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## MUDLOG MD

<b>COMPANY</b>	ExxonMobil Production
<b>WELL</b>	FRU 197-33B6
<b>FIELD</b>	Piceance Creek
<b>REGION</b>	Rockies
<b>COORDINATES</b>	39.921441 108.282516
<b>ELEVATION</b>	6459'
<b>COUNTY, STATE</b>	Rio Blanco, CO
<b>API INDEX</b>	051031142400
<b>SPUD DATE</b>	03/30/2010
<b>CONTRACTOR</b>	HE
<b>CO. REP.</b>	W.GARNER/ C.CURTIS
<b>RIG/TYPE</b>	HP321
<b>LOGGING UNIT</b>	MLU#31
<b>GEOLOGISTS</b>	M.FRANCO/C.RECORD B.DELANEY
<b>ADD. PERSONS</b>	M.PIPER/ R.MCCANE
<b>CO. GEOLOGIST</b>	CHRIS ALBA

### LOG INTERVAL

<b>DEPTHS:</b>	4045'	<b>TO</b>	12776'
<b>DATES:</b>	07/05/2010	<b>TO</b>	07/17/2010
<b>SCALE:</b>	1" = 100'		

### CASING DATA

16"	<b>AT</b>	149'
10.75"	<b>AT</b>	4045'
4"	<b>AT</b>	12776'

**AT**

### HOLE SIZE

14.00"	<b>TO</b>	4055'
10.00"	<b>TO</b>	10343'
8.15"	<b>TO</b>	12776'
	<b>TO</b>	

### MUD TYPES

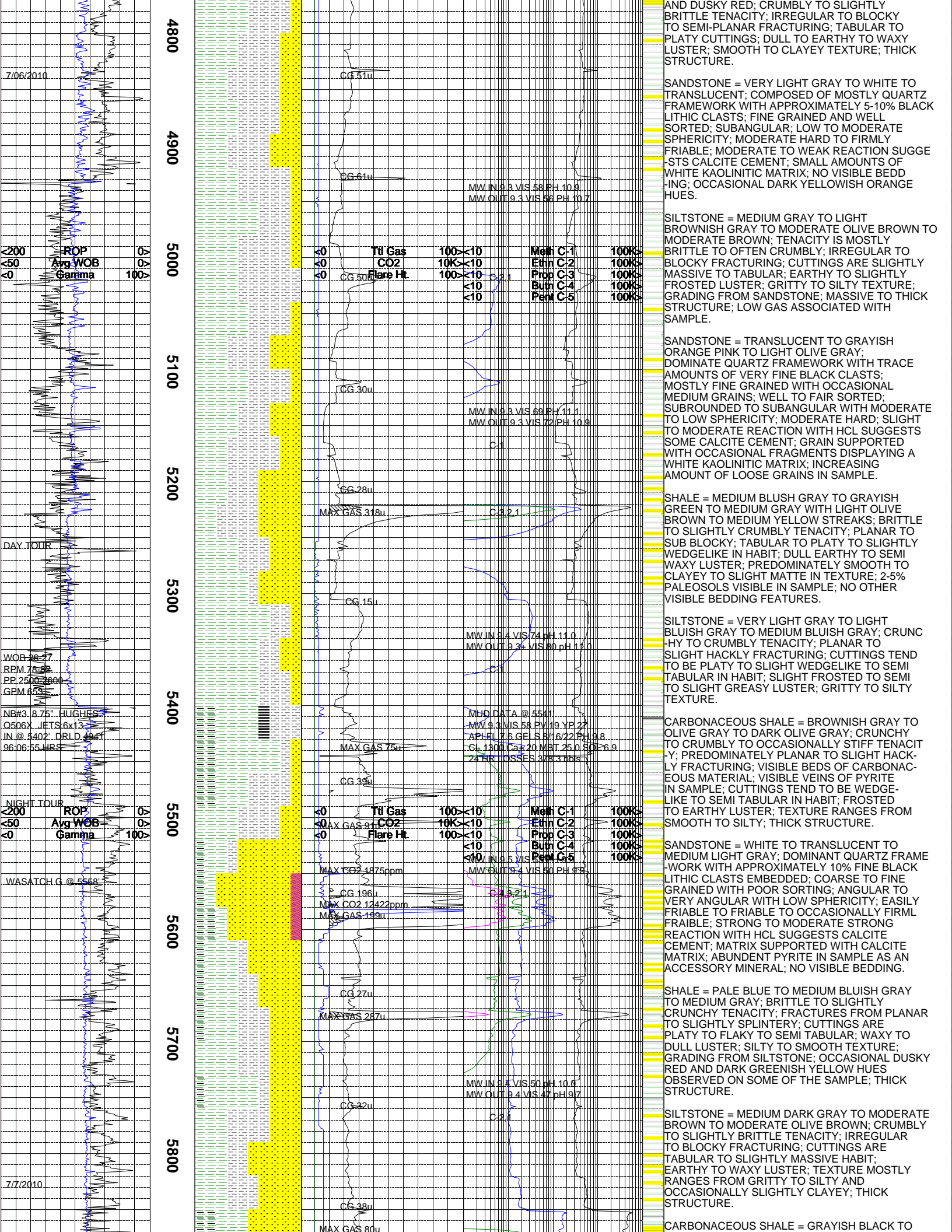
WATER-BASED	<b>TO</b>	4055'
LSND	<b>TO</b>	12776'
	<b>TO</b>	
	<b>TO</b>	

### ABBREVIATIONS

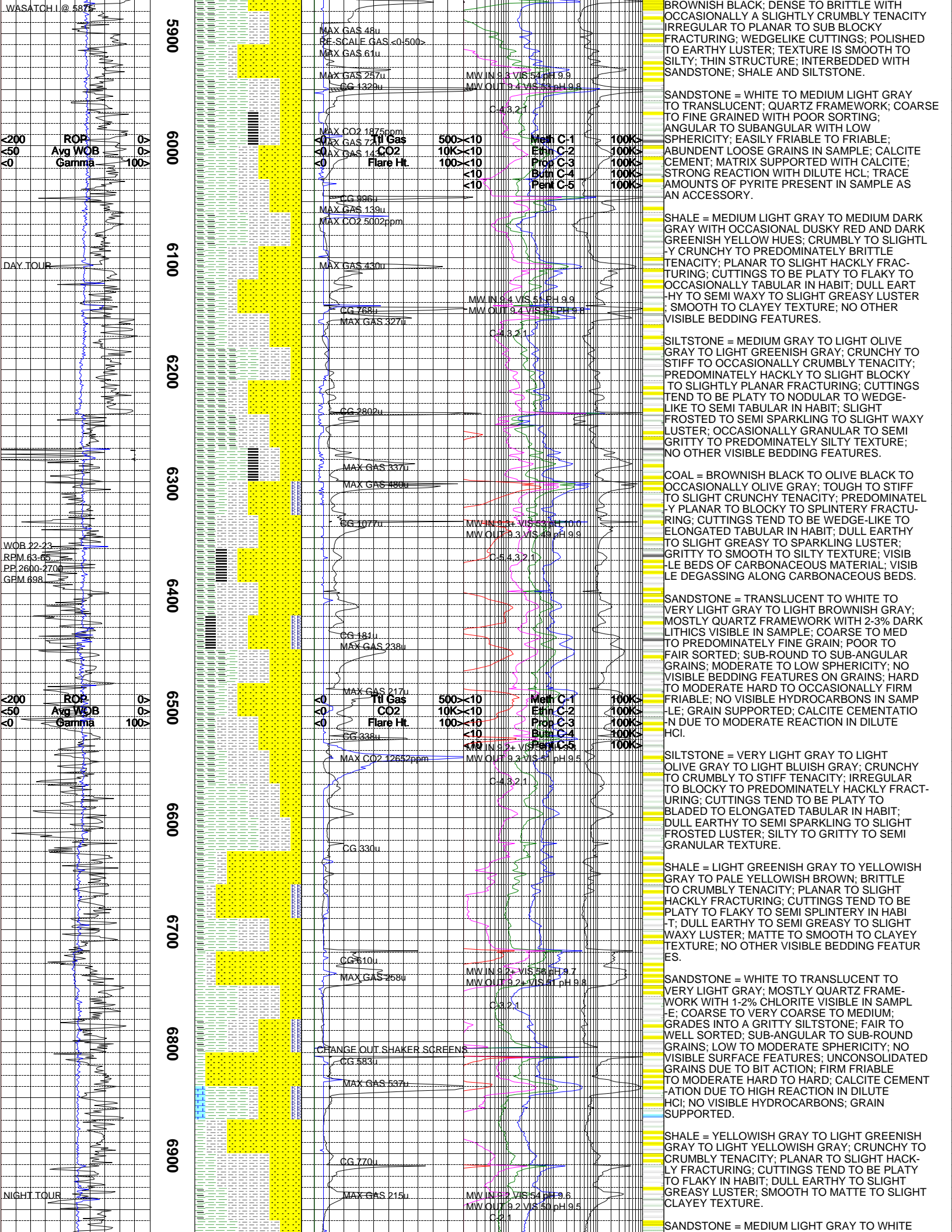
<i>NB</i> NEWBIT	<i>PV</i> PLASTIC VISCOSITY	<i>LC</i> LOST CIRCULATION
<i>RRB</i> RERUN BIT	<i>YP</i> YIELD POINT	<i>CO</i> CIRCULATE OUT
<i>CB</i> CORE BIT	<i>FL</i> FLUID LOSS	<i>NR</i> NO RETURNS
<i>WOB</i> WEIGHT ON BIT	<i>CL</i> PPM CLORIDE ION	<i>TG</i> TRIP GAS
<i>RPM</i> ROTARY REV/MIN	<i>Rm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

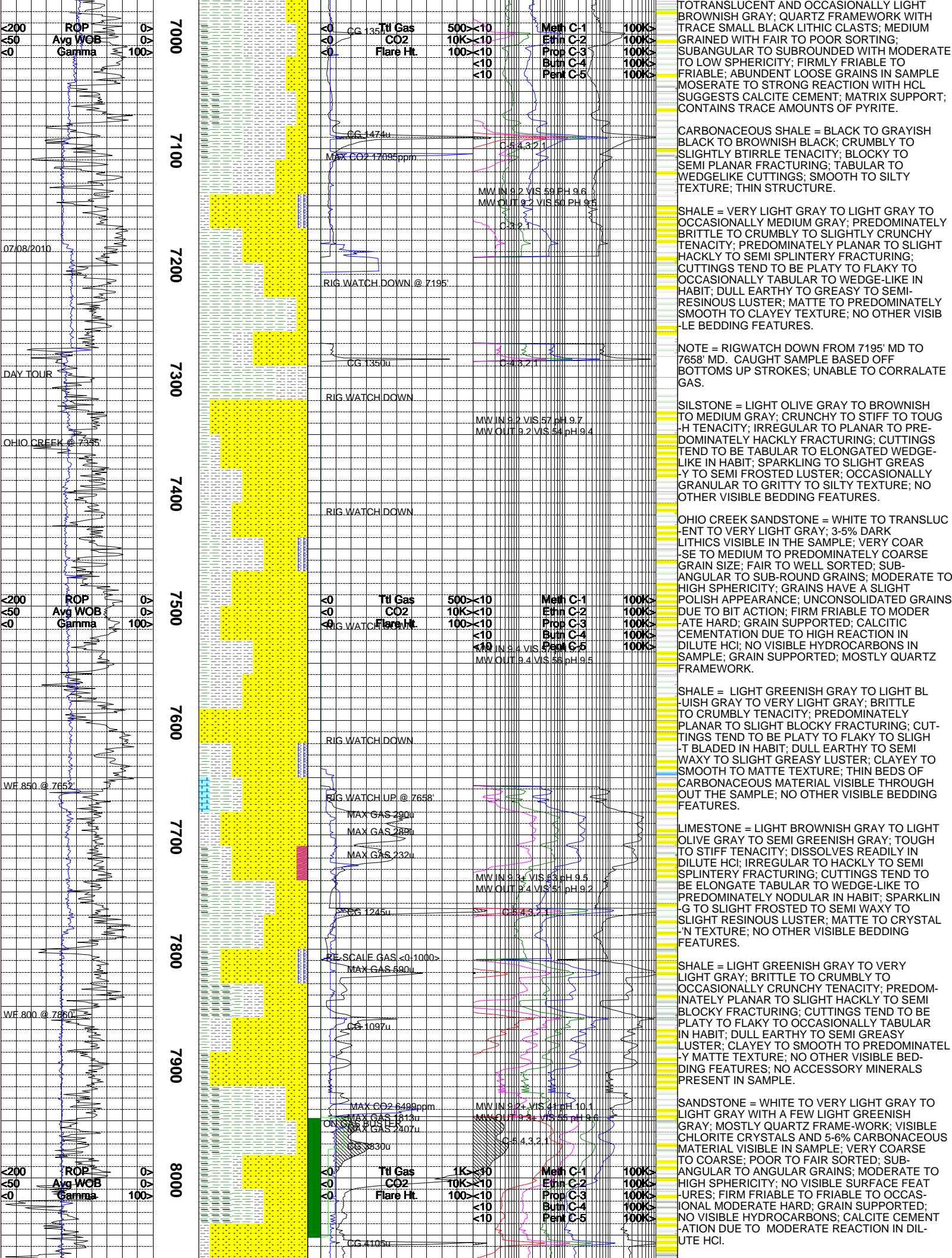
 ALTERED ZONE	 CHERT - GLASSY	 FELSIC SILIC DIKE	 MARL - CALC	 SANDSTONE
 ANDESITE	 CHERT - PORCEL	 FOSSIL	 METAMORPHICS	 SANDSTONE-TUFFACEOUS
 ANHYDRITE	 CHERT - TIGER STRIPE	 GABBRO	 MUDSTONE	 SERICITIZATION
 BASALT	 CHERT - UNDIFF	 GLASSY TUFF	 OBSIDIAN	 SERPENTINE
 BENTONITE	 CLAY	 GRANITE	 PALEOSOL	 SHALE
 BIOTITIZATION	 CLAY-MUDSTONE	 GRANITE WASH	 PHOSPHATE	 SHALE TUFFACEOUS
 BRECCIA	 CLYST-TUFFACEOUS	 GRANODIORITE	 PORCELANITE	 SHELL FRAGMENTS
 CALCARENITE	 COAL	 GYPSUM	 PORCELANEOUS CLYST	 SIDERITE
 CALCAREOUS TUFF	 CONGLOMERATE	 HALITE	 PYRITE	 SILICIFICATION
 CALCILUTITE	 CONGL. SAND	 HORNBL-QTZ-DIO	 PYROCLASTICS	 SILTSTONE
 CARBONATES	 CONGL. SANDSTONE	 IGNEOUS (ACIDIC)	 QUARTZ DIORITE	 SILTST-TUFFACEOUS
 CARBONACEOUS MAT	 COQUINA	 IGNEOUS (BASIC)	 QUARTZ LATITE	 TUFF
 CARBONACEOUS SH	 DACITE	 INTRUSIVES	 QUARTZ MONZONITE	 VOLCANICLASTICS SEDS
 CEMENT CONTAM.	 DIATOMITE	 KAOLINITIC	 RECRYSTALLIZED CALCITE	 VOLCANICS
 CHALK	 DIORITE	 LIMESTONE	 RHYOLITE	
 CRYSTALLINE TUFF	 DOLOSTONE	 LITHIC TUFF	 SALT	
 CHERT - ARGILL		 MARL - DOLO	 SAND	

Survey Data, Mud Reports, Other Info.			Remarks		
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 CALIBRATED TO A TEST GAS COMPOSED OF THE FOLLOWING:					
METHANE = 9,990 PPM ETHANE = 1,010 PPM PROPANE = 980 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 FRU 197-33B6 WELL ON 7/5/2010 @ 4056' MD.					
SANDSTONE = WHITE TO TRANSLUCENT TO VERY LIGHT GRAY; MOSTLY QUARTZ FRAMEWORK WITH 2-3% DARK LITHICS VISIBLE IN SAMPLE; 15% TO 20% PALESOLS VISIBLE IN SAMPLE; VERY COARSE TO MEDIUM TO FINE GRAIN; GRADES INTO A FINE GRAIN SILTSTONE; FAIR TO POORLY SORTED; SUBROUND TO SUBANGULAR GRAINS; MODERATE TO LOW SPHERICITY; NO VISIBLE SURFACE FEATURES; MODERATELY HARD TO FIRM FRIABLE; CALCITIC CEMENTATION DUE TO MODERATE REACTION IN DILUTE HCl; NO VISIBLE HYDROCARBONS IN SAMPLE; GRAIN SUPPORTED.					
SHALE = VERY LIGHT GRAY TO SLIGHT MOTTLE YELLOWISH BROWN; BRITTLE TO CRUMBLY TENACITY; PLANAR TO SLIGHT SPLINTERY TO IRREGULAR FRACTURING; CUTTINGS TEND TO BE PLATY TO FLAKY IN HABIT; DULL EARTHY TO SEMI GREASY LUSTER; SMOOTH TO CLAYEY TEXTURE; NO OTHER VISIBLE BEDDING FEATURES; VISIBLE NACHOLITE CRYSTALS IN THE SAMPLE.					
SILTSTONE = MEDIUM LIGHT GRAY TO LIGHT OLIVE GRAY; CRUNCHY TO STIFF TENACITY; PREDOMINATELY HACKLY TO SEMI PLANAR TO SLIGHT BLOCKY FRACTURING; CUTTINGS TEND TO BE WEDGELIKE TO ELONGATED TABULAR TO OCCASIONALLY BLADED IN HABIT; DULL TO SEMI WAXY TO SLIGHT GREASY LUSTER; GRITTY TO SEMI GRANULAR TO SILTY TEXTURE; NO OTHER VISIBLE BEDDING FEATURES.					
LIMESTONE = LIGHT BROWNISH GRAY TO LIGHT OLIVE GRAY; HIGH REACTION IN DILUTE HCl; CRUNCHY TO STIFF TENACITY; IRREGULAR TO HACKLY TO SLIGHT SPLINTERY FRACTURING; CUTTINGS TEND TO BE TABULAR TO NODULAR TO SEMI ELONGATED WEDGELIKE IN HABIT; DULL EARTHY TO SLIGHT WAXY TO SEMI RESINOUS LUSTER; SMOOTH TO MATTE TEXTURE; NO OTHER VISIBLE BEDDING FEATURES.					
SANDSTONE = LIGHT GREENISH GRAY TO WHITE TO VERY LIGHT GRAY; MOSTLY QUARTZ FRAMEWORK; FINE TO MEDIUM SIZE GRAINS WITH POOR SORTING; ANGULAR TO SUBANGULAR; LOW SPHERICITY; FIRMLY FRIABLE WITH A SLIGHT MODERATE HARDNESS; CALCITIC CEMENT WITH MODERATE REACTION WITH HCl; NO VISIBLE BEDDING.					
SHALE = MEDIUM LIGHT GRAY TO LIGHT BLuish GRAY TO OCCASIONALLY GREENISH GRAY WITH SOME MODERATE RED AND GRAYISH PURPLE HUES; BRITTLE TO CRUMBLY TENACITY PLANAR FRACTURING; CUTTINGS ARE TABULAR TO SLIGHTLY PLATY; DULL TO EARTHY LUSTER SMOOTH TO SLIGHTLY SILTY TEXTURE; THICK LAMINAE STRUCTURE.					
SILTSTONE = PALE OLIVE TO DARK YELLOWISH BROWN TO MEDIUM LIGHT GRAY; CRUMBLY TO SLIGHTLY BRITTLE TENACITY; IRREGULAR TO BLOCKY FRACTURING; CUTTINGS ARE MASSIVE SEMI-TABULAR; EARTHY TO DULL LUSTER; SILTY TO GRITTY TO SLIGHTLY CLAYEY TEXTURE; THICK TO MASSIVE STRUCTURE.					
SHALE = MEDIUM LIGHT GRAY TO GRAYISH GREEN TO LIGHT BLuish GRAY WITH STREAKS OF GRAYISH PURPLE AND LIGHT OLIVE BROWN					









TO TRANSLUCENT AND OCCASIONALLY LIGHT BROWNISH GRAY; QUARTZ FRAMEWORK WITH TRACE SMALL BLACK LITHIC CLASTS; MEDIUM GRAINED WITH FAIR TO POOR SORTING; SUBANGULAR TO SUBROUNDED WITH MODERATE TO LOW SPHERICITY; FIRMLY FRIABLE TO FRIABLE; ABUNDANT LOOSE GRAINS IN SAMPLE. MODERATE TO STRONG REACTION WITH HCL SUGGESTS CALCITE CEMENT; MATRIX SUPPORT; CONTAINS TRACE AMOUNTS OF PYRITE.

CARBONACEOUS SHALE = BLACK TO GRAYISH BLACK TO BROWNISH BLACK; CRUMBLY TO SLIGHTLY BRITTLE TENACITY; BLOCKY TO SEMI PLANAR FRACTURING; TABULAR TO WEDGE-LIKE CUTTINGS; SMOOTH TO SILTY TEXTURE; THIN STRUCTURE.

SHALE = VERY LIGHT GRAY TO LIGHT GRAY TO OCCASIONALLY MEDIUM GRAY; PREDOMINATELY BRITTLE TO CRUMBLY TO SLIGHTLY CRUNCHY TENACITY; PREDOMINATELY PLANAR TO SLIGHTLY HACKLY TO SEMI SPINDLY FRACTURING; CUTTINGS TEND TO BE PLATY TO FLAKY TO OCCASIONALLY TABULAR TO WEDGE-LIKE IN HABIT; DULL EARTHY TO GREASY TO SEMI-RESINOUS LUSTER; MATTE TO PREDOMINATELY SMOOTH TO CLAYEY TEXTURE; NO OTHER VISIBLE BEDDING FEATURES.

NOTE = RIGWATCH DOWN FROM 7195' MD TO 7658' MD. CAUGHT SAMPLE BASED OFF BOTTOMS UP STROKES; UNABLE TO CORRELATE GAS.

SILTSTONE = LIGHT OLIVE GRAY TO BROWNISH TO MEDIUM GRAY; CRUNCHY TO STIFF TO TOUGH TENACITY; IRREGULAR TO PLANAR TO PREDOMINATELY HACKLY FRACTURING; CUTTINGS TEND TO BE TABULAR TO ELONGATE WEDGE-LIKE IN HABIT; SPARKLING TO SLIGHT GREASY TO SEMI FROSTED LUSTER; OCCASIONALLY GRANULAR TO GRITTY TO SILTY TEXTURE; NO OTHER VISIBLE BEDDING FEATURES.

OHIO CREEK SANDSTONE = WHITE TO TRANSLUCENT TO VERY LIGHT GRAY; 3-5% DARK LITHICS VISIBLE IN THE SAMPLE; VERY COARSE TO MEDIUM TO PREDOMINATELY COARSE GRAIN SIZE; FAIR TO WELL SORTED; SUBANGULAR TO SUB-ROUND GRAINS; MODERATE TO HIGH SPHERICITY; GRAINS HAVE A SLIGHT POLISH APPEARANCE; UNCONSOLIDATED GRAINS DUE TO BIT ACTION; FIRM FRIABLE TO MODERATELY HARD; GRAIN SUPPORTED; CALCITIC CEMENTATION DUE TO HIGH REACTION IN DILUTE HCl; NO VISIBLE HYDROCARBONS IN SAMPLE; GRAIN SUPPORTED; MOSTLY QUARTZ FRAMEWORK.

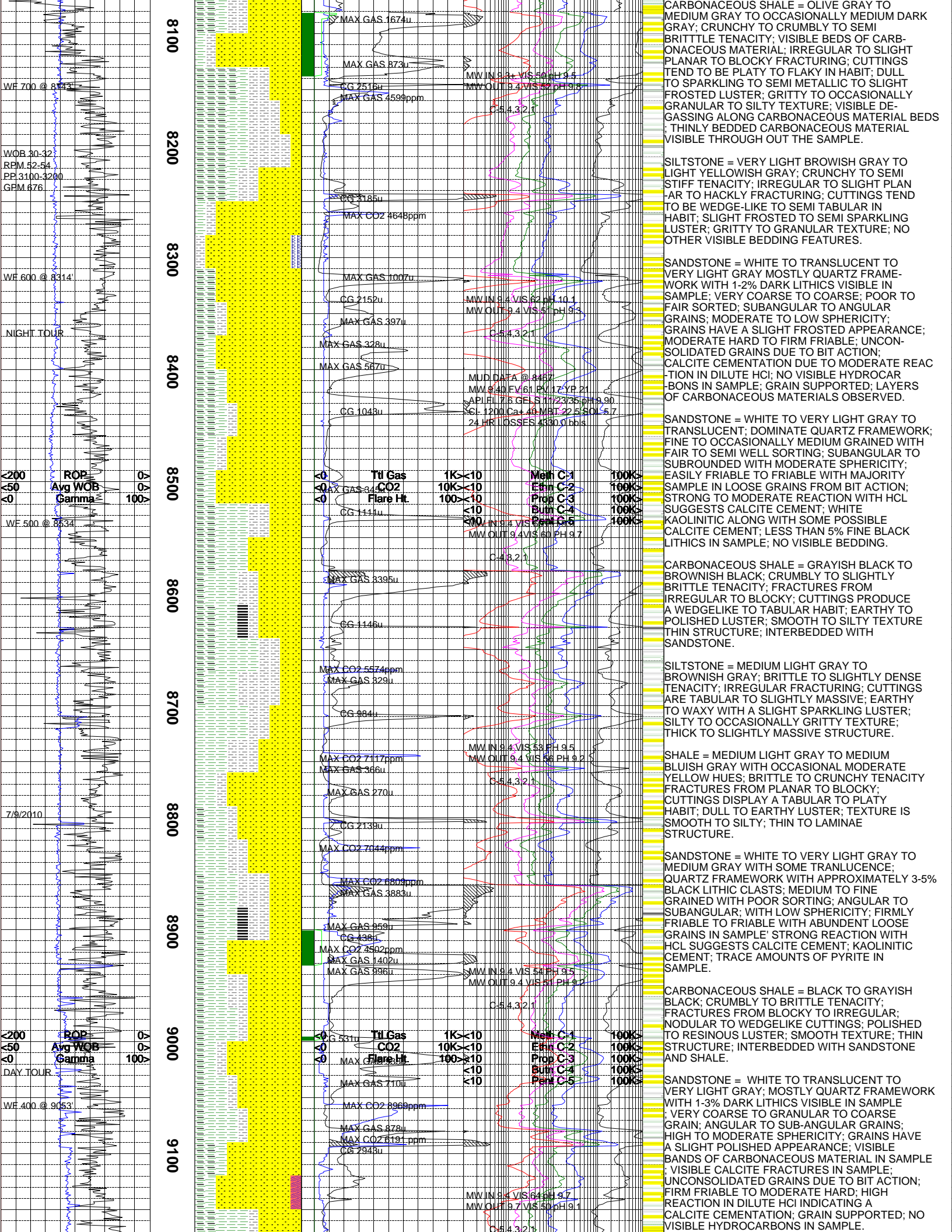
SHALE = LIGHT GREENISH GRAY TO LIGHT BLUISH GRAY TO VERY LIGHT GRAY; BRITTLE TO CRUMBLY TENACITY; PREDOMINATELY PLANAR TO SLIGHT BLOCKY FRACTURING; CUTTINGS TEND TO BE PLATY TO FLAKY TO SLIGHTLY BLADED IN HABIT; DULL EARTHY TO SEMI WAXY TO SLIGHT GREASY LUSTER; CLAYEY TO SMOOTH TO MATTE TEXTURE; THIN BEDS OF CARBONACEOUS MATERIAL VISIBLE THROUGHOUT THE SAMPLE; NO OTHER VISIBLE BEDDING FEATURES.

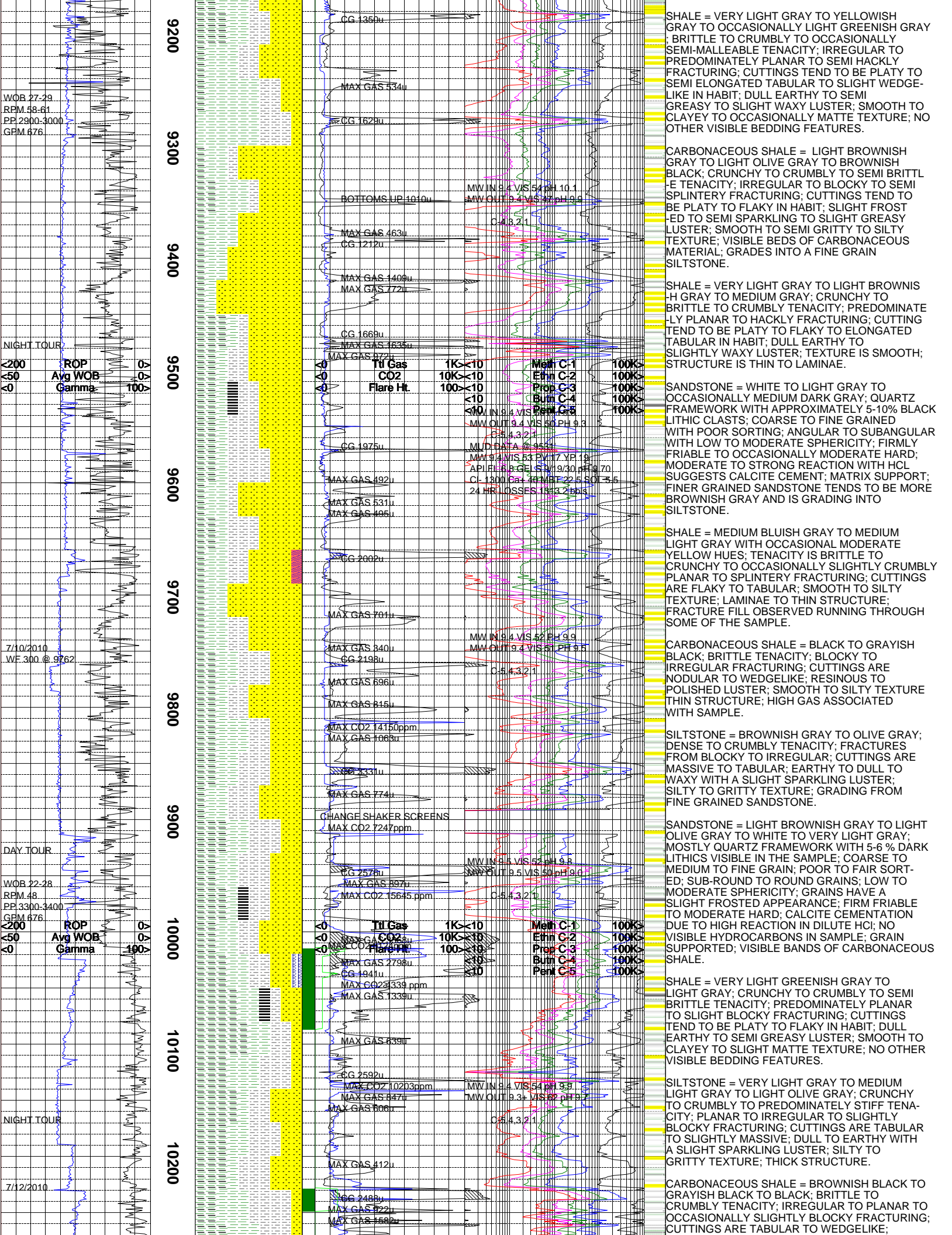
LIMESTONE = LIGHT BROWNISH GRAY TO LIGHT OLIVE GRAY TO SEMI GREENISH GRAY; TOUGH TO STIFF TENACITY; DISSOLVES READILY IN DILUTE HCl; IRREGULAR TO HACKLY TO SEMI SPINDLY FRACTURING; CUTTINGS TEND TO BE ELONGATE TABULAR TO WEDGE-LIKE TO PREDOMINATELY NODULAR IN HABIT; SPARKLING TO SLIGHT FROSTED TO SEMI WAXY TO SLIGHT RESINOUS LUSTER; MATTE TO CRYSTALLINE TEXTURE; NO OTHER VISIBLE BEDDING FEATURES.

SHALE = LIGHT GREENISH GRAY TO VERY LIGHT GRAY; BRITTLE TO CRUMBLY TO OCCASIONALLY CRUNCHY TENACITY; PREDOMINATELY PLANAR TO SLIGHT HACKLY TO SEMI BLOCKY FRACTURING; CUTTINGS TEND TO BE PLATY TO FLAKY TO OCCASIONALLY TABULAR IN HABIT; DULL EARTHY TO SEMI GREASY LUSTER; CLAYEY TO SMOOTH TO PREDOMINATELY MATTE TEXTURE; NO OTHER VISIBLE BEDDING FEATURES; NO ACCESSORY MINERALS PRESENT IN SAMPLE.

SANDSTONE = WHITE TO VERY LIGHT GRAY TO LIGHT GRAY WITH A FEW LIGHT GREENISH GRAY; MOSTLY QUARTZ FRAMEWORK; VISIBLE CHLORITE CRYSTALS AND 5-6% CARBONACEOUS MATERIAL VISIBLE IN SAMPLE; VERY COARSE TO COARSE; POOR TO FAIR SORTED; SUBANGULAR TO ANGULAR GRAINS; MODERATE TO HIGH SPHERICITY; NO VISIBLE SURFACE FEATURES; FIRM FRIABLE TO FRIABLE TO OCCASIONALLY MODERATELY HARD; GRAIN SUPPORTED; NO VISIBLE HYDROCARBONS; CALCITE CEMENTATION DUE TO MODERATE REACTION IN DILUTE HCl.

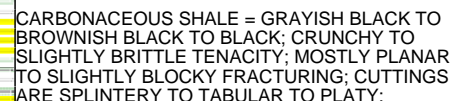








1130





7/15/2010  
ROL LINS @ 11399'

ROP  
Avg WOB  
Gamma

<200  
50  
0

TRANSOZZETTIE @ 11617'

DAY TOUR  
COZZETTIE @ 11655'

WOB 24-26  
RPM 56-58  
PP 3400-3500  
GPM 649

CORC.C.P. @ 11933'

ROP  
Avg WOB  
Gamma

<200  
50  
0

7/16/2010

DAY TOUR

WOB 24-26  
RPM 67-70

11400  
11500  
11600  
11700  
11800  
11900  
12000  
12100  
12200  
12300  
12400

PRIME THROUGH CHOKE  
CG 733u

OFF CHOKE  
MAX GAS 1135u

MAX GAS 1753u  
MAX GAS 1465u  
CG 901u

Til Gas  
CO2  
Flare Ht.

2K<10  
40K<10  
100<10

Meth C-1  
Ethn C-2  
Prop C-3  
Butn C-4  
Pent C-5

100K<  
100K<  
100K<  
100K<

MW IN 9.6 VIS 57 PH 9.9  
MW OUT 9.6 VIS 55 PH 9.7

CG 2540u  
MAX GAS 1439u

MAX GAS 2599u  
CG 2414u

MAX GAS 1985u

MAX GAS 1202u  
CG 2725u

MAX GAS 1331u  
CG 2321u

MAX GAS 1330u

MAX GAS 528u

MAX GAS 933u  
CG 2270u

MAX GAS 1055u

MAX GAS 875u

Til Gas  
CO2  
Flare Ht.

2K<10  
40K<10  
100<10

Meth C-1  
Ethn C-2  
Prop C-3  
Butn C-4  
Pent C-5

100K<  
100K<  
100K<  
100K<

MW IN 9.6 VIS 56 PH 9.7  
MW OUT 9.6 VIS 50 PH 9.3

CG 1342u

MAX GAS 1282u  
CG 1342u

MAX GAS 830u  
MAX GAS 2278u  
MAX GAS 2044u  
CG 1342u

MAX GAS 2045u

CG 1679u  
MAX GAS 954u

MAX GAS 873u  
CG 1665u

MAX GAS 453u

MAX GAS 621u  
CG 1377u

MAX GAS 576u

MAX GAS 580u

EARTHLY TO OCCASIONALLY DULL TO RESINOUS LUSTER; SMOOTH TO CLAYEY TO SILTY TEXTURE; THICK STRUCTURE.

SANDSTONE = WHITE TO VERY LIGHT GRAY; BEACH SAND; QUARTZ FRAMEWORK; MEDIUM GRAINED WITH WELL SORTING; SUBROUNDED WITH MODERATE SPHERICITY; MODERATE HARD TO HARD; CALCAREOUS CEMENT; MODERATE TO WEAK REACTION WITH HCL; CONTAINS TRACE FINE BLACK LITHIC CLASTS; NO VISIBLE BEDDING; FROSTED SURFACE ABRASION FEATURES ON THE QUARTZ GRAINS; ABUNDENT LOOSE GRAINS FROM BIT ACTION.

SHALE = GRAYISH GREEN TO PALE BLUE TO MEDIUM GRAY; BRITTLE TO CRUMBLY TENACITY FRACTURES FROM PLANAR TO SPLINTERY; PLATY TO FLAKY CUTTINGS; WAXY TO DULL LUSTER; SMOOTH TEXTURE; LAMINAE TO THIN STRUCTURE; INTERBEDDED WITH SANDSTONE AND CARBONACEOUS SHALE.

CARBONACEOUS SHALE = LIGHT OLIVE GRAY TO BROWNISH GRAY; CRUNCHY TO CRUMBLY TO OCCASIONALLY BRITTLE TENACITY; BLOCKY TO SLIGHT SPLINTERY TO SEMI PLANAR FRACTURING; CUTTINGS TEND TO BE PLATY OR WEDGE-LIKE TO SLIGHT TABULAR IN HABIT; DULL TO SEMI SPARKLING TO SLIGHT GREASY LUSTER; PREDOMINATELY GRITTY TO SILTY TO SEMI GRANULAR TEXTURE; VISIBLE BANDS OF CARBONACEOUS MATERIAL VISIBLE THROUGHOUT THE SAMPLE; VISIBLE DEGASSING ALONG THE BANDS.

SANDSTONE = LIGHT BROWNISH GRAY TO LIGHT GRAY TO WHITE TO OCCASIONAL TRANSLUCENT; MOSTLY QUARTZ FRAMEWORK WITH 4-5% DARK LITHICS VISIBLE IN SAMPLE. VERY COARSE TO COARSE TO OCCASIONALLY MEDIUM GRAIN SIZE; FAIR TO POORLY SORTED; SUB-ROUND TO ROUND GRAINS; MODERATE TO HIGH SPHERICITY; GRAINS HAVE A SLIGHT PITTED APPEARANCE; A FEW UNCONSOLIDATED GRAINS DUE TO BIT ACTION; FIRM FRIABLE TO MODERATE HARD TO VERY HARD; GRAIN SUPPORTED; A FEW VISIBLE HYDROCARBONS IN SAMPLE @ 11880' IN A FIRM COARSE GRAIN SANDSTONE; CEMENTATION IS PROBABLY MORE SILICEOUS THAN CALCITIC DUE TO VERY LOW REACTION IN DILUTE HCl; NO OTHER VISIBLE BEDDING FEATURES.

SILTSTONE = LIGHT BROWNISH GRAY TO LIGHT GRAY TO LIGHT BLuish GRAY; CRUNCHY TO CRUMBLY TO SEMI STIFF TENACITY; BLOCKY TO SLIGHT PLANAR TO PREDOMINATELY HACKLY FRACTURING; CUTTINGS TEND TO BE SEMI WEDGE-LIKE TO ELONGATED TABULAR IN HABIT; SLIGHT FROSTED TO SEMI SPARKLING TO SLIGHT GREASY LUSTER; GRITTY TO SILTY TO SLIGHTLY CLAYEY TEXTURE; THICK STRUCTURE

CARBONACEOUS SHALE BROWNISH BLACK TO BLACK TO OLIVE BLACK; DENSE TO SLIGHTLY BRITTLE TENACITY; BLOCKY TO IRREGULAR TO OCCASIONALLY SLIGHTLY PLANAR FRACTURING; CUTTINGS ARE NODULAR TO WEDGE LIKE; RESINOUS TO GREASY TO EARTHY LUSTER; SMOOTH TO SILTY TO CLAYEY TEXTURE; THIN STRUCTURE; INTERBEDDED WITH SANDSTONE AND SILTSTONE.

SANDSTONE = BROWNISH GRAY TO MEDIUM LIGHT GRAY TO OLIVE GRAY; QUARTZ FRAMEWORK WITH LESS THAN 5 % BLACK LITHIC CLASTS INTERBEDDED; FINE TO MEDIUM GRAINED WITH WELL SORTING; SUBROUNDED TO SUBANGULAR WITH MODERATE SPHERICITY; FROSTED SURFACE ABRASION; HARD TO MODERATE HARD; GRAIN SUPPORTED; NO REACTION WITH HCL SUGGESTS SILICEOUS CEMENT; NO VISIBLE BEDDING.

SILTSTONE = LIGHT BLuish GRAY TO LIGHT BROWNISH GRAY; CRUNCHY TO PREDOMINATELY STIFF TO SEMI BRITTLE TENACITY; HACKLY TO PLANAR TO OCCASIONALLY BLOCKY FRACTURING; CUTTINGS TEND TO BE PLATY TO SEMI TABULAR TO OCCASIONALLY WEDGE-LIKE IN HABIT; FROSTED TO SLIGHT SPARKLING TO SEMI GREASY LUSTER; GRITTY TO GRANULAR TO SILTY TEXTURE; NO OTHER VISIBLE BEDDING FEATURES.

COAL = OLIVE BLACK TO GRAYISH BLACK TO BROWNISH BLACK; STIFF TO CRUNCHY TO OCCASIONALLY CRUMBLY TENACITY; BLOCKY TO PREDOMINATELY CONCHOIDAL TO SEMI PLANAR FRACTURING; CUTTINGS TEND TO BE MOSTLY WEDGE-LIKE TO SLIGHT ELONGATED TABULAR TO SLIGHT BLADED IN HABIT; DULL EARTHY TO WAXY TO SEMI SPARKLING LUSTER; MATTE TO SMOOTH TO SLIGHT GRITTY TEXTURE; VISIBLE DEGASSING ALONG THE CARBONACEOUS MATERIAL.

SANDSTONE = VERY LIGHT GRAY TO WHITE TO VERY LIGHT BROWNISH GRAY; MOSTLY QUARTZ

