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## MUDLOG TVD

<b>COMPANY</b>	ExxonMobil Production
<b>WELL</b>	Freedom Unit 197-33A8
<b>FIELD</b>	Piceance Creek
<b>REGION</b>	Rockies
<b>COORDINATES</b>	39.915617000 108.285739000
<b>ELEVATION</b>	GL:6387 KB: 6414
<b>COUNTY, STATE</b>	Rio Blanco, Colorado
<b>API INDEX</b>	05-103-1140-100
<b>SPUD DATE</b>	January 28, 2010
<b>CONTRACTOR</b>	Helmerich and Payne
<b>CO. REP.</b>	Ricky T. Owens
<b>RIG/TYPE</b>	215/ Flex 3
<b>LOGGING UNIT</b>	MLU051
<b>GEOLOGISTS</b>	George Baker Brenda Marsh
<b>ADD. PERSONS</b>	Devin Claar Bill Johanning
<b>CO. GEOLOGIST</b>	Melanie Biggs

### LOG INTERVAL

<b>DEPTHS:</b>	3,900'	<b>TO</b>	12,457'
<b>DATES:</b>	1/28/2010	<b>TO</b>	2/12/2010
<b>SCALE:</b>	1" = 100'		

### CASING DATA

10.75"	<b>AT</b>	3,914'
7.00"	<b>AT</b>	8,646'
4.5"	<b>AT</b>	12,457'
	<b>AT</b>	

### MUD TYPES

SPUD	<b>TO</b>	3,900'
LSND	<b>TO</b>	12,457'
	<b>TO</b>	
	<b>TO</b>	

### HOLE SIZE

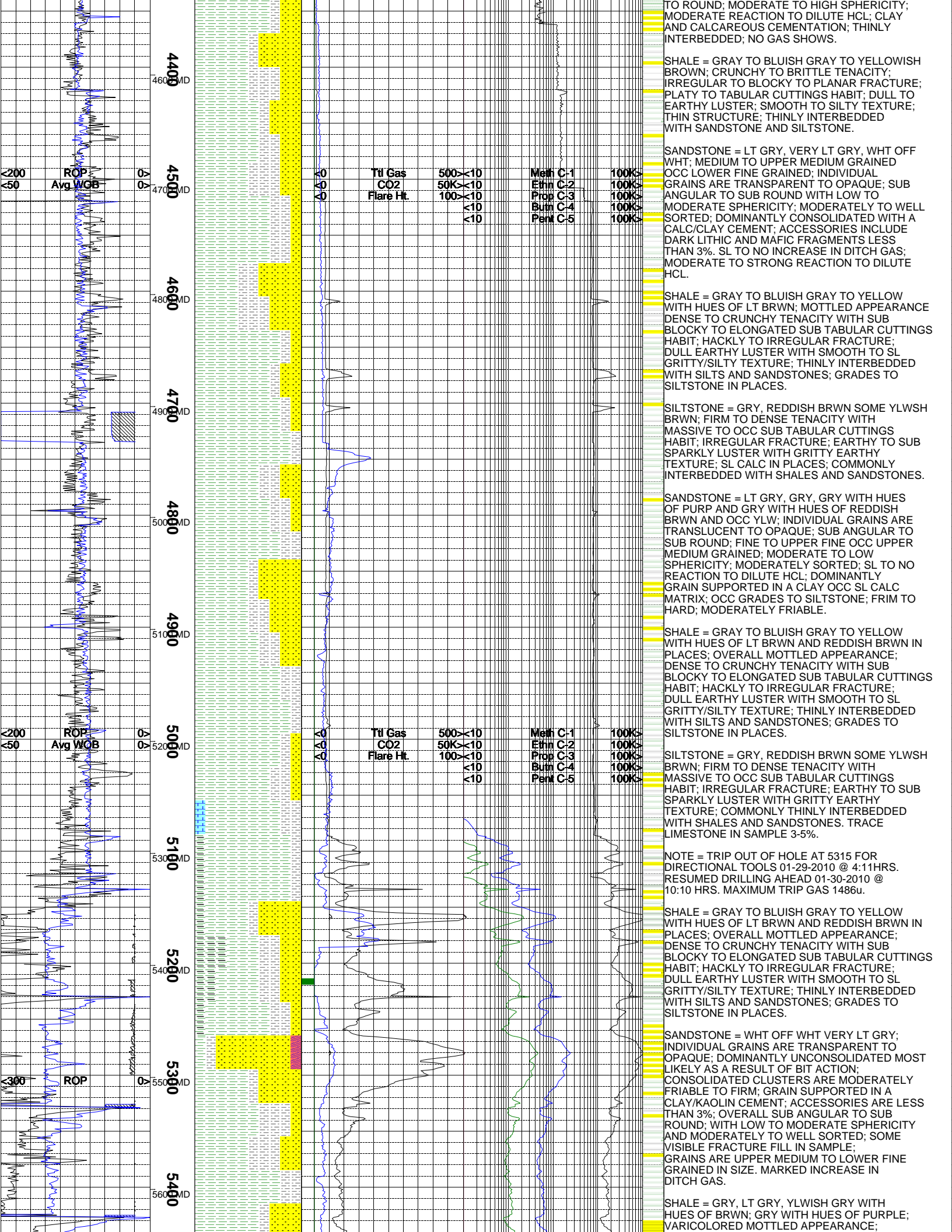
9.875"	<b>TO</b>	8,648"
6.125"	<b>TO</b>	12.457'
	<b>TO</b>	
	<b>TO</b>	

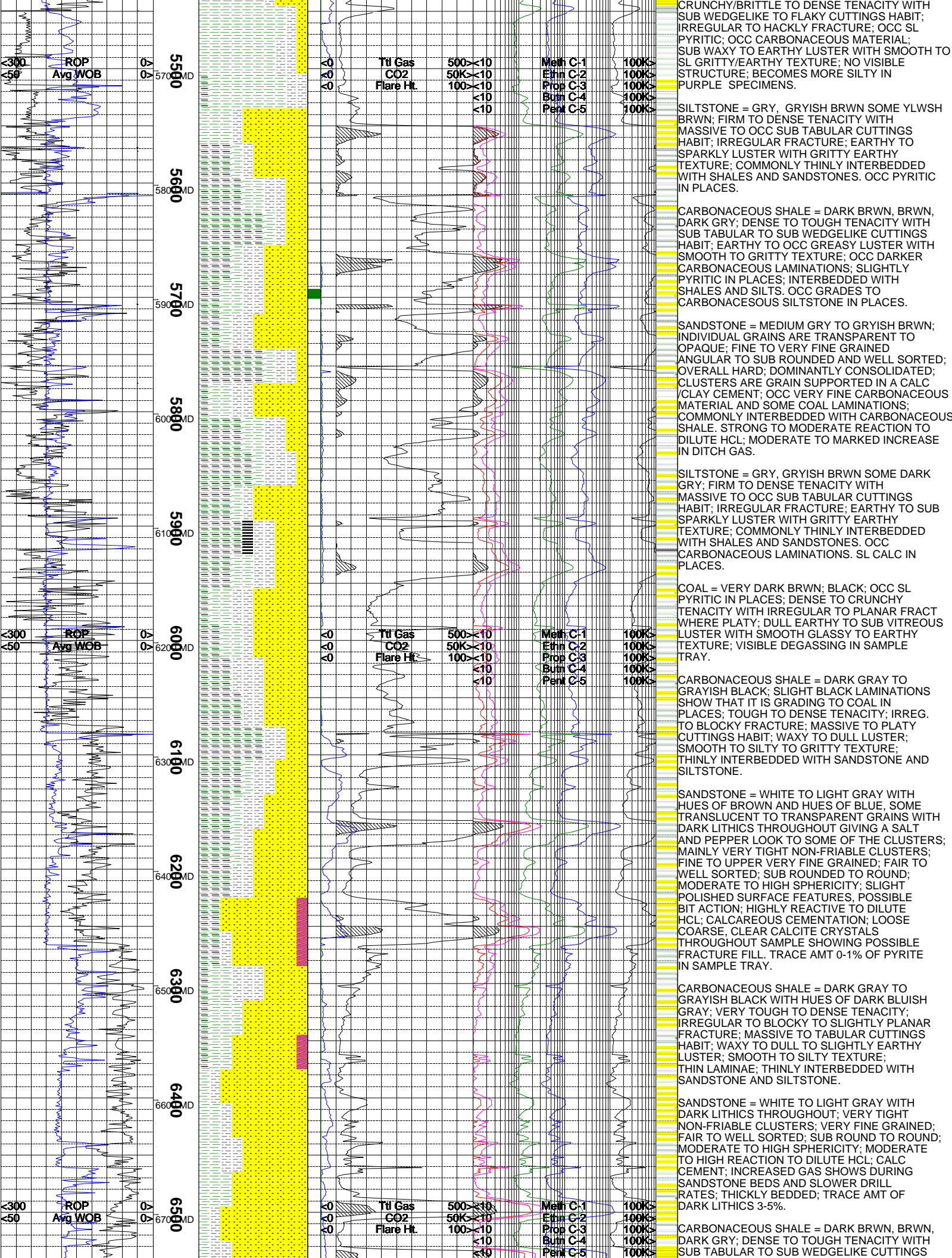
### ABBREVIATIONS

<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	

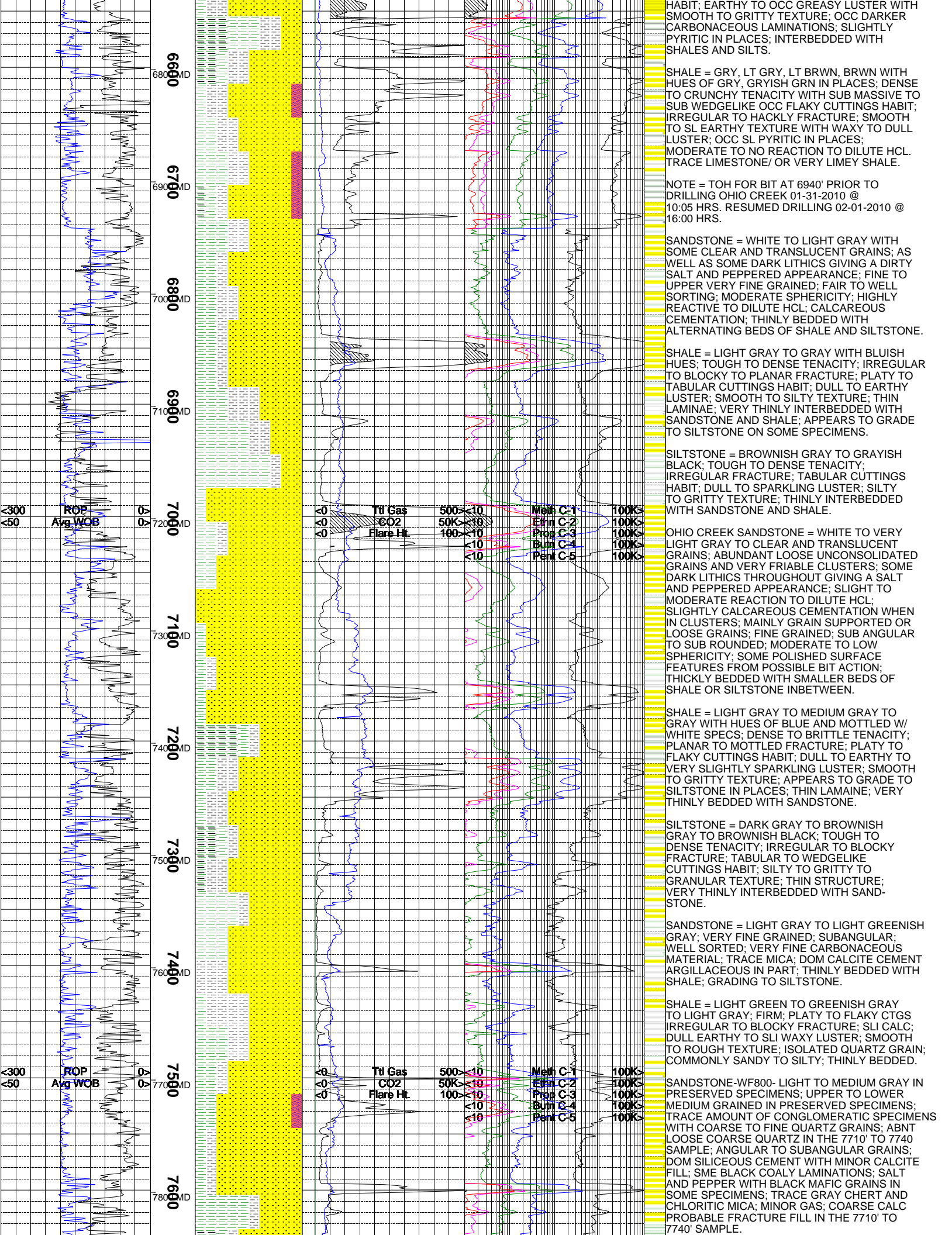
ALTERED ZONE	CHERT - GLASSY	FELSIC SILIC DIKE	MARL - CALC	SANDSTONE
ANDESITE	CHERT - PORCEL	FOSSIL	METAMORPHICS	SANDSTONE-TUFFACEOUS
ANHYDRITE	CHERT - TIGER STRIPE	GABBRO	MUDSTONE	SERICITIZATION
BASALT	CHERT - UNDIFF	GLASSY TUFF	OBSIDIAN	SERPENTINE
BENTONITE	CLAY	GRANITE	PALEOSOL	SHALE
BIOTITIZATION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

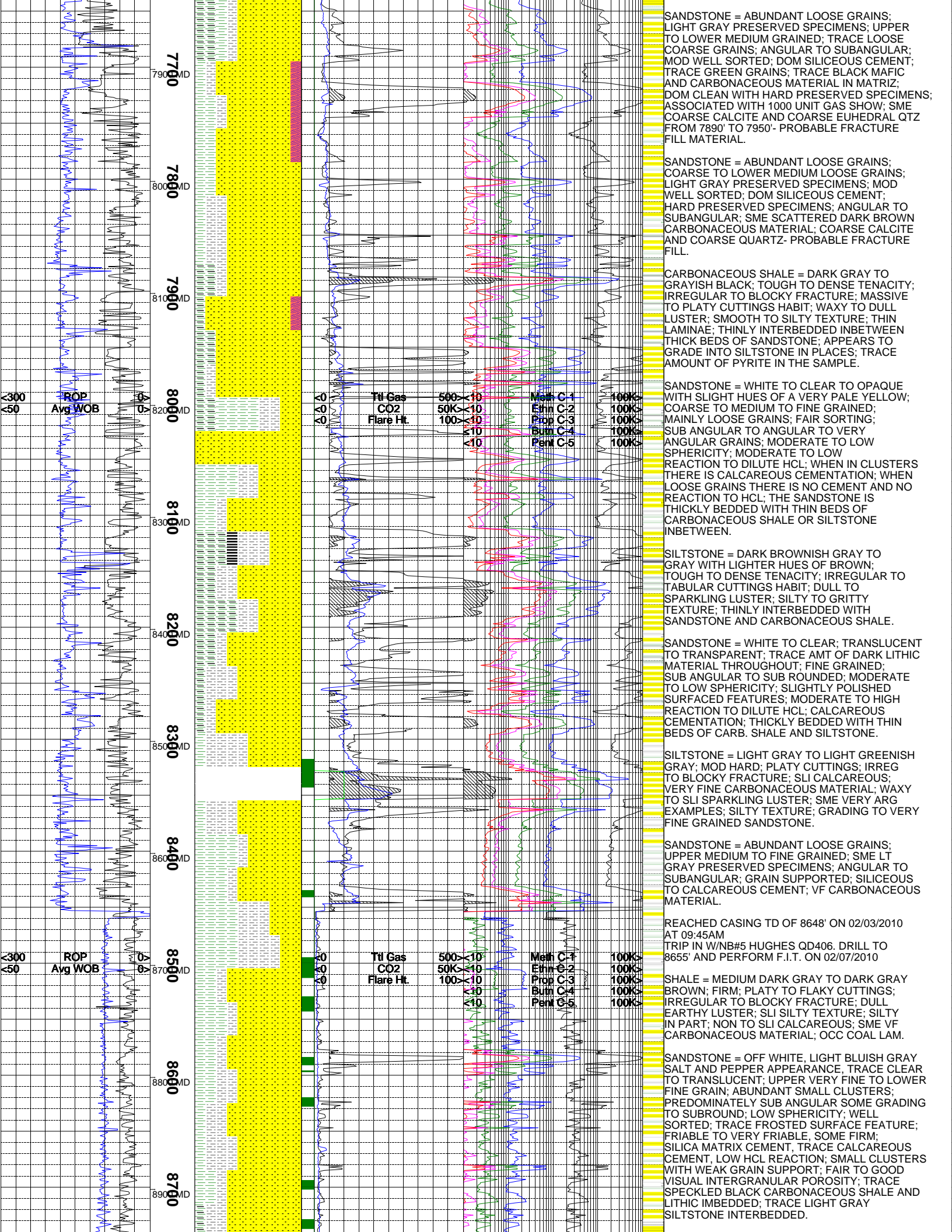
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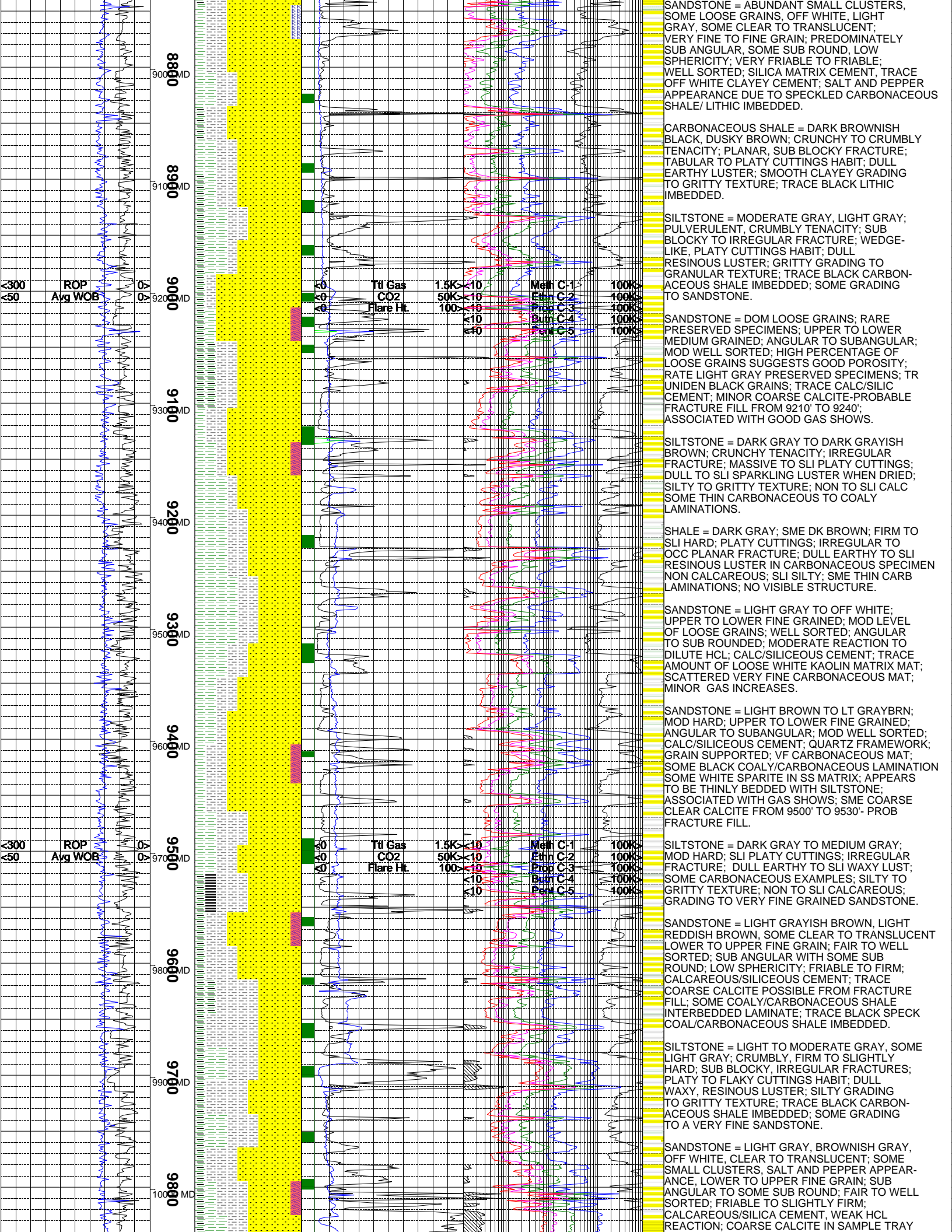


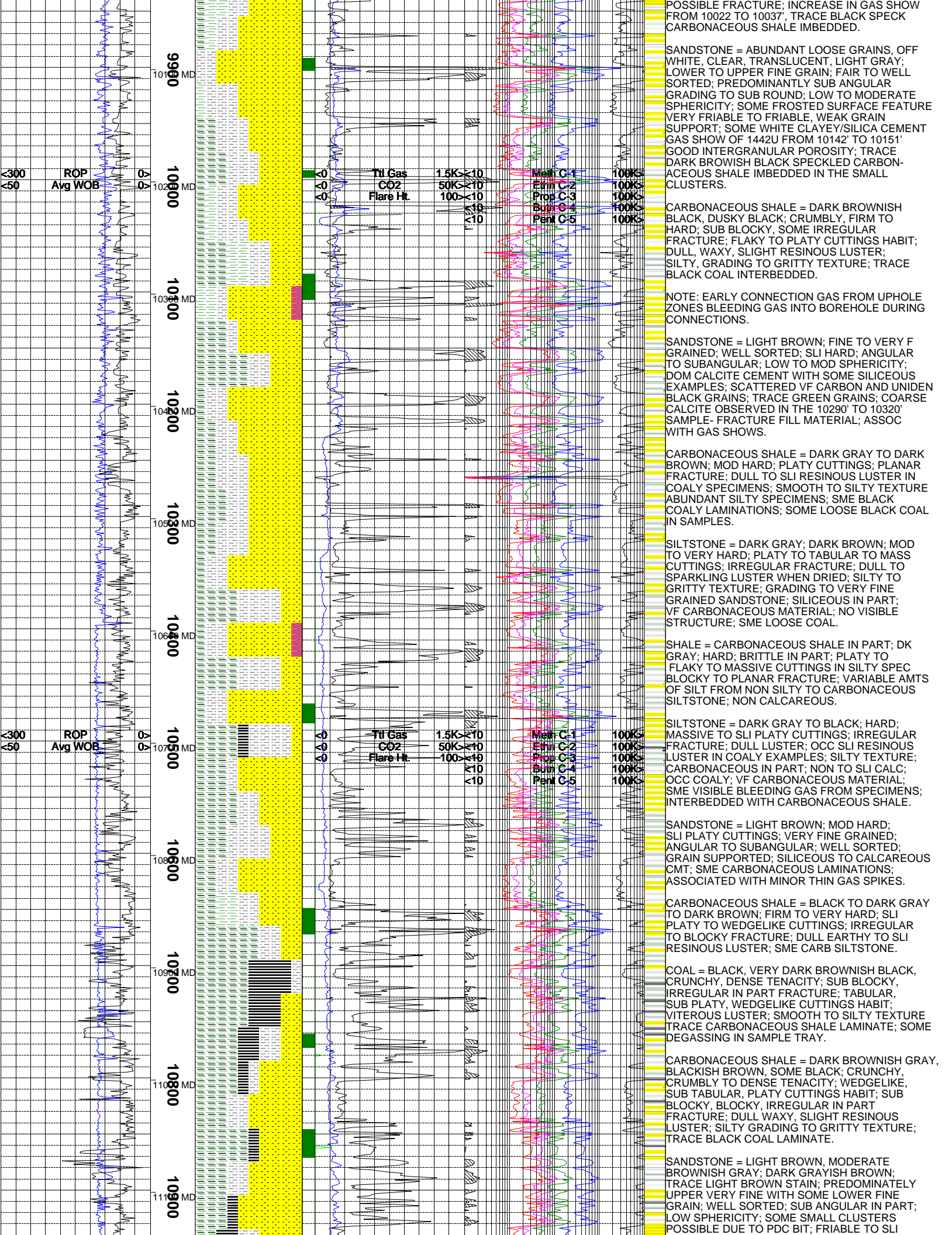




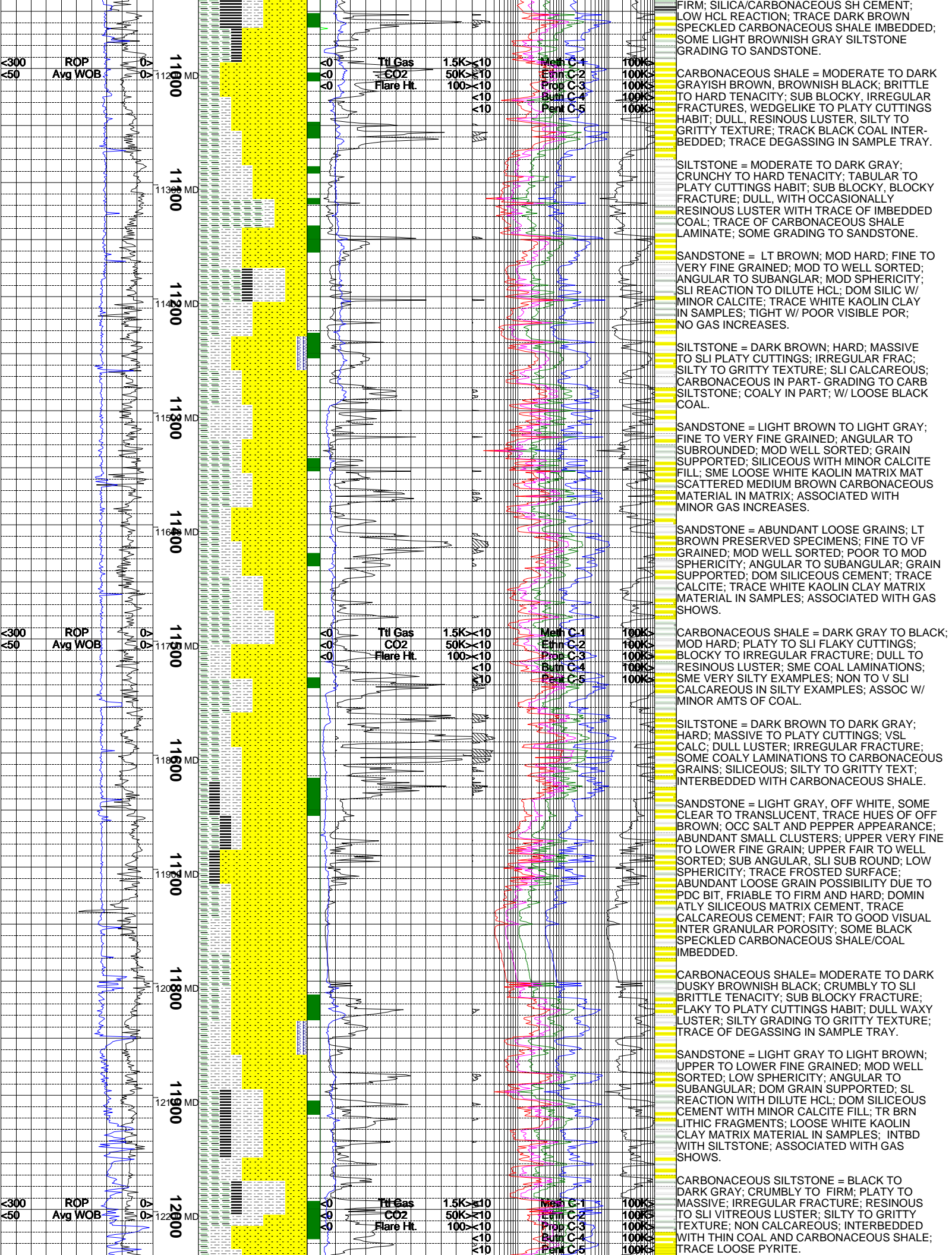


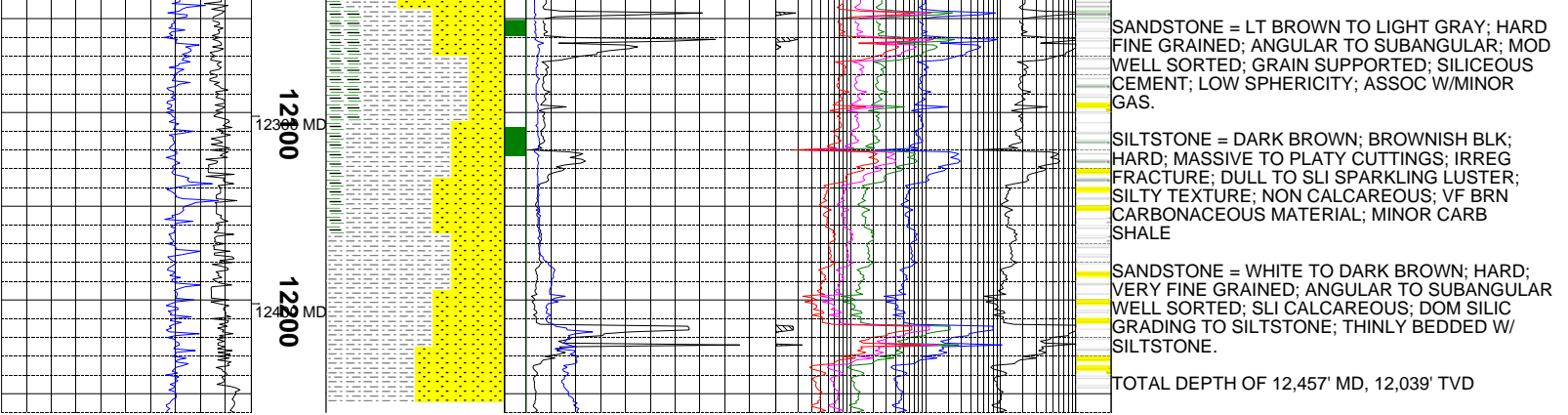












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