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MUDLOG MD

COMPANY	EXXONMOBIL
WELL	PCU 296-6B2 ST1
FIELD	PICEANCE CREEK UNIT
REGION	ROCKY MOUNTAIN
COORDINATES	LAT 39.905269000 LON 108.205030000
ELEVATION	GL = 7363.8' KB = 7390.8'
COUNTY, STATE	RIO BLANCO, CO
API INDEX	051031154501
SPUD DATE	04/25/2011
CONTRACTOR	HELMRICH AND PAYNE
CO. REP.	SCOTT ARENBURG
RIG/TYPE	215/FLEX 3
LOGGING UNIT	ML051
GEOLOGISTS	B.MARSH, B.JOHANNING G.BAKER, D.CLAAR
ADD. PERSONS	K.WALLANDER I. FAROOQUI
CO. GEOLOGIST	CHRIS ALBA, WILL HOFFMAN

LOG INTERVAL

DEPTHS: 4,622' **TO** 10,280'

DATES: 04/25/2011 **TO** 05/12/2011

SCALE: 1" = 100'

CASING DATA

16" **AT** 145'

10.75" **AT** 4,622'

7.00" **AT** 8,665'

AT

HOLE SIZE

20.0" **TO** 145'

14.75" **TO** 4,622'

9.875" **TO** 10,280'

TO

MUD TYPES

LSND **TO** 10,280'

TO

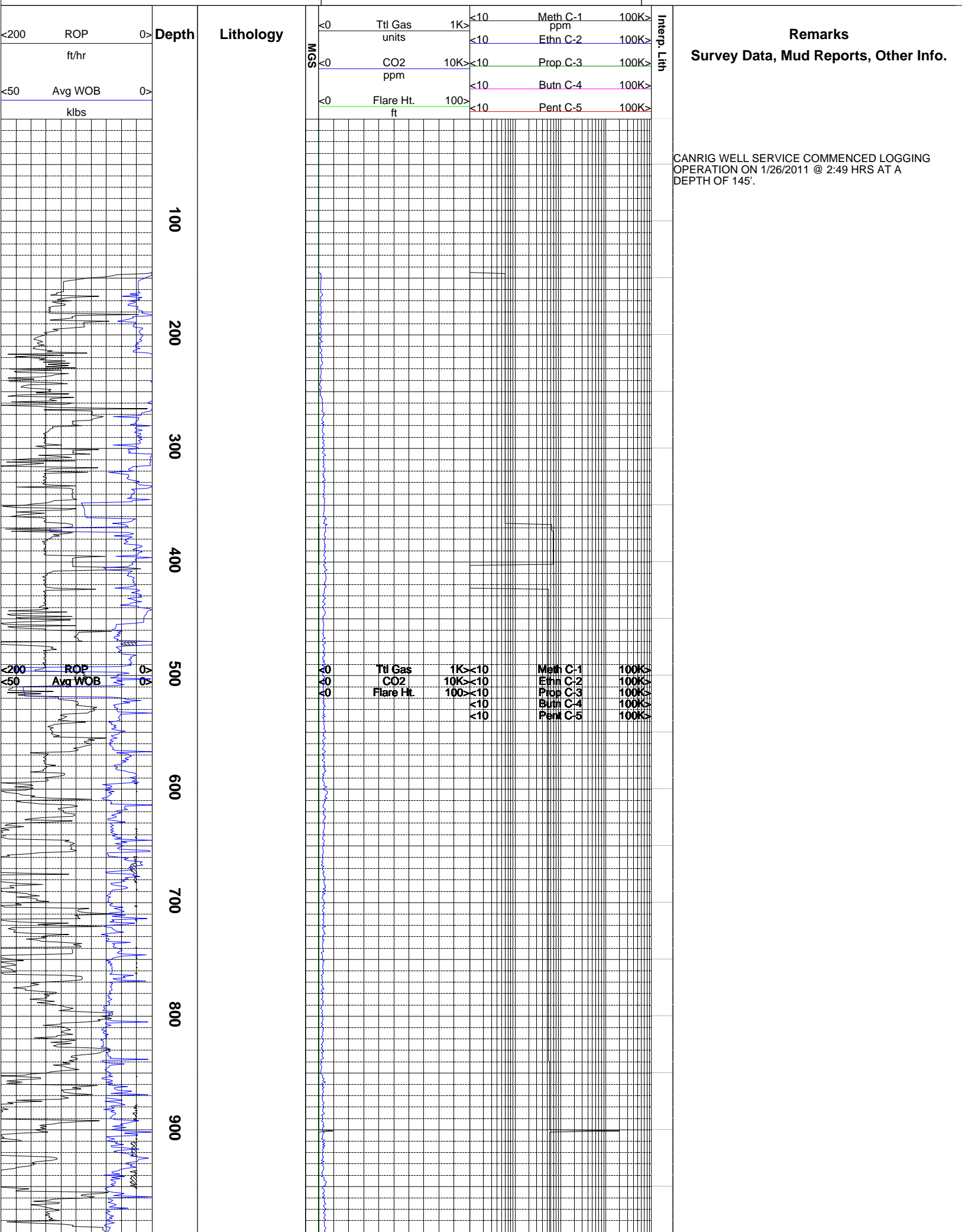
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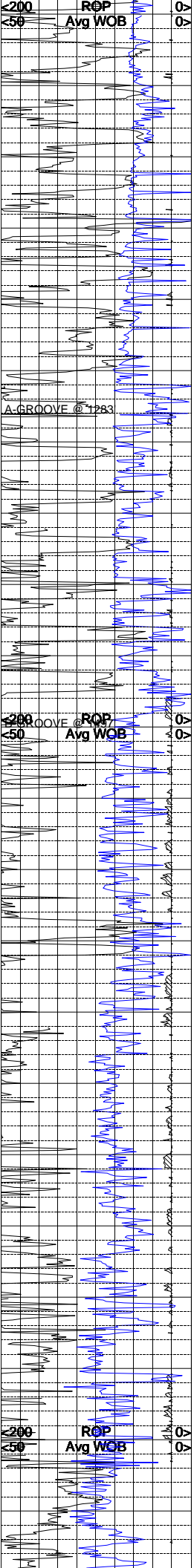
TO

ABBREVIATIONS

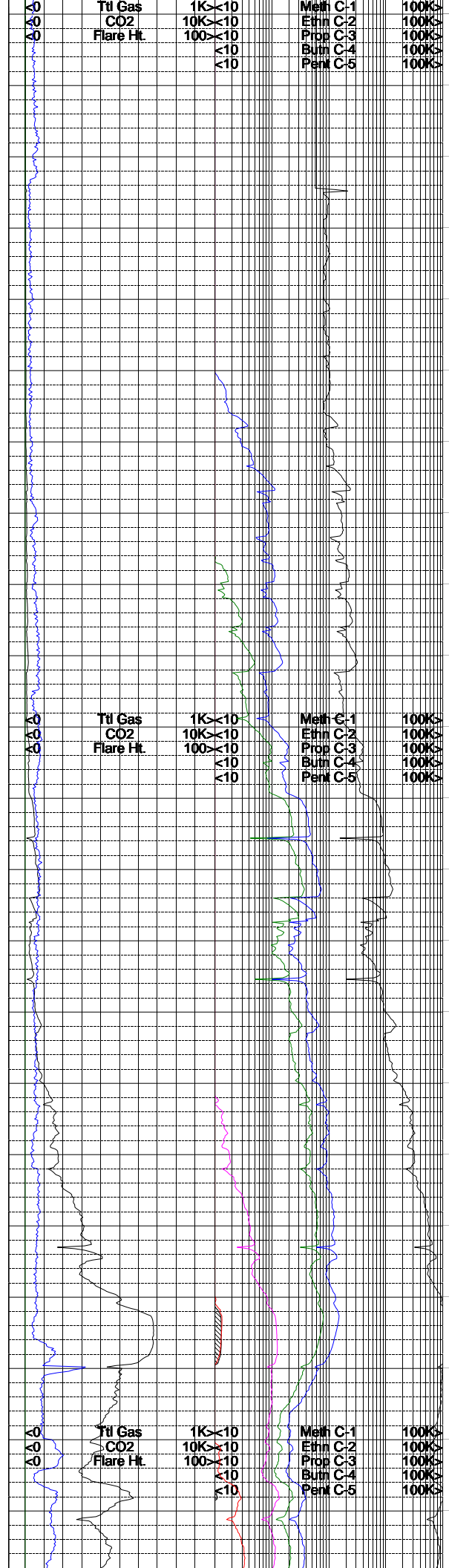
<i>NB</i> NEWBIT	<i>PV</i> PLASTIC VISCOSITY	<i>LC</i> LOST CIRCULATION
<i>RRB</i> RERUN BIT	<i>YP</i> YIELD POINT	<i>CO</i> CIRCULATE OUT
<i>CB</i> CORE BIT	<i>FL</i> FLUID LOSS	<i>NR</i> NO RETURNS
<i>WOB</i> WEIGHT ON BIT	<i>CL</i> PPM CLORIDE ION	<i>TG</i> TRIP GAS
<i>RPM</i> ROTARY REV/MIN	<i>Rm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

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	

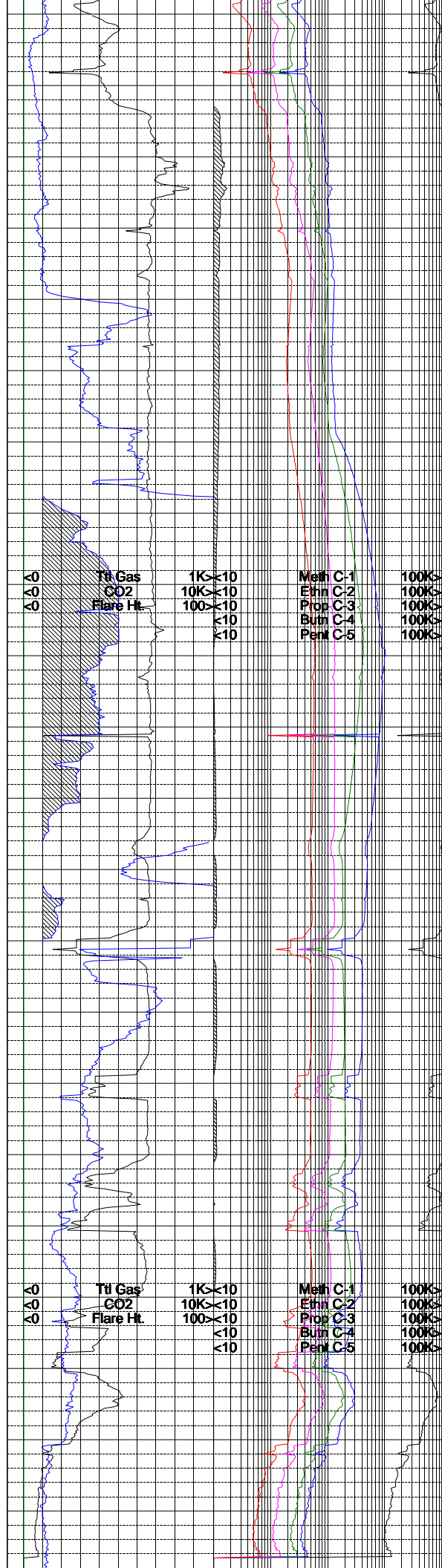
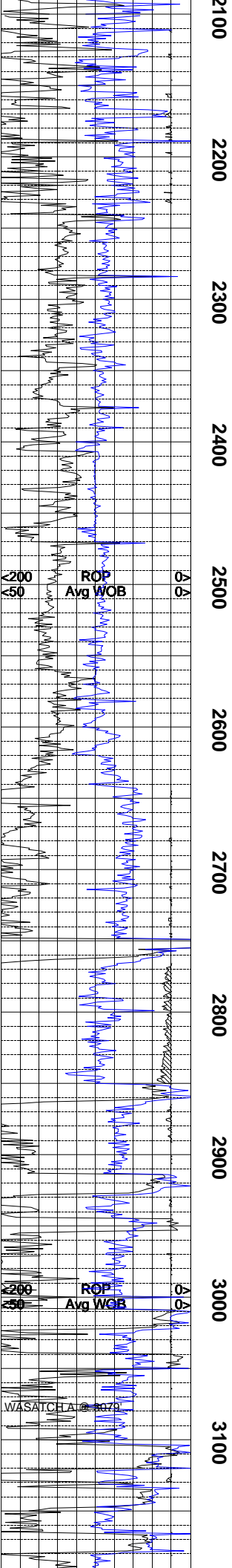


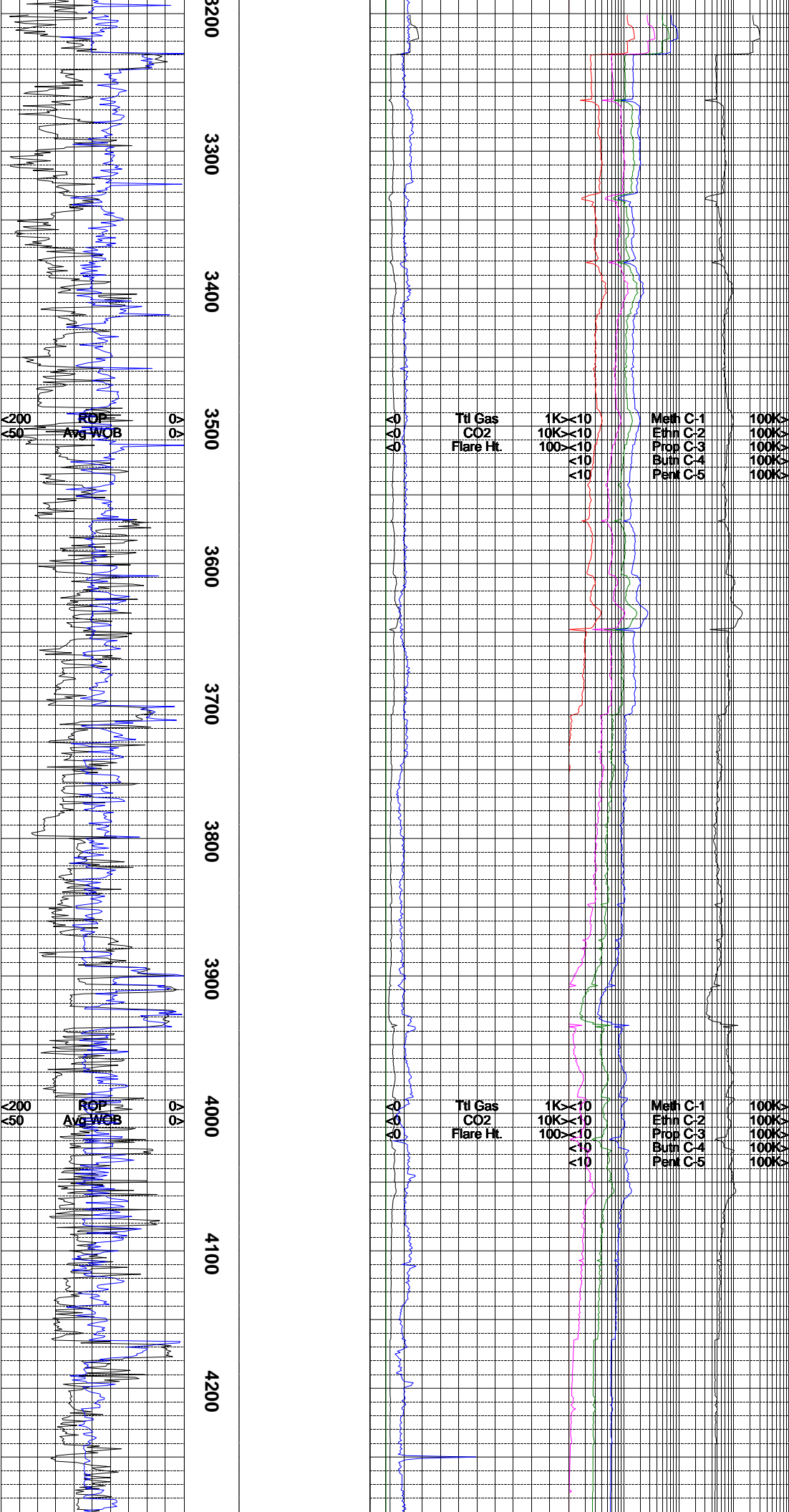


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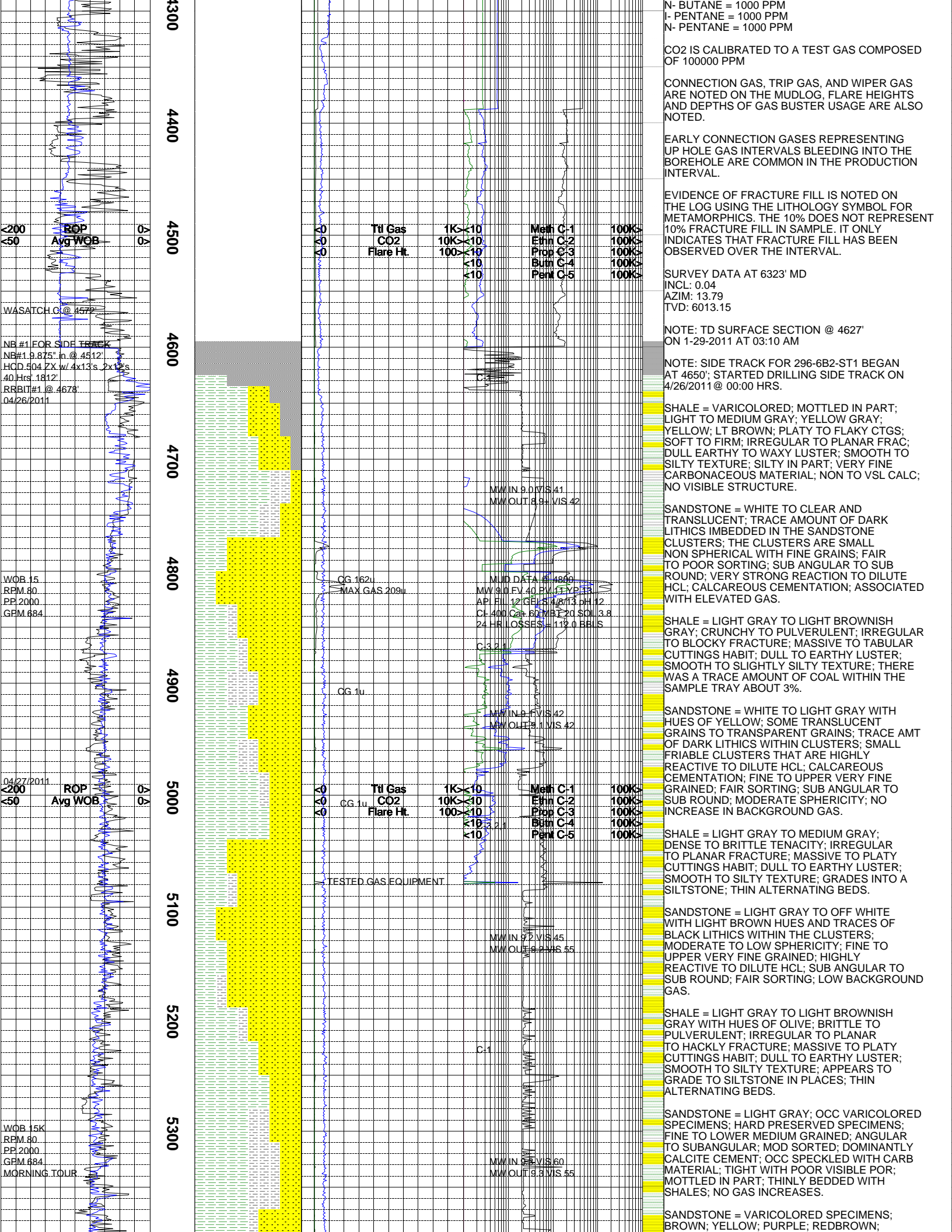
Ttl Gas 1Kx10
CO2 10Kx10
Flare Ht. 100x10
Meth C-1 100Kx
Ethn C-2 100Kx
Prop C-3 100Kx
Butn C-4 100Kx
Penl C-5 100Kx

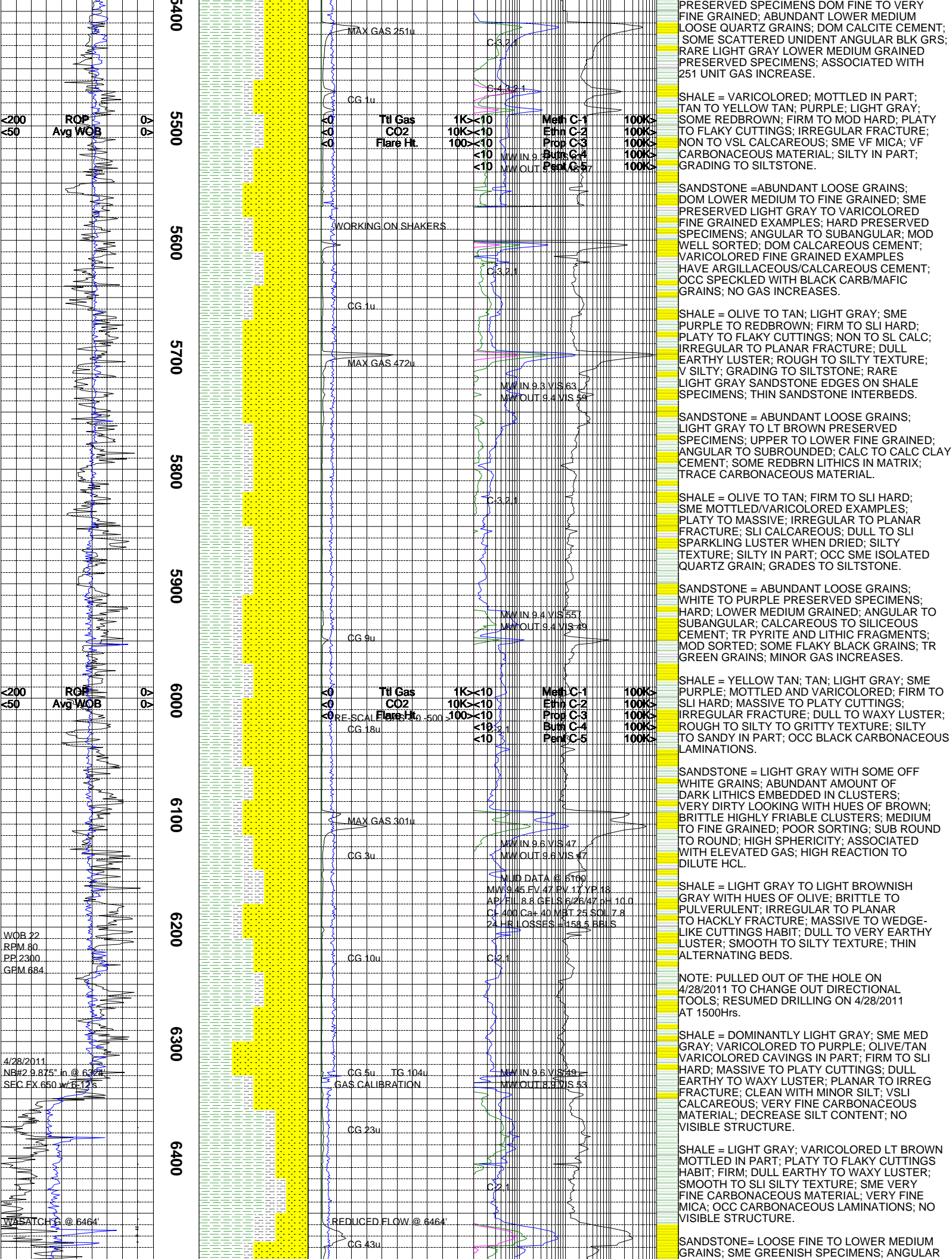


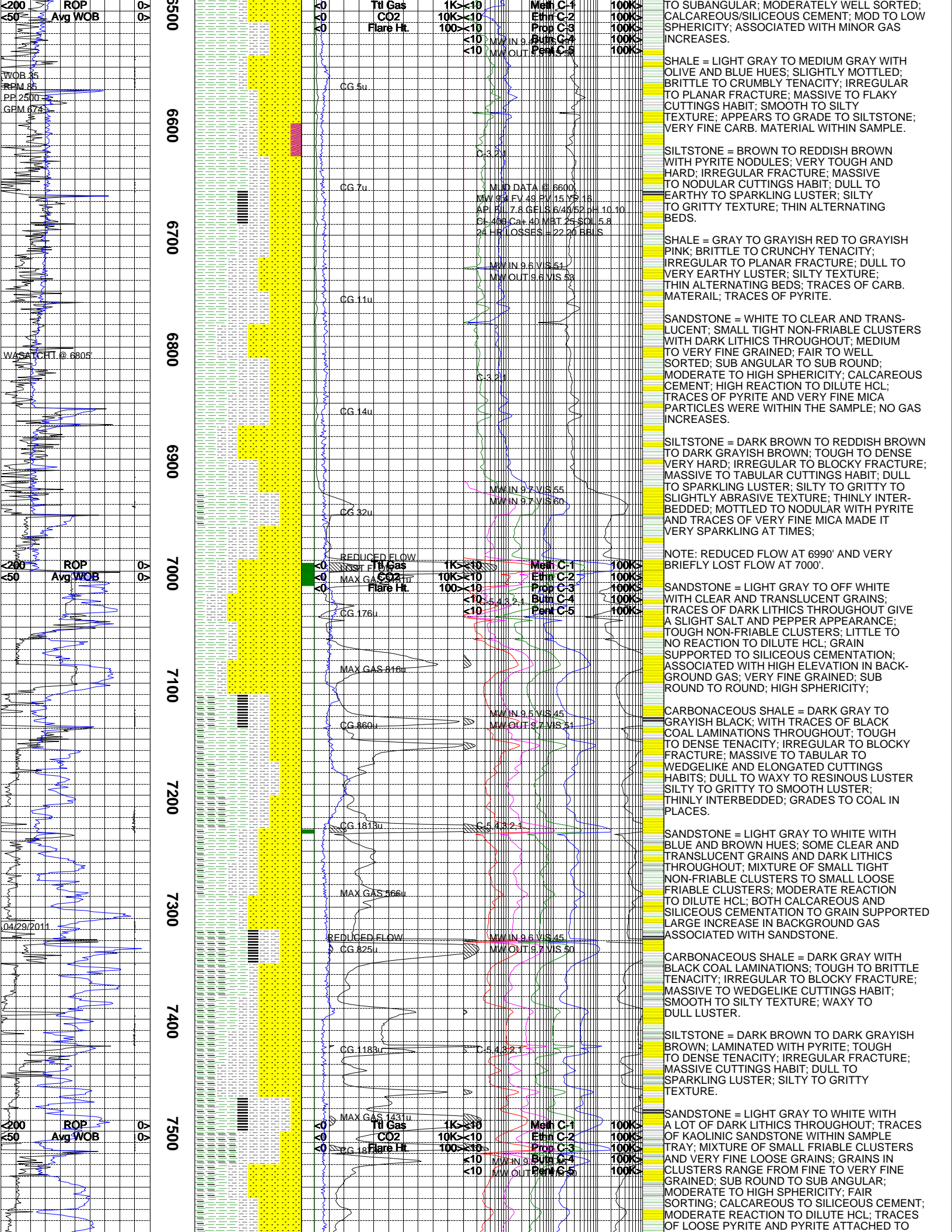


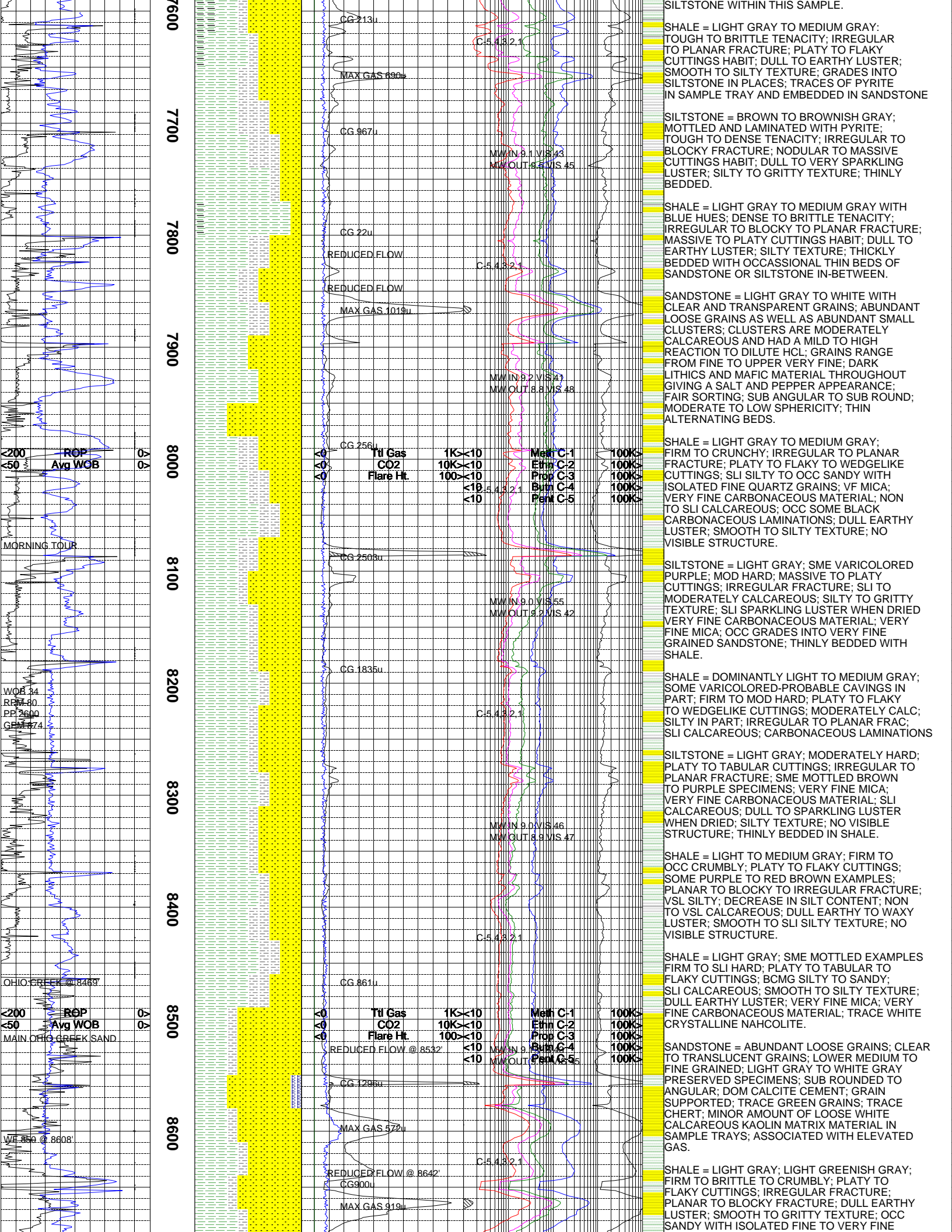
ALL ROCK COLORS ARE REFERENCED TO THE GSA ROCK COLOR CHART, ROCK CONSTITUENTS ARE DESCRIBED WET AND LISTED IN ORDER OF MOST ABUNDANT TO LEAST ABUNDANT, ALL SAMPLE DEPTHS ARE REFERENCED TO RKB.

GAS CHROMATOGRAPHY EQUIPMENT IS CALIBRATED TO A TEST GAS COMPOSED OF
METHANE = 10000 PPM
ETHANE = 1000 PPM
PROPANE = 1000 PPM
I-BUTANE = 1000 PPM









SHALE = LIGHT GRAY TO MEDIUM GRAY; TOUGH TO BRITTLE TENACITY; IRREGULAR TO PLANAR FRACTURE; PLATY TO FLAKY CUTTINGS HABIT; DULL TO EARTHY LUSTER; SMOOTH TO SILTY TEXTURE; GRADES INTO SILTSTONE IN PLACES; TRACES OF PYRITE IN SAMPLE TRAY AND EMBEDDED IN SANDSTONE

SILTSTONE = BROWN TO BROWNISH GRAY; MOTTLED AND LAMINATED WITH PYRITE; TOUGH TO DENSE TENACITY; IRREGULAR TO BLOCKY FRACTURE; NODULAR TO MASSIVE CUTTINGS HABIT; DULL TO VERY SPARKLING LUSTER; SILTY TO GRITTY TEXTURE; THINLY BEDDED.

SHALE = LIGHT GRAY TO MEDIUM GRAY WITH BLUE HUES; DENSE TO BRITTLE TENACITY; IRREGULAR TO BLOCKY TO PLANAR FRACTURE; MASSIVE TO PLATY CUTTINGS HABIT; DULL TO EARTHY LUSTER; SILTY TEXTURE; THICKLY BEDDED WITH OCCASIONAL THIN BEDS OF SANDSTONE OR SILTSTONE IN-BETWEEN.

SANDSTONE = LIGHT GRAY TO WHITE WITH CLEAR AND TRANSPARENT GRAINS; ABUNDANT LOOSE GRAINS AS WELL AS ABUNDANT SMALL CLUSTERS; CLUSTERS ARE MODERATELY CALCAREOUS AND HAD A MILD TO HIGH REACTION TO DILUTE HCL; GRAINS RANGE FROM FINE TO UPPER VERY FINE; DARK LITHICS AND MAFIC MATERIAL THROUGHOUT GIVING A SALT AND PEPPER APPEARANCE; FAIR SORTING; SUB ANGULAR TO SUB ROUND; MODERATE TO LOW SPHERICITY; THIN ALTERNATING BEDS.

SHALE = LIGHT GRAY TO MEDIUM GRAY; FIRM TO CRUNCHY; IRREGULAR TO PLANAR FRACTURE; PLATY TO FLAKY TO WEDGELIKE CUTTINGS; SLI SILTY TO OCC SANDY WITH ISOLATED FINE QUARTZ GRAINS; VF MICA; VERY FINE CARBONACEOUS MATERIAL; NON TO SLI CALCAREOUS; OCC SOME BLACK CARBONACEOUS LAMINATIONS; DULL EARTHY LUSTER; SMOOTH TO SILTY TEXTURE; NO VISIBLE STRUCTURE.

SILTSTONE = LIGHT GRAY; SME VARICOLORED PURPLE; MOD HARD; MASSIVE TO PLATY CUTTINGS; IRREGULAR FRACTURE; SLI TO MODERATELY CALCAREOUS; SILTY TO GRITTY TEXTURE; SLI SPARKLING LUSTER WHEN DRIED VERY FINE CARBONACEOUS MATERIAL; VERY FINE MICA; OCC GRADES INTO VERY FINE GRAINED SANDSTONE; THINLY BEDDED WITH SHALE.

SHALE = DOMINANTLY LIGHT TO MEDIUM GRAY; SOME VARICOLORED-PROBABLE CAVINGS IN PART; FIRM TO MOD HARD; PLATY TO FLAKY TO WEDGELIKE CUTTINGS; MODERATELY CALC; SILTY IN PART; IRREGULAR TO PLANAR FRAC; SLI CALCAREOUS; CARBONACEOUS LAMINATIONS

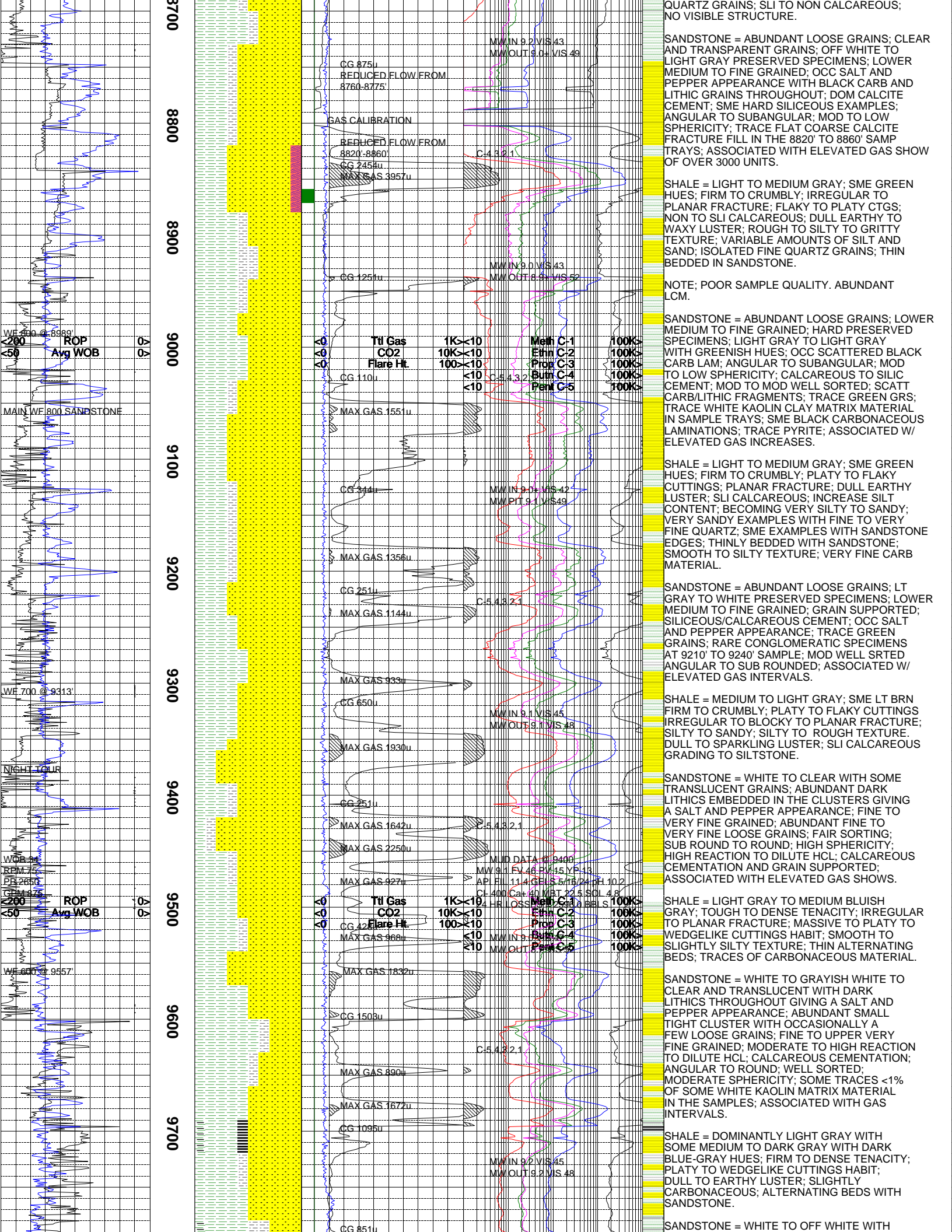
SILTSTONE = LIGHT GRAY; MODERATELY HARD; PLATY TO TABULAR CUTTINGS; IRREGULAR TO PLANAR FRACTURE; SME MOTTLED BROWN TO PURPLE SPECIMENS; VERY FINE MICA; VERY FINE CARBONACEOUS MATERIAL; SLI CALCAREOUS; DULL TO SPARKLING LUSTER WHEN DRIED; SILTY TEXTURE; NO VISIBLE STRUCTURE; THINLY BEDDED IN SHALE.

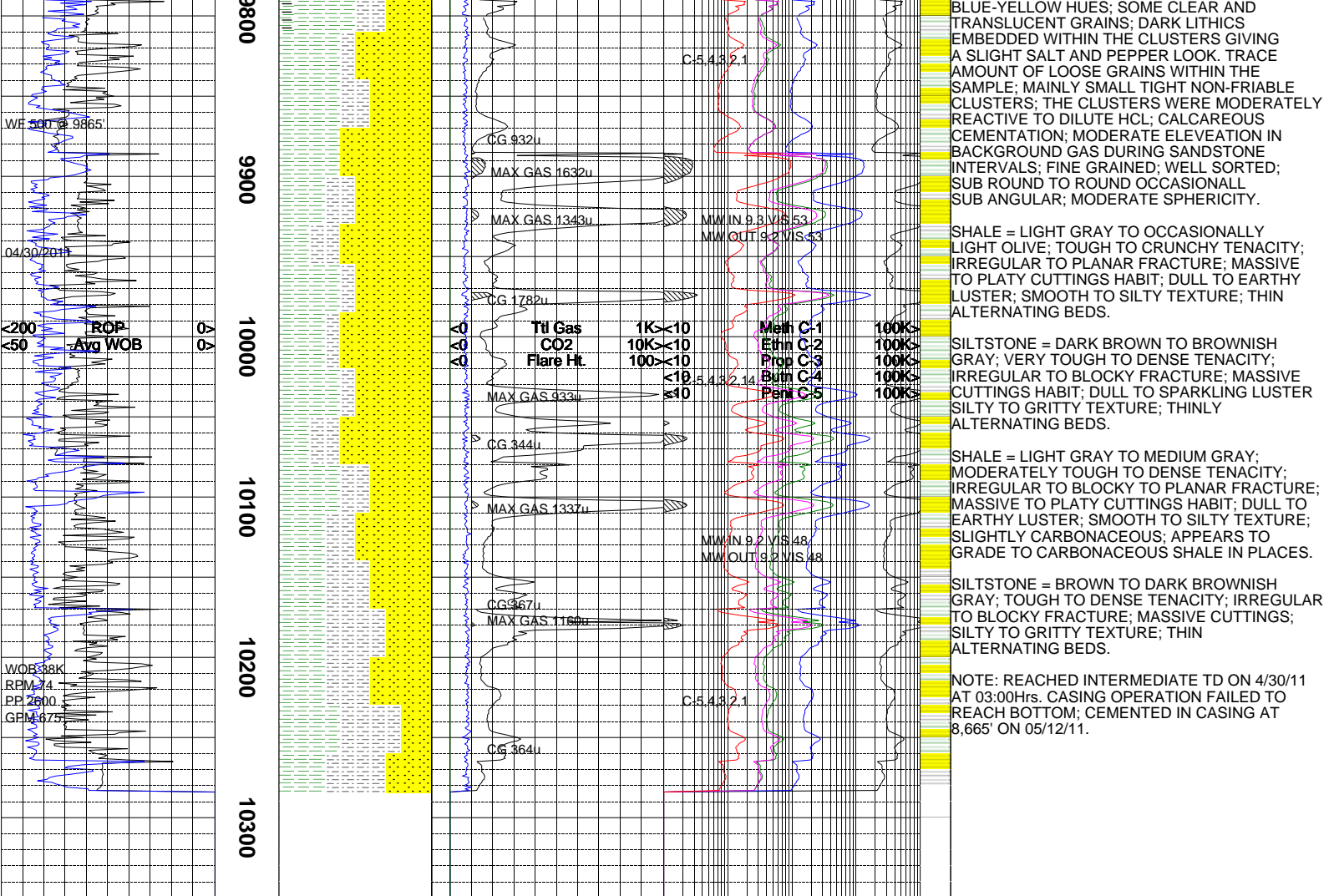
SHALE = LIGHT TO MEDIUM GRAY; FIRM TO OCC CRUMBLY; PLATY TO FLAKY CUTTINGS; SOME PURPLE TO RED BROWN EXAMPLES; PLANAR TO BLOCKY TO IRREGULAR FRACTURE; VSL SILTY; DECREASE IN SILT CONTENT; NON TO VSL CALCAREOUS; DULL EARTHY TO WAXY LUSTER; SMOOTH TO SLI SILTY TEXTURE; NO VISIBLE STRUCTURE.

SHALE = LIGHT GRAY; SME MOTTLED EXAMPLES FIRM TO SLI HARD; PLATY TO TABULAR TO FLAKY CUTTINGS; BCMG SILTY TO SANDY; SLI CALCAREOUS; SMOOTH TO SILTY TEXTURE; DULL EARTHY LUSTER; VERY FINE MICA; VERY FINE CARBONACEOUS MATERIAL; TRACE WHITE CRYSTALLINE NAHCOLITE.

SANDSTONE = ABUNDANT LOOSE GRAINS; CLEAR TO TRANSLUCENT GRAINS; LOWER MEDIUM TO FINE GRAINED; LIGHT GRAY TO WHITE GRAY PRESERVED SPECIMENS; SUB ROUNDED TO ANGULAR; DOM CALCITE CEMENT; GRAIN SUPPORTED; TRACE GREEN GRAINS; TRACE CHERT; MINOR AMOUNT OF LOOSE WHITE CALCAREOUS KAOLIN MATRIX MATERIAL IN SAMPLE TRAYS; ASSOCIATED WITH ELEVATED GAS.

SHALE = LIGHT GRAY; LIGHT GREENISH GRAY; FIRM TO BRITTLE TO CRUMBLY; PLATY TO FLAKY CUTTINGS; IRREGULAR FRACTURE; PLANAR TO BLOCKY FRACTURE; DULL EARTHY LUSTER; SMOOTH TO GRITTY TEXTURE; OCC SANDY WITH ISOLATED FINE TO VERY FINE





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