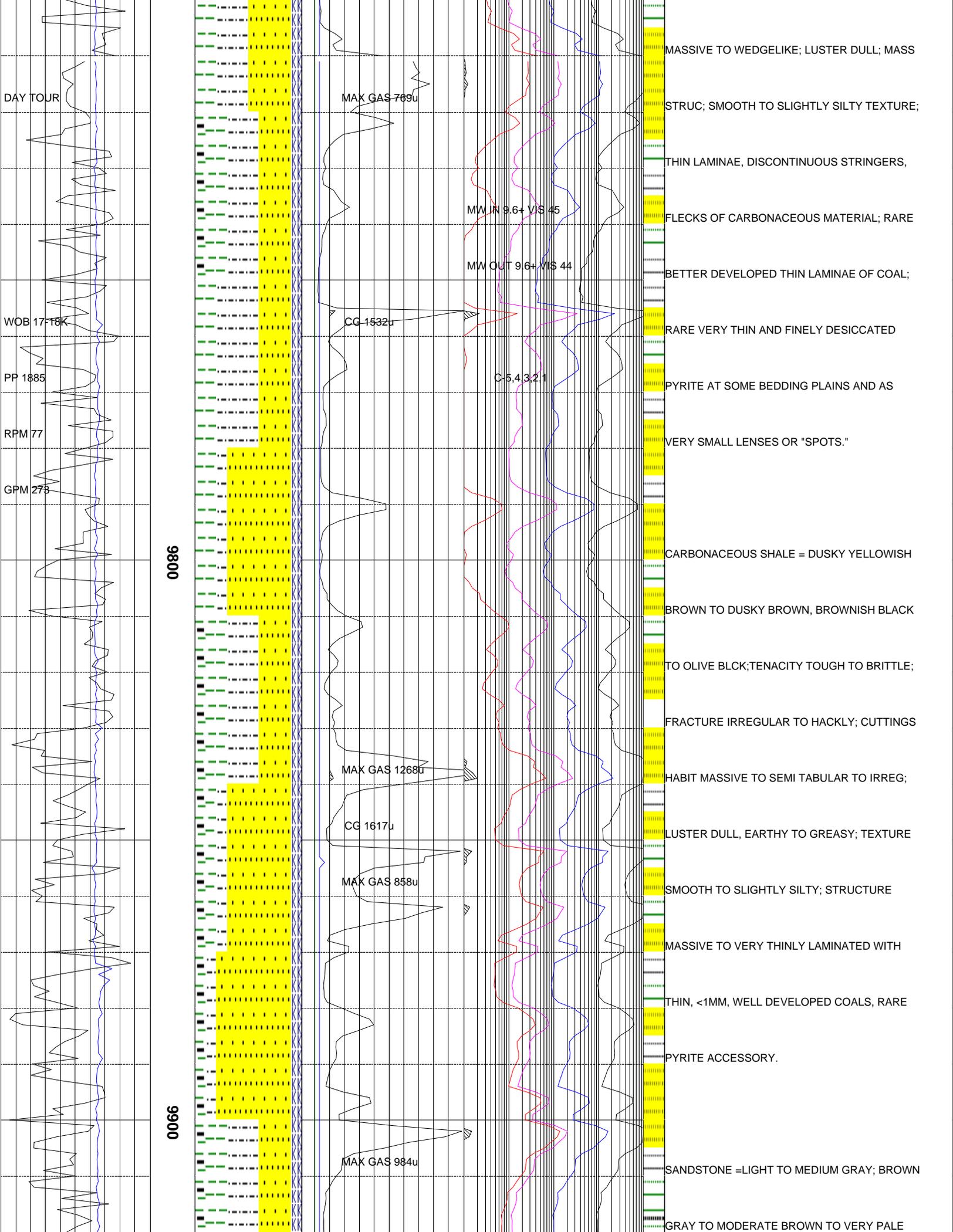








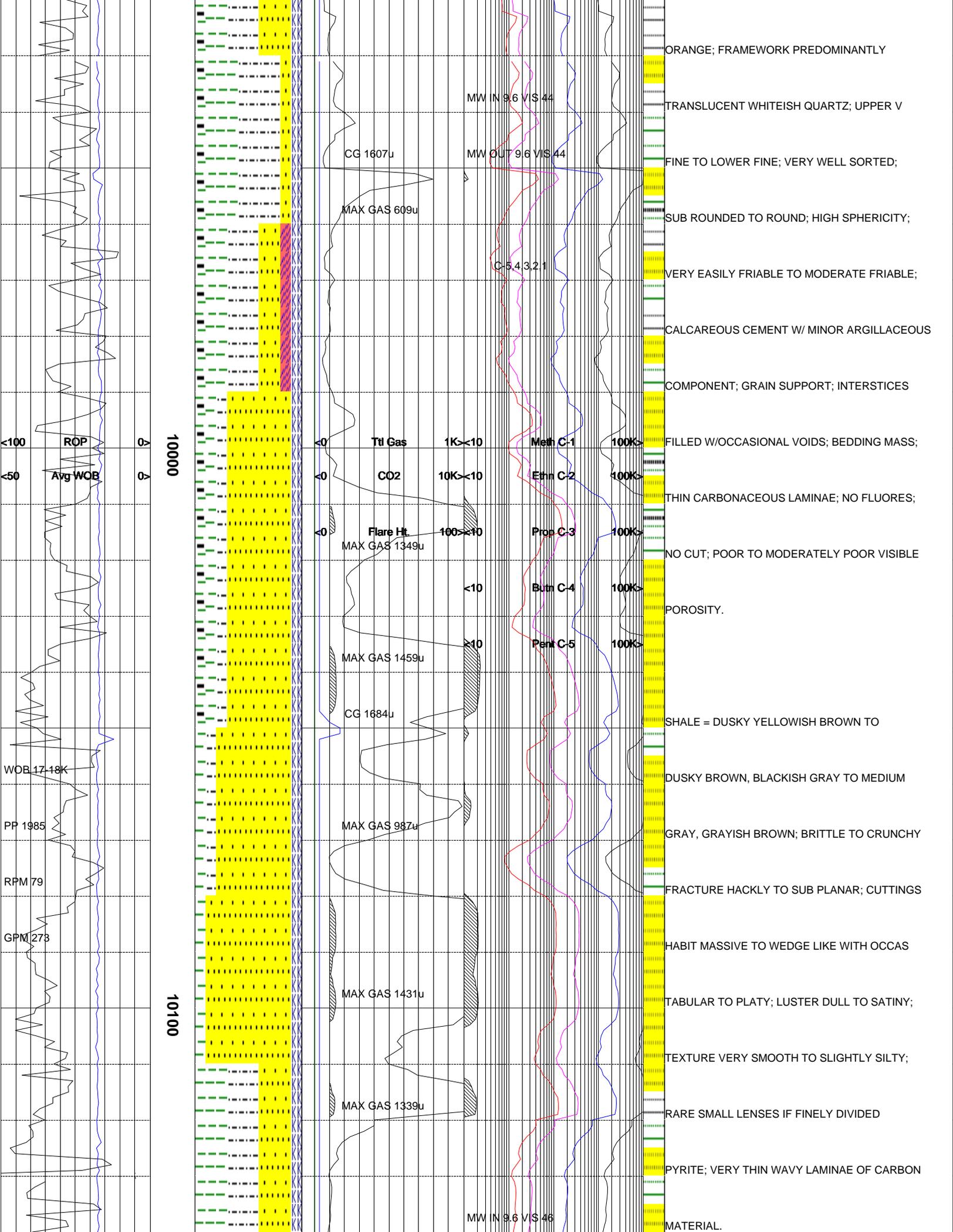


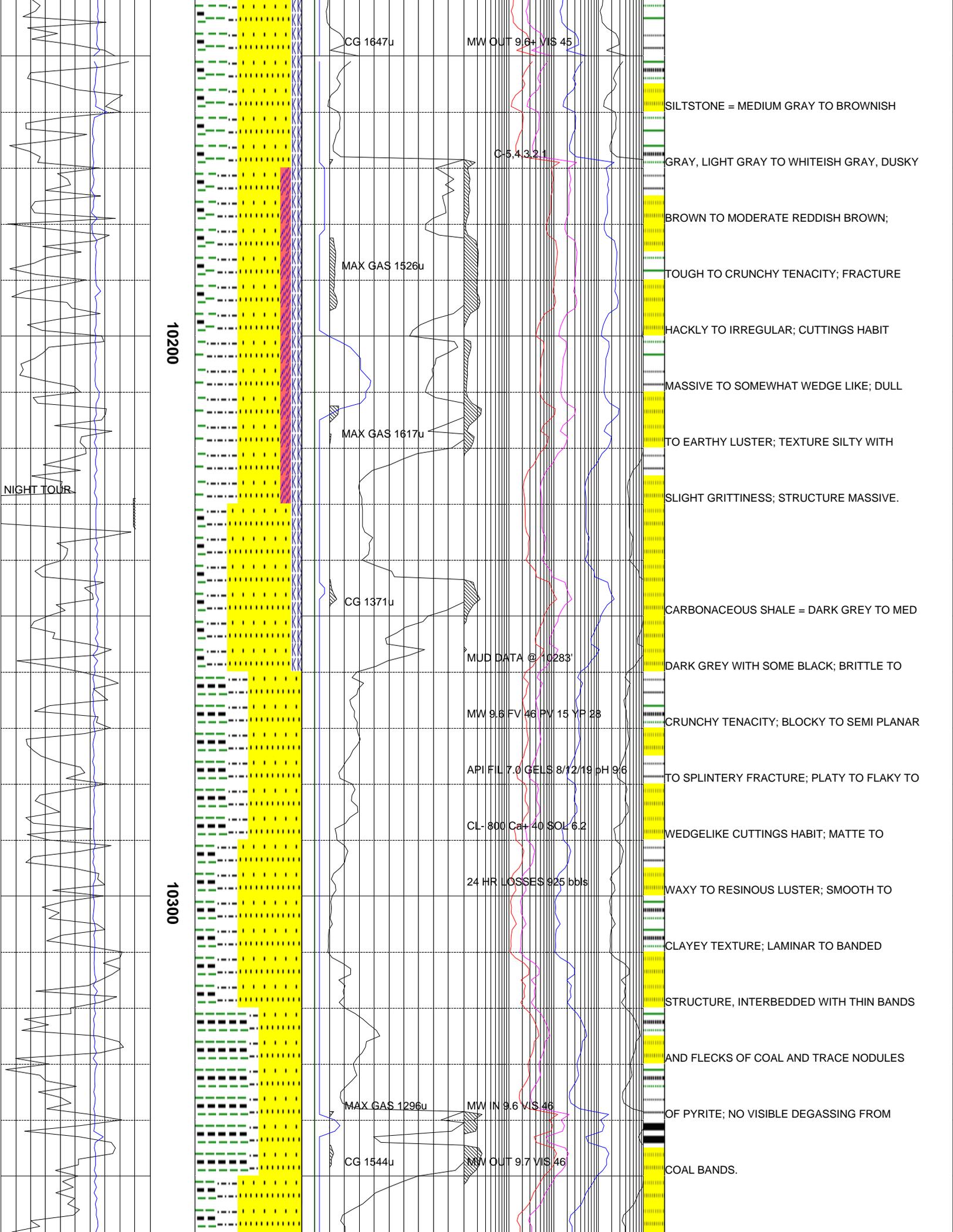


0086

0066

MASSIVE TO WEDGELIKE; LUSTER DULL; MASS
 STRUC; SMOOTH TO SLIGHTLY SILTY TEXTURE;
 THIN LAMINAE, DISCONTINUOUS STRINGERS,
 FLECKS OF CARBONACEOUS MATERIAL; RARE
 BETTER DEVELOPED THIN LAMINAE OF COAL;
 RARE VERY THIN AND FINELY DESICCATED
 PYRITE AT SOME BEDDING PLAINS AND AS
 VERY SMALL LENSES OR "SPOTS."
 CARBONACEOUS SHALE = DUSKY YELLOWISH
 BROWN TO DUSKY BROWN, BROWNISH BLACK
 TO OLIVE BLCK; TENACITY TOUGH TO BRITTLE;
 FRACTURE IRREGULAR TO HACKLY; CUTTINGS
 HABIT MASSIVE TO SEMI TABULAR TO IRREG;
 LUSTER DULL, EARTHY TO GREASY; TEXTURE
 SMOOTH TO SLIGHTLY SILTY; STRUCTURE
 MASSIVE TO VERY THINLY LAMINATED WITH
 THIN, <1MM, WELL DEVELOPED COALS, RARE
 PYRITE ACCESSORY.
 SANDSTONE = LIGHT TO MEDIUM GRAY; BROWN
 GRAY TO MODERATE BROWN TO VERY PALE





10200

10300

CG 1647u

MW OUT 9.6+ VIS 45

C-5.432.1

MAX GAS 1526u

MAX GAS 1617u

CG 1371u

MUD DATA @ 10283'

MW 9.6 FV 46 PV 15 YP 28

API FIL 7.0 GELS 8/12/19 pH 9.6

CL- 800 Ca+ 40 SOL 6.2

24 HR LOSSES 925 bbls

MAX GAS 1296u

MW IN 9.6 VIS 46

CG 1544u

MW OUT 9.7 VIS 46

SILTSTONE = MEDIUM GRAY TO BROWNISH

GRAY, LIGHT GRAY TO WHITEISH GRAY, DUSKY

BROWN TO MODERATE REDDISH BROWN;

TOUGH TO CRUNCHY TENACITY; FRACTURE

HACKLY TO IRREGULAR; CUTTINGS HABIT

MASSIVE TO SOMEWHAT WEDGE LIKE; DULL

TO EARTHY LUSTER; TEXTURE SILTY WITH

SLIGHT GRITTIENESS; STRUCTURE MASSIVE.

CARBONACEOUS SHALE = DARK GREY TO MED

DARK GREY WITH SOME BLACK; BRITTLE TO

CRUNCHY TENACITY; BLOCKY TO SEMI PLANAR

TO SPLINTERY FRACTURE; PLATY TO FLAKY TO

WEDGELIKE CUTTINGS HABIT; MATTE TO

WAXY TO RESINOUS LUSTER; SMOOTH TO

CLAYEY TEXTURE; LAMINAR TO BANDED

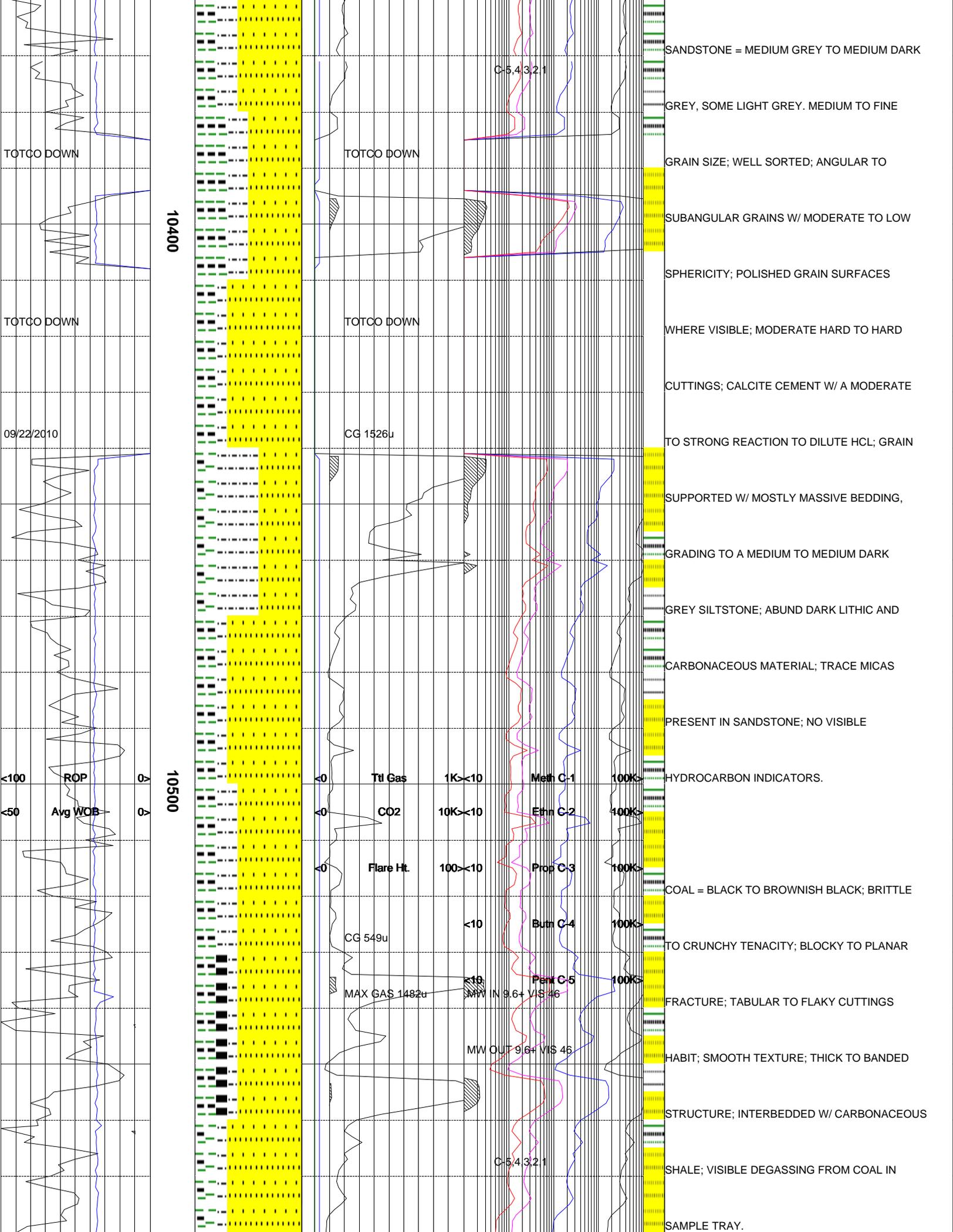
STRUCTURE, INTERBEDDED WITH THIN BANDS

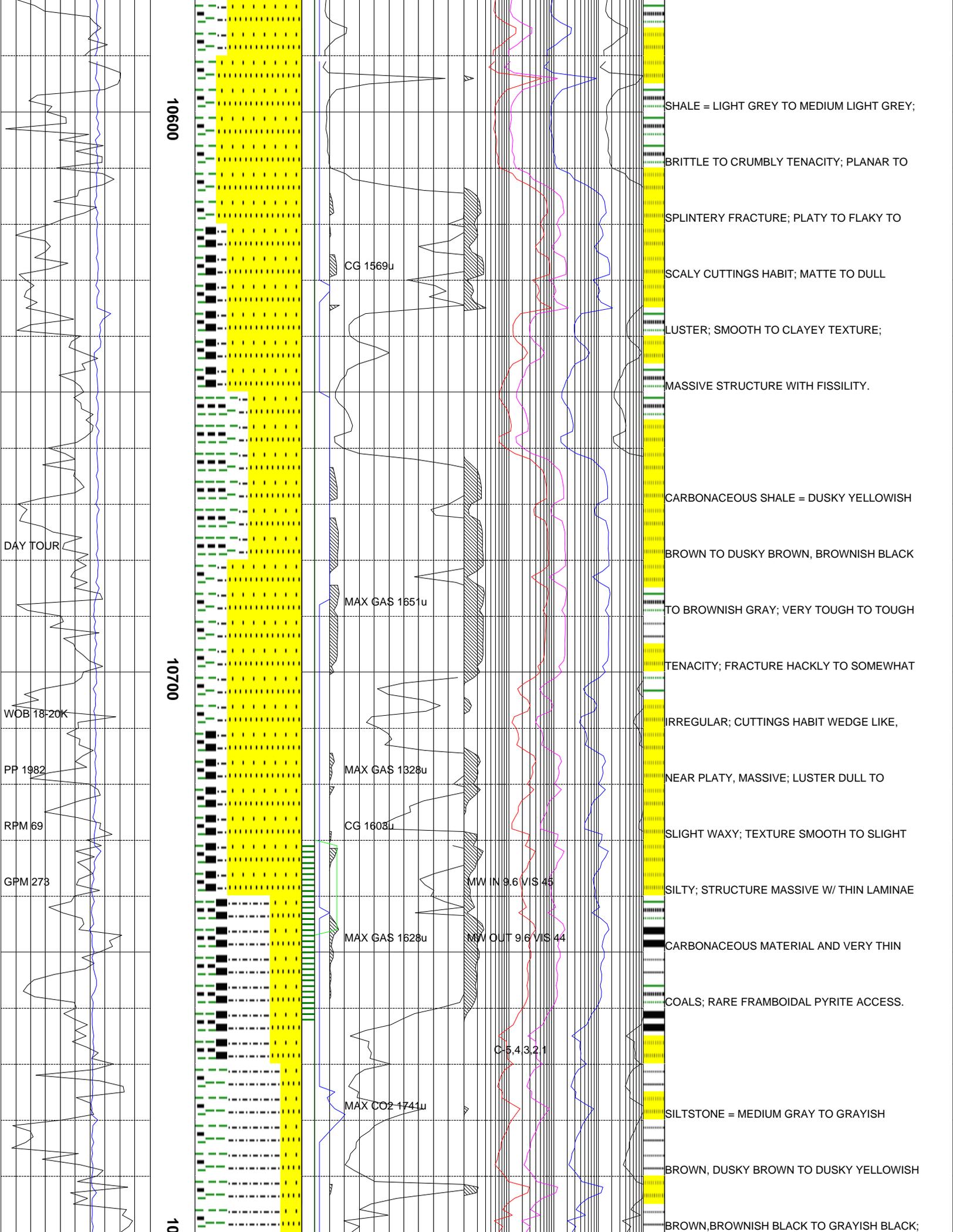
AND FLECKS OF COAL AND TRACE NODULES

OF PYRITE; NO VISIBLE DEGASSING FROM

COAL BANDS.

NIGHT TOUR





10600

10700

10

DAY TOUR

WOB 18-20K

PP 1982

RPM 69

GPM 273

CG 1569u

MAX GAS 1651u

MAX GAS 1328u

CG 1603u

MAX GAS 1628u

MAX CO2 1741u

MW IN 9.6 VIS 45

MW OUT 9.6 VIS 44

C-5.4321

SHALE = LIGHT GREY TO MEDIUM LIGHT GREY;

BRITTLE TO CRUMBLY TENACITY; PLANAR TO

SPLINTERED FRACTURE; PLATY TO FLAKY TO

SCALY CUTTINGS HABIT; MATTE TO DULL

LUSTER; SMOOTH TO CLAYEY TEXTURE;

MASSIVE STRUCTURE WITH FISSILITY.

CARBONACEOUS SHALE = DUSKY YELLOWISH

BROWN TO DUSKY BROWN, BROWNISH BLACK

TO BROWNISH GRAY; VERY TOUGH TO TOUGH

TENACITY; FRACTURE HACKLY TO SOMEWHAT

IRREGULAR; CUTTINGS HABIT WEDGE LIKE,

NEAR PLATY, MASSIVE; LUSTER DULL TO

SLIGHT WAXY; TEXTURE SMOOTH TO SLIGHT

SILTY; STRUCTURE MASSIVE W/ THIN LAMINAE

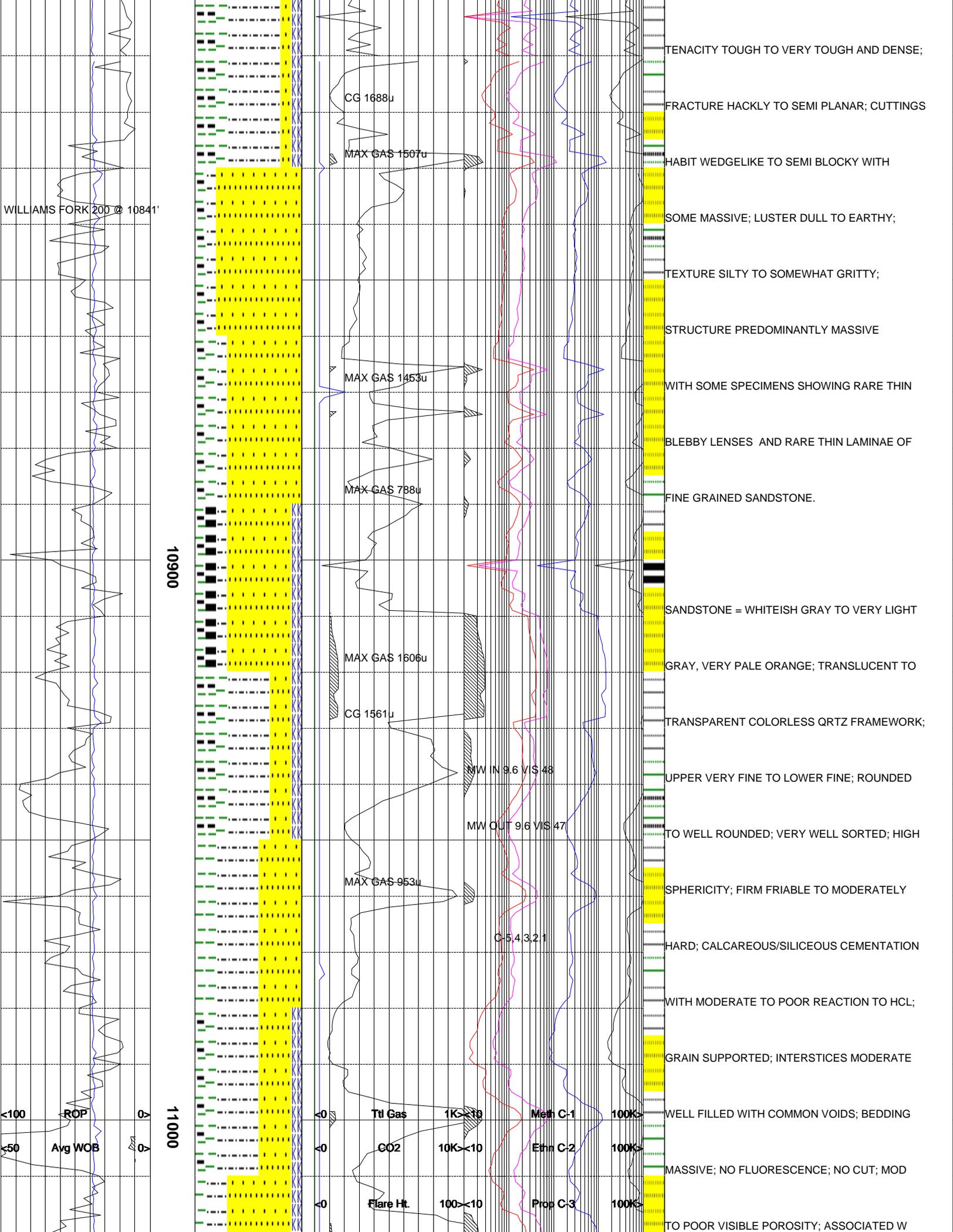
CARBONACEOUS MATERIAL AND VERY THIN

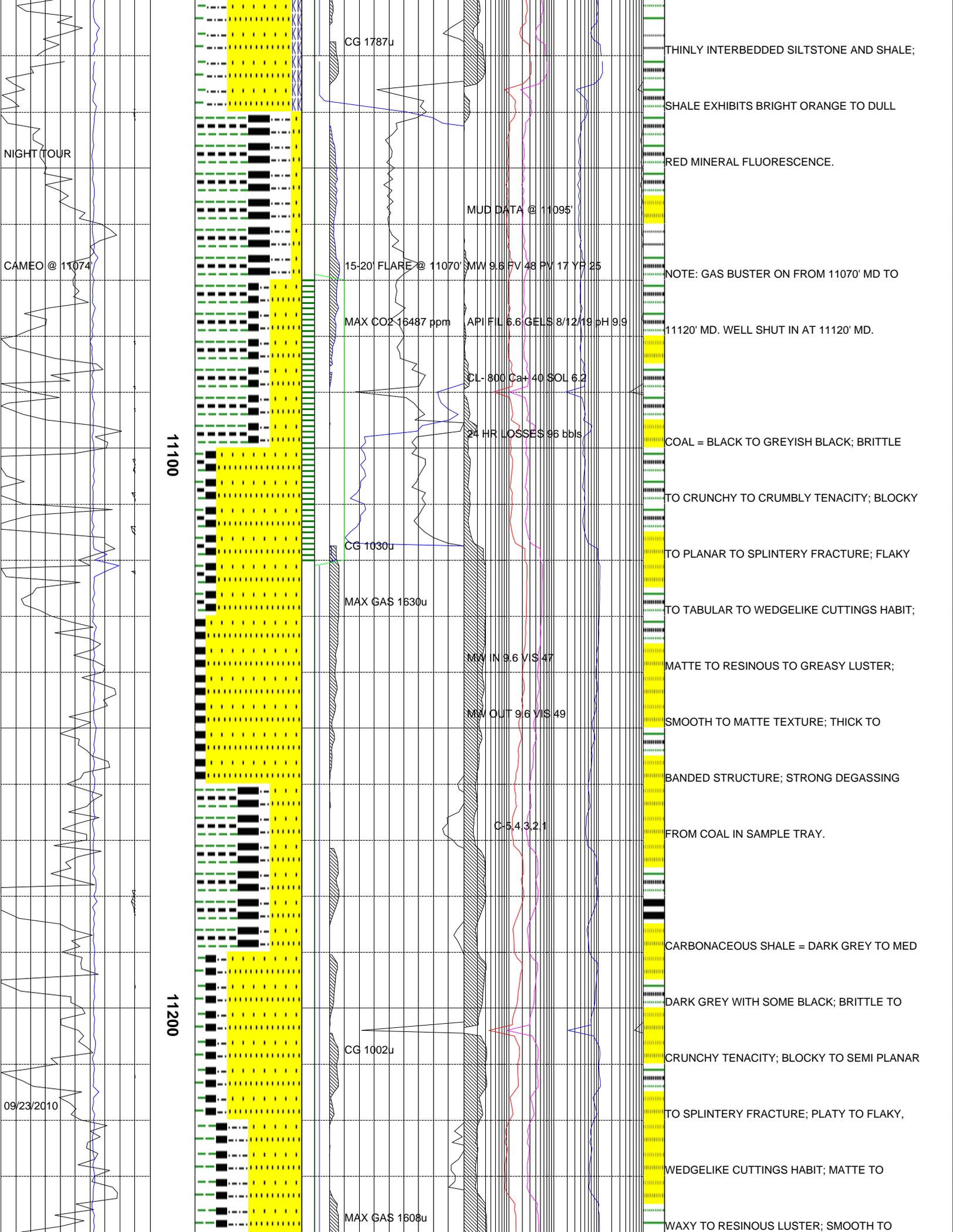
COALS; RARE FRAMBOIDAL PYRITE ACCESS.

SILTSTONE = MEDIUM GRAY TO GRAYISH

BROWN, DUSKY BROWN TO DUSKY YELLOWISH

BROWN, BROWNISH BLACK TO GRAYISH BLACK;

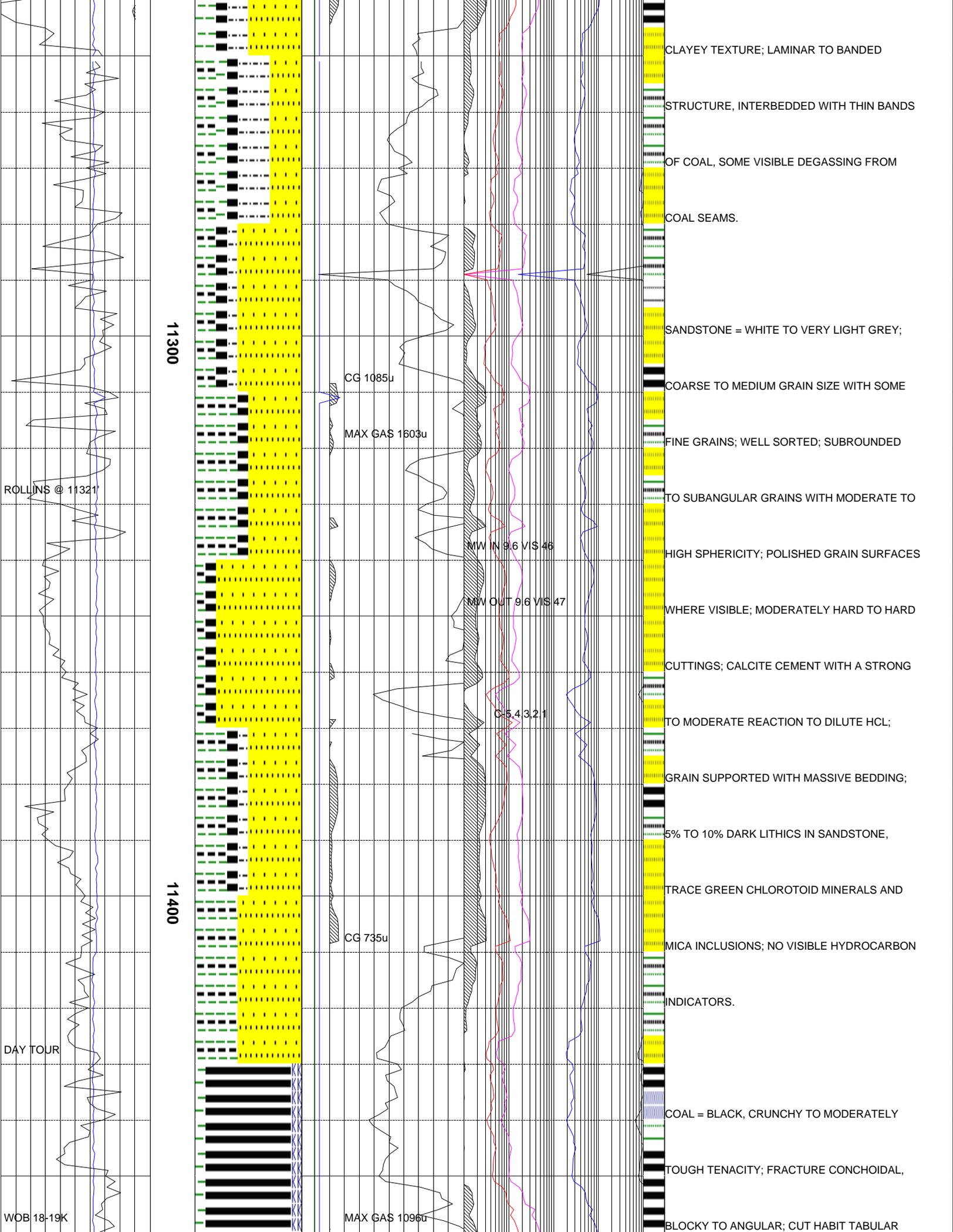


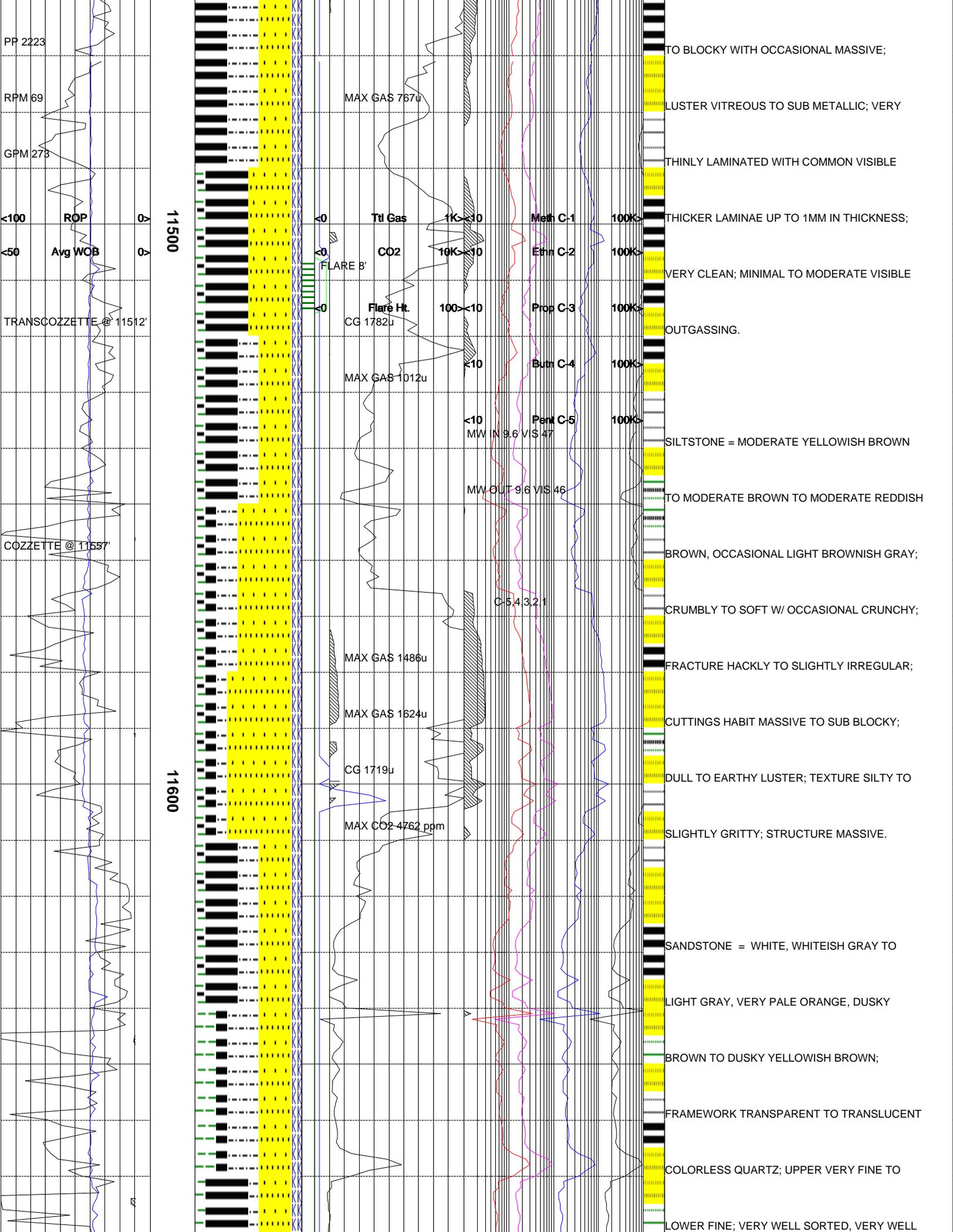


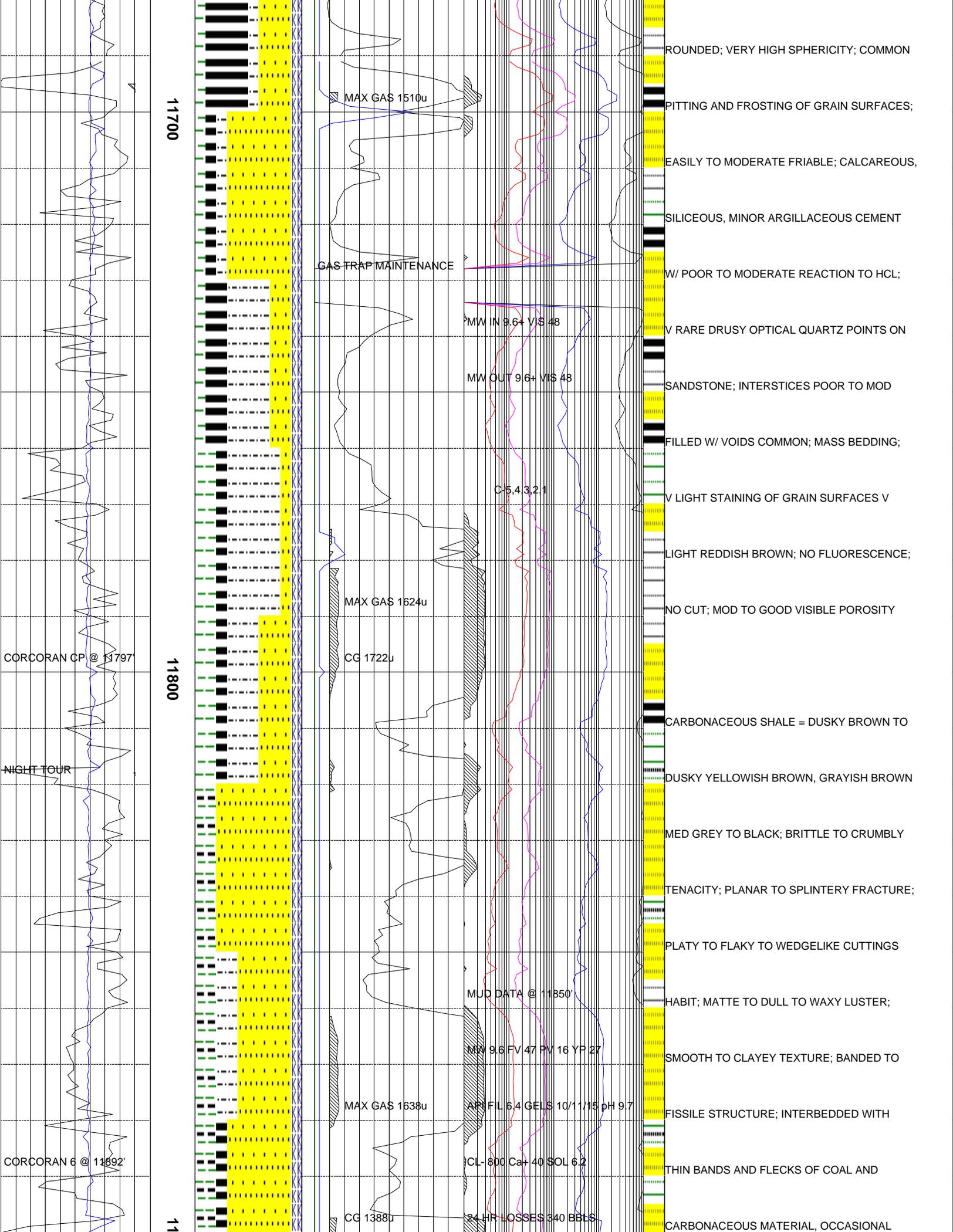
11100

11200

THINLY INTERBEDDED SILTSTONE AND SHALE;
 SHALE EXHIBITS BRIGHT ORANGE TO DULL
 RED MINERAL FLUORESCENCE.
 NOTE: GAS BUSTER ON FROM 11070' MD TO
 11120' MD. WELL SHUT IN AT 11120' MD.
 COAL = BLACK TO GREYISH BLACK; BRITTLE
 TO CRUNCHY TO CRUMBLY TENACITY; BLOCKY
 TO PLANAR TO SPLINTERY FRACTURE; FLAKY
 TO TABULAR TO WEDGELIKE CUTTINGS HABIT;
 MATTE TO RESINOUS TO GREASY LUSTER;
 SMOOTH TO MATTE TEXTURE; THICK TO
 BANDED STRUCTURE; STRONG DEGASSING
 FROM COAL IN SAMPLE TRAY.
 CARBONACEOUS SHALE = DARK GREY TO MED
 DARK GREY WITH SOME BLACK; BRITTLE TO
 CRUNCHY TENACITY; BLOCKY TO SEMI PLANAR
 TO SPLINTERY FRACTURE; PLATY TO FLAKY,
 WEDGELIKE CUTTINGS HABIT; MATTE TO
 WAXY TO RESINOUS LUSTER; SMOOTH TO







11700

11800

11

MAX GAS 1510u

GAS TRAP MAINTENANCE

MW IN 9.6+ VIS 48

MW OUT 9.6+ VIS 48

C 5.4 3.2 1

MAX GAS 1624u

CG 1722u

CORCORAN CP @ 11797

NIGHT TOUR

MUD DATA @ 11850

MW 9.6 FV 47 PV 16 YP 27

MAX GAS 1638u

API FIL 6.4 GELS 10/11/15 pH 9.7

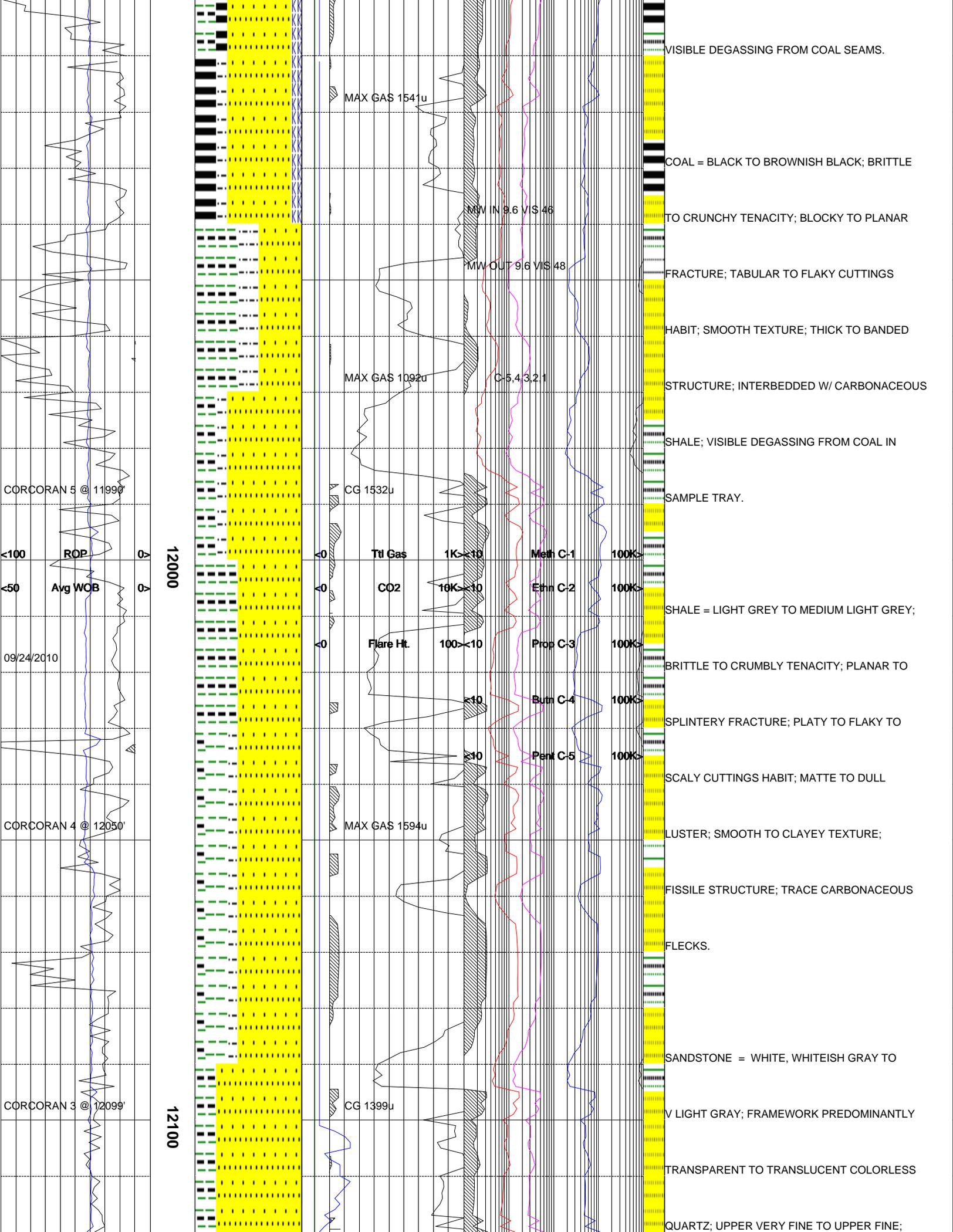
CORCORAN 6 @ 11892

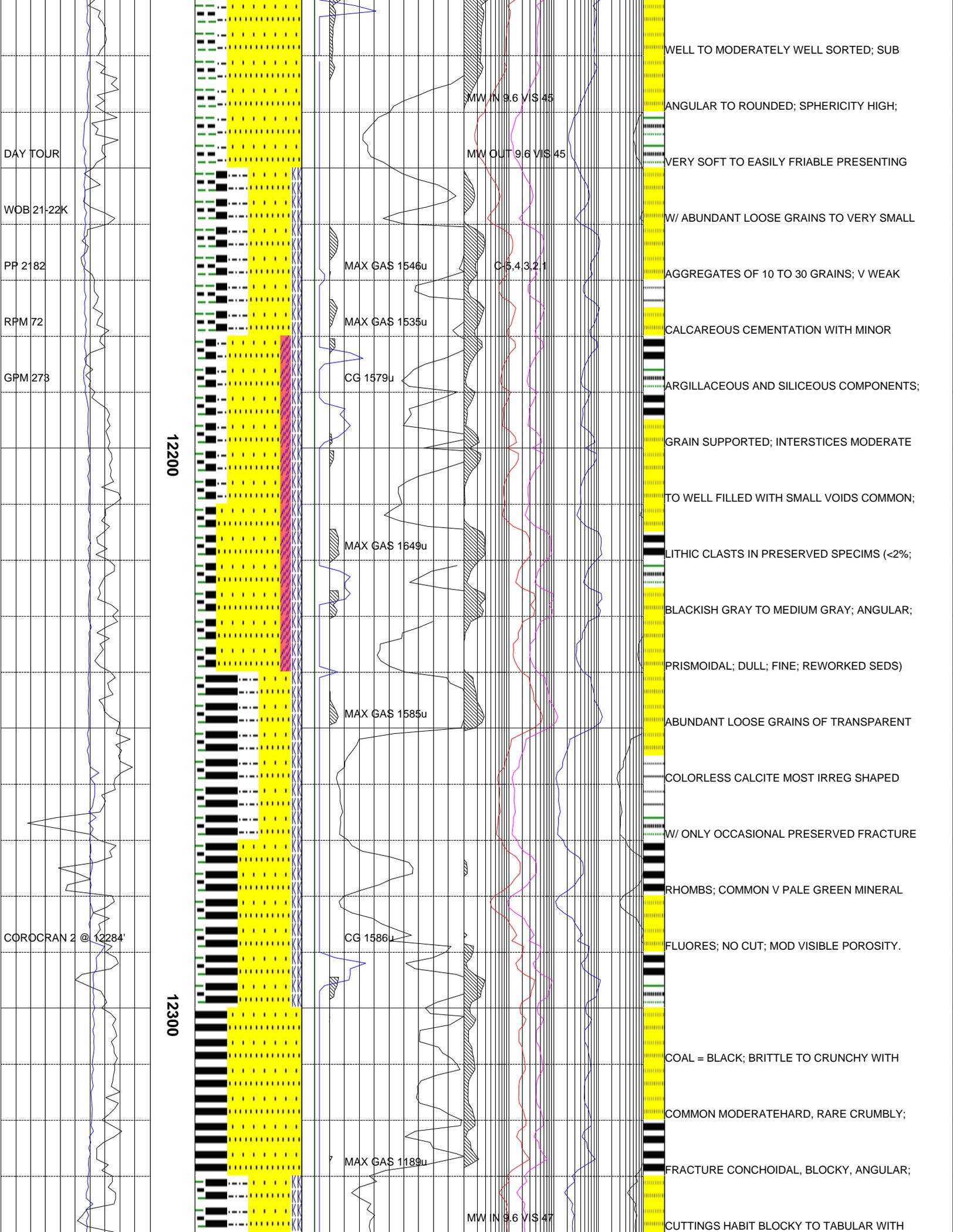
CL- 800 Ca+ 40 SOL 6.2

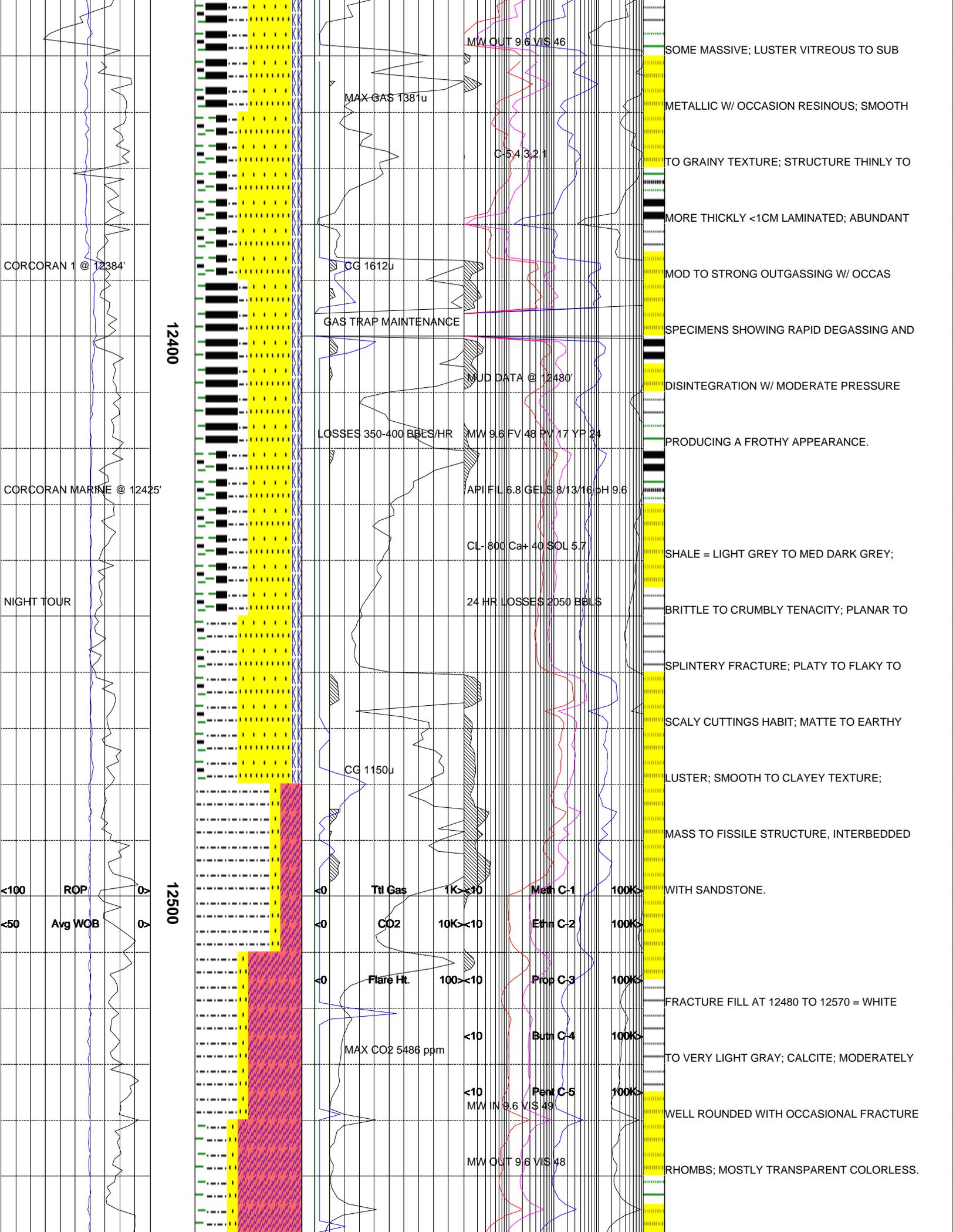
CG 1388u

24 HR LOSSES 340 BBLS

ROUNDED; VERY HIGH SPHERICITY; COMMON
 PITTING AND FROSTING OF GRAIN SURFACES;
 EASILY TO MODERATE FRIABLE; CALCAREOUS,
 SILICEOUS, MINOR ARGILLACEOUS CEMENT
 W/ POOR TO MODERATE REACTION TO HCL;
 V RARE DRUSY OPTICAL QUARTZ POINTS ON
 SANDSTONE; INTERSTICES POOR TO MOD
 FILLED W/ VOIDS COMMON; MASS BEDDING;
 V LIGHT STAINING OF GRAIN SURFACES V
 LIGHT REDDISH BROWN; NO FLUORESCENCE;
 NO CUT; MOD TO GOOD VISIBLE POROSITY
 CARBONACEOUS SHALE = DUSKY BROWN TO
 DUSKY YELLOWISH BROWN, GRAYISH BROWN
 MED GREY TO BLACK; BRITTLE TO CRUMBLY
 TENACITY; PLANAR TO SPLINTERY FRACTURE;
 PLATY TO FLAKY TO WEDGELIKE CUTTINGS
 HABIT; MATTE TO DULL TO WAXY LUSTER;
 SMOOTH TO CLAYEY TEXTURE; BANDED TO
 FISSILE STRUCTURE; INTERBEDDED WITH
 THIN BANDS AND FLECKS OF COAL AND
 CARBONACEOUS MATERIAL, OCCASIONAL







09/25/2010

12600

12700

CG 1705u

C-5.4321

SILTSTONE = MEDIUM LIGHT TO MED DARK

GREY; TOUGH TO DENSE TENACITY; IRREG

TO MOTTLED FRACTURE; MASS TO FLAKY TO

WEDGELIKE CUTTINGS HABIT; MATTE TO

FROSTED LUSTER; SMOOTH TO SILTY

TEXTURE; MASSIVE STRUCTURE.

NOTE: TD WELL AT 12652' MD / 12427'

TVD ON 09/25/2010.

