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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

Drilling Dynamics MD

COMPANY	EXXONMOBIL
WELL	PCU 296-5A9
FIELD	PICEANCE CREEK
REGION	ROCKIES
COORDINATES	LAT: 39.911922 LONG:-108.198686
ELEVATION	G.L.: 7294.1' RKB: 30.2
COUNTY, STATE	RIO BLANCO, CO
API INDEX	051031124100
SPUD DATE	12/05/2009
CONTRACTOR	HELMERICH_PAYNE
CO. REP.	C. CURTIS
RIG/TYPE	FLEX 4S / HP 321
LOGGING UNIT	ML031
GEOLOGISTS	B. SMELSER, M. GROSS C. RECORD
ADD. PERSONS	
CO. GEOLOGIST	C. ALBA

LOG INTERVAL

CASING DATA

DEPTHS: 4779' TO 13772'

DATES: 01/27/2011 TO 04/15/2011

SCALE: 1" = 100'

16" AT 150'

10.75" AT 4764'

7.00" AT 10032'

AT

MUD TYPES

HOLE SIZE

SPUD MUD TO 4779'

LSND TO 13772'

TO

TO

14.75" TO 4779'

9.875" TO 10051'

6.125" TO 13772'

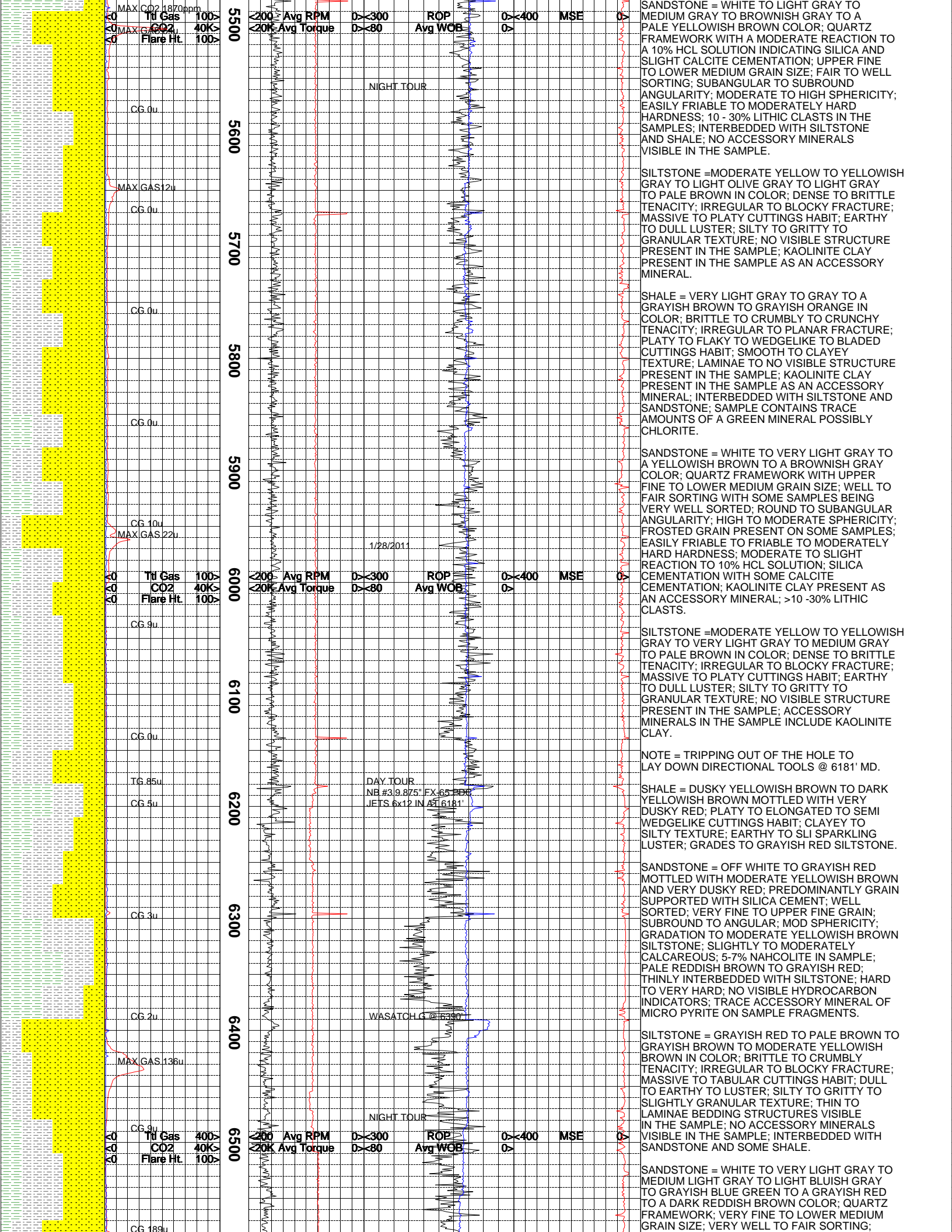
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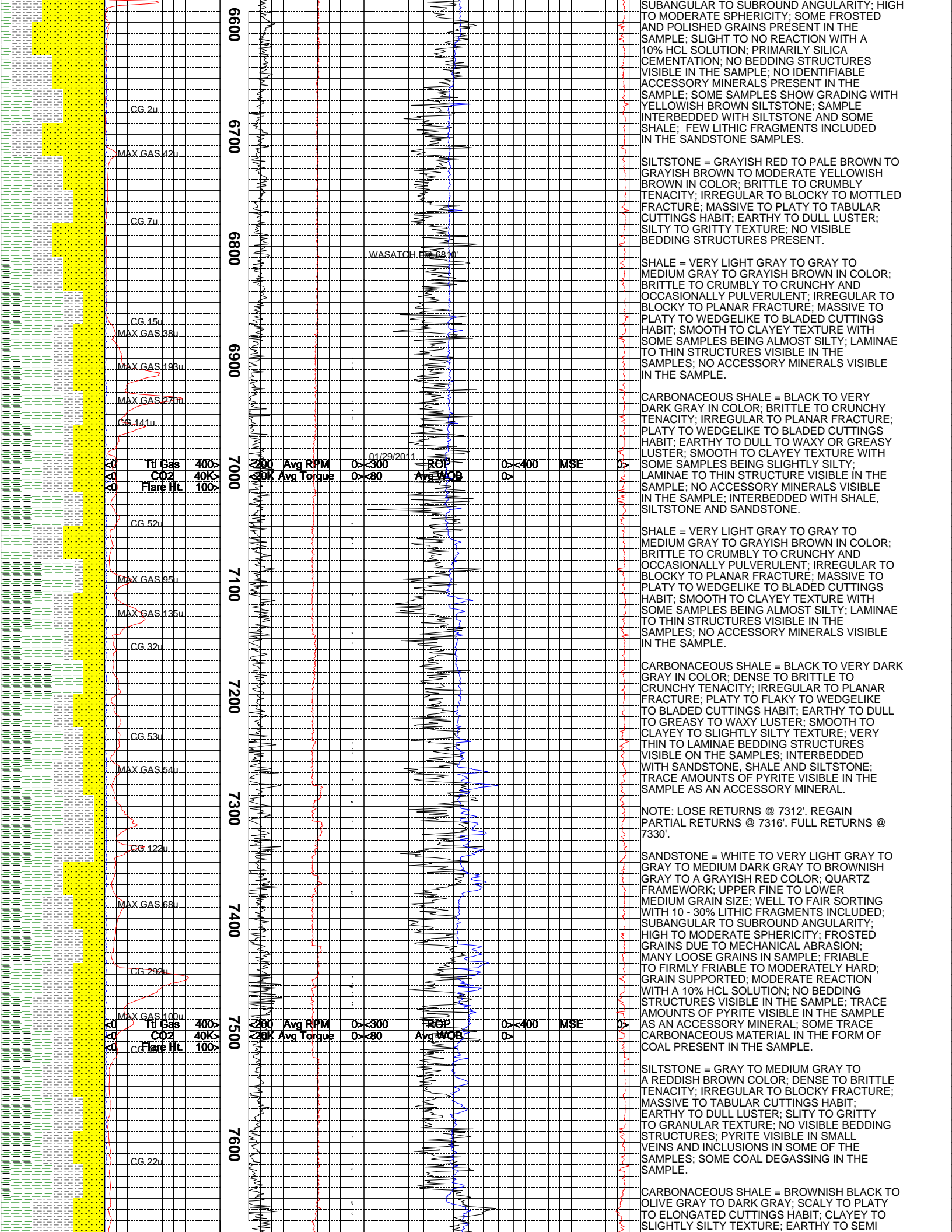
ABBREVIATIONS

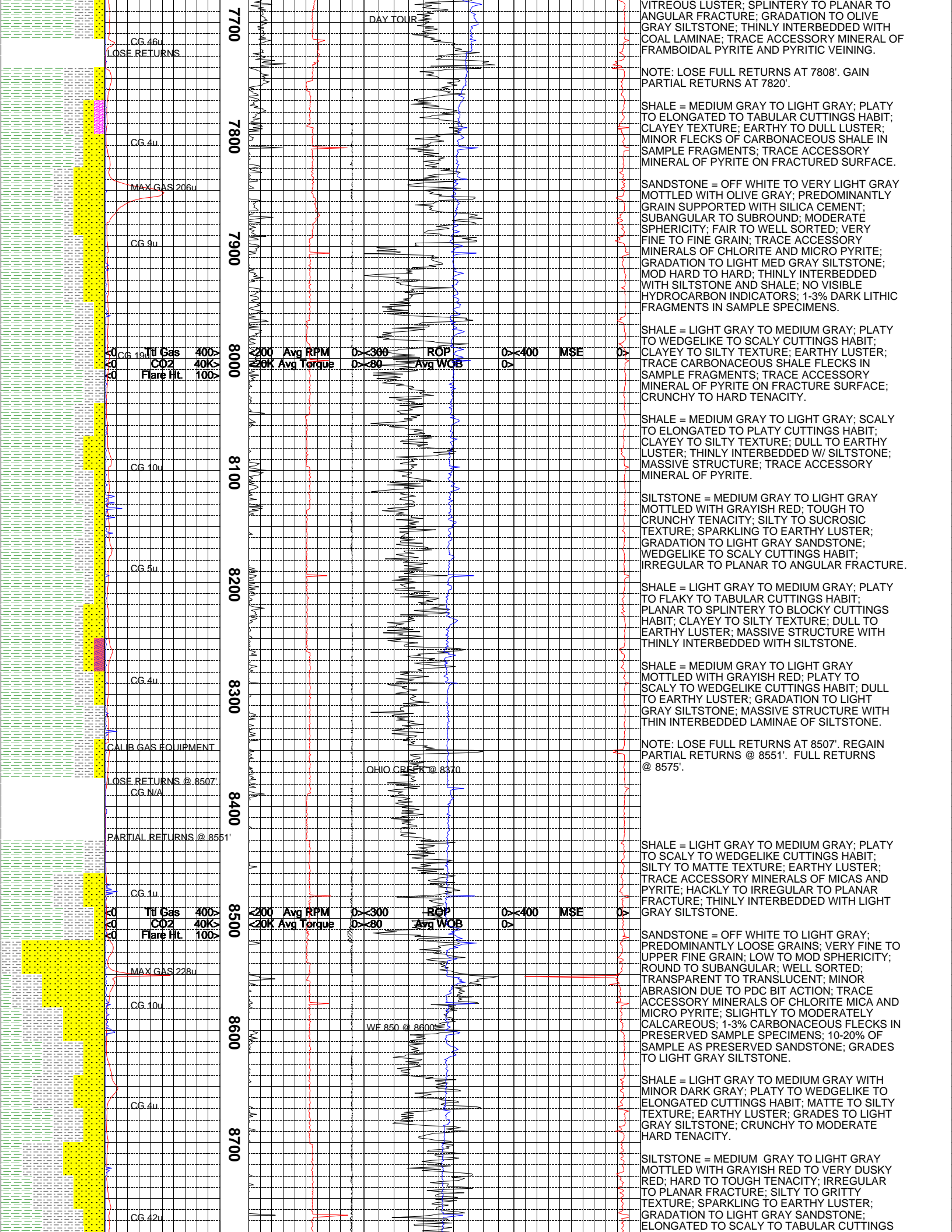
NB	NEWBIT	PV	PLASTIC VISCOSITY	LC	LOST CIRCULATION
RRB	RERUN BIT	YP	YIELD POINT	CO	CIRCULATE OUT
CB	CORE BIT	FL	FLUID LOSS	NR	NO RETURNS
WOB	WEIGHT ON BIT	CL	PPM CLORIDE ION	TG	TRIP GAS
RPM	ROTARY REV/MIN	Rm	MUD RESISTIVITY	SG	SURVEY GAS
PP	PUMP PRESSURE	Rmf	FILTRATE RESISTIVITY	WG	WIPER GAS
SPM	STROKES/MIN	PR	POOR RETURNS	CG	CONNECTION GAS
MW	MUD WEIGHT	LAT	LOGGED AFTER TRIP		
VIS	FUNNEL VISCOSITY	LAS	LOGGED AFTER SURVEY		

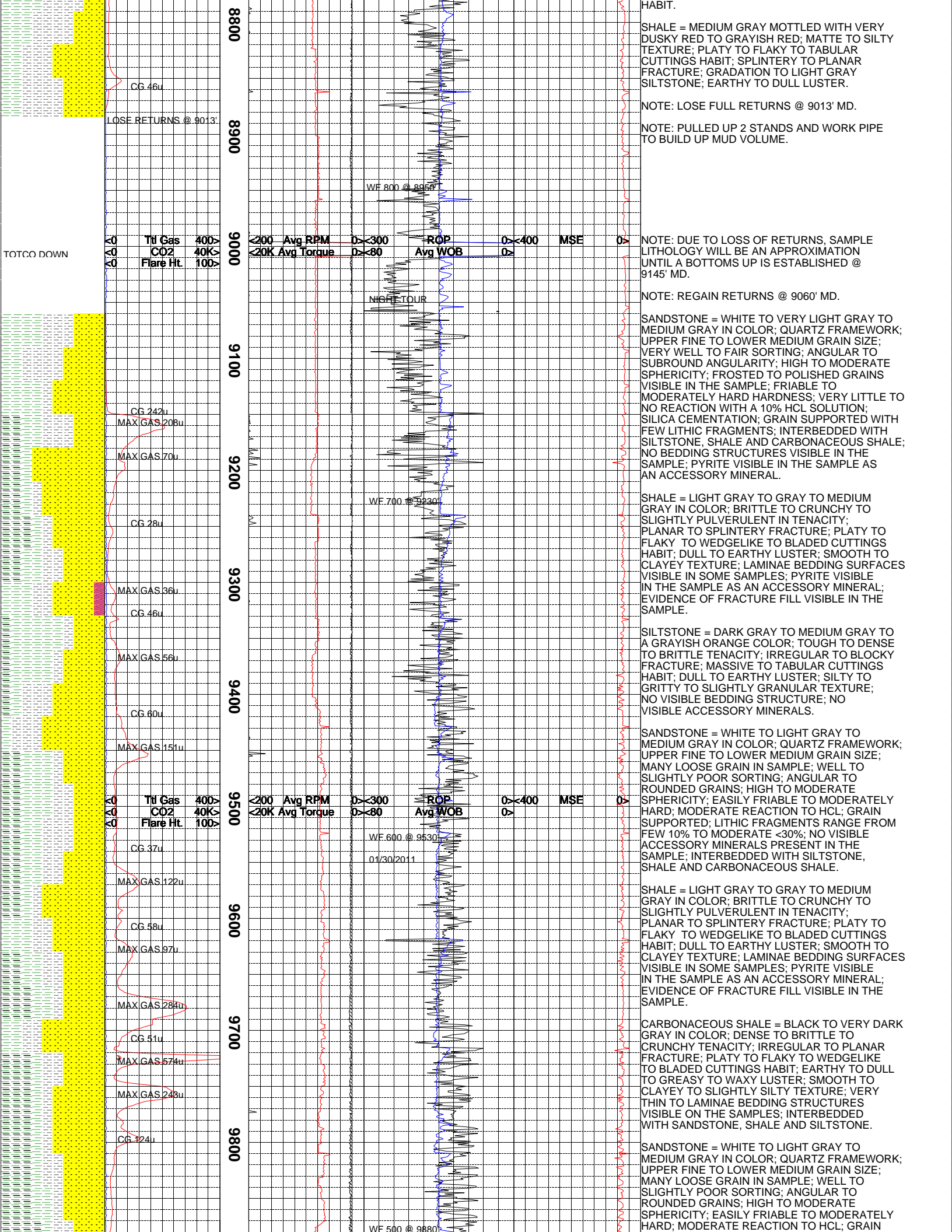
	ALTERED ZONE		CHERT - GLASSY		FELSIC SILIC DIKE		MARL - CALC		SANDSTONE
	ANDESITE		CHERT - PORCEL		FOSSIL		METAMORPHICS		SANDSTONE-TUFFACEOUS
	ANHYDRITE		CHERT - TIGER STRIPE		GABBRO		MUDSTONE		SERICITIZATION
	BASALT		CHERT - UNDIFF		GLASSY TUFF		OBSIDIAN		SERPENTINE
	BENTONITE		CLAY		GRANITE		PALEOSOL		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		

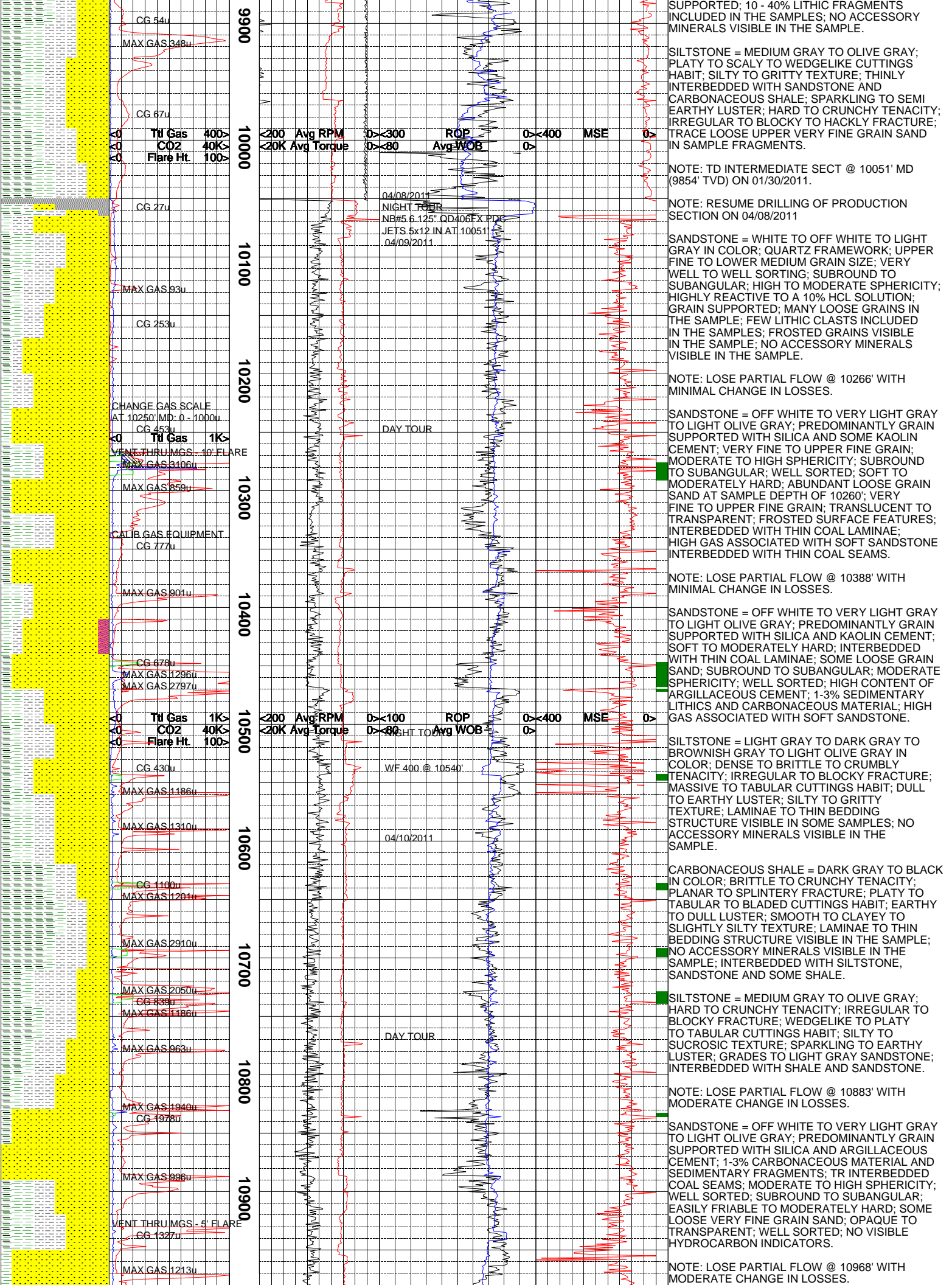
Lithology	<0 Ttl Gas 1K> units			Depth	<200 Avg RPM 0><100 ROP 0><400 MSE 0>			MGS	Remarks
	<0 CO2 40K> ppm				ft/hr				
	<0 Flare Ht. 100> ft				psi				
				<20K Avg Torque 0><80 Avg WOB 0>					
				FTLBS	klbs				
ALL SAMPLE COLOR DESCRIPTIONS REFERENCED TO THE G.S.A. ROCK COLOR CHART.									
ROCK CHARACTERISTICS AND CONSTITUENTS ARE LISTED FROM MOST ABUNDANT TO LEAST ABUNDANT PERCENTAGE OF SAMPLE.									
GAS CALIBRATED TO S.P.L.W.A. STANDARDS (2% ME = 100 UNITS). GAS CHROMATOGRAPHY EQUIPMENT CALIB TO A TEST GAS COMPOSED OF THE FOLLOWING:									
METHANE = 10,000 PPM ETHANE = 1,000 PPM PROPANE = 1,000 PPM I-BUTANE = 1,000 PPM N-BUTANE = 1,000 PPM I-PENTANE = 1,000 PPM N-PENTANE = 1,000 PPM									
EPOCH WELL SERVICES COMMENCED LOGGING THE PCU 296-5A 09 WELL ON 1/27/2011 @ 4779' MD.									
SHALE = DARK YELLOWISH BROWN TO GRAYISH BROWN TO MODERATE YELLOWISH BROWN; PLATY TO FLAKY CUTTINGS HABIT; PLANAR TO SPLINTERY FRACTURE; EARTHY LUSTER; MINOR AMOUNTS OF CLAY WASHED OUT DURING CLEANING; THINLY INTERBEDDED WITH SILTSTONE.									
SHALE = DARK YELLOWISH BROWN TO VERY DUSKY RED TO MEDIUM GRAY; PLATY TO SCALY TO TABULAR CUTTINGS HABIT; CLAYEY TO SLIGHTLY SILTY TEXTURE; DULL TO EARTHY LUSTER; THINLY INTERBEDDED W/ SILTSTONE AND PALE YELLOWISH BROWN SANDSTONE; CRUMBLY TO STIFF TENACITY.									
SHALE = DARK YELLOWISH BROWN TO MOD YELLOWISH BROWN TO VERY DUSKY RED; PLANAR TO SPLINTERY TO HACKLY FRACTURE; DULL EARTHY TO TRACE SPARKLING LUSTER; GRADES TO PALE YELLOWISH BROWN SILTSTONE; TR FRAGMENTS OF PALE BROWN LIMESTONE.									
SANDSTONE = VERY DUSKY RED TO PALE YELLOWISH BROWN TO LIGHT GRAY; HARD TO VERY HARD; PREDOMINANTLY GRAIN SUPPORTED WITH SILICA AND MINOR CALCITE CEMENT; MODERATELY CALCAREOUS; VERY FINE TO UPPER FINE GRAIN; GRADATION TO SILTSTONE; 2-4% LITHIC FLECKS IN SAMPLE FRAGMENTS; INTERBEDDED WITH SILTSTONE AND SHALE; FAIRLY SORTED; LOW TO MOD SPHERICITY; ANGULAR TO SUBROUND; NO VISIBLE HYDROCARBON INDICATORS.									
SHALE = DARK YELLOWISH BROWN TO VERY DUSKY RED TO MODERATE YELLOWISH BROWN; SCALY TO WEDGE LIKE TO PLATY CUTTINGS HABIT; CLAYEY TO SILTY TEXTURE; GRADES TO SILTSTONE; CRUMBLY TO STIFF TENACITY; EARTHY LUSTER; MASSIVE STRUCTURE WITH MOTTLED COLORS.									
SHALE = MODERATE YELLOWISH BROWN TO DARK YELLOWISH BROWN TO VERY DUSKY RED; CLAYEY TO SILTY TEXTURE; PLANAR TO SPLINTERY TO ANGULAR FRACTURE; SCALY TO WEDGE LIKE TO FLAKY CUTTINGS HABIT; DULL TO EARTHY LUSTER; GRADES TO PALE YELLOWISH BROWN SILTSTONE.									
SHALE = DARK YELLOWISH BROWN TO PALE YELLOWISH BROWN MOTTLED WITH VERY DUSKY RED; CLAYEY TO SILTY TEXTURE; SOFT TO CRUMBLY TENACITY; DULL EARTHY LUSTER; IRREGULAR TO ANGULAR TO PLANAR FRACTURE; WEDGE LIKE TO TABULAR TO PLATY CUTTINGS HABIT; GRADATION TO SILTSTONE; MINOR TO MODERATE REACTION TO HCl; TRACE AMOUNTS OF LIMESTONE FRAGS IN SAMPLE.									
SILTSTONE = MODERATE YELLOWISH BROWN TO GRAYISH RED MOTTLED WITH MEDIUM GRAY; SEMI NODULAR TO ELONGATED TO PLATY CUTTINGS HABIT; SILTY TO GRITTY TEXTURE; SPARKLING LUSTER; MINOR LOOSE FINE GRAIN SAND IN SAMPLE FRAGMENTS; GRADATION TO SANDSTONE.									

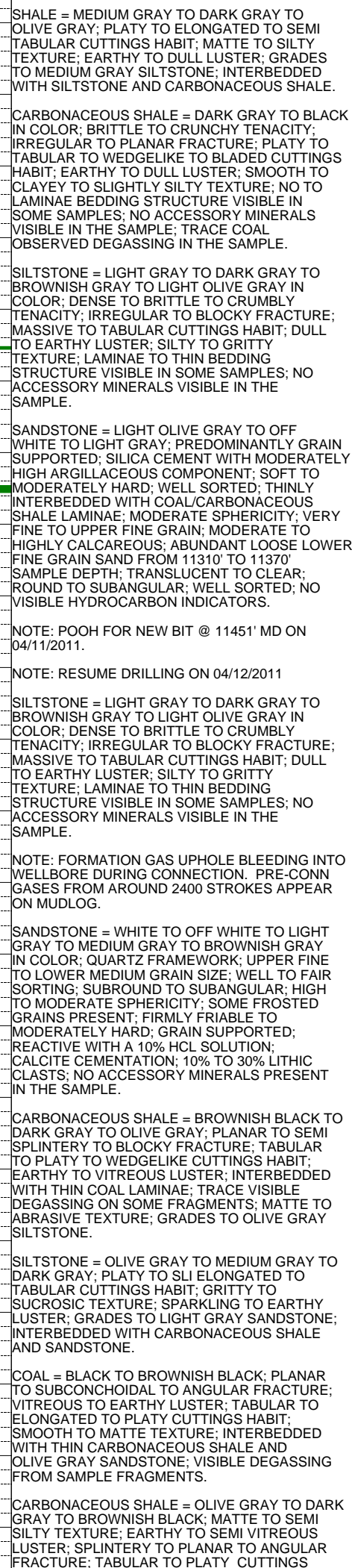


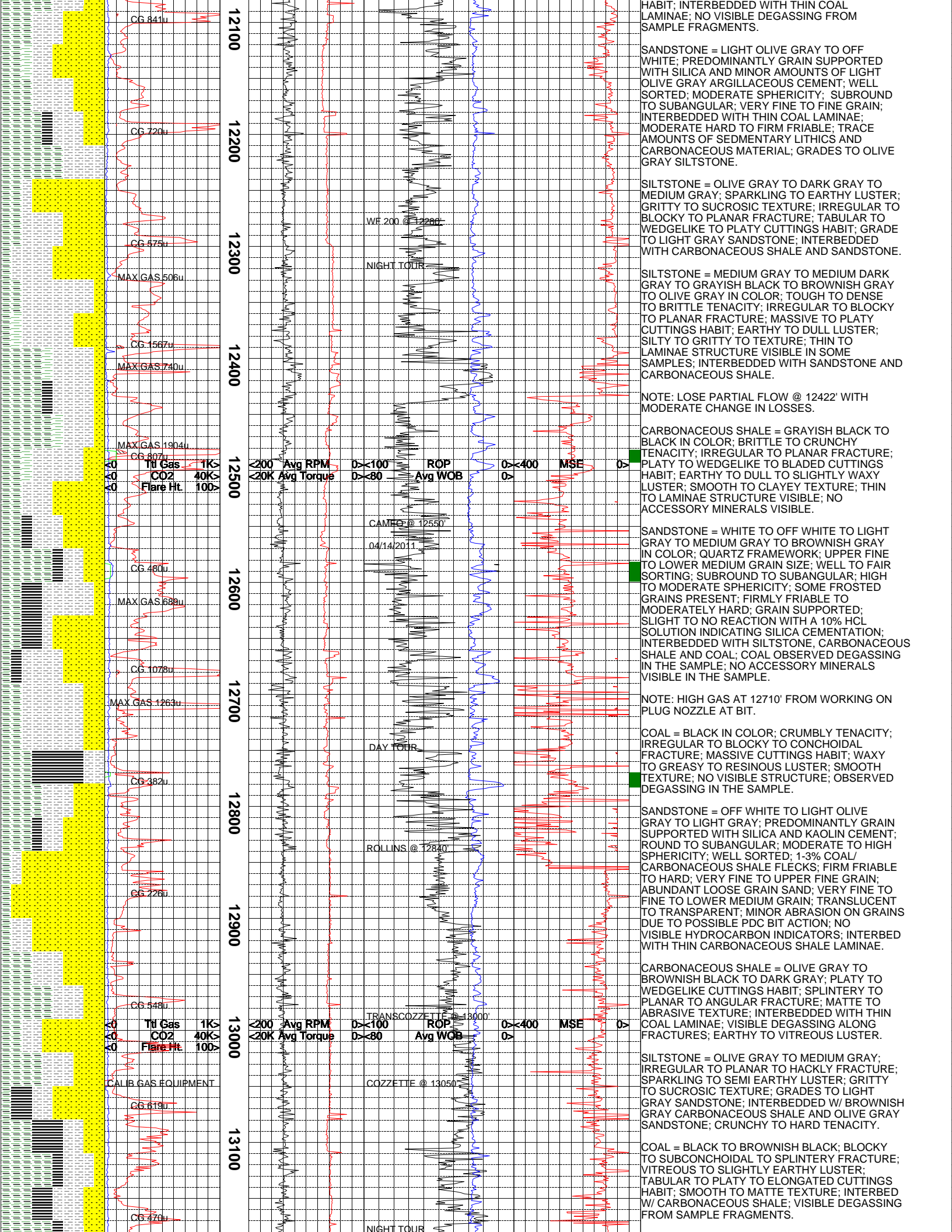


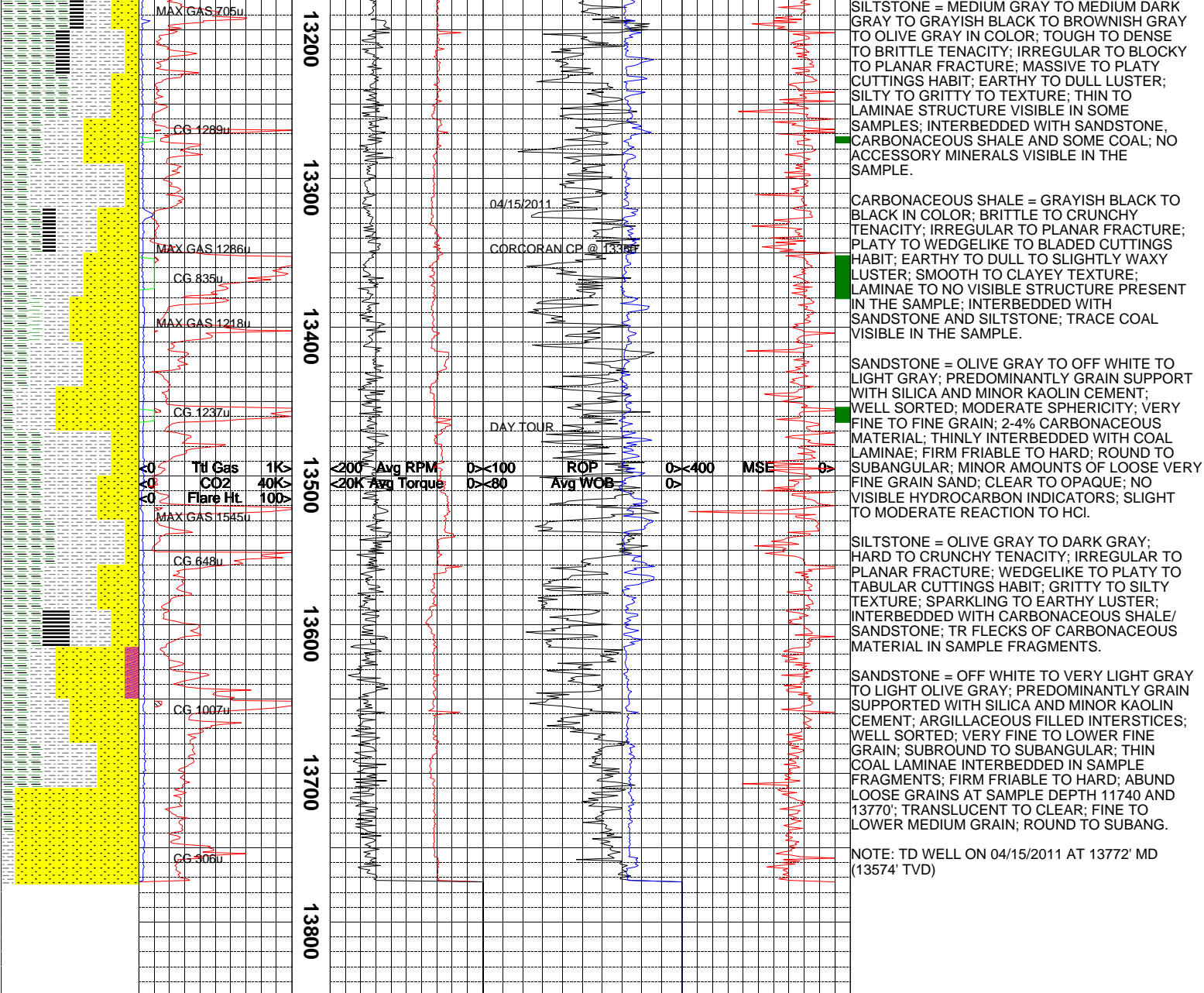












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