



Scale 1:240 Imperial

Well Name: Robinson 1-22  
Surface Location: 633 FSL 1365 FWL 22-28S8W  
Bottom Location: NW SW SE SW  
API: 15-095-22307-00-00  
License Number: 5004  
Spud Date: 3/6/2017 Time: 6:00 PM  
Region: So Cen KS  
Drilling Completed: 3/16/2017 Time: 8:38 AM  
Surface Coordinates: 603' FSL & 1315' FWL  
Bottom Hole Coordinates:  
Ground Elevation: 1622.00ft  
K.B. Elevation: 1630.00ft  
Logged Interval: 1300.00ft To: 4565.00ft  
Total Depth: 4565.00ft  
Formation: Mississippian  
Drilling Fluid Type: Chemical

#### OPERATOR

Company: Vincent Oil Corporation  
Address: 200 W Douglas Ave  
Ste 725  
Wichita, KS 67202  
Contact Geologist: Dick Jordan  
Contact Phone Nbr: 3162623573  
Well Name: Robinson 1-22  
Location: 633 FSL 1365 FWL 22-28S8W API: 15-095-22307-00-00  
Pool: Developmental Field: Garlisch West  
State: KS Country: USA

#### LOGGED BY

Company: Vincent Oil Corporation  
Address: 200 W Douglas Av  
Ste 725  
Wichita KS 67202  
Phone Nbr: 3162623573  
Logged By: Geologist Name: Tom Dudgeon

#### CONTRACTOR

Contractor: Duke Drilling Co. Inc.  
Rig #: 8  
Rig Type: Rotary  
Spud Date: 3/6/2017 Time: 6:00 PM  
TD Date: 3/16/2017 Time: 8:38 AM  
Rig Release: 3/17/2017 Time: 8:45 AM

#### SURFACE CO-ORDINATES

Well Type: Vertical  
Longitude: 08 1855271  
Latitude: 37 5006454

Longitude: -96.1855271  
 N/S Co-ord: 603' FSL  
 E/W Co-ord: 1315' FWL

Latitude: 37.5906434

### ELEVATIONS

K.B. Elevation: 1630.00ft      Ground Elevation: 1622.00ft  
 K.B. to Ground: 8.00ft

### TOTAL DEPTH

Measurement Type:	Measurement Depth:	TVD:
RTD	4565.00	4568.00
LTD	4568.00	4568.00

### DRILLING FLUID SUMMARY

Type	Date	From Depth	To Depth
Chemical Mud	3/10/2017	3024.00ft	4565.00ft

### CASING SUMMARY

	Surface	Intermediate	Main		
Bit Size	12.25 in		7.88 in		
Hole Size	12.25 in		7.88 in		
	Size	Set At	Type	# of Joints	Drilled Out At
Surf Casing	8.625 in	291 ft	23#	7	3/7/2017 12:00 PM
Int Casing					
Prod Casing	4.5 in	4227 ft	10.5#	99	

### CASING SEQUENCE

Type	Hole Size	Casing Size	At
Surface	12.25 in	8.63	291.00 ft
Production	7.78 in	4.50	4227.00 ft

### OPEN HOLE LOGS

Logging Company: ELI Wireline  
 Logging Engineer: Jeff Luebbers  
 Truck #: 922339  
 Logging Date: 3/16/2017      Time Spent: 6  
 # Logs Run: 4      # Logs Run Successful: 4

### LOGS RUN

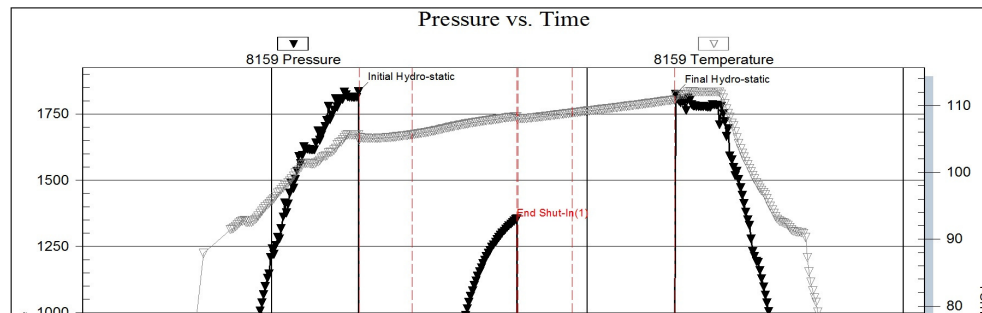
Tool	Logged Interval	Logged Interval	Hours	Remarks	Run #
DI	0.00ft	4568.00ft	3.00		1
NDE/NEU/PE	3100.00ft	4568.00ft	3.00		1
Micro	3100.00ft	4568.00ft	3.00		2
Sonic	0.00ft	4568.00ft	3.00		2

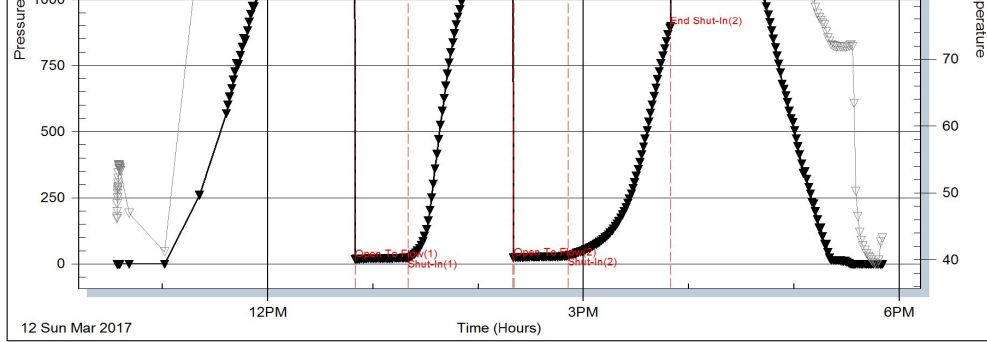
### LOGGING OPERATION SUMMARY

Date	From	To	Description Of Operation
3/7/2017	0.00ft	4568.00ft	Logs ran successfully

### DST #1

Serial #: 8159      Inside      Vincent Oil Corporation      Robinson #1-22      DST Test Number: 1





Trilobe Testing, Inc

Ref. No: 59926

Printed: 2017.03.16 @ 09:51:09

### DST #2

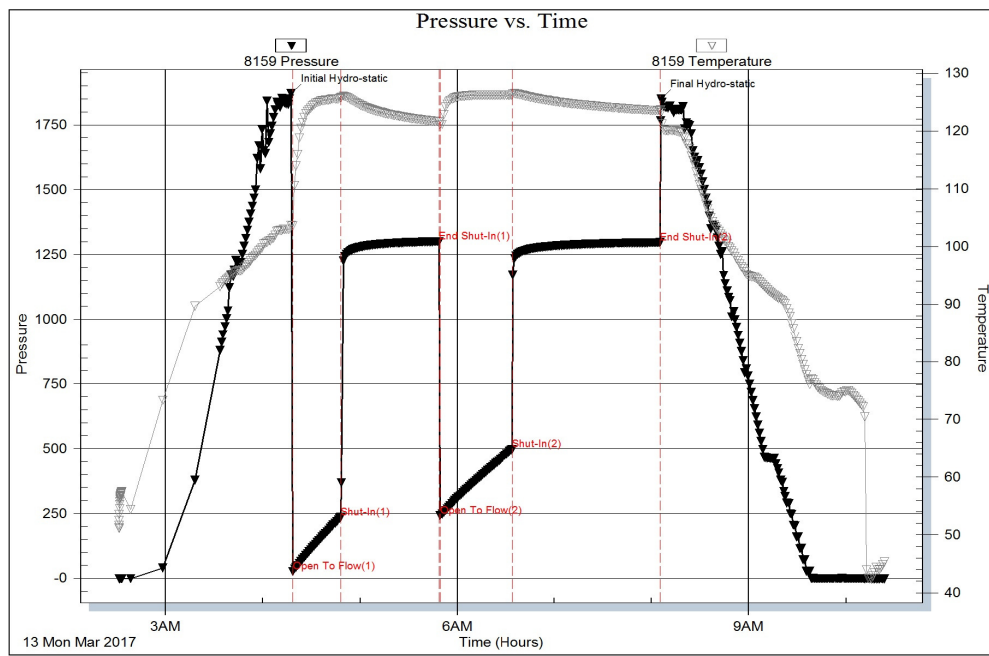
Serial #: 8159

Inside

Vincent Oil Corporation

Robinson #1-22

DST Test Number: 2



Trilobe Testing, Inc

Ref. No: 59927

Printed: 2017.03.16 @ 09:50:19

### DST #3

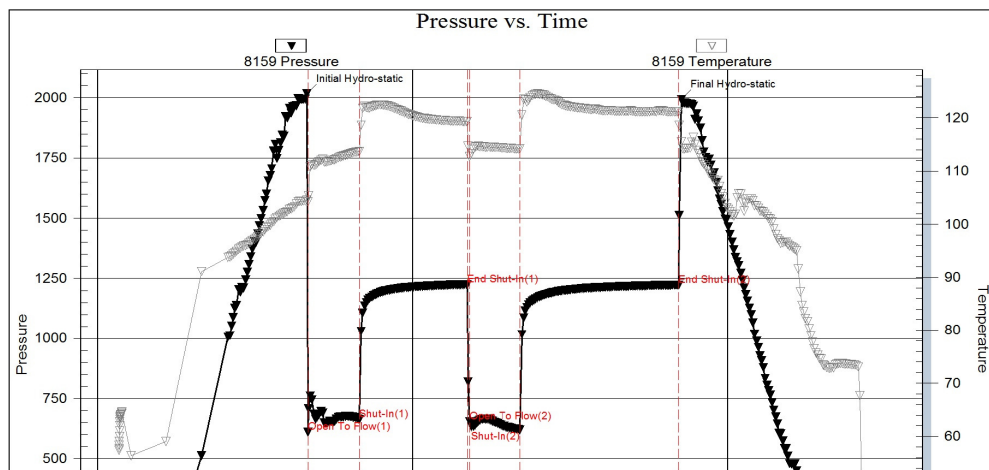
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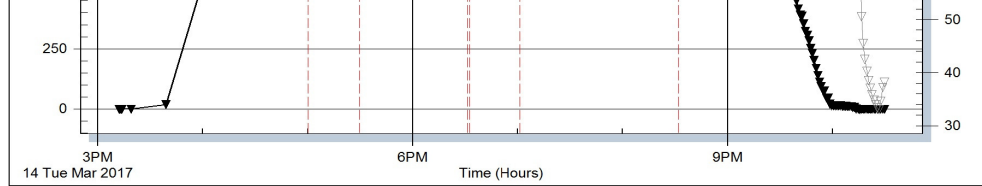
Inside

Vincent Oil Corporation

Robinson #1-22

DST Test Number: 3





Triobite Testing, Inc

Ref. No: 59928

Printed: 2017.03.16 @ 10:03:18

### NOTES

TOP	DEPTH	DATUM	STRUCT. +/-
Robinson 1-22 Tops			
Key well: Simmons 2-22, S2 SE SE 2-28-8W			
B/Flor	1709	-79	-20
Cottnwd	1913	-283	-26
Onaga	2237	-607	-25
Wab	2283	-653	-19
Stotler	2431	-801	-17
Topeka	2802	-1172	-6
Heebner	3184	-1554	-7
Brn Ln	3396	-1766	-8
Lans	3410	-1780	-6
Stark	3750	-2120	-5
Swope	3760	-2130	-2
Hush	3789	-2159	-4
Hertha	3797	-2167	-2
Cher	3989	-2359	-6
Miss	4078	-2448	-3
Miss Lm	4150	-2520	4
Kind	4264	-2634	1
Viola	4427	-2797	-10
Simp Sd	4469	-2839	-10

### ROCK TYPES

	Cht		Dolsec		Ss		Shcol
	Coal		Gyp		Shgy		Shblk
	Congl		Lmst fw<7				

### ACCESSORIES

#### MINERAL

- ⊥ Calcareous
- Carbonaceous Flakes
- ▲ Chert, dark
- ∞ Glauconite
- ∟ Gypsiferous
- Heavy, dark minerals
- × Mineral Crystals
- P Pyrite
- ▣ Salt Cast or Infill
- Sandy
- Silty
- △ Chert White

#### FOSSIL

- ∩ Coral
- ⊙ Crinoids
- ∞ Foraminifera
- F Fossils < 20%
- ⊕ Oolite

#### STRINGER

- Sandstone

#### TEXTURE

- C Chalky
- e Earthy
- FX Finexin

### OTHER SYMBOLS

#### POROSITY TYPE

- × Intercrystalline
- ⊕ Interoolitic
- V Vuggy
- P Pinpoint
- ∟ Moldic

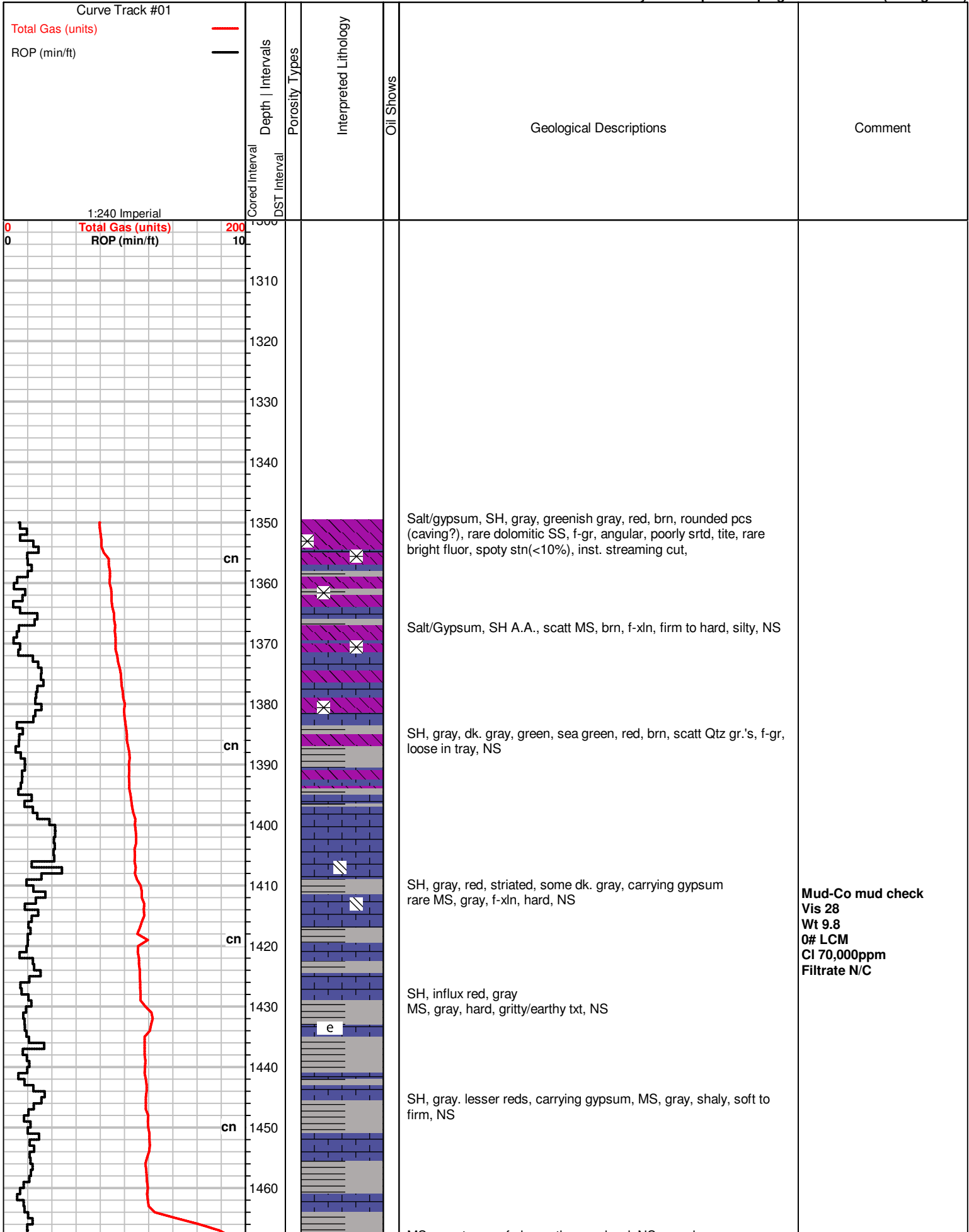
#### OIL SHOWS

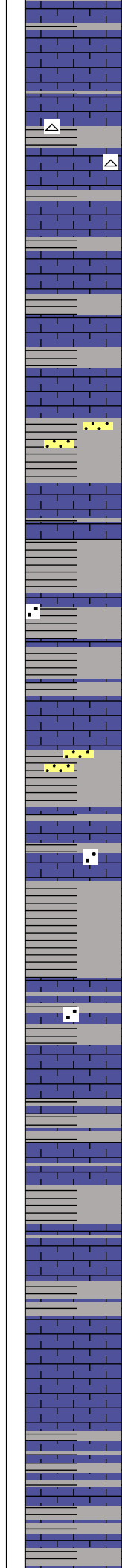
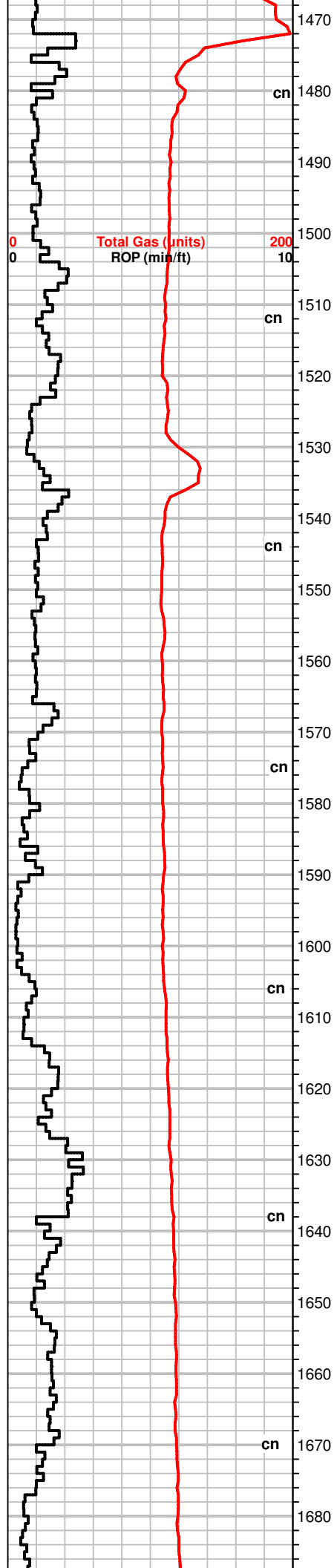
- Even Stn
- Spotted Stn 50 - 75 %
- Spotted Stn 25 - 50 %
- Spotted Stn 1 - 25 %
- Questionable Stn

#### INTERVALS

- Core
- DST

- Q Questionable Stn
- O Organic
- F Fracture
- e Earthy
- Fenestral
- D Dead Oil Stn
- Fluorescence





MS, gray to crm, f-xln, earthy pcs, hard, NS, no odor  
scatt SH, grays, scatt red, dec. amt.

MS-WS, crm to lt. gray, f-xln, gritty txt, chalky to shaly pcs, firm,  
rare dull fluor, NS, Chert, opaque  
SH, gray, red, rare green

MS, crm to off white, f-xln, chalky  
SH, red, green, gray

SH, dk. gray, gray, red, scatt SS clusters, f-gr, rnded, sorted, rare  
gray MS, A.A.

SH, grays, sea green, red  
MS-WS, gray, f-xln, frim, NS, dull fluor scatt

Influx SH, red, some gray, brn, sandy, some Qtz grs, rnded, t to m-  
gr.

SH, A.A., lesser red, scatt WS, crm, f-xln, friable, sandy pcs,  
gypsum xtals

MS-WS, crm, f-xln, some pcs m-xln, gritty txt, soft, NS  
SH, gray, scatt red, some silty pcs

SH, red, grays, sea green  
rare MS, gray, vf-xln, firm, NS

SH, gray, red, green  
MS, crm, f-xln, earthy, NS

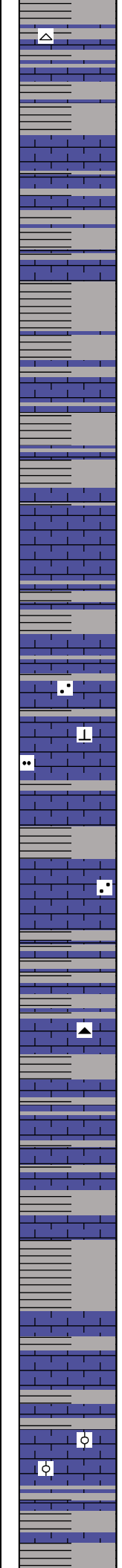
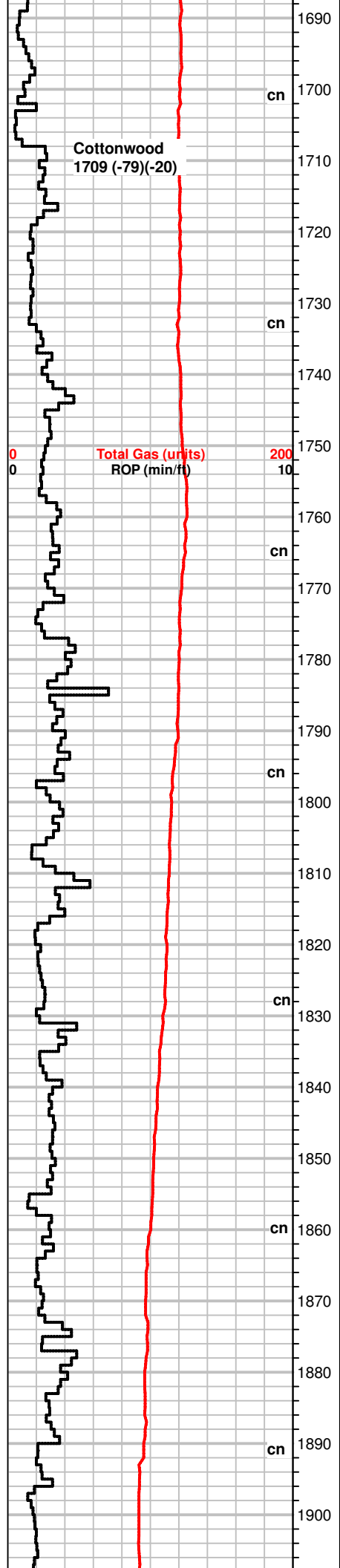
SH, gray, green, lesser red pcs

SH, A.A.

+98 UGK

1512' Air out Mud Pump

+20 UGK



SH, A.A.  
MS-WS, crm, mic to f-xln, hard to firm, scatt moldic pcs, oolitic pcs rare, NS, rare Chert, opaque

MS, crm to lt. gray, f-xln, gritty txt, soft, NS  
SH, gray, red

SH, grays, pyrite, sea green, carry mostly SH and some gypsum.

SH, gray to green, red, silty  
rare MS, gray, f-xln, silty in part, soft to firm, NS

MS-WS, lt. gray, vf-gr gritty txt, micro oolitic  
SH, green, gray, washed red

SH, gray, dk. gray(influx of gray pcs), WS, off white to gray, mic-xln, sandy to silty, calcitic cement in pcs, fossilif., NS

SH, grays, greenish gray, some shaly MS, gray, gritty txt, NS

SH, grays, green, red,  
MS, gray, vf-xln, silty/shaly, NS, Chert, blk

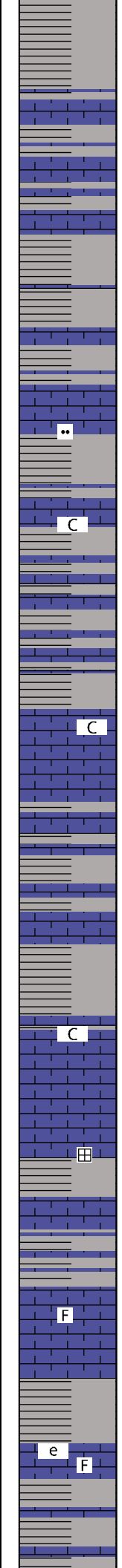
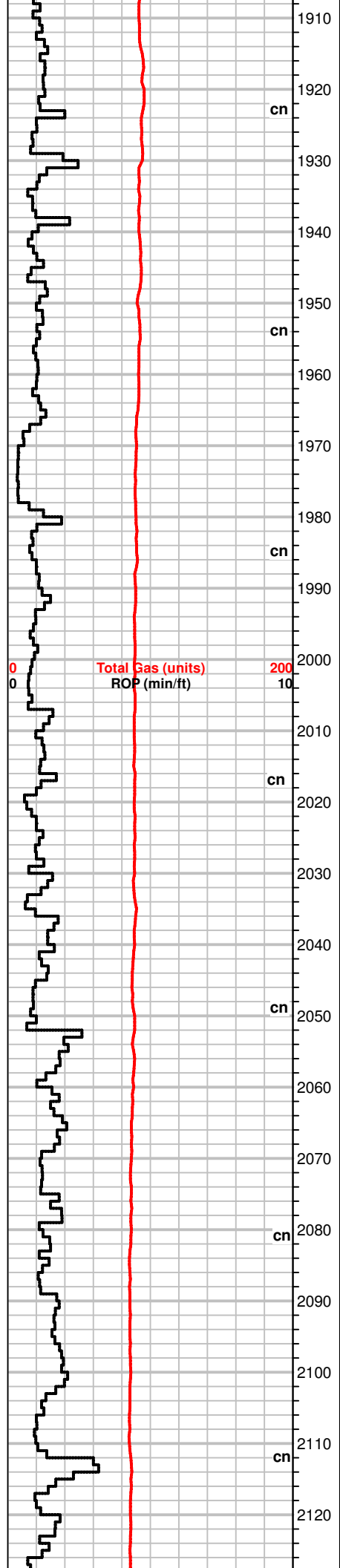
SH, red, gray, dk. gray, green/red pcs scatt.  
MS, crm to brn, f-xln, silty/shaly pcs(poor sample rep.)

SH, grays, brick red(influx), rare yellow pcs, some limey  
MS, crm to tan, f-xln, chalky, firm, NS

WS, crm to off white, f-xln, micro to f-n gr oolitic, soft, dull fluor, NS  
SH, grays, red

Flood SH. lt. gray to gray, greenish gray, red

**Jet Suction**



MS-WS, lt. gray to off white, f-xln, sli. chalky, soft, dull fluor, NS  
scatt SH, A.A.

SH, grays

SH, gray, red  
MS, crm to lt. gray, f-xln, gritty, chalky to shaly pcs, NS

MS, crm to lt. gray, f-xln, silty to gritty txt, chalky in part, lesser SH,  
gray to red, gypsum

SH, gray, some pcs limey, rare MS, crm, f-xln, chalky, soft, NS

MS, crm, f-xln, chalky A.A., dull fluor, NS  
SH, brick red, lesser grays

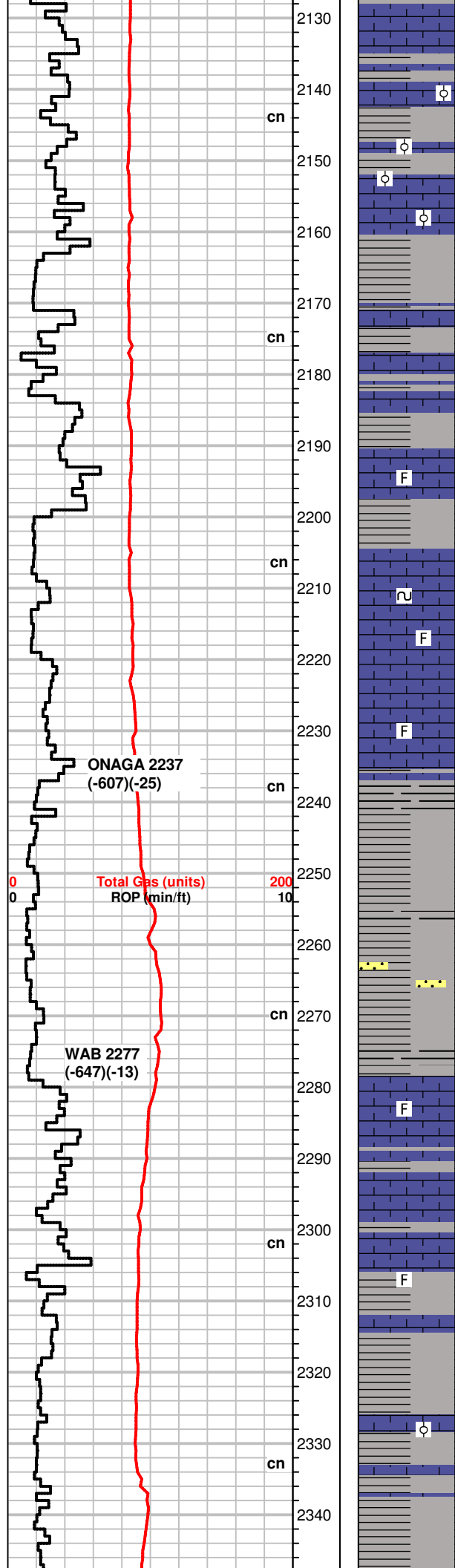
MS-WS, crm to off white, f-xln, dense, to soft, chalky pcs scatt.,  
some fossilif., NS

SH, gray, green, brn, carrying gypsum casts  
MS, crm to lt. brn, vf-xln, grittys, some silty pcs, soft, NS

MS-WS, crm to lt. brn, vf-xln, dense, hard, fossilif., silty pcs, brittle  
in part, NS

SH, gray, dk. gray, scatt MS, crm to tan, vf-xln, chalky to earthy  
pcs, some hard, fossilif., NS





SH, red, grays,  
lesser MS, A.A.

MS-WS, crm to off white, f-xln, chalky to f-gr oolitic/moldic pcs,  
fossilif, soft, dull fluor, NS  
SH, grays, lt to dk., green, red

SH, dk. gray to blueish gray, brick red, sea green  
MS, crm, shaly to chalky, soft, NS

SH, gray, brn, green  
MS, off white to gray, f-xln, firm to hard, chalky, fossilif. pcs, dull  
fluor, NS

SH, gray, green, red, sandy, pyrite  
rare MS, lt. brn to lt. gray, f-xln, firm, fossils, glauc, NS

MS, off white to tan, f-xln, some chalky, dense to soft pcs, rare  
massive brn, hard, glauc, fossils, NS  
SH, gray, dk. gray, brn, red

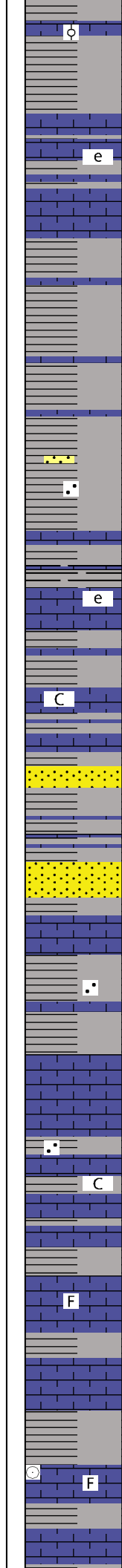
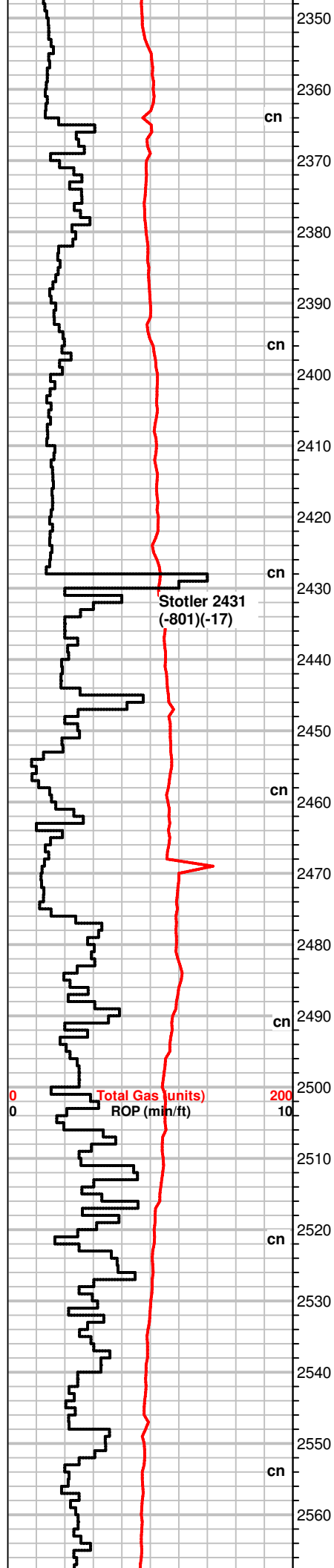
SH, gray, red

SH, gray, red, green, rare SS clusters, gray to green, f-gr, sorted,  
sub rnded, mineral specs, silty to shaly, NS

MS-WS, crm to tan, f-xln, firm, fossilif., silty, NS

SH, A.A., rare MS, tan, f-xln, frim, fossils, NS

MS, crm to off white, chalky to f-xln, NS  
SH, gray, inc in red pcs



MS, A.A., some WS, partially cherty, fossilif, m-gr oolitic in dense matrix  
SH, gray, brn, red

SH, gray, brn, red, silty pcs, mineral specs, carb. pcs  
rare MS, tan, f-xln, firm, waxy to earthy txt, NS

SH, dk gray to lt. gray, scatt red, silty  
rare MS, gray, silty, hard, NS

SH, grays, green, A.A., scat MS pcs, tan to crm, f-xln, firm, fossilif.,  
some pcs chalky, soft.  
rare SS clusters, opaque, vf-gr, sorted, sub rnded, tightly packed,  
NS

SH, grays, rare MS, crm to tan, earthy to chalky pcs, fossils rare,  
NS

SH, gray to red  
MS, crm to tan, A.A., fossilif to chalky pcs, soft, dull fluor, NS  
rare SS clusters and loose Qtz grs, f to co-gr frgmts, sub angular,  
poorly sorted, NS

MS, crm, to tan, f-xln, chalky to earthy in part. some f-xln, SH, red,  
gray, sea green  
rare (3) SS clusters, poorly sorted, f to co-gr., sub angular, tite, no  
odor, NS

SH, dk. gray to green, some red, most look like cavings  
rare MS, crm to tan, some off white, f-xln, chalky in part, firm, dull  
fluor, NS, rare Qtz gr's A.A., NS

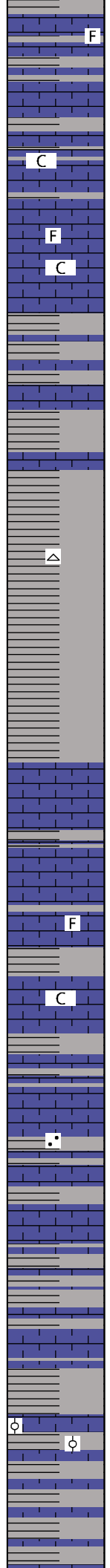
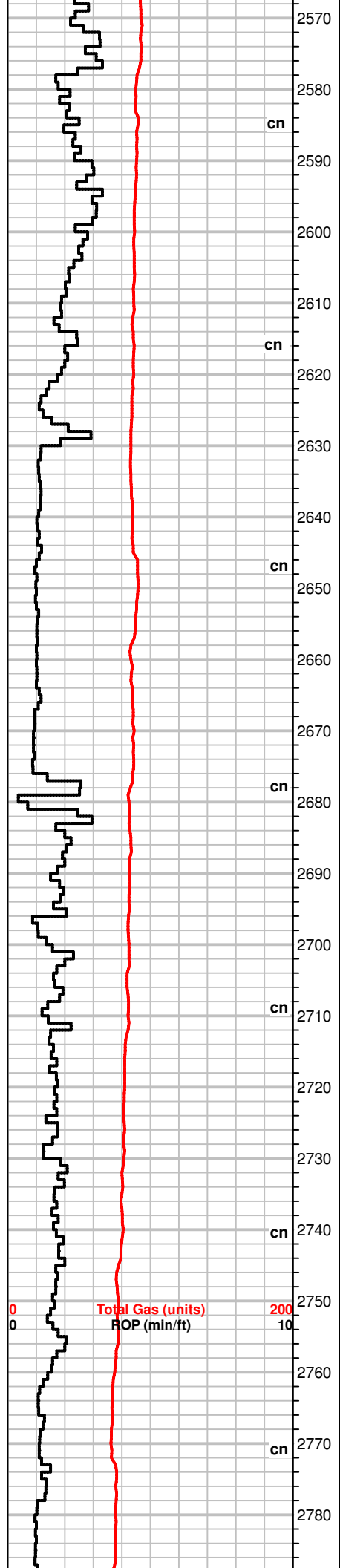
SH, grays, green, brn, brick red, MS, crm to off wht, f-xln,  
waxy/chalky pcs, firm, sandy txt, dull fluor, NS

MS, crm to brn, chalky, f-xln, scatt fossils, firm, friable, some  
mottled pcs  
SH, dk. gray gray, red

SH, A.A., silty to sandy, scatt red  
MS-WS, crm to brn, f-xln to chalky txt, fossils(crinoids, fulsilinids),  
dull fluor, NS

Mud-Co mud check  
Vis 31  
Wt 9.2  
0# LCM  
Cl 23,000ppm  
Filtrate N/C

+30 UGK



SH, grays, lt. to dk. gray, green, some silty to striated  
MS-WS, crm to tan, gray, A.A., lesser fossils, mostly chalky.

MS, crm to tan, some gray, f-xln, firm, chalky pcs, shaly, dull fluor, NS  
SH, grays to dk. gray, scatt green red

MS, off white to crm, f-xln, firm to hard, some fossilif, chalky pcs, most featureless(earthy), NS, scatt SH, green, gray

SH, dk. gray, grays, rare to scatt MS-WS, crm to tan, f-xln, fossilif, sli. chalky, firm, NS

SH, A.A., some red, scatt MS-WS, crm to crm, f-xln, fossil frgmts, scatt Chert frgmts, crm to white

SH, dk. gray, gray, scatt green  
MS, crm to off white, chalky to r-xln, firm, scatt fossils, some waxy looking pcs.

SH, grays  
MS, crm, f-xln to massive txt, firm, friable pcs, NS

MS-WS, crm to gray, f-xln, firm, some pcs mottled, silty to chalky, scatt fossils, NS  
SH, dk gray to gray.

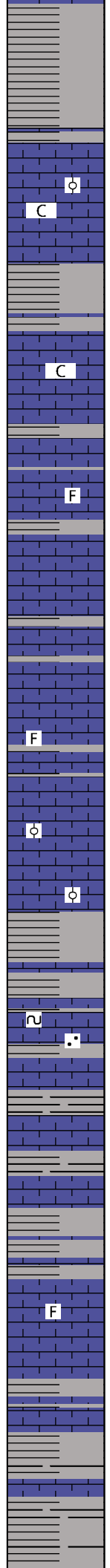
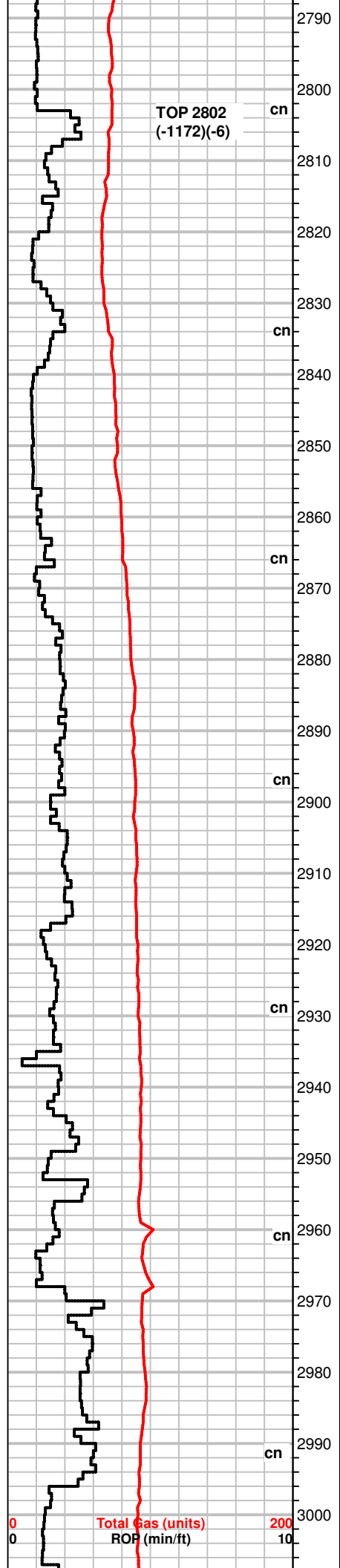
MS, gray, f-xln, soft, chalky matrix, NS  
SH, dk. gray to brn, some silty to partly sandy

SH, lt. grays, to scatt dk gray.  
rare MS, A.A., NS

SH, gray to dk. gray, scatt red and green(cave?)  
MS, brn to gray, shaly/silty, f-xln, soft to firm, scatt fossils/oolitic

**Dump and Clean pit #1**

**Air out pump**



SH, red, gray, green  
scatt MS, A.A.

SH dk. grays  
MS-WS, crm to lt. tan, f-xln, firm, scatt fossils, chalky matrix, NS

SH, dk. gray to gray  
lesser MS, A.A., chalky(mostly) to f-xln, hard, NS

MS, crm, f-xln, scatt fossils, soft pcs(friable), dull fluor, NS  
SH, gray, brn, red

SH, dk. gray, gray  
lesser MS, A.A.

MS-WS, crm to gray, most f-xln, firm to soft, chalky matrix, rare mottled pcs, NS  
SH, lt. grays, scatt dk. gray

MS-WS, A.A., crm to gray, f-xln, chalky pcs, rare mottled, fossilif., dull fluor, NS  
SH, grays, red

SH, gray,(most lt. gray), sandy, hard pcs  
MS, crm f to m-xln, gritty micro oolitic pcs, partly sandy, fossils, glauc specs, NS

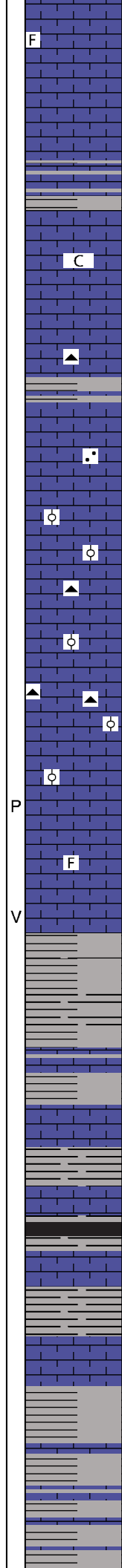
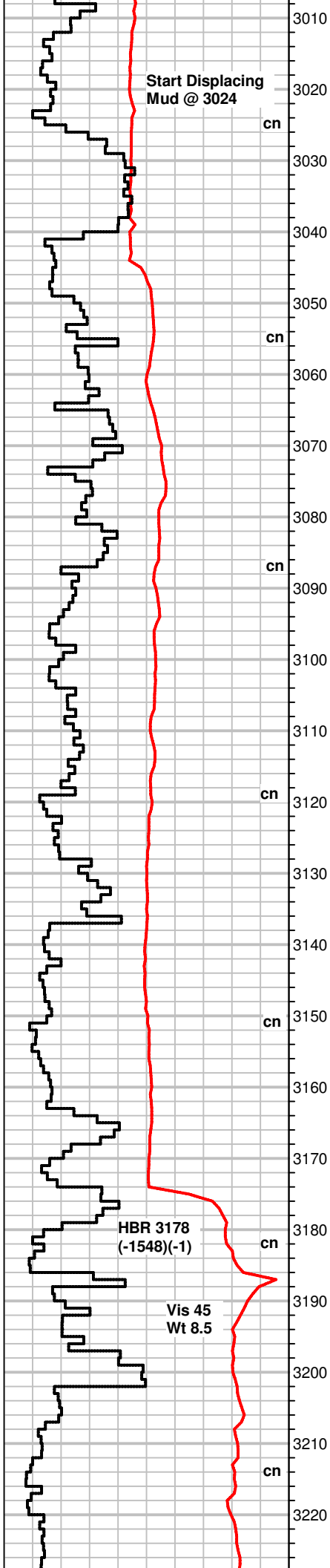
SH, gray, silty, dk. gray to rare blk pcs, rare MS, tan, f-xln, fossilif pcs, chalky in part

SH, red, gray  
Inc in MS, crm to tan, f-xln, firm, chalky, fossilif. pcs, NS

MS, A.A., sandy pcs scatt  
some SH, grays, rare pyrite

SH, gray to green, scatt dk. gray

tight conn @ 2803



MS, off white to crm, f-xln to chalky, fossils, dull fluor, NS

Inc in SH, dk. gray to gray, some sea green pcs  
MS, A.A.

MS, crm to off white, chlky, some f-xln, massive, txt, frim, NS

MS, AA, suboolitic, chalky, mtrx, scatt Chert frgmts, rare SH, drk gray

MS-WS, crm to off white, rare gray, gray/gritty pcs, some dense, fossilif., rare dull fluor, NS,

MS-WS, crm to tan, f-xln, hard to dense, sub oolitic to m-gr oolitic pcs, dense matrix, NS

MS-WS, A.A., inc in gray pcs, some mottled, Chert frgmts, fossilif.

MS-WS, crm to lt. brn, scatt off white, f-xln to chalky, soft to dense/hard pcs, Chert, crm, gray, fossils, rare SH, gray, silty

MS-WS, crm to rare gray/brn, f-xln to chalky, most sub oolitic sandy, dnese, brn pcs, scatt fossils, NS

MS-WS, crm to gray, most A.A., scatt silty pcs, most sub oolitic or fossilif., NS  
rare SH, dk. gray (carrying?)

MS- WS crm to lt gray, vf-xln, dense, oolitic, fossilif, chalky txt, hard, rare spotty edge stn in dry, rare SH, gray

SH dk grays, MS- WS. crm to off wht, f-xln, pcs sandy, friable, chalky, ( most pcs) soft, some brn, massive , dense, scatt fossils

MS-WS, A.A. SH, drk gray, green silty

MS-WS, A.A., inc SH, sea green, dk. gray

SH, blk, dk. gray, carb., gassy

SH, blk, dk. gray, carb., scatt gassy pcs

SH, blk, gray, carb  
MS-WS, crm to brn, f-xln, dense to friable pcs, fossils, chert frgmts

SH, blk, dk. gray  
scatt MS-WS, A.A., NS

SH, dk. gray, gray, scatt green  
MS-WS, crm to brn, some gray, f-xln, some chalky, dense, firm to hard, brittle, scatt mic-xln, some fossilif. pcs, rare Chert, frgmts, dull fluor, NS

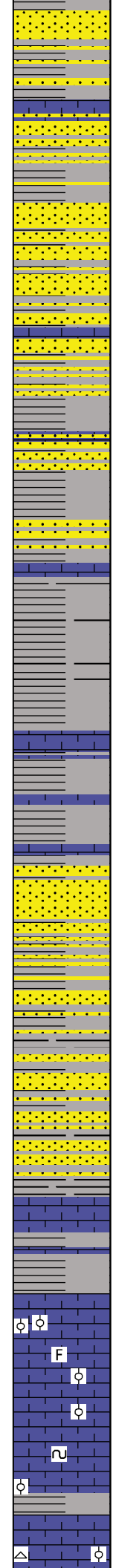
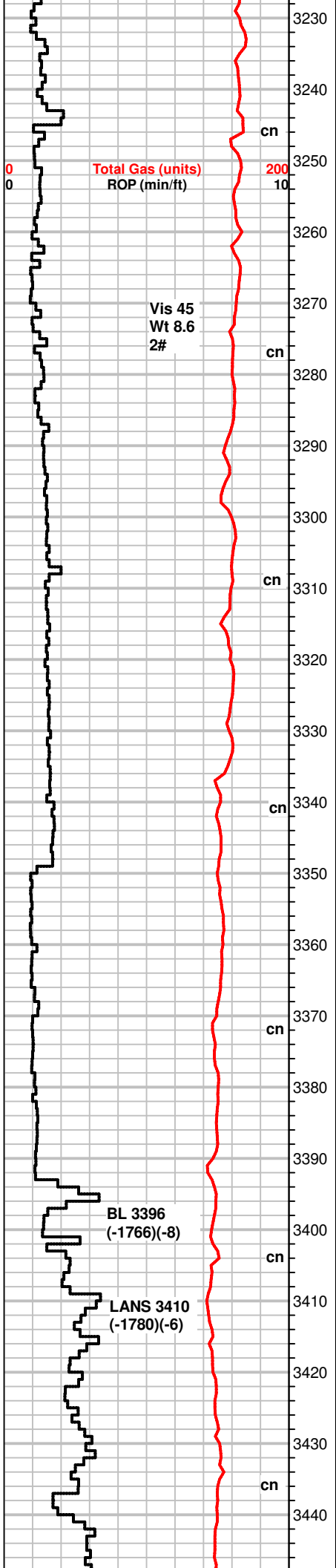
Scatt MS-WS, crm to lt. gray, some brn, f-xln, mottled pcs, dense looking but most w/ chalky soft mtrx, fossils, some sandy, brittle, NS

Down for 1.5 hrs, mud problems(air in the mud system)

Mud-Co Check  
Vis 42  
Wt 8.8  
2# LCM  
Cl 5,000ppm  
Filtrate 8.8

Air out trash pump

Rig check



SH, blk, dk. gray, some SS clusters, wht, vf-gr, sorted, sub rnd-ang, firm, mineral specs, NS

SH, grays, SS clusters, A.A.

SS clusters, white, worted, sub ang to sub rnd, shaly pcs, tite, mineral specs, NS

SS, gray to grn, vf-gn, sorted, sub rned, tite, shaly in part, SH, grays

SH, grays, dk. gray, SS clusters, A.A.,

Sh, dk. gray, gray, scatt SS, A.A., dec. amt.

SH, gray, carb., SS, wht to gray, vf-gr, sorted, sub rnd, mineral specs, NS

SS, A.A., some pcs limey, SH, gray, rare MS, crm to brn, f-xln, sandy/shaly in part, mottled, fossils, NS

SH, dk. gray to gray

inc in SH, grays

SH, gray, dk. gray  
MS, crm, f-xln, chalky, soft to dense pcs, sandy in part NS

SH, gray, rare dk. gray, SS clusters, wht to gray, vf-gr. sorted, tite, sub ang. mineral specs, NS

SH, grays, scatt SS, gray, vf-fr, A.A.,

SH, gray, sandy to silty, scatt to rare SS clusters, A.A.

SH, dk. gray to gray, scatt sandy to silty pcs, sli. carb., SS clusters A.A.

SS clusters, A.A., SH, gray, rare dk. gray

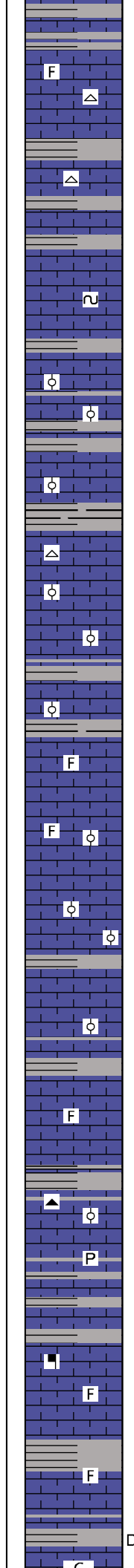
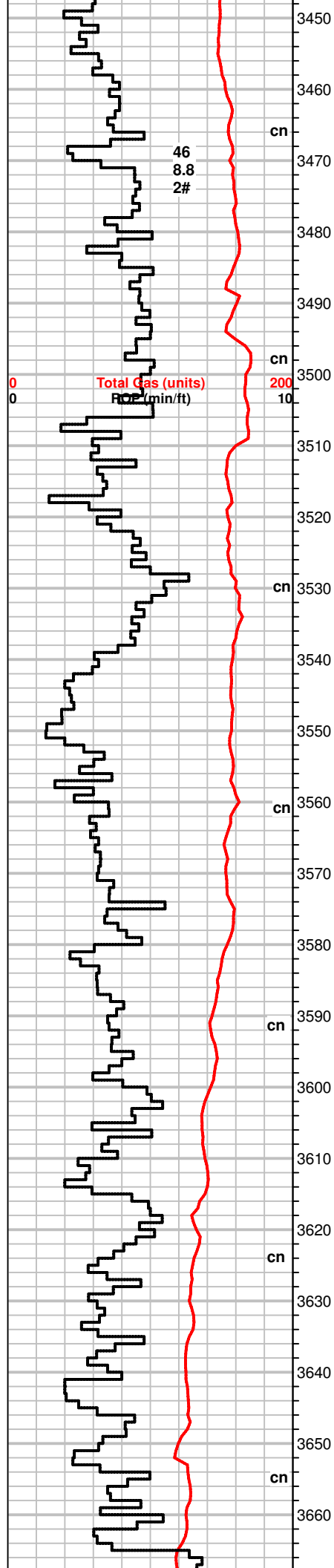
MS, crm to brn, mic to f-xln, hard, dense, some pcs chalky

SH, gray  
MS, crm to brn, f-xln, to mic-xln, fossils, sli. chalky pcs, some dense, hard, NS

WS-MS, crm to off wht, f-xln, hard, some firm, fossilif/m-gr suboolitic, scatt glauc, dull fluos, NS  
Scatt SH, gray

WS-MS, A.A., most hard, dense

WS-MS, crm to brn, m-xln, hard, dense, some chalkv, fossilif, scatt



Chert, frgmnts, NS  
SH, gray

MS, scatt WS, crm to gray, f-xln to m-xln, most hard, oolitic to fossil frgmnts, scatt Chert frgmnts, tan, dull fluor, NS

MS-WS, tan to brn, some crm, f-xln, hard, some pcs sli. chalky, scatt fossils, Chert, white  
rare SH, blk, gray

SH, gray, dk. gray  
MS-WS, tan to crm, A.A.

MS, scatt WS, crm to tan, f-xln, dense, fossils, rare glauc specs, NS

MS-WS, crm to tan, mic to f-xln, earthy to massive txt, suboolitic pcs, dense, sandy in part, friable pcs, dull fluor, NS  
some SH, gray

MS, off wht to crm, f-xln, hard, suboolitic, scatt dense pcs, NS  
rare gray SH

SH, grays, brn-gray, fossils, MS-WS, tan to gray, f-xln, mottled pcs, dense, fossilif., NS, some Chert frgmnts

MS-WS, A.A., some SH, dk. gray

MS, crm, f-xln to chalky pcs, hard to firm, scatt oolitic, m-gr pcs  
scatt SH, dk. gray

MS, crm to brn, mic-xln, dense, some pcs silty, rare fossils, rare SH, blk, grays

MS-WS, crm to brn, mic to f-xln, dense, some fossilif. pcs, oolitic in part

MW-WS, A.A., crm to brn, f-xln, fossils, dense, NS

SH, grays, brn, silty, WS-MS, crm, f-xln, fossilif/oolitic, f-gr. frgmnts, dense to brittle, NS

SH, grays, dk. gray, MS, brn to gray, mic-xln, dense, sub oolitic, NS

MS, crm to tan, mic-xln to f-xln, dense, hard, fossils rare, NS

MS, A.A., some dark mineral specs/silty txt, Chert grayish white, fossils, scatt SH, grays

MS, crm, f-xln to earthy txt, hard to firm, rare fossils, scatt brn, mic-xln, dense pcs, NS  
SH, gray, green, pyrite

MS, crm, earthy to f-xln, chalky looking, dense, hard, some pcs silty/mottled, mineral specs, fossils rare, NS

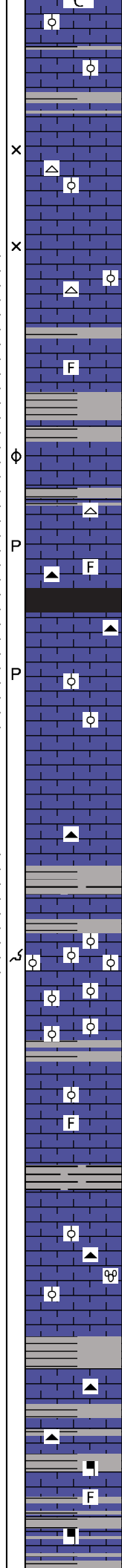
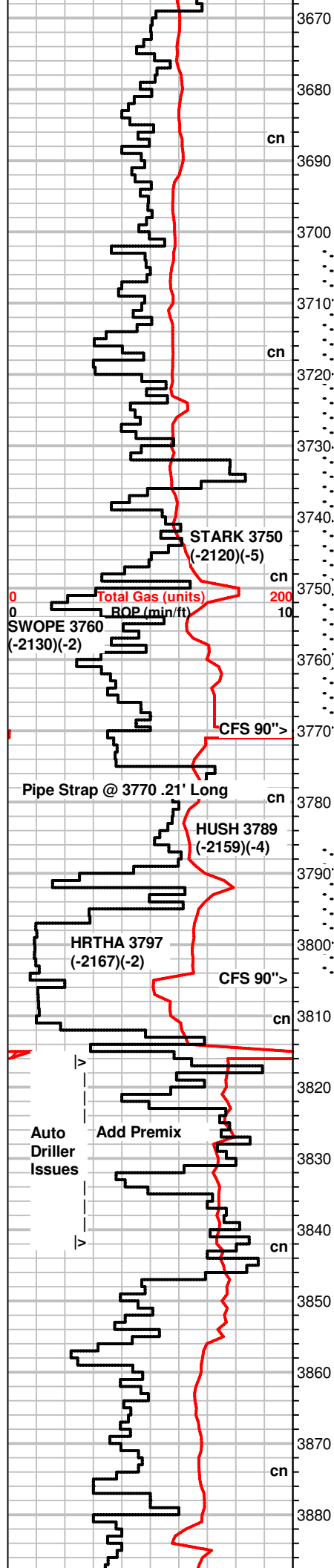
WS-MS, crm to brn, f-xln, gritty txt, fossils, soft to firm, some gray pcs, silty, SH, gray, green

MS-WS, A.A., some gray, f-xln, shalky, fossilif., NS  
SH, gray green, silty

MS, lt. tan to off white, mic to f-xln, dense, some pcs chalky, suboolitic in xln mtrx, rare glauc specs, edge stn in dry, SH, gray

**Mud-CO Mud check**  
**Vis 44**  
**Wt 9.1+**  
**1.5# LCM**  
**Cl 4,400ppm**  
**Filtrate 9.6**

**Rig check, clean suction,**  
**screen, pull back mud**



MS-WS, off white to crm, f-xln, massive to earthy txt, sub oolitic, some chalky, dull fluor, NS

MS, crm to brn-ish gray, mic-xln, dense, scatt sub oolitic pcs, rare fossils, rare SH, grays

MS, crm to off white, f-xln, earthy, hard, some brittle, dense, sub oolitic pcs, Chert, white

MS-WS, A.A., waxy looking, fossils, slight edge stn dry

MS-WS, crm to brn, mic to f-xln, earthy in part, hard, dense, sli. chalky in part, firm, sub oolitic pcs, scatt Chert, white

MS, A.A., most pcs dense, some mottled and fossilif. pcs, dull fluor, NS

MS-WS, crm, gray, brn, f- to mic-xln, dense, some fossils, rare mineral specs, some silty, rare soppty bright fluor, slow milky cut(1 pc), scatt SH, gray, spotty edge stn dry

MS-WS, crm to brn, mic-xln, dense, mottled, fossilif, rare dead stn, mineral flour, Chert, white

MS, crm to brn, most f-xln, dense, some sli. chalky, fossils, calcite veins, Chert, brn SH, blk, dk. gray, carb., gassy

MS-WS, crm to lt. gray/tan, f-xln, chalky pcs scatt, some fossils, soft/friable, some earthy pcs, brittle, scatt spotty bright fluor(<10% pcs), gas bubbles rare, streaming cut when broken, no odor, PP por, spotty to partially sat. stn in dry

MS-WS, crm to lt. gray, tan, f-xln to mic-xln, massive/dense pcs, some fossilif., hard, NS

MS, crm to gray, scatt WS, crm, chalky to mic-xln, A.A., fossils, Chert, frgmts, crm, NS, rare

SH, rare blk, gray, carb, gassy  
MS-WS, A.A., inc in chalky pcs, fossils, soft to hard, fenestrae, Chert, white, fossilif.

WS-PS, crm to brn, gray, f-xln to mic-xln, m to co-gr oolitic/moldic pcs, tite calcite cement, dense, hard to firm, bright fluor(50%), flash odor in bag, 1 pc strm cut, few pcs milky cut. no free oil or bleeding gas, 50% spotty stn dry

MS, crm to brn, f-xln, dense, some fossils, sub oolitic pcs, chalky pcs scatt., some SH, dk. gray, gray

MS, brn to crm, mic to f-xln, dense, oolitic/moldic, A.A, co to vf-gr, friable pcs, rare chalky pcs., NS

SH, dk .gray, gray, rare blk  
MS-WS, crm to tan, f-xln, earthy to gritty txt, fossilif.

MS, crm, chalky, soft, glauc, scatt brn pcs, mic-xln, dense, scatt fossils, NS, Chert, brn, some SH, grays

SH, gray, dk. gray, MS-WS, crm to brn, f-xln, chalky pcs, scatt glauc, some dense, fossilif, Chert, brn

SH, gray, sli. inc in amt., MS-WS, crm , tan, f-xln fossils, some rare micro oolitic/sandy pcs, Chert, white/brn, fossils.

MS-WS, crm to brn, f-xln, earthy txt in part, fossils, some pcs mottled, minerals, scatt SH, gray

SH, gray, silty, MS-WS, crm to gray, f-xln to chalky, soft to dense, mineral specs, fossilif, dull fluor, NS

**DST #1 3702-3770**  
**Swope Lm**  
**30-60-30-60**  
**WB**  
**NBB**  
**WB**  
**NBB**  
**Rec: 30' SGCM**  
**(2%G, 98%M)**  
**IH 1834#**  
**IF 17-22#**  
**ISIP 1354#**  
**FF 23-30#**  
**FSIP 897#**  
**FH 1824#**  
**Temp 111°F**

**+42 UGK shale gas**

**+29 UGK,**  
**~10 UGK recycle**

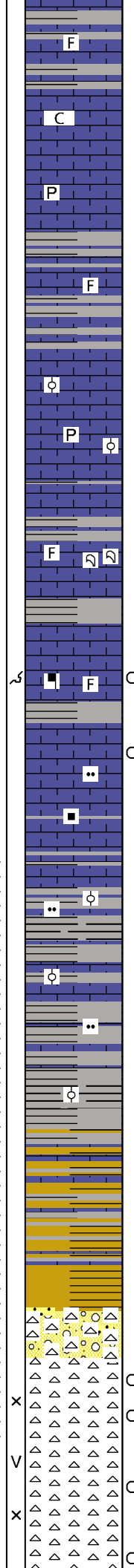
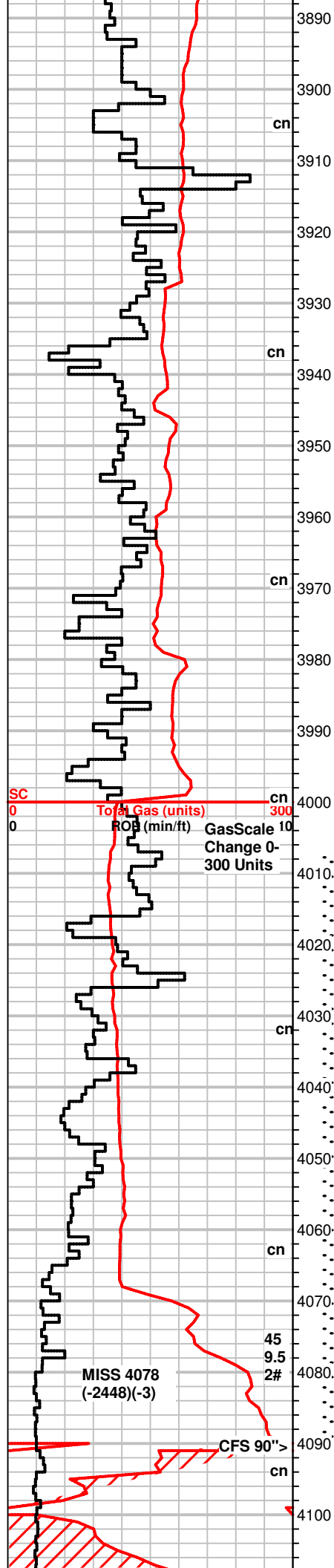
**Mud-Co mud check**  
**Vis 53**  
**Wt 9.2**  
**1# LCM**  
**CL 4,000ppm**  
**8.8 Filtrate**

**+38 UGK shale gas**

**Mud-CO mud check**  
**Vis 54**  
**Wt 9.3**  
**2# LCM**  
**CI 4,000ppm**  
**Filtrate 8.8**

**DST #2 3786-3805**  
**Hertha Lm.**  
**30-60-45-90**  
**SB BOB/8min**  
**NBB**  
**FB BOB/10min**  
**NBB**  
**Rec: 30' MCW (20% m, 80% w)**  
**1071' Water**  
**IH 1870#**  
**IF 27-235#**  
**ISIP 1299#**  
**FF 241-497#**  
**FSIP 1296#**  
**FH 1849#**  
**API Rw .15 @ 43°F**  
**CI 85,000ppm**  
**Temp 123°F**





SH, grays, green  
MS, crm to tan, f-xln, dense, scatt fossils, Chert, brn, NS

SH, dk. gray, gray, green(carrying?), MS crm, f-xln to earthy, dense, scatt chalky firm pcs, most hard, mottled, fossils, NS

MS-WS, crm to gray, brn, f-xln, chalky to dense, hard, fossils, pyrite, scatt SH, gray, some dk. gray

SH, blk, brn, gray  
MS, tan to brn, vf to mic-xln, massive txt, dense, hard, dull fluor, scatt fossils, NS

MS, A.A.  
some SH, gray to brn, dec. amt.

SH, dk. gray to gray, pyrite  
MS-WS, crm to tan, brn, f-xln, chalky pcs rare, most massive, hard, fossils scatt., NS

MS, off white to crm, f-xln, mostly chalky, some dense, A.A., NS, SH, grays, brn, green

SH, gray, striated, MS-WS, crm to brn, f-xln hard, fossils, large fossil frgmts(coral)

MS-WS, crm to brn, vf-xln, dense, some pcs A.A., silty in part, hard, NS, SH, gray, dk. gray

MS-WS, A.A., fossilif., mineral specs, friable, rare spotty stn dry, scatt SH, gray, silty, sea green pcs rare

Influx SH, dk. gray to gray, sea green rare, silty pcs, rare gas bubbles

SH, gray, rare blk/dk. gray, sli. carb, silty pcs  
MS crm to brn, f-xln, dense, hard, rare fossils, dull fluor, NS

MS-WS, crm to brn, gray, f-xln, dense, some silty looking, fossils, some chalky pcs, most hard, NS  
SH, gray, green, fossils, rare brn

MS-WS, crm to tan, brn, f-xln dense, fossils, some dk gray to green m-gr ooids in tite xln matrix, SH, gray, green, pyrite

SH, dk. gray to gray, silty, scatt pyrite, fossils  
scatt. MS-WS, crm, f-xln, suboolitic to m-gr oolitic pcs, friable, some hard, NS

SH, blk, dk. gray to green, mustard yellow, glauc/sandy pcs  
MS-WS, crm to brn, f-xln to mic-xln, dense, scatt dk ooids in dense matrix, fossils rare, dull fluor, NS

SH, mostly grays, inc amt of varicolored-yellow, brick red, sea green, silty to sandy pcs, rare MS, gray to crm, f-xln, dense, some fossils, Cherty pcs rare, dull fluor, NS

SH, gray to dk. gray, vari colored pcs, pyrite  
rare MS, crm to tan, f-xln dense, rare chalky soft pcs, NS

SH, varicolored, mostly dk. gray to gray, rare Chert, white to lt. brn, wthrd, very spotty stn(10%), no odor, rare Qtz grs., f-gr, angular to sub ang., frosted

Chert, white to bone white, some fresh, some pcs w/ spotty stn (<25%), no odor, dull fluor, no cut, gas bubbles when broken, spotty stn, some 10-50% sat. pcs dry, good int-xln por.

Chert, white to bone white, tripolitic to wthrd, scatt fresh pcs, dull mineral fluor, rare spotty dead stn on wthrd pcs, no cut, no odor, spotty stn dry

Chert, off white to opaque, tripolitic to some fresh, most wthrd A.A., NS, scatt mineral fluor, spotty stn dry,

Vis 60  
Wt 9.2  
1# LCM

Change weight indicator

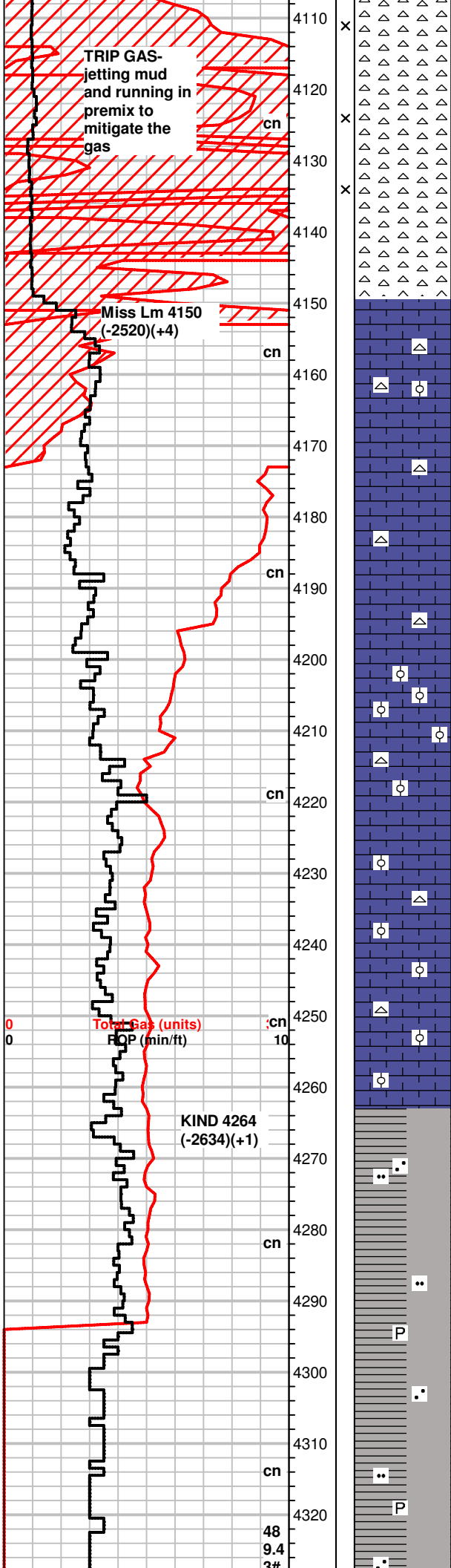
Mud-Co mud check  
Vis 57  
Wt 9.4+  
1# LCM  
CI 4,000ppm  
Filtrate 9.0

+13 UGK shale gas

DST #3 4007-4090  
Miss Chert  
30-60-30-90  
SB BOB/30sec GTS/3min  
GA 1.506 MMCF/10"  
3.001 MMCF/20"  
3.288 MCF/30"  
Would not bleed off  
SB BOB+GTS/Immed.  
GA 3.288 MCF/10"  
3.288 MCF/20"  
3.288 MCF/30"  
NBB  
3852' GIP  
Rec: 140' Mud  
IH 2016#  
IF 610-662#  
ISIP 1224#  
FF 654-619#  
FSIP 1222#  
FH 1993#  
Temp 121°F

+80 UGK

+155 UGK,  
+66 UGK recycle



Chert, off white to bone white, most wthrd, some fresh, v. spotty strn in 10% of tray, rare slow milky cut, no odor

Chert, A.A., some fresh

Chert, A.A., some pcs fractured, inc in fresh pcs

MS, crm to gray, f-xln, some pcs chalky, firm to hard, NS samples mostly Chert from above, very little sample representation

MS, white to gray, chalky to f-xln, NS carrying Chert, A.A.

MS, white to gray, scatt crm, f-xln

MS, white to crm, sli. gray, chalky to firm, f-xln pcs, very little sample representation, carrying SH and Chert A.A., barren dry

MS-WS, rare PS, crm to lt. brn, f-xln, sli. massive to earthy txt, firm to dense, some fossilif., m-gr oolitic, NS

WS-PS, crm to brn, f-xln, mostly A.A. fossils, some pcs dolomitic, brn, m-gr sugary txt, some Chert, white, barren dry

MS-WS, crm to lt. gray, lt. brn, f-xln sub oolitic, dense, scatt fossils, some pcs earthy, NS, Chert, opaque white

MS-WS, A.A., lesser gray pcs, Chert, opaque white, NS

MS-WS, crm to brn, f-xln some pcs dense/massive, scatt sub oolitic, friable, Chert, opaque blueish white, barren dry

MS-WS, crm to brn, f-xln, firm, some A.A., Chert, white, NS

SH, brn-ish gray, grays, silty pyrite  
some MS, crm to brn, gray, f-xln, dense, fossilif. pcs scatt,

SH, gray, brn-ish gray, green silty

SH, gray to green, some brn, silty, some pcs earthy/waxy

SH, gray, green, brn, silty to striated

SH, gray, green, AA, pyrite rare

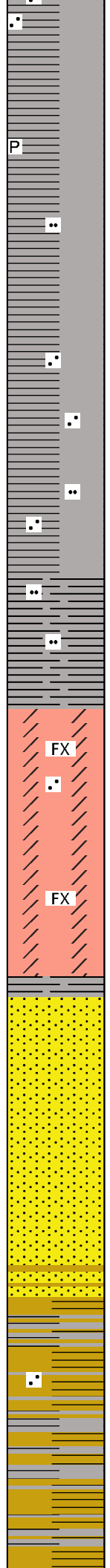
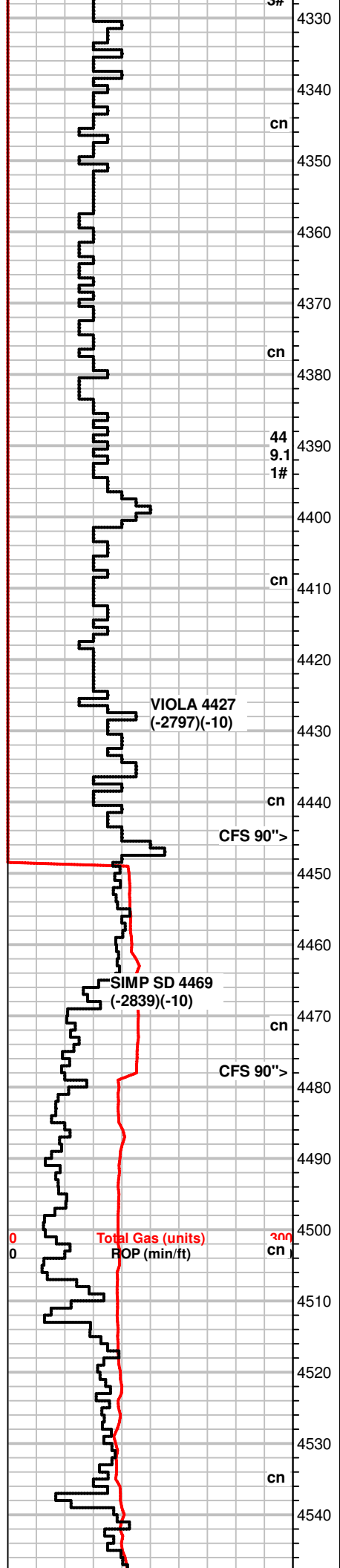
SH, A.A.

SH, gray to dk. gray, silty some striated, scatt pyrite

SH, gray, silty to sandy, some hard

**Mud-Co mud check**  
 Vis 47  
 Wt 9.3+  
 1# LCM  
 CI 4,000 ppm  
 Filtrate 9.0

**Bloodhound Computer**  
 quit working, drill time  
 was hand entered while  
 the program installed  
 spare computer.



SH, A.A.

SH, dk. gray to gray, silty, carb., scatt pyrite

SH, gray, mineral specs

SH, gray, silty to sandy pcs scatt, some limey

SH, gray, green, silty

SH, gray, silty, some scatt limey

SH, dk. gray to gray

SH, dk. gray, carb

Dolo, lt grn to gray, brn, vf-xln, sugary txt, rare min. fluor, no odor, no cut

Dolo, crm to lt. gray brn, vf-xln, soft to firm, sandy looking, mineral fluor, NS

Dolo, crm to brn, f-xln, firm to soft, sugary txt, dull fluor, NS

scatt SH grays, (carrying?)

Qtz gr's, co-gr, sub angular, sli. frosty, no vis show, no odor in bag, no gas increase

Qtz gr's, m to co-gr, sub rnd to rnd, pitted to frosty pcs scatt, SS clusters, white, f to m-xln, sug ang to sub rnd, sorted, friable, NS

SS clusters, white, f to m-gr, sub rnd to rnd, friable, sorted, NS

Scatt SH, red to purple, gray

SH, purple-ish red, gray, striated, fissile, earthy to waxy looking

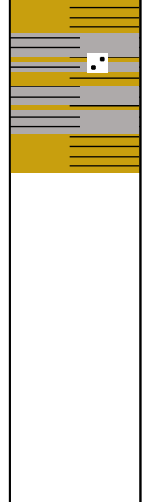
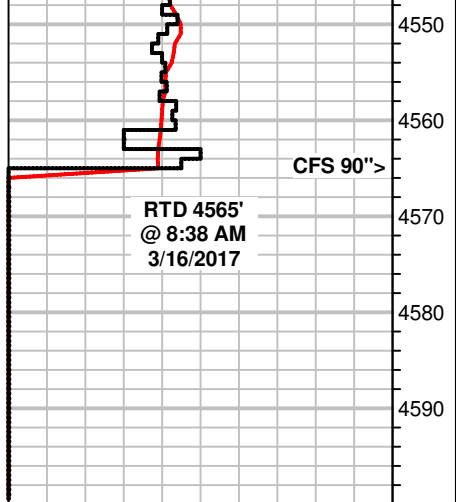
SH, purple to red, some grays, varicolored, earthy., scatt SS. clusters, white, f to m-gr, friable

SH, varicolored, gray, red, prple, yellow

**NO gas increase  
bloodhound computer  
screen has gone out,  
working on installing the  
program on my machine  
to get the data**

**No gas increase**

**Mud-Co mud check  
Vis 47  
Wt 9.6+  
3# LCM**



SH, purple, red, yellow, gray, sli. calc.

SH, red, gray, green, purple, yellow, sandy, some SS clusters, dk. gray, vf to f-grn, sorted, sub rnded, friable, NS

CI 4,000ppm  
Filtrate 9.2