



# eog resources

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

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

Well Name: Critter Creek 22-27H  
Location: Hereford Ranch Prospect - NW/NW Sec 27 T11N R63W Weld County, Colorado  
License Number: API: 05-123-31507 Region: D J Basin  
Spud Date: 10/8/10 Drilling Completed: 10/25/10  
Surface Coordinates: 501' FNL, 501' FWL NW/NW Section 27 T11N R63W  
Latitude 40° 53' 57.510 N Longitude 104° 25 ' 33.880 W  
Bottom Hole Coordinates: Proposed: 600' FSL & 600' FEL Section 27 T11N R63W  
Actual: 719' FSL & 593' FEL  
Ground Elevation (ft): 5219' K.B. Elevation (ft): 5241'  
Logged Interval (ft): 6812' (KOP)To: TD Total Depth (ft): 12,950' MD, 7246.7' TVD  
Formation: Niobrara 'B' Chalk  
Type of Drilling Fluid: Water  
Printed by WellSight Log Manager from WellSight Systems 1-800-447-1534 www.WellSight.com

## OPERATOR

Company: EOG Resources, Inc.  
Address: 600 Seventeenth Street, Suite 1000N  
Denver, Colorado, 80202  
Company Geologist: John Melby

## GEOLOGIST

Name: Mike Dodge, Robert Nordeck  
Company: Goolsby Brothers & Assoc. (GBA), Inc. (www.goolsbybrothers.com)  
Address: 575 Union Blvd., Suite 208  
Lakewood CO. 80228

## E-Logs

MWD GR from Surface Casing to 12,713' (No GR 12,713' to TD due to Tool Failure).

## Casing

9 5/8" 36# J55 STC set @ 1339'.  
7" 23# HC-P110 LTC set @ 7585'.  
4.5" 11.6# P110 LTC Liner to TD.

## Comments

\*This well was spudded @ 02:00 on 10/8/10. A 13 1/2" Hole was drilled to 1339', and 9 5/8" S.C. was set. The well was Drilled Vertically to KOP of 6813', at which point angle was built to 88° by 7585' MD. 7" Casing w as set and the well was then Drilled Horizontally to a TD of 12,950' MD. A Vertical Strip Log covers the Interval from S.C. to 7" Intermediate Casing. This Horizontal Strip Log was made covering the interval from 6812' (KOP) to TD.

1) Drilling Contractor: DHS Drilling Co., Rig #8

Tool Pusher: Scott Putnam, Terry Flores, Dwayne Pitt.  
Pumps: #1 & #2 PZ-9 5.5" x 9" (.0628 bbl/stk)

2) Company Men: Tim Storey, Bill Laird.

3) Directional Services / MWD GR: Nevis Energy Services: Ken Jones, Jeff Ruddick, Brian Heath, Jack Miller.

4) Mud Company: Baker Hughes Drilling Fluids

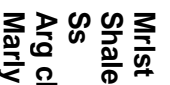
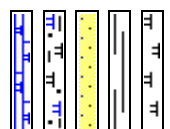
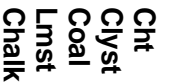
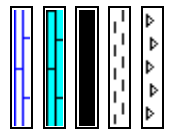
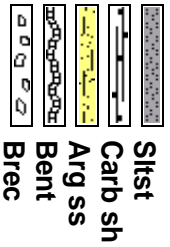
Mud Engineer: Blake Mihalic, Michael Proust.

Solids Control: National Oilwell Varco / Brandt's Solids Control.

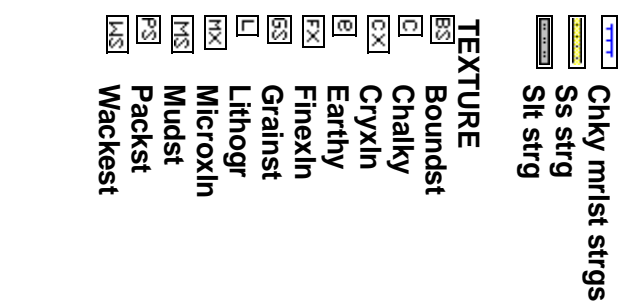
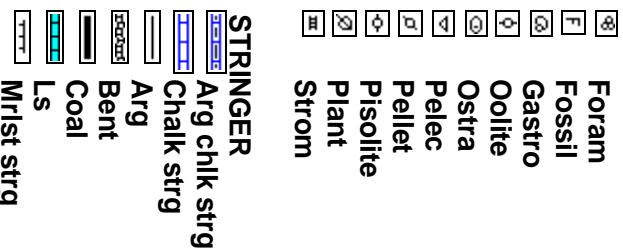
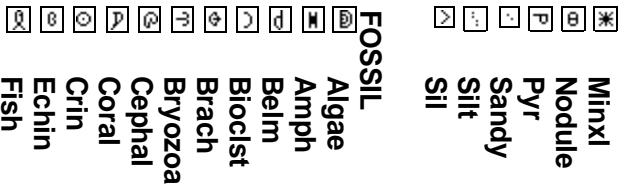
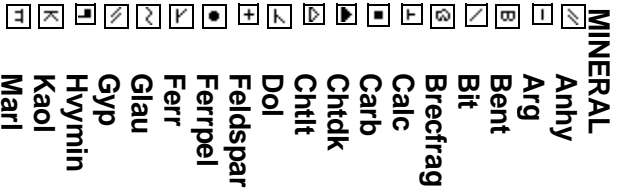
5) Contained/Under Balanced Drilling System: Weatherford.

6) Gas Detection Equipment: Mudlogging Systems Inc.  
by Terra Services  
Redbox TGC #ML-073 (Total Gas/Chromatograph).

## ROCK TYPES



## ACCESSORIES

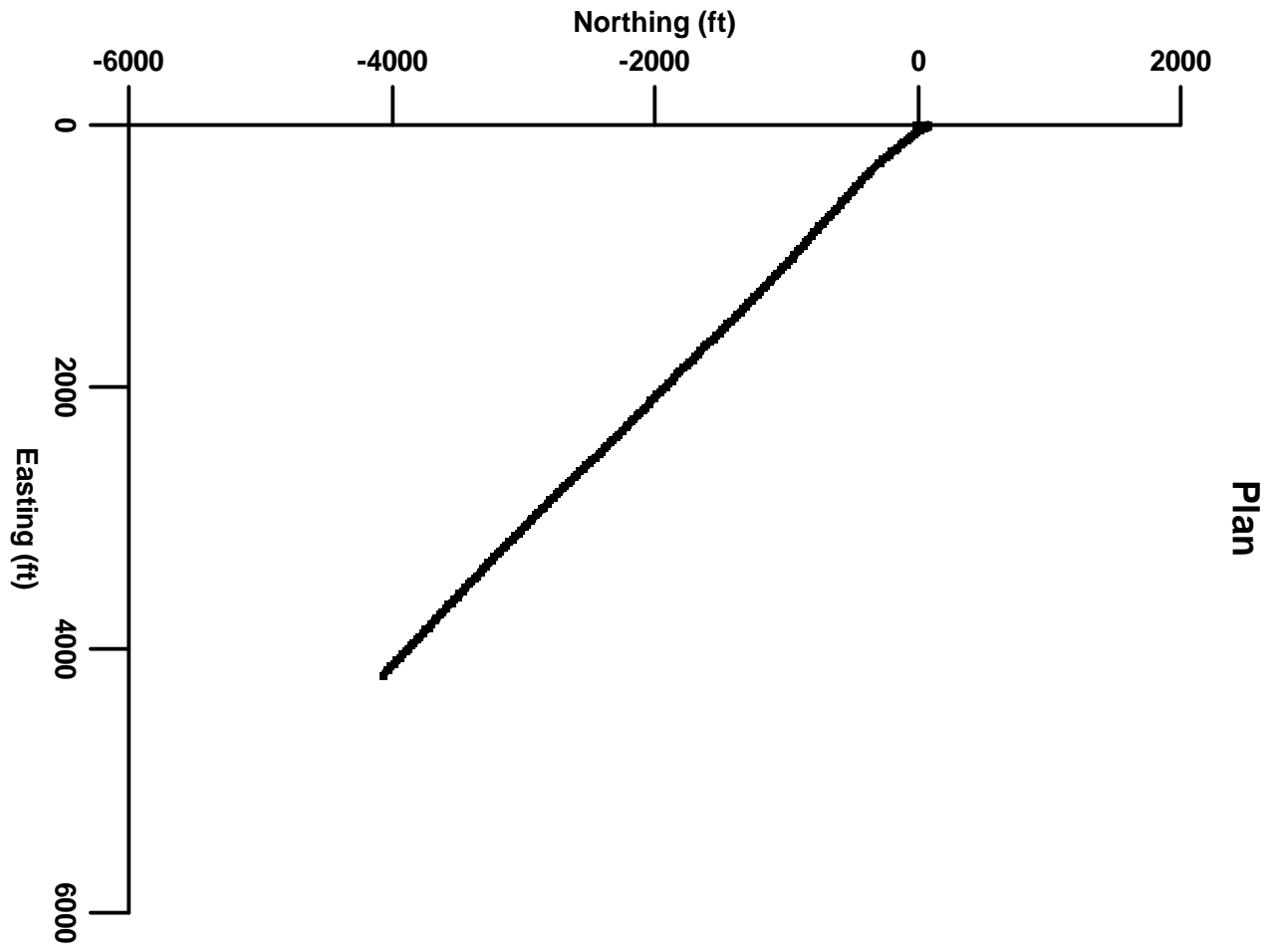


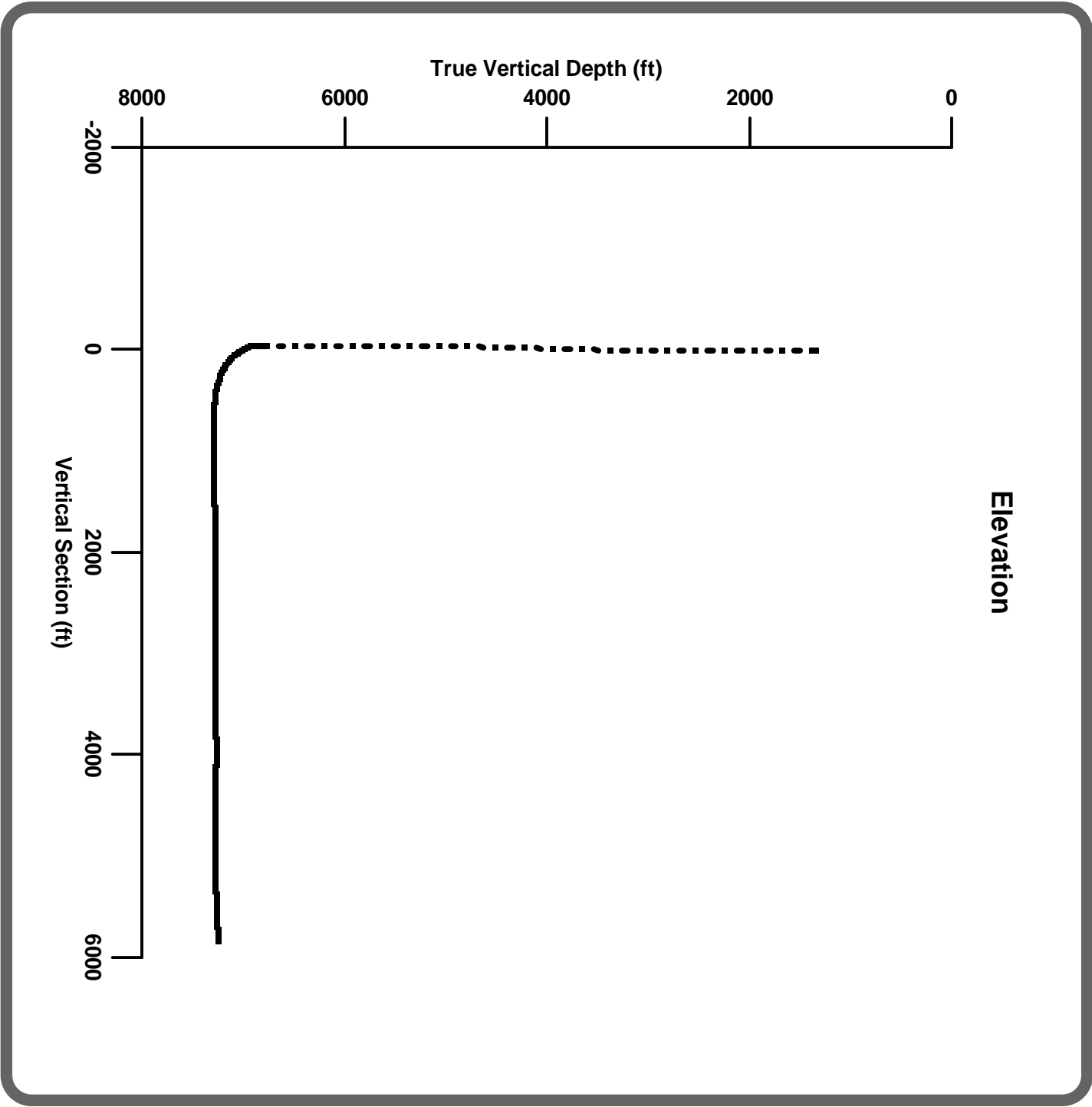
- POROSITY**
- ☐ E Earthy
  - ☐ B Fenest
  - ☐ F Fracture
  - ☐ X Inter
  - ☐ Z Moldic
  - ☐ O Organic
  - ☐ P Pinpoint
  - ☐ V Vuggy

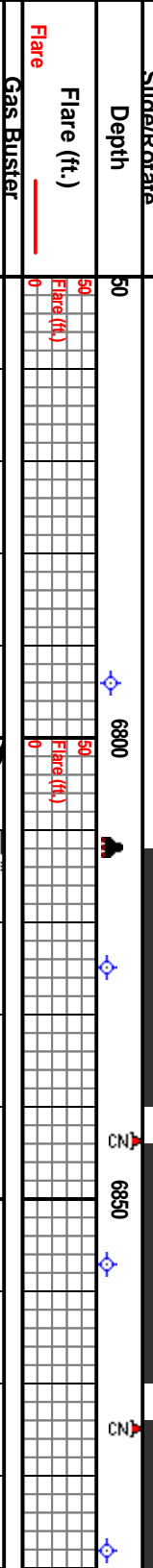
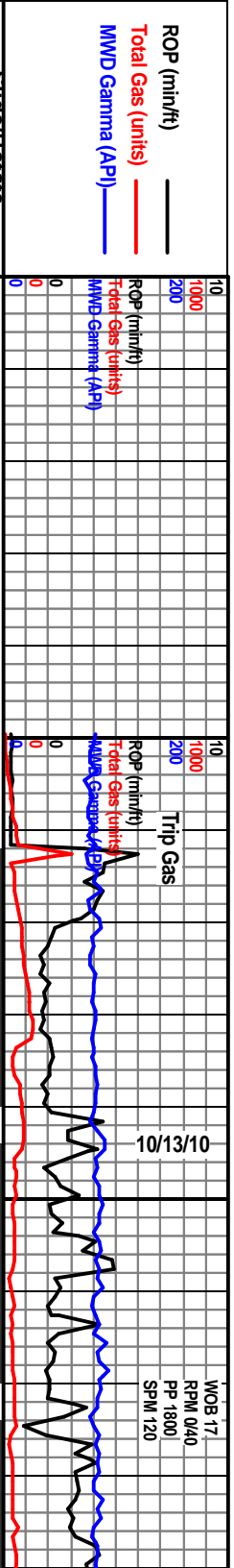
- SORTING**
- ☐ W Well
  - ☐ M Moderate
  - ☐ P Poor
- ROUNDING**
- ☐ R Rounded
  - ☐ L Subrnd
  - ☐ S Subang
  - ☐ A Angular

- OIL SHOW**
- ☐ ● Even
  - ☐ ● Spotty
  - ☐ ● Patchy
  - ☐ ○ Ques
  - ☐ ◊ Dead
  - ☐ ⊕ Very spotty
- INTERVAL**
- ☐ ■ Core

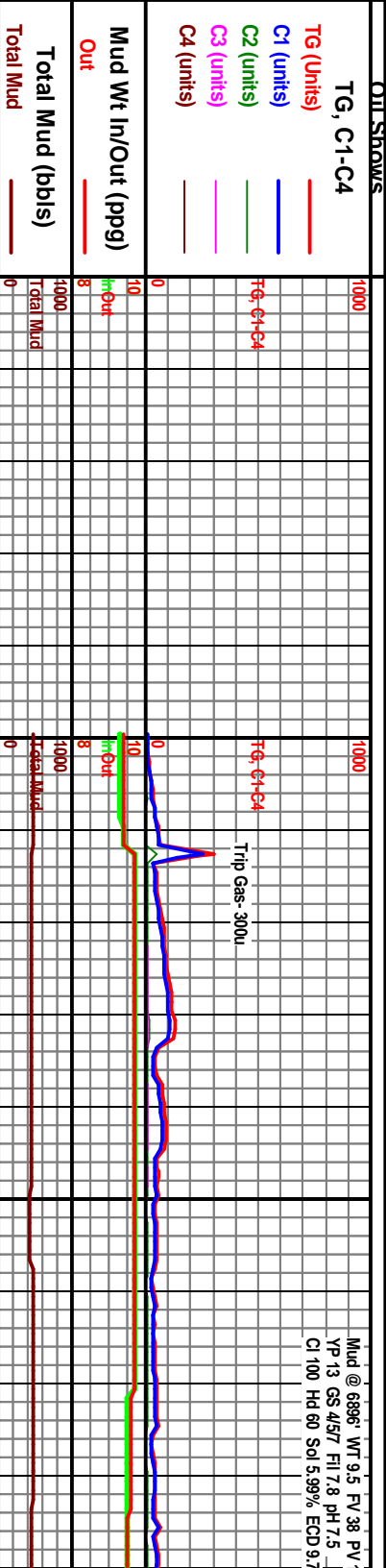
- OTHER SYMBOLS**
- ☐ □ Dst
- EVENT**
- ☐ ▲ Conn
  - ☐ ⚓ Survey (mwd)
  - ☐ ▼ Off bottom
  - ☐ 🔥 New bit
  - ☐ ⚙ Casing shoe
  - ☐ ⚓ Trip point

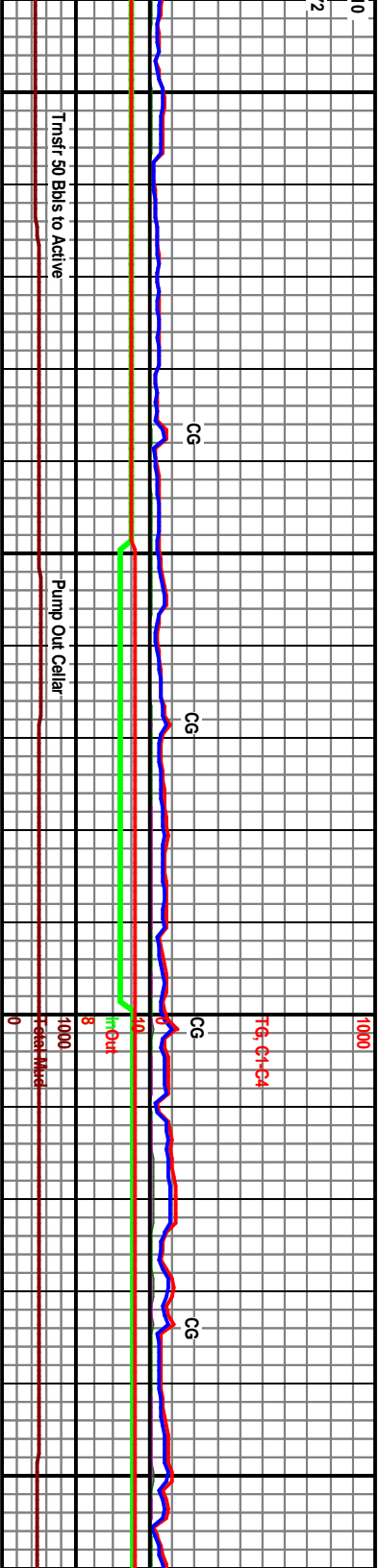
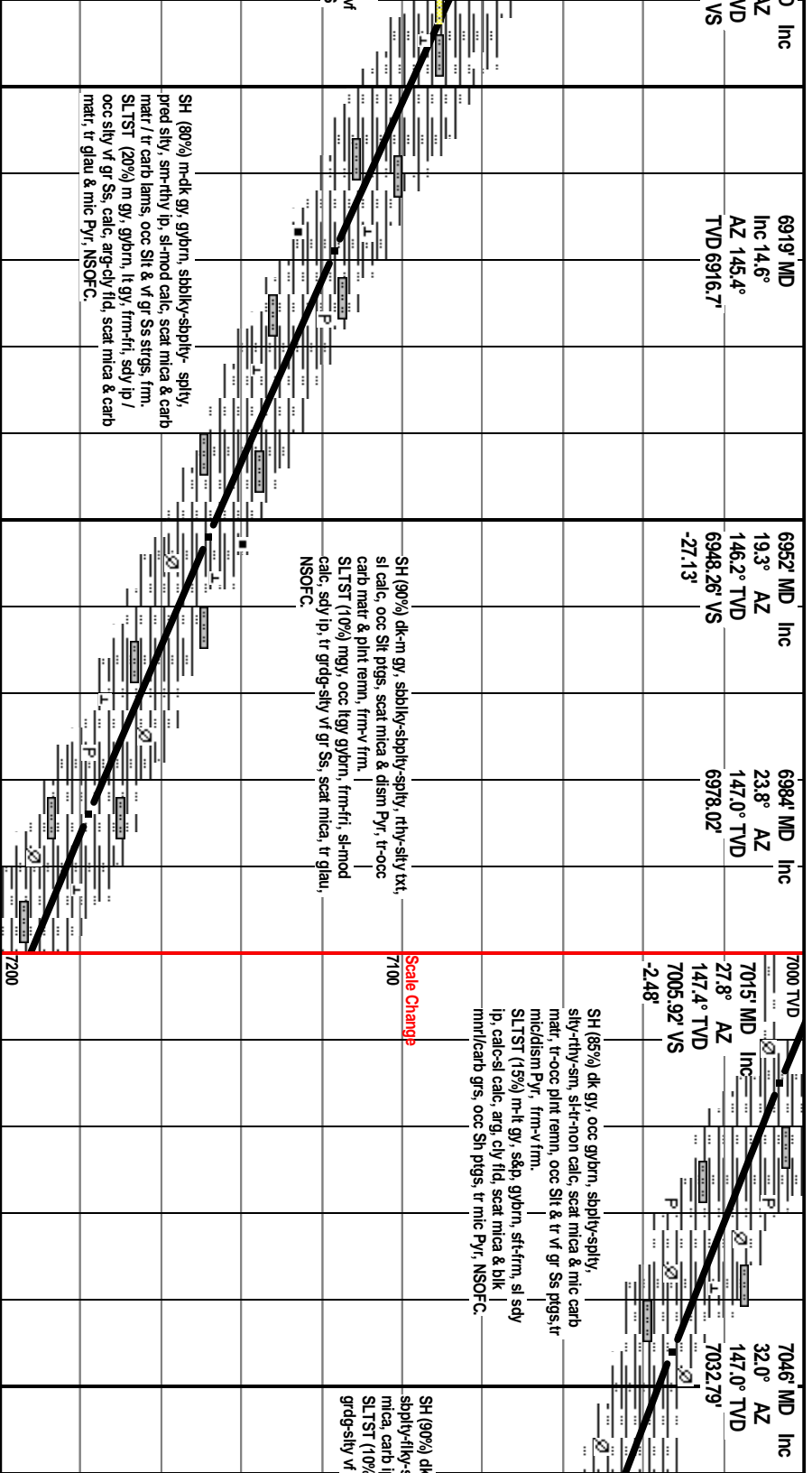
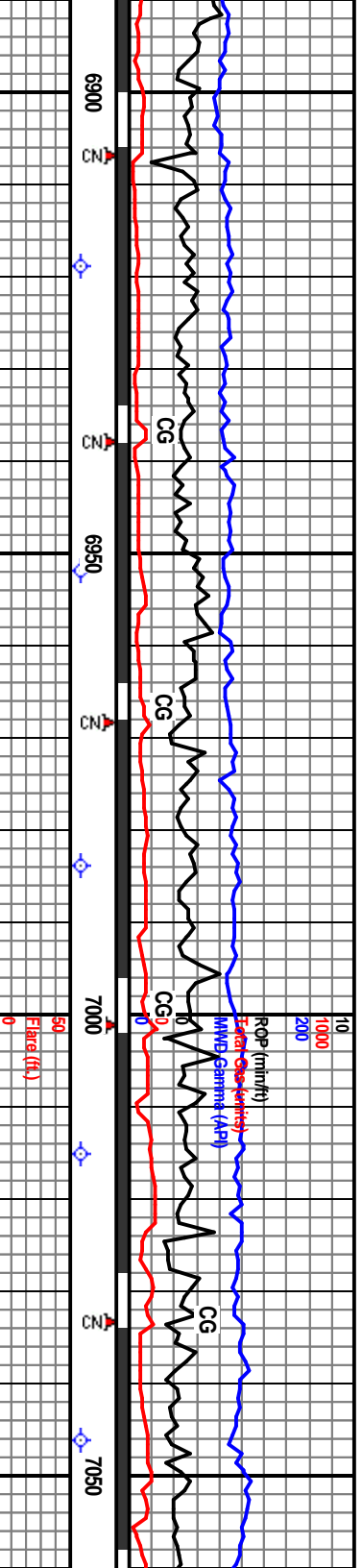


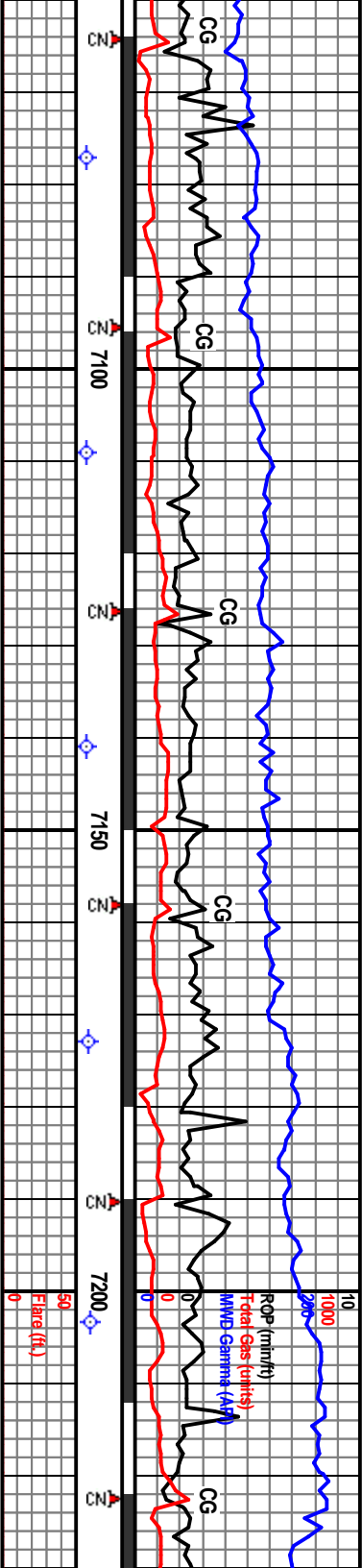




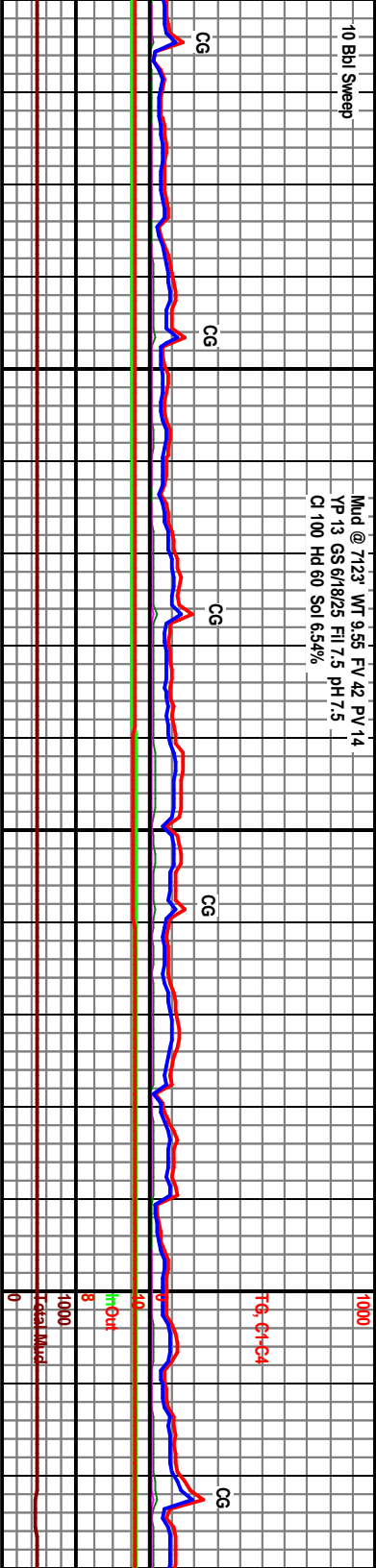
Well Bore Cross Section	6812'	6825'	6857'	6888'
6812' TVD	6825' MD Inc 0.6° AZ 261.1° TVD 6792.91'	6857' MD Inc 6.5° AZ 153.2° TVD 6865.80'	6888' MD 10.5° 147.3° T 6886.45' -43.15'	
KOP - 6812.				
Drilling in Lower Pierre Shale.				
Start Horizontal Log @ 22:30 - 10/12/10				
Bit #3 8 7/8" HTC GT-1 (Jets 3x20), MWD GR/Survey BHA w/ Directional Mud Motor (2.38) in @ 6812.				
6900	6900	6900	6900	6900
50' Samples 6812-7150', 30' Samples 7150-7600', 50' Samples 7600'-TD. One Dry Cut Saved from 7300' to TD.				
7000	7000	7000	7000	7000

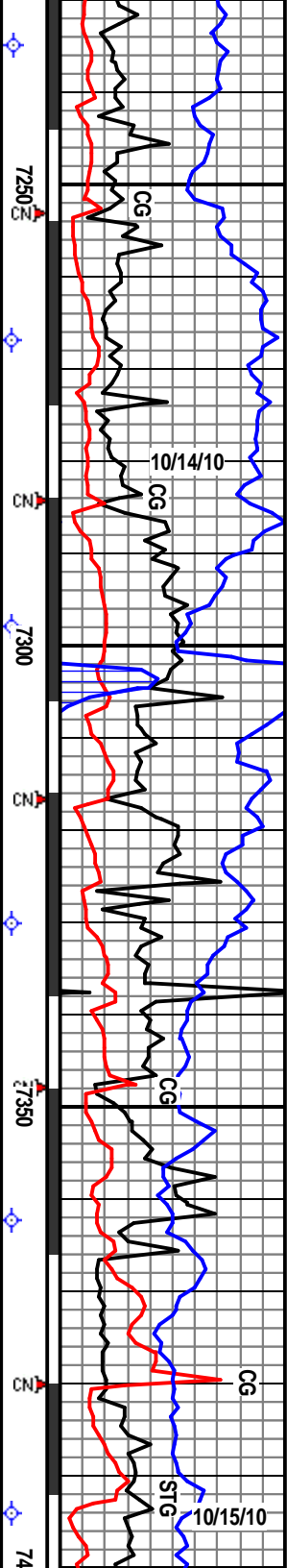




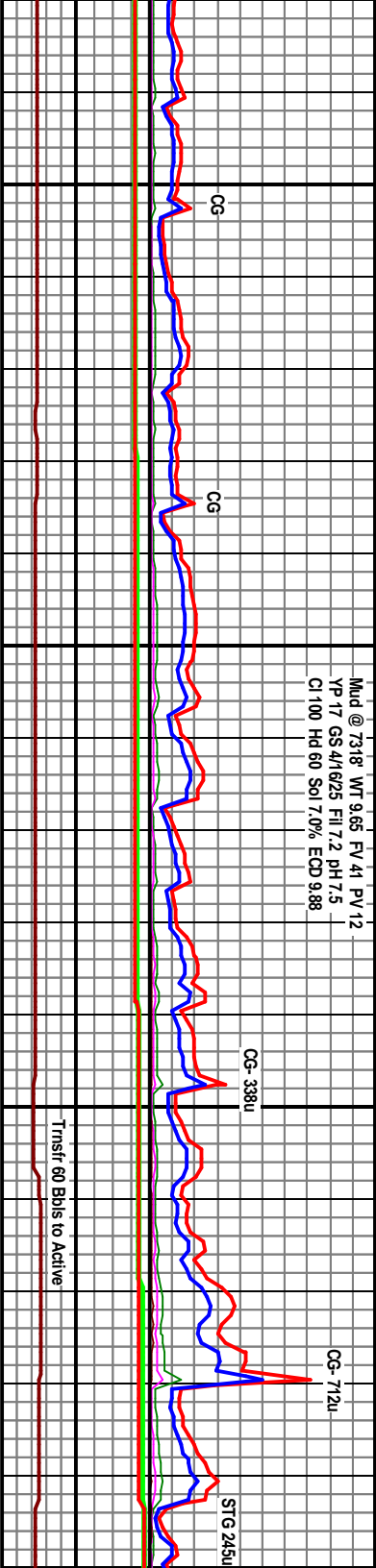


7077 MD Inc 36.3° AZ 146.5° TVD 7058.44 VS 29.59'	7109 MD Inc 40.2° AZ 144.9° TVD 7063.56'	7141 MD Inc 44.1° AZ 143.0° TVD 7107.28 VS 70.20'	7173 MD Inc 47.7° AZ 141.7° TVD 7129.55'	7203 MD Inc 51.6° AZ 140.8° TVD 7148.97 VS 115.66'	7235 MD Inc 55.4° AZ 140.2° TVD 7168.00'
SH (100%) dk-m gy, gybrn, sbilly- sply, rthy-smswxy, tr-si calc, v si mic p, tr Pyr, frm-v frm. nmy gybrn s&p, fri, calc ip, sdy ip, tr gr ss strgs, scat mica & carb matr.	SH (90%) dk-m gy, gybrn, sply-pty - sply, rthy-si sily txt, si calc, mic mica, scat mic carb matr, tr pnt rem & dismic tr-occ Sil pgs, Pyr, frm. SLTST (10%) as above. BENT (Rare) tan crn, sbwxy, mic mica ip.	SH (100%) being pred dk brn gy, frm, bily-pty, ip sply, rthy, com sily w/ Tr Silst lam, tr v carbpoint foss depr & vfr dism pyr, v si calc, v homo lith.	SH (100%) pred dk brn gy, frm, bily-pty, ip sply, rthy, com sily w/ Tr Silst lam, tr v carbpoint foss depr & vfr dism pyr, si calc, homo lith.	SH (100%) v frm-m hd, pl si sily, tr vfr debr & vfr dis macro nodes non-si calc. Bent (Tr-2% thin pty, m flor.	SH (100%) v frm-m hd, pl si sily, tr vfr debr & vfr dis macro nodes non-si calc. Bent (Tr-2% thin pty, m flor.



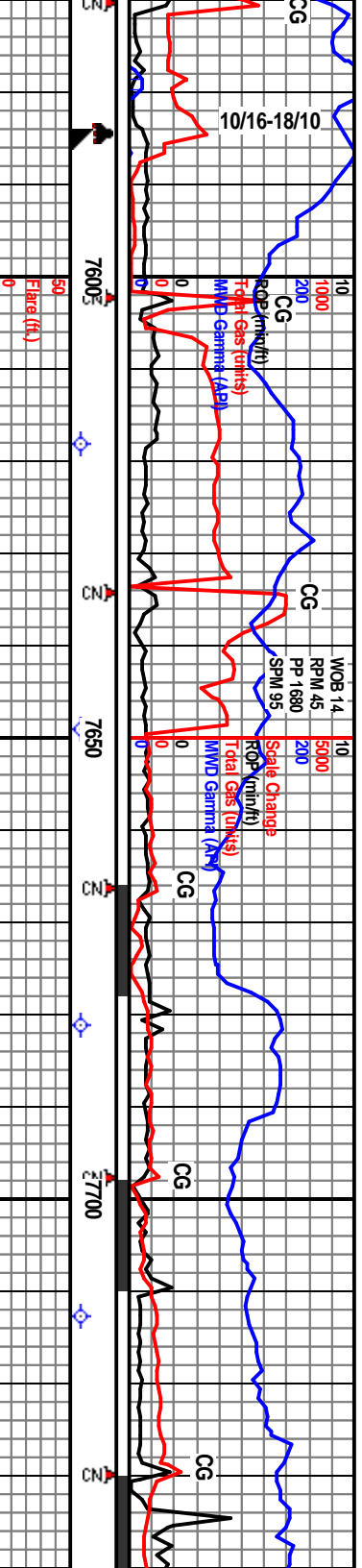


7267' MD Inc 59.1° AZ 140.0° TVD 7185.31' VS 168.02'	7298' MD Inc 62.9° AZ 140.0° TVD 7200.34'	7330' MD Inc 66.5° AZ 140.2° TVD 7214.01' VS 223.79'	7362' MD Inc 69.9° AZ 140.0° TVD 7225.89'	7394' MD Inc 72.1° AZ 140.2° TVD 7236.41' VS 283.47'
dk gy-dk brn gy, ly, sply, rthy, r carb pnt foss m py, tr py (0.5-2mm), pl lt gn & tn, mica, brt yl min				
SH (95%) v dk gy-dk brn gy, frn-m bd, pily, sply, brlt, rthy, m gran txt, rr sl stly, tr v carb pnt foss debtr, tr v dism py& py macro nodes (1-3mm), non-sl calc. Bent (5%) pl lt gn & tn, thin pily, m mica, brt yl min flr.				
MRLST (60%) m brn gy-gy brn, mtld lt brn, m frn, blk-y-sb pily, pred rthy-ip sb wxy, argil & chky, v calc, no vis flr, pr slow mlky-slw string yelwn cut, wk yl ring flr. SH (40%) dk gy, frn, AA.	SH (50%) v dk gy, frn-hd, brlt, pily, sply/fiss, rthy, silty txt, carb ip / blk carb spks & pnt foss frags, v dism pyr, non-v sl calc, no vis sin or flr, slow string cuts. MRLST (50%) m brn gy-gy brn, mtld lt brn, m frn, blk-y-sb pily, pred rthy-ip sb wxy, argil & chky, v calc, no vis flr, pr slow mlky-slw string yelwn cut, wk yl ring flr.	SH (70%) dkgy, occ mgly gybrn, sbply-sply-sbblk, rthy-sl silty txt, stochy ip, mod-v calc, mainly ip, sl-mod carb, tr Pyr, pred frn-brlt, sft ip, NSOF, slow string wh cut, mod yel resd ring. MRLST (30%) brn gybrn-brn mgy, frn, blk-y, 40-60% cly mix, scat mica & carb matr, silty ip, tr sdy, NSOF, slow-fast string wh cuts, mod yel resd ring. BENT (7T) lky, sbwxy-sbchky, pily, mic mica ip, tr mic Pyr.	SH (60%) v dk-m gy, sbply-sply-bkly-frag, rthy-sl silty txt, mod-v calc, carb ip / abnt pnt remn ip, tr Pyr, sl-v mainly grdy to MRLST (40%) modk gy, gybrn, frn, blk-y-sply, stochy, occ tan crm incl, silty ip, tr Pyr, NSOF / slow-fast string wh cuts, mod yel resd ring.	MRLST frn, blk-y Inclus, c gran txt string ci SH (20%) sily gran sin?, no resd yl
<b>Niobrara- 7290' MD, 7196' TVD (-1955)</b>				
<b>'B1' Chalk- 7331' MD, 7214' TVD (-1973)</b>				

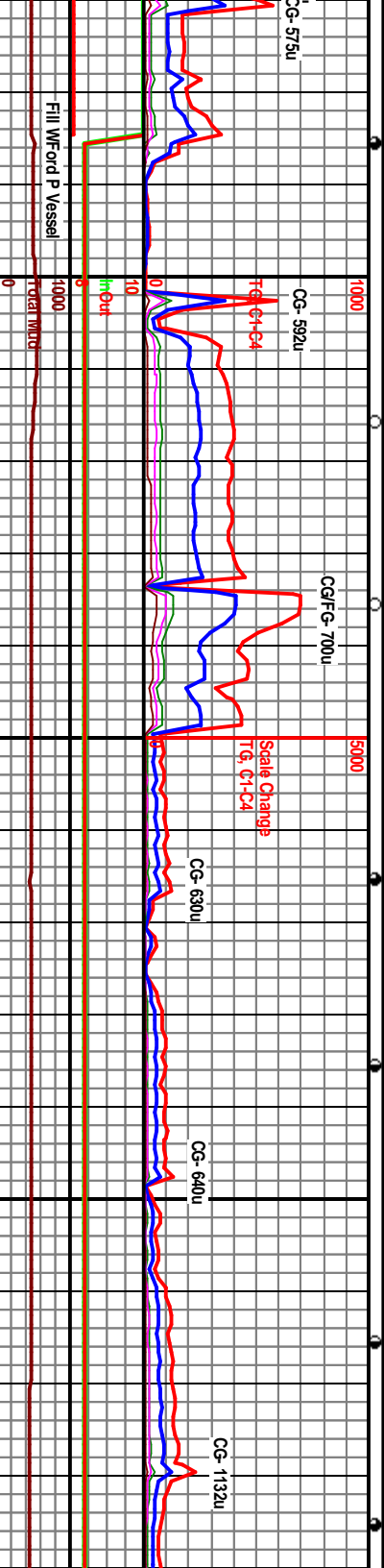






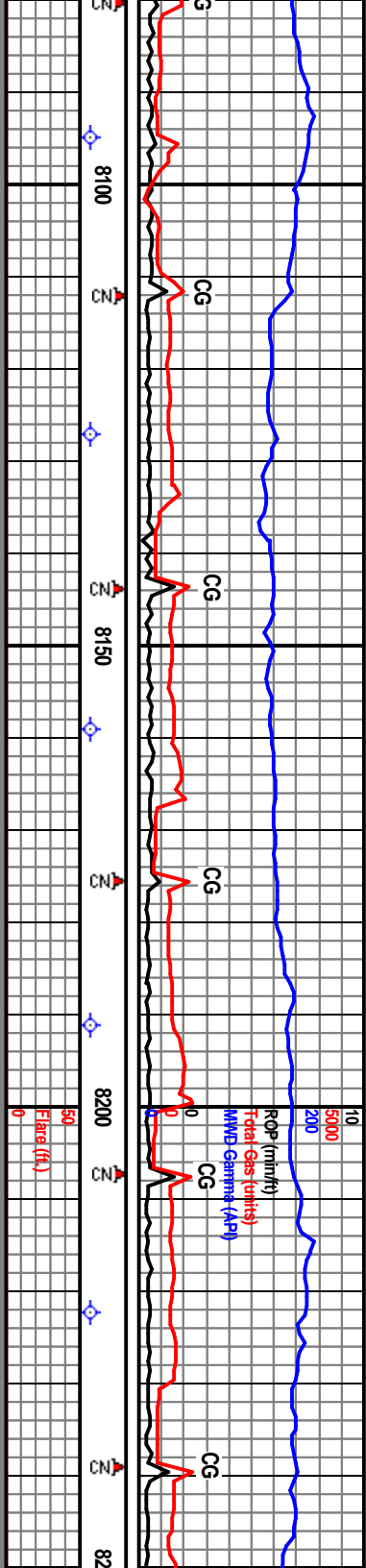


All Circ thru Weatherford Gas Buster	7160 TVD	7618' MD Inc 85.4° AZ 134.5° TVD 727.97' VS 502.61'	7649' MD Inc 85.3° AZ 134.2° TVD 7280.48' VS 535.51'	7681' MD Inc 86.2° AZ 134.1° TVD 7282.85' VS 565.42'	7713' MD Inc 86.5° AZ 133.8° TVD 7284.89' VS 597.35'
MD Reached at 12:00 10/15/10. 5 Hrs. Short Trip, TOH LDDP, WOC, Switch Out Kelly's, RU Test, PU NB#4 6" B/H QD405 SR/Survey & Directional DP, Drill Cmt. & Shoe, Drill	7200 TVD	Waypoint #1: @ 1000' VS (-815' MD) Top of Window- 7284' TVD, Target- 7286' TVD, Bottom of Window- 7289' TVD.			
Target	7260' TVD	Borehole			
Centent (95%): MRLST (5%) v dk gy, lp mtld m brn, frm, bkly, rthy, sl chky, no oil sm or flr, tr pr slw mlky cut.	7300 TVD	ARG CHK (80%) m-dk gy brn, mtld w/ tr brn spks/inclus, frm, bkly, rthy, lp micro lam/warved, no vis oil sm, spy frnt dl vl flr, slw med string cut, brt yl resid ring flr. MRLST (40%) dk gy, frm, sb ply, rthy, v arglshly, no flr, wk mlky cut & wk resid ring flr.			
ARG CHK (80%) m-dk gy brn, mtld w/ tr brn spks/inclus, frm, bkly, rthy, lp micro lam/warved, vis oil sm, spy frnt dl vl flr, slw med string cut, brt yl resid ring flr. MRLST (20%) dk gy, frm, sb rthy, v arglshly, chky inclus/micro lams, no flr mlky cut & wk resid ring flr.	7360				

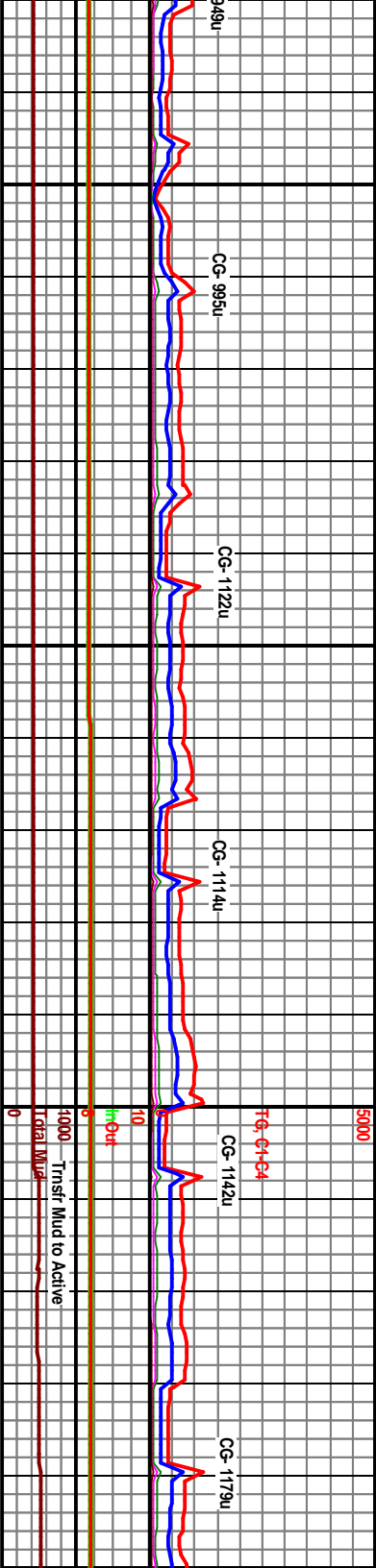




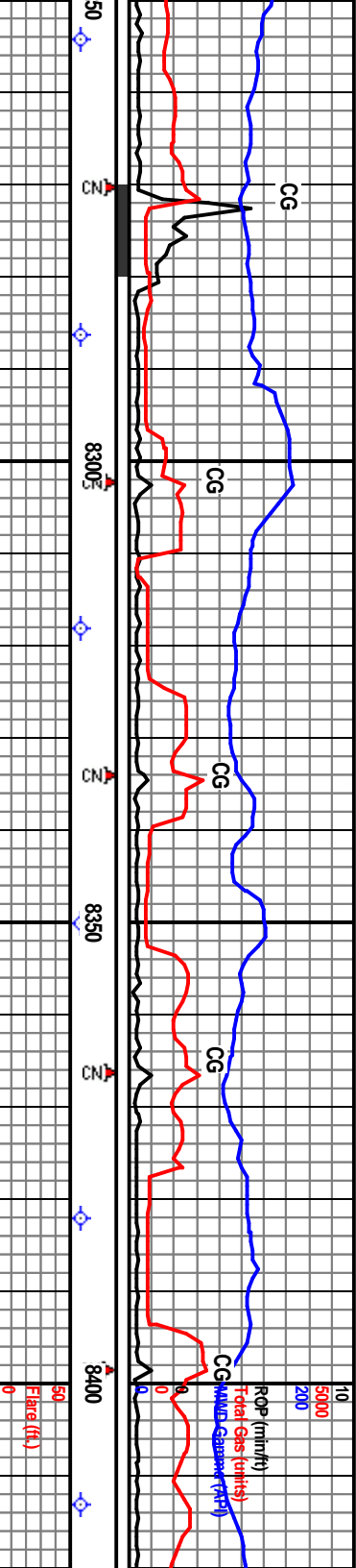




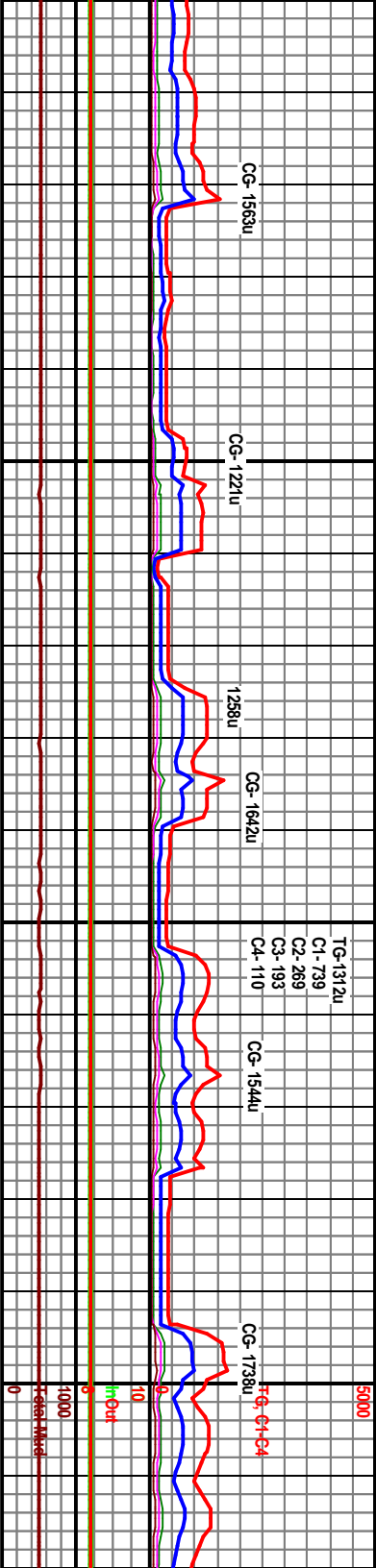
8095' MD Inc 90.0° AZ 132.6° TVD 7284.66 VS 979.08'	8127' MD Inc 90.2° AZ 133.1° TVD 7284.61 VS 1011.07'	8159' MD Inc 90.2° AZ 131.9° TVD 7284.5' VS 1043.05'	8191' MD Inc 89.7° AZ 131.4° TVD 7284.52 VS 1075.01'	7160' TVD	8222' MD Inc 89.5° AZ 131.5° TVD 7284.74 VS 1105.96'
biky-sb ply, shly, r sl chky miky y! cut & wk mod brn gy, frm, ductus, ht argilicly at & resid ring flor.	MRLST (65%) dk gy-dk brn gy, frm, biky-sb ply, rthy ip w/ slty/mic gran tx, v argilicshly, r chky incl, v homo lith, no flor, wk slow miky y! cut & wk resid ring. ARG CHK (35%) m-dk brn gy, rmg, mott ip, frm, biky, rthy-grny tx, mod argilicly   cont, tr lse xin Calc, spy ht yealid flor, p slow miky cut & resid ring flor.	ARG CHK (50%) m-dk-ht gy, dk brngy, frm-brit, biky, rthy-sl grny tx, occ shy Marl pths, abrit lse xin Calc, v ht petro odor, occ patchy brn sn, scat frt-mod yel flor, slow-fast-med string yealwh cut, mod resid ring. MRLST (50%) as before.		Waypoint #2: @ 1200' VS (~8315' MD) Top of Window Target- 7286' TVD, Bottom of Window- 7289' TVD.	MRLST (75%) m-dk gy, mott, brit-frm, biky-sbply-sply, rthy-sl grny, occ shy pths & strgs, 10-60% cly mtx, occ lse xin Calc, tr spy-patchy brn stin, ht spy yel flor, slow-fast string yealwh cuts. CHK (25%) as before, inc cly ip / occ Sh & arg Marl strgs.

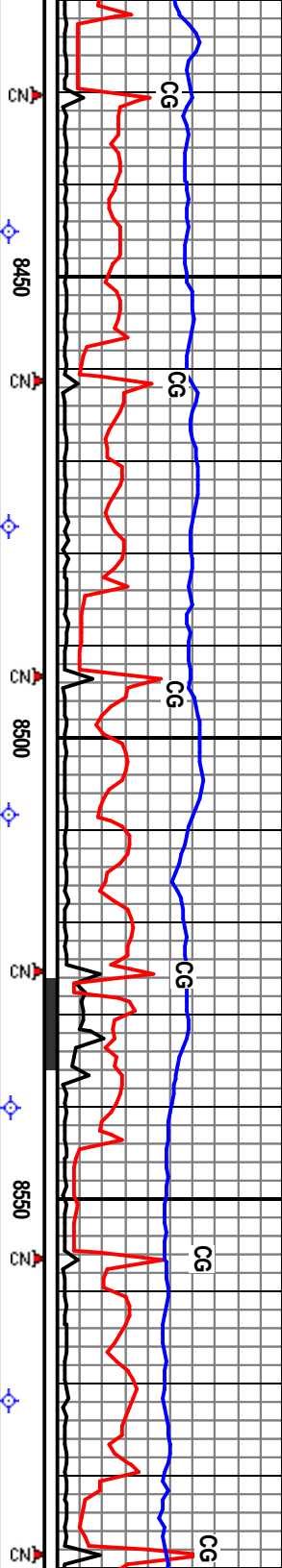




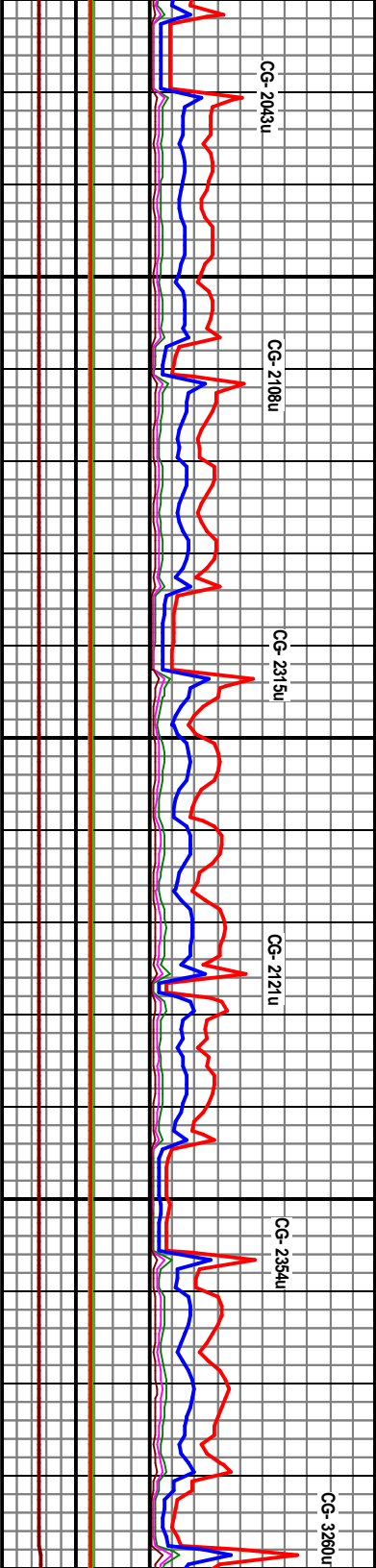


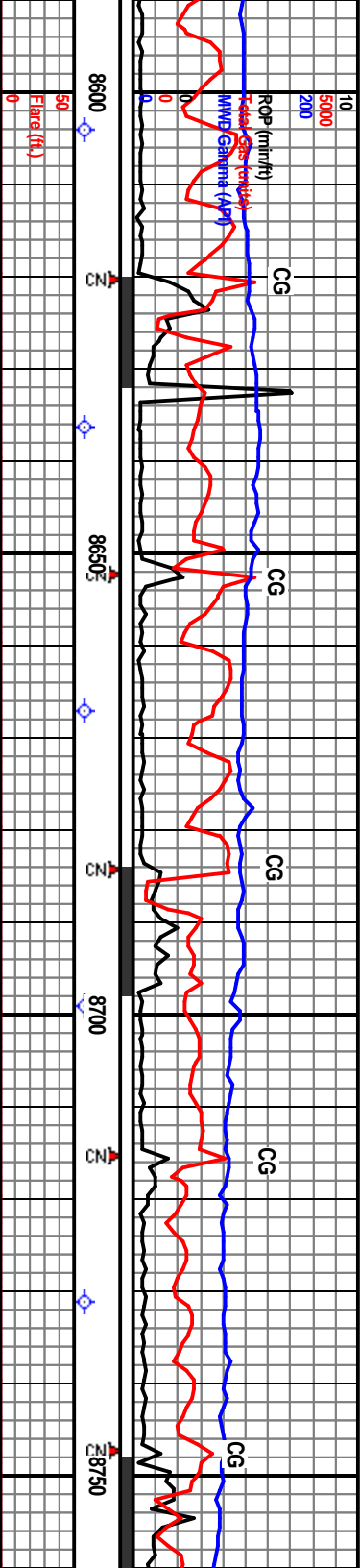
8254' MD Inc 89.5° AZ 131.4° TVD 7285.02 VS 1137.91'	8286' MD Inc 89.9° AZ 131.6° TVD 7285.19 VS 1169.87'	8318' MD Inc 90.1° AZ 131.9° TVD 7285.19 VS 1201.83'	8350' MD Inc 90.4° AZ 131.7° TVD 7285.05 VS 1233.79'	8382' MD Inc 90.5° AZ 132.0° TVD 7284.80 VS 1265.76'	7160 TVD	8413' MD 91.0° AZ 131.6° TVD 7284.39 V 1296.72'
Waypoint #3: @ 1750' VS (-8865' MD) Top of Window- 7278' TVD, Target- 7280' TVD, Bottom of Window- 7282' TVD.						
7284' TVD,						
7260						
7300 TVD						
ARG CHK (50%) mot m-l-dk gy, gy/bn, brlt, rthy-gmry txt, tr mic suc-gran, 25-5% cly mtx, occ-abnt lse xin Calc & mic frac fld, tr m-dkgy stks & lams, v fnt petro odor, occ patchy brn sn, scat frm-mod yel flor, slow-fast string yelwh cut, mod resd ring, MRLST (50%). Very Fine Cuttings.						
CHK (60%) dk brngy, m-l-dk gy, mot ip, brlt, rthy-sl gmry, tr mic sur, 5-25% cly mtx, scat xin Calc, tr Calc fld mic frac, occ shy piggs, v fnt petro odor, tr-occ patchy brn sn, occ fnt spy yel flor, slow-fast string yelwh cuts, mod-brt yel resd ring, MRLST (40%) dk-m gy, gy/bn-bm, mot ip, frm-brlt, rthy, tr sm, arg / occ Sh piggs, tr-occ crm wh tan calc incl, sl carb ip, NSOF, slow-fast string yelwh cuts. Very Fine Cuttings.						
CHK (60%) dk brngy, m-l-dk gy, mot ip, brlt, rthy-sl gmry, tr mic sur, 5-25% cly mtx, scat xin Calc, tr Calc fld mic frac, occ shy piggs, v fnt petro odor, tr-occ patchy brn sn, occ fnt spy yel flor, slow-fast string yelwh cuts, mod-brt yel resd ring, MRLST (40%) dk-m gy, gy/bn-bm, mot ip, frm-brlt, rthy, tr sm, arg / occ Sh piggs, tr-occ crm wh tan calc incl, sl carb ip, NSOF, slow-fast string yelwh cuts.						
CHK (70%) gybm br rthy-gmry, tr mic suc Calc, tr-occ m-dkgy patchy-shty brn sn fast-lined-slow strmm ring, MRLST (30%) piggs. Very Fine Cut						
Trace Oil on Shakers						
Trace Oil on Shakers						



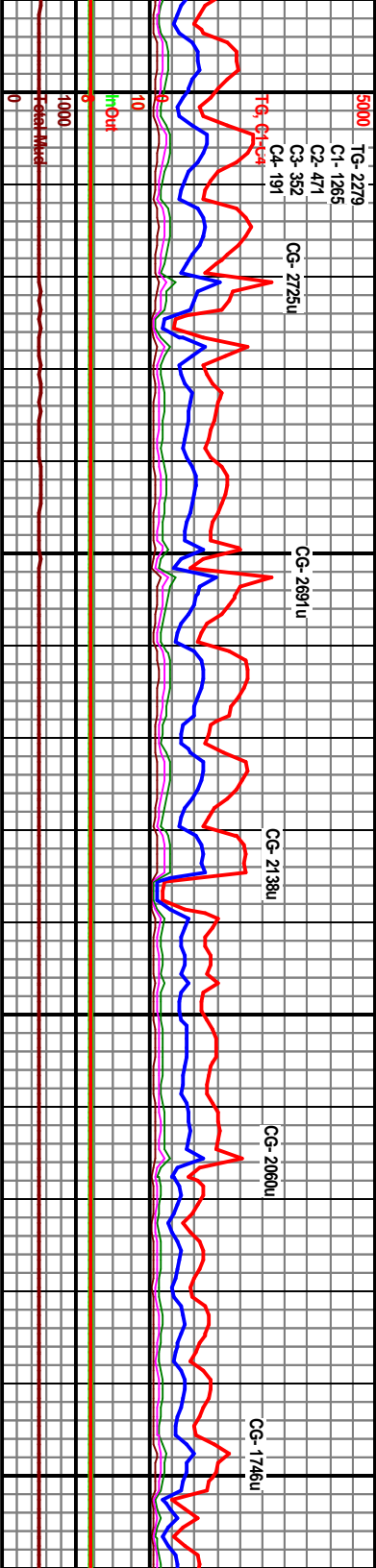


Inc	8445' MD	Inc	8477' MD	Inc	8508' MD	Inc	8540' MD	Inc	8572' MD	Inc
Z	90.9° AZ		90.2° AZ		90.4° AZ		90.9° AZ		91.3° AZ	
D	131.5' TVD		131.0' TVD		131.1' TVD		131.6' TVD		132.1' TVD	
S	7283.86' VS		7283.55' VS		7283.39' VS		7283.03' VS		7282.41' VS	
	1328.67'		1360.62'		1391.56'		1423.51'		1455.47'	
Weatherford Gas Buster										
Trace Oil on Shakers										
ARG CHK (80%) brngy, mlt-dk gy, brn, mott ip, brt, rthy-grny-mic suc, 5-15% cly mtx, occ dkgy siks & lams, occ xln calc (lse & incl), tr blk carb incl & pfigs, sl marly ip, tr Pyr, v frt petro odor, occ patchy brn sn, occ frt spy yel flr, fast-med-slow string yel cuts, mod yel read ring. MRLST (20%), BENT (Tr) silv, mic Pyr, sdy ip.										
CHK (95%) pred mott brn gybm lt-mgy, as before, frt petro odor, patchy-spy brn sn, frt-mod yel flr, fast-med-slow string yel cuts, brt yel read ring. BENT (5%) silv, sft-sl frm, scat mic Pyr, sily-sdy ip, mod-brt yel mnrt flr. Very Fine Cuttings.										
CHK (90%) gybm-brngy-brn, mlt-dk gy, mott ip, brt, grny-rthy-mic suc, pred 5-15% cly mtx, occ 10-20% dkgy blk siks & lams, occ xln calc fld fracs & lse carb ip / occ carb Sh pfigs, sl marly ip, v frt petro odor, patchy brn sn, frt spy yel flr, med-fast string cut, mod-brt read ring. Sh (10%) dkgy blk, frm, sp calc, carb. BENT (Tr). Very Fine Cuttings.										
Trace Oil on Shakers										

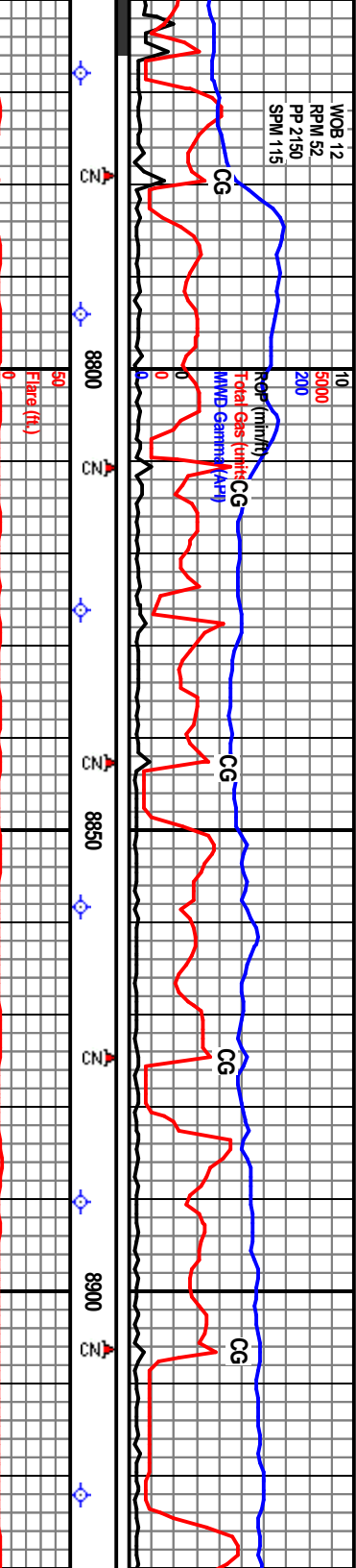




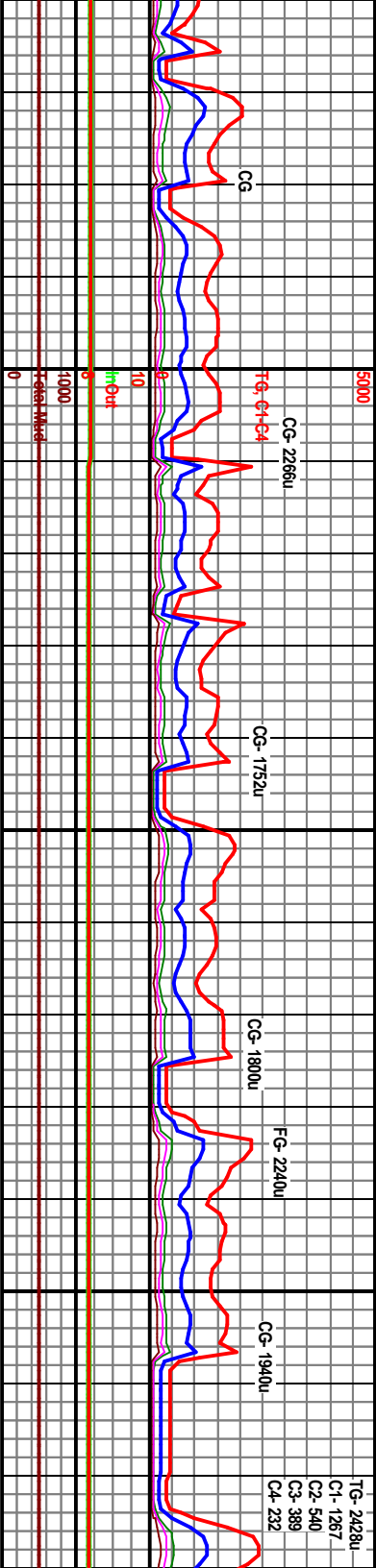
7160 TVD	8604' MD Inc 91.8° AZ 132.0° TVD 7281.55' VS 1487.43'	8636' MD Inc 91.6° AZ 133.5° TVD 7280.60' VS 1519.39'	8667' MD Inc 91.4° AZ 133.7° TVD 7279.79' VS 1550.38'	8699' MD Inc 91.3° AZ 134.3° TVD 7279.03' VS 1582.37'	8731' MD Inc 91.3° AZ 134.6° TVD 7278.31' VS 1614.36'	CHK (98% & mic le 10-20% floor, gd MRLST silty/gra di yf res c xin. V
7200 TVD						
7260	Borehole					
7300 TVD	Target					
7360	CHK (90%) gybm-brngy-brn, m-lk-dk gy, mot ip, brt, gry/rthy-mic suc, pred 5-15% clay mtx, occ 10-20% occ dkgy blk siks & lams, occ xln Calc fld fracs & ise Calc, skl carb ip / occ carb Sh ppgs, sl meaty ip, v fnt petro odor, occ spy-patchy brn sn, fnt spy yel flor, imed-fast strmg yelwh cut, mod-br resd ring, SH (10%) dkgy blk, frm, spily-soply, calc, carb. BENT (T), Very Fine Cuttings.	CHK (95%) gybm, m-lk-dk gy, mot ip, brt, pred rthy-gmy, mic suc-gran ip, 5-15% clay mtx, dkgy blk siks & lams con, occ xln Calc fld fracs, tr-occ carb mat, tr carb Sh ppgs, v fnt petro odor, occ spy-patchy brn sn, fnt spy yel flor, imed-fast strmg yelwh cut, br-mod resd ring, SH (5%), Very Fine Cuttings.	Trace Oil on Shakers			

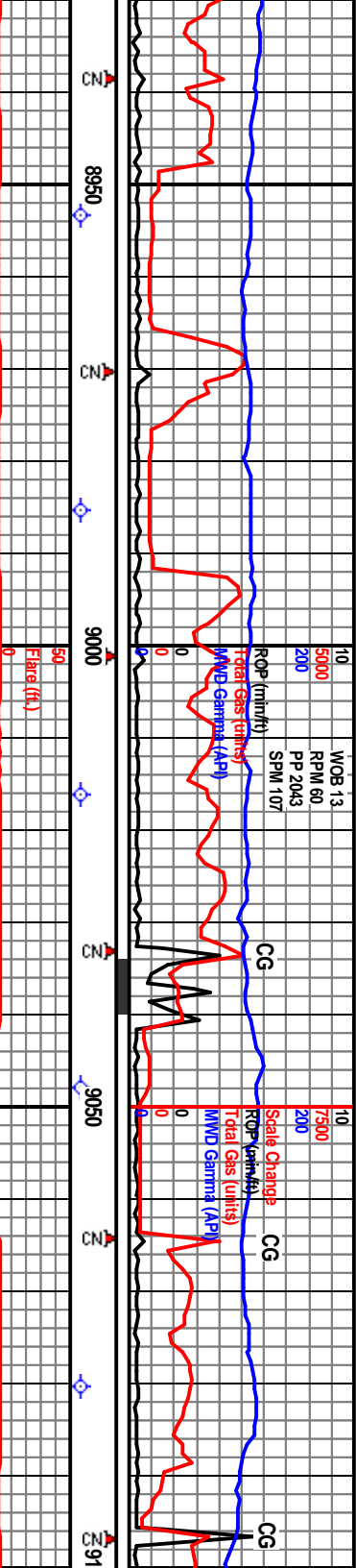




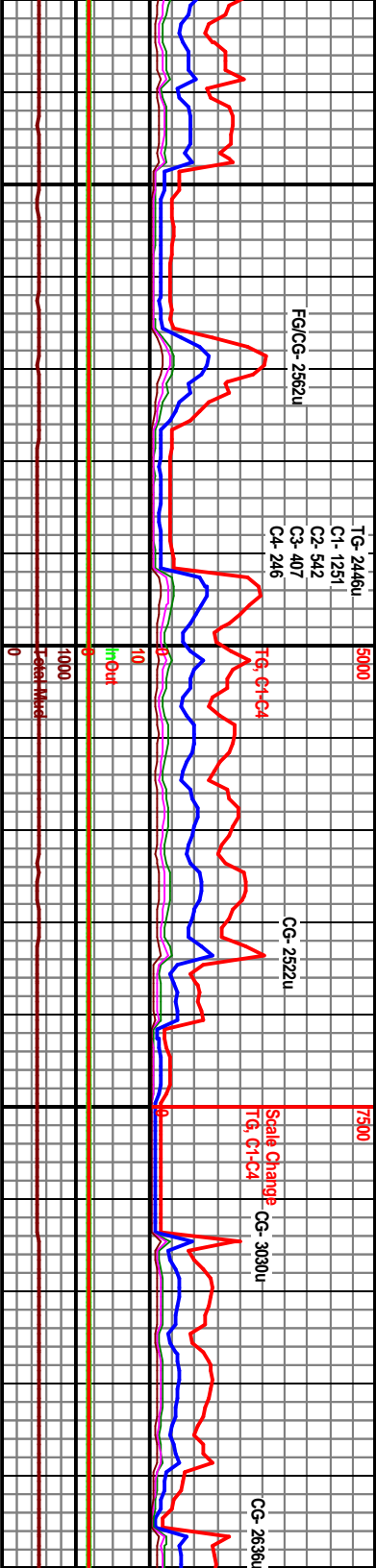


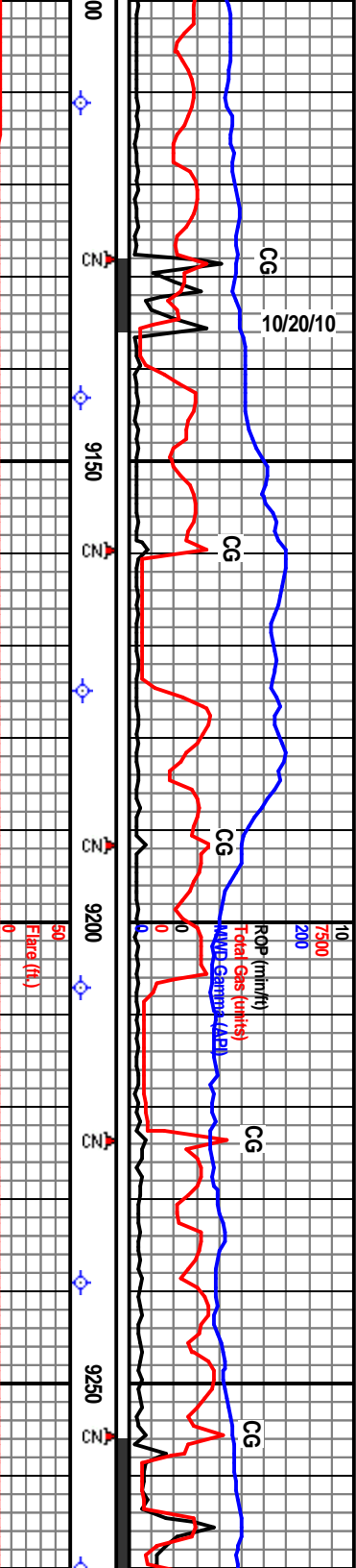
8762' MD Inc 89.9° AZ 135.1° TVD 7277.98' VS 1645.36'	8794' MD Inc 89.1° AZ 134.9° TVD 7278.26' VS 1677.35'	7160' TVD	8826' MD Inc 89.3° AZ 134.7° TVD 7278.71' VS 1709.35'	8858' MD Inc 89.5° AZ 135.0° TVD 7279.04' VS 1741.35'	8890' MD Inc 90.0° AZ 134.3° TVD 7279.18' VS 1773.35'	8922' MD Inc 90.3° AZ 134.2° TVD 7279.10' VS 1805.35'
n-dk gybm mtlld w/lt brn spks/incl ms/aves, frm, blk, rhy-sl sb wxy,   argilicly cont, tr 2 lbm oil sn, spy dl y/ med string cut, brt y/ resid ring flr. (20%) v dk gy, frm, blk, rhy, mic n txt, v argil, no flr, slw mky y/ cut & wk id ring flr. Tr frac fill Calc, wh, amorp & ley line Cigs (0.25-1.0mm)						
CHK (95%) n-dk gybm mtlld w/lt brn spks/incl & mic lams/aves, frm, blk, rhy-sl sb wxy,   10-20% argilicly cont, tr 2 lbm oil sn, spy dl y/ flr, gd lined string cut, brt y/ resid ring flr. MRL ST (5%) v dk gy, frm, blk, rhy, mic slty/grn txt, v argil, no flr, slw mky y/ cut & wk dl y/ resid ring flr. Tr frac fill Calc, wh, amorp & c xin. Very fine Cigs (0.25-1.0mm)						
CHK (80%) n-dk gybm mtlld w/lt brn spks/incl & mic lams/aves, frm, blk, rhy-sl sb wxy,   10-20% argilicly cont, tr 2 spy lt brn oil sn, spy dl y/ flr, gd lined string cut, brt y/ resid ring flr. MRL ST (20%) v dk gy, frm, blk, rhy, mic slty/grn txt, v argil, no flr, slw mky y/ cut & wk dl y/ resid ring flr. CALCITE (TR) frac fill, wh, amorp & c xin.						
CHK (80%) n-dk gybm mtlld w/lt brn lams/aves, frm, blk, rhy-sl sb wxy, tr v dk gy argil mic lams, tr pyr inclus spy dl y/ flr, gd lined string cut, br CALCITE (TR) frac fill, wh, amorp & c mic slty/grn txt, v argil, no flr, tr slw resid ring flr.						
7300 TVD						
7360						
Waypoint #3: @ 1750' VS (~8865' MD) Top of Window- 7278' TVD, Target- 7280' TVD, Bottom of Window- 7282' TVD.						
Trace Oil on Shakers						
Revised Waypoint #4: @ 2300' VS (~9415' Target- 7273' TVD, Bottom of Window- 72						



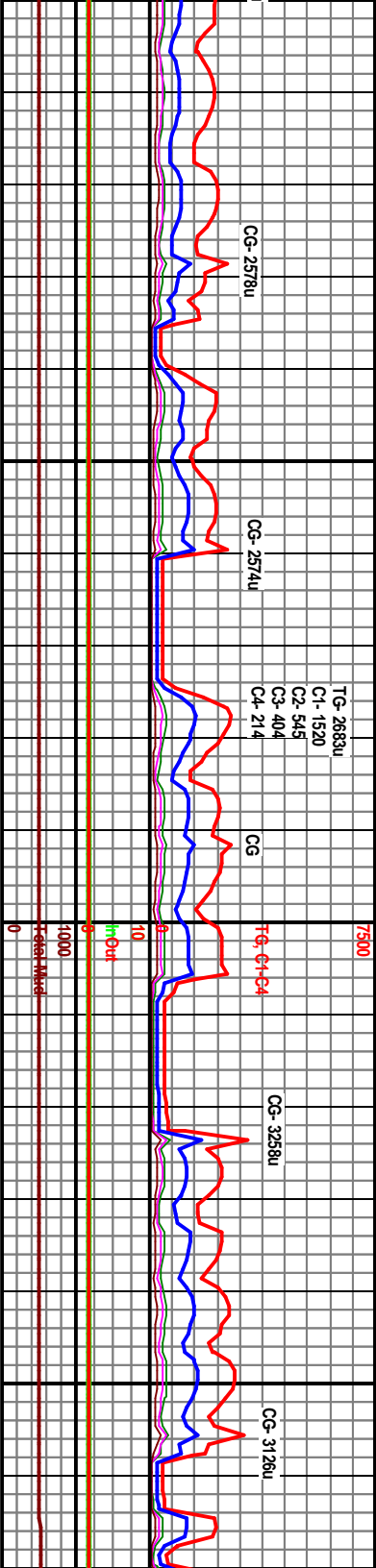


8953 MD Inc 90.0° AZ 134.6° TVD 7279.02' VS 1836.35'	8985 MD Inc 90.3° AZ 134.0° TVD 7278.93' VS 1868.35'	7160 TVD 90.9° AZ 134.2° TVD 7278.61' VS 1899.34'	9016 MD Inc 90.9° AZ 134.2° TVD 7278.61' VS 1899.34'	9048 MD Inc 91.3° AZ 134.2° TVD 7278.00' VS 1931.34'	9080 MD Inc 91.2° AZ 134.2° TVD 7277.30' VS 1963.33'
spks/inclus & mic 10-20% argilicly cont, ? spy it bn oil stn, ? resid ring flr. MRLST/MRL Y v inclus, frm, blkly, rthy, v milky y1 cut & wk dl y1	CHK (90%) m-dk gybrn mtlld w/lt brn spks/inclus & mic lams/varves, frm, blkly, rthy-sl sb wxy, ~10-20% argilicly cont, spy it bn oil stn, spy-even dl y1 flr, gd lined string cut, brt y1 resid ring flr. CALCITE (TR) trac fill, wh, amorp & crs xln. MRLST/MRL Y CHK (100%) v dk gy w/mtld gybrn chky inclus, frm, blkly, rthy, mic slky/gran txt, v argil. no flr, if slw milky y1 cut & wk dl y1 resid ring flr.	CHK (100%) m-dk gybrn mtlld w/lt brn spks/inclus & mic lams/varves, frm, blkly, rthy-sl sb wxy, ~10% argilicly cont, tr unident foss frags poss inocer; tr spy it bn oil stn, spy-even dl y1 flr, gd lined string cut, brt y1 resid ring flr. Calc (TR) trac fill, wh, amorp & crs xln.	Weatherford Gas Buster		CHK (100%) m-dk gybrn mtlld w/lt brn spks/inclus & mic lams/varves, frm, blkly, rthy-sl sb wxy, ~10% argilicly cont, tr unident foss frags poss inocer; string oil odor, spy it bn oil stn, even dl-brt y1 flr, gd lined brt y1 string cut, brt y1 resid ring flr. Calc (TR) trac fill, wh, amorp & crs xln.
MD Top of Window- 7271' TVD, 75' TVD.					
Trace Oil on Shakers					
Incr Trace Oil on Shakers					

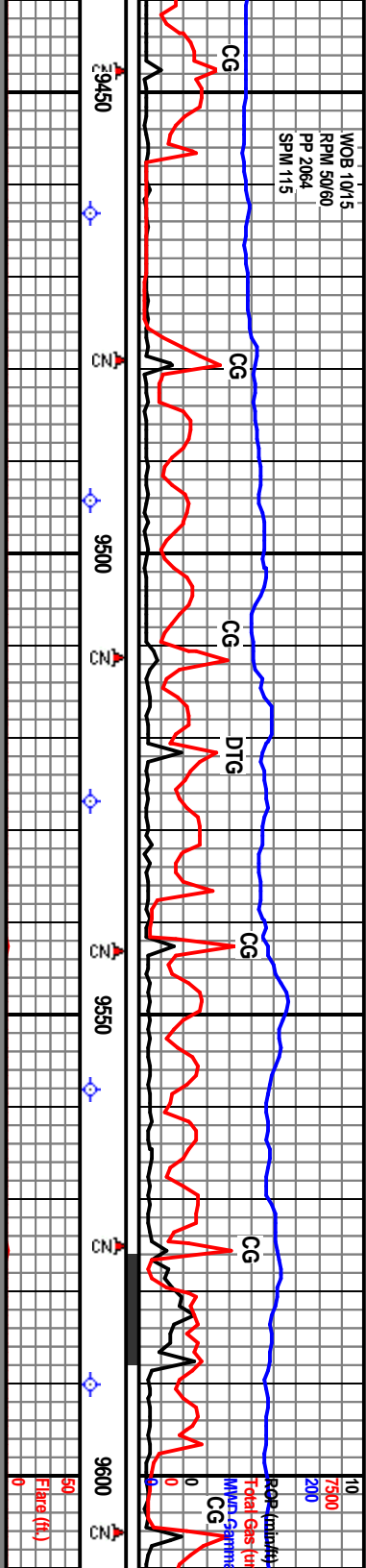




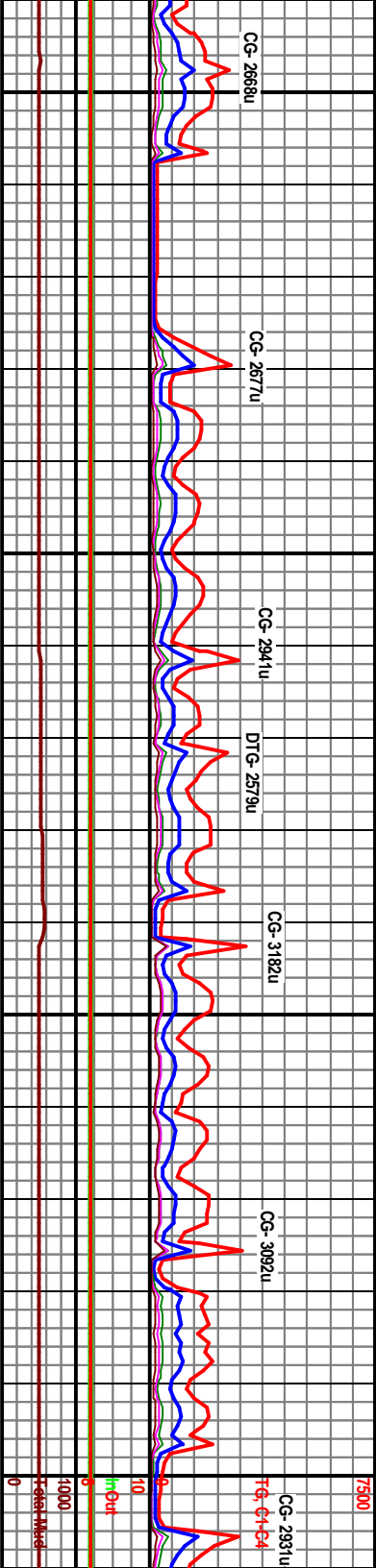
9111' MD Inc 91.4° AZ 134.3° TVD 7276.59' VS 1994.32'	9143' MD Inc 91.2° AZ 134.7° TVD 7275.87' VS 2026.31'	9175' MD Inc 91.6° AZ 135.2° TVD 7275.09' VS 2058.30'	7160' TVD	9207' MD Inc 91.6° AZ 135.0° TVD 7274.19' VS 2090.29'	9239' MD Inc 91.9° AZ 134.9° TVD 7273.22' VS 2122.27'	9270' 90.8° 135.5° 7272.1' 2153.3'
CHK (100%) m-dk gy/bm mtld w/lt brn spks/incluss & mic lams/varves, frm, blk/y, rthy-sl sb wxy, ~10% argilicly cont, string oil odor, spy lt brn oil stn, even brt y/ltor, gd lined brt y/lt string cut, brt y/lt resid ring flr. Calc (TR) frac fill, wh, amorp & cts xin.	CHK (75%) m-dk gy/bm mtld w/lt brn spks/incluss & mic lams/varves, frm, blk/y, rthy-sl sb wxy, ~10% argilicly cont, string oil odor, even-sl spty lt brn oil stn, even brt y/ltor, gd lined brt y/lt string cut, brt y/lt resid ring flr. CALCITE (TR) frac fill, wh, amorp & cts xin. MRLST (25%) v dk gy, frm, blk/y, rthy, mic gran/sucr txt, v argil, no flr, slw mlky-sl string y/lt cut & wk dl y/lt resid ring flr.	CHK (95%) m-dk gy/bm mtld w/lt brn spks/incluss & mic lams/varves, frm, blk/y, rthy-sl sb wxy, ~10% argilicly cont, tr inocer foss frags, string oil odor, even-sl spty lt brn oil stn, even brt y/ltor, gd lined brt y/lt string cut, brt y/lt resid ring flr. CALCITE (TR) frac fill, wh, cts xin. MRLST (5%) v dk gy, frm, blk/y, rthy, mic gran/sucr txt, v argil, no flr, slw mlky-sl string y/lt cut & wk dl y/lt resid ring flr.	CHK (90%) m-dk gy lams/varves, frm, blk/y, rthy-sl sb wxy, ~10% argilicly cont, tr inocer foss frags, string oil odor, even brt y/ltor, gd lined brt y/lt string cut, brt y/lt resid ring flr. C	CHK (10%) v dk gy gran/sucr txt, v argil, no flr, slw mlky-sl string y/lt cut & wk dl y/lt resid ring		
Borehole						
Target						
Trace Oil on Shakers						
Oil on Shakers						



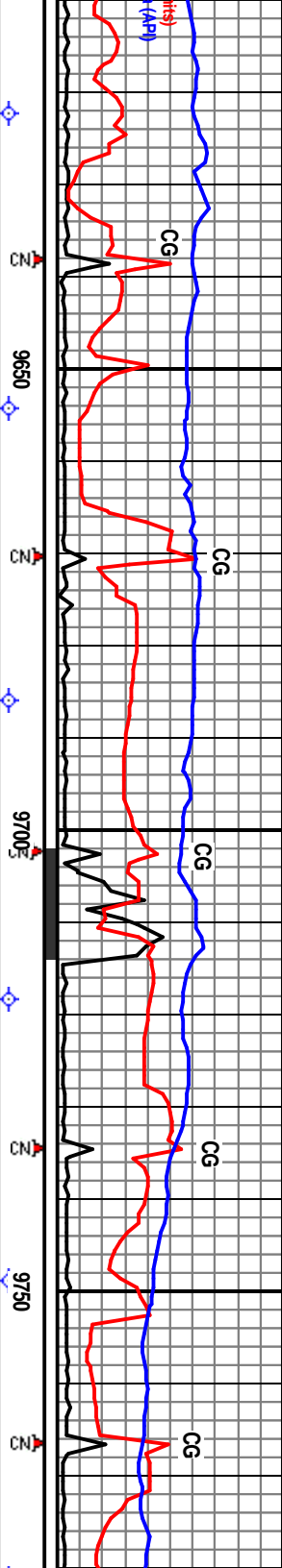




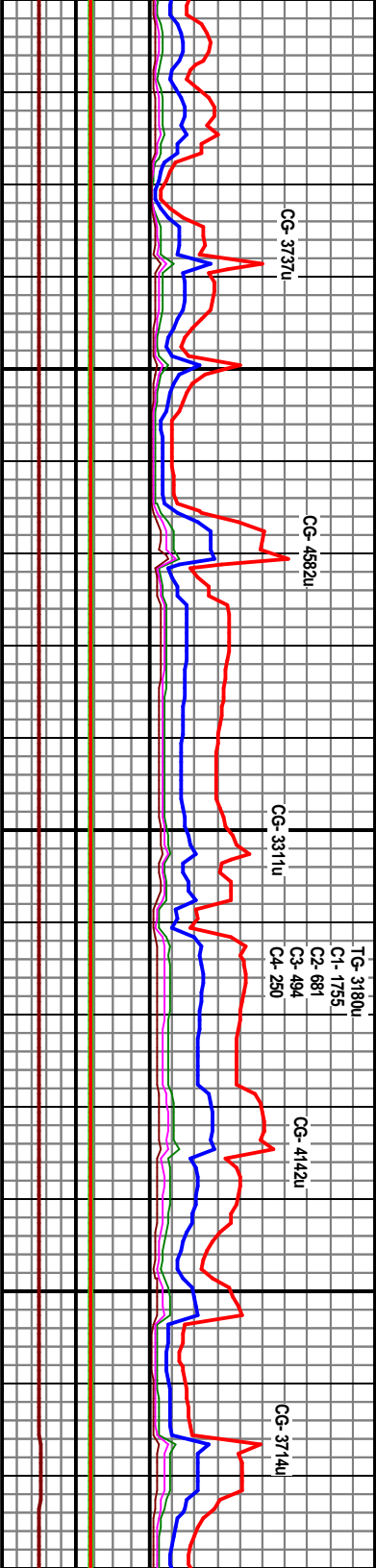
9463' MD Inc	90.8° AZ	9494' MD Inc	90.8° AZ	9527' MD Inc	91.0° AZ	9558' MD Inc	91.2° AZ	9590' MD Inc	89.2° AZ
135.6' TVD		135.8' TVD		134.9' TVD		135.6' TVD		134.9' TVD	
7271.64' VS		7271.18' VS		7270.63' VS		7270.03' VS		7269.92' VS	
2346.22'		2377.21'		2410.2'		2441.19'		2473.19'	
Weatherford									
Gas Buster									
CHK (100%) brn gybm m-tyg, brlt, rthy-grny- mic suc bt, tr-10% cly, occ dkgy crm sts & lams, abnt xin Calc (lse & fld fracs), tr-gd petro odor, even-patchy brn sh, fnt spy-even yel flor, imed-fast string yelwh cut, brt yel resd ring. SH (Tr). Very Fine Cuttings.									
CHK (100%) brn gybm l-m gy, mott ip, brlt- frn, rthy-grny-mic suc, tr-10% cly, dkgy tan crm sts & lams, occ xin Calc, sl carb ip, gd petro odor, patchy brn sh, fnt-mod yel flor, fast-lined string yelwh cut, hvy mod yel resd ring. BENT (Tr) silty mgy, mic mica, scat mic Pyr, silty ip. Very Fine Cuttings.									
CHK (100%) brn dkdon m-lt-dkgy, brlt-hd, grny- rthy-mic suc, tr gran, tr-15% cly, tr xin Calc fld fracs, inc carb matr / tr carb Sh plys, gd odor, even-patchy brn blk sin, mod-fnt yel flor, imed-fast string yelwh cut, hvy mod yel resd ring. BENT (Tr). Fine Cuttings.									
CHK (100%) brn dkdon m-lt-dkgy, brlt-hd, grny- rthy-mic suc, tr gran, tr-15% cly, tr xin Calc fld fracs, inc carb matr (Occ) silty mgy, mic mica, scat mic Pyr, silty ip. Very Fine Cuttings.									
CHK (100%) brn dkdon m-lt-dkgy, brlt-hd, grny- rthy-mic suc, tr gran, tr-15% cly, tr xin Calc fld fracs, inc carb matr (Occ) silty mgy, mic mica, scat mic Pyr, silty ip. Very Fine Cuttings.									







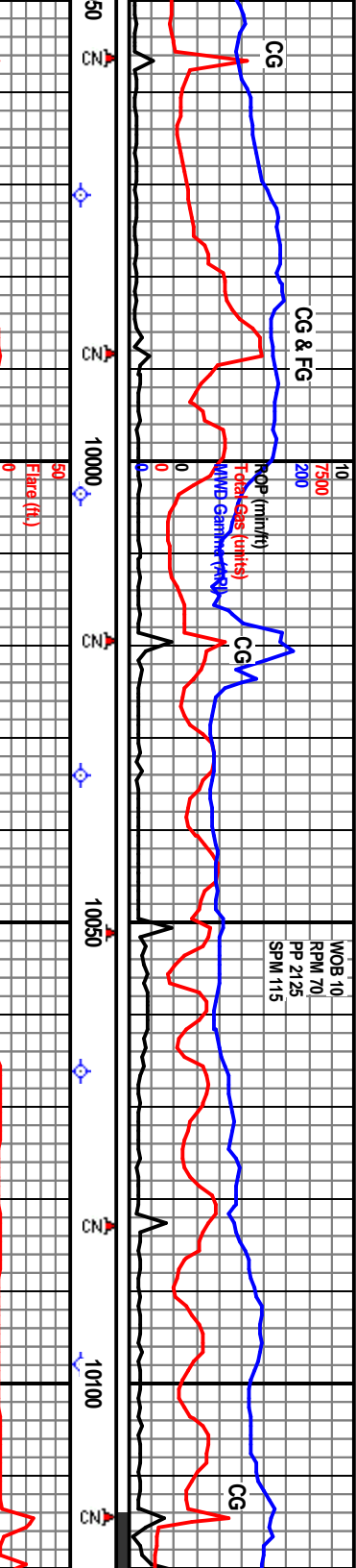
9622 MD Inc 90.0° AZ 135.3° TVD 7270.14' VS 2505.18'	9654 MD Inc 91.1° AZ 134.8° TVD 7269.84' VS 2537.18'	9686 MD Inc 89.8° AZ 134.4° TVD 7269.59' VS 2569.18'	9718 MD Inc 88.4° AZ 134.1° TVD 7270.09' VS 2601.17'	9749 MD Inc 88.1° AZ 133.8° TVD 7271.04' VS 2632.15'	9781' 88.3° 134.1° 7272.0' 2664.1'
(90%) as before, incr gmy-mic suc, gran ip, Calc, gd Show as previous Sample. BENT lv mgy, mic mica, scat mic Pyr, silty ip. Very ttings.	CHK (95%) moist brn gy/brn mlt-dkgy, brt-hd, pred rthy, gmy-mic suc ip, 5-20% clay, tr xin Calc, occ dk-mgy Sh pigs, fr odor, patchy brn sin, mod-fnt yel flr, fast-slow-lined strmg yelwh cut, mod read ring. (5%) mgy silv, sbchty, scat mic mica & mic Pyr, brt yel mnd flr. Fine Cuttings.		CHK (98%) moist brn gy/brn mlt-dkgy, brt-hd, pred rthy, gmy-mic suc ip, 5-20% clay, tr xin Calc, occ dk-mgy Sh pigs, fr odor, patchy brn sin, mod-fnt yel flr, fast-slow-lined strmg yelwh cut, mod read ring. BENT (2%) mgy silv, sbchty, scat mic mica & mic Pyr, brt yel mnd flr. Very Fine Cuttings.		CHK (100%) m-lgy gy/brn brn, r rthy-gmy-mic suc, tr-15% clay, r dkgy sks & lams, tr-occ Sh pig patchy-even brn sin, mod-fnt y strmg yelwh cut, brt yel read rfr Cuttings.
Oil on Shakers			Oil Skin on Shakers		





7360	Oil Skim on Shakers
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CHK (100%) pred m-dk gy/brn, sm dk gy, lp mtlid, mod frm, blkly, rthy, tr wh calc spks/inclius, lp m suc'ct 15-40% cly, no vis sm, tr m sply cl y/l flr, fr slw string cut & brt y/l resid ring flr. Tr Bent, lt gy & pl gn, sft, m disn pyr.

CHK (100%) lt-n gy brn, mtlid w/lt brn spks/inclius, st-sl frm, blkly, rthy, <10% cly, sm wh amorp calc inclius/spks, tr m pyr, tr? lt brn sply oil str, even brt y/l flr, gd lined string y/l cut & brt y/l resid ring flr. Abnt Bent, pl gryn, brt mln flr. Very Fine Cigs (< 0.5mm).

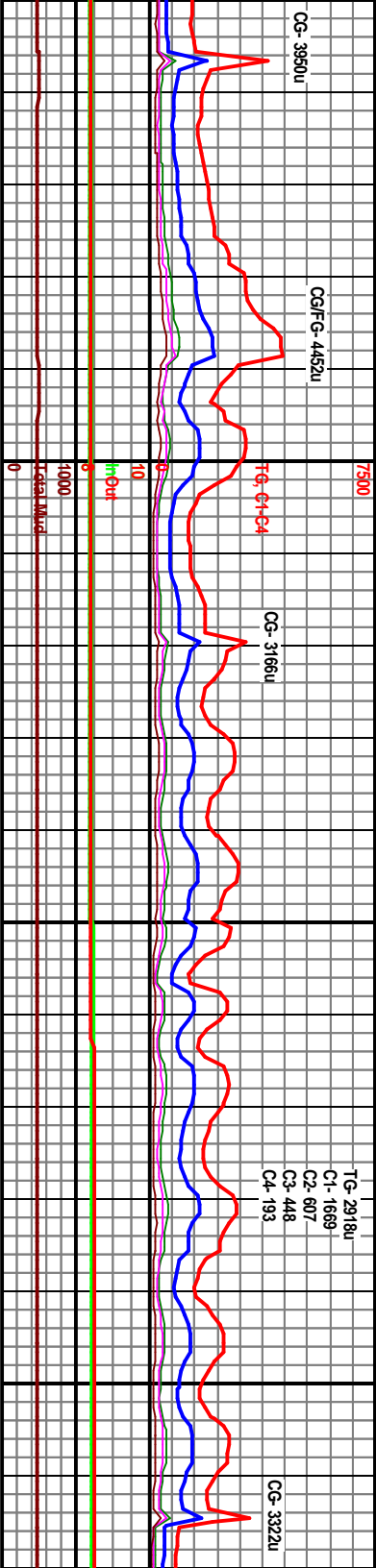
CHK (100%) lt-n gy brn, mtlid w/lt brn spks/inclius, st-sl frm, blkly, rthy, <10% cly, sm wh amorp calc inclius/spks, tr m pyr, abnt trac fill calc, wh, amorp, tr? lt brn sply oil sm, even brt y/l flr, gd lined string y/l cut & brt y/l resid ring flr. Abnt Bent, pl gryn, brt mln flr. Very Fine Cigs (< 0.5mm).

CHK (100%) lt-n gy spks/inclius, st-sl fr amorp calc inclius/s calc, wh, amorp, tr? flr, gd lined string Bent (Tr-5%), pl c Cigs (< 0.5mm).

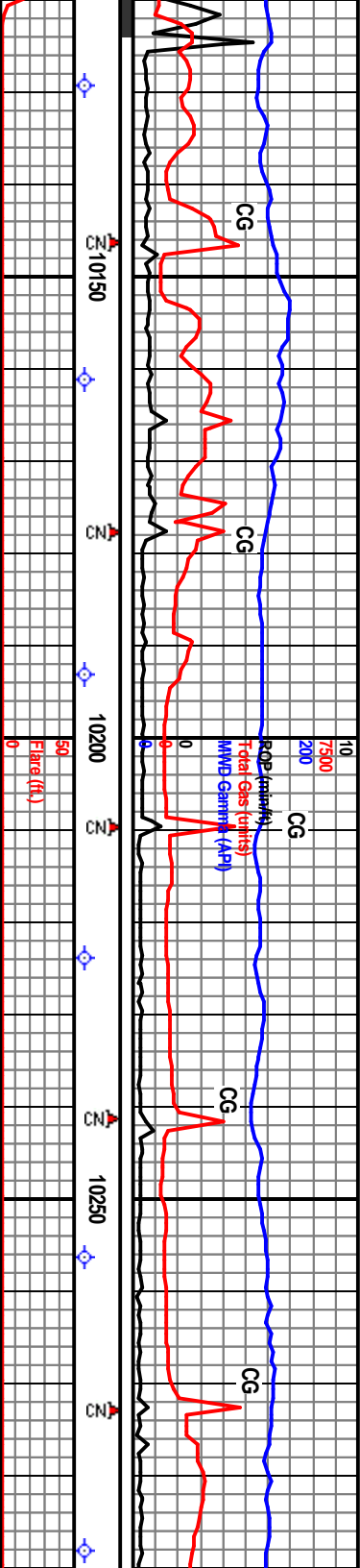
Oil Skim on Shakers

Oil Sk

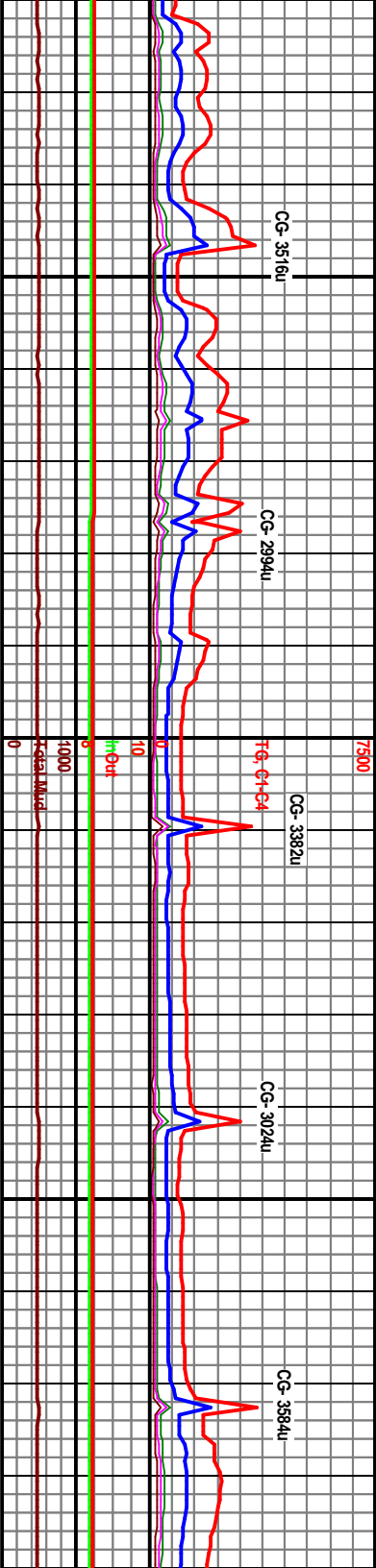
Waypoint #5: @ 3000' VS (~10,115' MD) Top of Window- 7267' TVD, Target- 7269' TVD, Bottom of Window- 7271' TVD, Apparent Dip- 90.2°

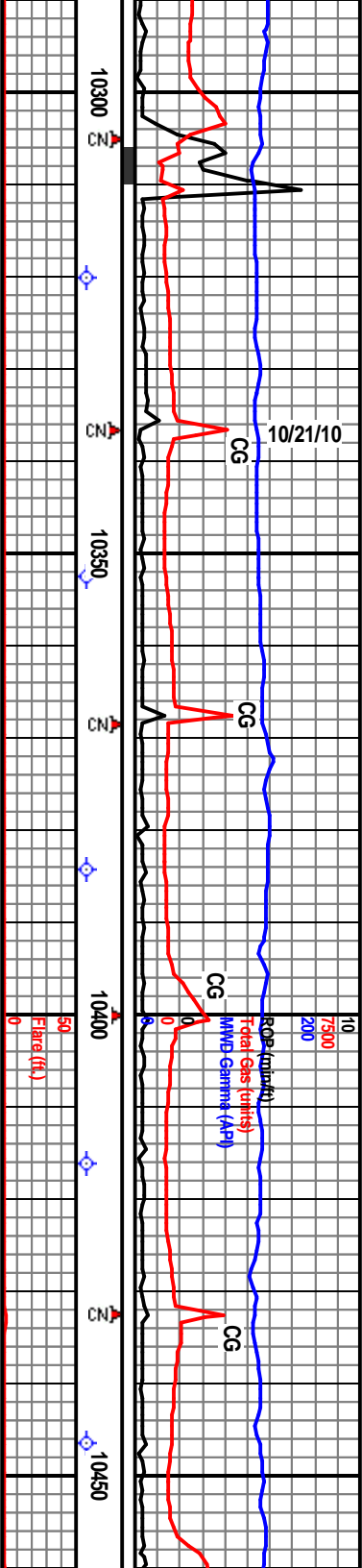




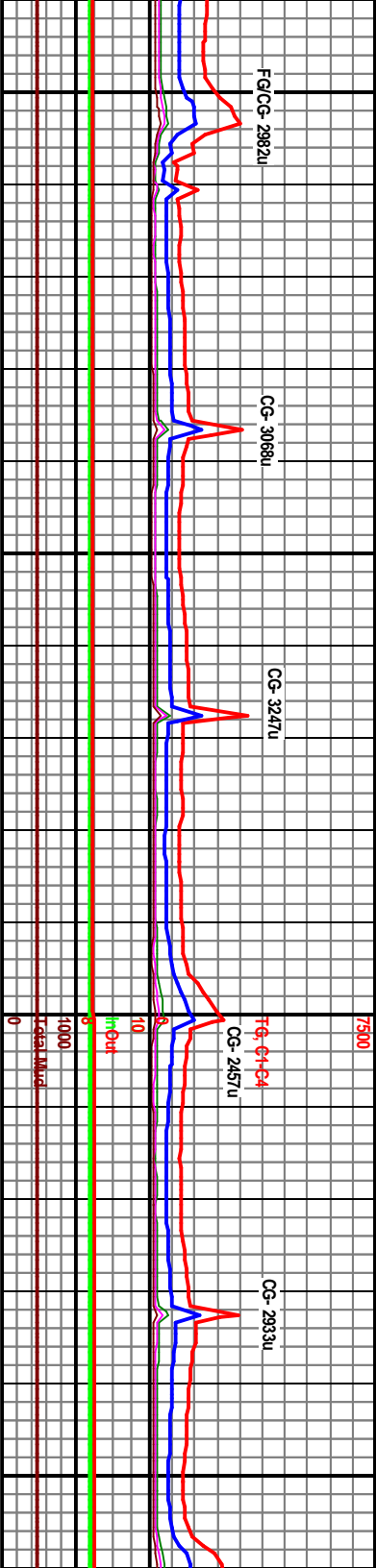


10129' MD Inc 91.3° AZ 134.9° TVD 7268.13' VS 3012.03'	10161' MD Inc 90.6° AZ 134.6° TVD 7267.60' VS 3044.03'	10193' MD Inc 90.7° AZ 134.6° TVD 7267.24' VS 3076.02'	7160 TVD	10224' MD Inc 90.0° AZ 133.9° TVD 7267.05' VS 3107.02'	10256' MD Inc 89.8° AZ 134.7° TVD 7267.11' VS 3139.02'	10288' MD Inc 90.5° AZ 134.3° TVD 7267.02'
brn, mtlld w/lt brn tm, bldly, rthy, <10% cly, sm wh pkgs, tr m pyr: abnt frac fill lt brn spy oil stm, even brt yl yl cut & brt yl resid ring flr. gygn, brt min flr. Very Fine	CHK (100%) pred lt-m gy brn, mtlld w/lt brn spks/inclus, sm dk gy, argilshly, gen st-sl frm, bldly, rthy, <10% cly, sm wh amorp calc includspks, tr m pyr: abnt frac fill calc, wh, amorp, tr? lt brn spy oil stm, even brt yl flr, gd lmed string yl cut & brt yl resid ring flr. Bent (Tr-2%), pl gygn, brt min flr. Fine Cigs (<0.5mm).	CHK (100%) pred lt-m gy brn, mtlld w/lt brn spks/inclus, sm dk gy, argilshly, gen st-sl frm, bldly, rthy, <10% cly, sm wh amorp calc includspks, tr m pyr: sm vis mic frac w/wh frac fill calc, tr lt brn spy oil stm, even brt yl flr, gd lmed string yl cut & brt yl resid ring flr. Bent (Tr-2%), pl gygn, brt min flr. Very Fine Cigs.		CHK (100%) pred lt-m gy brn, mtlld w/lt brn spks/inclus, 10% dk gy, argilshly, gen st-sl frm, bldly, rthy, <10% cly, sm wh amorp calc includspks, tr m pyr: sm vis mic frac w/wh frac fill calc, tr lt brn spy oil stm, even brt yl flr, gd lmed string yl cut & brt yl resid ring flr. Bent (Tr-2%), pl gygn, brt min flr. Very Fine Cigs (<0.5mm).		
Oil Skim on Shakers	Oil Skim on Shakers	Oil Skim on Shakers	Oil Skim on Shakers	Oil Skim on Shakers	Oil Skim on Shakers	Oil Skim on Shakers

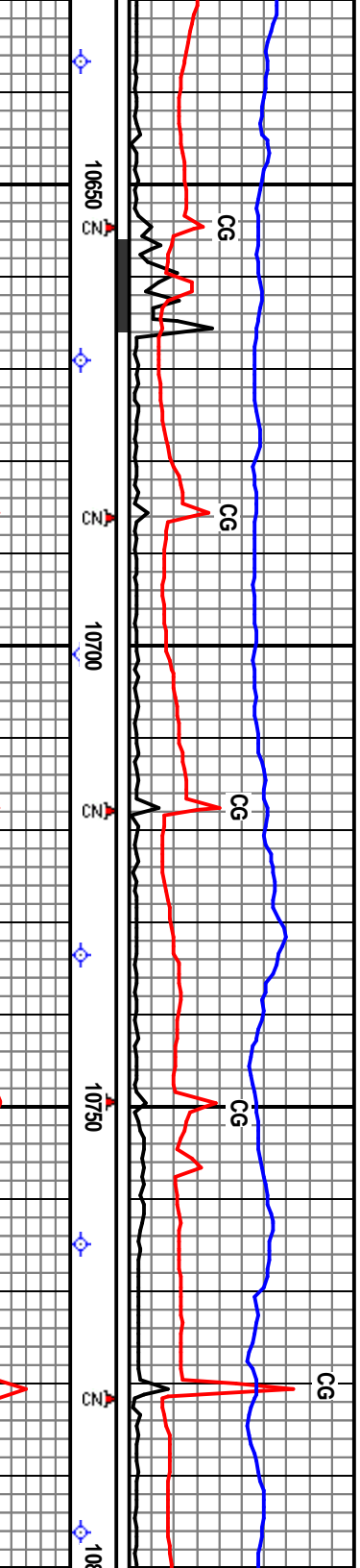




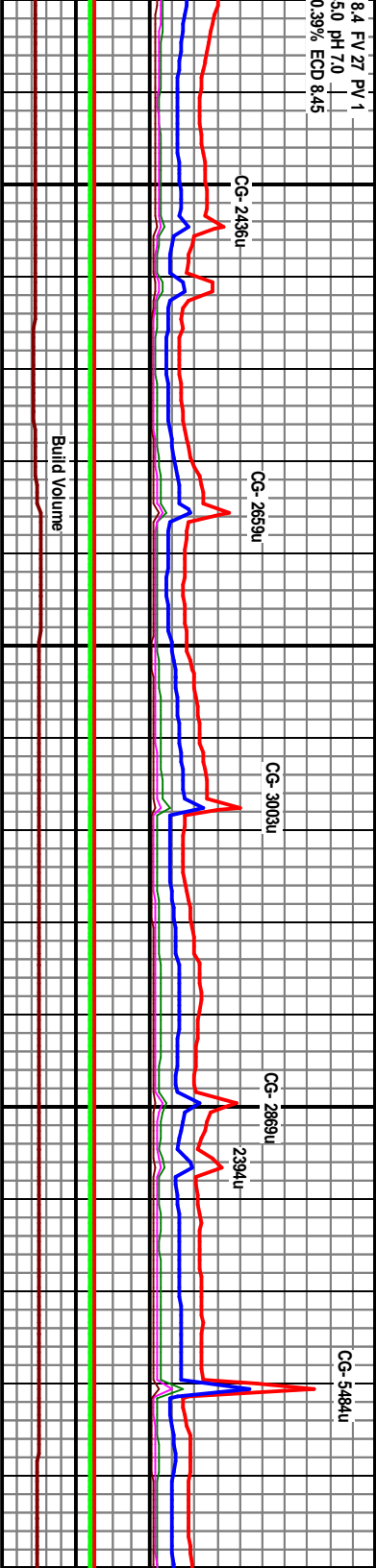
MD AZ	10320' MD Inc 90.4° AZ 134.6' TVD 7266.77' VS 3203.02'	10352' MD Inc 89.8° AZ 134.6' TVD 7266.72' VS 3235.02'	10384' MD Inc 90.3° AZ 134.9° TVD 7266.69' VS 3267.02'	7160 TVD 10415' MD Inc 90.4° AZ 135.5° TVD 7266.50' VS 3298.02'	10447' MD Inc 89.9° AZ 135.7° TVD 7266.41' VS 3330.02'
VS	CHK (100%) pred lt-m gy brn, mtld w/lt brn spks/inclus, sm dk gy, argilshly, gen sft-sl frm, biky, rthy, <10% clay, sm wh amorp calc includ/spks, tr m pyr, abnt frac fill calc, wh, amorp, fnt petro odor, tr? lt brn sply oil shn, sply brt yl flor, gd lined string yl cut & brt yl resid ring flor. Very Fine Cigs (< 0.5mm).	CHK (100%) pred lt-m gy brn, mtld w/lt brn spks/inclus, tr dk gy, argilshly, gen sft-sl frm, biky, rthy, <10% clay, sm wh amorp calc includ/spks, tr m pyr, abnt frac fill calc, wh, amorp, fnt petro odor, tr? lt brn sply oil shn, even brt yl flor, gd lined string yl cut & brt yl resid ring flor. Very Fine Cigs (< 0.5mm).	Weatherford Gas Buster	CHK (100%) pred lt-m gy brn, mtld w/lt brn spks/inclus, tr dk gy, argilshly, gen sft-sl frm, biky, rthy, <10% clay, sm wh amorp calc includ/spks, mtc lam/varved, tr m pyr, abnt frac fill calc, wh, amorp, fnt petro odor, tr? lt brn sply oil shn, even brt yl flor, gd lined string yl cut & brt yl resid ring flor. Very Fine Cigs (< 0.5mm).	CHK (100%) spks/inclus biky, rthy includ/spks fill calc, wh, amorp, oil shn, even & brt yl Cigs (<
Oil Skin on Shakers					
Inc: Oil Skin on Shakers					





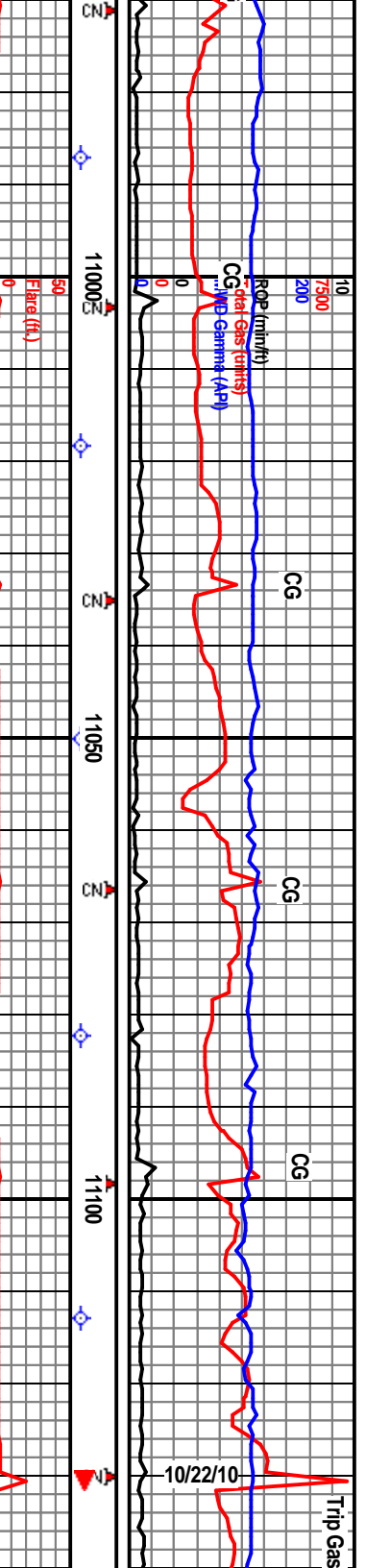


10637 MD Inc 90.3° AZ 136.9' TVD 7266.47' VS 3519.95'	10669' MD Inc 90.8° AZ 136.3' TVD 7266.17' VS 3551.93'	10701' MD Inc 90.0° AZ 136.7' TVD 7265.94' VS 3583.9'	10733' MD Inc 89.6° AZ 136.5' TVD 7266.05' VS 3615.88'	10765' MD Inc 89.6° AZ 136.1' TVD 7266.28' VS 3647.87'	10796' MD Inc 89.6° AZ 136.2' TVD 7266.49' VS 3678.85'
sst-sl frm, brt lp, 15% clay, dkgy slks & ptpigs, fnt petro odor, lor, imed string yelwh ttings.	CHK (100%) mott gybm m-lgy brn, sst-sl frm, brt lp, rthy-gmy txt, tr mic suc, arg lp / 5-15% clay, dkgy slks & lams com, occ xin Calc, tr cald Sh pigs, fnt petro odor, tr-occ patchy brn stn, fnt-mod yel flr, imed string yelwh cut, brt yel resd ring. Very Fine Cuttings.	CHK (100%) gybm brn m-tt gy, mott, brt-frm, rthy-gmy-mic suc, Tr-10% clay, dkgy slks & lams, occ xin Calc, tr Calc fld mic frac, fnt petro odor, tr patchy brn stn, fnt-mod yel flr, imed string yelwh cut, brt yel resd ring. Fine Cuttings.			CHK (100%) gybm brn m-lgy, brt, pred rthy-gmy txt, mic suc-gran lp, Tr-10% clay, abnt xin Calc, tr Sh pigs, tr petro odor, tr sply-patchy brn stn, fnt-mod yel flr, imed string yelwh cut, brt yel resd ring. Extremely Fine Cuttings.
	Good Oil Skin on Shakers				Good Oil Skin on Shakers

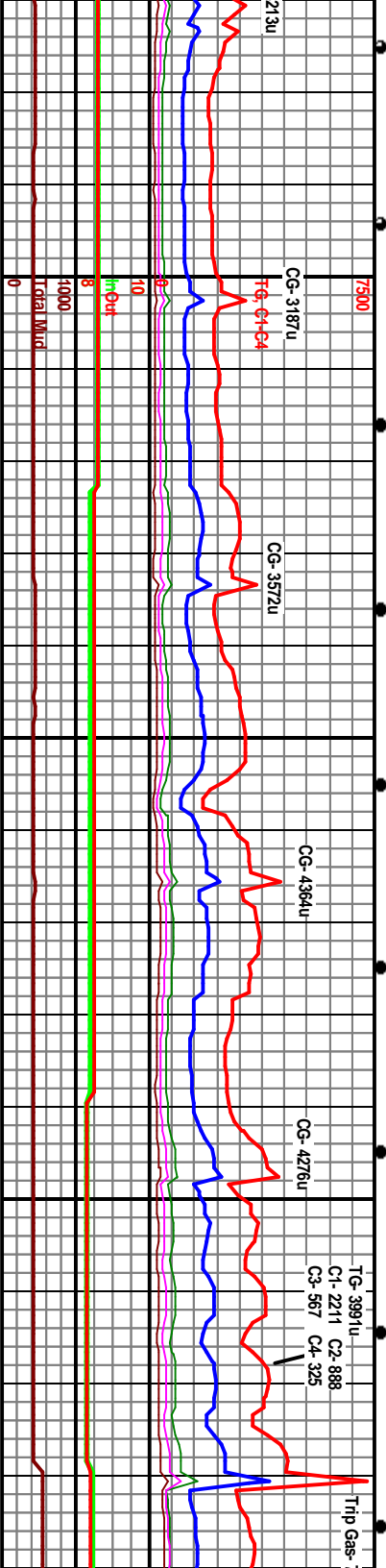


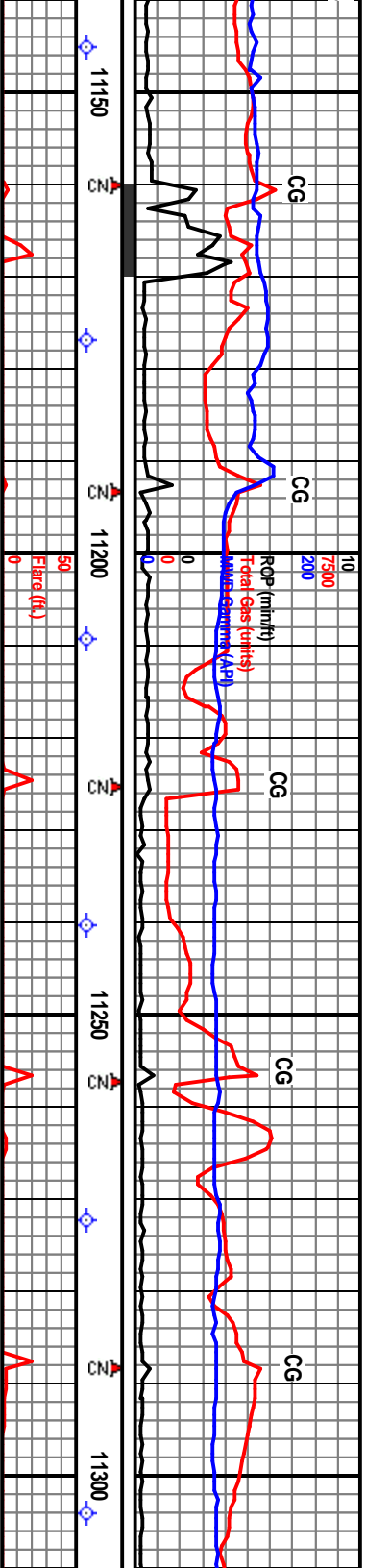






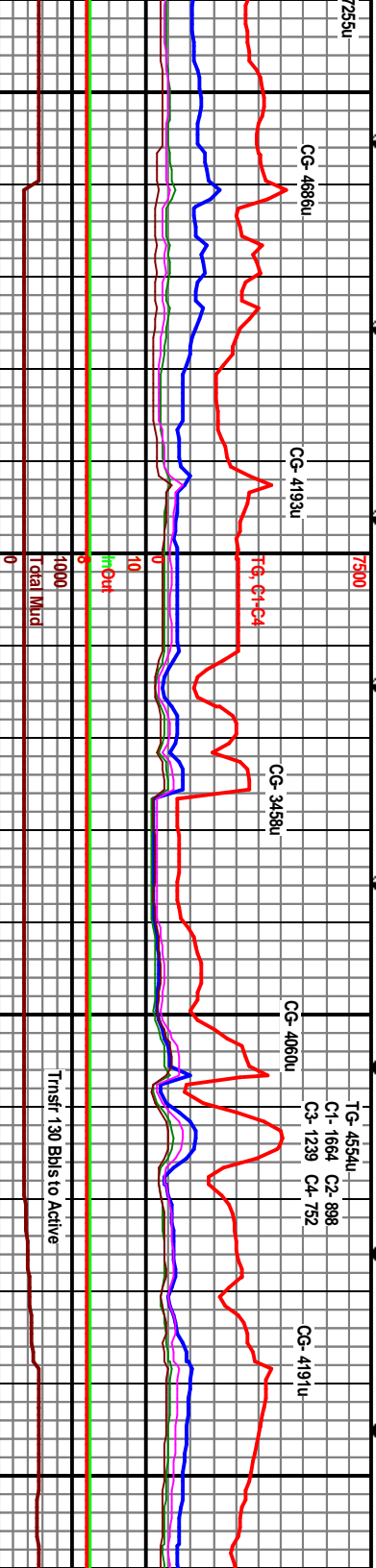
10987 MD Inc 90.0° AZ 135.6° TVD 7265.00 VS 3869.77'	7160 TVD	11018' MD Inc 90.2° AZ 135.6° TVD 7264.95' VS 3900.76'	11050' MD Inc 90.5° AZ 135.4° TVD 7264.75' VS 3932.76'	11082' MD Inc 90.2° AZ 134.9° TVD 7264.76' VS 3964.76'	11113' MD Inc 90.3° AZ 134.8° TVD 7264.42' VS 3995.76'	11144' MD Inc 90.3° AZ 134.8° TVD VS 4
dk. gy, brn-fm, grny- rthy-mic suc- c id frags, incr arg, occ dkgy siks & gd petro odor, patchy brn str, ng yelwh cut, brt yel read ring, SH thy-sbply-bily, rthy-gmy, tr sbvlt, ow-fast string cuts. Very Fine	CHK (95%) gy/brn brn, m-tt gy, moit, brn-fm, grny-mic suc-rthy txt, Tr<10% cly, dkgy siks & lams, tr-occ xin Calc incl, tr ise xin Calc, tr Sh pigs, tr Bent, gd petro odor, patchy-even brn str, lined fast string yelwh cut, hvy yel read ring, SH (5%). Very Fine Cuttings.	CHK (95%) gy/brn brn, m-tt gy, moit, brn-fm, grny-mic suc-rthy txt, Tr<10% cly, dkgy siks & lams, tr-occ xin Calc incl, tr ise xin Calc, tr Sh pigs, tr Bent, gd petro odor, patchy-even brn str, lined fast string yelwh cut, hvy yel read ring, SH (5%). Very Fine Cuttings.	CHK (95%) gy/brn brn, m-tt gy, moit, brn-fm, grny-mic suc-rthy txt, Tr<10% cly, dkgy siks & lams com, tr-occ xin Calc incl, tr ise xin Calc, tr Sh pigs, tr Bent, strong petro odor, patchy-even brn str, lined fast string yelwh cut, hvy brt yel read ring, SH (5%). Very Fine Cuttings.	At 11,130': Pump 50 Bbls 12" Kill Mud, TOH to KOP & Rep Torque Converter		
Revised Waypoint #6: @ 4000' VS (-11,115' MD) Top of Window- 7264' TVD, Target- 7266' TVD, Bottom of Window- 7268' TVD. Apparent Dip- 90.2°						
Borehole						
kim on Shakers						
Good Oil Skim on Shakers						
Mud @ 11,130' WT 8.45 FV ZT PV 1 YP 2 GS 1/11 FI 45.0 pH 7.0 CI 220 Hd 480 Sol 0.69% ECD 8.48						
Poor Sample- Heavily Contaminated w/ Pipes from Trip.						

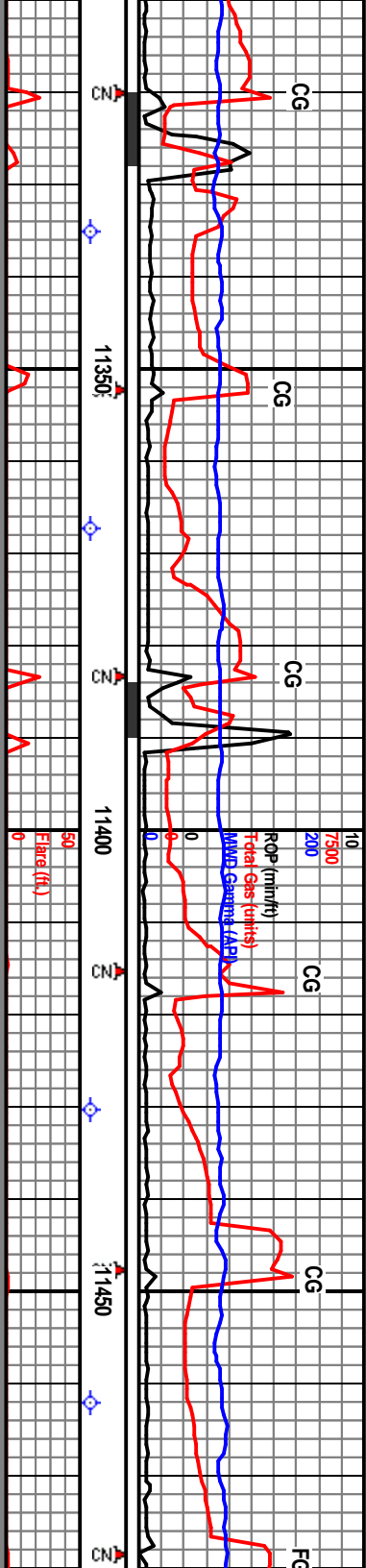




5 MD									
90.2°									
34.3°									
7264.28'									
027.76'									
4#									
air									
Waypoint #7: @ 4500' VS (-11,615 MD) Top of Window- 7268' TVD, Bottom of Window- 7272' TVD. Negligible Apparent Dip.									
7270' TVD.									
Re Revi Target-									

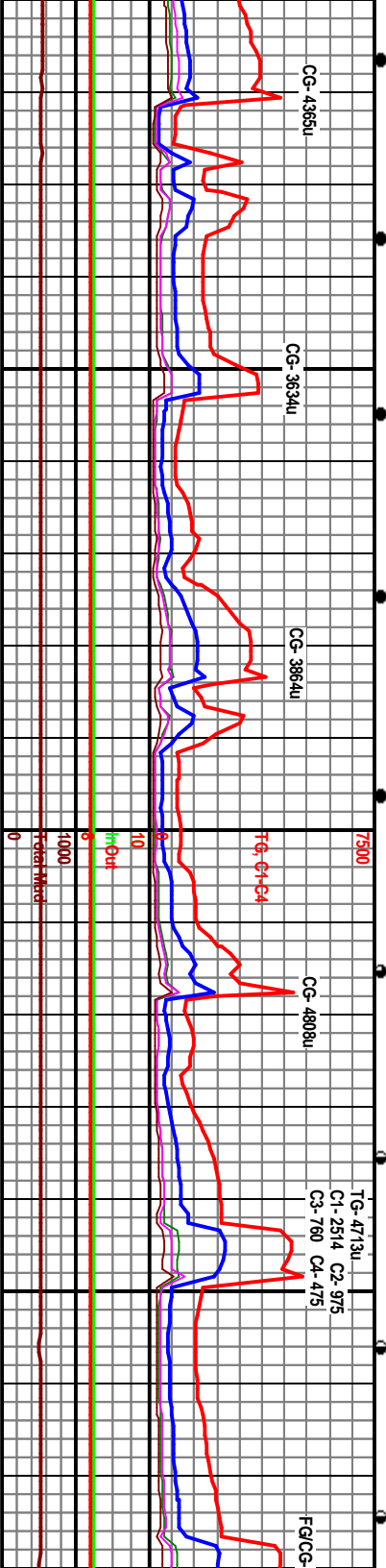
Dope	CHK (100%) mk-dkgy gybrn, mott, brt-v frm, rthy-gmry, tr mic suc-suc, 5-15% clay, dkgy blk siks & lams, occ crm tan chky incl, tr-occ Xin Calc, tr carb, tr dk Sh pigs & silv Bent, fr petro odor, tr-occ patchy brn sin, frt-mod yel flor, imed strng yelwh cut, brt yel resd ring. Very Fine Cuttings.	7300 TVD	CHK (100%) m-t-dkgy gybrn, mott, brt-v frm, rthy-gmry, tr mic suc-suc, 5-15% clay, dkgy blk siks & lams, occ crm tan chky incl, tr-occ Xin Calc, tr carb, tr dk Sh pigs & silv Bent, fr petro odor, tr-occ patchy brn sin, frt-mod yel flor, imed strng yelwh cut, brt yel resd ring. Very Fine Cuttings.	CHK (100%) mott m-tlgy, occ gybrn, brt, gmy, rthy-mic suc, Tr-10% clay, occ lse xin Calc, tr Calc fld mic fracs, occ dkgy siks & lams, tr carb incl & crm tan chky incl, strong petro odor, brn sin com / abnt free oil in sample, mod-brt yel flor, imed flash yelwh cut, hvy brt yel resd ring. Very Fine Cuttings.	CHK (100%) suc, Tr-10% clay, occ lse xin Calc, tr carb incl & crm tan chky incl, strong petro odor, brn sin com / abnt free oil in sample, mod-brt yel flor, imed flash yelwh cut, hvy brt yel resd ring. Very Fine Cuttings.
Heavy Oil Skim on Shakers					
Heavy Oil Skim on Shakers					



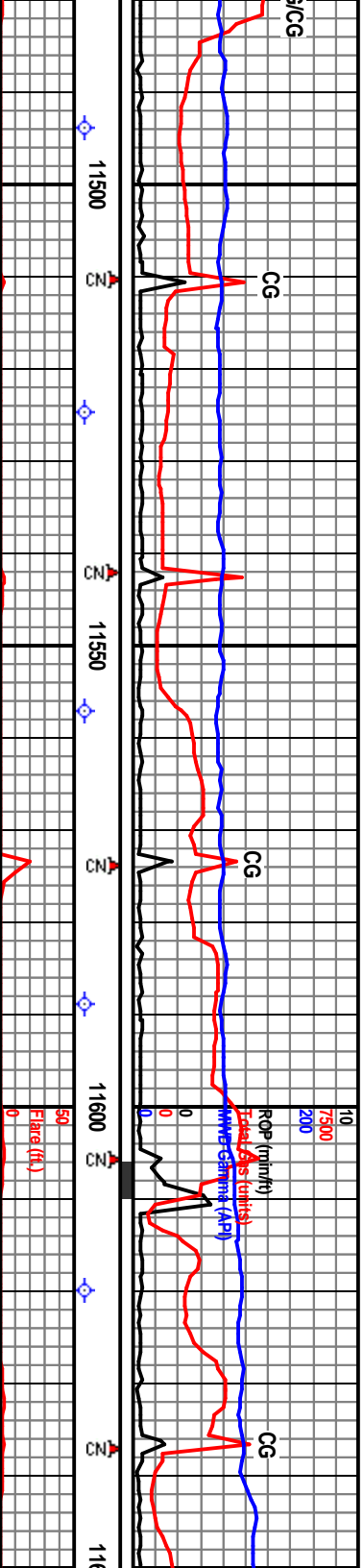


11335' MD Inc 89.7° AZ 135.0° TVD 7266.30' VS 4217.74'	11367' MD Inc 90.0° AZ 135.2° TVD 7266.38' VS 4249.74'	11399' MD Inc 89.5° AZ 134.3° TVD 7266.52' VS 4281.74'	11430' MD Inc 89.8° AZ 135.0° TVD 7266.71' VS 4312.79'	11462' MD Inc 90.0° AZ 134.3° TVD 7266.77' VS 4344.73'
Used Waypoint #7: @ 4500' VS (~11,615' MD) Top of Window- 7264' TVD, 7266' TVD, Bottom of Window- 7268' TVD. Apparent Dip: 90.2-90.3°				
Weatherford Gas Buster				
Target				

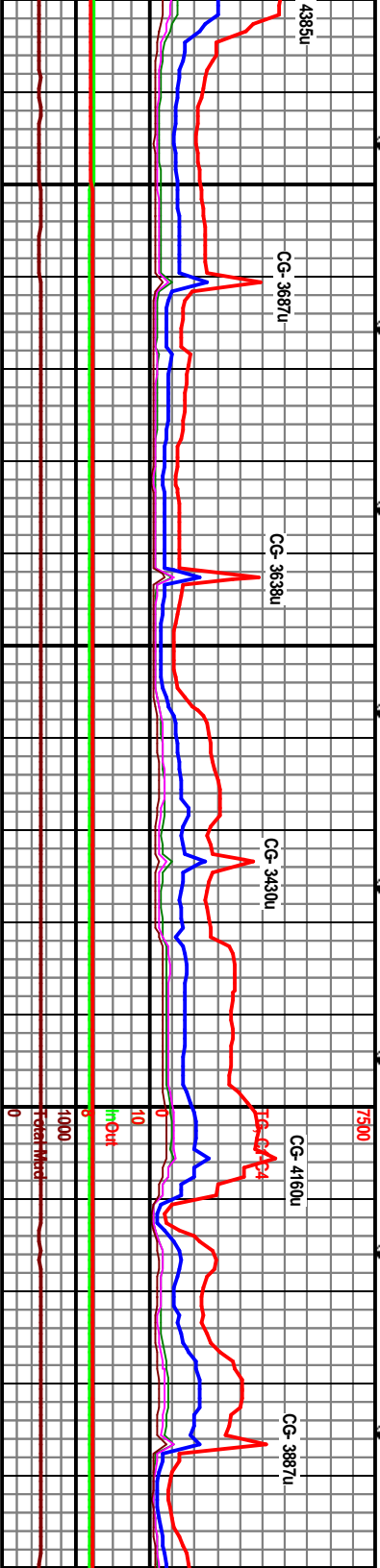
100% mott m-hlgy, occ gybrn, brt, grny- rthy-mic 0% clay, occ lse xin Calc, occ dkgy slks & lams, cl & crm tan chly incl, strong petro odor, brn str at free oil in sample, mod-brt yel flor, imed flash hvy brt yel resd ring. Very Fine Cuttings.				
CHK (100%) mott m-hlgy, occ gybrn, brt, grny- rthy-mic sucr, Tr-10% clay, occ lse xin Calc, occ dkgy slks & lams, tr carb incl & crm tan chly incl, strong petro odor, brn str com / abnt free oil in sample, mod-brt yel flor, imed flash yelwh cut, hvy brt yel resd ring. Very Fine Cuttings.				
Heavy Oil Skim on Shakers				
Borehole				
CHK (100%) lt-m gy brn mttld tr brn, spkld in inclus, sft-m frm, blkgy, rthy, mic lam/yrd, low <10% clay, sply? lt brn oil sln, sply-even dl y flor, gd lined string y cut, gd brt y l resid ring flor. Bent (TR) pl lt gn, sft, mic pyr, brt y l min flor.				
Trace Oil Skim on Sh				

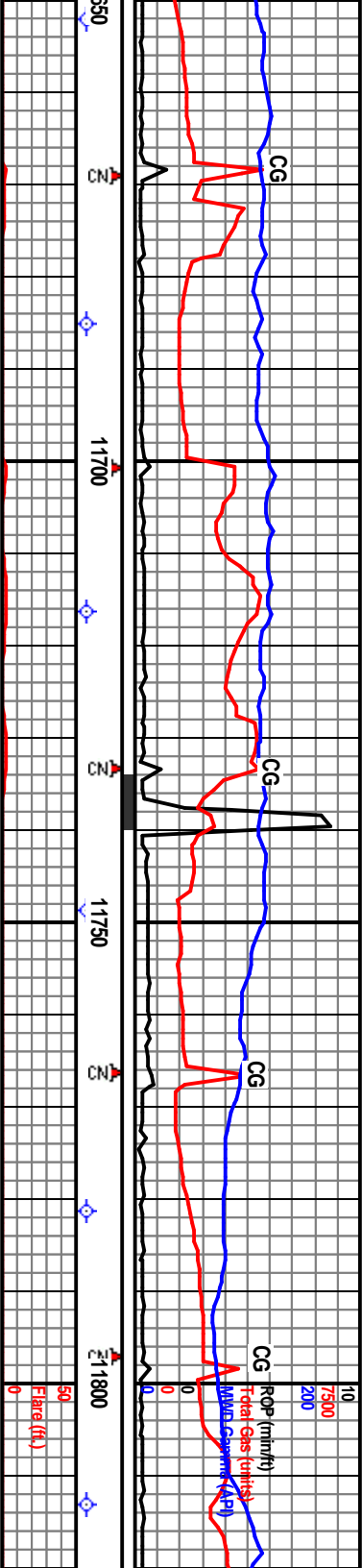






11494' MD Inc 89.9° AZ 134.3° TVD 7266.79' VS 4376.73'	11525' MD Inc 89.7° AZ 134.6° TVD 7266.90' VS 4407.73'	11557' MD Inc 89.8° AZ 134.2° TVD 7267.04' VS 4439.73'	11589' MD Inc 89.8° AZ 134.5° TVD 7267.15' VS 4471.73'	7160 TVD	11620' MD Inc 90.4° AZ 133.8° TVD 7267.10' VS 4502.73'	11652' MD Inc 90.4° AZ 133.8° TVD 7267.10' VS 4502.73'
Revised Waypoint #: @ 4500' VS (~11,615 MD) Top of Window- 7264' TVD, Target- 7266' TVD, Bottom of Window- 7268' TVD. Negligible Apparent Dip.						
Waypoint #: @ 5000' VS (~12,117 N Target- 7270' TVD, Bottom of Window- 7272' TVD						
CHK (100%) It-m gybrn mttld w/lt brn spks/ inclus, sf-m frm, blkly, rthy, mic lam/vrvd, low <10% cly, sply? It brn oil stn, sply-even dl yl flr, gd lined string yl cut, gd brt yl resid ring flr. Bent (TR) pl lt gn, sft, mic pyr, brt yl min flr.						
CHK (100%) It-m gybrn mttld w/lt brn spks/ inclus, sf-m frm, blkly, rthy, mic lam/vrvd, low <10% cly, sply It brn oil stn, even dl yl flr, gd lined string yl cut, gd brt yl resid ring flr.						
CHK (90%) pred m gybrn mttld w/lt brn spks/ inclus, micro lam/vrvd, sf-m frm, blkly, rthy, low <10% cly, sply? It brn oil stn, sply-even dl yl flr, gd lined string yl cut, gd brt yl resid ring flr. ARG CHK (100%) v dk gy, frm, blkly, rthy, mic sucr txt, dk oil stn, no flr, pr slw mlky-sl string yl cut, fr resid ring flr						
Shakers						
Trace Oil Skim on Shakers						





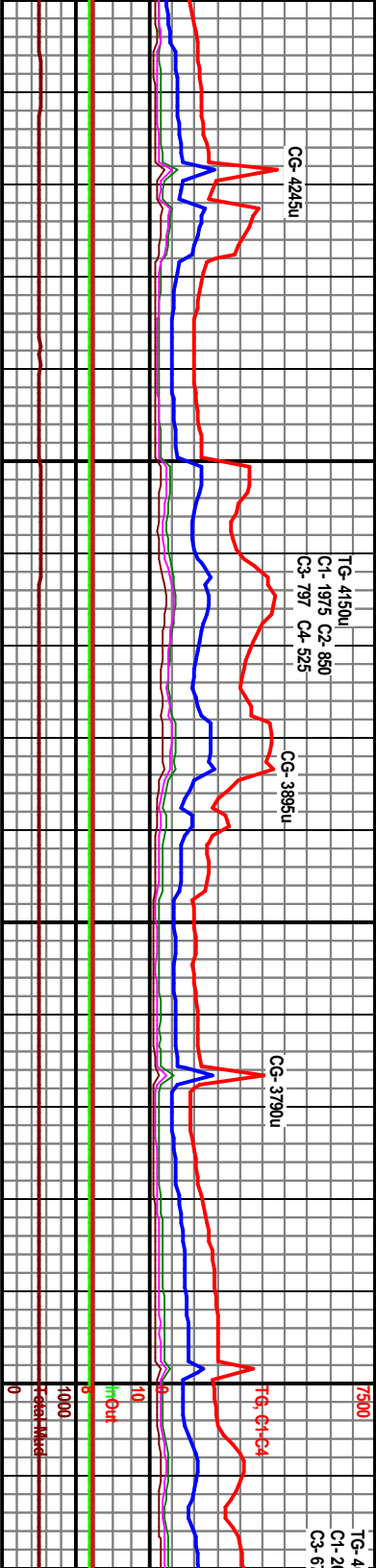
MD	11685'	MD	11716'	MD	11749'	MD	11781'	MD	7160'
Inc 90.6°		Inc 90.2°		Inc 89.2°		Inc 89.1°		Inc 89.2°	
AZ 134.2°		AZ 133.4°		AZ 133.1°		AZ 133.8°		AZ 133.0°	
TVD 7266.59'		TVD 7266.37'		TVD 7266.55'		TVD 7267.02'		TVD 7267.48'	
VS 4567.73'		VS 4598.72'		VS 4631.71'		VS 4663.71'		VS 4695.69'	

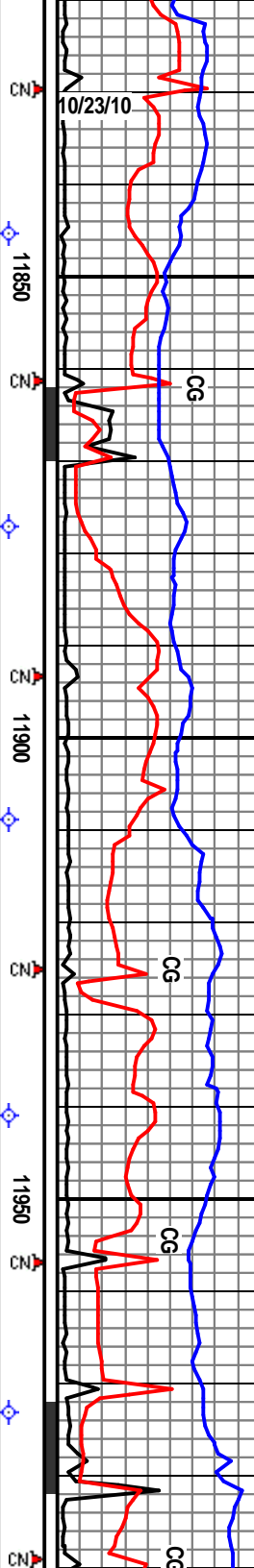
MD) Top of Window- 7268' TVD,  
w- 7272' TVD. Slight Down Apparent Dip.

CHK (80%) pred m gybrn mtld w/lt brn spks/ inclus, micro lam/vrd, st-m frm, blkyl, rthy, low <10% cly, sply? lt brn oil stn, sply-even dl yl flor, gd lined string yl cut, gd brt yl resid ring flor. ARG CHK (20%) v dk gy, frm, blkyl, rthy, mic gran/ sucrt, tr v dk brn oil stn, no flor, pr slw mlky-sl string yl cut, fr resid ring flor.	CHK (90%) pred m gybrn mtld w/lt brn spks/ inclus, micro lam/vrd, st-m frm, blkyl, rthy, low <10% cly, tr frac fill calc, wh, amorp, sply? lt brn oil stn, sply-even dl yl flor, gd lined string yl cut, gd brt yl resid ring flor. ARG CHK (10%) v dk gy, frm, blkyl, rthy, mic gran/ sucrt, tr v dk brn oil stn, no flor, pr slw mlky-sl string yl cut, fr resid ring flor.	CHK (100%) pred m gybrn mtld w/lt brn spks/ inclus, micro lam/vrd, st-m frm, blkyl, rthy, low <10% cly, tr frac fill calc, wh, amorp, tr linoce foss frags, sply? lt brn oil stn, even brt yl flor, gd lined string yl cut, gd brt yl resid ring flor. ARG CHK (Tr) v dk gy.	CHK (75%) pred m inclus, micro lam/vrd, st-m frm, blkyl, rthy, low <10% cly, tr frac fill frags, sply? lt brn string yl cut, gd br string yl cut, gd br carb, fr dl yl flor, ring flor.
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Decr Trace Oi Skim on Shakers

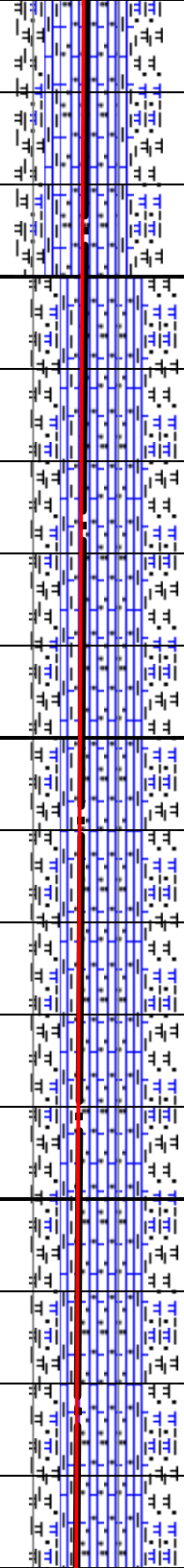
Oil Skim on Shakers





11845' MD Inc 89.1° AZ 133.4° TVD 7267.97' VS 4727.68'	11877' MD Inc 89.5° AZ 133.3° TVD 7268.36' VS 4759.67'	11909' MD Inc 89.3° AZ 133.2° TVD 7268.70' VS 4791.66'	11941' MD Inc 89.2° AZ 133.3° TVD 7269.11' VS 4823.65'	11973' MD Inc 89.4° AZ 133.1° TVD 7269.51' VS 4855.64'
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Waypoint #: @ 5000' VS (~12,117' MD) Top of Window- 7268' TVD,  
Target- 7270' TVD, Bottom of Window- 7272' TVD, Slight Down Apparent Dip.



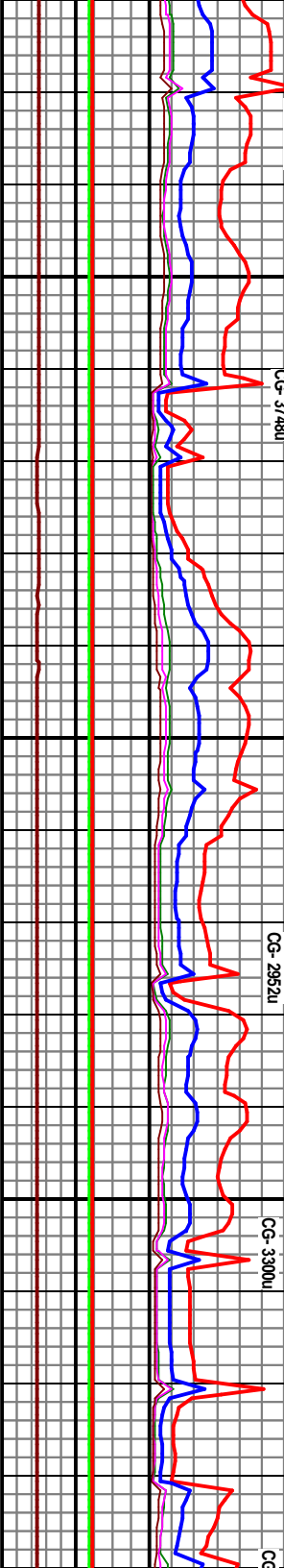
gybm mtlid w/lt brn spks/ rvrd, sft-m frm, bily, rthy, low calc, wh, anorp; tr inocer foss oil stn, even brt yf flr, gd lined yf resid ring flr. ARG MRL Y fm, bily, rthy, argmth, v sk slw string cut, brt yf resid	CHK (85%) pred m gybm mtlid w/lt brn spks/ includ, micro lam/vrvd, sft-m frm, bily, rthy, low <10% clay, tr frac fill calc, wh, anorp; tr inocer foss frags: spky? lt brn oil stn, even brt yf flr, gd lined string yf cut, gd brt yf resid ring flr. ARG MRL Y CHK (15%) v dk gy, frm, bily, rthy, v carb, argmth, int dl yf flr, gd slw string yf cut, brt yf resid ring flr.	CHK (80%) pred m gybm mtlid w/lt brn spks/ includ, micro lam/vrvd, sft-m frm, bily, rthy, low <10% clay, tr frac fill calc, wh, anorp; tr inocer foss frags: spky? lt brn oil stn, even brt yf flr, gd lined string yf cut, gd brt yf resid ring flr. ARG MRL Y CHK (20%) v dk gy, frm, bily, rthy, v carb, argmth gdg MRL ST, int dl yf flr, gd slw string yf cut, brt yf resid ring flr.	CHK (100%) m-dk-lgy, gybm, brt-sl frm-st, gny- sl-v arg lp / 5-20% clay, sl carb lp, occ sh pfigs, tr-o- lse xln calc, occ dkgy sks & lams, occ spky brn st spky yel flr, fast string yel cut, brt yel resid ring. Fine Cuttings.
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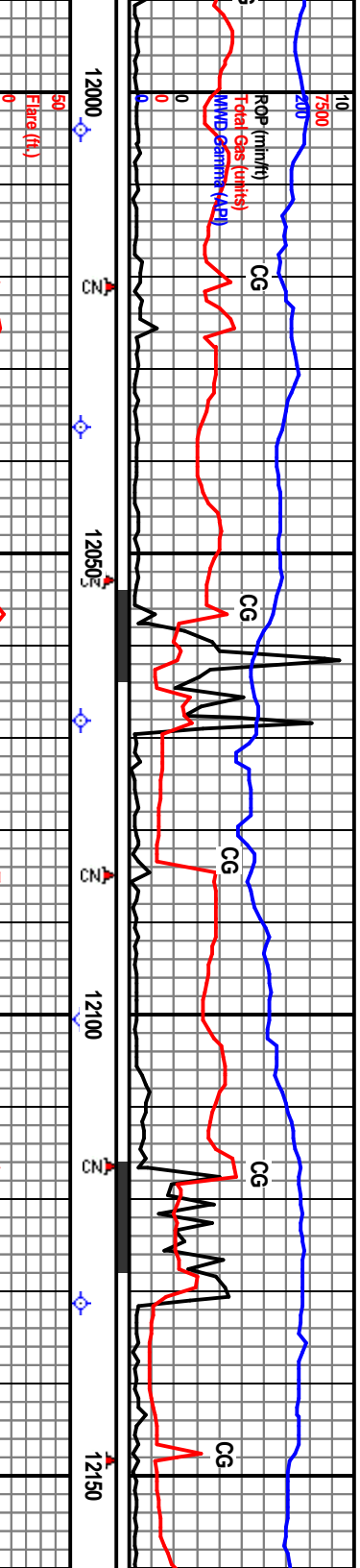
Trace Oil Skim on Shakers

Trace Oil Skim on Shakers

0386u 080 C2- 815 77 C4- 465	CG- 4963u	CG- 3748u	TG- 3357u C1- 1950 C2- 702 C3- 455 C4- 250	CG- 2952u	CG- 3300u
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Mud @ 11,981' Wt 8.4 FV 27 PV 1  
YP 2 GS 1/1/1 FI 40.0 pH 7.5  
C1 240 Hd 600 Sol 0.49% ECD 8.46





7160 TVD	12004 MD	12036 MD	12068 MD	12100' MD	12131' MD	12150
Inc 89.5°	Inc 89.3°	Inc 89.3°	Inc 89.3°	Inc 89.1°	Inc 90.5°	Inc
AZ 133.5°	AZ 133.4°	AZ 133.9°	AZ 134.3°	AZ 134.2°	AZ 134.2°	AZ
TVD 7269.80'	TVD 7270.74'	TVD 7270.53'	TVD 7270.98'	TVD 7271.06'	TVD 7271.06'	TVD
VS 4886.63'	VS 4918.62'	VS 4950.62'	VS 4982.61'	VS 5013.61'	VS 5013.61'	VS
7200 TVD						
erford Gas						

Revised Waypoint #8 & Waypoint #9: @ 5400' VS (~12517 MD) Top of Window- 7261' TVD, Target- 7263' TVD, Bottom of Window- 7265' TVD. Apparent Dip- 90.5°

Disregarding Waypoint #9: Building Angle Dip 91+°

Target

Borehole

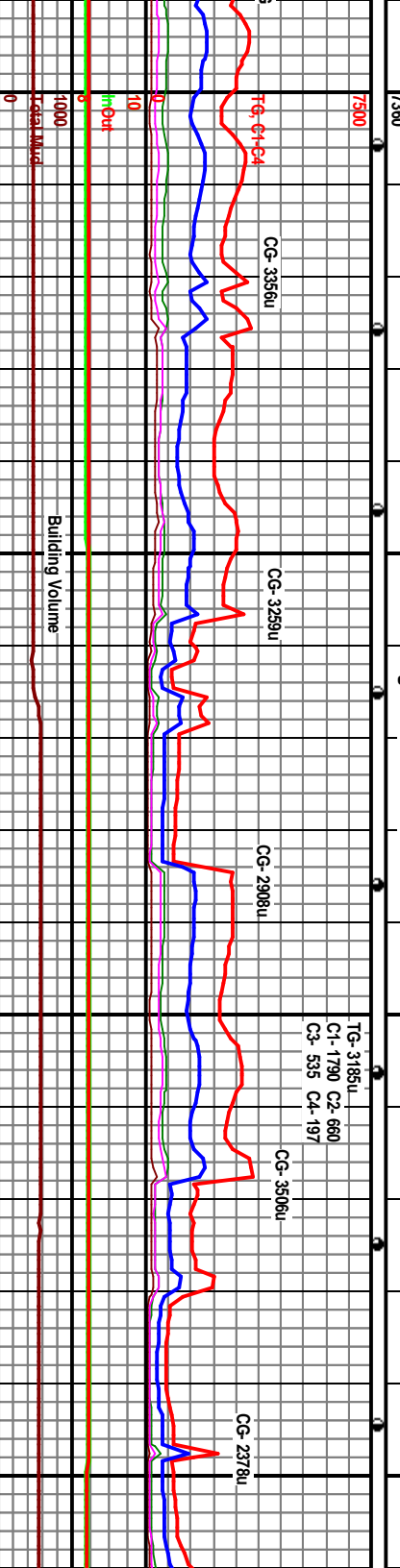
CHK (80%) being inc carb & arg, occ patchy-spy brn sn, fast-slow string yel cuts. SH (20%) dk-v-dkgy, strfm, sply-sply-rlky, gry-rlky tx, v calc, grd-garb arg Chk lp, NSOF, lined string yel cuts. Very Fine Cuttings.

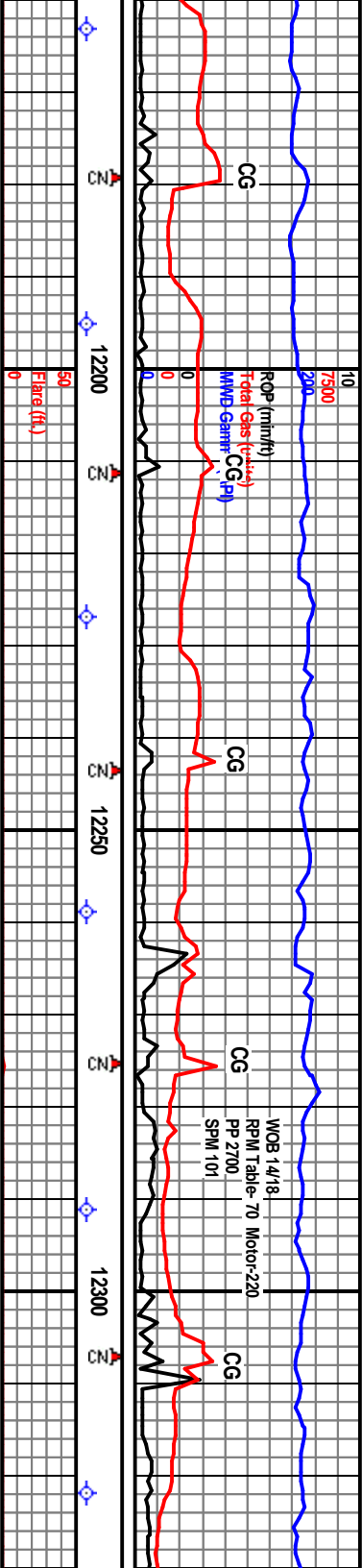
ARG CHK (50%) dk-m gy, gybrn, brt-fm, gry, 10-25% cty / Sh pgs, occ xln Calc, many lp, carb lp, fit petro odor, tr brn sn, sply yel flr, slow-fast string yel cut, mod yel resd ring. CHKY MRLST (25%) m-dkgy gybrn brn, frm, rthy-sbwny, tr Fos frags, occ spy brn sn, spy fit-mod yel flr, slow-fast string cuts. SH (25%), Very Fine Cuttings.

ARG CHK (60%) m-l-dk gy, frm, rthy-gry, 10-20% cty, occ Sh pgs, occ lse xln Calc, tr Calc fld mic fracs, tr-occ patchy-spy brn sn, mod-fit yel flr, fast string yelwh cuts, mod-brt resd ring. MRLST (20%), SH (20%) dkgy, frm-brlyt, gry-rlky, v calc, many lp, carb lp, tr xln Calc fld fracs, NSOF, slow string yel cuts. Very Fine Cuttings.

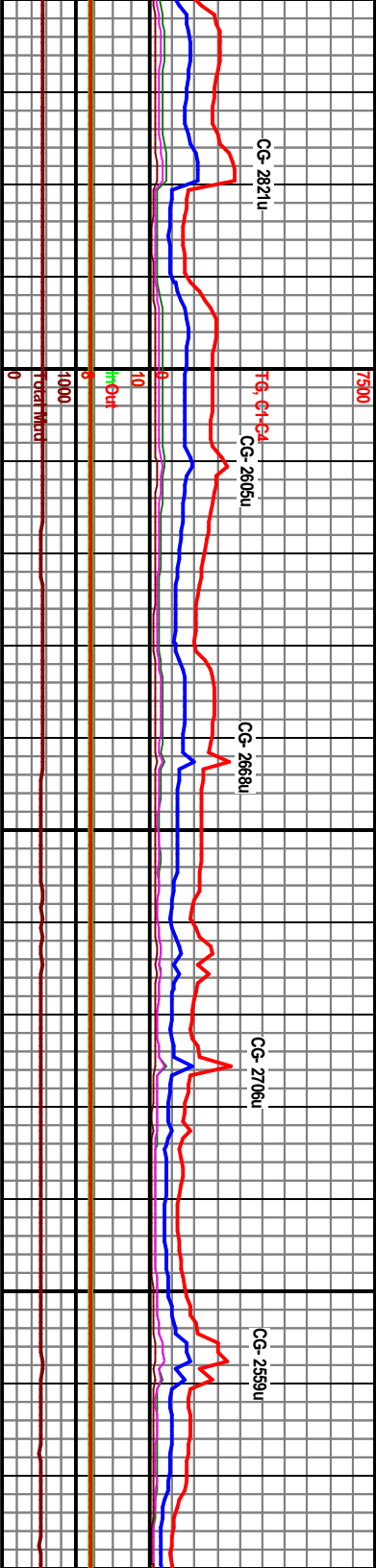
ARG CHK rthy-gry v tan chly tr fit-mod yel SH (40%) c calc-v calc stochy, br

Slight Trace Oil on Shakers

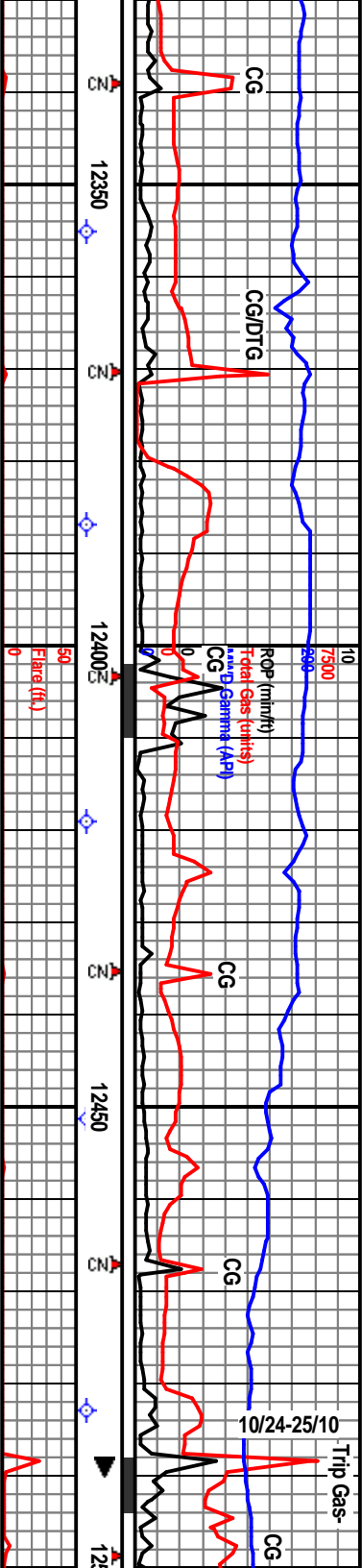




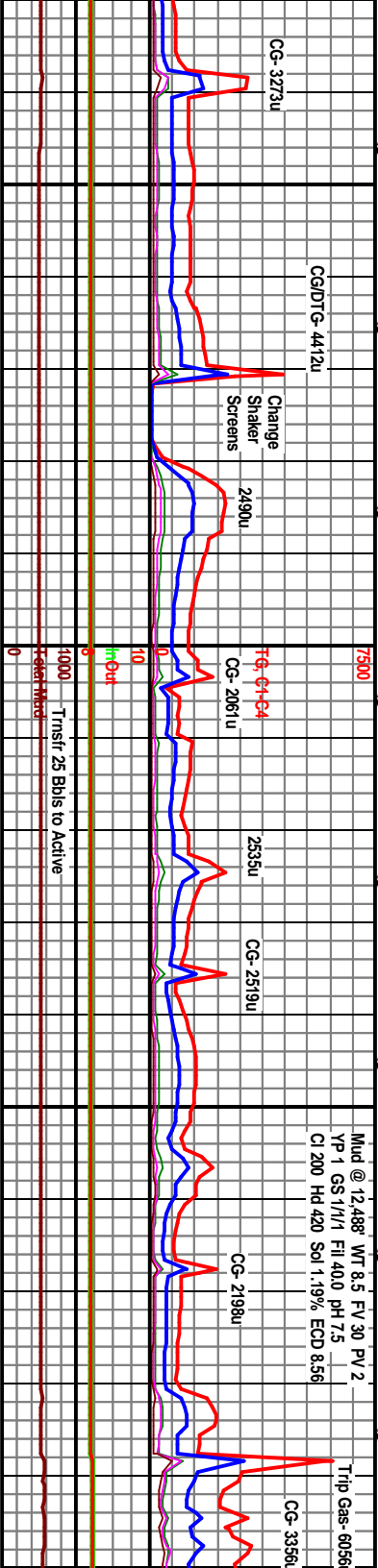
63' MD 90.5° 134.2° 7270.80' 5045.61'	12195' MD Inc 91.0° AZ 134.3° TVD 7270.39' VS 5077.60'	7460 TVD	12227' MD Inc 91.0° AZ 134.7° TVD 7269.83' VS 5109.60'	12259' MD Inc 90.9° AZ 134.3° TVD 7269.30' VS 5141.59'	12291' MD Inc 90.7° AZ 134.2° TVD 7268.85' VS 5173.59'	12322' MD Inc 90.8° AZ 134.2° TVD 7268.44' VS 5204.59'
to 91-92°, Apparent						
(60%) dk-mt gy, gybrn, mot ip, frm- brt-v-frm, incl, 10-25% clay / Sh pfigs com, marly ip / occ crm sil carb ip, frt petro odor, tr spy brn sin, scat flr, slow-fast string yel cut, brt-mod resd ring, dkgy, frm-brt-sft, sbply-sply-sbbly, rthy-grny txl, carb ip, marly ip, BENT (Tr) mgy silv rgy, yel mnt flr.	7300 TVD	ARG CHK (60%) dk-mt gy, gybrn, mot ip, frm- rthy-grny txl, 10-25% clay / Sh pfigs com, marly ip / occ crm tan chky incl, sil carb ip, frt petro odor, tr spy brn sin, scat frt-mod yel flr, slow-fast string yel cut, brt-mod resd ring, SH (40%) dkgy, frm-brt-sft, sbply-sply-sbbly, rthy-grny txl, calc-v-calc, carb ip, marly ip, BENT (Tr) mgy silv lgy, sbchky, brt yel mnt flr. Very Fine Cuttings.	ARG CHK (40%). MARLY CHK (30%) tan gybrn m-dkgy, brt-frm, rthy-sbwy, abnt tan crm chky incl, arg / Sh strgs & pfigs, carb ip, occ xin Calc, occ spy-patchy dkgy sin, spy yel flr, fast string yel cuts, mod yel resd ring. SH (30%). Very Fine Cuttings.	CHK (30%) tan gybrn m-dkgy, brt-frm 5-15% clay, occ lee xin Calc & incl, occ odor, occ patchy brn sin, mod-frt yel ARG CHK (40%) dk-mt gy, gybrn, mnt yel rthy-grny txl, 10-25% clay / Sh strgs & sil carb ip, frt petro scat frt-mod yel flr, slow-fast string ring. SH (30%) dkgy blk, carb. Very F		
Slight Trace Oil on Shakers			Slight Trace Oil on Shakers			

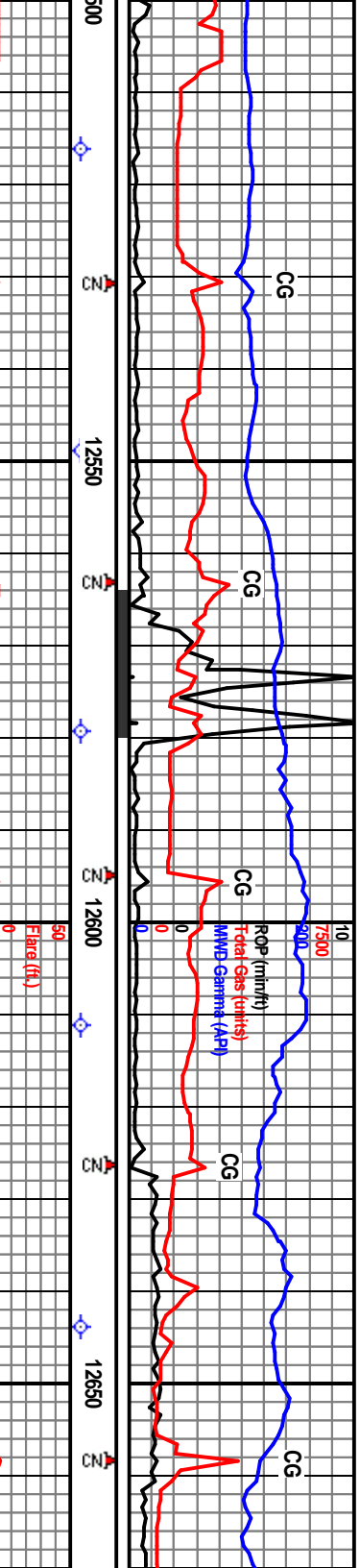




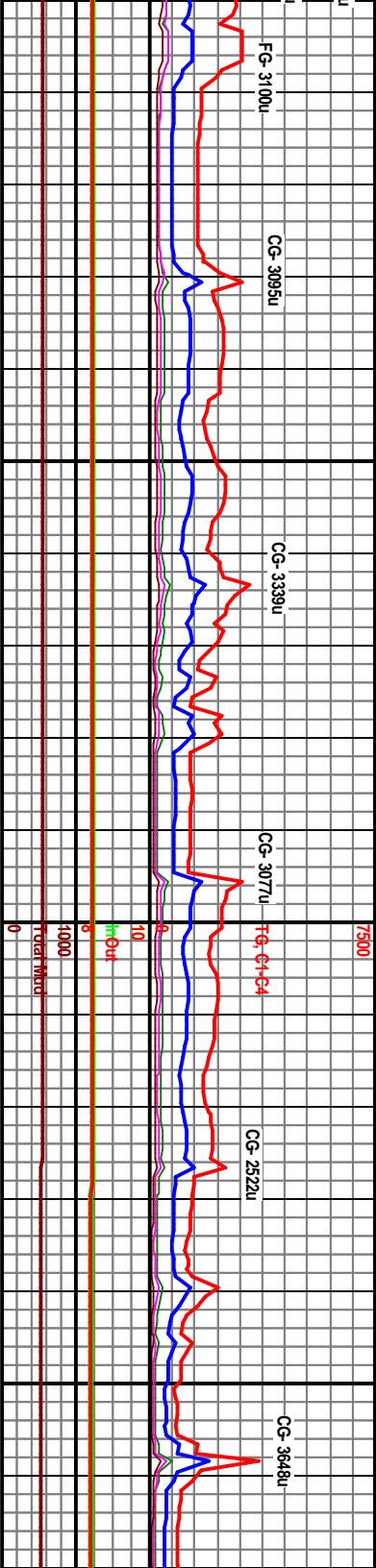


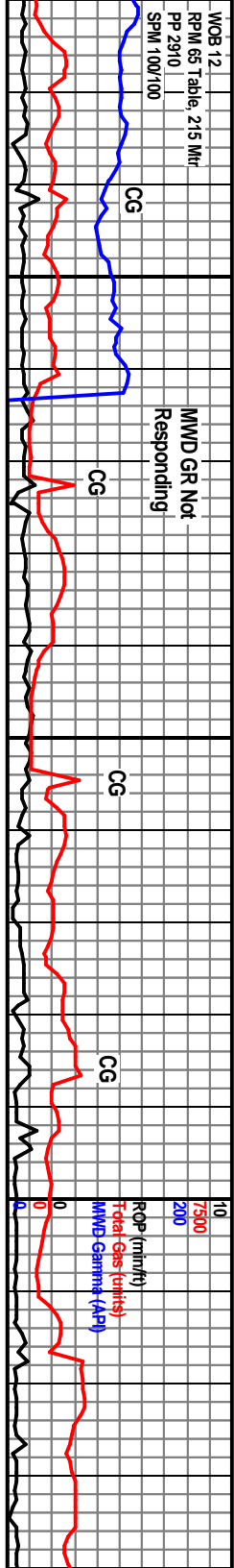
12355' MD Inc 91.0° AZ 134.5° TVD 7267.93' VS 5237.58'	12387' MD Inc 90.8° AZ 133.9° TVD 7267.42' VS 5269.58'	7160 TVD	12419' MD Inc 91.6° AZ 133.3° TVD 7266.75' VS 5301.57'	12451' MD Inc 91.6° AZ 131.8° TVD 7265.86' VS 5333.53'	12483' MD Inc 91.7° AZ 132.3° TVD 7264.94' VS 5365.49'
Mud Motor Failed @ 12488 - 18:00 10/23/10: Circ 3 BU, Pump 50 Bbls 12.2ppg Kill Mud, TOH to 67.49' Pump 60 Bbls. 12.2# Kill Mud, TOH, RR Bit #4, PU New Mud Motor/MMD GR/Directional BHA & TH, Circ. Out Kill Mud, Drill Ahead 04:30 -10/25/10.					
rthy-sbwny- gmy, dkyg stks, fnt petro flr, fast string yel cuts, tt ip, frm-brlv-frm, odors com, maly ip / occ odor, tr spy brn sin, yel cut, brt-mod resd ne Cuttings.	CHK (50%) brngy m-dk-lgy, frm-brlv-frm, bly-sbply, rthy-sbwny-gmy, 5-20% cly, dkyg stks & lams, occ tan crm chky & xln Calc linc, tr-occ lse xln Calc, tr Pyr, tr petro odor, occ spy-pachy dkm sin, mod-fnt yel flr, med string yel cut, mod resd ring, ARG CHK (25%), SH (25%) tr Fos frags. Fine Cuttings.	7300 TVD	CHK (60%) m gy brn, ip mtd w/lt brn spks/lncus, m frm, bly, rthy, tr fnt d y flr, swl mky-sl string yl cut, wk resd ring flr, gds to: ARG CHK (40%) dk gy-v dk brn gy, m frm, bly-sb ply, v argl >20% cly cont, mtc sucx txd, no flr, pr slw mky cut & v wk resd ring flr. Very Fine Cigs (<0.5mm)	ARG CHK (60%) dk gy-v dk brn gy, m frm, bly-sb ply, v argl >20% cly cont, mtc sucx txd, no flr, pr slw mky cut & v wk resd ring flr. CHK (40%) m gy brn, ip mtd w/lt brn spks/lncus, m frm, bly, rthy, tr fnt d y flr, swl mky-sl string yl cut, wk resd ring flr.	
Slight Trace Oil on Shakers					
Slight Trace Oil on Shakers					



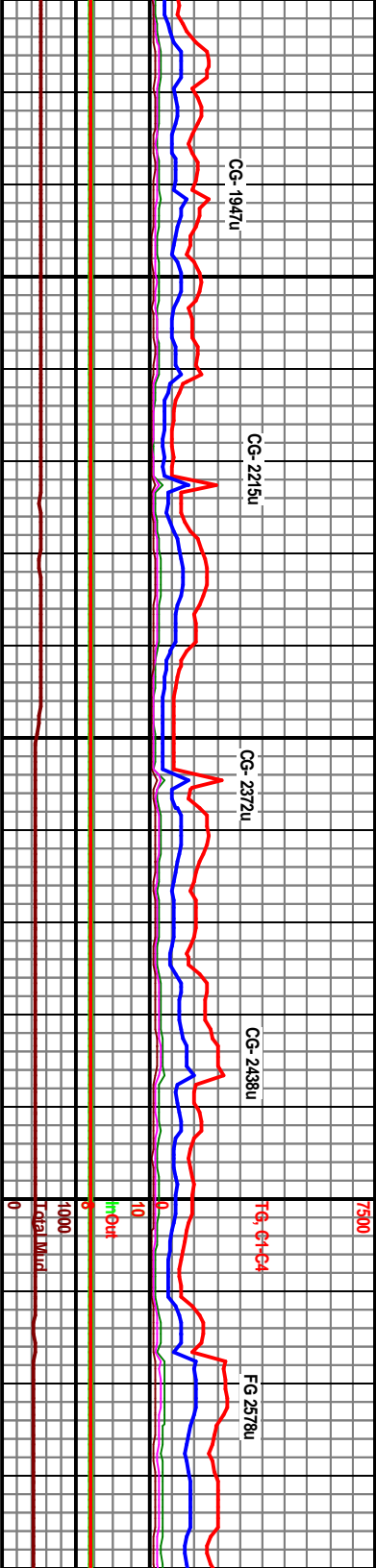


12516' MD Inc 91.3° AZ 132.1° TVD 7264.07' VS 5398.45'	12549' MD Inc 91.5° AZ 131.7° TVD 7263.29' VS 5430.47'		12579' MD Inc 93.0° AZ 133.0° TVD 7262.08' VS 5461.36'	7160 TVD 12611' MD Inc 93.0° AZ 133.5° TVD 7260.40' VS 5493.31'	12644' MD Inc 93.0° AZ 133.5° TVD 7258.67' VS 5526.26'	
Continuing to Build Angle to 92°, Apparent Dip 91.2°.						
Weatherford Gas Buster						
7200 TVD						
7300 TVD						
7360						
Slight Increase in Oil on Shaker						
Poor Oil						

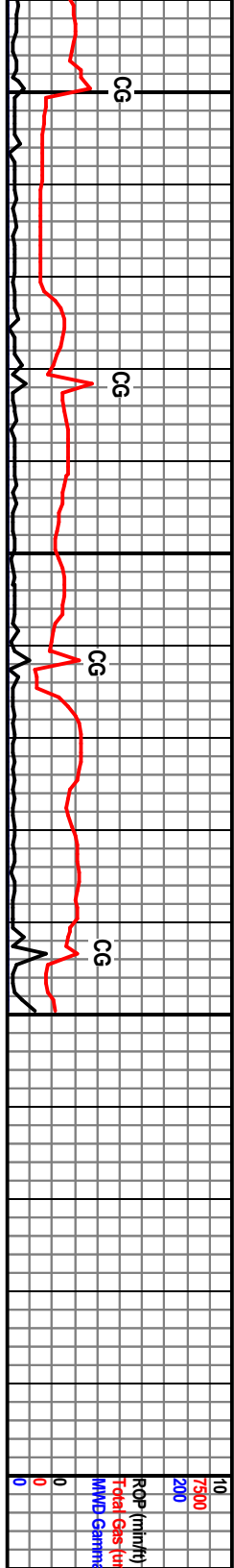




12675' MD Inc 93.0° AZ 132.7° TVD 7257.05' VS 5557.20'	12707' MD Inc 92.9° AZ 133.3° TVD 7255.40' VS 5589.15'	12739' MD Inc 92.7° AZ 132.7° TVD 7253.84' VS 5621.1'	12770' MD Inc 92.5° AZ 133.0° TVD 7252.43' VS 5652.01'	7160 TVD 12802' MD Inc 92.4° AZ 132.6° TVD 7251.07' VS 5684.06' 7200 TVD	12834' MD Inc 92.0° AZ 132.2° TVD 7249.8° VS 5715.97'
tr suc'r w/ even brown str. ARG CHK (50%) dk-v dkgy, blk, thly blk, calc-v calc, sl-v carb, tr string yel cuts. Very Fine	CHK (65%) gybrn, brn, m-lt-dk gy, brlt-frt, rthy-gmly-suc-rgran, Tt-10% cly, sl mainly ip / tr tan crm chky incl, occ dkgy stks & lams, occ xln Calc fld fracs, frt petro odor, spdy-patchy brn stn, frt-mod yel flor, imed string yel cut, brt yel read ring. ARG CHK (35%), Very Fine Cuttings.		CHK (80%) gybrn, tan, lt-m gy, mott, brlt-sft, rthy-mic suc'r, suc-rgran ip, Tt-10% cly, abnt lse xln Calc, occ dkgy stks, tr carb incl, tr petro odor, patchy-even brn stn, frt-mod yel flor, imed fast-slow string yel cut, brt read ring. ARG CHK (20%) dkgy blk, frm-brlt, grny, tr sbvlt, sl-v carb, tr-occ mic Pyr, grdy-carb Sh ip, carb Chk ip, slow-fast string cuts. Extremely Fine Cuttings.	7300 TVD CHK (80%) gybrn, tan, lt-m gy, mott, brlt-sft, rthy suc-rgran ip, Tt-10% cly, abnt lse xln Calc, occ d carb incl, tr petro odor, patchy-even brn stn, frt flor, imed fast-slow string yel cut, brt read ring. (20%) dkgy blk, frm-brlt, grny, tr sbvlt, sl-v carb, Pyr, grdy-carb Sh ip, carb Chk ip, slow-fast strim Extremely Fine Cuttings.	
Skim on Shaker			Poor Oil Skim on Shaker		





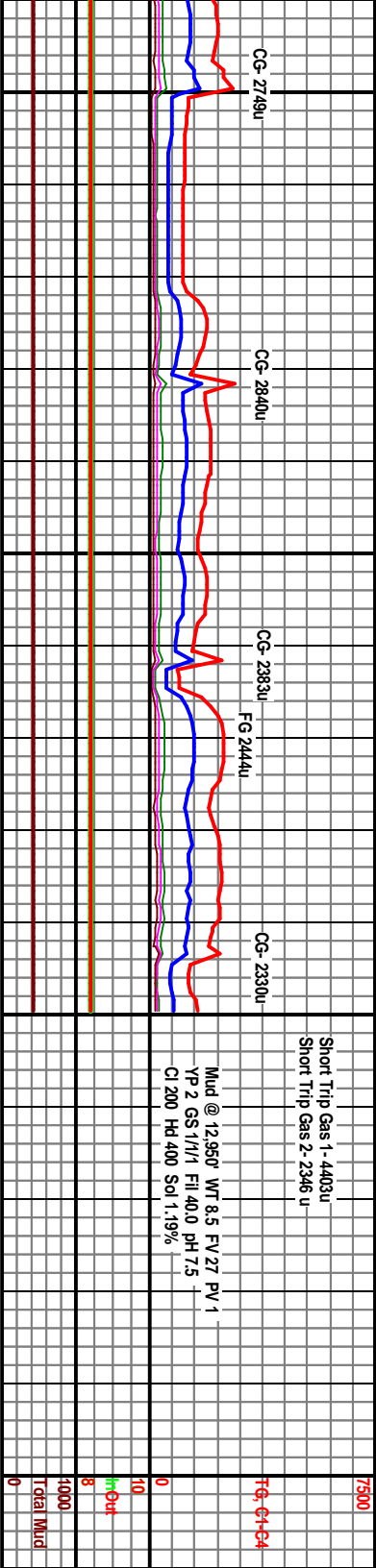


12850 12900 12950

13000

50  
E (ft)  
0

12865' MD Inc 91.6° AZ 132.3° TVD 7248.86' VS 5746.93'	12897' MD Inc 91.6° AZ 131.7° TVD 7247.97' VS 5778.88'	12903' MD Inc 91.4° AZ 131.8° TVD 7247.81' VS 5784.87'	12950' MD Inc 91.4° AZ 131.8° TVD 7246.67' VS 5831.81'	7160' TVD
Projected to TD:				
Reach TD of 12,950' MD @ 1800 Hrs - 10/25/2010 Bit #4 Cut 516 Circ., Short Trip to 10,000', TH (Wash & Ream 12,790'-TD), Circ. 10,018', Circ., TOH, Run 4" Liner & Set Packers, Released 19:00				
-mic sucr, kgy stks, tr mod yel ARG CHK (40%) as before, 5-15% clay, occ xln Calc, fr odor, occ patchy brn str, frt-mod sply yel flor, limed slow-fast string yel cuts, brt red ring. ARG CHK (40%) dk-n-v dkgy, rthy-grry txt, sl-t-mod carb, sl marly lp. SH (20%) dkgy, frm, sdply-sply-freg, mod-v calc, carb lp, occ mic g cuts. Pyr. Extremely Fine Cuttings.				
ARG CHK (60%) v dk gy lp mtlld dk brn gy, frm, blkgy, rthy, >20% clay, lp mic sucr txt; no flor, wk slw mlky cut & wk vl resid ring flor. CHK (40%) m gy brn mtlld tr brn spks & mlams, frm, blkgy, rthy, est <10% clay, mic lamvarved, tr inocer foss frags; tr frac fill Calc, wh, amorp; tr sply dl yl flor, fr slw string cut, brt yl resid ring flor.				
Trace Oil Skim on Shaker				
Trace Oil Skim on Shaker				



Short Trip Gas 1 - 4403u  
Short Trip Gas 2 - 2346 u

Mud @ 12,950' WT 8.5 FV 27 PV 1  
YP 2 GS 1/1/1 Fil 40.0 pH 7.5  
Cl 200 Hd 400 Sol 1.19%

7500  
7360  
8  
10  
1000  
Total Mud  
0

HS)  
(AP)

13

5 in 86.5 Hrs.,  
Short Trip to  
10/28/10.

ank You!

Mike Dodge and  
Robert Nordeck

oolsby Brothers &  
Associates, Inc.