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Drilling Dynamics MD

COMPANY	EXXONMOBIL
WELL	PCU 296-6B2
FIELD	PICEANCE CREEK UNIT
REGION	ROCKY MOUNTIANS
COORDINATES	LAT 39.905269000 LON 108.205030000
ELEVATION	GL 7363.9 KB 7390.9
COUNTY, STATE	RIO BLANCO CO
API INDEX	051031154500
SPUD DATE	01-24-2011
CONTRACTOR	HELMRICH AND PAYNE
CO. REP.	SCOTT ARENBURG
RIG/TYPE	215 / FLEX 3
LOGGING UNIT	MLU 51
GEOLOGISTS	G.BAKER, D.CLAAR B.MARSH, B.JOHANNING
ADD. PERSONS	I.FAROOQUI K.WALLANDER
CO. GEOLOGIST	WILLIAM HOFFMAN

LOG INTERVAL

DEPTHS: 145' TO 10,275'
DATES: 01-24-2011 TO 02-17-2011
SCALE: 1" = 100'

CASING DATA

17" AT 145'
10.75" AT 4,627'
AT
AT

MUD TYPES

LSDN TO 10,275'
TO
TO
TO

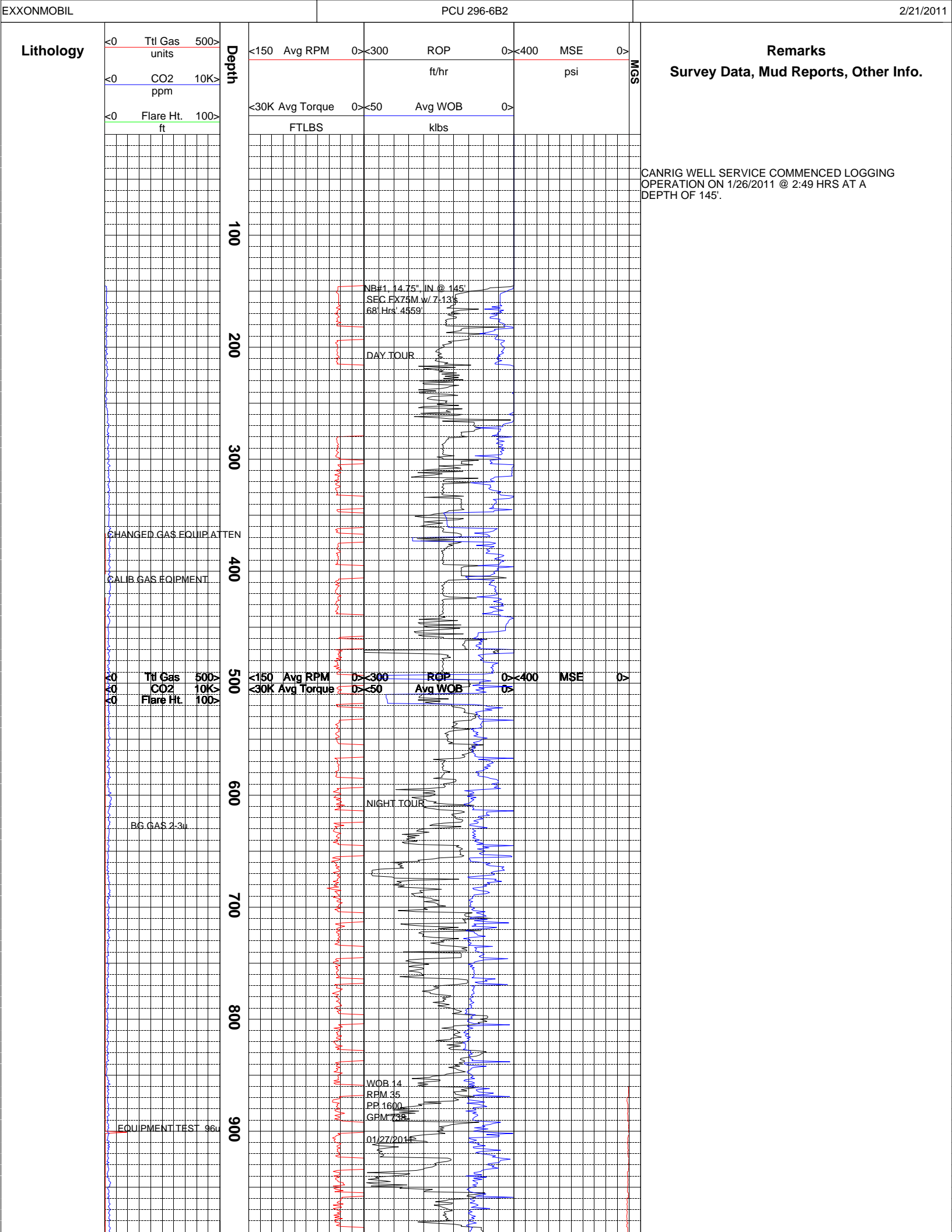
HOLE SIZE

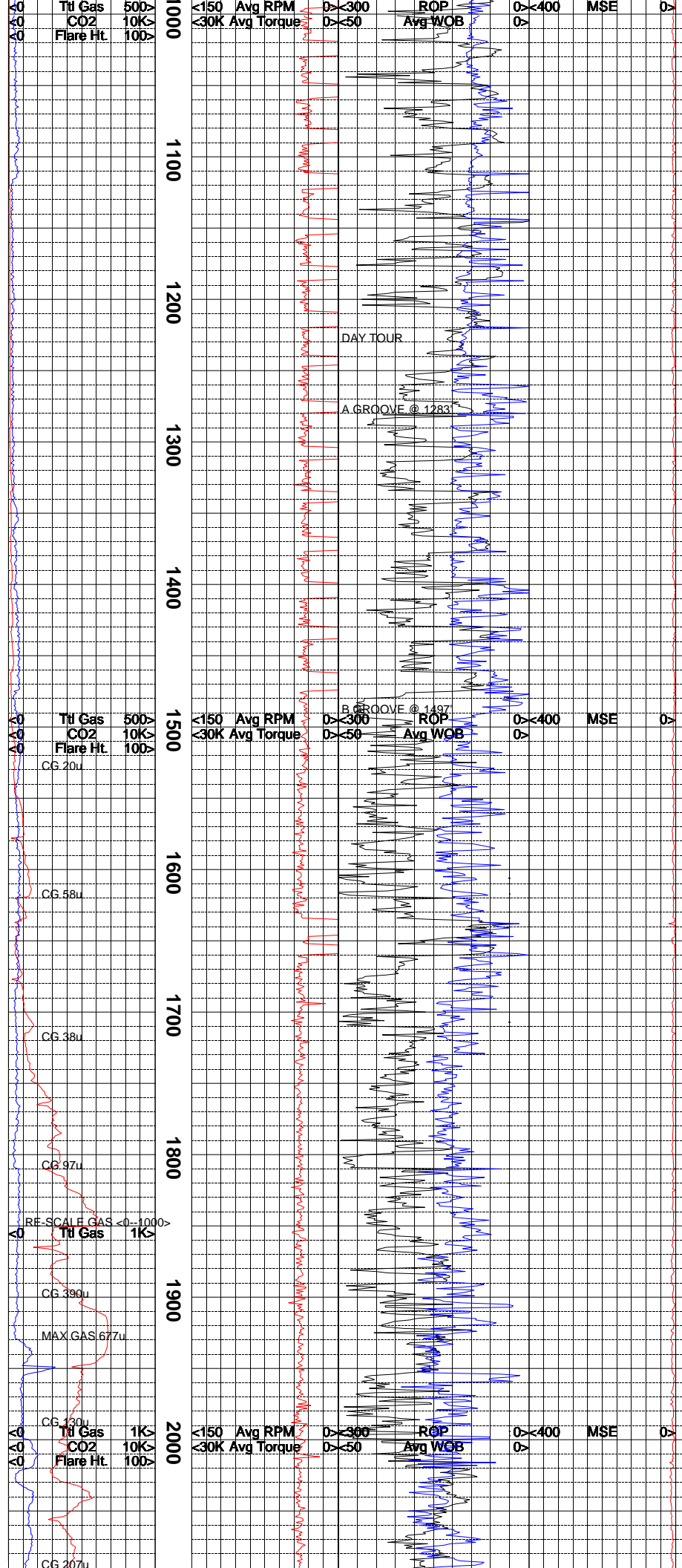
20" TO 145'
14.75" TO 4,627'
9.875" TO 10,275'
TO

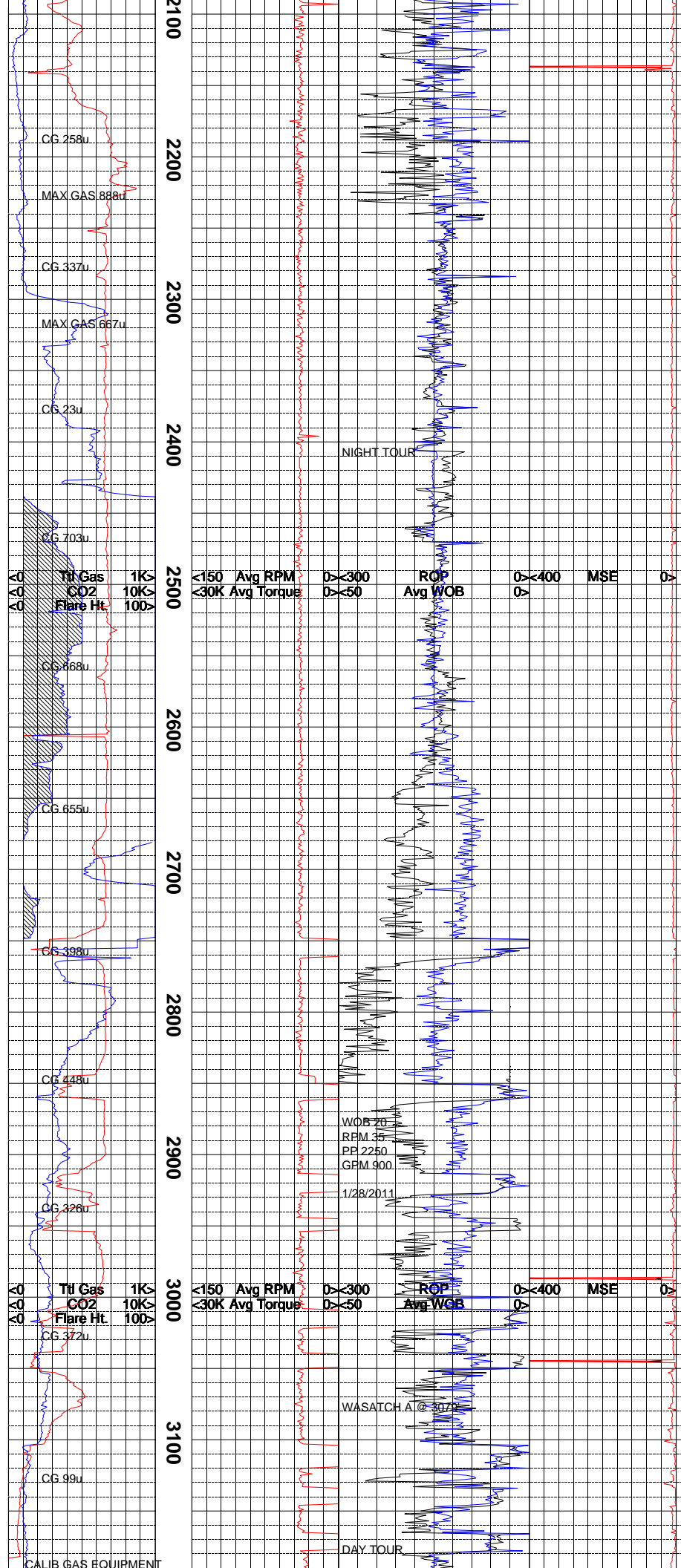
ABBREVIATIONS

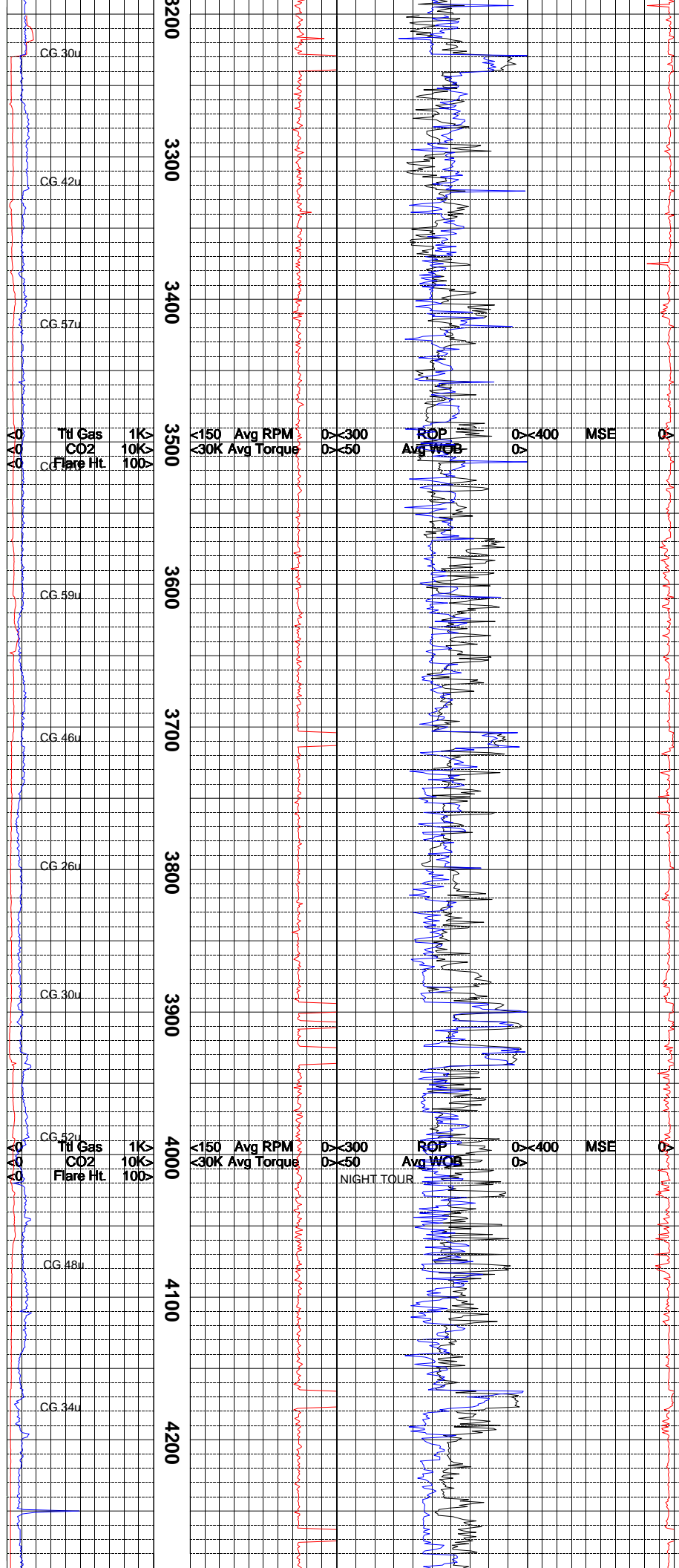
NB	NEWBIT	PV	PLASTIC VISCOSITY	LC	LOST CIRCULATION
RRB	RERUN BIT	YP	YIELD POINT	CO	CIRCULATE OUT
CB	CORE BIT	FL	FLUID LOSS	NR	NO RETURNS
WOB	WEIGHT ON BIT	CL	PPM CLORIDE ION	TG	TRIP GAS
RPM	ROTARY REV/MIN	Rm	MUD RESISTIVITY	SG	SURVEY GAS
PP	PUMP PRESSURE	Rmf	FILTRATE RESISTIVITY	WG	WIPER GAS
SPM	STROKES/MIN	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		KAOLINITIC		RECRYSTALLIZED CALCITE		VOLCANICS
	CHALK		DIATOMITE		LIMESTONE		RHYOLITE		
	CRYSTALLINE TUFF		DIORITE		LITHIC TUFF		SALT		
	CHERT - ARGILL		DOLOSTONE		MARL - DOLO		SAND		



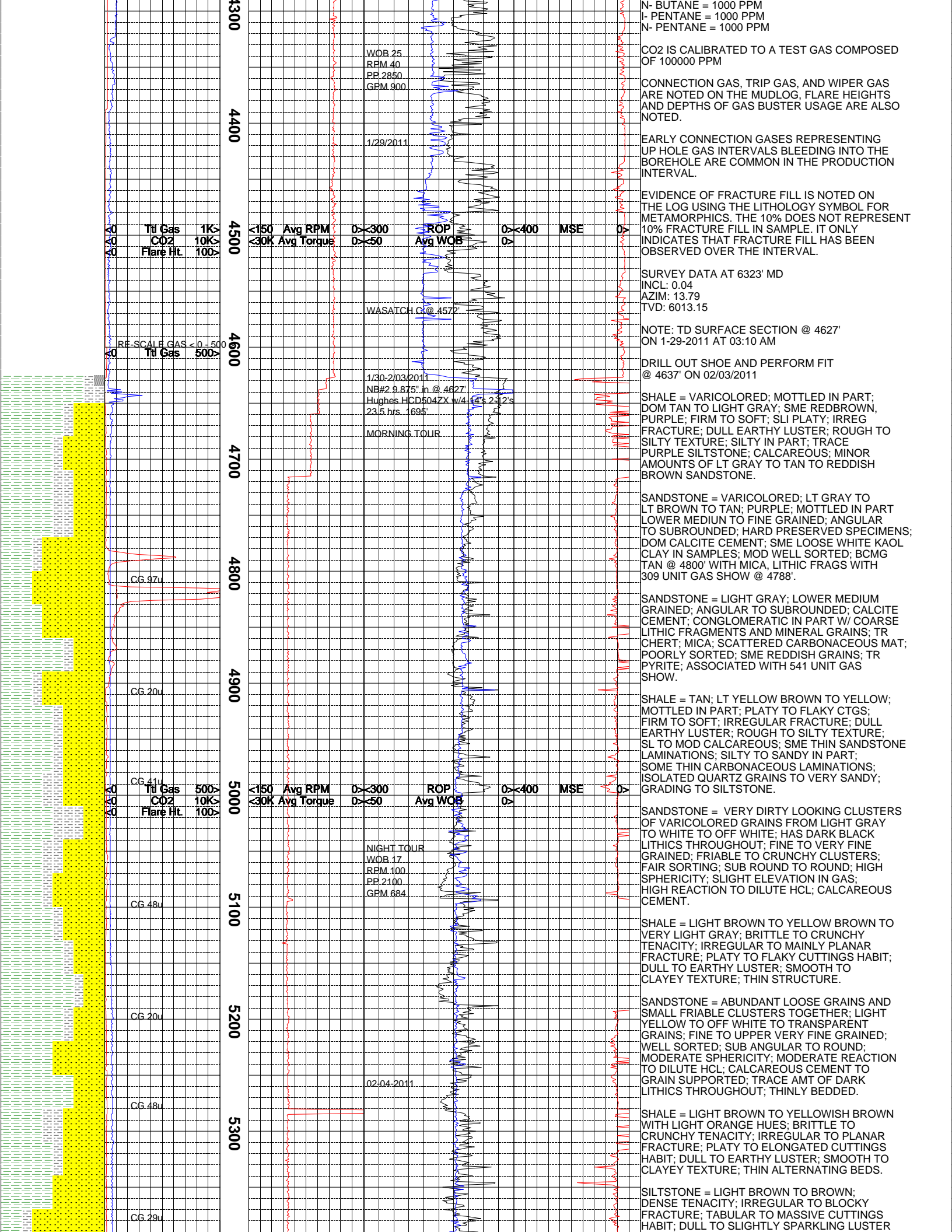


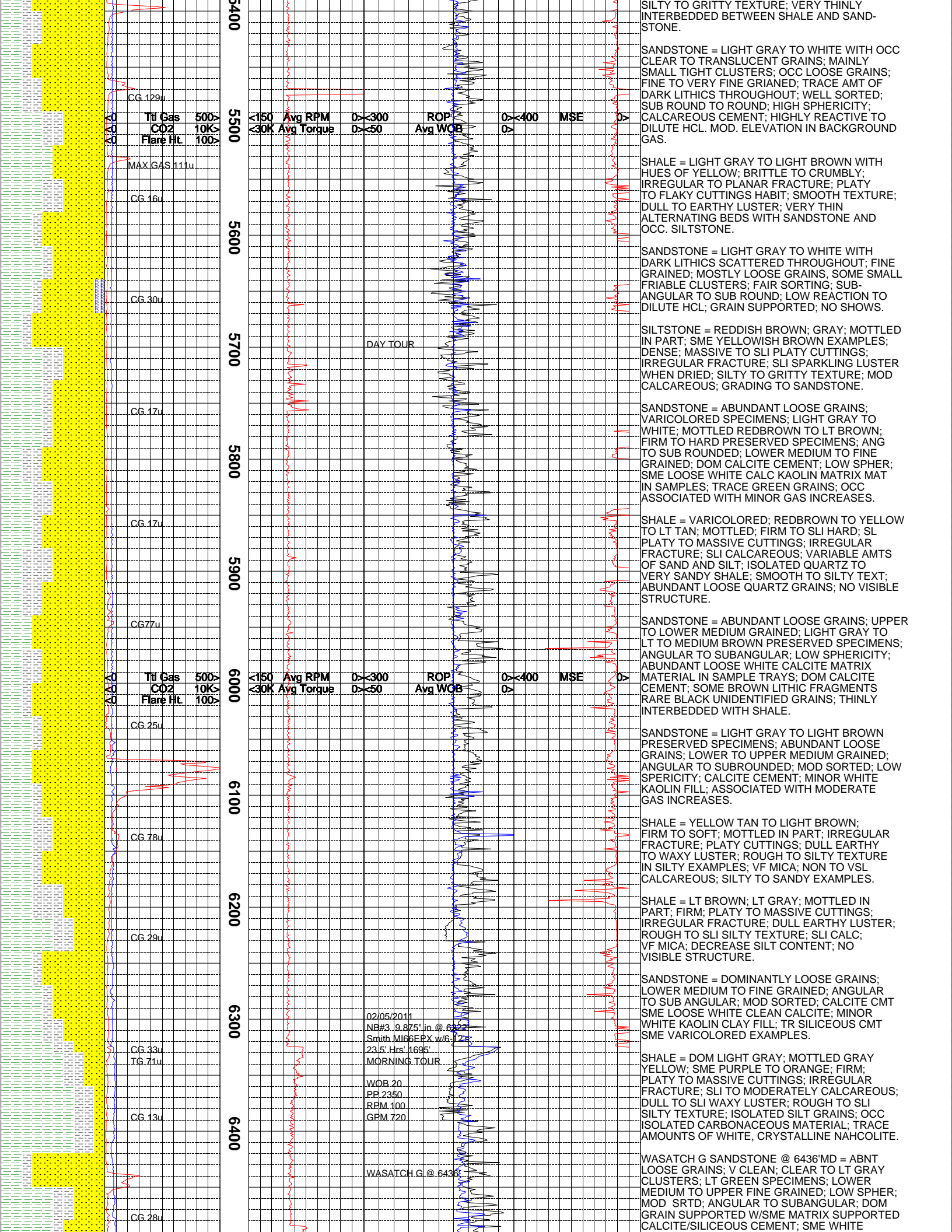


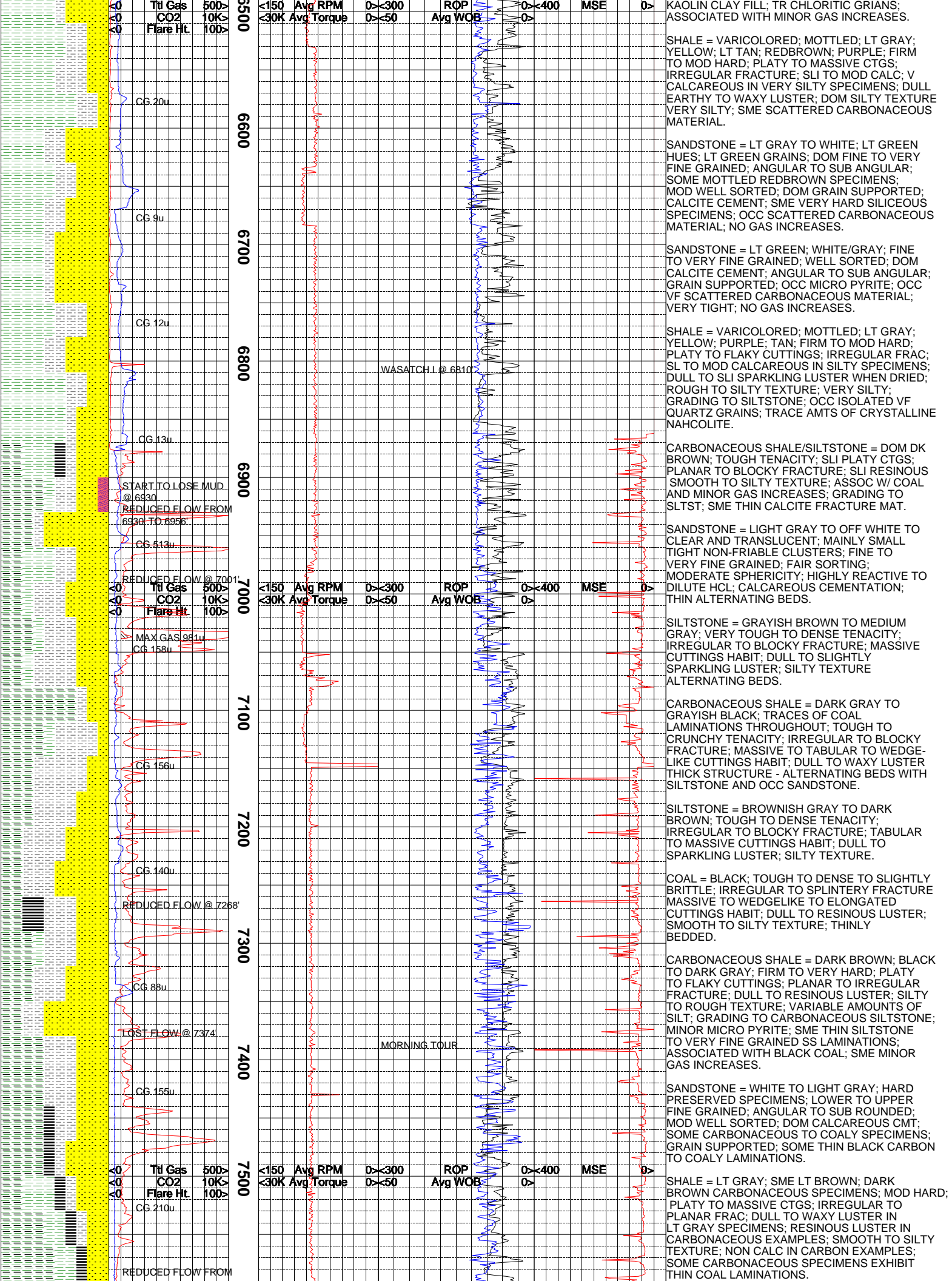


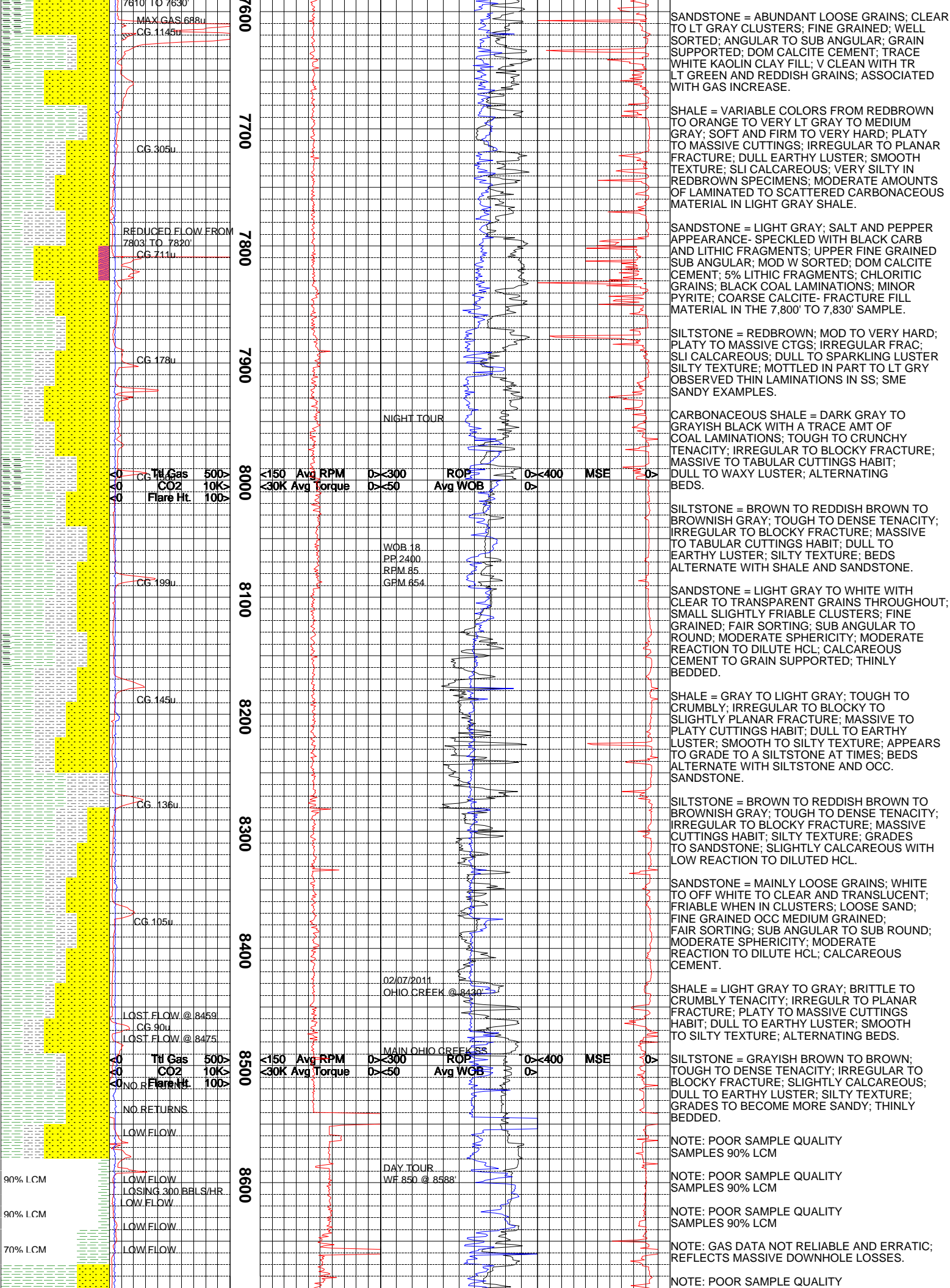
ALL ROCK COLORS ARE REFERENCED TO THE GSA ROCK COLOR CHART, ROCK CONSTITUENTS ARE DESCRIBED WET AND LISTED IN ORDER OF MOST ABUNDANT TO LEAST ABUNDANT, ALL SAMPLE DEPTHS ARE REFERENCED TO RKB.

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









LOST RETURNS
LOST TOTAL RETURNS
8750'-8770'

LOW FLOW

MAX GAS 803u

LOW FLOW

CG 478u

LOW FLOW

DTG 136u

CG 64u

NO RETURNS
Ttl Gas 500V
CO2 10KV
Flare Ht 100V

CG 783u

MAX GAS 786u

CG 498u

CG 300u

CG 84u

MAX GAS 516u

CG 155u

MAX GAS 260u

Ttl Gas 500V
CO2 10KV
Flare Ht 100V

CG 172u

CG 106u

8770

8800

8900

9000

9100

9200

9300

9400

9500

9600

9700

<150 Avg RPM 0><300 ROP 0><400 MSE 0>
<30K Avg Torque 0><50 Avg WOB 0>

WF 800 @ 8942'

MAIN WF 800 SANDSTONE

WOB 23
RPM 85
PP 2300
GPM 629

WF 700 @ 9277'

02/08/2011

<150 Avg RPM 0><300 ROP 0><400 MSE 0>
<30K Avg Torque 0><50 Avg WOB 0>

WF 600 @ 9520'

MORNING TOUR

SHALE = LT TO MEDIUM GRAY; SME GREEN;
MOTTLED IN PART; FIRM TO MOD HARD; PLATY
TO FLAKY CUTTINGS; PLANAR TO IRREGULAR
FRACTURE; DULL EARTHY TO WAXY LUSTER;
SMOOTH TO SILTY TEXTURE; NON TO VSL
CALCAREOUS.

SANDSTONE = ABUNDANT LOOSE GRAINS; WHITE
TO LIGHT GRAY; LOWER TO UPPER FINE GRND;
ANGULAR TO SUB ROUNDED; DOM CALCITE
CMT; LOW SPHERICITY; SME DARK BROWN
CARBONACEOUS MATERIAL; POOR SAMPLE
QUALITY.

SHALE = LT TO MEDIUM GRAY; SME DARK GRAY
TO DARK BROWN; FIRM TO MODERATELY HARD;
PLATY CUTTINGS; IRREGULAR FRACTURE;
DULL EARTHY TO WAXY LUSTER; VF MICA;
VERY FINE CARBONACEOUS MATERIAL.

NOTE: GAS DATA NOT RELIABLE- REFLECTS
MASSIVE DOWNHOLE MUD LOSSES.

SANDSTONE = LT GRAY WITH LT GREENISH
HUES TO LT GREEN; FINE TO VERY FINE
GRAINED; ANGULAR TO SUB ROUNDED; MOD W-
SORTED; MATRIX TO GRAIN SUPPORTED; CALC
TO SILICEOUS CEMENT; SOME VERY ARG
SPECIMENS; TRACE LT BROWN AND LT GREEN
MICA.

SANDSTONE = WHITE TO LIGHT GRAY; LOWER
TO UPPER MEDIUM GRAINED; ABUNDANT LOOSE
GRAINS; ANGULAR TO SUB ROUNDED; MOD SRTD;
DOM GRAIN SUPPORTED; SILICEOUS/CALC CMT;
TR GREEN MICA; TRACE LOOSE WHITE KAOLIN
CLAY IN SAMPLES; RARE PRESERVED CLUSTERS
TRACE LIGHT GREEN GRAINS; SCATTERED BLK
CARBONACEOUS/MAFIC GRAIN; COARSE WHITE,
FLAT CALCITE-FRACTURE FILL IN THE 9090'-
9120' SAMPLE; ASSOCIATED WITH GAS SHOWS.

SILTSTONE = BROWN TO BROWNISH RED;
TOUGH TO DENSE TENACITY; IRREGULAR TO
BLOCKY FRACTURE; MASSIVE TO TABULAR
CUTTINGS HABIT; DULL TO SLIGHTLY
SPARKLING LUSTER; SILTY TO GRITTY
TEXTURE; APPEARS TO GRADE TO SANDSTONE
IN PLACES WHERE IT GETS GRITTIER.

SANDSTONE = WHITE TO LIGHT GRAY WITH
CLEAR AND TRANSLUCENT GRAINS; TRACE
AMOUNT OF DARK LITHICS GIVING A SLIGHT
SALT PEPPER APPEARANCE; ABUNDANT LOOSE
GRAINS; SUB ANGULAR TO SUB ROUNDED;
FAIR SORTING; MODERATE SPHERICITY WHEN
IN CLUSTERS; SLIGHT REACTIN TO DILUTE
HCL; CALCAREOUS CEMENT WHEN IN CLUSTERS
TO GRAIN SUPPORTED; MAINLY LOOSE
GRAINS; ASSOCIATED WITH INCREASE
GAS.

SHALE = GRAY TO LIGHT GRAY; BRITTLE TO
CRUNCHY TENACITY; IRREGULAR TO BLOCKY
TO SLIGHTLY PLANAR FRACTURE IN SOME
SPECIMENS; MASSIVE TO PLATY CUTTINGS
HABIT; DULL TO EARTHY LUSTER; SMOOTH
TO SLIGHTLY SILTY TEXTURE; ALTERNATING
BEDS.

SANDSTONE = LIGHT GRAY TO WHITE WITH
TRANSLUCENT AND TRANSPARENT GRAINS;
A TRACE AMT OF DARK LITHICS GIVING A
SALT AND PEPPER APPEARANCE; MEDIUM TO
FINE OCC VERY FINE GRAINS; WELL SORTED;
SUB ANGULAR TO SUB ROUNDED; ABOUT 50/50
COMBINATION OF SMALL NON-FRIABLE
CLUSTERS AND LOOSE GRAINS; WHEN IN
CLUSTERS HAS CALCITE CEMENT AND
MODERATE TO HIGH REACTION TO HCL; NO
REACTION FROM LOOSE GRAINS; INCREASE IN
GAS.

SHALE = LT TO MEDIUM GRAY; SME MEDIUM
BROWN EXAMPLES; FIRM TO MOD HARD;
PLATY TO FLAKY CUTTINGS; IRREGULAR TO
PLANAR FRACTURE; VF MICA; SLI TO MOD
CALCAREOUS IN SILTY EXAMPLES; ROUGH
TO SILTY TEXTURE; SILTY IN PART; OCC MOD
AMOUNTS OF CARBONACEOUS MATERIAL.

NOTE: VERY POOR SAMPLE QUALITY- ABUNDANT
LCM MATERIAL.

SANDSTONE = LT GRAY WITH LT BROWN HUES;
FINE TO VERY FINE GRAINED; ANGULAR TO
SUB ROUNDED; MOD SRTED; DOM CALCITE CMT;
LOW TO MOD SPHERICITY; TRACE WHITE KAOL
CLAY FILL; OCC SPECKLED WITH BLACK CARB
MATERIAL.

SILTSTONE = BROWN TO BROWNISH GRAY;
HARD TO TOUGH; PLATY TO TABULAR CUTTINGS
IRREGULAR FRACTURE; SPARKLING LUSTER
WHEN DRIED; GRITTY TEXTURE; SLI TO MOD
CALCAREOUS; THINLY BEDDED WITH SHALE AND
SILTSTONE.

SANDSTONE = LIGHT GRAY TO WHITE; SME LT

