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Houston, TX
(281) 784-5500
Bakersfield, CA
(661) 328-1595
New Iberia, LA
(337) 364-2322
Anchorage, AK
(907) 561-2465

MUDLOG MD

COMPANY EXXON MOBIL
WELL PCU 197-34B8
FIELD PICEANCE CREEK
REGION ROCKY MOUNTAINS
COORDINATES 39.915659000
108.261198000
ELEVATION 6,649.1'
COUNTY, STATE RIO BLANCO, CO
API INDEX 05-103-11082-00
SPUD DATE 12/13/2008
CONTRACTOR H_P
CO. REP. S.GUYOTE/W.GARNER
RIG/TYPE # 320/FLEX 4S+
LOGGING UNIT MLU # 032
GEOLOGISTS J.KEEVAN
C.RECORD/C.PIERCE
ADD. PERSONS M.PIPER/B. HICKS
T.WALKER
CO. GEOLOGIST CHRIS ALBA

LOG INTERVAL

CASING DATA

DEPTHS: 4,000' TO 12,645'
DATES: 9/30/2009 TO 12/28/2009
SCALE: 5"=100'

15" AT 150'
10.75" AT 3,976'
7" AT 8,794'

AT

MUD TYPES

HOLE SIZE

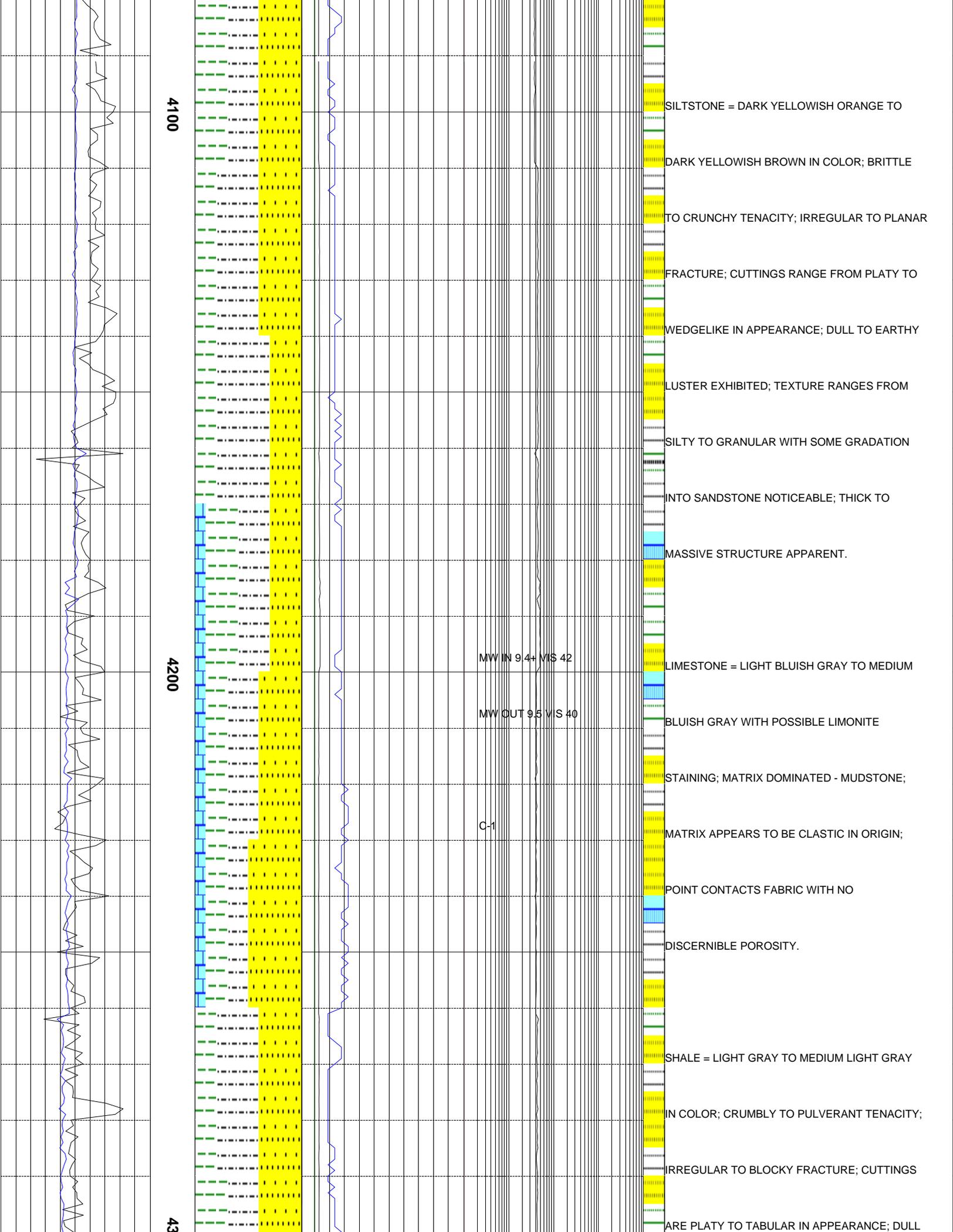
LSND TO 12,645'
TO
TO
TO
TO

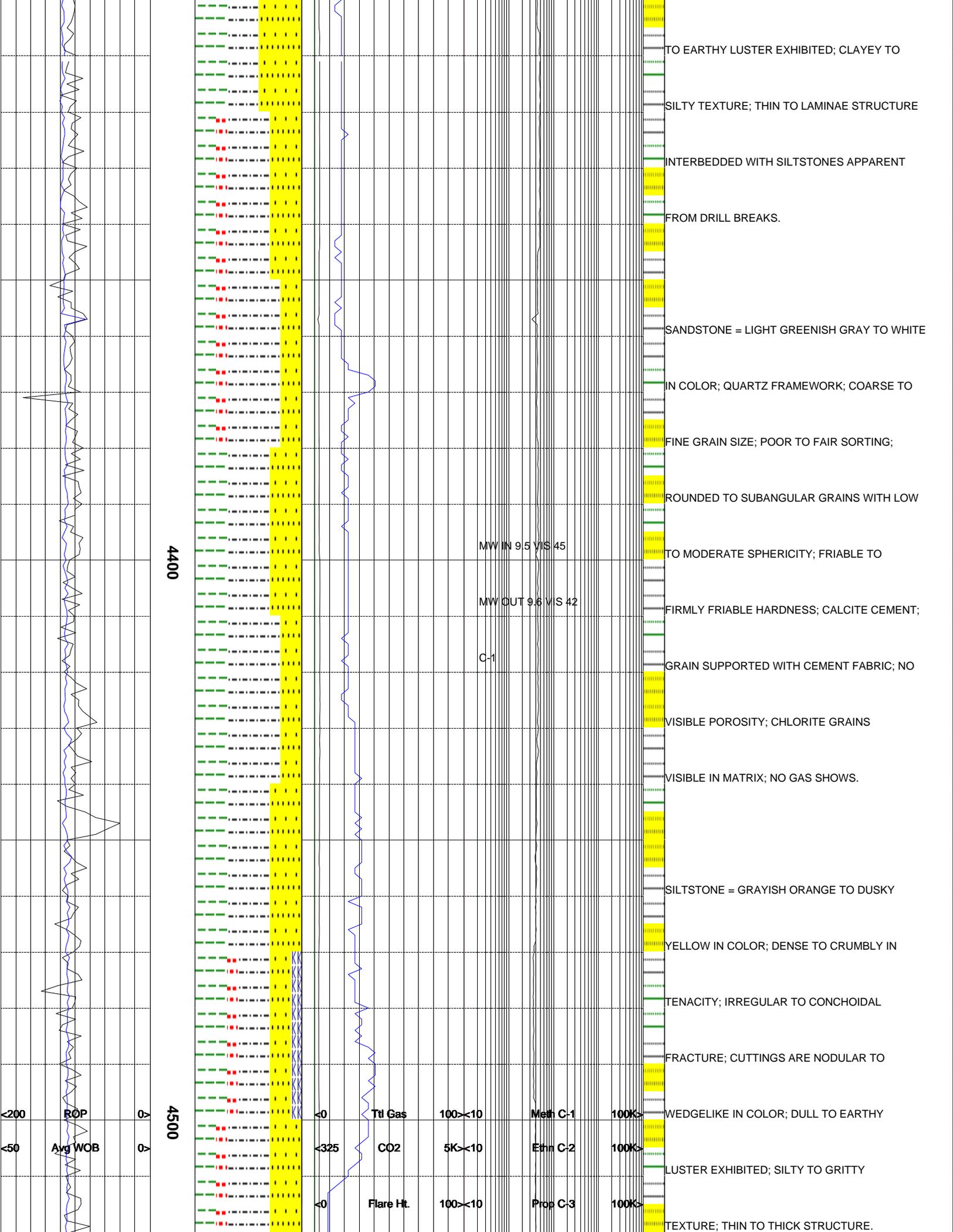
14.75" TO 4,000'
9.875" TO 8,806'
6.125" TO 12,645'
TO

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	





NIGHT TOUR

4600

4700

MAX CO2 5169ppm

MW IN 9.5 VIS 56

MW OUT 9.6 VIS 47

C-1

SHALE = LIGHT GRAY TO MODERATE GREENISH

YELLOW WITH GRAYISH PURPLE HUES; BRITTLE

TENACITY; PLANAR TO IRREGULAR FRACTURING

PLATY TO SCALY CUTTINGS; DULL TO WAXY

LUSTER; SMOOTH TEXTURE; THIN TO LAMINAE

STRUCTURE.

SANDSTONE = LIGHT GREENISH GRAY TO LIGHT

OLIVE GRAY TO LIGHT GRAY; FRAMEWORK

CONSISTS OF MOSTLY QUARTZ; MEDIUM TO

FINE SIZED GRAINS WITH POOR SORTING;

SUBROUNDED TO SUBANGULAR WITH MODERATE

SPHERICITY; FIRMLY FRIABLE WITH CALCITE

CEMENT; MODERATE REACTION WITH HCL.

SILTSTONE = PALE REDDISH BROWN TO

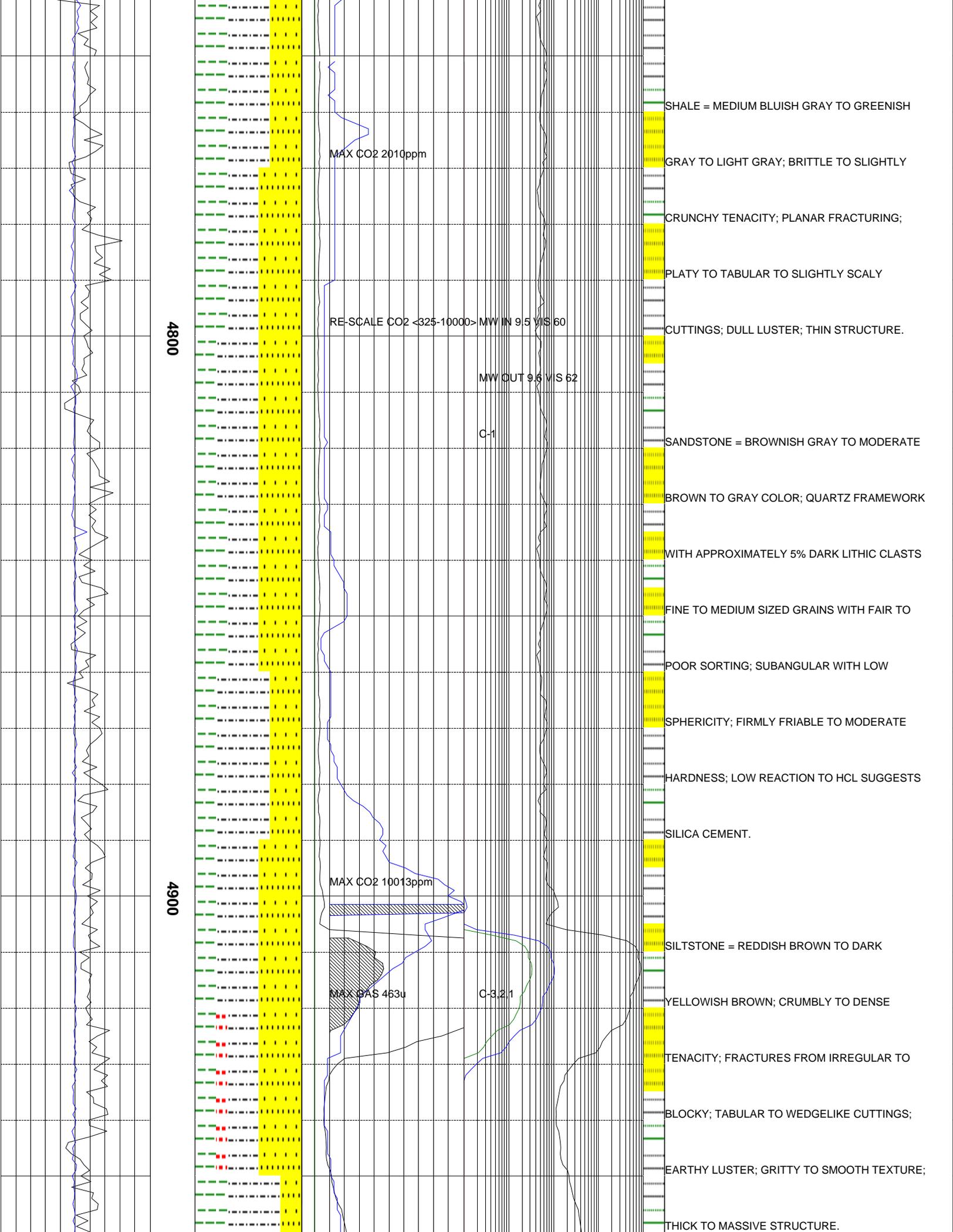
MODERATE BROWN; DENSE TO CRUMBLY

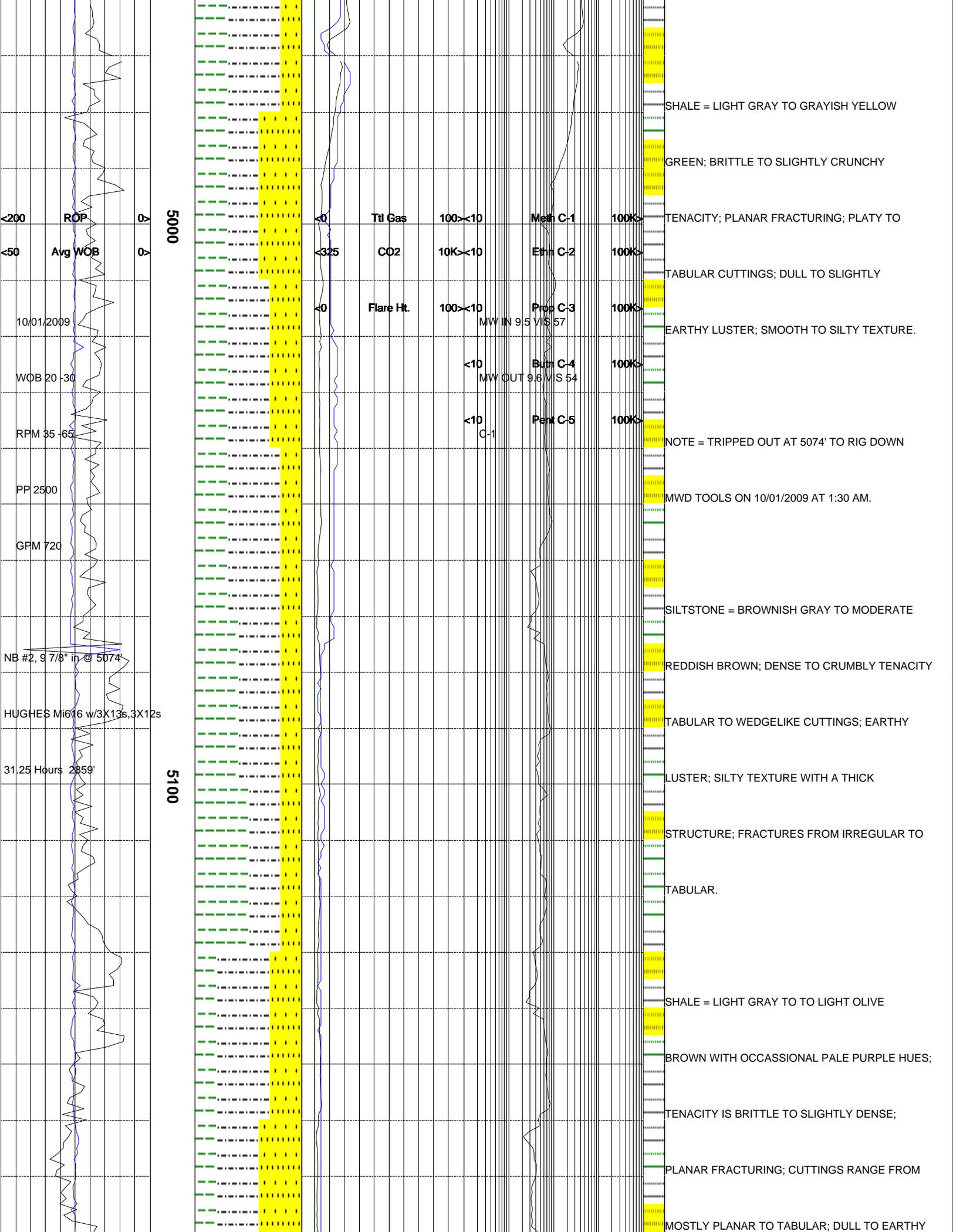
TENACITY; BLOCKY TO IRREGULAR FRACTURING

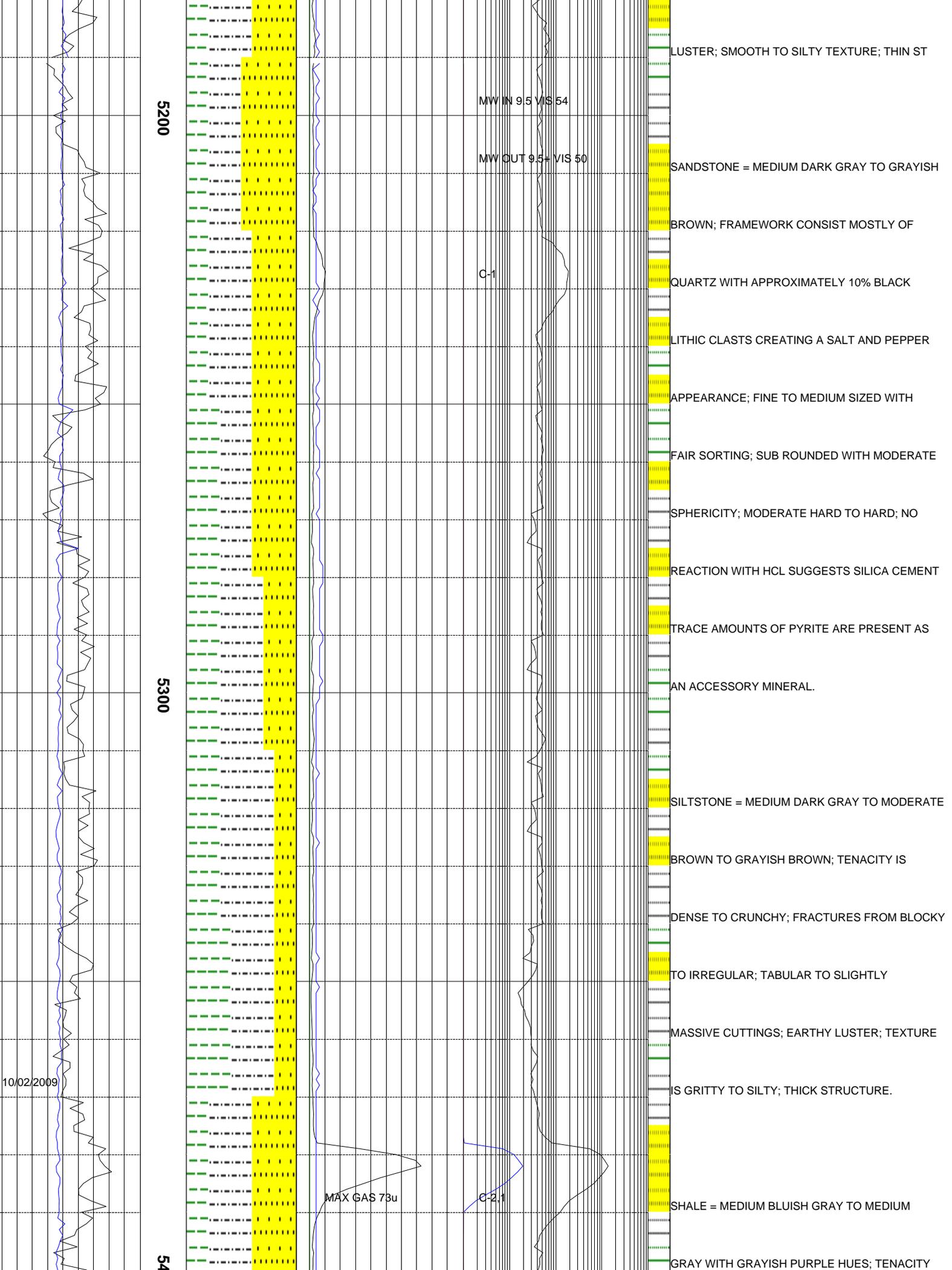
TABULAR CUTTINGS; EARTHY WITH A SLIGHT

FROSTED LUSTER; GRITTY TO SILTY TEXTURE;

THICK TO MASSIVE STRUCTURE.





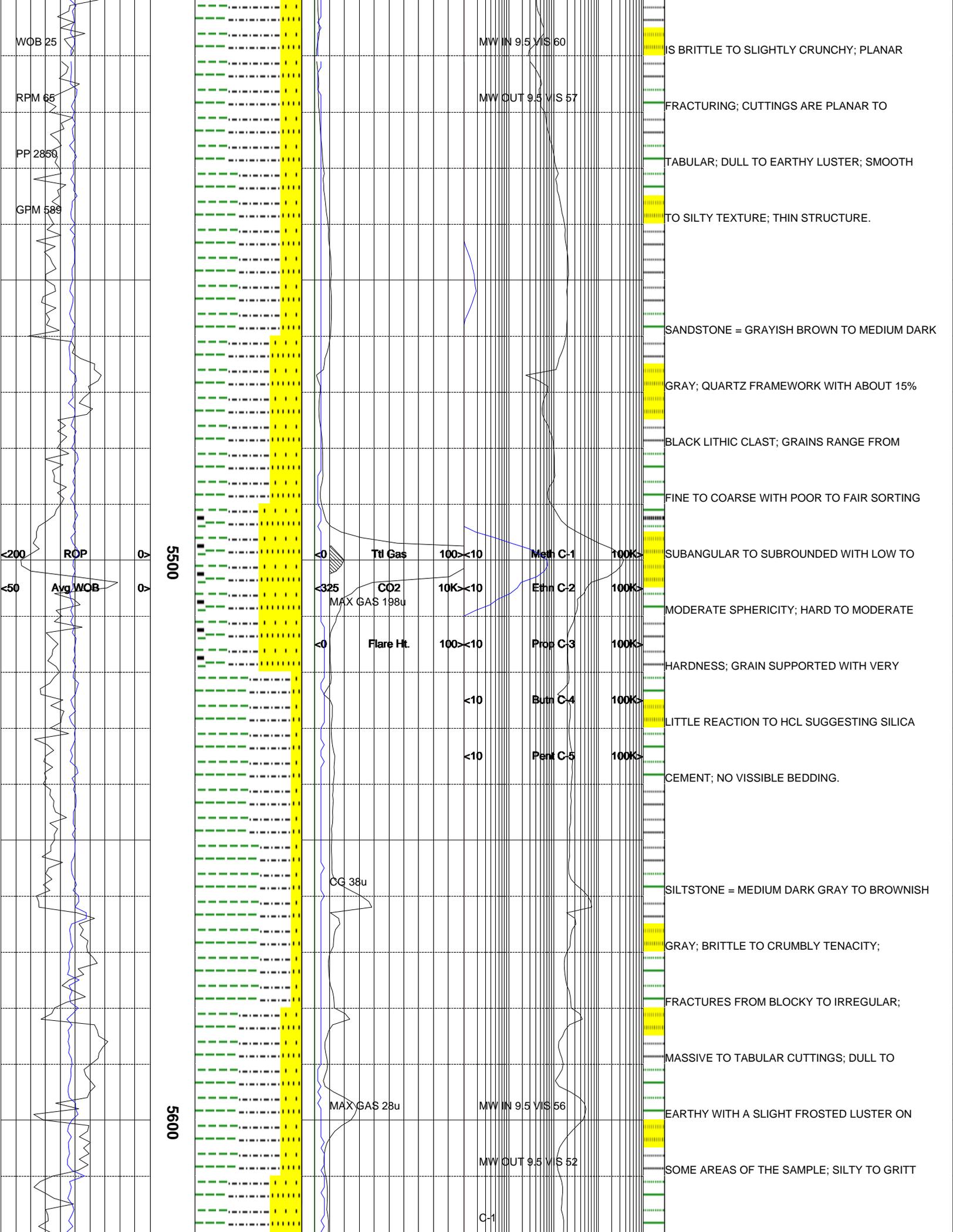


5200

5300

54

10/02/2009



WASATCH G @ 5640'

NOTE = LOST RETURNS FROM 5659' MD TO

5671' MD.

MAX GAS 194u

SANDSTONE = TRANSLUCENT TO WHITE TO VERY

LOST RETURNS @ 5659'

LIGHT GRAY; QUARTZ FRAMEWORK; COARSE TO

FINE GRAINED WITH POOR SORTING;

SUBANGULAR WITH POOR SPHERICITY; FRIABLE

TO FIRMLY FRIABLE WITH MANY LOOSE GRAINS

MILD REACTION TO HCL SUGGESTS CALCITE/

MAX GAS 263u

SILICA CEMENT; PYRITE PRESENT AS AN

ACCESSORY MINERAL.

5700

SHALE = LIGHT TO MEDIUM DARK GRAY;

MAX GAS 134u

BRITTLE TO CRUNCHY TENACITY; PLANAR

MAX CO2 14225ppm

FRACTURING; PLATY TO SCALY CUTTINGS;

MAX GAS 236u

DULL TO EARTHY LUSTER; SMOOTH TO SILTY

DAY TOUR

TEXTURE; LAMINAE TO THIN STRUCTURE.

WQB 27

5800

RPM 64

MW IN 9.4 VIS 59

SILTSTONE = PALE RED TO GRAYISH RED IN

PP 2939

MW OUT 9.4+ VIS 55

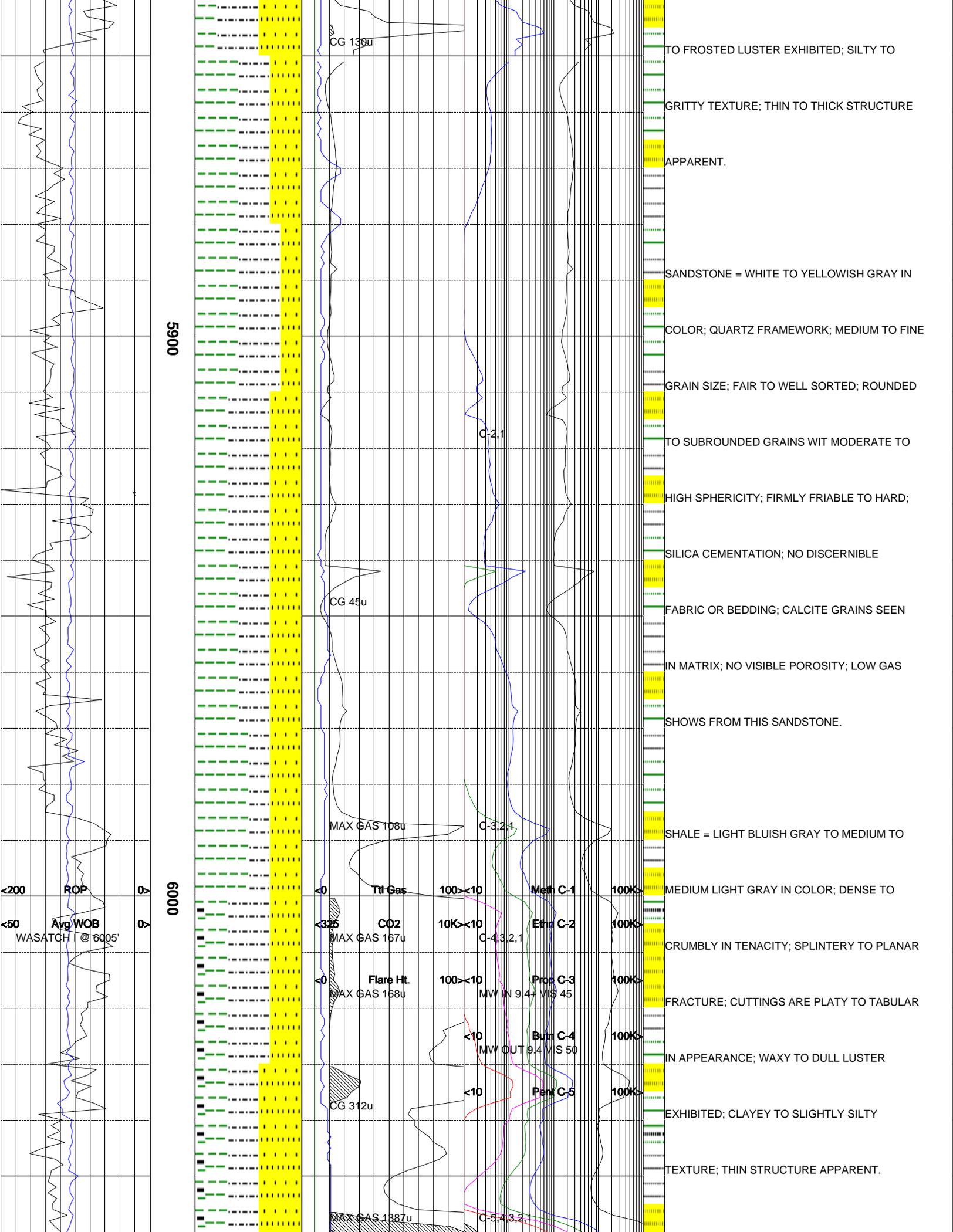
COLOR; BRITTLE TO NEARLY PULVERANT IN

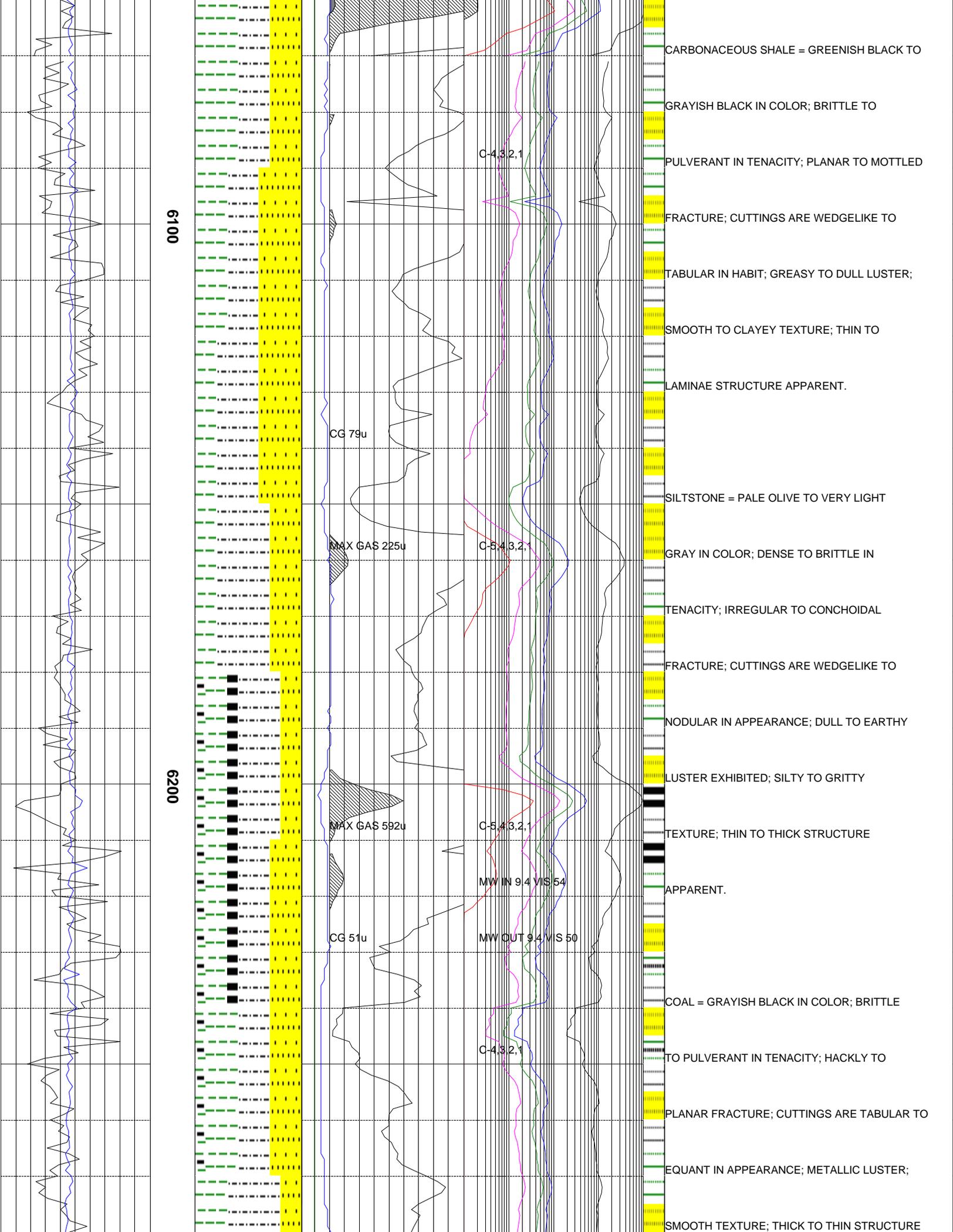
GPM 589

TENACITY; MOTTLED TO IRREGULAR FRACUTRE;

C-2.1

CUTTINGS ARE TABULAR TO WEDGELIKE; DULL





6100

6200

CARBONACEOUS SHALE = GREENISH BLACK TO GRAYISH BLACK IN COLOR; BRITTLE TO PULVERANT IN TENACITY; PLANAR TO MOTTLED FRACTURE; CUTTINGS ARE WEDGELIKE TO TABULAR IN HABIT; GREASY TO DULL LUSTER; SMOOTH TO CLAYEY TEXTURE; THIN TO LAMINAE STRUCTURE APPARENT.

SILTSTONE = PALE OLIVE TO VERY LIGHT GRAY IN COLOR; DENSE TO BRITTLE IN TENACITY; IRREGULAR TO CONCHOIDAL FRACTURE; CUTTINGS ARE WEDGELIKE TO NODULAR IN APPEARANCE; DULL TO EARTHY LUSTER EXHIBITED; SILTY TO GRITTY TEXTURE; THIN TO THICK STRUCTURE APPARENT.

COAL = GRAYISH BLACK IN COLOR; BRITTLE TO PULVERANT IN TENACITY; HACKLY TO PLANAR FRACTURE; CUTTINGS ARE TABULAR TO EQUANT IN APPEARANCE; METALLIC LUSTER; SMOOTH TEXTURE; THICK TO THIN STRUCTURE

CG 79u

MAX GAS 225u

MAX GAS 592u

CG 51u

C-432.1

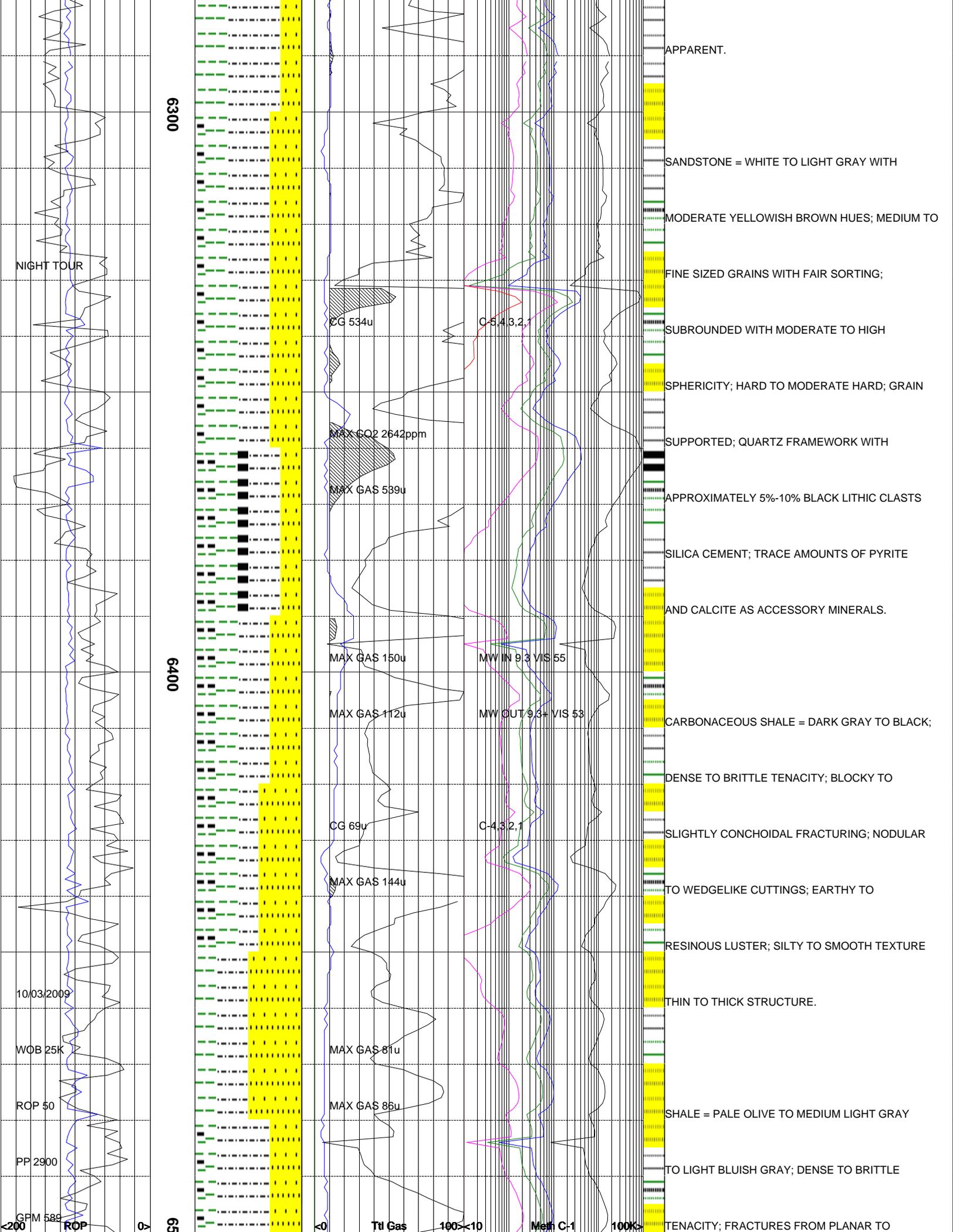
C-543.2.1

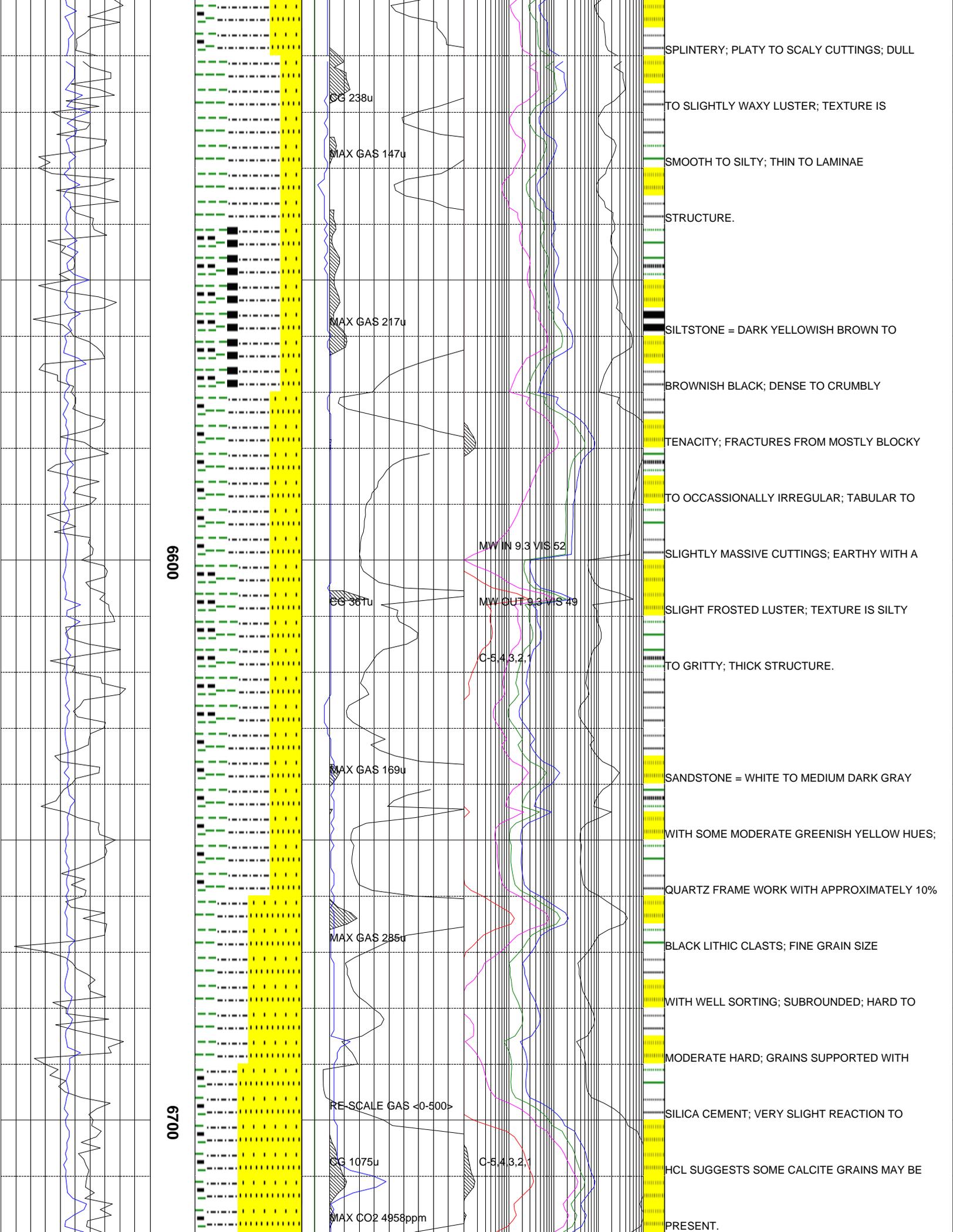
C-543.2.1

C-432.1

MW IN 9.4 VIS 54

MW OUT 9.4 VIS 50





06600

06700

CC 238u

MAX GAS 147u

MAX GAS 217u

CC 387u

MAX GAS 169u

MAX GAS 285u

RE-SCALE GAS <0-500>

CC 1075u

MAX CO2 4958ppm

MW IN 93 VIS 52

MW OUT 93 VIS 49

C-5.43.2.1

C-5.43.2.1

SPLINTERY; PLATY TO SCALY CUTTINGS; DULL

TO SLIGHTLY WAXY LUSTER; TEXTURE IS

SMOOTH TO SILTY; THIN TO LAMINAE

STRUCTURE.

SILTSTONE = DARK YELLOWISH BROWN TO

BROWNISH BLACK; DENSE TO CRUMBLY

TENACITY; FRACTURES FROM MOSTLY BLOCKY

TO OCCASSIONALLY IRREGULAR; TABULAR TO

SLIGHTLY MASSIVE CUTTINGS; EARTHY WITH A

SLIGHT FROSTED LUSTER; TEXTURE IS SILTY

TO GRITTY; THICK STRUCTURE.

SANDSTONE = WHITE TO MEDIUM DARK GRAY

WITH SOME MODERATE GREENISH YELLOW HUES;

QUARTZ FRAME WORK WITH APPROXIMATELY 10%

BLACK LITHIC CLASTS; FINE GRAIN SIZE

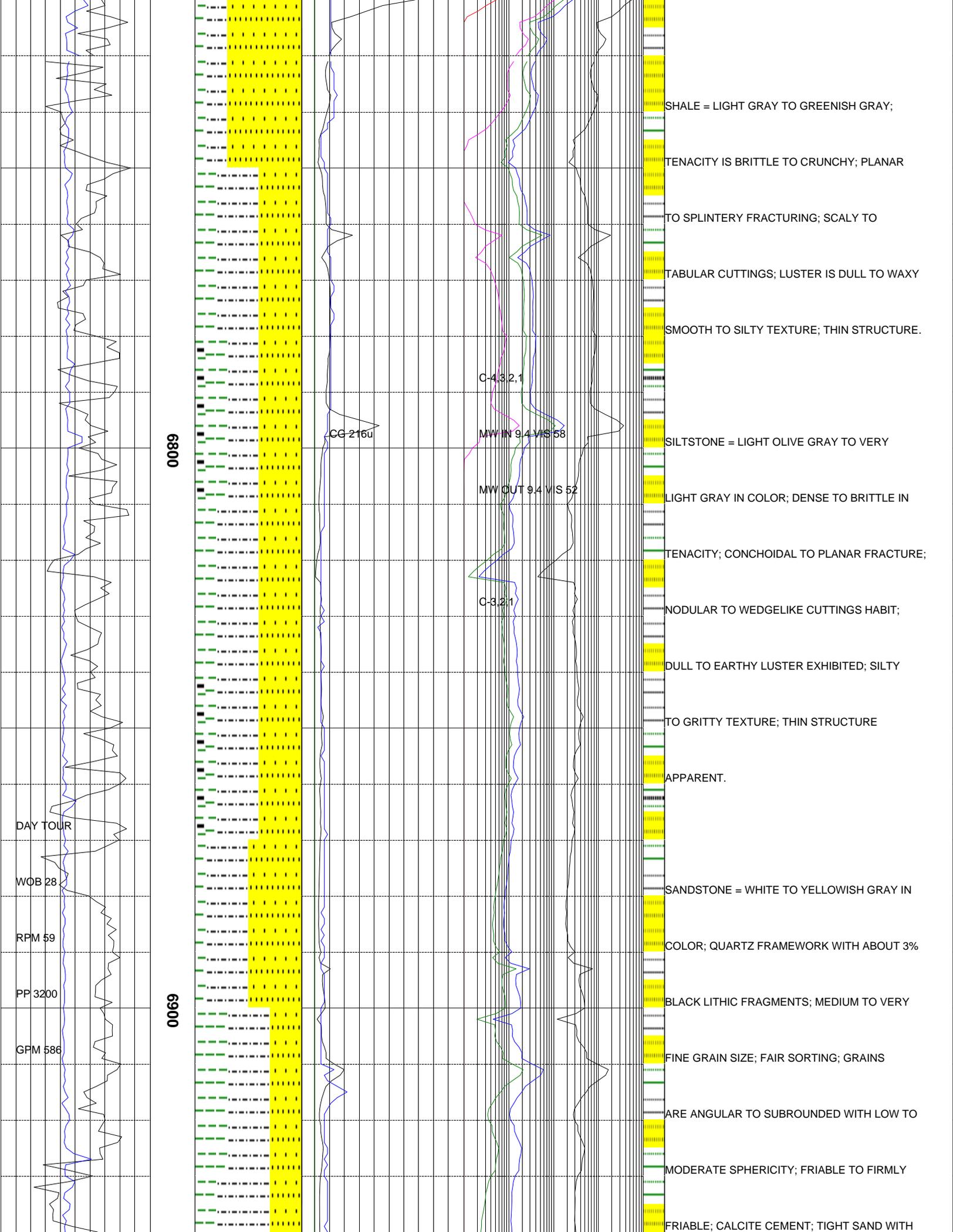
WITH WELL SORTING; SUBROUNDED; HARD TO

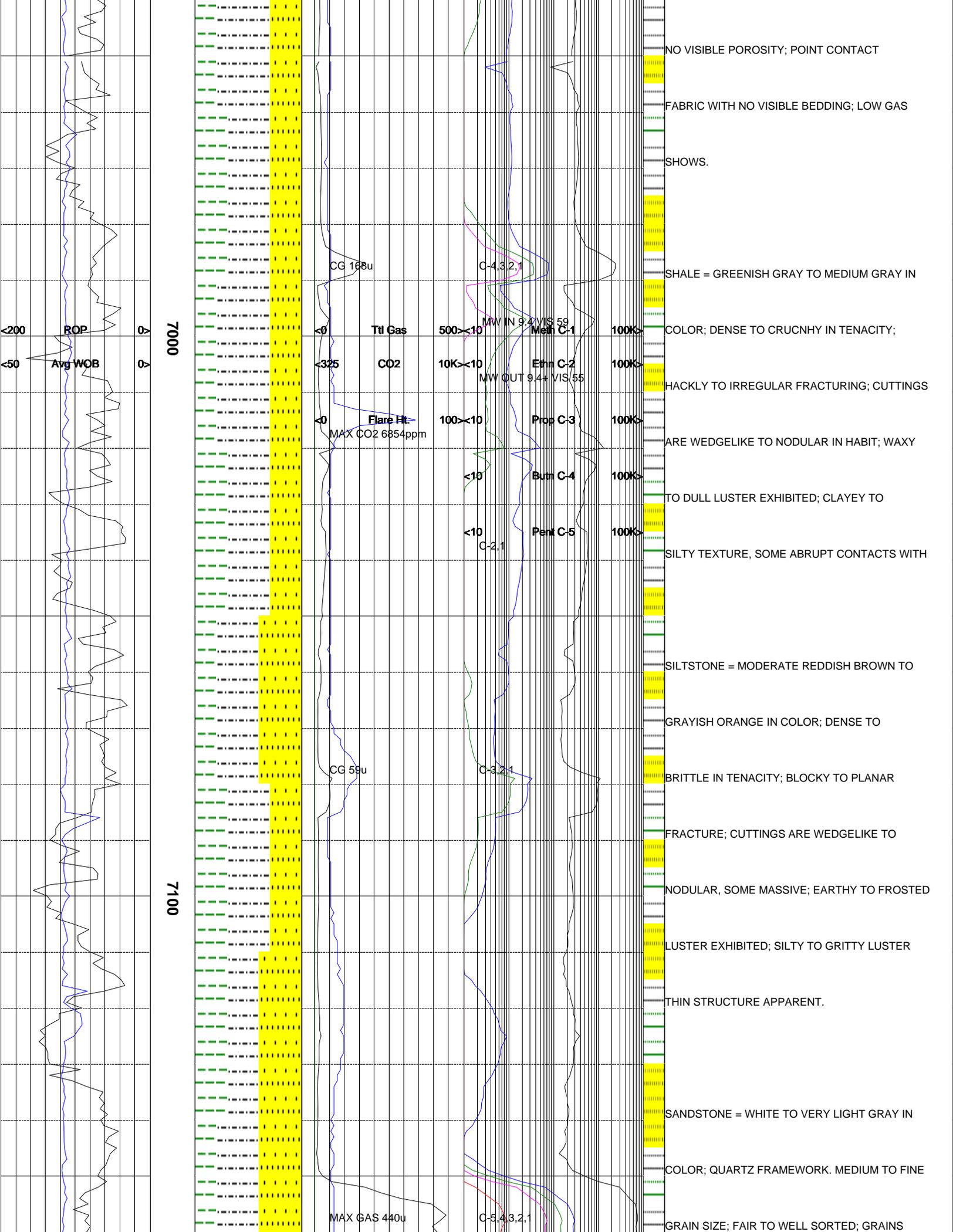
MODERATE HARD; GRAINS SUPPORTED WITH

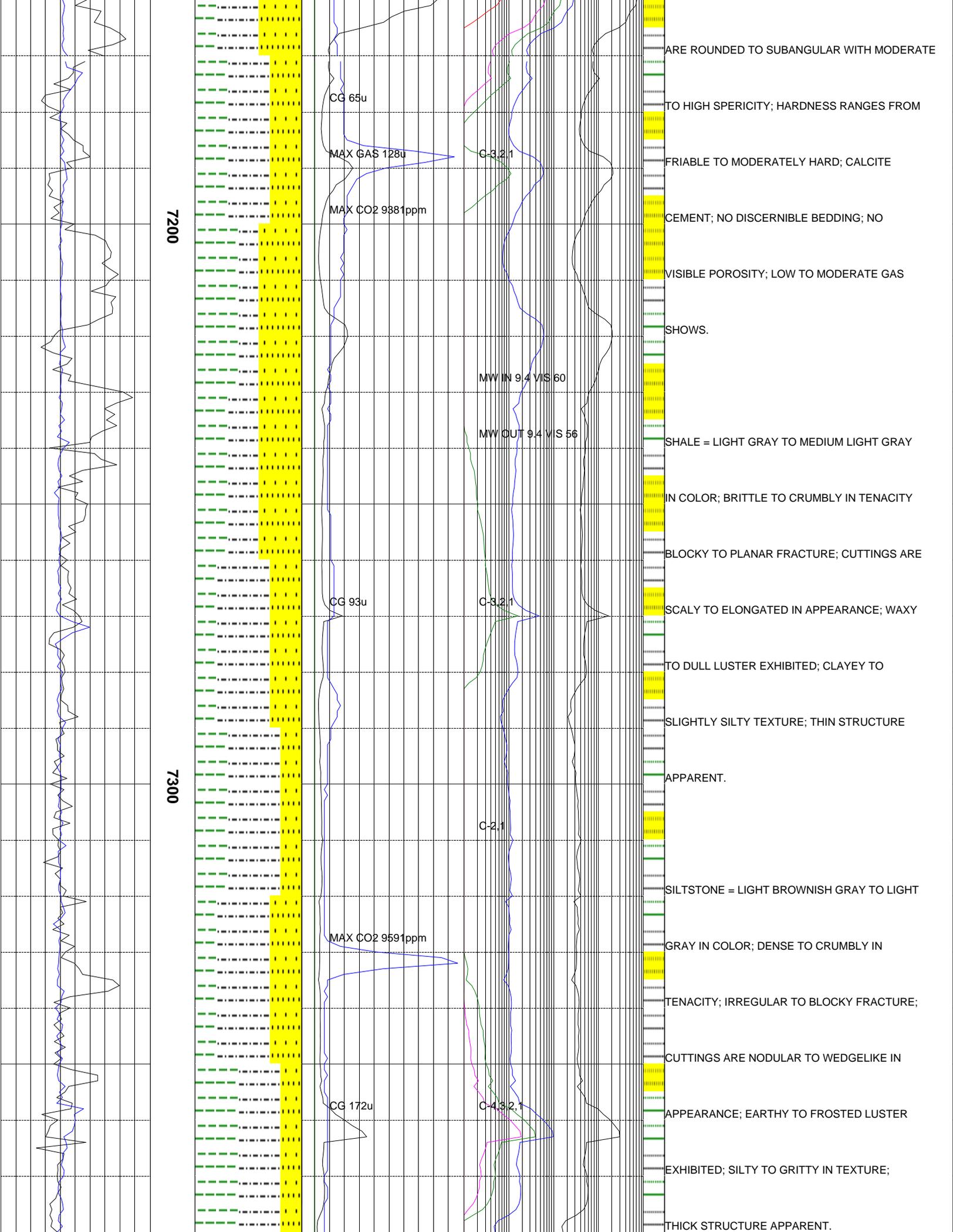
SILICA CEMENT; VERY SLIGHT REACTION TO

HCL SUGGESTS SOME CALCITE GRAINS MAY BE

PRESENT.







7200

7300

CG 65u

MAX GAS 128u

MAX CO2 9381ppm

C-3.2.1

MW IN 9.4 VIS 60

MW OUT 9.4 VIS 56

CG 93u

C-3.2.1

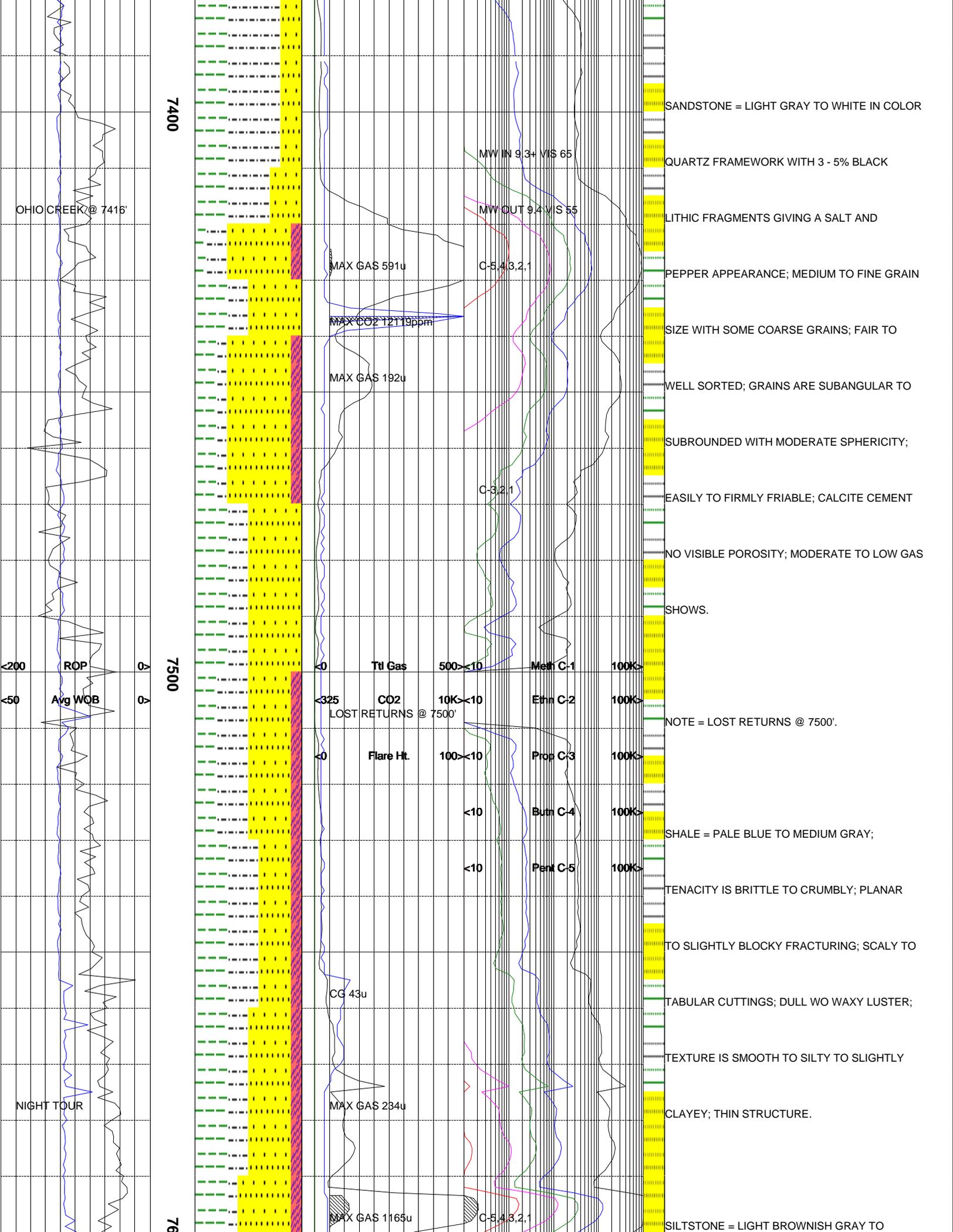
MAX CO2 9591ppm

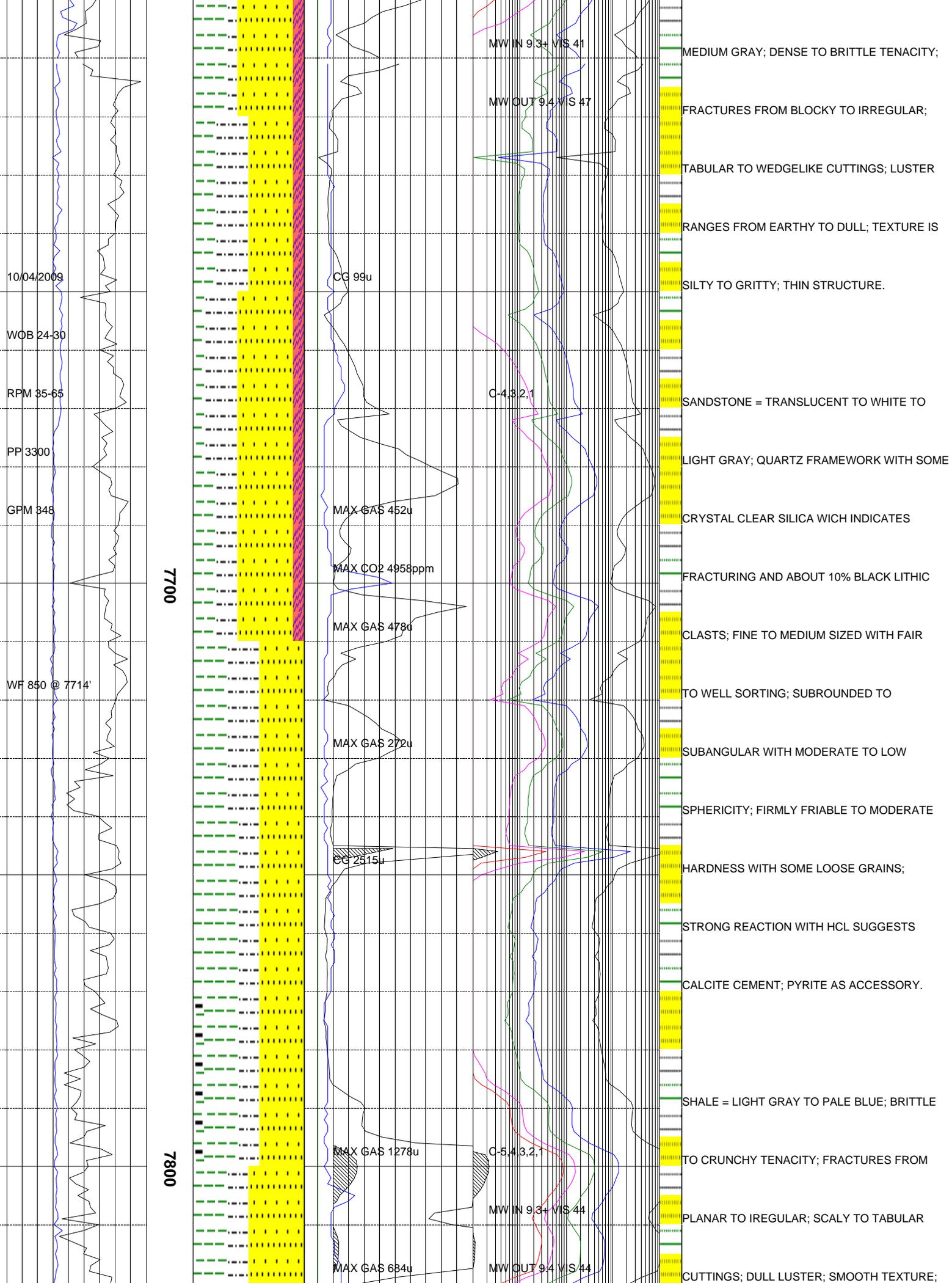
C-2.1

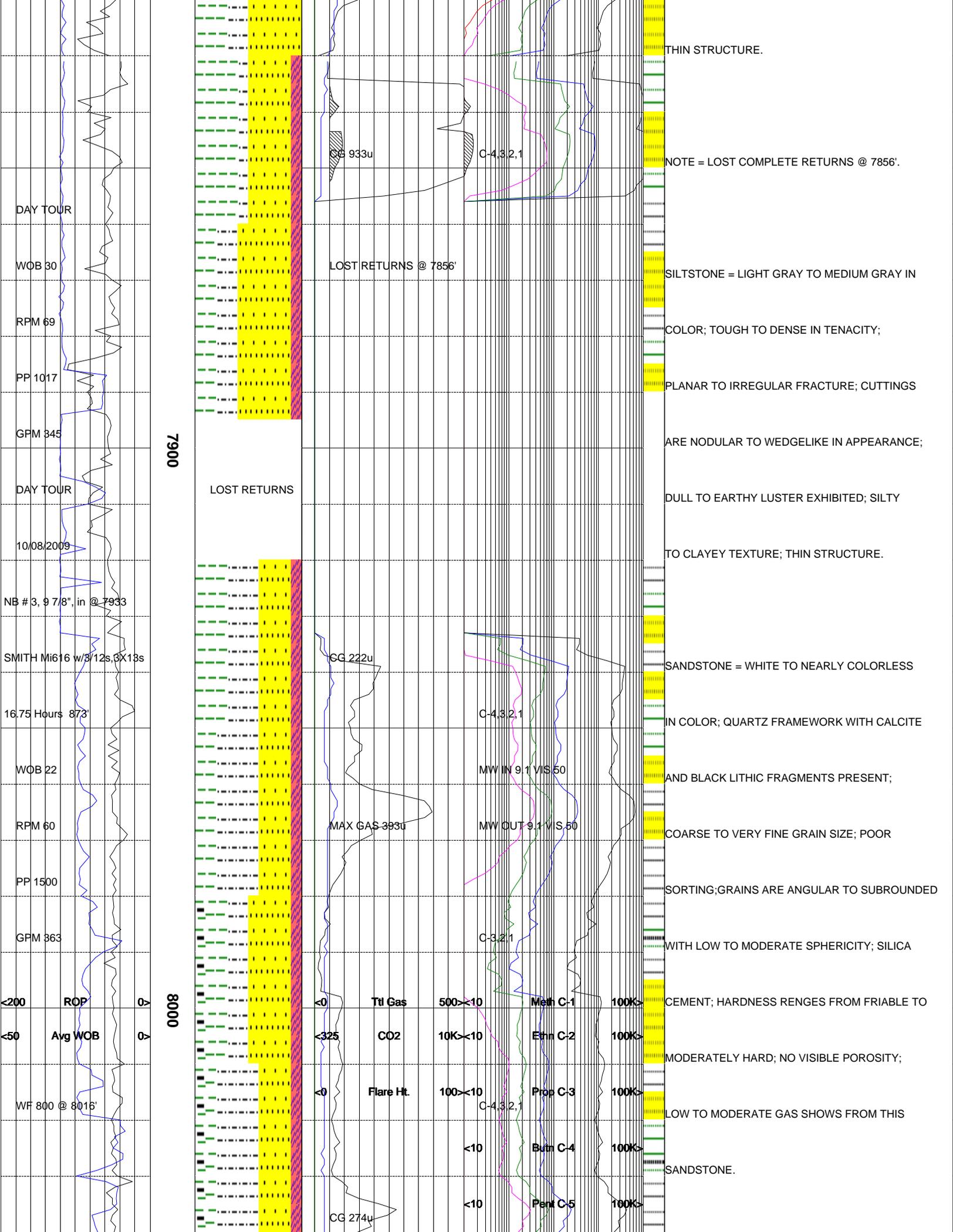
CG 172u

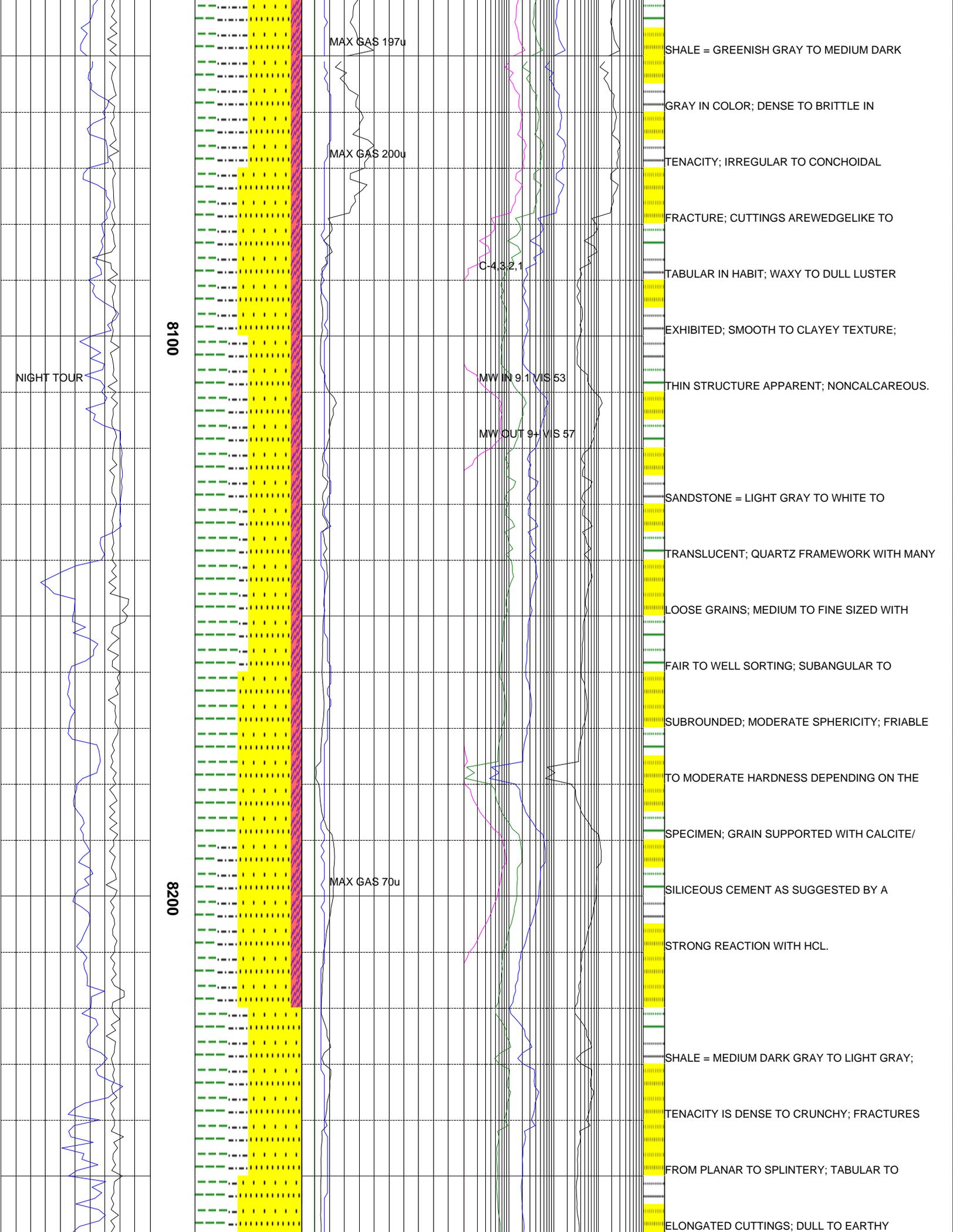
C-4.3.2.1

ARE ROUNDED TO SUBANGULAR WITH MODERATE
 TO HIGH SPERICITY; HARDNESS RANGES FROM
 FRIABLE TO MODERATELY HARD; CALCITE
 CEMENT; NO DISCERNIBLE BEDDING; NO
 VISIBLE POROSITY; LOW TO MODERATE GAS
 SHOWS.
 SHALE = LIGHT GRAY TO MEDIUM LIGHT GRAY
 IN COLOR; BRITTLE TO CRUMBLY IN TENACITY
 BLOCKY TO PLANAR FRACTURE; CUTTINGS ARE
 SCALY TO ELONGATED IN APPEARANCE; WAXY
 TO DULL LUSTER EXHIBITED; CLAYEY TO
 SLIGHTLY SILTY TEXTURE; THIN STRUCTURE
 APPARENT.
 SILTSTONE = LIGHT BROWNISH GRAY TO LIGHT
 GRAY IN COLOR; DENSE TO CRUMBLY IN
 TENACITY; IRREGULAR TO BLOCKY FRACTURE;
 CUTTINGS ARE NODULAR TO WEDGELIKE IN
 APPEARANCE; EARTHY TO FROSTED LUSTER
 EXHIBITED; SILTY TO GRITTY IN TEXTURE;
 THICK STRUCTURE APPARENT.









MAX GAS 197u

SHALE = GREENISH GRAY TO MEDIUM DARK

GRAY IN COLOR; DENSE TO BRITTLE IN

MAX GAS 200u

TENACITY; IRREGULAR TO CONCHOIDAL

FRACTURE; CUTTINGS ARE WEDGE-LIKE TO

C-432.1

TABULAR IN HABIT; WAXY TO DULL LUSTER

8100

EXHIBITED; SMOOTH TO CLAYEY TEXTURE;

NIGHT TOUR

MW IN 9-1 VIS 53

THIN STRUCTURE APPARENT; NON-CALCAREOUS.

MW OUT 9-1 VIS 57

SANDSTONE = LIGHT GRAY TO WHITE TO

TRANSLUCENT; QUARTZ FRAMEWORK WITH MANY

LOOSE GRAINS; MEDIUM TO FINE SIZED WITH

FAIR TO WELL SORTING; SUB-ANGULAR TO

SUB-ROUNDED; MODERATE SPHERICITY; FRIABLE

TO MODERATE HARDNESS DEPENDING ON THE

SPECIMEN; GRAIN SUPPORTED WITH CALCITE/

8200

MAX GAS 70u

SILICEOUS CEMENT AS SUGGESTED BY A

STRONG REACTION WITH HCL.

SHALE = MEDIUM DARK GRAY TO LIGHT GRAY;

TENACITY IS DENSE TO CRUNCHY; FRACTURES

FROM PLANAR TO SPLINTERY; TABULAR TO

ELONGATED CUTTINGS; DULL TO EARTHY

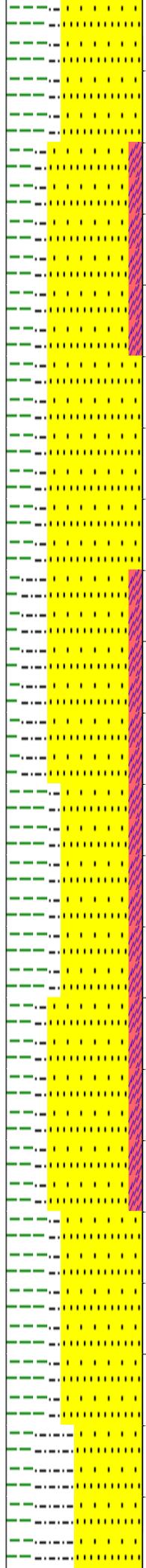
WF 700 @ 8271

10/09/2009

WF 600 @ 8479

8300

8400



MAX GAS 123u

MW IN 9.1 VIS 68

MW OUT 9.1 VIS 55

C-3.2.1

C-4.3.2.1

LUSTER; SMOOTH TO SILTY TEXTURE; LAMINAE

TO THIN STRUCTURE.

SILTSTONE = LIGHT GRAY TO MEDIUM DARK

GRAY; TENACITY IS DENSE TO CRUMBLY;

FRACTURES FROM IRREGULAR TO BLOCKY;

TABULAR TO WEDGELIKE CUTTINGS; EARTHY

LUSTER; THIN STRUCTURE.

SANDSTONE = WHITE TO TRANSLUCENT TO

LIGHT GRAY; FRAMEWORK CONSISTS OF MOSTLY

QUARTZ GRAINS WITH SOME CALCITE IN THE

MATRIX; MEDIUM TO FINE SIZED WITH FAIR

TO WELL SORTING; ANGULAR TO SUBROUNDED

WITH MODERATE SOHERICITY; MODERATE

HARDNESS WITH MANY LOOSE GRAINS; GRAIN

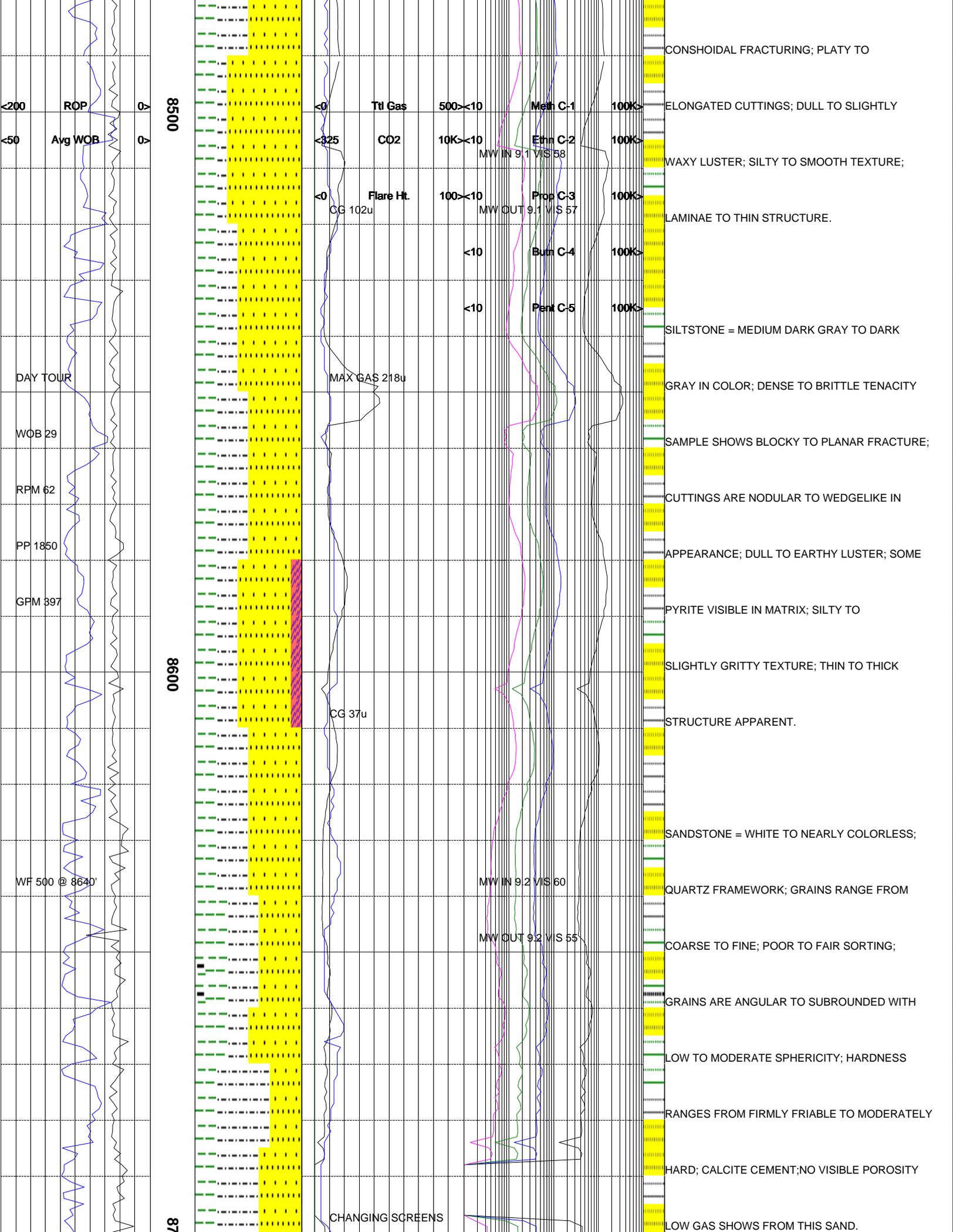
SUPPORTED WITH SOME CALCITE MATRIX;

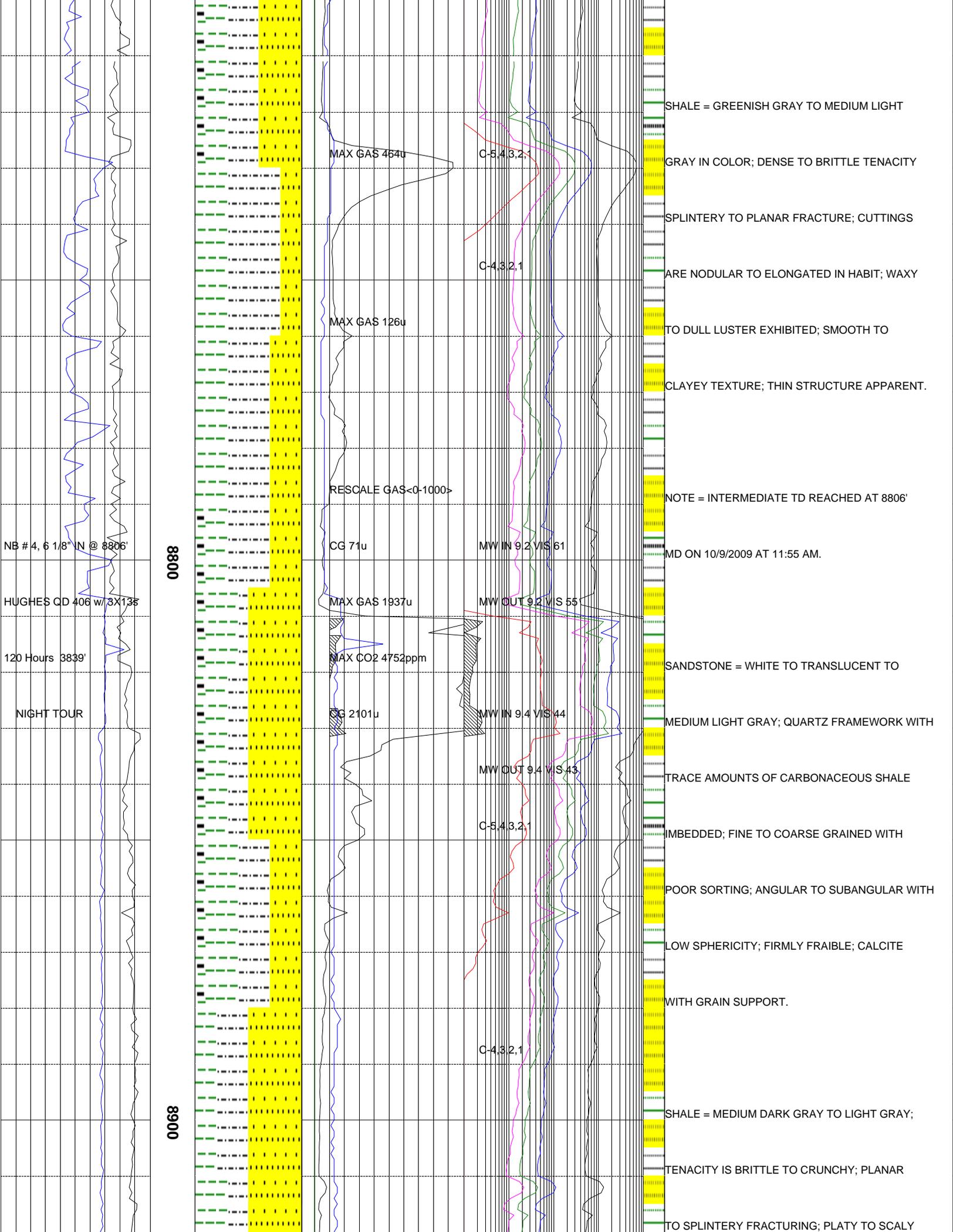
MODERATE TO STRONG REACTION WITH HCL.

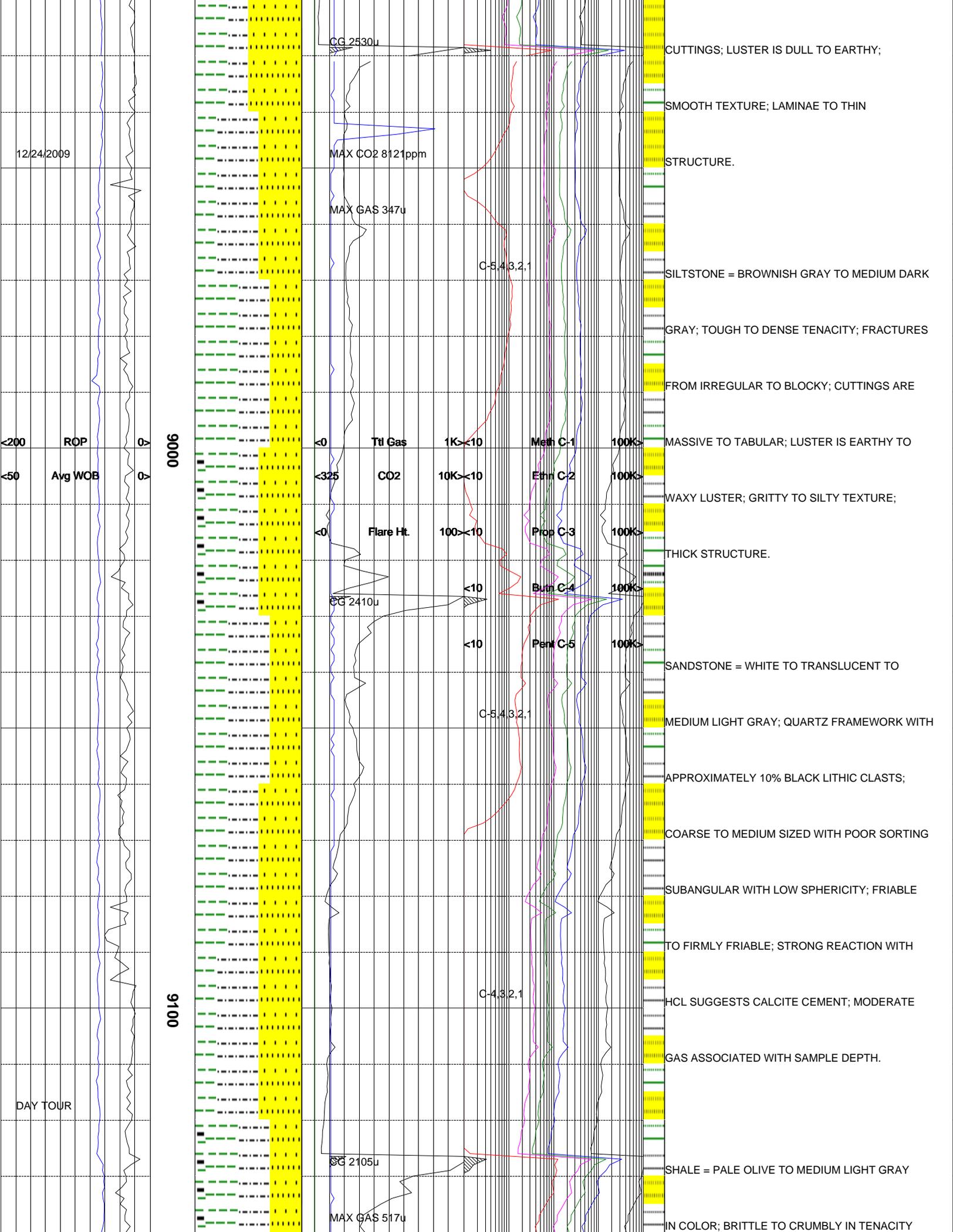
SHALE = LIGHT GRAY TO DARK GRAY COLORING

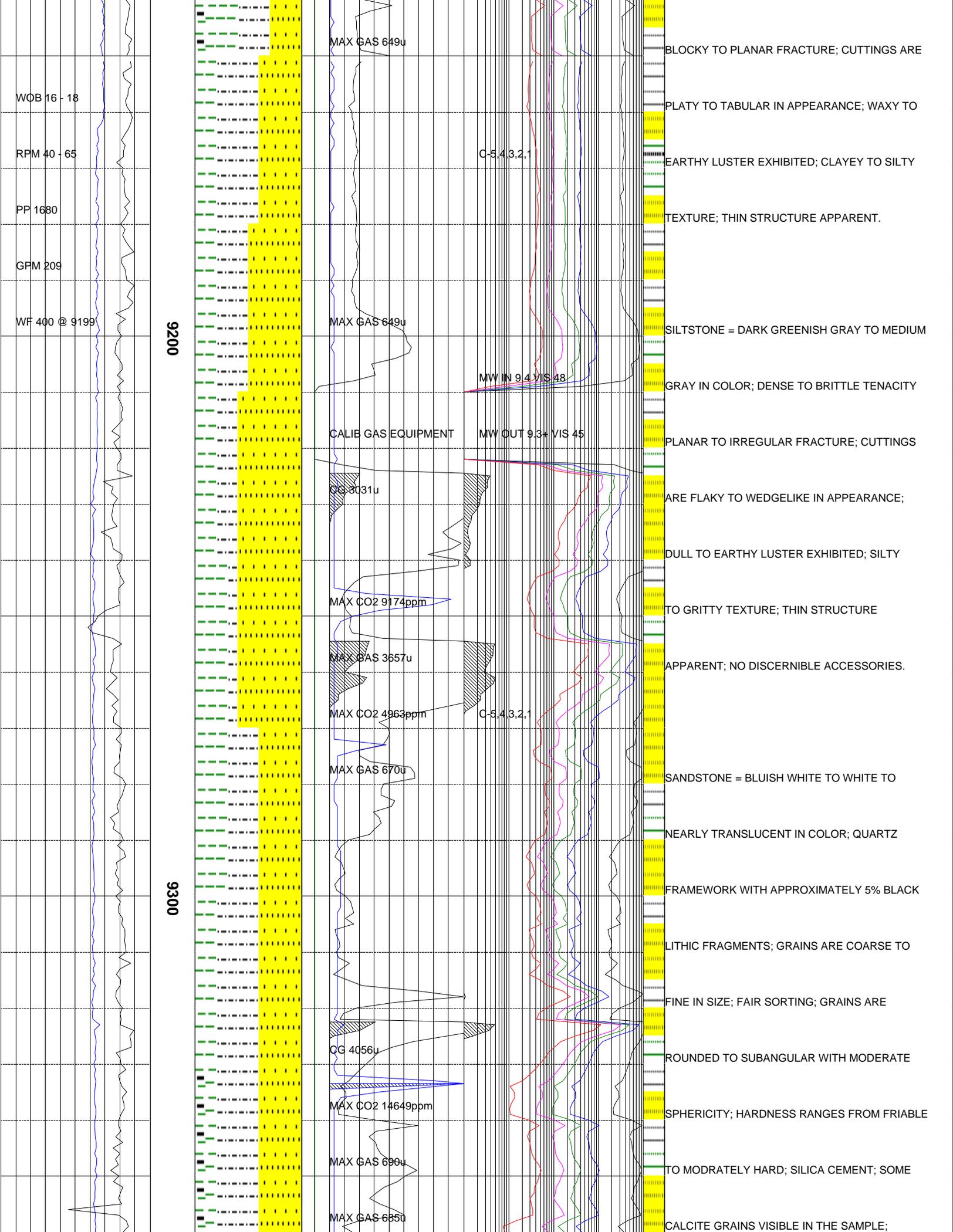
TENACITY IS DENSE TO BRITTLE TO SLIGHTY

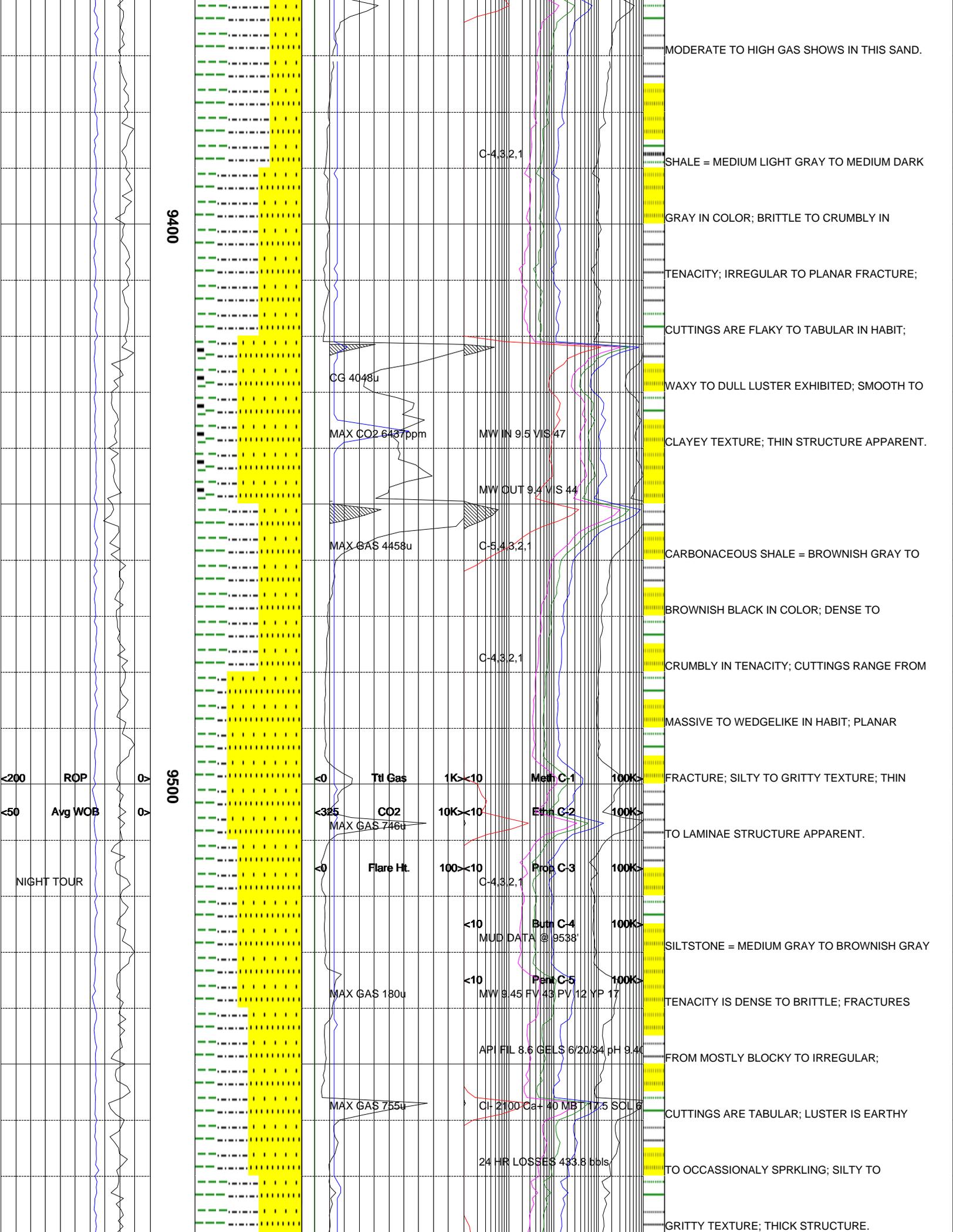
CRUNCHY; PLANAR TO SPLINTERY TO SLIGHTLY











9400

9500

MODERATE TO HIGH GAS SHOWS IN THIS SAND.

SHALE = MEDIUM LIGHT GRAY TO MEDIUM DARK

GRAY IN COLOR; BRITTLE TO CRUMBLY IN

TENACITY; IRREGULAR TO PLANAR FRACTURE;

CUTTINGS ARE FLAKY TO TABULAR IN HABIT;

WAXY TO DULL LUSTER EXHIBITED; SMOOTH TO

CLAYEY TEXTURE; THIN STRUCTURE APPARENT.

CARBONACEOUS SHALE = BROWNISH GRAY TO

BROWNISH BLACK IN COLOR; DENSE TO

CRUMBLY IN TENACITY; CUTTINGS RANGE FROM

MASSIVE TO WEDGELIKE IN HABIT; PLANAR

FRACTURE; SILTY TO GRITTY TEXTURE; THIN

TO LAMINAE STRUCTURE APPARENT.

SILTSTONE = MEDIUM GRAY TO BROWNISH GRAY

TENACITY IS DENSE TO BRITTLE; FRACTURES

FROM MOSTLY BLOCKY TO IRREGULAR;

CUTTINGS ARE TABULAR; LUSTER IS EARTHY

TO OCCASSIONALLY SPRKING; SILTY TO

GRITTY TEXTURE; THICK STRUCTURE.

C-4.3.2.1

C-5.4.3.2.1

C-4.3.2.1

C-4.3.2.1

Cl- 2100 Ca+ 40 MB 17.5 SCL 6

CG 4048u

MAX CO2 6437ppm

MW IN 9.5 VIS 47

MW OUT 9.4 VIS 44

MAX GAS 4458u

Ttl Gas 1K < 10

CO2 10K < 10

MAX GAS 746u

Flare Ht. 100 > 10

MAX GAS 180u

MAX GAS 755u

Meth C-1 100K >

Ethn C-2 100K >

Prop C-3 100K >

Butn C-4 100K >

Pen C-5 100K >

MUD DATA @ 9538'

MW 9.45 FV 43 PV 12 YP 17

API FIL 8.6 GELS 6/20/34 pH 9.40

24 HR LOSSES 433.8 bbbls

<200 ROP

<50 Avg WOB

NIGHT TOUR

0066

9700

98

MAX GAS 848u

CG 1582u

MAX GAS 2403u

MAX CO2 10017ppm

MAX CO2 14860ppm

RESCALE GAS<0-2000>

CG 1756u

MAX GAS 3873u

MW IN 9.4 VIS 48

MW OUT 9.4 VIS 44

C-5.432.1

C-4.32.1

SANDSTONE = WHITE TO MEDIUM LIGHT GRAY

TO OCCASSIONALY TRANSLUCENT; QUARTZ

FRAMEWORK; FINE TO MEDIUM SIZED GRAINS

WITH FAIR SORTING; SUBANGULAR TO

SUBROUNDED WITH MODERATE SPHERICITY;

GRAIN SUPPORTED; MODERATE HARDNESS;

VERY SLIGHT REACTION WITH HCL SUGGESTS

SILICA CEMENT; TRACE AMOUNTS OF PYRITE

PRESENT AS AN ACCESSORY MINERAL.

SHALE = LIGHT GRAY WITH PALE BLUE HUES;

TENACITY IS BRITTLE TO SLIGHTLY CRUNCHY;

FRACTURES FROM MOSTLY PLANAR TO

OCCASSIONALY SPLINTERY; CUTTINGS ARE

PLATY TO SCALY; LUSTER IS DULL TO WAXY;

TEXTURE IS SMOOTH; LAMINAE TO THIN

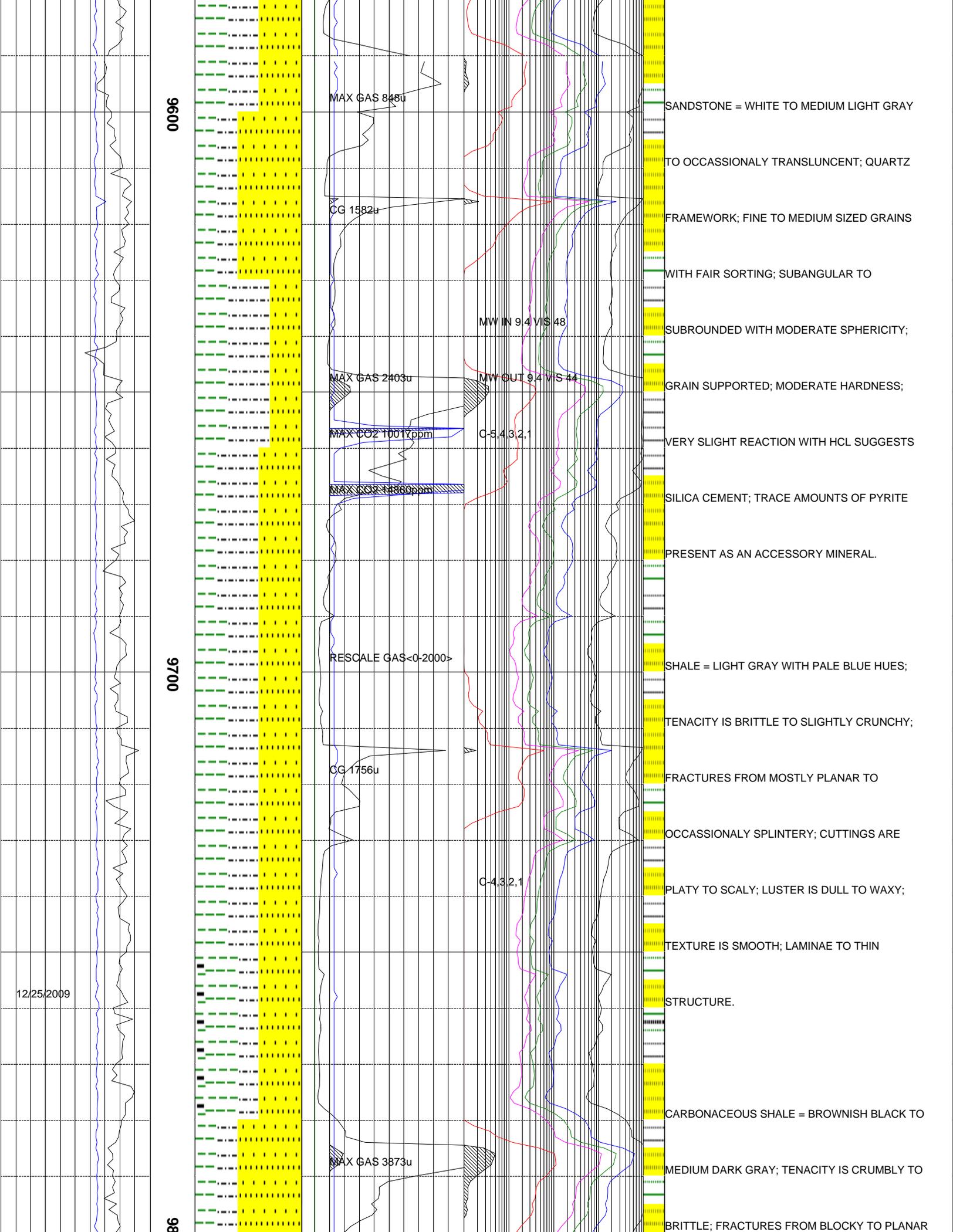
STRUCTURE.

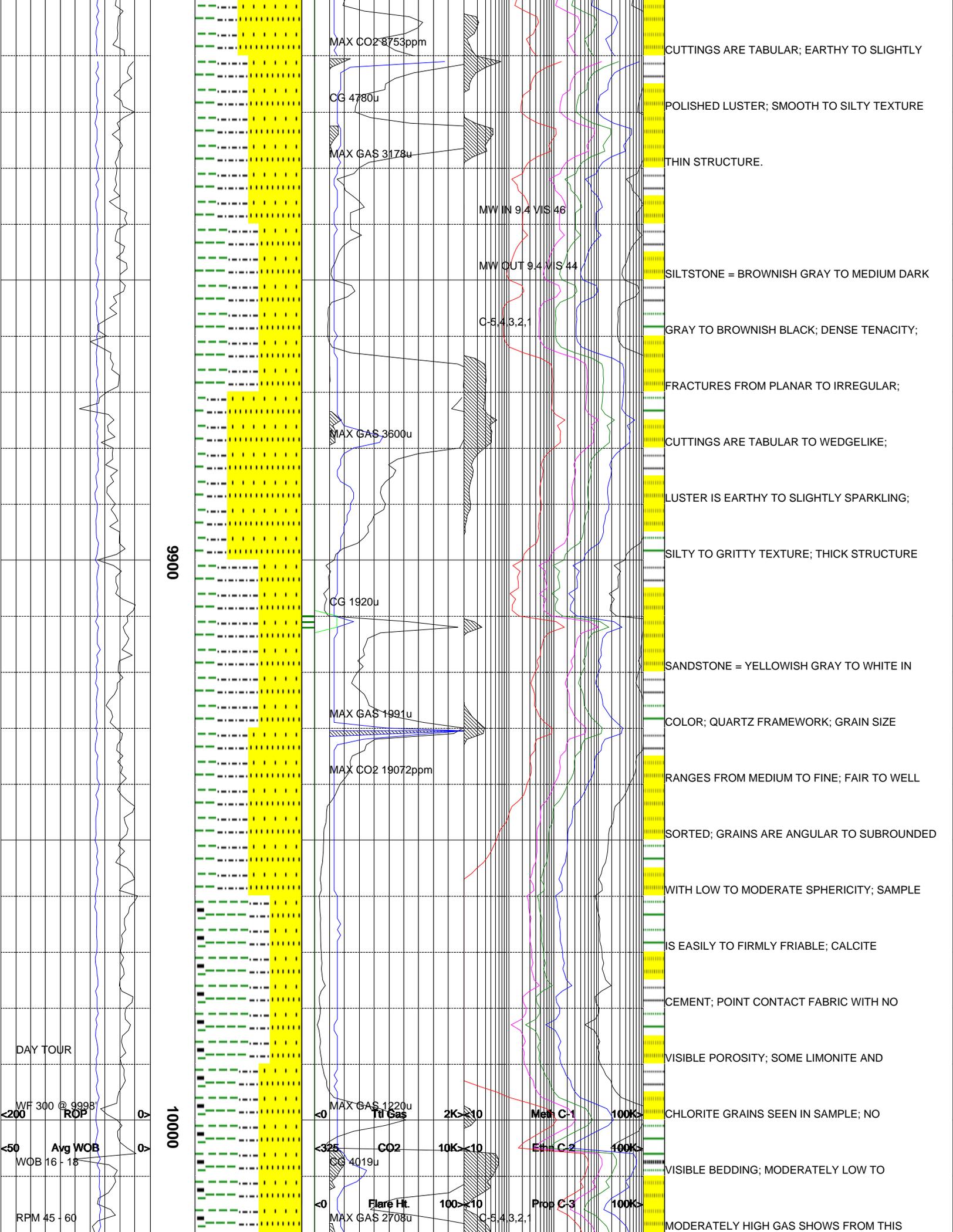
CARBONACEOUS SHALE = BROWNISH BLACK TO

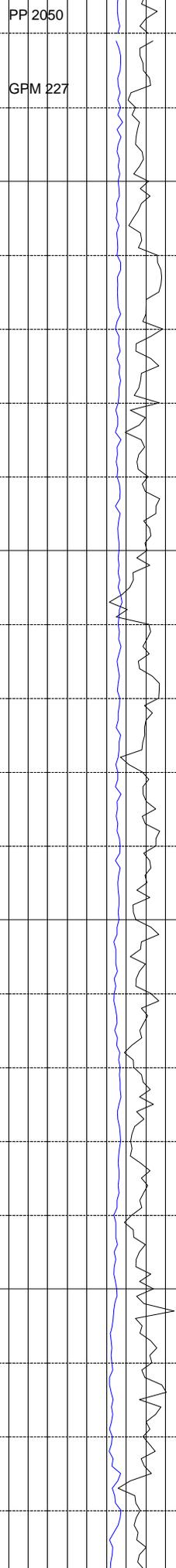
MEDIUM DARK GRAY; TENACITY IS CRUMBLY TO

BRITTLE; FRACTURES FROM BLOCKY TO PLANAR

12/25/2009







PP 2050

GFM 227

10100

10200

MAX CO2 18440ppm

MAX GAS 542u

MAX GAS 1227u

MAX GAS 611u

MAX GAS 3490u

MAX CO2 23915ppm

MAX GAS 887u

MAX GAS 4772u

MAX GAS 5359u

MAX GAS 4252u

CG 2452u

CALIB GAS EQUIPMENT

MAX GAS 1012u

C-5.43.2

MW IN 9.5 VIS 44

MW OUT 9.5 VIS 42

C-5.43.2,1

SANDSTONE.

SHALE = DARK GREENISH GRAY TO MEDIUM

DARK GRAY IN COLOR; DENSE TO CRUMBLY IN

TENACITY; SAMPLE SHOWS IRREGULAR TO

BLOCKY FRACTURE; CUTTINGS RANGE FROM

MASSIVE TO ELONGATED IN APPEARANCE; WAXY

TO DULL LUSTER EXHIBITED; CLAYEY TO

SILTY TEXTURE; THIN TO LAMINAE STRUCTURE

CARBONACEOUS SHALE = MEDIUM BLuish GRAY

TO GRAYISH BLACK IN COLOR; BRITTLE TO

PULVERANT TENACITY; MOTTLED TO IRREGULAR

FRACTURE; CUTTINGS ARE NODULAR TO PLATY

IN APPEARANCE; WAXY TO EARTHY LUSTER;

SMOOTH TO SILTY TEXTURE; THIN TO LAMINAE

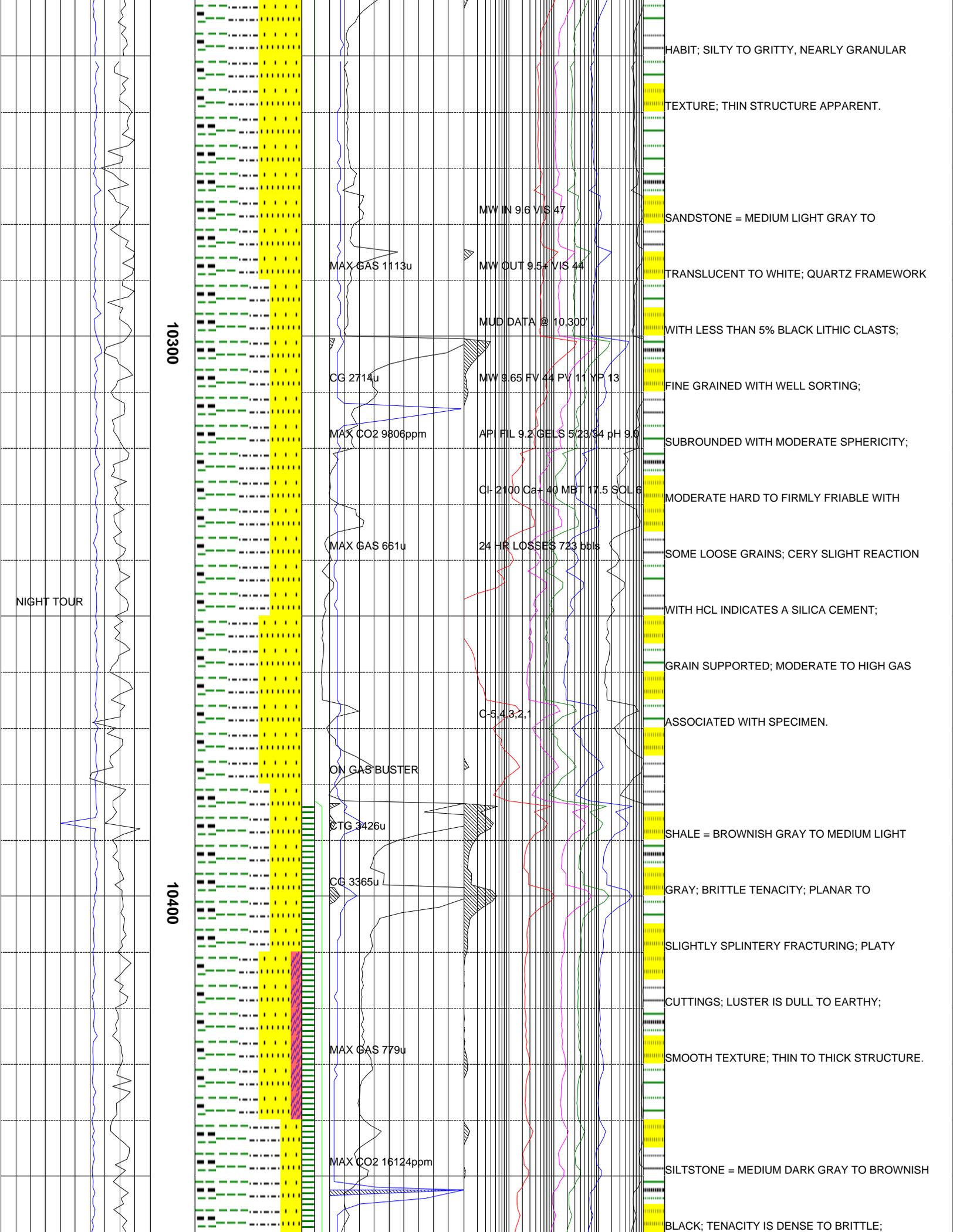
STRUCTURE APPARENT.

SILTSTONE = BROWNISH BLACK TO MEDIUM

DARK GRAY IN COLOR; DENSE TO CRUMBLY

TENACITY; PLANAR TO BLOCKY FRACTURE;

CUTTINGS ARE NODULAR TO WEDGELIKE IN



10300

10400

NIGHT TOUR

HABIT; SILTY TO GRITTY, NEARLY GRANULAR

TEXTURE; THIN STRUCTURE APPARENT.

SANDSTONE = MEDIUM LIGHT GRAY TO

TRANSLUCENT TO WHITE; QUARTZ FRAMEWORK

WITH LESS THAN 5% BLACK LITHIC CLASTS;

FINE GRAINED WITH WELL SORTING;

SUBROUNDED WITH MODERATE SPHERICITY;

MODERATE HARD TO FIRMLY FRIABLE WITH

SOME LOOSE GRAINS; CERY SLIGHT REACTION

WITH HCL INDICATES A SILICA CEMENT;

GRAIN SUPPORTED; MODERATE TO HIGH GAS

ASSOCIATED WITH SPECIMEN.

SHALE = BROWNISH GRAY TO MEDIUM LIGHT

GRAY; BRITTLE TENACITY; PLANAR TO

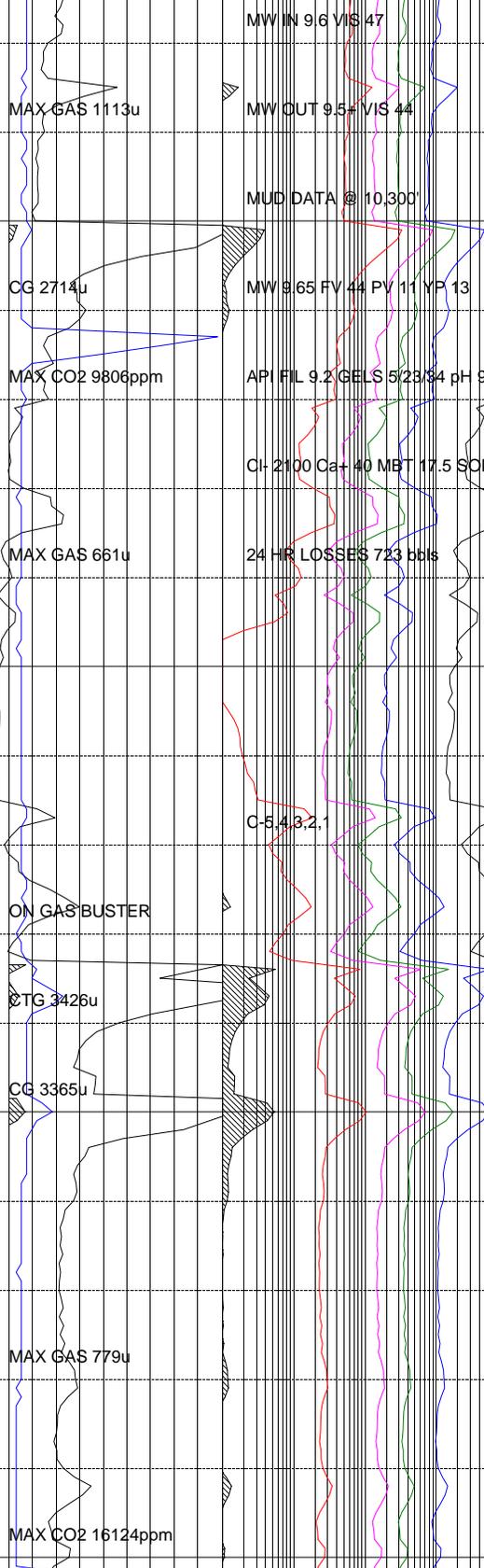
SLIGHTLY SPLINTERY FRACTURING; PLATY

CUTTINGS; LUSTER IS DULL TO EARTHY;

SMOOTH TEXTURE; THIN TO THICK STRUCTURE.

SILTSTONE = MEDIUM DARK GRAY TO BROWNISH

BLACK; TENACITY IS DENSE TO BRITTLE;



MW IN 9.6 VIS 47

MW OUT 9.5+ VIS 44

MAX GAS 1113u

MUD DATA @ 10.300

CG 2714u

MW 9.65 FV 44 PV 11 YP 13

MAX CO2 9806ppm

API FIL 9.2 GELS 5/23/84 pH 9.0

Cl- 2100 Ca+ 40 MBT 17.5 SOL 6

MAX GAS 661u

24 HR LOSSES 723 bbbs

C-5.4.3.2.1

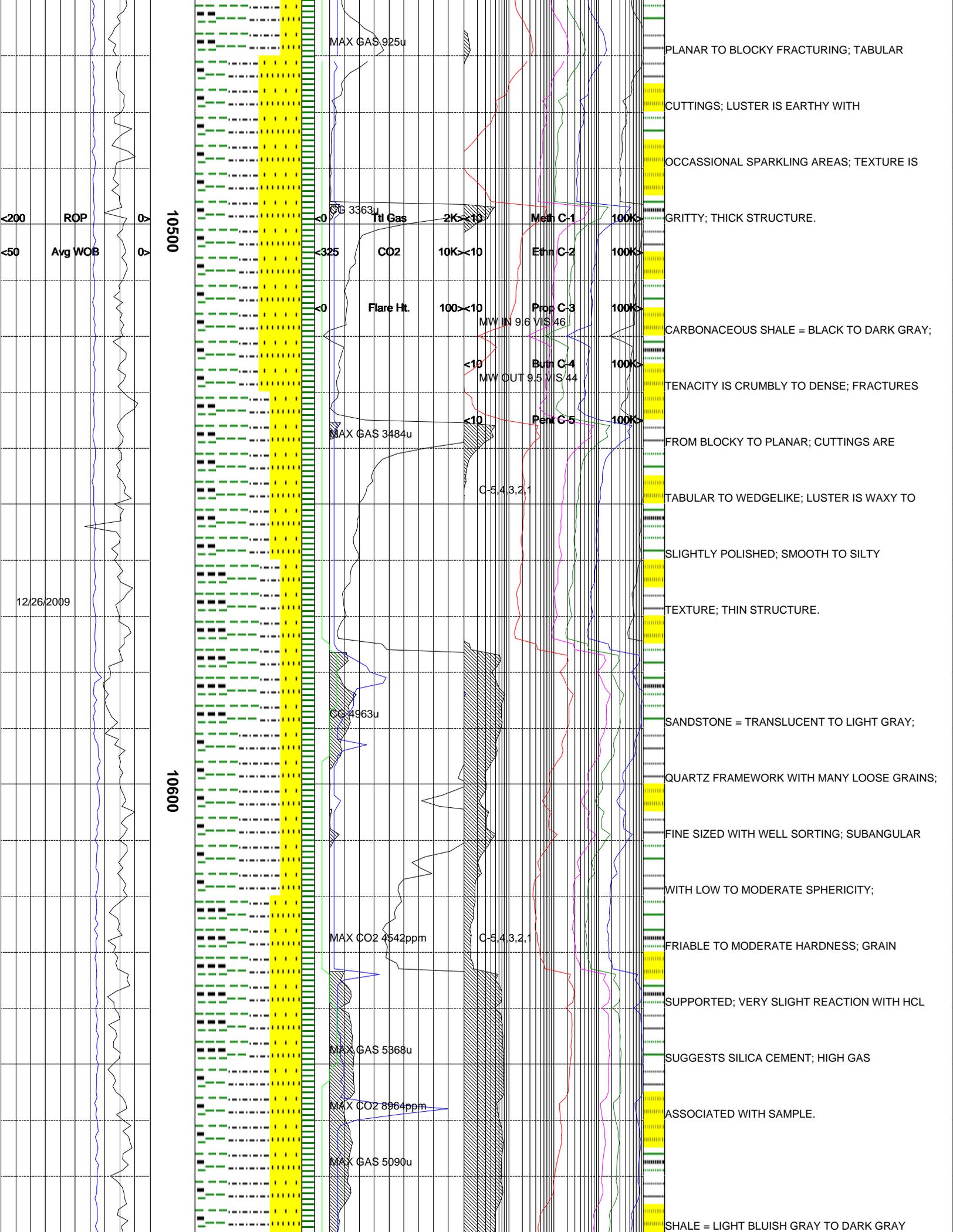
ON GAS BUSTER

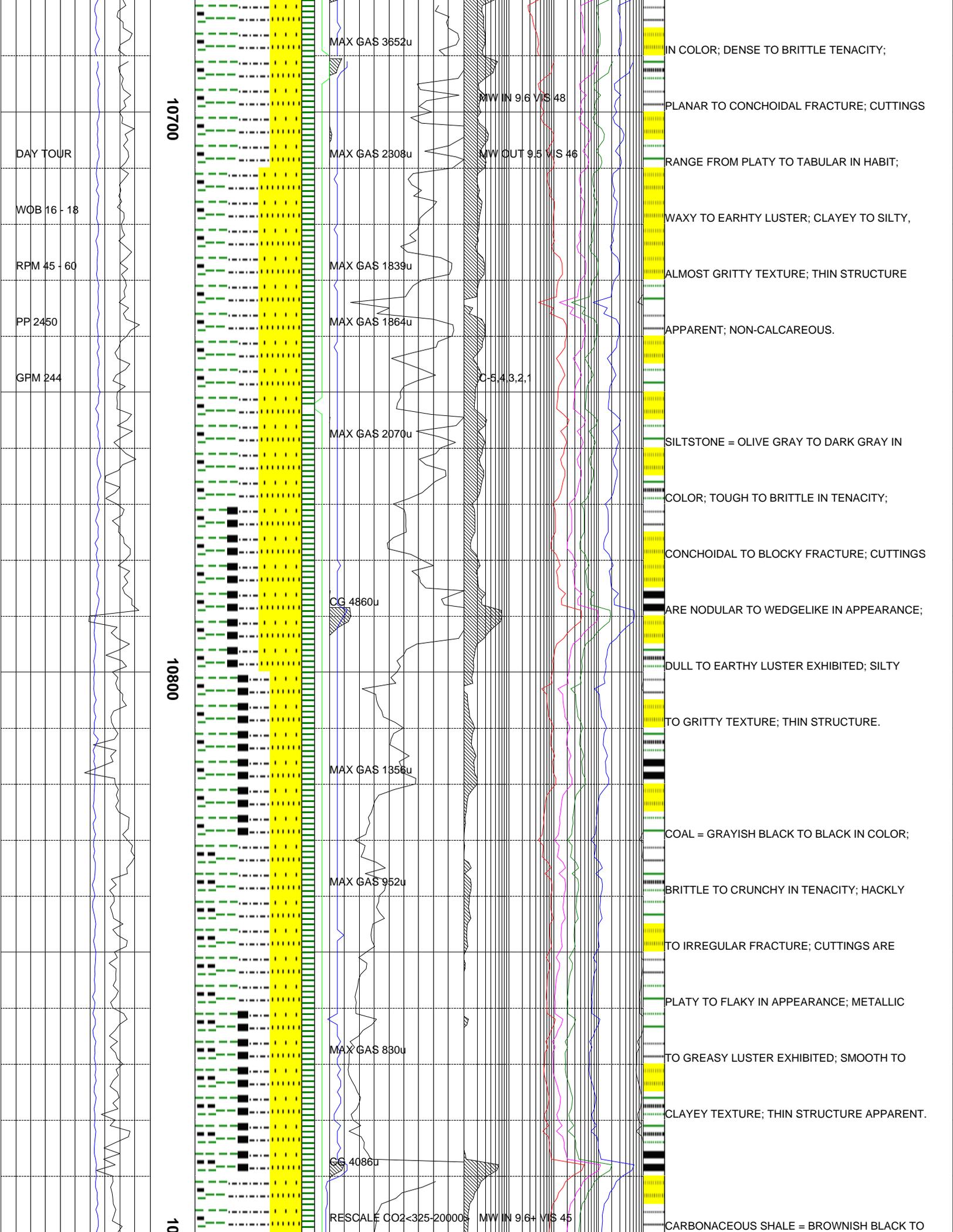
CG 3426u

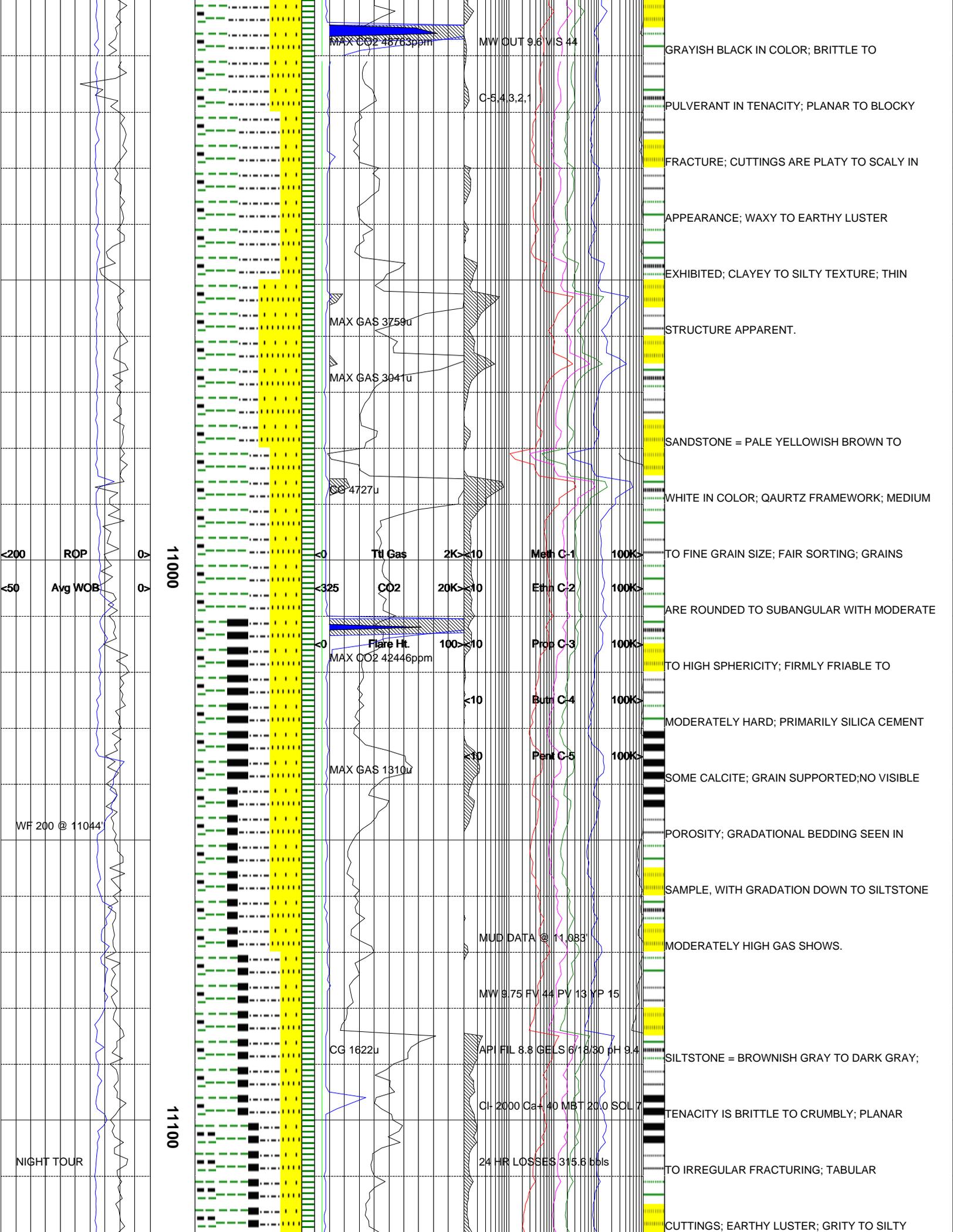
CG 3365u

MAX GAS 779u

MAX CO2 16124ppm







MAX CO2 48783ppm

MW OUT 9.6 V/S 44

GRAYISH BLACK IN COLOR; BRITTLE TO

C-5.43.2.1

PULVERANT IN TENACITY; PLANAR TO BLOCKY

FRACTURE; CUTTINGS ARE PLATY TO SCALY IN

APPEARANCE; WAXY TO EARTHY LUSTER

EXHIBITED; CLAYEY TO SILTY TEXTURE; THIN

MAX GAS 3759u

STRUCTURE APPARENT.

MAX GAS 3041u

SANDSTONE = PALE YELLOWISH BROWN TO

CG 4727u

WHITE IN COLOR; QUARTZ FRAMEWORK; MEDIUM

<200 ROP

11000

Ttl Gas

2K > 10

Meth C-1

100K >

TO FINE GRAIN SIZE; FAIR SORTING; GRAINS

<50 Avg WOB

<325

CO2

20K > 10

Ethn C-2

100K >

ARE ROUNDED TO SUBANGULAR WITH MODERATE

Flare Ht.

MAX CO2 42446ppm

100 > 10

Prop C-3

100K >

TO HIGH SPHERICITY; FIRMLY FRIABLE TO

WF 200 @ 11044

MAX GAS 1310u

<10

Butn C-4

100K >

MODERATELY HARD; PRIMARILY SILICA CEMENT

SOME CALCITE; GRAIN SUPPORTED; NO VISIBLE

POROSITY; GRADATIONAL BEDDING SEEN IN

SAMPLE, WITH GRADATION DOWN TO SILTSTONE

MUD DATA @ 11,083

MODERATELY HIGH GAS SHOWS.

MW 9.75 FV 44 PV 13 YP 15

CG 1622u

API FIL 8.8 GELS 6'18/30 pH 9.4

SILTSTONE = BROWNISH GRAY TO DARK GRAY;

11100

CI- 2000 Ca+ 40 MBT 20.0 SCL 7

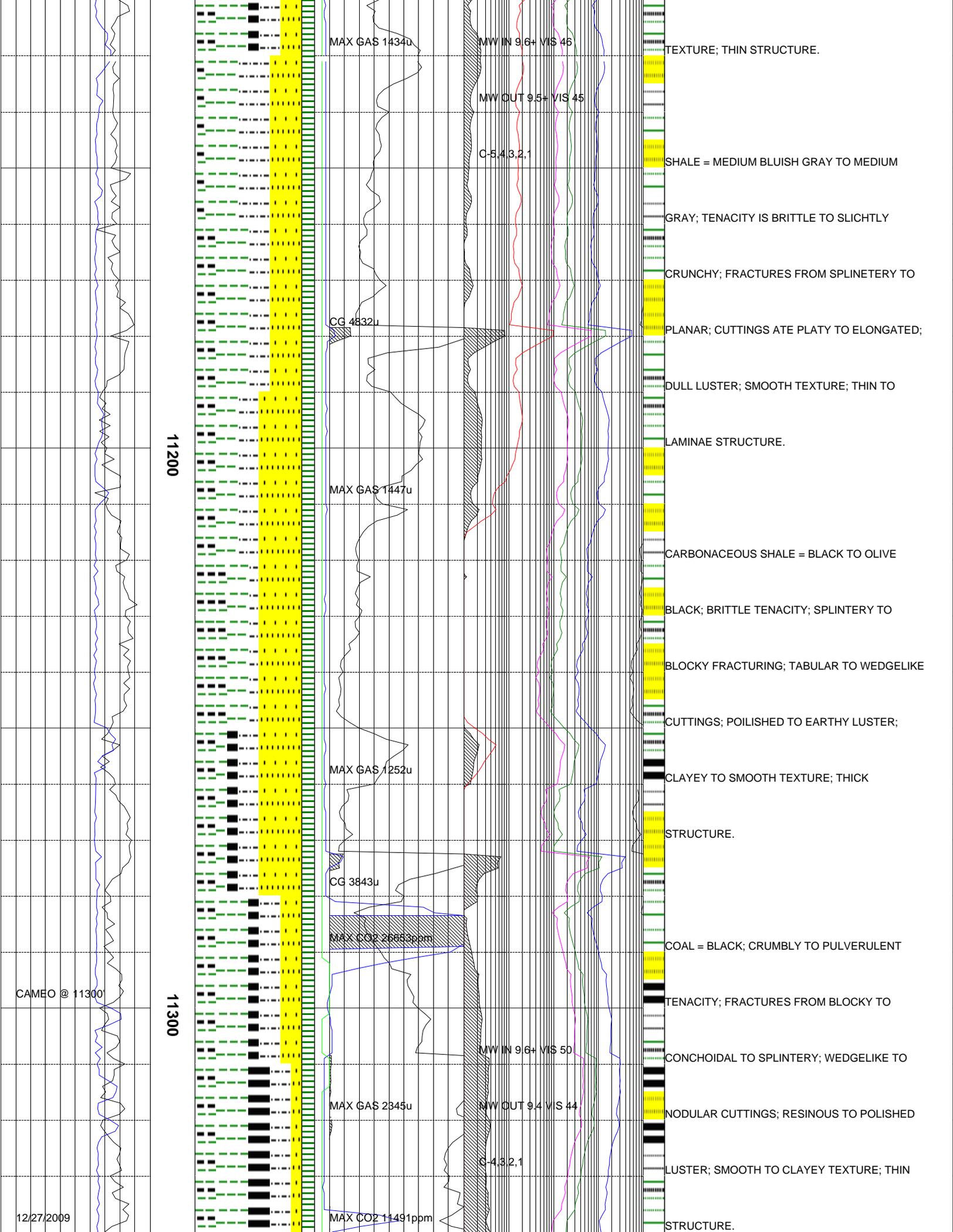
TENACITY IS BRITTLE TO CRUMBLY; PLANAR

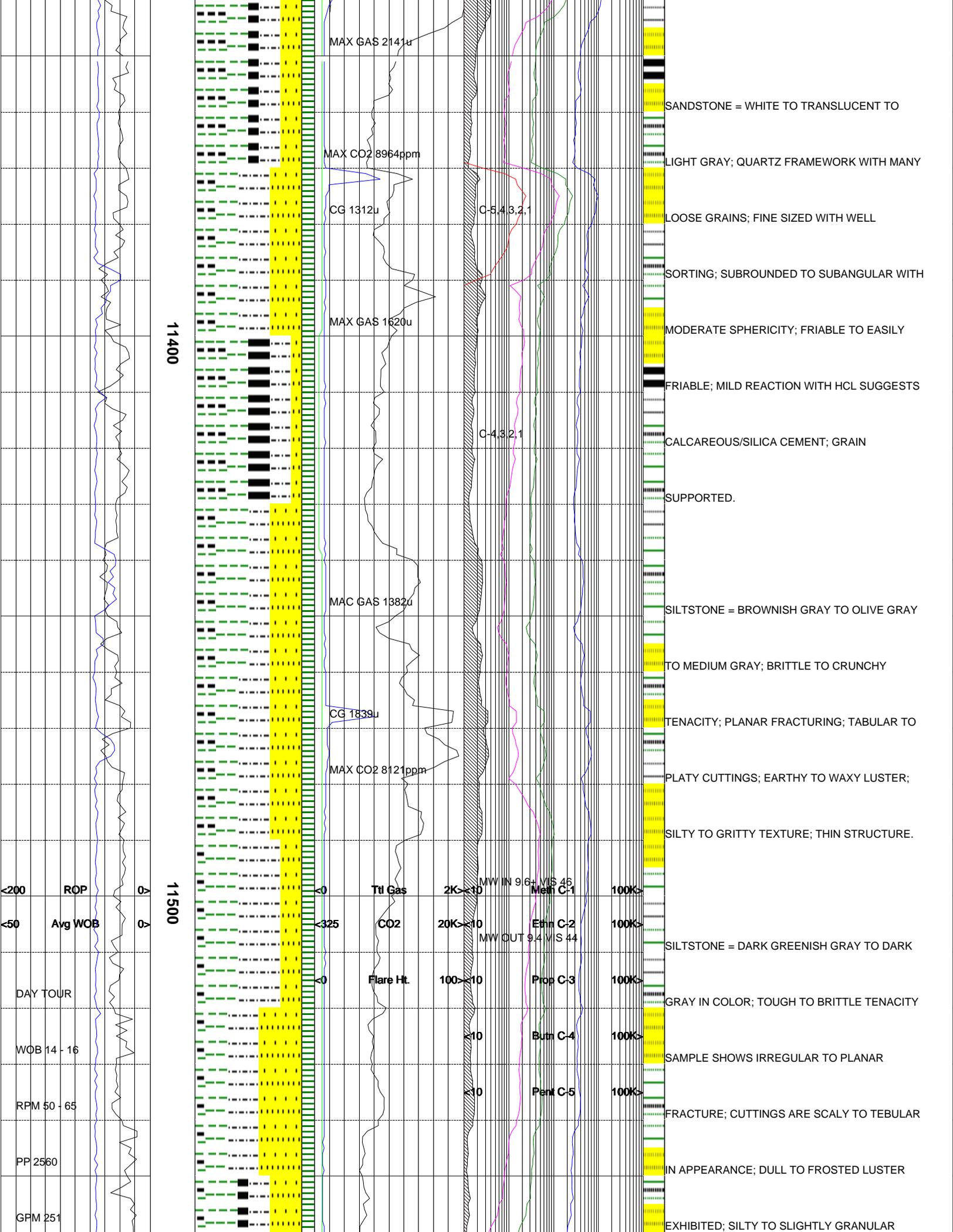
NIGHT TOUR

24 HR LOSSES 315.6 bbbls

TO IRREGULAR FRACTURING; TABULAR

CUTTINGS; EARTHY LUSTER; GRITY TO SILTY





ROLLINS @ 11579

11600

11700

TRANSCOZZETTE @ 11727

COZZETTE @ 11778

CG 1987u

MAX GAS 2984u

MAX GAS 2729u

CG 1530u

CG 2209u

MAX GAS 1092u

C-5.43.2.1

C-4.32.1

MW IN 9.7 VIS 43

MW OUT 9.6 VIS 42

C-5.43.2.1

TEXTURE; THIN STRUCTURE APPARENT.

SHALE = VERY LIGHT GRAY TO MEDIUM LIGHT

GRAY IN COLOR; BRITTLE TO CRUNCHY

TENACITY; PLANAR FRACTURE; CUTTINGS ARE

PLATY TO ELONGATED IN APPEARANCE; WAXY

TO DULL LUSTER EXHIBITED; SMOOTH TO

SILTY TEXTURE; THIN STRUCTURE APPARENT;

MICA PRESENT AS AN ACCESSORY MINERAL.

SANDSTONE = VERY PALE ORANGE TO WHITE IN

COLOR; QUARTZ FRAMEWORK; COARSE TO

FINE GRAIN SIZE; POOR TO FAIR SORTING;

GRAINS ARE ANGULAR TO SUBROUNDED WITH

MODERATE SPHERICITY; FIRMLY FRIABLE TO

HARD; ABUNDANT LOOSE GRAINS IN SAMPLE

TRAY; SILICA CEMENT; NO VISIBLE POROSITY

OR BEDDING; PYRITE VISIBLE IN MATRIX;

LOW TO MODERATE GAS SHOWS.

CARBONACEOUS SHALE = GRAYISH BLACK TO

BLACK IN COLOR; BRITTLE TO CRUMBLY IN

