

Adam Eldani Geo-Log/Report

WellSight Systems

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

Measured Depth Log

Well Name: #1 X BIGGS 21D

Location: SEC 21-TOWNSHIP 21S- RANGE 18W PAWNEE COUNTY

License Number: API 15-145-21759

Region: KANSAS

Spud Date: 04/03/2014

Drilling Completed: 04/16/2014

Surface Coordinates: (Plugged & Abandoned the Biggs 21D #1 due to abnormal vertical borehole deviation; the rig moved 25' west and 3' north to alternate location) 1975' FSL &

Bottom Hole

Coordinates: Deviation Surveys are detailed through out the Geo-Report.

Ground Elevation (ft): 2090'

K.B. Elevation (ft): 2099'

Logged Interval (ft): 1900'

To: 4551'

Total Depth (ft): 4551'

Formation: Precambrian

Type of Drilling Fluid: Mud-Co Chemical

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Ritchie Exploration Inc. (drilled by Southwind Drilling Rig #2)

Address: 8100 E. 22nd ST. N. #700

Wichita, KS, 67278-3188

GEOLOGIST

Name: Adam M.A. Eldani

Company: Ritchie Exploration Inc.

Address: 8100 E. 22nd ST. N. #700

Wichita, KS, 67278-3188



Tops & Daily Drilling Report

TOPS: DRILLING REPORT

Sample Tops:

Anhydrite: 1168'+931
B/Anhydrite: 1195'+904
Heebner: 3515'-1416
Toronto: 3528'-1429
Lansing: 3597'-1498
Muncie Sh: 3739'-1640
Stark Sh: 3820'-1721
Hush: 3851'-1752
BKC: 3884'-1785
Marmaton: 3910'-1811
Pawnee: 3973'-1874
Fort Scott: 3994'-1895
Cherokee Sh: 4008'-1909
Cong. Sand: 4025'-1926
Arbuckle: 4046'-1947
Reagan Sand: 4438'-2339
Granite: 4460'-2361
RTD: 4550'-2451

E-log Tops:

Anhydrite: 1162'+937
B/Anhydrite: 1182'+917
Heebner: 3514'-1415
Toronto: 3532'-1433
Lansing: 3589'-1490
Muncie Sh: 3730'-1631
Stark Sh: 3814'-1715
Hush: 3850'-1751
BKC: 3882'-1783
Marmaton: 3897'-1798
Pawnee: 3972'-1873
Fort Scott: 3989'-1890
Cherokee Sh: 4002'-1903
Cong. Sand: 4008'-1909
Arbuckle: 4024'-1925
Reagan Sand: N/A
Granite: 4468'-2369
LTD: 4551'-2452

DAILY DRILLING REPORT:

DATE DEPTH:

4/03 Spud
4/04 760'
4/05 1175'
4/06 1850'
4/07 2475'
4/08 3140'
4/09 3632'
4/10 3780'
4/11 3826'
4/12 3874'
4/13 3888'
4/14 4043'
4/15 4120'
4/16 4470'
4/17 4550'

Misc.

All DST's info. are NEAR the correct log depth.

RIG: Southwind Rig #2
TOOL PUSHER: Bill Sanders
MUD: MUD CO. (Jason Whiting)
GAS DETECTOR: MBC Well Service,

DRILL STEM TEST'S: Diamond Testing, Mike Cochran

LOGS: NABORS (Jason Cappellucci)

OFFICE: Mike Engelbrecht

Comments

Ran 28 jts new 24# 8-5/8" surface casing. Tally at 1163', set at 1175'. Cemented with 400 sacks 65/35 Poz, 6% gel, 3% cc and 150 sacks common 2% gel, 3% cc. Cement did circulate. Plug down at 3:30 a.m. on 4/5/14.

AFTER THE RESULTS OF SAMPLE LOGGING, ELECTRIC LOGGING, AND ALL DST TESTS ANALYSIS & CALCULATIONS; IT WAS DECIDED TO RUN 5 1/2 INCH PRODUCTION CASING TO FURTHER TEST THE #1 X Biggs 21D FOR OIL & GAS COMMERCIAL QUANTITIES.


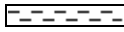

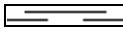

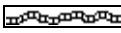


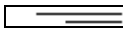

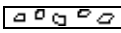


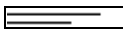


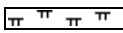

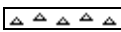

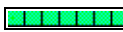

Ran new 5 1/2" 15.5# production casing with basket shoe, set at 4265'. Insert at 4243'. Pumped 500 gallons mud flush. Cemented casing with 170 sacks ASC + 10% salt + 2% gel + 6% Gyp-Seal + 5#/sack Kol-Seal + 1/4% CDI-26. Plug down at 3:30 p.m. Plugged rat hole with 30 sacks.

Well Log Surveys BY: NABORS. Compensated Denisty/ Neutron Log, Dual Induction & Sonic.

SAMPLES WILL BE DEPOSITED WITH KANSAS GEOLOGICAL SURVEY.

RESPECTFULLY SUBMITTED
Adam M. A. Eldani

ROCK TYPES

| | | | | | | | | | |
|--|---------|---|-------|---|-------|--|-------|---|-----------|
|  | Anhy |  | Clyst |  | Igne |  | Shale |  | Till |
|  | Bent |  | Coal |  | Lmst |  | Shcol |  | Red shale |
|  | Brec |  | Congl |  | Meta |  | Shgy | | |
|  | Carb sh |  | Dol |  | Mrlst |  | Sltst | | |
|  | Cht |  | Gyp |  | Salt |  | Ss | | |

ACCESSORIES

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp

- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

FOSSIL

- Algae
- Amph

- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Fuss
- Gastro
- Oolite
- Oomold
- Ostra
- Pelec

- Pellet
- Pisolite
- Plant
- Strom

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint

- Vuggy

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang
- Angular

- Even
- Spotted
- Ques
- Dead

- Dst_alt
- Dst

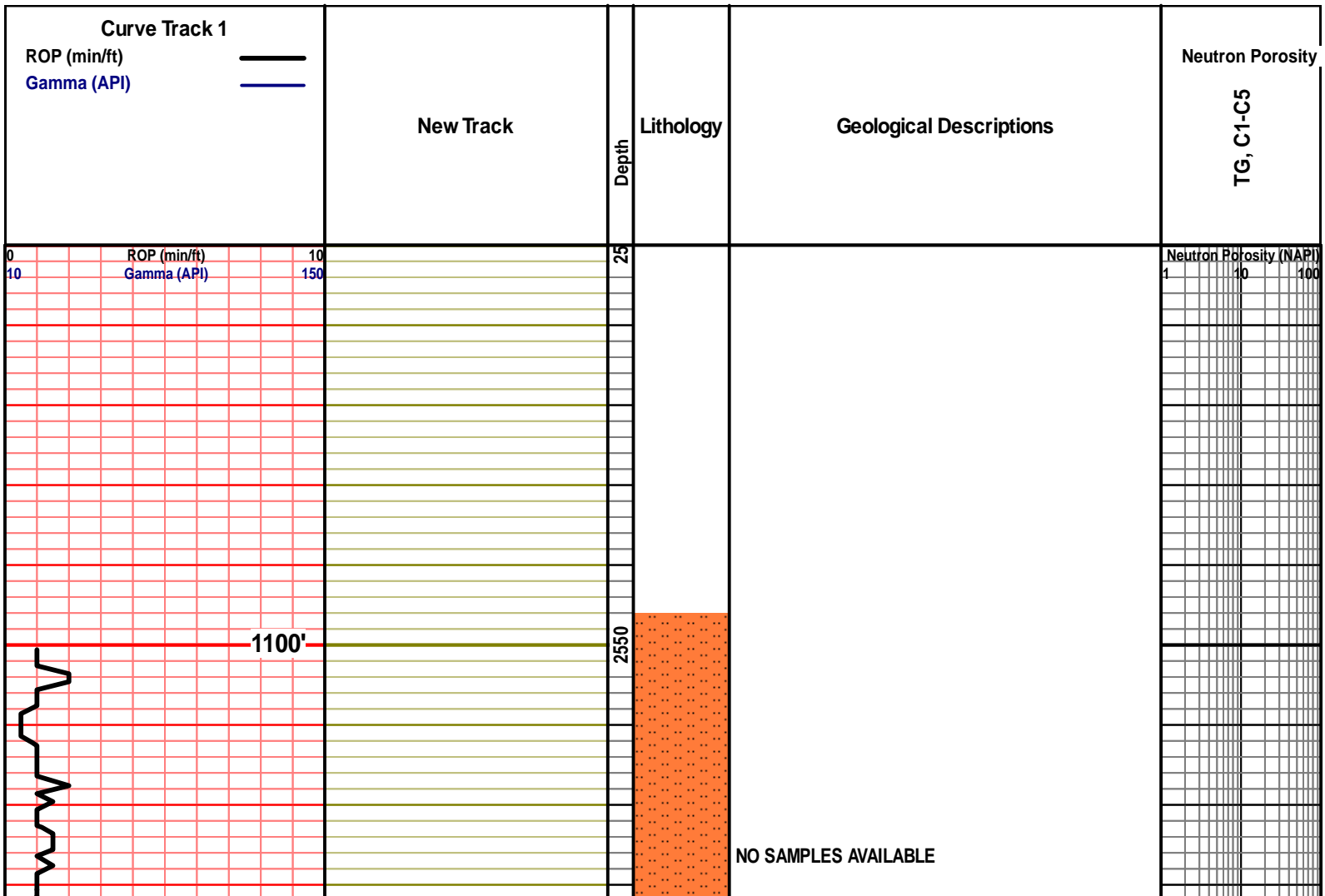
EVENT

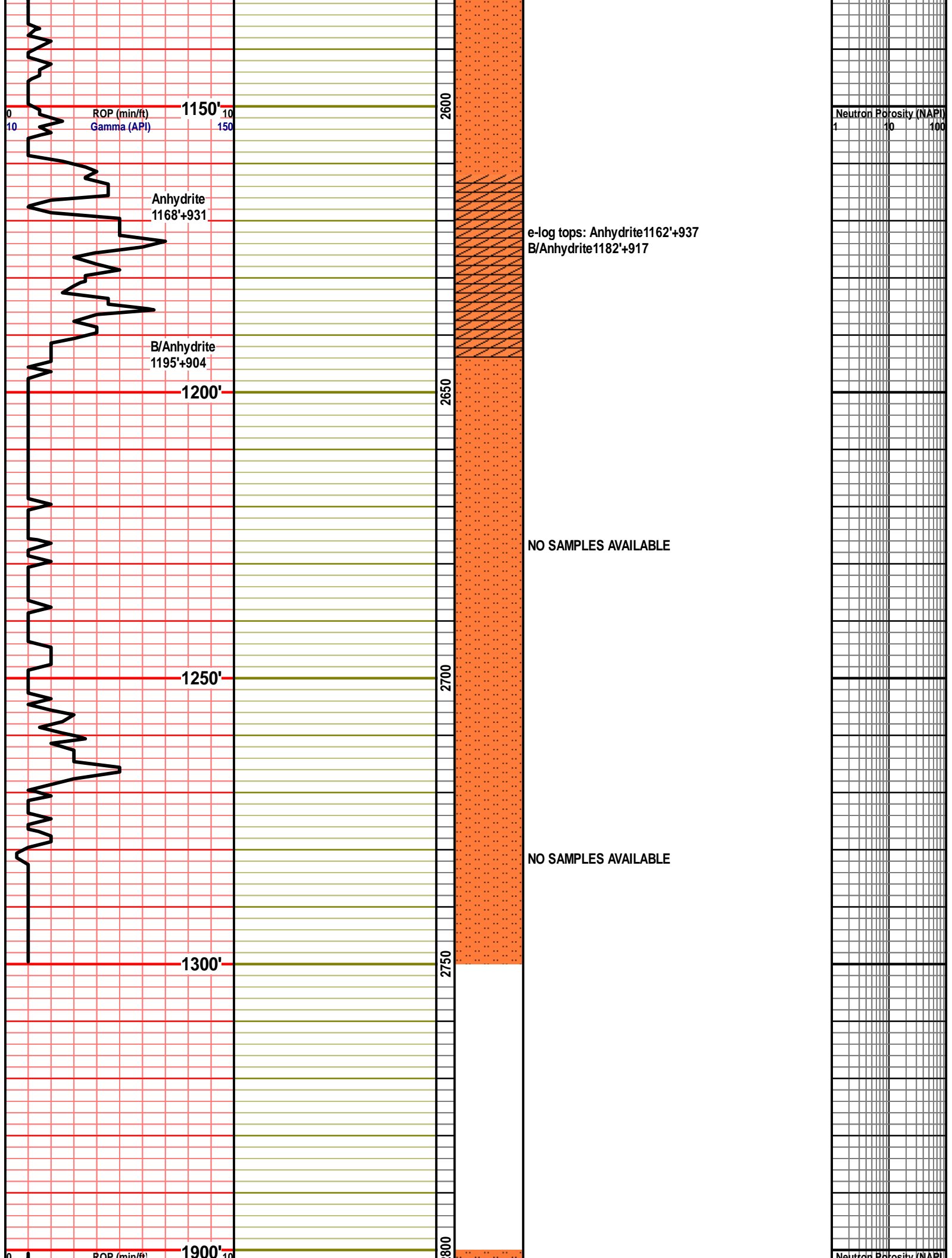
- Rft
- Sidewall

INTERVAL

- Core
- Dst

- OIL SHOW
- aimimg_1





ROP (min/ft)
Gamma (API)

1150'
10
150

Anhydrite
1168'+931

B/Anhydrite
1195'+904

1200'

1250'

1300'

1900'

2600

2650

2700

2750

2800

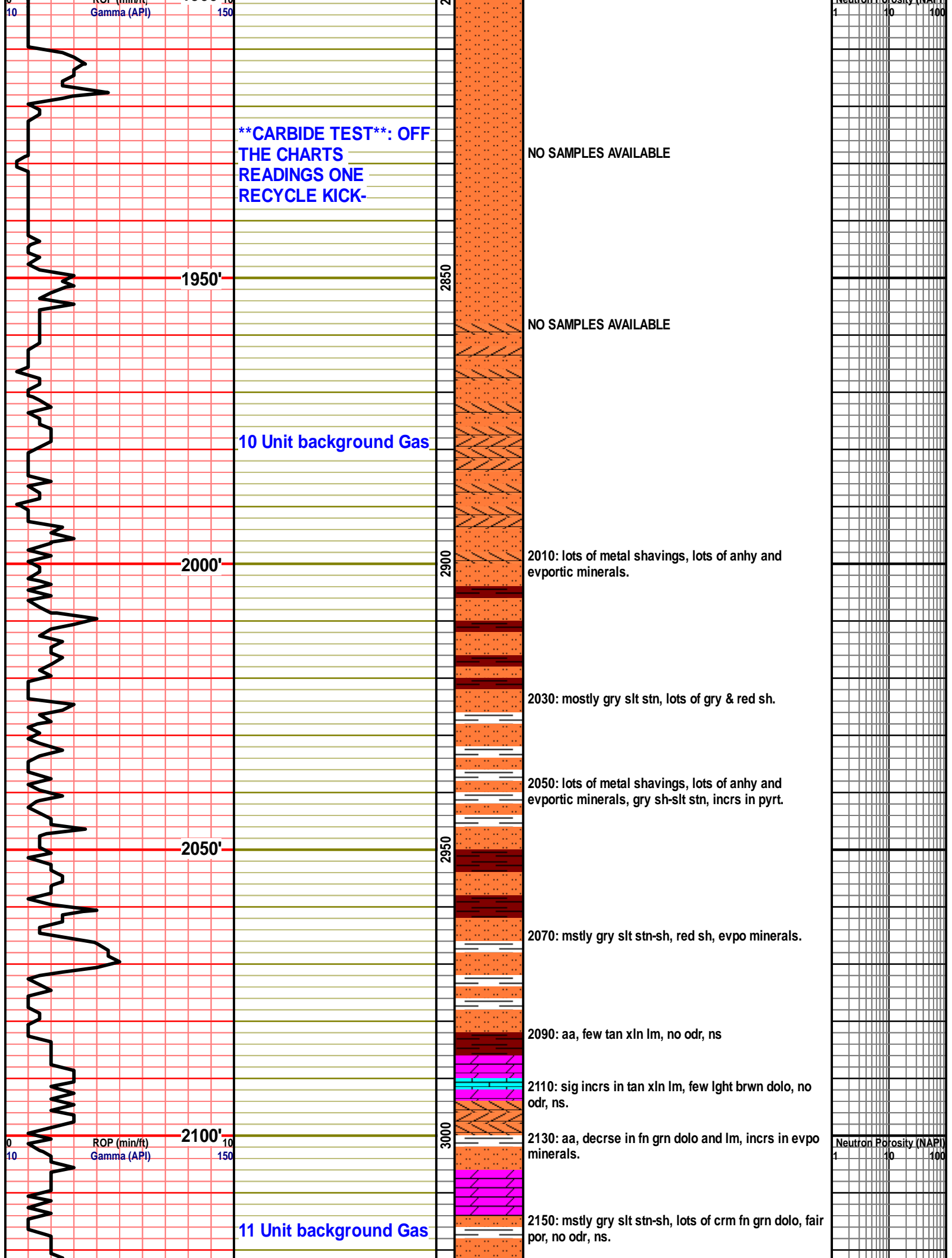
Neutron Porosity (NAPI)
1 10 100

e-log tops: Anhydrite 1162'+937
B/Anhydrite 1182'+917

NO SAMPLES AVAILABLE

NO SAMPLES AVAILABLE

Neutron Porosity (NAPI)



****CARBIDE TEST**: OFF THE CHARTS READINGS ONE RECYCLE KICK-**

NO SAMPLES AVAILABLE

1950'

2850

NO SAMPLES AVAILABLE

10 Unit background Gas

2000'

2900

2010: lots of metal shavings, lots of anhy and evportic minerals.

2030: mostly gry slt stn, lots of gry & red sh.

2050'

2950

2050: lots of metal shavings, lots of anhy and evportic minerals, gry sh-slt stn, incrs in pyrt.

2070: mstly gry slt stn-sh, red sh, evpo minerals.

2090: aa, few tan xln lm, no odr, ns

2110: sig incrs in tan xln lm, few lght brwn dolo, no odr, ns.

2100'

3000

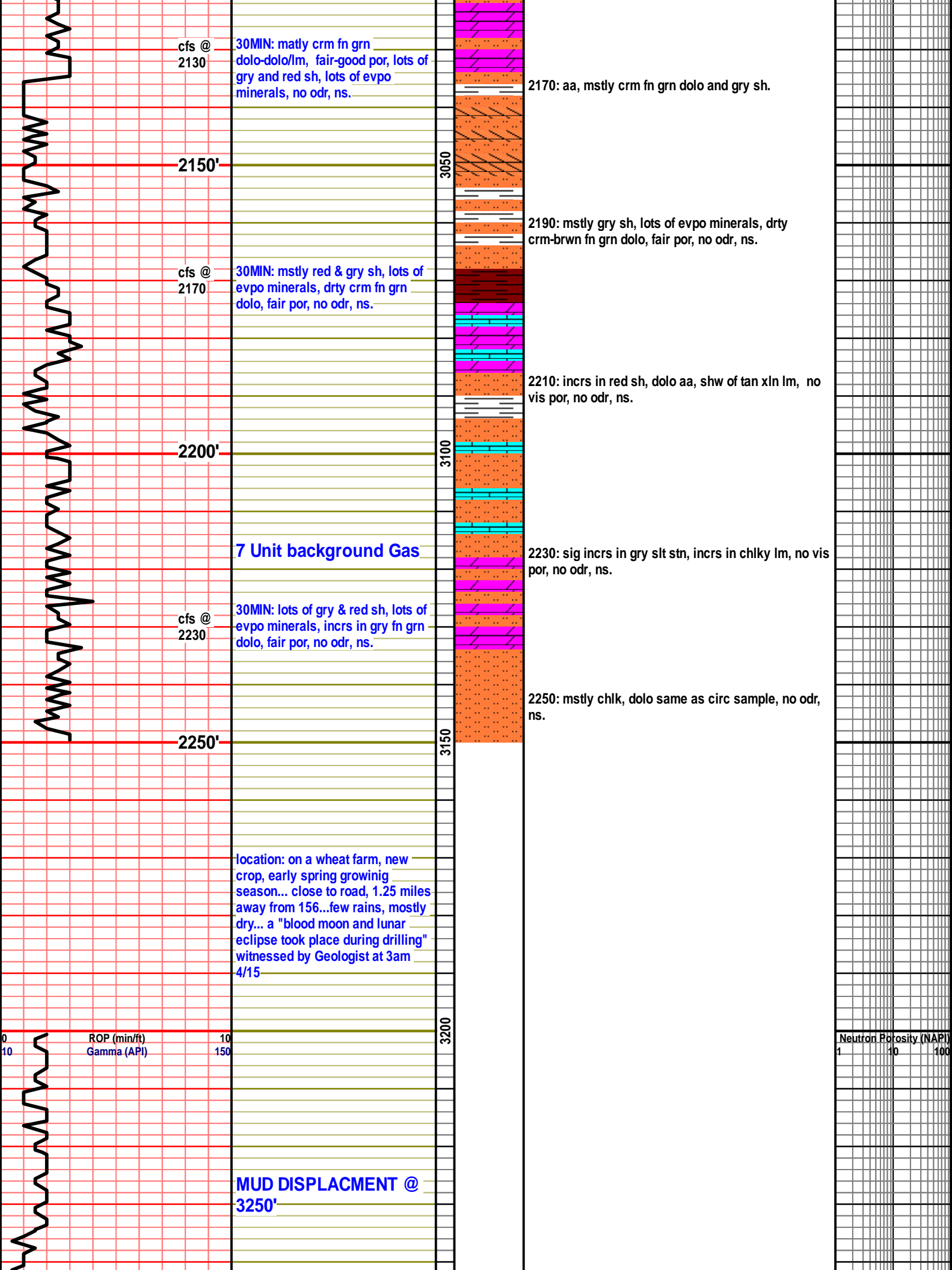
2130: aa, decrse in fn grn dolo and lm, incrs in evpo minerals.

11 Unit background Gas

2150: mstly gry slt stn-sh, lots of crm fn grn dolo, fair por, no odr, ns.

ROP (min/ft)
Gamma (API)

Neutron Porosity (NAPI)



cfs @
2130'

30MIN: matly crm fn grn dolo-dolo/lm, fair-good por, lots of gry and red sh, lots of evpo minerals, no odr, ns.

2170: aa, mstly crm fn grn dolo and gry sh.

2150'

3050

2190: mstly gry sh, lots of evpo minerals, drty crm-brwn fn grn dolo, fair por, no odr, ns.

cfs @
2170'

30MIN: mstly red & gry sh, lots of evpo minerals, drty crm fn grn dolo, fair por, no odr, ns.

2210: incrs in red sh, dolo aa, shw of tan xln lm, no vis por, no odr, ns.

2200'

3100

7 Unit background Gas

2230: sig incrs in gry slt stn, incrs in chlky lm, no vis por, no odr, ns.

cfs @
2230'

30MIN: lots of gry & red sh, lots of evpo minerals, incrs in gry fn grn dolo, fair por, no odr, ns.

2250: mstly chl, dolo same as circ sample, no odr, ns.

2250'

3150

location: on a wheat farm, new crop, early spring growinig season... close to road, 1.25 miles away from 156...few rains, mostly dry... a "blood moon and lunar eclipse took place during drilling" witnessed by Geologist at 3am 4/15

ROP (min/ft)
Gamma (API)

10
150

3200

Neutron Porosity (NAPI)

1 10 100

MUD DISPLACEMENT @
3250'

4/08/2014
mud info.
wt: 8.6
Funnel Vis. 68
Filtrate API: 7.2
Chloride 8,600
LCM # 2

**GEOLOGIST ON
LOCATION @ 3317'**

ROP (min/ft) 10
Gamma (API) 150

3250
3300
3350
3400
3450

3310: lots of gry sh, crm chlky lm, gry inxln lm, dense, no vis por no odr, ns.

3320: aa, crm fn xln lm, no vis por, slight incrs in gry cors xln lm, sli foss, no odr, ns.

3330: lots of gry sh, crm fn-inter xln lm, dense, poor-no por, loose fussels foss, no odr, ns.

3340: aa, incrs in gry inxln lm, sli foss, incrs in crm chlky lm, no odr, ns.

3350: aa, incrs in lght crm foss lm, sli ool, fair por, no odr, ns.

3360: slight incrs gry sh, drk tan xln lm, cemnt flooded, no vis por, no odr, ns.

3370: crm-gry inxln lm, dense, poor-no por, few crm-lght tan pack stn lm, fair por, brwn mineral stns, no odr, ns.

3380: mstly gry-drk crm fn xln lm, sli chrt, lots of wht chlky lm, no odr, ns.

3390: drk crm pack stn lm, v. fn grn, fair-poor por, lots of loose wht chlk, no odr, ns.

3400: aa, mstly crm xln lm, foss, fairly cemntd, poor por, no odr, ns.

3410: aa, slight incrs in wht chlk, crm foss lm, fair por, no odr, ns.

3420: tan inxln lm, dense, poor-no por, crm fn xln lm, no vis por, no odr, ns.

3430: aa, slight incrs in chlk-chlky lm, no odr, ns.

3440: tan-gry inxln lm, v. dense, no vis por, no odr, ns.

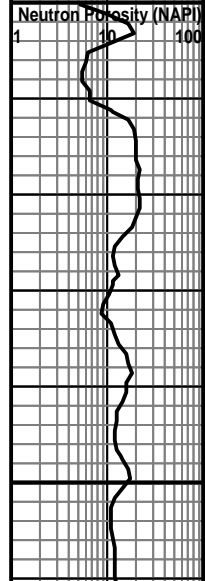
3450: mstly crm xln lm, foss, cemnt flooded, frags, incrs in chlk-chlky lm, no odr, ns.

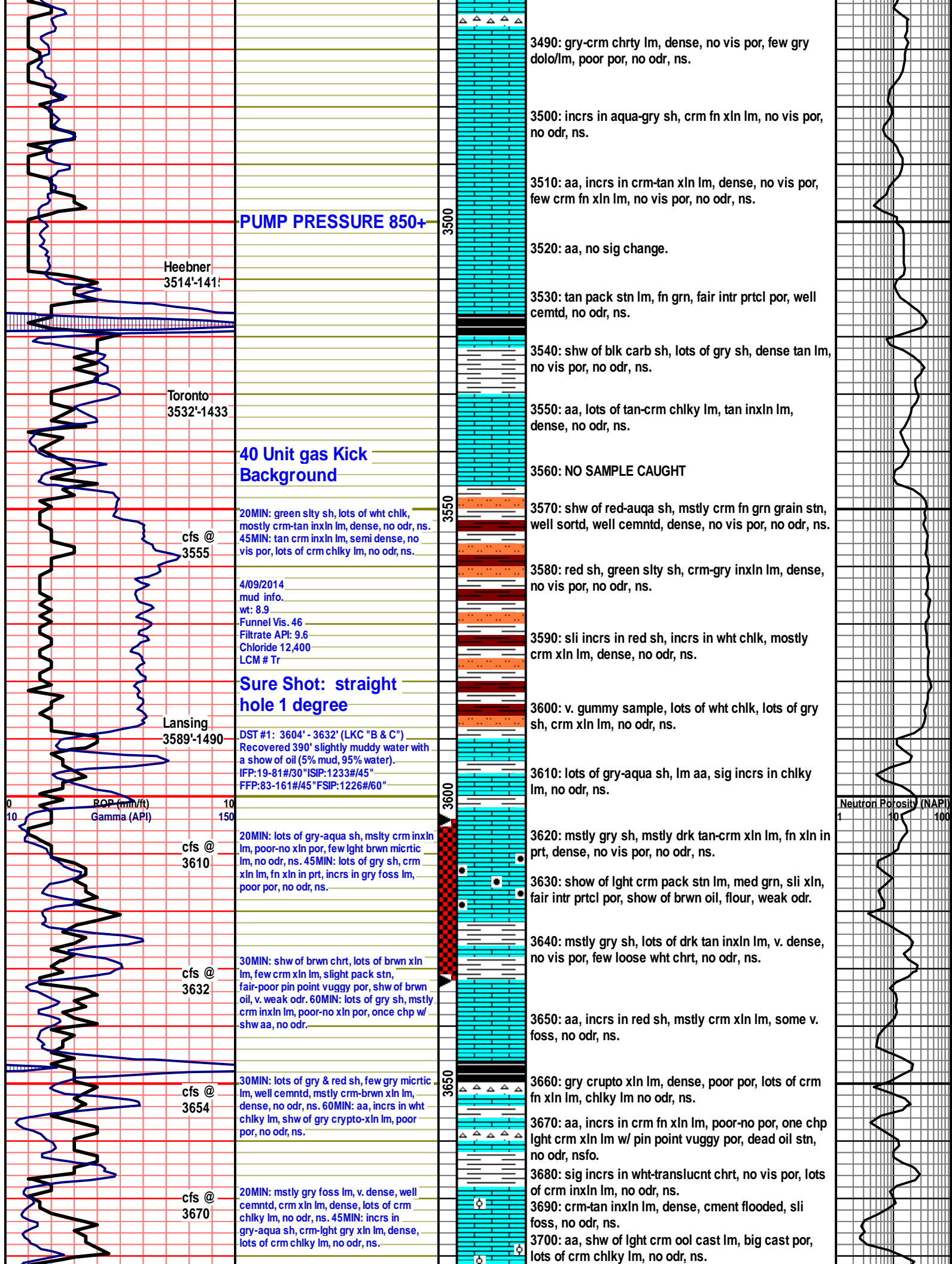
3460: incrs in gry sh, incrs in wht chlk, mstly tan foss lm, fair por, no odr, ns.

3470: shw of wht foss chrt, mstly crm xln lm, sli chlky, no odr, ns.

3480: incrs in gry sh, mstly crm xln lm, w/ small chrt foss nodules, dense, poor-fair por, no odr, ns.

Neutron Porosity (NAPI) 1 10 100





PUMP PRESSURE 850+

Heebner
3514'-141'

Toronto
3532'-1433

**40 Unit gas Kick
Background**

cfs @
3555

20MIN: green slty sh, lots of wht chlk, mostly crm-tan inxln lm, dense, no odr, ns.
45MIN: tan crm inxln lm, semi dense, no vis por, lots of crm chlky lm, no odr, ns.

4/09/2014
mud info.
wt: 8.9
Funnel Vis. 46
Filtrate API: 9.6
Chloride 12,400
LCM # Tr

**Sure Shot: straight
hole 1 degree**

Lansing
3589'-1490

DST #1: 3604' - 3632' (LKC "B & C")
Recovered 390' slightly muddy water with a show of oil (5% mud, 95% water).
IFP:19-81#/30" ISIP:1233#/45"
FFP:83-161#/45" FSIP:1226#/60"

ROP (min/ft)
Gamma (API)

cfs @
3610

20MIN: lots of gry-aqua sh, msly crm inxln lm, poor-no xln por, few lght brwn micrtic lm, no odr, ns. 45MIN: lots of gry sh, crm xln lm, fn xln in prt, incrs in gry foss lm, poor por, no odr, ns.

cfs @
3632

30MIN: shw of brwn chrt, lots of brwn xln lm, few crm xln lm, slight pack stn, fair-poor pin point vuggy por, shw of brwn oil, v. weak odr. 60MIN: lots of gry sh, msly crm inxln lm, poor-no xln por, once chp w/ shw aa, no odr.

cfs @
3654

30MIN: lots of gry & red sh, few gry micrtic lm, well cemtd, msly crm-brwn xln lm, dense, no odr, ns. 60MIN: aa, incrs in wht chlky lm, shw of gry crypto-xln lm, poor por, no odr, ns.

cfs @
3670

20MIN: msly gry foss lm, v. dense, well cemtd, crm xln lm, dense, lots of crm chlky lm, no odr, ns. 45MIN: incrs in gry-aqua sh, crm-lght gry xln lm, dense, lots of crm chlky lm, no odr, ns.

3490: gry-frm chrt lm, dense, no vis por, few gry dolo/lm, poor por, no odr, ns.

3500: incrs in aqua-gry sh, crm fn xln lm, no vis por, no odr, ns.

3510: aa, incrs in crm-tan xln lm, dense, no vis por, few crm fn xln lm, no vis por, no odr, ns.

3520: aa, no sig change.

3530: tan pack stn lm, fn grn, fair intr prtcl por, well cemtd, no odr, ns.

3540: shw of blk carb sh, lots of gry sh, dense tan lm, no vis por, no odr, ns.

3550: aa, lots of tan-frm chlky lm, tan inxln lm, dense, no odr, ns.

3560: NO SAMPLE CAUGHT

3570: shw of red-aqua sh, msly crm fn grn grain stn, well sortd, well cemtd, dense, no vis por, no odr, ns.

3580: red sh, green slty sh, crm-gry inxln lm, dense, no vis por, no odr, ns.

3590: sli incrs in red sh, incrs in wht chlk, mostly crm xln lm, dense, no odr, ns.

3600: v. gummy sample, lots of wht chlk, lots of gry sh, crm xln lm, no odr, ns.

3610: lots of gry-aqua sh, lm aa, sig incrs in chlky lm, no odr, ns.

3620: msly gry sh, msly drk tan-frm xln lm, fn xln in prt, dense, no vis por, no odr, ns.

3630: show of lght crm pack stn lm, med grn, sli xln, fair intr prtcl por, show of brwn oil, flour, weak odr.

3640: msly gry sh, lots of drk tan inxln lm, v. dense, no vis por, few loose wht chrt, no odr, ns.

3650: aa, incrs in red sh, msly crm xln lm, some v. foss, no odr, ns.

3660: gry crupto xln lm, dense, poor por, lots of crm fn xln lm, chlky lm no odr, ns.

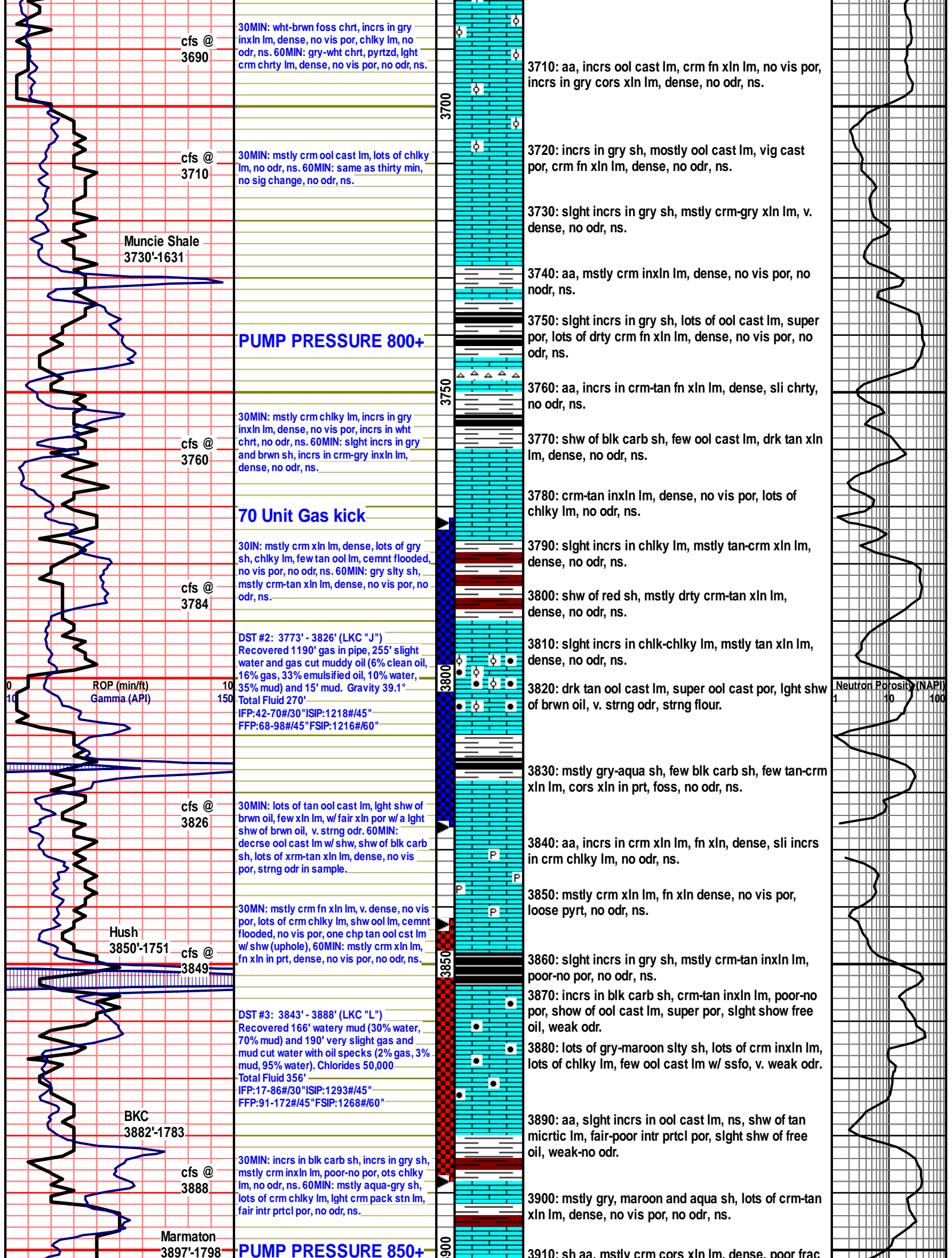
3670: aa, incrs in crm fn xln lm, poor-no por, one chp lght crm xln lm w/ pin point vuggy por, dead oil stn, no odr, nsfo.

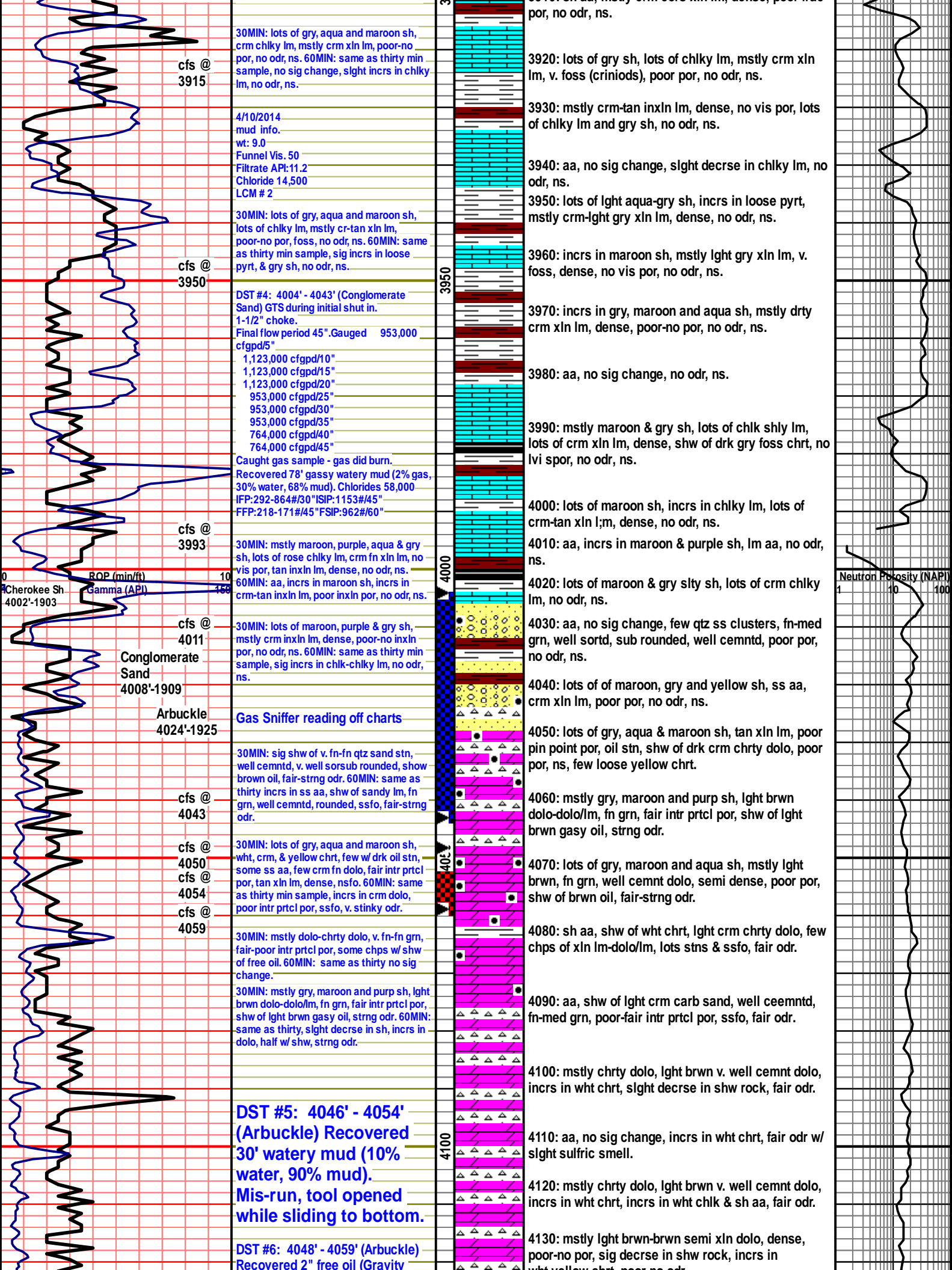
3680: sig incrs in wht-translucnt chrt, no vis por, lots of crm inxln lm, no odr, ns.

3690: crm-tan inxln lm, dense, cment flooded, sli foss, no odr, ns.

3700: aa, shw of lght crm ool cast lm, big cast por, lots of crm chlky lm, no odr, ns.

Neutron Porosity (NAPI)





cfs @
3915

30MIN: lots of gry, aqua and maroon sh, crm chlyk lm, mstly crm xln lm, poor-no por, no odr, ns. 60MIN: same as thirty min sample, no sig change, slght incrs in chlyk lm, no odr, ns.

4/10/2014 mud info.
wt: 9.0
Funnel Vis. 50
Filtrate API: 11.2
Chloride 14,500
LCM # 2

cfs @
3950

30MIN: lots of gry, aqua and maroon sh, lots of chlyk lm, mstly cr-tan xln lm, poor-no por, foss, no odr, ns. 60MIN: same as thirty min sample, sig incrs in loose pyrt, & gry sh, no odr, ns.

DST #4: 4004' - 4043' (Conglomerate Sand) GTS during initial shut in. 1-1/2" choke.
Final flow period 45". Gauged 953,000 cfcpd/5"
1,123,000 cfcpd/10"
1,123,000 cfcpd/15"
1,123,000 cfcpd/20"
953,000 cfcpd/25"
953,000 cfcpd/30"
953,000 cfcpd/35"
764,000 cfcpd/40"
764,000 cfcpd/45"
Caught gas sample - gas did burn.
Recovered 78' gassy watery mud (2% gas, 30% water, 68% mud). Chlorides 58,000
IFP: 292-864#/30" ISIP: 1153#/45"
FFP: 218-171#/45" FSIP: 962#/60"

cfs @
3993

30MIN: mstly maroon, purple, aqua & gry sh, lots of rose chlyk lm, crm fn xln lm, no vis por, tan inxln lm, dense, no odr, ns. 60MIN: aa, incrs in maroon sh, incrs in crm-tan inxln lm, poor inxln por, no odr, ns.

cfs @
4011

30MIN: lots of maroon, purple & gry sh, mstly crm inxln lm, dense, poor-no inxln por, no odr, ns. 60MIN: same as thirty min sample, sig incrs in chlk-chlyk lm, no odr, ns.

Conglomerate Sand
4008'-1909
Arbuckle
4024'-1925

Gas Sniffer reading off charts

cfs @
4043

30MIN: sig shw of v. fn-fn qtz sand stn, well cemntd, v. well sorsub rounded, shw brown oil, fair-strng odr. 60MIN: same as thirty incrs in ss aa, shw of sandy lm, fn grn, well cemntd, rounded, ssfo, fair-strng odr.

cfs @
4050

30MIN: lots of gry, aqua and maroon sh, wht, crm, & yellow chrt, few w drk oil stn, some ss aa, few crm fn dolo, fair intr prtcl por, tan xln lm, dense, nsfo. 60MIN: same as thirty min sample, incrs in crm dolo, poor intr prtcl por, ssfo, v. stinky odr.

cfs @
4054

cfs @
4059

30MIN: mstly dolo-chrty dolo, v. fn-fn grn, fair-poor intr prtcl por, some chps w shw of free oil. 60MIN: same as thirty no sig change.

30MIN: mstly gry, maroon and purp sh, lght brwn dolo-dolo/lm, fn grn, fair intr prtcl por, shw of lght brwn gasy oil, strng odr. 60MIN: same as thirty, slght decrse in sh, incrs in dolo, half w shw, strng odr.

DST #5: 4046' - 4054' (Arbuckle) Recovered 30' watery mud (10% water, 90% mud). Mis-run, tool opened while sliding to bottom.

DST #6: 4048' - 4059' (Arbuckle) Recovered 2" free oil (Gravity

3920: lots of gry sh, lots of chlyk lm, mstly crm xln lm, v. foss (crinoids), poor por, no odr, ns.

3930: mstly crm-tan inxln lm, dense, no vis por, lots of chlyk lm and gry sh, no odr, ns.

3940: aa, no sig change, slght decrse in chlyk lm, no odr, ns.

3950: lots of lght aqua-gry sh, incrs in loose pyrt, mstly crm-lght gry xln lm, dense, no odr, ns.

3960: incrs in maroon sh, mstly lght gry xln lm, v. foss, dense, no vis por, no odr, ns.

3970: incrs in gry, maroon and aqua sh, mstly drty crm xln lm, dense, poor-no por, no odr, ns.

3980: aa, no sig change, no odr, ns.

3990: mstly maroon & gry sh, lots of chlk shly lm, lots of crm xln lm, dense, shw of drk gry foss chrt, no lvi spor, no odr, ns.

4000: lots of maroon sh, incrs in chlyk lm, lots of crm-tan xln lm, dense, no odr, ns.

4010: aa, incrs in maroon & purple sh, lm aa, no odr, ns.

4020: lots of maroon & gry slty sh, lots of crm chlyk lm, no odr, ns.

4030: aa, no sig change, few qtz ss clusters, fn-med grn, well sortd, sub rounded, well cemntd, poor por, no odr, ns.

4040: lots of of maroon, gry and yellow sh, ss aa, crm xln lm, poor por, no odr, ns.

4050: lots of gry, aqua & maroon sh, tan xln lm, poor pin point por, oil stn, shw of drk crm chrty dolo, poor por, ns, few loose yellow chrt.

4060: mstly gry, maroon and purp sh, lght brwn dolo-dolo/lm, fn grn, fair intr prtcl por, shw of lght brwn gasy oil, strng odr.

4070: lots of gry, maroon and aqua sh, mstly lght brwn, fn grn, well cemntd dolo, semi dense, poor por, shw of brwn oil, fair-strng odr.

4080: sh aa, shw of wht chrt, lght crm chrty dolo, few chps of xln lm-dolo/lm, lots stns & ssfo, fair odr.

4090: aa, shw of lght crm carb sand, well ceemntd, fn-med grn, poor-fair intr prtcl por, ssfo, fair odr.

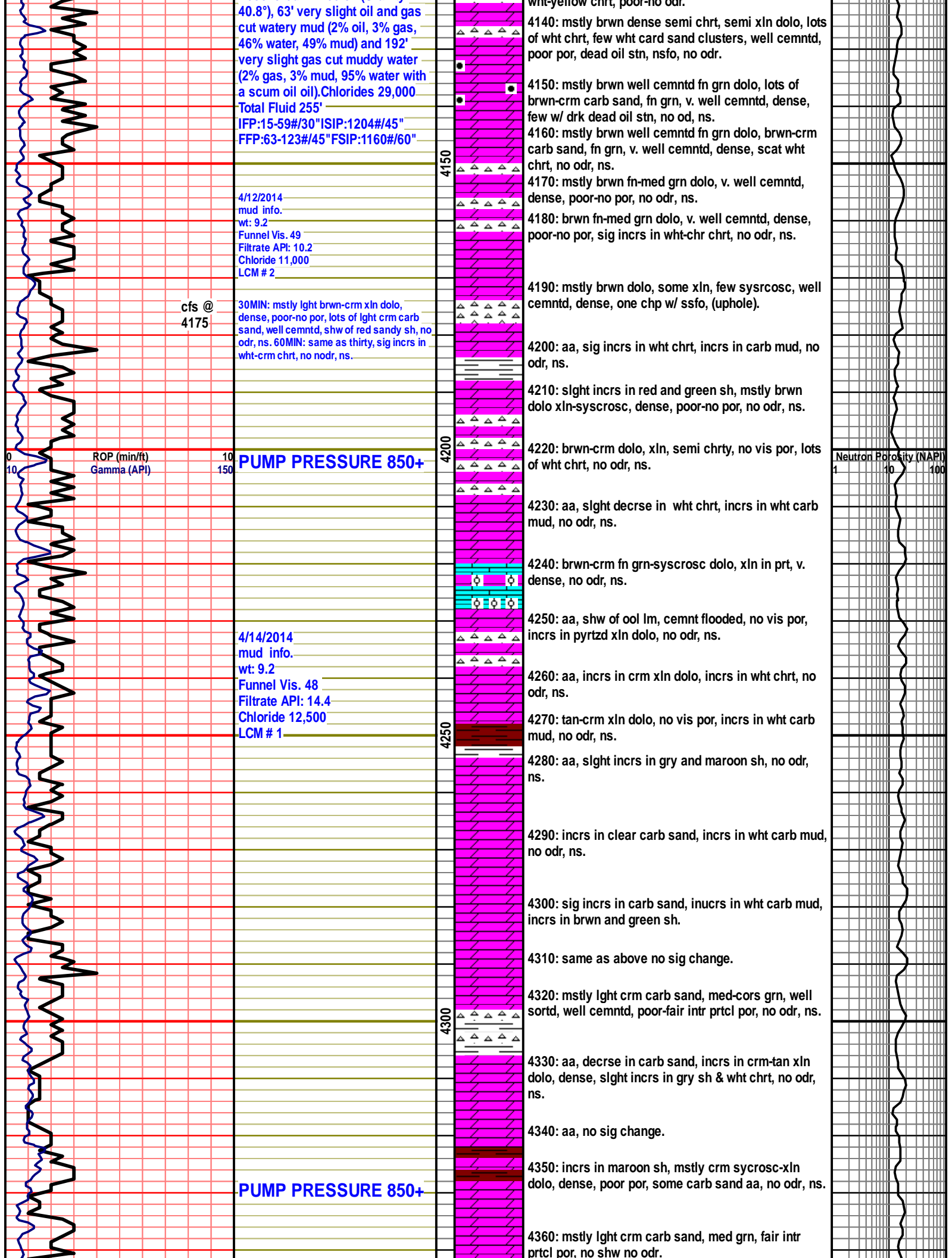
4100: mstly chrty dolo, lght brwn v. well cemntd dolo, incrs in wht chrt, slght decrse in shw rock, fair odr.

4110: aa, no sig change, incrs in wht chrt, fair odr w/ slght sulfuric smell.

4120: mstly chrty dolo, lght brwn v. well cemntd dolo, incrs in wht chrt, incrs in wht chlk & sh aa, fair odr.

4130: mstly lght brwn-brwn semi xln dolo, dense, poor-no por, sig decrse in shw rock, incrs in wht yellow chrt, poor no odr.

Neutron Porosity (NAPI)
1 10 100



40.8°: 63' very slight oil and gas cut watery mud (2% oil, 3% gas, 46% water, 49% mud) and 192' very slight gas cut muddy water (2% gas, 3% mud, 95% water with a scum oil oil). Chlorides 29,000 Total Fluid 255'
 IFP:15-59#/30" ISIP:1204#/45"
 FFP:63-123#/45" FSIP:1160#/60"

cfs @ 4175

30MIN: mstly lght brwn-crm xln dolo, dense, poor-no por, lots of lght crm carb sand, well cemntd, shw of red sandy sh, no odr, ns. 60MIN: same as thirty, sig incrs in wht-crm chrt, no nodr, ns.

PUMP PRESSURE 850+

4/14/2014 mud info. wt: 9.2 Funnel Vis. 48 Filtrate API: 14.4 Chloride 12,500 LCM # 1

PUMP PRESSURE 850+

Neutron Porosity (NAPI)

