



# eog resources

600 Seventeenth Street  
Suite 1000N  
Denver, CO 80202  
(303) 572-9000

Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Hebron 1-18H

Location: Section 18, T7N, R80W; Jackson County, Colorado

License Number: API # 05-057-06501 AFE# 306497

Spud Date: Oct 5, 2010

Region: North Park Basin  
Drilling Completed: October 20, 2010

Surface Coordinates: NWNE (308 ft. FNL & 2326 ft. FEL), Section 18, T7N - R80W Jackson County, Colorado

Bottom Hole Coordinates: NENE (620 ft. FNL & 620 ft. FEL), Section 7, T7N - R80W Jackson County, Colorado

Ground Elevation (ft): 8,153'

K.B. Elevation (ft): 8,175'

Logged Interval (ft): 1,056'

To: TD

Total Depth (ft): 9,994'

Formation: Niobrara (Kn), Kn "D" Chalk

Type of Drilling Fluid: Water & L.S.N.D.

Printed by WellSight Log Manager from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

## OPERATOR

Company: EOG Resources Inc.  
Address: 600 17th St., Ste. 1000  
Denver, CO 80202

## GEOLOGIST

Name: John W. Husk  
Company: Husk Inc.  
Address: 8229 E. Briarwood Avenue  
Centennial, CO 80112-1306

Mike Hirsch  
Goolsby Bro. & Assoc, Inc  
575 Union Blvd, Ste.208  
Lakewood, CO 80228

## PERSONNEL

Company Men: Jack Warr, Kit Hatfield  
Toolpushers: Tracy Romey, Benny Gonzales  
Mud Engineer: Rocky Roberts, Baker Hughes Drilling Fluids  
Directional Drillers: Do (Schlumberger); Bayert & Bayert (DDC)  
MWD Technicians: Kruzmack/Valles (Schlumberger); Snyder & Reece (DDC), Dix/Stover (BakerHughes)

## HOLE/CASING




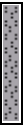











- (1) 12 1/4" Surface to 1064' set 9 5/8" to 1054'
- (2) 8 3/4" hole from 1054' to 7300' and set 7" intermediate casing to 7,288'.










































COMMENTS

- (1) Drilling Contractor: SST Drilling; Rig # 53  
(2) Drilling Fluids: Baker/Hughes Inteq  
(3) Steering and Directional Companies: Schlumberger (steering to KOP), Directional Drilling Company (Directional building curve), DDC & BakerHughes (lateral)  
(4) Gas Detection - Terra Services






























ROCK TYPES

	Bent		Mrst		Ss		Slst2
	Cht		Shale		Arg ss		Carb sh
	Clyst		Shcol		Ss crs		Carb chalk
	Coal		Shgy		Slty sh		









ACCESSORIES

	Minxl		Crin		Gyp
	Nodule		Echin		Ls
	Phos		Fish		Mrst
	Pyr		Foram		Ssstrg
	Salt		Fossil		Slstrg1
	Sandy		Gastro		
	Silt		Oolite		
	Sil		Ostra		
	Sulphur		Pelec		
	Tuff		Pellet		
			Pisolite		
			Plant		
			Strom		
					Boundst
					Chalky
					Cryxln
					Earthy
					Finexln
					Grainst
					Lithogr
					Microxln
					Mudst
					Packst
					Wackest

MINERAL

	Anhy		Minxl
	Arggrn		Nodule
	Arg		Phos
	Bent		Pyr
	Bit		Salt
	Brecfrag		Sandy
	Calc		Silt
	Carb		Sil
	Chtdk		Sulphur
	Chtlt		Tuff
	Dol		
	Feldspar		
	Ferrpel		
	Ferr		
	Glau		
	Gyp		
	Hvymn		
	Kaol		
	Marl		












FOSSIL

	Algae
	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral

STRINGER

	Anhy
	Arg
	Bent
	Coal
	Dol




TEXTURE

	Boundst
	Chalky
	Cryxln
	Earthy
	Finexln
	Grainst
	Lithogr
	Microxln
	Mudst
	Packst
	Wackest

OTHER SYMBOLS

 Dst

OIL SHOW

	Even
	Spotted
	Ques
	Dead
	Patchy
	Very spotty









SORTING

	Well
	Moderate
	Poor



ROUNDING

	Rounded
	Subrnd
	Subang
	Angular

POROSITY

	Earthy
	Fenest
	Fracture
	Inter
	Moldic
	Organic
	Pinpoint
	Vuggy

EVENT

	New bit
	Survey(mwd)
	Cn_hzl
	Casing shoe

INTERVAL

	Core
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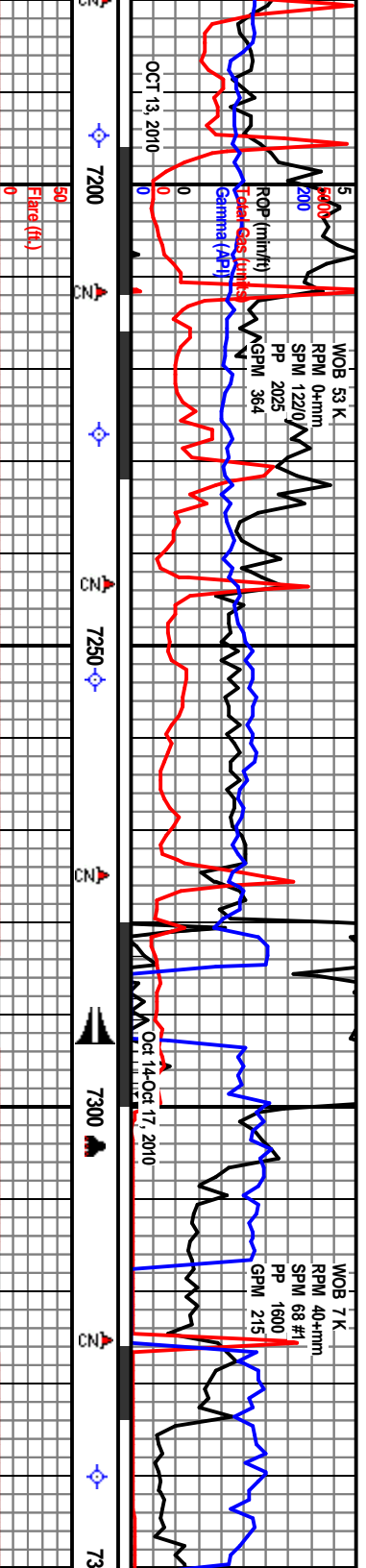




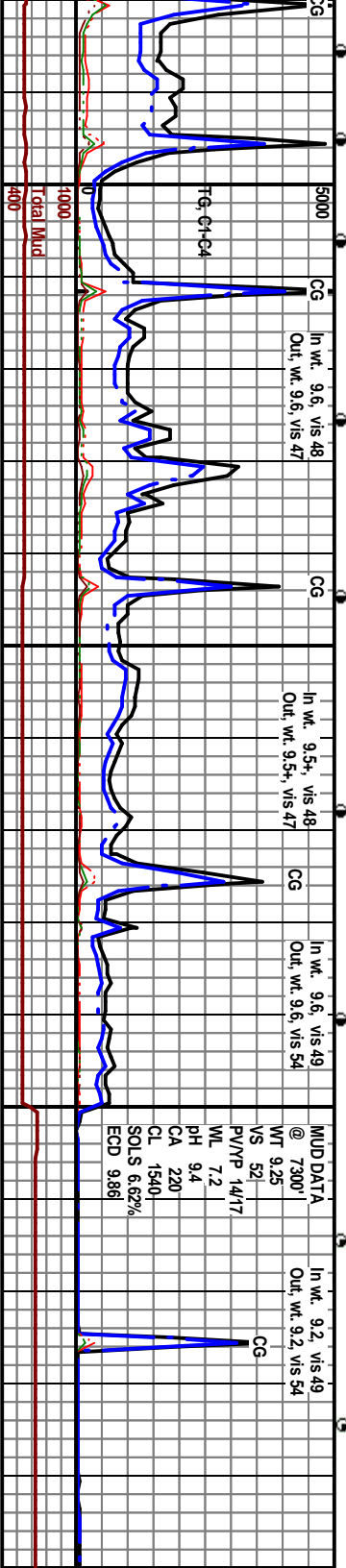








DS 7195' Inc 83.30° AZ 23.9° TVD 6913.90', VS 955.09'		DS 7252' Inc 87.1° AZ 24.4° TVD 6918.09', VS 1011.72'		DS 7340' Inc 89.97° AZ 24.4° 6920.34', VS 1099.66'	
ray (5YR 6/1), traces blocky, very pyrite; increasing oil in samples and low fluorescence		Carbonaceous Chalk, light brownish gray (5YR 6/1), mottled with traces of cream chalk inclusions, sub blocky, very calcareous, decreasing marlstone percentages, rare disseminated pyrite.		Chalk, mottled medium dark gray(N4) to dark gray (N3) to brownish gray (5YR 4/1), mostly mottled, traces of yellowish gray ( 5Y 8/1) inclusions, sub blocky, very calcareous, slightly carbonaceous, rare disseminated pyrite, soft to firm.	
n shakers, pits, and samples.		Intermediate casing point of 7300' was reached at 0715 hrs on October 13, 2010.		Even Bright Yellow Fluorescence in unwashed sample.	
Even Bright Yellow Fluorescence in unwashed sample.		Spotty Yellow Fluorescence in unwashed sample.			



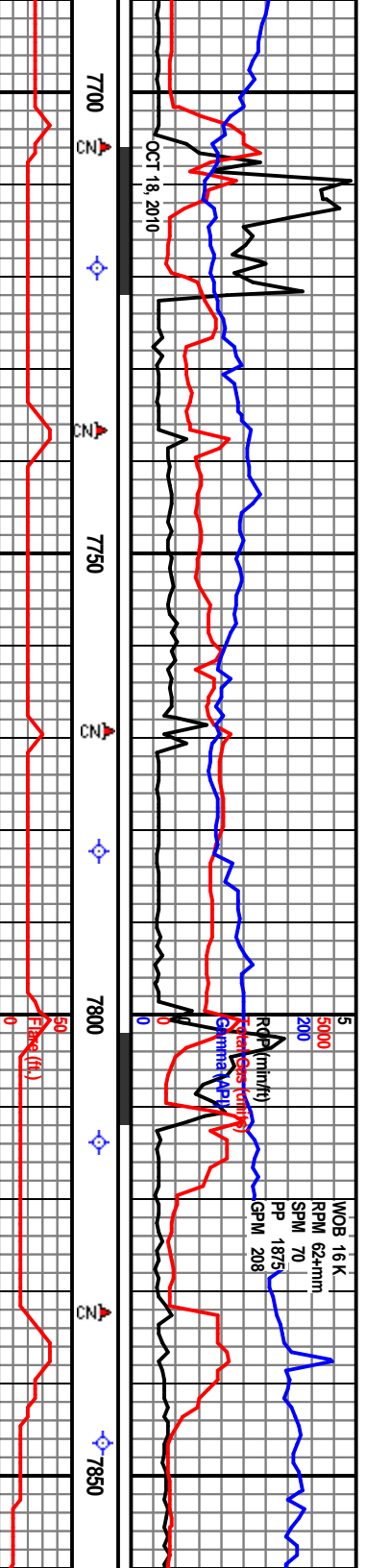




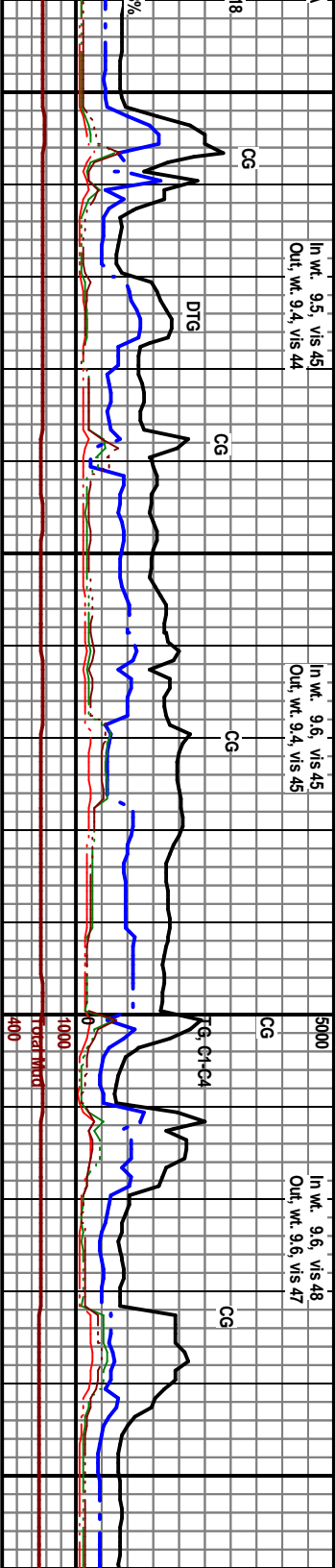




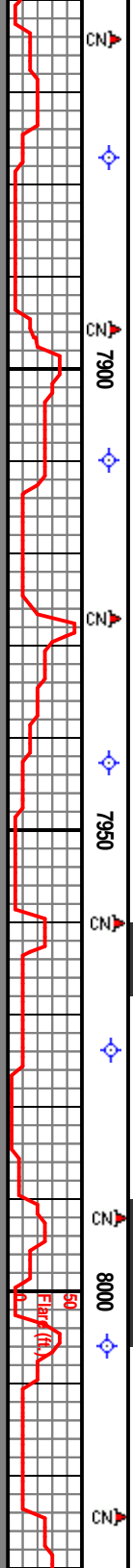
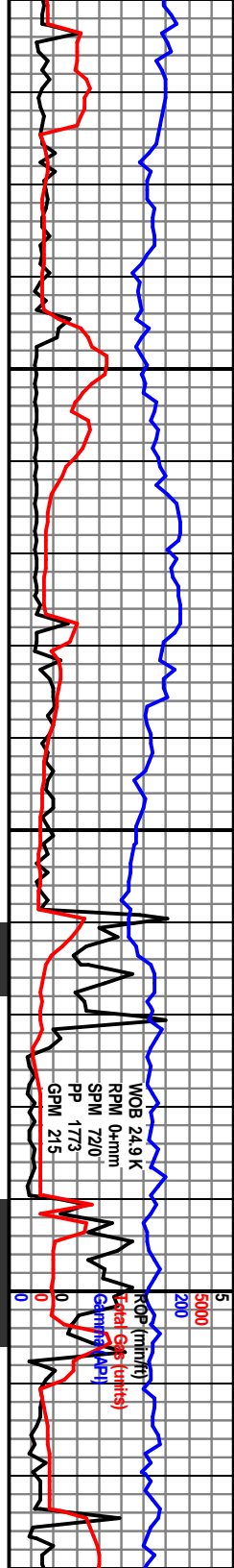




DS 7719' Inc 89.38° AZ 18.50° 6920.94', VS 1478.74'	TVD	DS 7782' Inc 89.00° AZ 18.30° 6921.60', VS 1541.22'	6800 TVD	DS 7846' Inc 89.70° AZ 17.10° TVD 6921.96', VS 1605.34'
ray(N5) to biply, carbonaceous, loose- drilling cut.	Chalk, mottled light gray(N7) to medium gray(N5) to brownish gray (5YR 4/1), subblocky to subplaty, earthy, very calcareous, very slightly carbonaceous, rare calcite filled microfracture, abundant loose calcite, poor induration. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow flashing cut. Abundant mica (LCM) in samples.	Chalk, mottled light gray(N7) to medium gray(N5) to brownish gray (5YR 4/1), subblocky to subplaty, earthy, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, abundant loose calcite, poor induration. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow flashing cut. Abundant mica (LCM) in samples.	Carbonaceous Chalk, mottled light gray(N7) to medium gray(N5) to brownish gray (5YR 4/1), subblocky to subplaty, earthy, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, abundant loose calcite, poor induration. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow flashing cut. Abundant mica (LCM) and sawdust in samples.	Carbonaceous black (N2) earthy to s carbonaceous, abundant loose calcite in drilling sample, im
Solid yellow fluorescence in unwashed samples.				







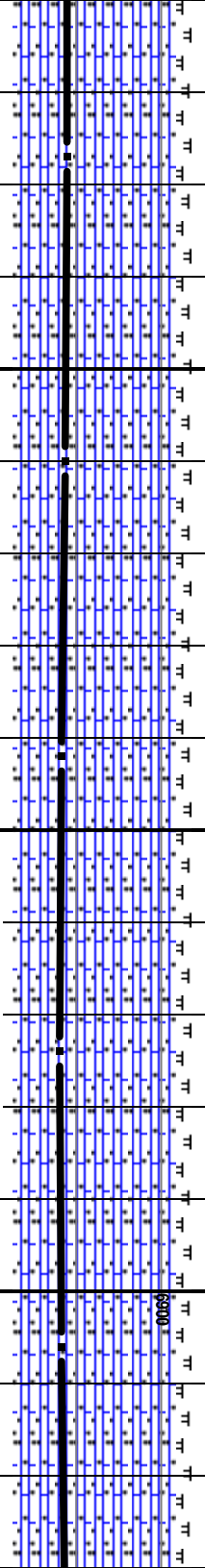
DS 7910' Inc 89.10° AZ 17.10° TVD  
6922.58', VS 1669.24'

DS 7974' Inc 89.80° AZ 18.40° TVD  
6923.56', VS 1733.06'

6800 TVD

DS 6923.56', VS 1733.06'

Abundant olive green oil coming over shaker



ous Chalk, medium dark gray (N4) to grayish rare med light gray(N7), subblocky to subplaty, slightly subwaxy, very calcareous, very slightly calcite filled microfractures, some us, rare calcite filled microfractures, some

Carbonaceous Chalk, medium dark gray (N4) to grayish black (N2) rare med light gray(N7), subblocky to subplaty, earthy to slightly subwaxy, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, some loose calcite, poor induration, firm to brittle. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow flashing cut.

Carbonaceous Chalk, medium dark gray (N4) to grayish black (N2) rare med light gray(N7), subblocky to subplaty, earthy to slightly subwaxy, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, some loose calcite, poor induration, firm to brittle. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow flashing cut.

Carbonaceous Chalk, medium da grayish black (N2), subblocky to to subwaxy in part, very calcareous carbonaceous, rare calcite filled occasional loose calcite, poor inc brittle. Significant oil in mud, abu green oil in unwashed sample, in yellow to cream flashing cut.

Solid yellow fluorescence in unwashed samples.

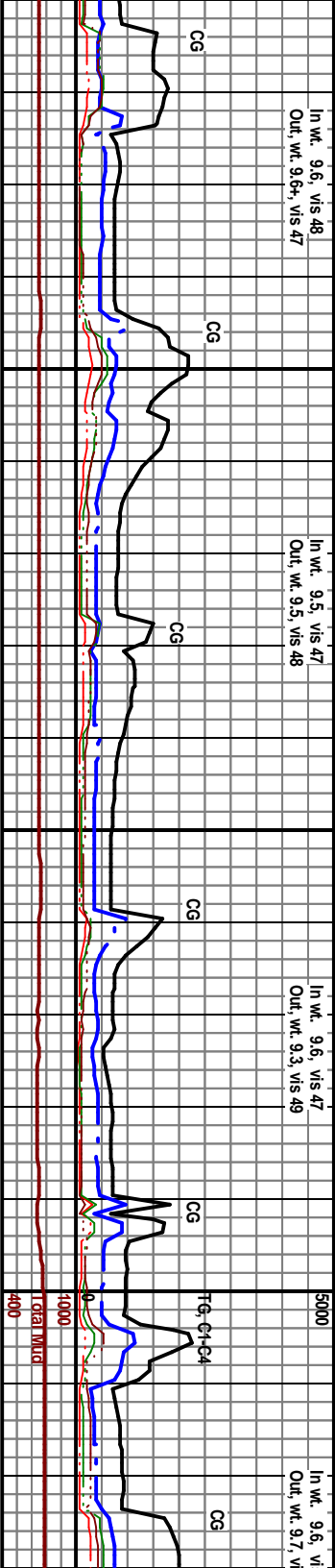
Solid yellow fluoresc

In wt. 9.6, vis 48  
Out, wt. 9.6+, vis 47

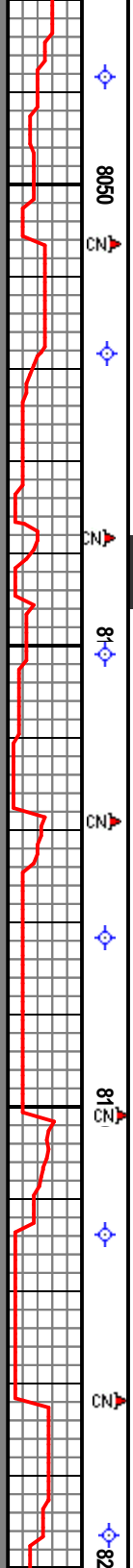
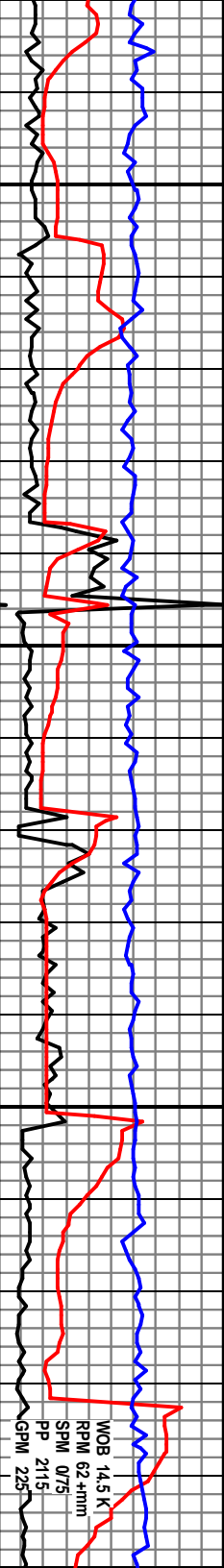
In wt. 9.5, vis 47  
Out, wt. 9.5, vis 48

In wt. 9.6, vis 47  
Out, wt. 9.3, vis 49

In wt. 9.6, vis 47  
Out, wt. 9.7, vis 48







8038' Inc 92.30° AZ 18.80° TVD 22.61', VS 1797.04'	DS 8101' Inc 91.80° AZ 18.70° TVD 6921.34', VS 1860.01'	DS 8164' Inc 92.00° AZ 18.90° TVD 6919.20', VS 1922.97.01'
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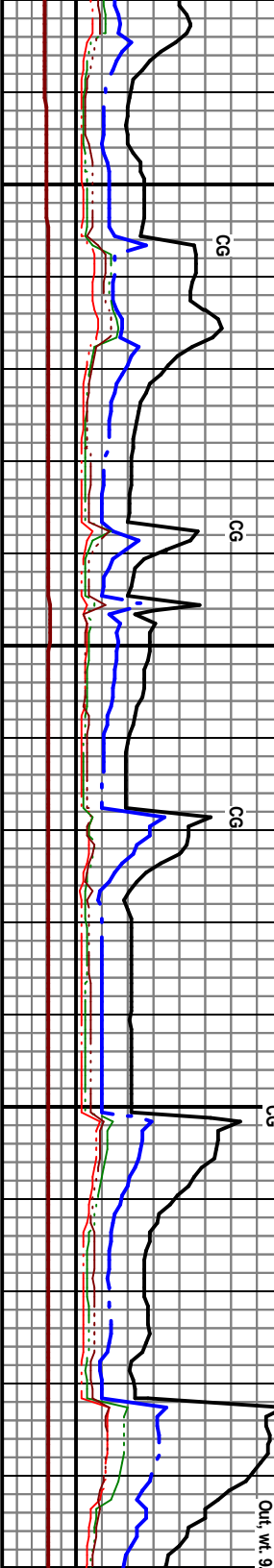
Abundant olive green oil coming over shaker

Abundant olive green oil coming over shaker

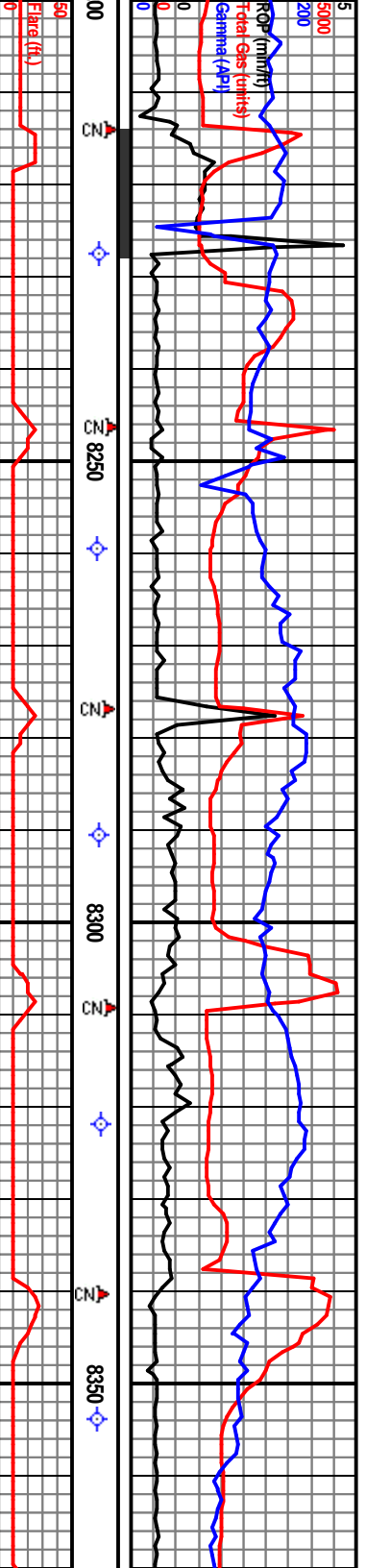
Black gray (N4) to subplaty, earthy, very slightly micromicrofractures, firm to induration, firm to abundant free olive immediate bright	Carbonaceous Chalk, medium dark gray (N4) to grayish black (N2), subblocky to subplaty, earthy to subwaxy in part, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in mud, abundant free olive green oil in unwashed sample, immediate bright yellow to cream flashing cut.	Carbonaceous Chalk, medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy to subwaxy in part, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in mud, abundant free olive green oil in unwashed sample, immediate bright yellow to cream flashing cut.	Carbonaceous Chalk, medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy to subwaxy in part, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in mud, abundant free olive green oil in unwashed sample, immediate bright yellow to cream flashing cut.
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ence in unwashed samples. Solid yellow fluorescence in unwashed samples. NO FLUOR SAMPLE

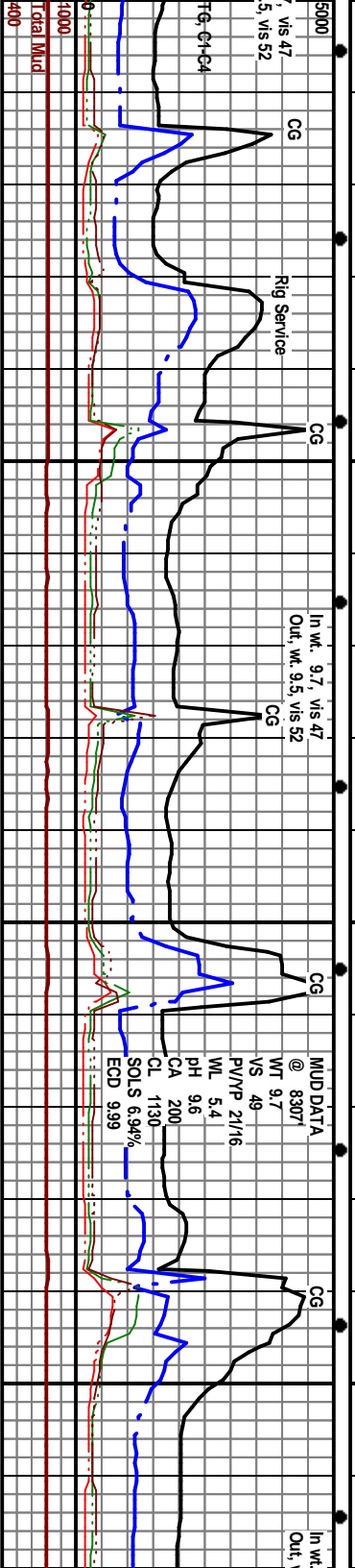
In wt. 9.6, vis 49 Out. wt. 9.5, vis 51	In wt. 9.64, vis 49 Out. wt. 9.5, vis 51	In wt. 9.3, Out. wt. 9
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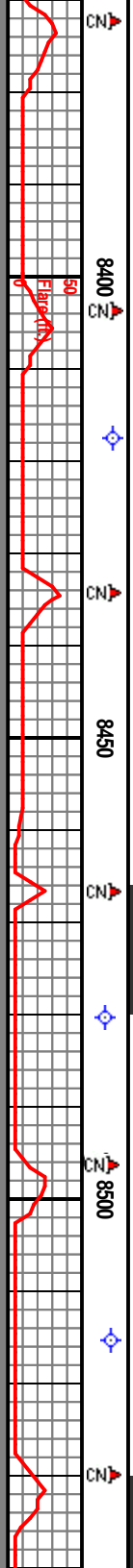
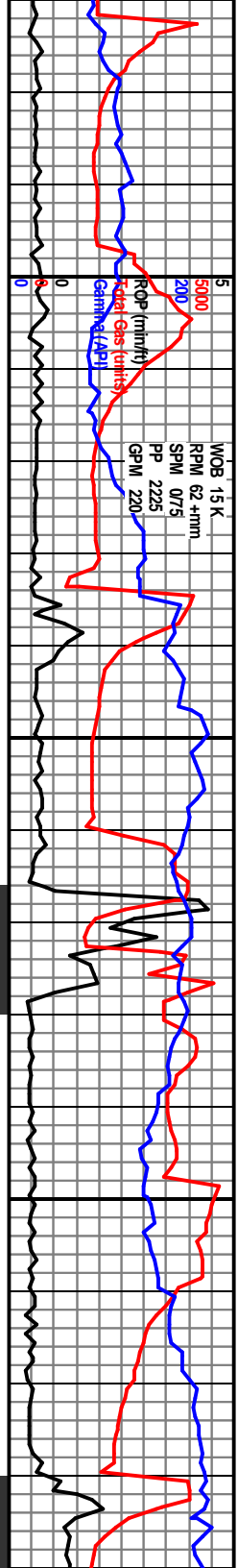




6800 TVD		DS 8227' Inc 93.30° AZ 18.30° TVD 6916.59' , VS 1985.91'		DS 8290' Inc 93.20° AZ 18.30° TVD 6912.94' , VS 2048.79'		DS 8354' Inc 92.70° AZ 18.50° 6909.56' , VS 2112.68'	
Carbonaceous Chalk, medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy to subwaxy in part, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow to cream flashing cut.		Abundant olive green oil coming over shaker		Solid yellow fluorescence in unwashed samples.		Abundant olive g	
SCIENCE IN WASHED		FAINT YELLOW FLUORESCENCE IN WASHED SAMPLE WHEN CUTTING FLUID ADDED. SAMPLES HAD DRIED BEFORE ADDING CUTTING FLUID					







TVD	6800 TVD	DS 8417' Inc 92.60° AZ 17.90° TVD 6906.57, VS 2175.59'	DS 8480' Inc 93.80° AZ 18.0° TVD 6903.37, VS 2238.48'	DS 8541' Inc 93.80° AZ 18.0° TVD 6903.37, VS 2238.48'
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**Faulted Interval**

Downtrown Block

Upthrown Block

"D" Marlstone

Abundant olive green

green oil coming over shaker

unwashed samples.

gray(N7) to medium gray(N5) to brownish gray(N3) to subplaty, earthy, very calcareous, rare calcite filled microfractures, occasional loose calcite, poor induration, abundant free olive green oil in unwashed sample, immediate bright yellow flashing cut.

Chalk, some medium gray(N5) to predominately medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy to subwaxy in part, very calcareous, very slightly carbonaceous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow to cream flashing cut.

Solid bright yellow fluorescence in unwashed samples.

Carbonaceous Chalk, medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy texture, very calcareous, very calcareous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in mud, abundant free olive green oil in unwashed sample, immediate bright yellow to cream flashing cut.

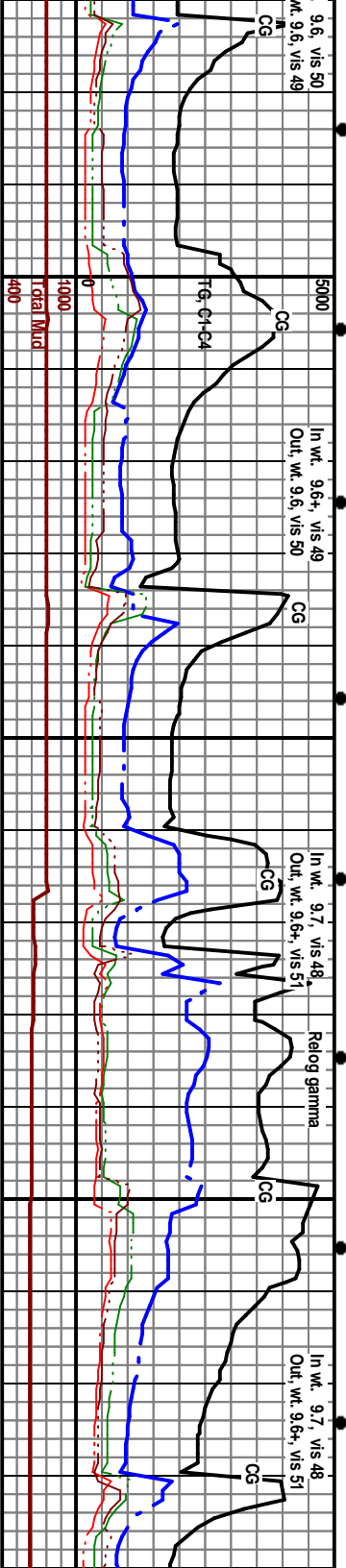
Carbonaceous Chalk, medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy texture, very calcareous, very calcareous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in mud, abundant free olive green oil in unwashed sample, immediate bright yellow to cream flashing cut.

NO FLUORESCENCE IN WASHED SAMPLE

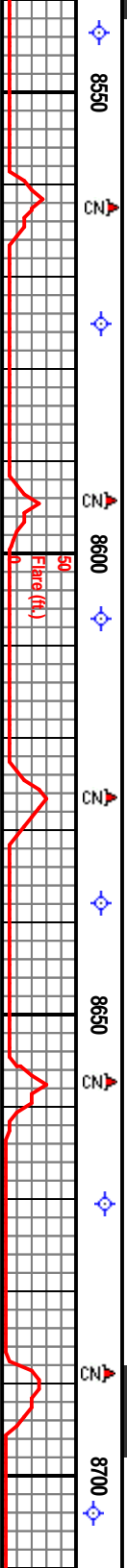
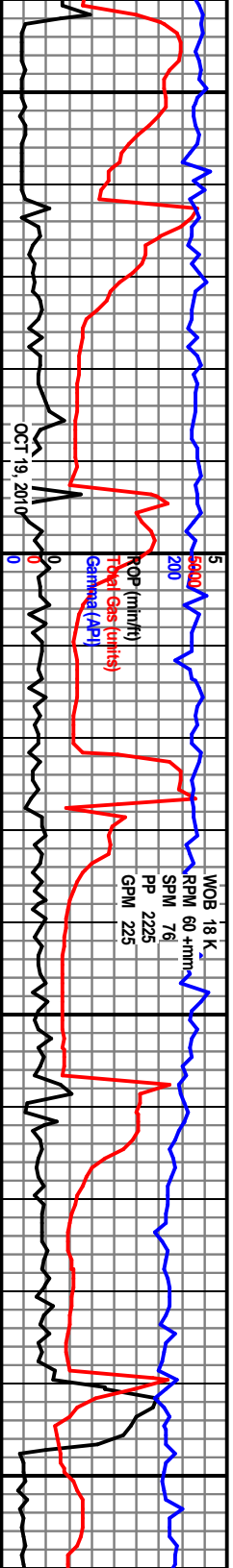
NO FLUORESCENCE IN WASHED SAMPLE

NO FLUORESCENCE IN WASHED SAMPLE

Solid bright yellow







3 Inc 92.40° AZ 18.20°  
99.52', VS 2301.33'

6800 TVD  
DS 8607' Inc 91.50° AZ 18.20° TVD  
6896.81', VS 2365.27'

DS 8670' Inc 90.90° AZ 18.00° TVD  
6896.28', VS 2428.23'

Green oil coming over shaker

Circulate out samples at 8626'

Abundant

dark gray clay blocky to carbonaceous, calcite, drilling fluid, immediate

Carbonaceous Chalk, medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy texture, very calcareous, very carbonaceous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.

Carbonaceous Chalk, medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy texture, very calcareous, very carbonaceous, rare calcite filled microfractures, occasional loose calcite, poor induration, firm to brittle. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.

Carbonaceous Chalk, medium dark gray (N4) to dark gray (N3) to occasionally brownish gray (5YR 4/1), subblocky to subplaty, earthy texture, very calcareous, very carbonaceous, rare marlstone, occasional loose calcite, poor induration, firm to brittle. Significant oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.

Carbonaceous gray (N3) to subplaty to carbonaceous, induration, abundant free bright yellow

Fluorescence in unwashed samples.

NO FLUORESCENCE IN WASHED SAMPLE

Solid bright yellow fluorescence in unwashed samples.

NO FLUORESCENCE SAMPLE

CG In wt. 9.7, vis 48  
Out. wt. 9.6+, vis 51

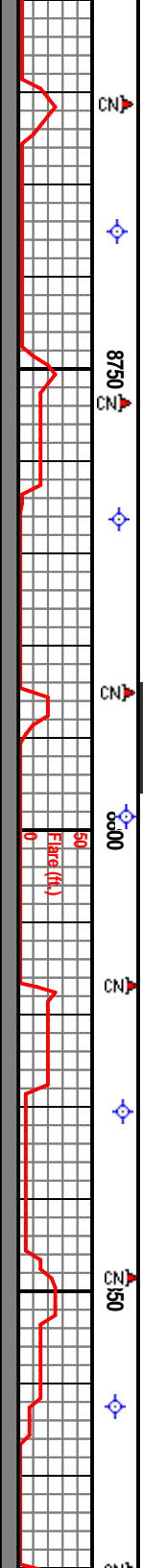
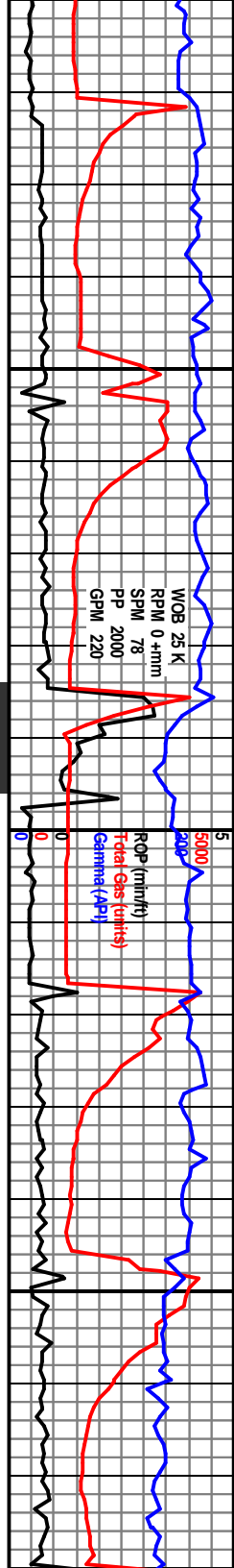
CG In wt. 9.7, vis 48  
Out. wt. 9.6+, vis 51

CG In wt. 9.6+, vis 48  
Out. wt. 9.6, vis 51

Fe-Cr-Cd

Total Mud  
400





DS 8735' Inc 92.60° AZ 20.80° TVD  
6893.93', VS 2493.18'

DS 8798' Inc 91.70° AZ 19.40° TVD  
6891.33', VS 2556.12'

DS 8862' Inc 91.30° AZ 19.90° TVD  
6889.81', VS 2620.10'

Abundant olive green oil coming over shaker

Abundant olive green oil coming over

Solid, pale yellow with bright yellow spotty fluorescence in unwashed samples.

us Chalk, mottled medium dark gray (N4) to dark occasionally brownish gray (5YR 4/1), subblocky earthy texture, very calcareous, very firm to brittle. Significant oil in drilling fluid, olive green oil in unwashed sample, immediate w streaming cut.

Carbonaceous Chalk, rarely mottled, mostly homogeneous, mostly dark gray (N3) to grayish black (N2), subblocky to subplaty, earthy texture, very calcareous, carbonaceous, marly in part, rare loose calcite, poor induration, firm to brittle. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.

Carbonaceous Chalk, rarely mottled, mostly homogeneous, becoming more marly in part, mostly dark gray (N3) to grayish black (N2), subblocky to subplaty, earthy texture, very calcareous, carbonaceous, rare loose calcite, poor induration, firm to brittle. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.

Carbonaceous Chalk, rarely homogeneous, becoming more dark gray (N3) to grayish black subplaty, earthy texture, very carbonaceous, rare loose calcite, firm to brittle. Oil in drilling fluid, green oil in unwashed sample, yellow streaming cut.

IN WASHED

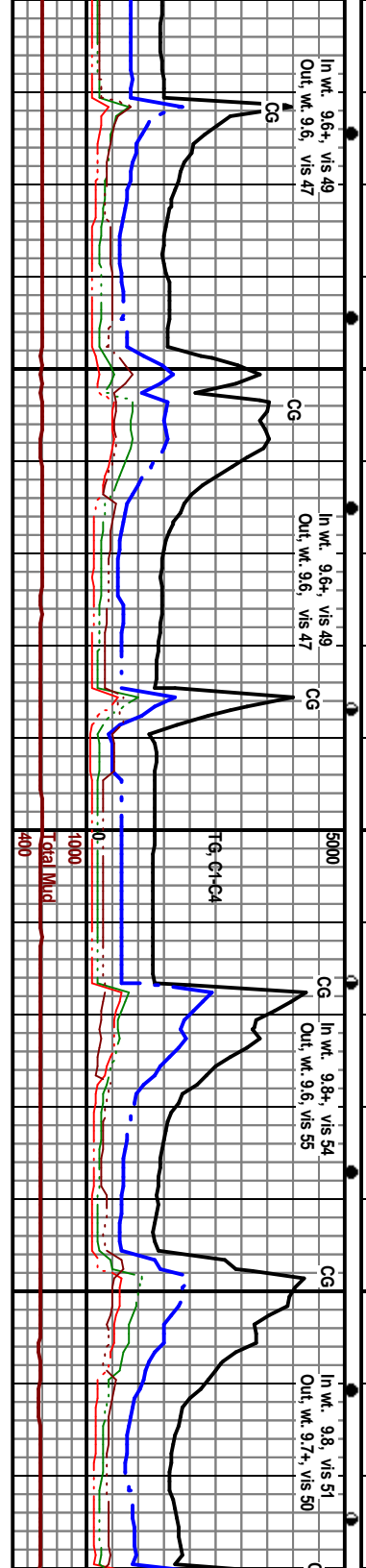
NO FLUORESCENCE IN WASHED SAMPLE

In wt. 9.6+, vis 49  
Out. wt. 9.6, vis 47

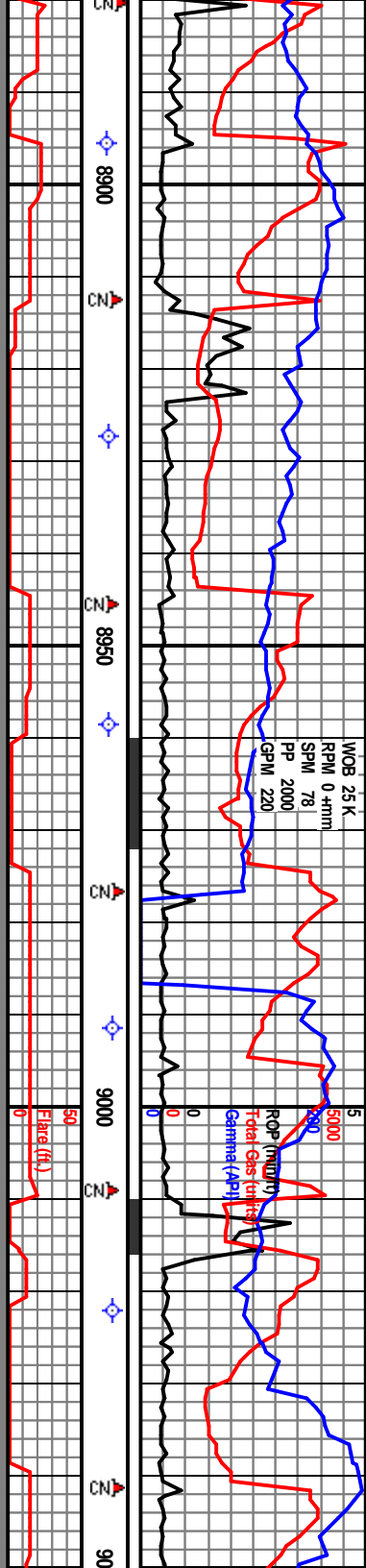
In wt. 9.6+, vis 49  
Out. wt. 9.6, vis 47

In wt. 9.8+, vis 54  
Out. wt. 9.6, vis 55

In wt. 9.8, vis 51  
Out. wt. 9.7+, vis 50

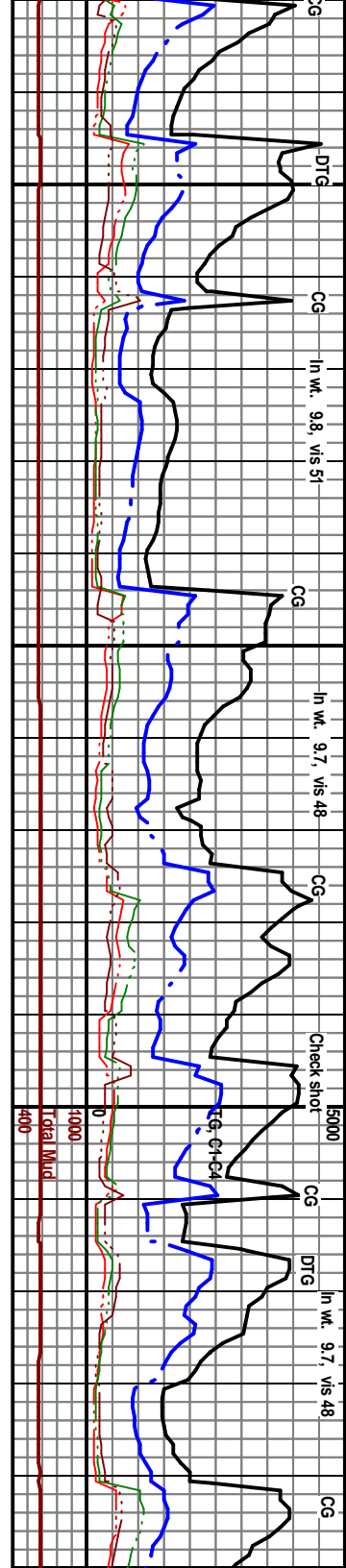




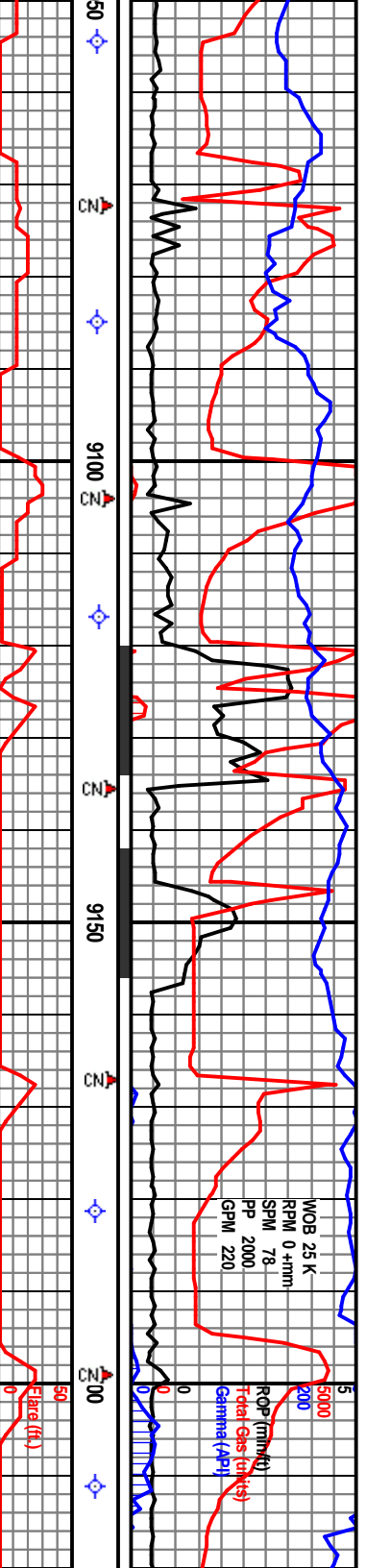


shaker	DS 8927' Inc 89.80° AZ 19.80° TVD 6888.87', VS 2685.09'	DS 8991' Inc 89.10° AZ 19.80° TVD 6889.45', VS 2749.09'	DS 9054' In 6891.30', VS
	Solid, pale yellow with bright yellow spotty fluorescence in unwashed samples.	Abundant olive green oil coming over shaker	

	Carbonaceous Chalk, partly mottled, mostly very finely to medium dark gray(N4) to grayish black (N2), subblocky to calcareous, brittle, abundant free olive oil, immediate bright yellow streaming cut.	Carbonaceous Chalk, partly mottled, partly homogeneous, occasionally medium gray (N3) to medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy texture, very calcareous, carbonaceous, rare loose calcite, rare brown calcite inclusions in about 20% of cuttings, poor induration, firm to brittle. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.	Carbonaceous Chalk, rarely mottled, partly homogeneous, mainly to very finely in part, medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy texture, very calcareous, carbonaceous, rare loose calcite, rare brown calcite inclusions in about 20% of cuttings, poor induration, firm to brittle. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.





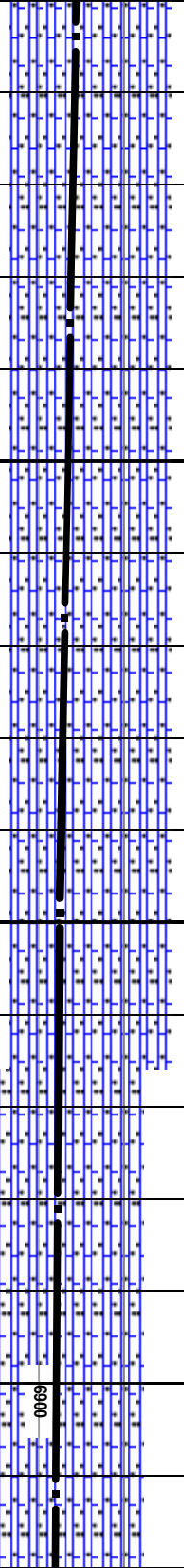


c 87.80° AZ 20.00° TVD  
S 2812.06'

DS 9117' Inc 87.40° AZ 19.60° TVD  
6894.05', VS 2875.00'

DS 9181' Inc 89.30° AZ 18.70°  
TVD 6895.56', VS 2938.97'

6800 TVD



y fluorescence in unwashed samples.

Bright yellow spotty to patchy fluorescence in unwashed samples.

Bright

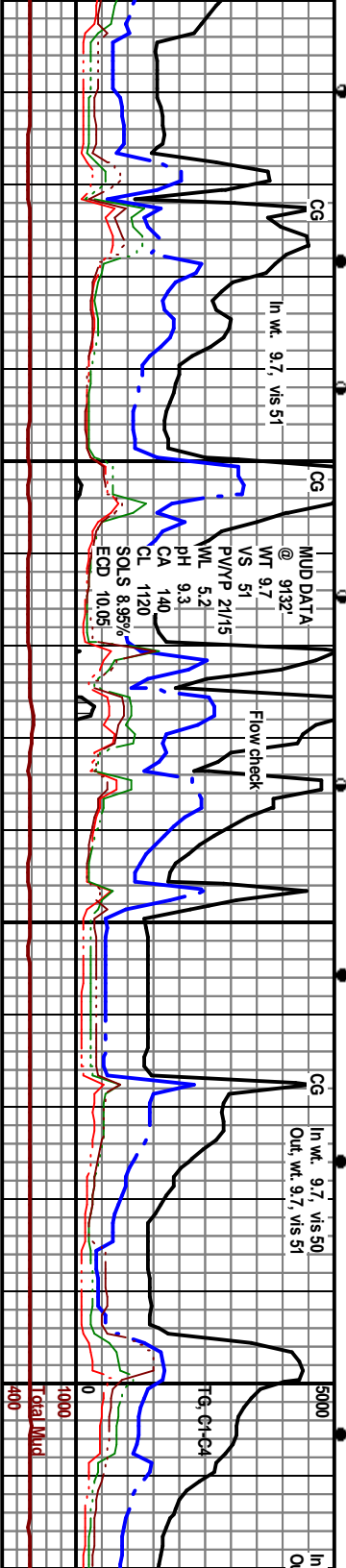
Marlstone, rarely mottled, partly homogeneous, medium dark gray(N4) to grayish black (N2), subblocky to subplaty, very rarely earthy, mostly subwaxy texture, very calcareous, carbonaceous, rare loose calcite, rare brown calcite inclusions in about 20% of cuttings, poor induration, firm to brittle. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.

Carbonaceous Chalk, rarely mottled, partly homogeneous, mainly in parts, medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy to subwaxy texture, very calcareous, carbonaceous, poor induration, Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.

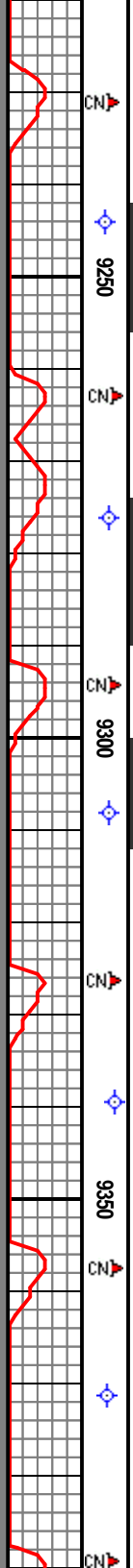
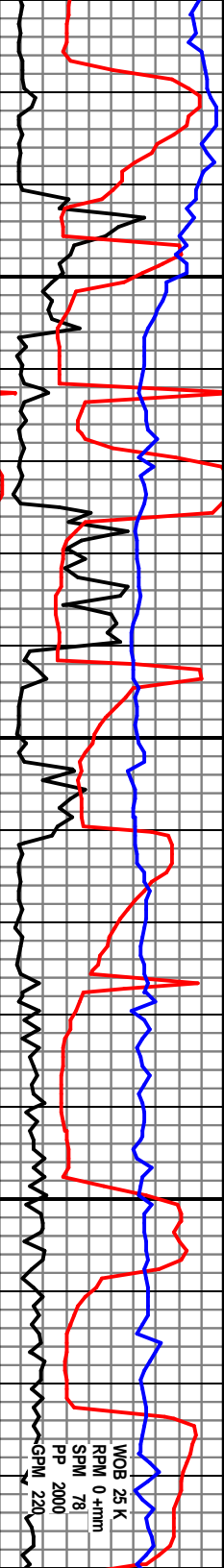
Carbonaceous Chalk, rarely mottled, medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy texture, very calcareous, carbonaceous, poor induration, Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut.

Carbonaceous Chalk, rare dark gray(N4) to grayish earthy texture, very calcareous, carbonaceous, poor induration, Oil in drilling unwashed sample, immediate bright yellow fluorescence.

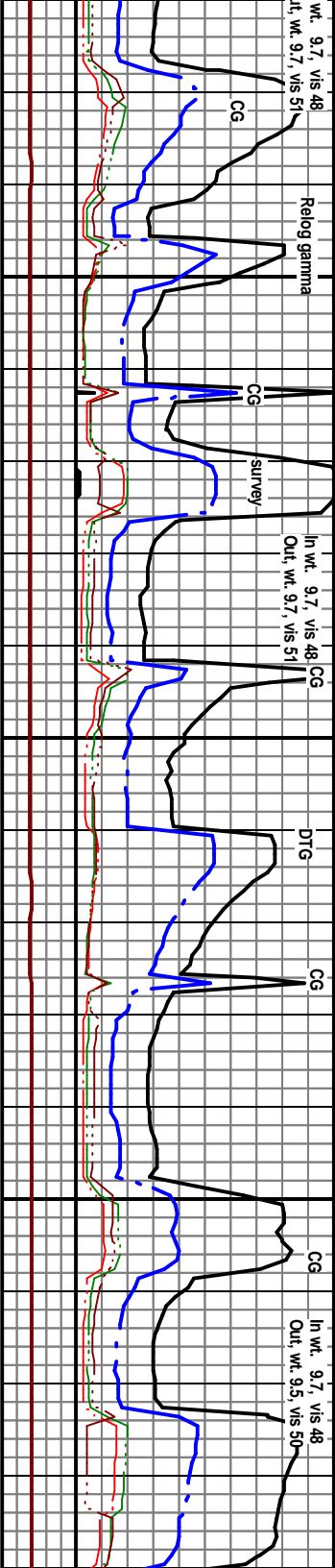
NO FLUORESCENCE IN WASHED SAMPLE



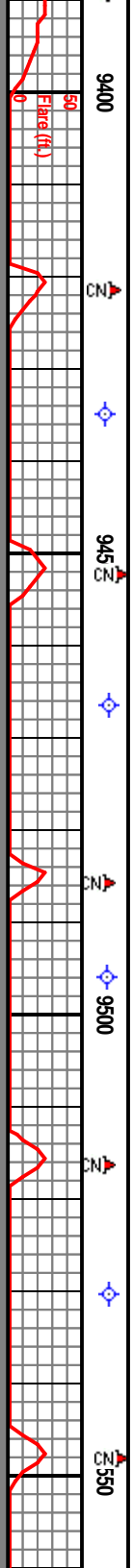
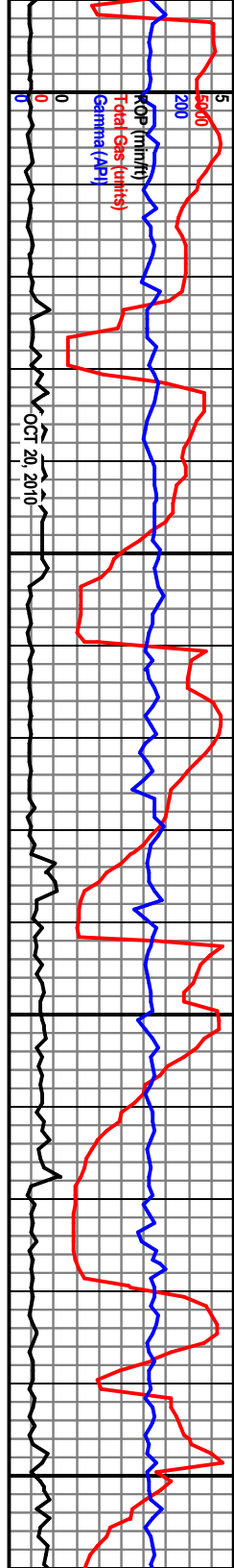




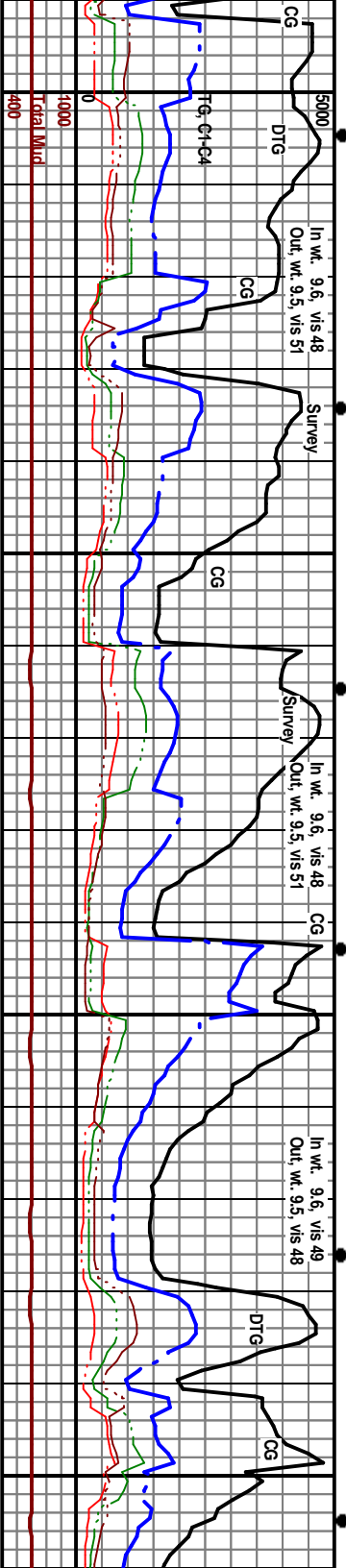
DS 9244' Inc 89.20° AZ 18.90° TVD 6896.60', VS 3001.96'		DS 9307' Inc 93.60° AZ 20.10° TVD 6895.58', VS 3064.93'		DS 9371' Inc 92.30° AZ 19.00° TVD 6892.20', VS 3128.83'
yellow even fluorescence in unwashed samples.	Carbonaceous Chalk, rarely mottled, medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy texture, very calcareous, carbonaceous, poor induration. Oil in drilling fluid, abundant free olive green oil in unwashed sample. Immediate bright yellow streaming cut. Washed samples give off a streaming yellow cut fluorescence.	Carbonaceous Chalk, mottled medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very carbonaceous, rare cream .05 mm calcite filled microfractures, poor induration. Oil in drilling fluid, abundant free olive green oil in unwashed sample. Immediate bright yellow streaming cut. Washed sample in hot water gives off slow yellow streaming cut fluorescence.	Bright yellow even fluorescence in unwashed samples.	Carbonaceous Chalk, mottled medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very carbonaceous, rare cream .05 mm filled microfractures, poor induration, rare disseminated pyrite. Oil in drilling fluid, abundant free olive green oil in unwashed sample. Immediate bright yellow streaming cut. Washed samples give off a yellow residual ring cut fluorescence with butane lighter fluid.
SAMPLE	NO FLUORESCENCE IN WASHED SAMPLE			



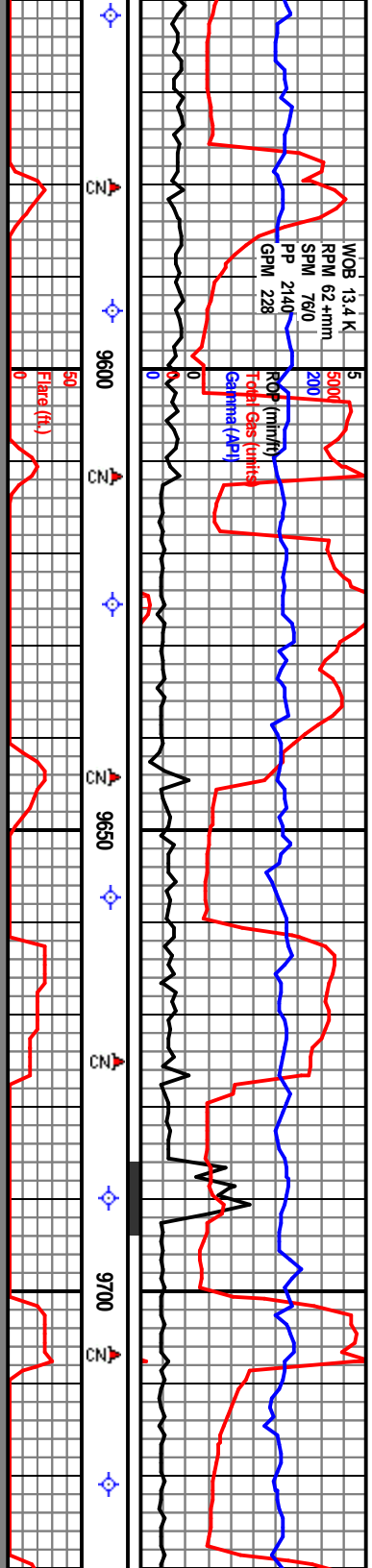




9400		9450		9500		9550	
N		N		N		N	
50		50		50		50	
Flare (ft)		Flare (ft)		Flare (ft)		Flare (ft)	
0		0		0		0	
6800 TVD		DS 9435' Inc 92.70° AZ 19.50° TVD 6889.57', VS 3192.78'		DS 9498' Inc 92.20° AZ 18.40° TVD 6887.07', VS 3255.71'		DS 9561' Inc 92.20° AZ 18.40° TVD 6884.76', VS 3255.71'	
Carbonaceous Chalk, mottled medium dark gray (N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very carbonaceous, rare cream .05 mm calcite filled microfractures, poor induration, rare disseminated pyrite. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut. Washed samples give off a residual yellow ring cut fluorescence.		Carbonaceous Chalk, mottled medium dark gray (N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very carbonaceous, poor induration, rare disseminated pyrite. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut. Washed samples give off a slow blooming yellow cut fluorescence.		Carbonaceous Chalk, mottled medium dark gray (N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very carbonaceous, rare white .05 mm calcite filled microfractures, poor induration, rare disseminated pyrite. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut. Washed sample gives off a slow streaming/blooming cut fluorescence.		Carbonaceous Chalk, mottled medium dark gray (N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very carbonaceous, rare white .05 mm calcite filled microfractures, poor induration, rare disseminated pyrite. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut. Washed sample gives off a slow streaming/blooming cut fluorescence.	
Bright yellow even fluorescence in unwashed samples.		Bright yellow even fluorescence in unwashed samples.		Bright yellow even fluorescence in unwashed samples.		Bright yellow even fluorescence in unwashed samples.	
NO FLUORESCENCE IN WASHED SAMPLE		NO FLUORESCENCE IN WASHED SAMPLE		NO FLUORESCENCE IN WASHED SAMPLE		NO FLUORESCENCE IN WASHED SAMPLE	



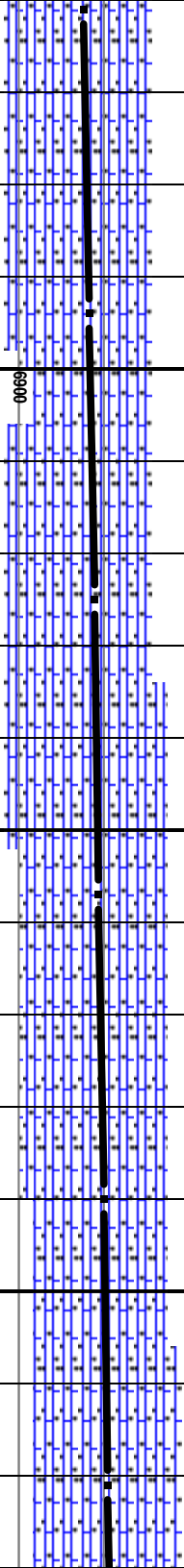




12.00° AZ 18.0° TVD  
318.65'

6800 TVD  
DS 9625' Inc 92.00° AZ 16.90°  
TVD 6882.53', VS 3382.57'

DS 9690' Inc 92.20° AZ 15.70° TVD  
6880.26', VS 3447.43'



samples.

Bright yellow even fluorescence in unwashed samples.

Carbonaceous Chalk, medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very sticky to subplaty, earthy, very calcareous, very fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut. Washed wet samples give a slow streaming dull yellow cut fluorescence.

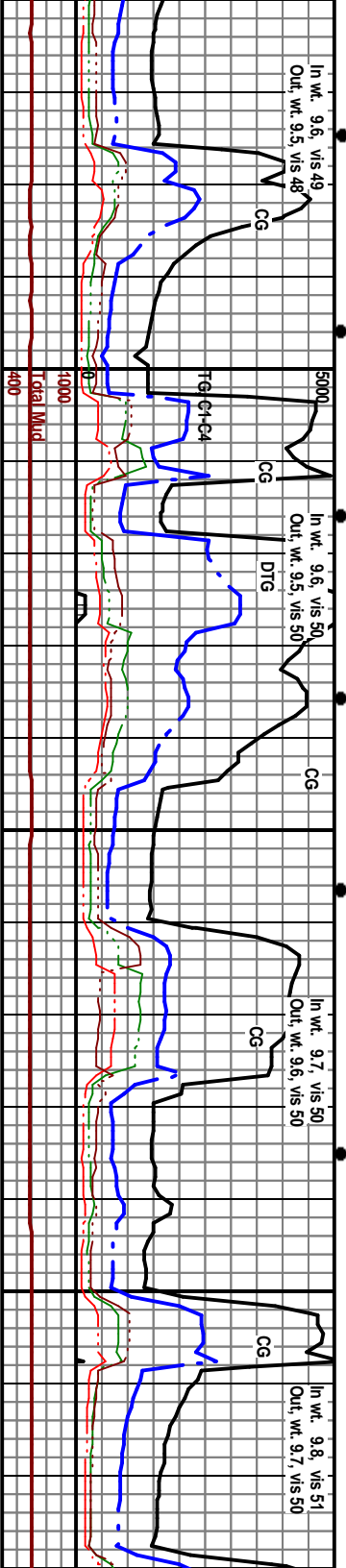
Carbonaceous Chalk, medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very microfractures, poor induration, rare disseminated pyrite. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut. Washed samples give a slow blooming dull yellow cut fluorescence.

Carbonaceous Chalk, medium dark gray(N4) to grayish black (N2), subblocky to subplaty, earthy, very calcareous, very carbonaceous, poor induration, rare disseminated pyrite. Oil in drilling fluid, abundant free olive green oil in unwashed sample, immediate bright yellow streaming cut. Washed samples give a slow blooming dull yellow cut fluorescence.

Carbonaceous Chalk, very marl dark gray(N3) to predominantly (N2), subblocky to subplaty, sp in part, subwaxy to rarely earthy calcareous, rare calcite inclusions carbonaceous, poor induration, fluid, but no oil visible under bl thoroughly washed samples, ex occasional residue left by drillin % oil in mud. This residue is g on edges of sample and corner

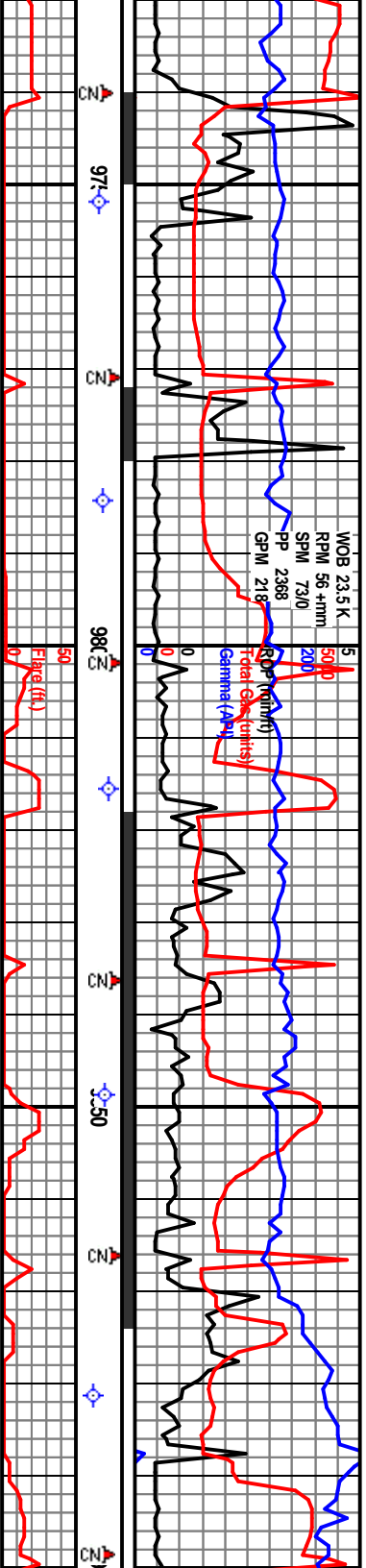
NO FLUORESCENCE IN WASHED SAMPLE

NO FLUORESCENCE IN WASHED SAMPLE

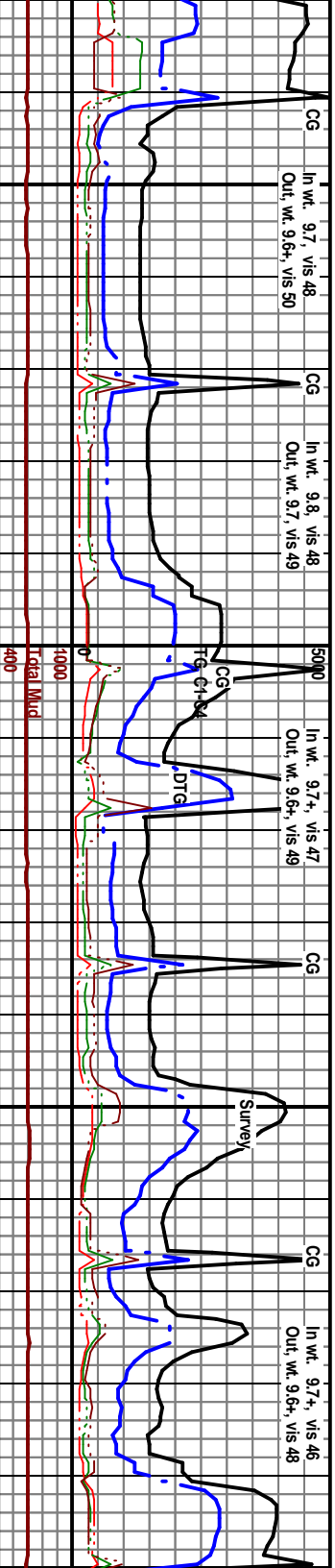


In wt. 9.6, vis 49  
Out. wt. 9.5, vis 48  
CG  
In wt. 9.6, vis 50  
Out. wt. 9.5, vis 50  
CG  
In wt. 9.7, vis 50  
Out. wt. 9.6, vis 50  
CG  
In wt. 9.8, vis 51  
Out. wt. 9.7, vis 50  
CG  
Total Mud  
400

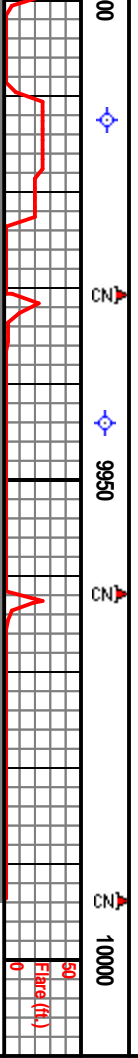
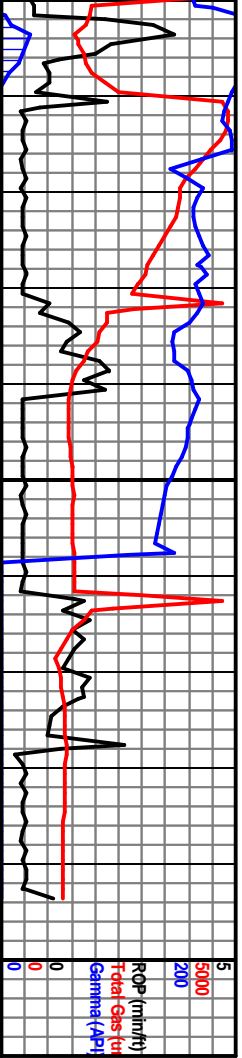




DS 9752' Inc 92.30° AZ 14.40° TVD 6878.12, VS 3509.18'	6880 TVD	DS 9816' Inc 92.50° AZ 13.50° TVD 6875.55, VS 3572.82'	DS 9881' Inc 97.50° AZ 14.40° TVD 6870.60, VS 3637.29'
1/2, medium grayish black frittery to fissle /, very very Oil in drilling black light in cept from g fluid with 9.5+ o of tray.	Carbonaceous Chalk/Marstone, marly, medium dark gray(N3) to predominately grayish black (N2), subblocky to subplaty, splintery in part, subwaxy to rarely earthy, very calcareous, rare calcic inclusions, very carbonaceous, poor induration, Oil in drilling fluid, but no oil visible under black light in thoroughly washed samples.	Carbonaceous Chalk/Marstone, very marly, medium dark gray(N3) to predominately grayish black (N2), subblocky to subplaty, splintery in part, subwaxy to rarely earthy, very calcareous, rare calcic inclusions, very carbonaceous, firm to brittle, Oil in drilling fluid and coating samples. No oil visible under black light in thoroughly washed samples.	Carbonaceous Chalk/Marstone, very marly, medium dark gray(N3) to predominately grayish black (N2), subblocky to subplaty, splintery in part, subwaxy to rarely earthy, very calcareous, rare calcic inclusions, very carbonaceous, firm to brittle, Oil in drilling fluid and coating samples. No oil visible under black light in thoroughly washed samples.
NO FLUORESCENCE IN WASHED SAMPLE			







DS 9944 Inc 96.40° AZ 15.90° TVD 6862.52; VS 3699.58'		6880 TVD
TD 9994 Ft. reached at 1545 hrs on October 20, 2010		6900
Carbonaceous Chalk/Marlstone, very marly, mottled in part, medium dark gray(N3) to predominantly grayish black (N2), subblocky to subplaty, earthy, very calcareous, rare calcite inclusions, very carbonaceous, firm to brittle. Oil in drilling fluid and coating samples. No oil visible under black light in thoroughly washed samples.		
Carbonaceous Chalk/Marlstone, very marly, mottled in part, medium dark gray(N3) to predominantly grayish black (N2), rare brownish gray (GYR 4/1) subblocky to subplaty, earthy, very calcareous, rare calcite inclusions, very carbonaceous, firm to brittle. Oil in drilling fluid and coating samples. No oil visible under black light in thoroughly washed samples.		
NO FLUORESCENCE IN WASHED SAMPLE		7000

