CONFIDENTIAL

Alta Mesa Holdings, LP

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

Well Name:	ML Investments 1-11	ALTA MESA SERVICES	
API:	11-075-20025		
Location:	Sec 11, T8N, R4W	Payette County, ID	
License Number:	AFE: 0002515DC1	Region:	Willow
Spud Date:	8/28/2014	Drilling Completed:	9-2-2014
Surface Coordinates:	See drilling report		
Bottom Hole Coordinates:	See drilling report		
Ground Elevation (ft):	2392'	K.B. Elevation (ft):	2406'
Logged Interval (ft):	134' To: 5500'	Total Depth (ft):	5500'
Formation:	Willow		
Type of Drilling Fluid:	WBM to SCP, Invert Emulsion to TD		

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OPERATOR

Company: Alta Mesa Services
Address: 15021 Katy Freeway
4th Floor
Houston, TX 77094-1813

GEOLOGIST

Name: Phil Littlefield, Adam Johnson, Chris Nerud
Company: King Canyon Buffalo, Inc.
Address: 33 King Canyon Rd.
Chadron, NE 69337

Comments

Company Man: Jesse Tatman, Mike Dumas
Alta Mesa Engineer: David Tubbs
Alta Mesa Geologist: Mike McMennamy
Contractor: PGDS Rig #7 (Paul Graham Drilling Service)
Tool Pusher: Jeff Lopez, Dave Landers
Mud Company: Newpark Drilling Fluids
Mud Engineer: Nik Latham, Justin Haynes
KCB Wellsite Geology: Phil Littlefield, Chris Nerud, Adam Johnson, Chris Fellows, Brent Weeks, Angela Gelfer

ROCK TYPES

- Dol gy
- Anhy rose
- Anhy wh
- Bent
- Cht
- Coal
- Ls off wh
- Ls crmtn
- Congl
- Dol brn
- Ls ltgy
- Ls tn
- Ls wh
- Ls med brn
- Ls medgy
- Sh medgy
- Sltst brn
- sltst wh
- sltst ltgy
- Sltst tn
- sltst mgy
- Sltst
- Ss loose qtz
- Ss gy
- Ss clr-trnsl-opq
- Sh rdbrn
- Shale sndy
- Sh brn
- Sh tan
- Sh ltblu
- Carbshdkgy
- Sh carb
- Sh dkgy
- Sh grn
- Sh medgy
- Sh ltgy
- NO SMPL nosmpl
- Csgpt
- clyst tan/buff
- clyst brn
- clyst mar
- clyst wh
- clyst ltgrn
- clyst rdbrn
- clyst blgy
- clyst lt-mgy
- Coal
- Tuff ltgy
- Tuff ltgrn
- Tuff white
- Tuff dkgy
- Tuff orng
- Basalt flow top
- Basalt entab
- Basalt columnade
- Carbsh
- clyst m-mdkgy

ACCESSORIES

MINERAL

- Vertfrac
- Anhy
- Arggrn
- Arg
- Mica
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Qtz or calct xls
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Clyst gy
- Lsgy
- Lscrmtn

TEXTURE

- BS Boundst
- C Chalky
- CX Cryxln
- E Earthy
- FX Finexln
- GS Grainst
- L Lithogr
- MX Microxln
- MS Mudst
- PS Packst
- WS Wackest

OTHER SYMBOLS

POROSITY

- E Earthy
- Fenest
- F Fracture
- Inter
- Moldic
- Organic
- P Pinpoint
- V Vuggy

SORTING

- W Well
- M Moderate
- P Poor

ROUNDING

- R Rounded
- Subrnd
- a Subang
- A Angular

OIL SHOW

- Even
- Spotted
- Ques
- D Dead

INTERVAL

- Core
- Dst
- Casing

EVENT

- Rft
- Sidewall
- New bit

ROP (min/ft)	Lithology	Geological Descriptions	Rig/Mud Data	Mass Spec Total Gas	Resistivity	Porosity
ROP (min/ft) — Gamma (API) — Caliper				MS Total Gas (Units)	AT90, AT60, AT30, AT20	NPOR, DPHZ

DEPTH Date/Size

0 ROP (min/ft) 2
0 Gamma (API) 150
0 Caliper 10

KING CANYON BUFFALO, INC.
33 King Canyon Rd, Chadron, NE 69337
109 E 17th St, Ste 4159, Cheyenne, WY 82001
kcbison@yahoo.com
http://www.kingcanyonbuffalo.com/wellsite/

Mr. Chris Nerud,
President
(970) 212-6868
jcnerud@yahoo.com

Well Logged by Phil Littlefield, Chris Nerud, Adam Johnson & Chris Fellows with FIT "dq1000" Mass Spectrometer (#1078) and Gas Cannibal Trap

CN 144

CN 171

CN 201

CN 229

100

150

200

ALTA MESA SERVICES
ML Investments 1-11
API # 11-075-20025
AFE: # 0002515DC1
GL Elevation: 2392 ft
KB Elevation: 2406 ft

King Canyon Buffalo, Inc.
On location 8/26/2014 @ 12:00 hrs, Rigged up & fully operational 8/26/2014 @ 17:30 hrs

SPUD on 8-28-2014

KCB mudloggers catching 30' lagged samples starting at 134'

13 3/8" Conductor casing set at 120' (134' KB)

134'-160' spl: 90% CMT, w/ CLYST 10% ltgy, v/ ltgy, sft-v/ sft, n calc, rr - occ mod slty ip

CLYST 90% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ 10% CMT

CLYST 90% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ 10% CMT, w/ occ SS unconsol qtz, clr- trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC

CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ occ CMT, w/ occ SS unconsol qtz, clr- trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC, w/ tr free biot w/ cpr/slvr sheen, w/ tr musc

Mud Type: Water Base Mud

Rig / Mud Data

MW In/Out
Vis In/Out

Drilling 12 1/4" Surface hole

NB #1 (RR), 12 1/4", Hughes, VM - 1, 3x18-1x12 jets, Tricone in at 134', w/ set of Jars, No Mud Mtr

Drilling w/ wtr Spud Mud

MW 8.4
Vis 31

SPM 0/122

Transfer Fluid to active

Both pumps on hole

SPM 115/113

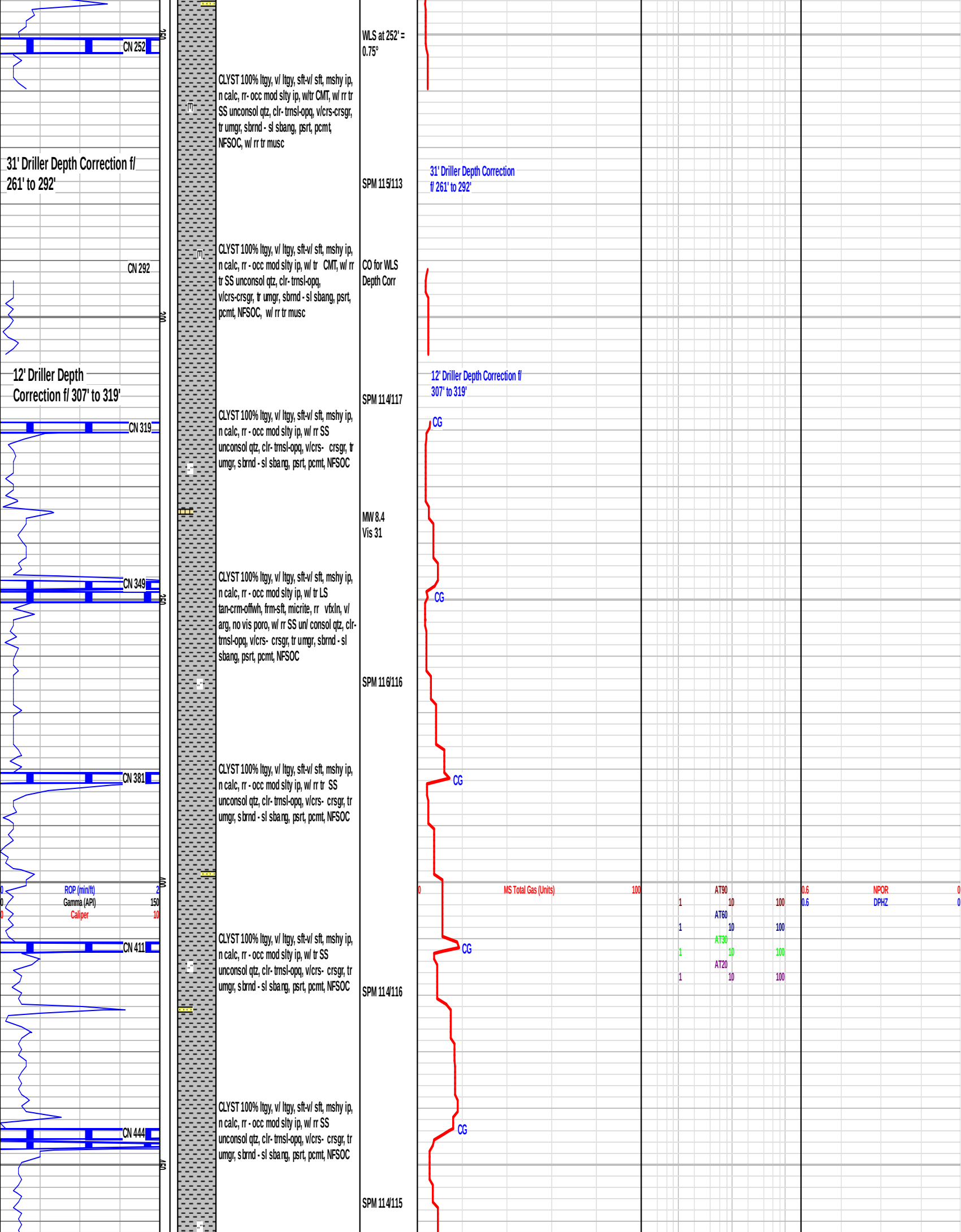
BGG = Background Gas
BIB = Break in Bit
CN = Connection
CG = Connection gas
CO = Circulate out
DOT = Dropped on trip
DT = Downtime
DTG = Downtime gas
FMG = Formation gas
LTC = Lagged to Connection
LTD = Lagged to Downtime
NB = New Bit
SODC - Strap Out Depth Corr
STG = Short Trip Gas
TG = Trip Gas
WLS = Wireline Survey

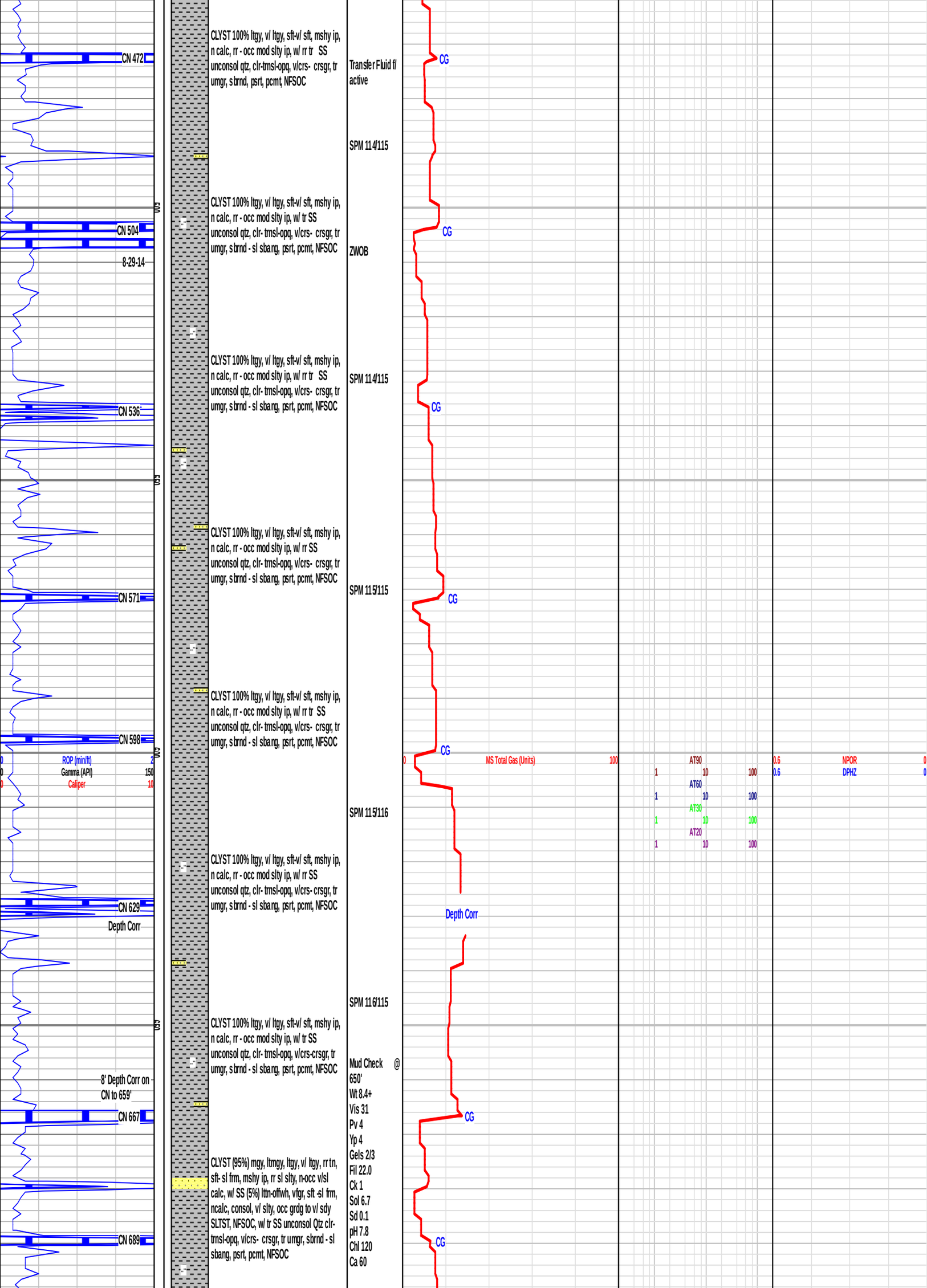
0 MS Total Gas (Units) 100

AT90 1 10 100
AT60 1 10 100
AT30 1 10 100
AT20 1 10 100

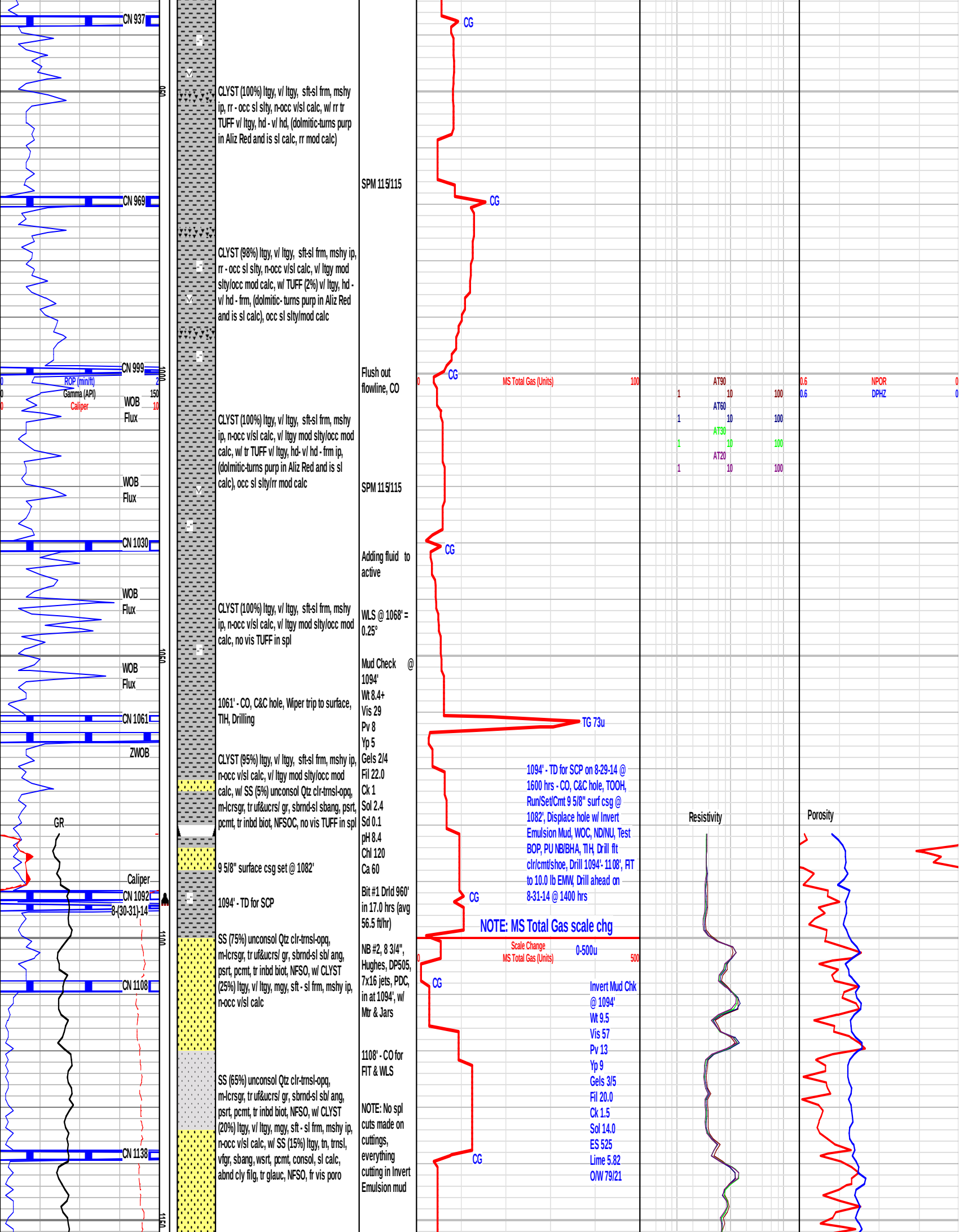
0.6 NPOR 0
0.6 DPHZ 0

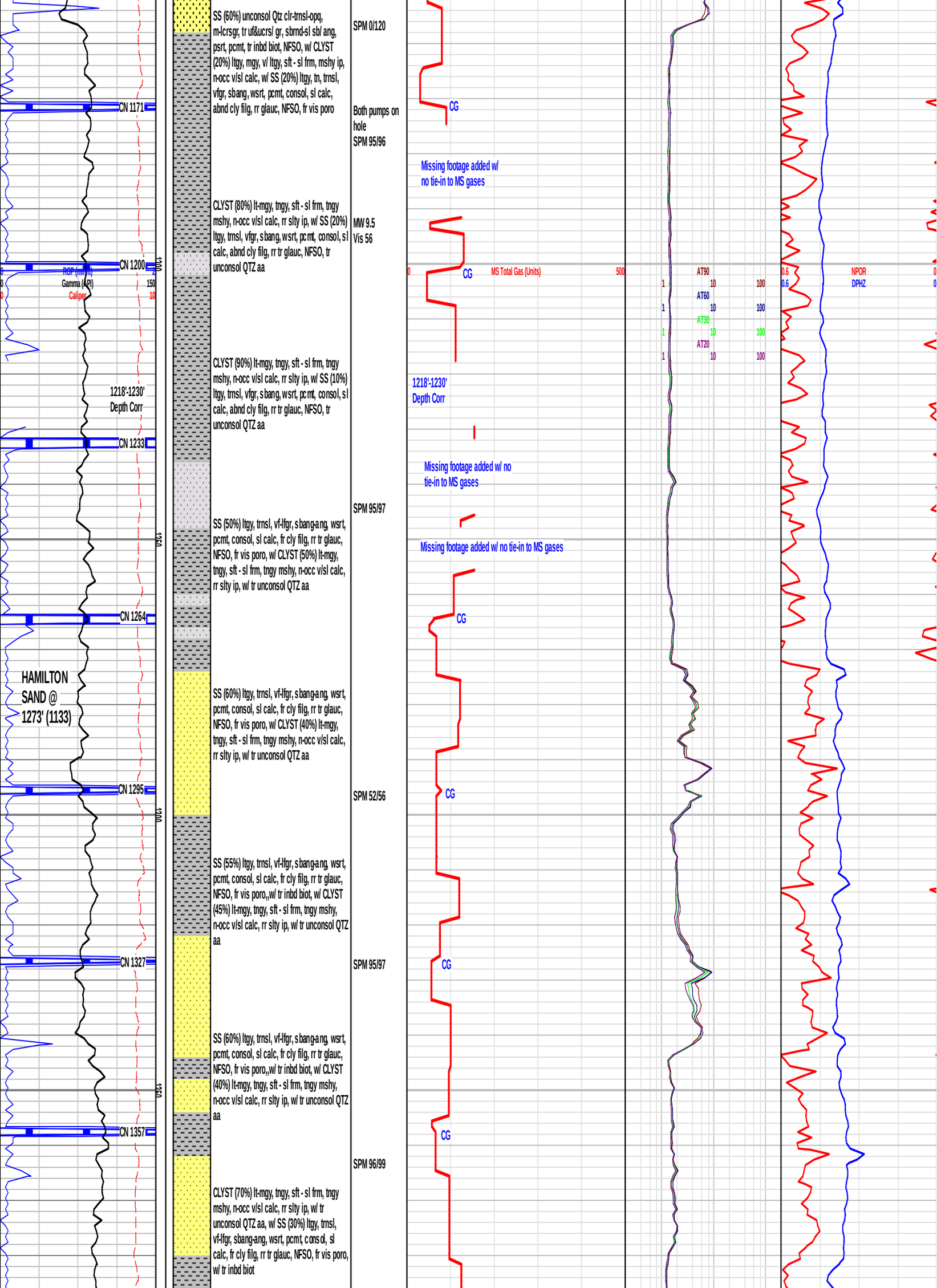
0 MS Total Gas (Units) 100
AT90 1 10 100
AT60 1 10 100
AT30 1 10 100
AT20 1 10 100
0.6 NPOR 0
0.6 DPHZ 0

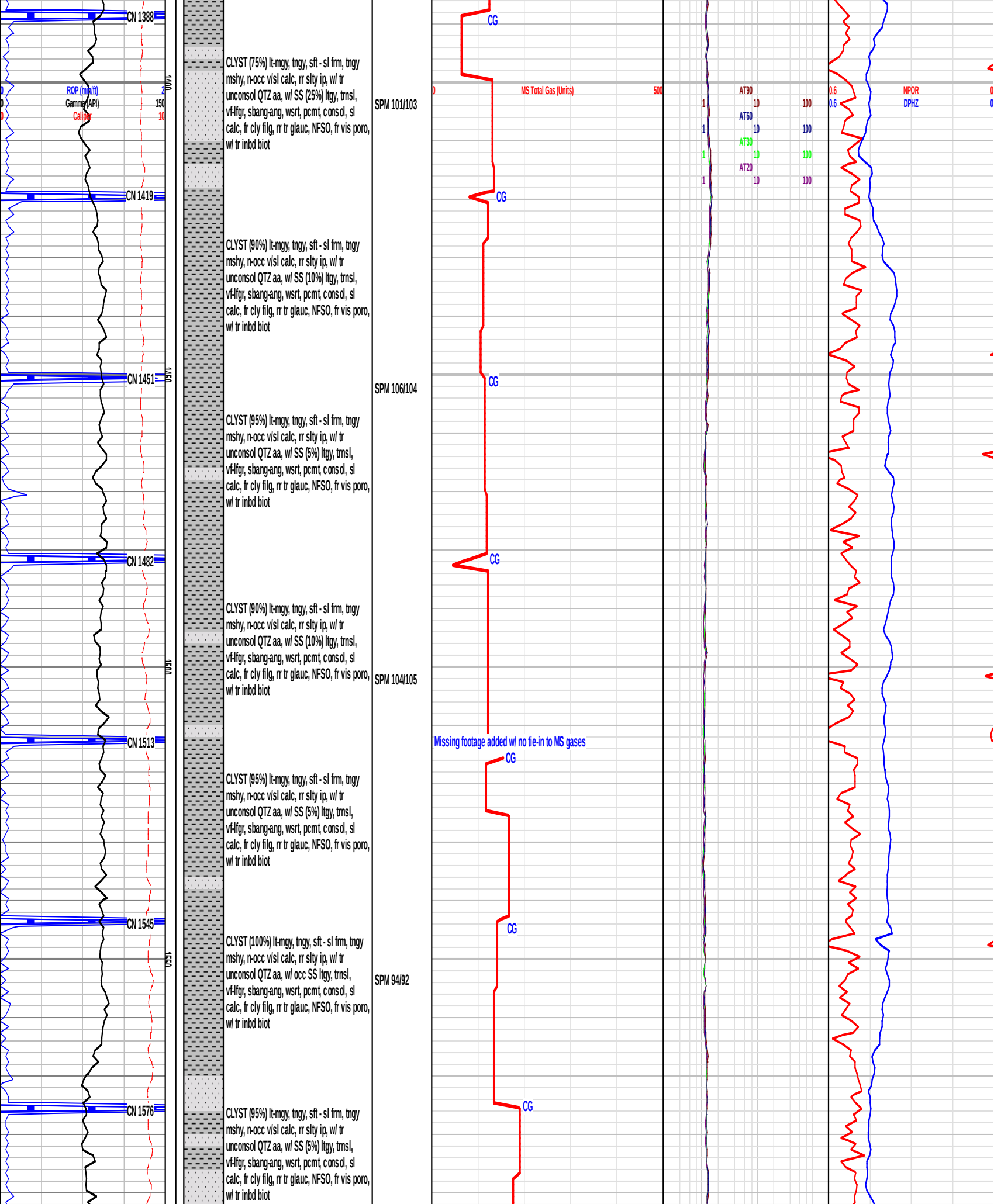

CN 252
WLS at 252' = 0.75°
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr- occ mod slty ip, w/tr CMT, w/ rr tr SS unconsol qtz, clr- trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC, w/ rr tr musc
31' Driller Depth Correction f/ 261' to 292'
SPM 115/113
31' Driller Depth Correction f/ 261' to 292'
CN 292
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ tr CMT, w/ rr tr SS unconsol qtz, clr- trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC, w/ rr tr musc
CO for WLS Depth Corr
12' Driller Depth Correction f/ 307' to 319'
SPM 114/117
12' Driller Depth Correction f/ 307' to 319'
CN 319
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ rr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
CG
MW 8.4
Vis 31
CN 349
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ tr LS tan-crm-offwh, frm-sft, micrite, rr vfxln, v/ arg, no vis poro, w/ rr SS un/ consol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
CG
SPM 116/116
CN 381
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ rr tr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
CG
ROP (min/ft)
Gamma (API)
Caliper
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ
CN 411
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ tr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
CG
SPM 114/116
CN 444
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ rr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
CG
SPM 114/115

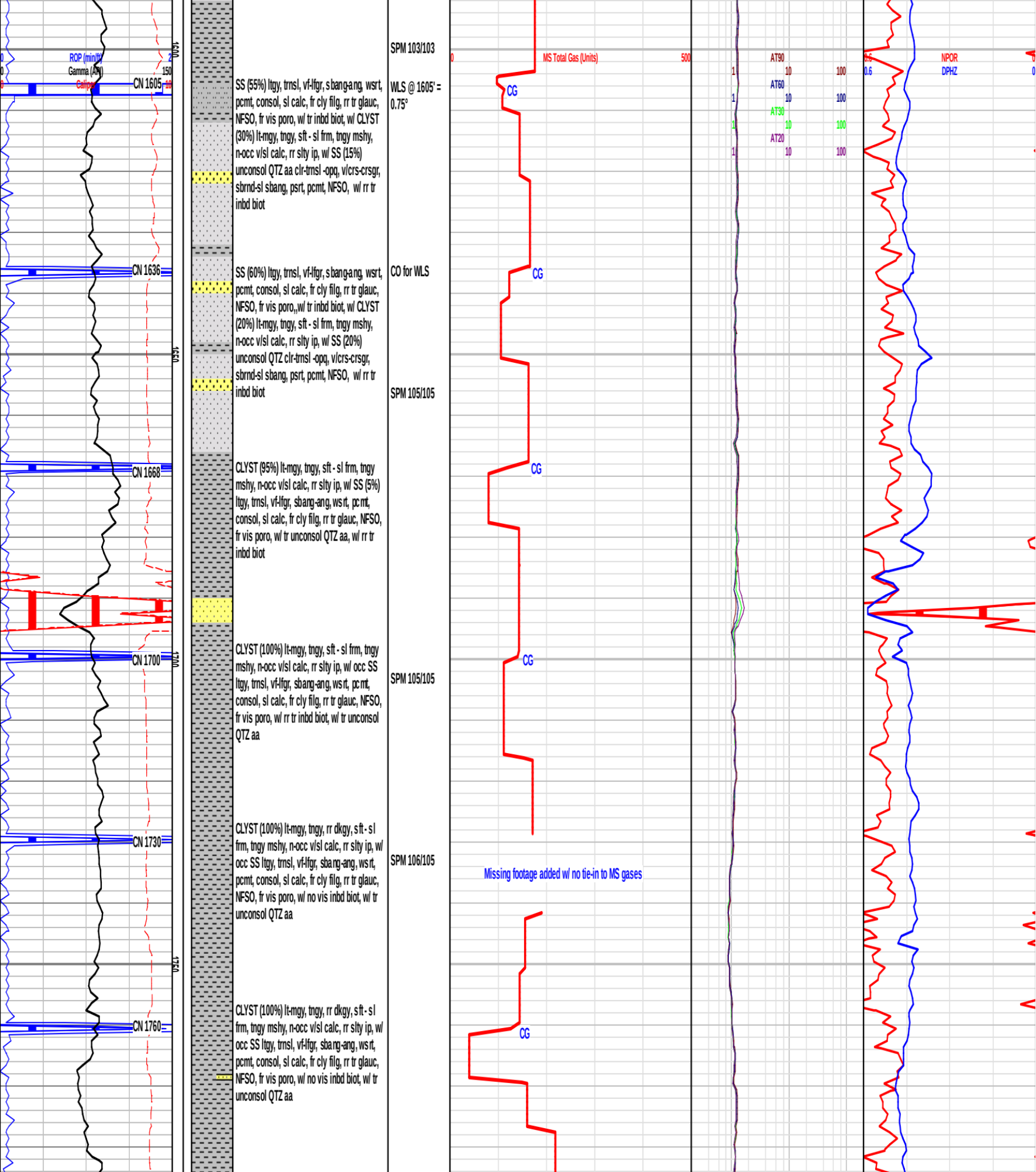

CN 472
CN 504
8-29-14
CN 536
CN 571
CN 598
ROP (min/ft)
Gamma (API)
Caliper
CN 629
Depth Corr
8' Depth Corr on CN to 659'
CN 667
CN 689
500
525
550
575
600
625
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ rr tr SS unconsol qtz, clr-trnsl-opq, v/crs- crsgr, tr umgr, sbrnd, psrt, pcmt, NFSOC
Transfer Fluid f/ active
SPM 114/115
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ tr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
ZWOB
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ rr tr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
SPM 114/115
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ rr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
SPM 115/115
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ rr tr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
SPM 115/116
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ rr SS unconsol qtz, clr- trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
SPM 116/115
CLYST 100% ltgy, v/ ltgy, sft-v/ sft, mshy ip, n calc, rr - occ mod slty ip, w/ tr SS unconsol qtz, clr- trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
Mud Check @ 650'
Wt 8.4+
Vis 31
Pv 4
Yp 4
Gels 2/3
Fil 22.0
Ck 1
Sol 6.7
Sd 0.1
pH 7.8
Chl 120
Ca 60
CLYST (95%) mgy, ltmgy, ltgy, v/ ltgy, rr tn, sft- sl frm, mshy ip, rr sl slty, n-occ v/sl calc, w/ SS (5%) lttn-offwh, vfgr, sft -sl frm, ncalc, consol, v/ slty, occ grdg to v/ sdy SLTST, NFSOC, w/ tr SS unconsol Qtz clr-trnsl-opq, v/crs- crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
CG
Depth Corr
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ

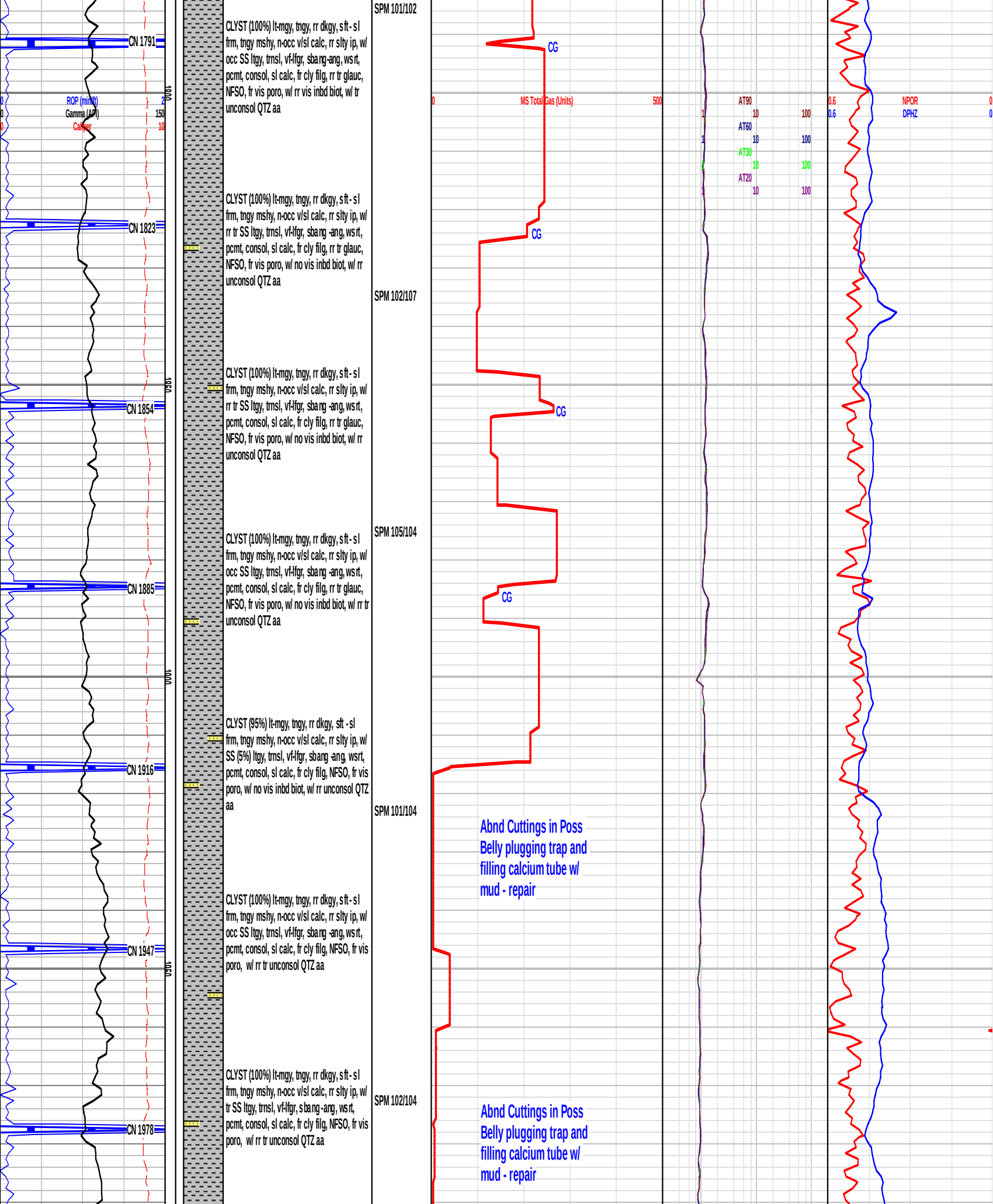
ROP (min/ft)
Gamma (API)
Caliper
CN 720
DT
CN 751
DT
CN 782
CN 813
CN 845
CN 876
3' Depth Corr to 905'
CN 908
CLYST (95%) mgy, ltmgy, ltgy, v/ ltgy, rr tn, sft-sl frm, mshy ip, rr sl slty, n-occ v/sl calc, w/ SS (5%) unconsol Qtz clr- trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC, w/ tr SS lttn-offwh, vfgr, sft -sl frm, ncalc, consol, v/ slty, occ grdg to v/ sdy SLTST, NFSOC
SPM 116/114
CG
CLYST (95%) mgy, ltmgy, ltgy, v/ ltgy, rr tn, sft-sl frm, mshy ip, rr sl slty, n-occ v/sl calc, w/ SS (5%) unconsol Qtz clr- trnsl-opq, ltorng, v/crs-crsgr, tr umgr, sbrnd-sl sbang, psrt, pcmt, NFSOC, w/ rr tr consol SS aa
WLS at 751' = 0.75°
CO for WLS
DTG
CG
CO for WLS
DTG
CLYST (100%) ltmgy, ltgy, v/ ltgy, sft-sl frm, mshy ip, rr sl slty, n-occ v/sl calc, w/ tr SS unconsol Qtz clr- trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
CG
CLYST (100%) ltgy, v/ ltgy, ltmgy, sft-sl frm, mshy ip, rr sl slty, n-occ v/sl calc, w/ rr tr SS unconsol Qtz clr- trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC
SPM 115/115
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ
CG
CLYST (97%) ltgy, v/ ltgy, sft-sl frm, mshy ip, rr - occ sl slty, n-occ v/sl calc, w/ TUFF (3%) v/ ltgy, hd - v/ hd, (dolmitic -turns purp in Aliz Red and is sl calc), tr inbd pyr/gold mica
CG
CLYST (99%) ltgy, v/ ltgy, sft-sl frm, mshy ip, rr - occ sl slty, n-occ v/sl calc, w/ TUFF (1%) v/ ltgy, hd - v/ hd, (dolmitic -turns purp in Aliz Red and is sl calc), rr tr inbd gold mica
CG
CLYST (100%) ltgy, v/ ltgy, sft-sl frm, mshy ip, rr - occ sl slty, n-occ v/sl calc, w/ rr tr SS unconsol Qtz clr-trnsl-opq, v/crs-crsgr, tr umgr, sbrnd - sl sbang, psrt, pcmt, NFSOC, v/ rr tr TUFF aa
SPM 115/115
CG
CLYST (100%) ltgy, v/ ltgy, sft-sl frm, mshy ip, rr - occ sl slty, n-occ v/sl calc, w/ rr tr TUFF v/ ltgy, hd - v/ hd, (dolmitic -turns purp in Aliz Red and is sl calc), no vis inbd gold mica

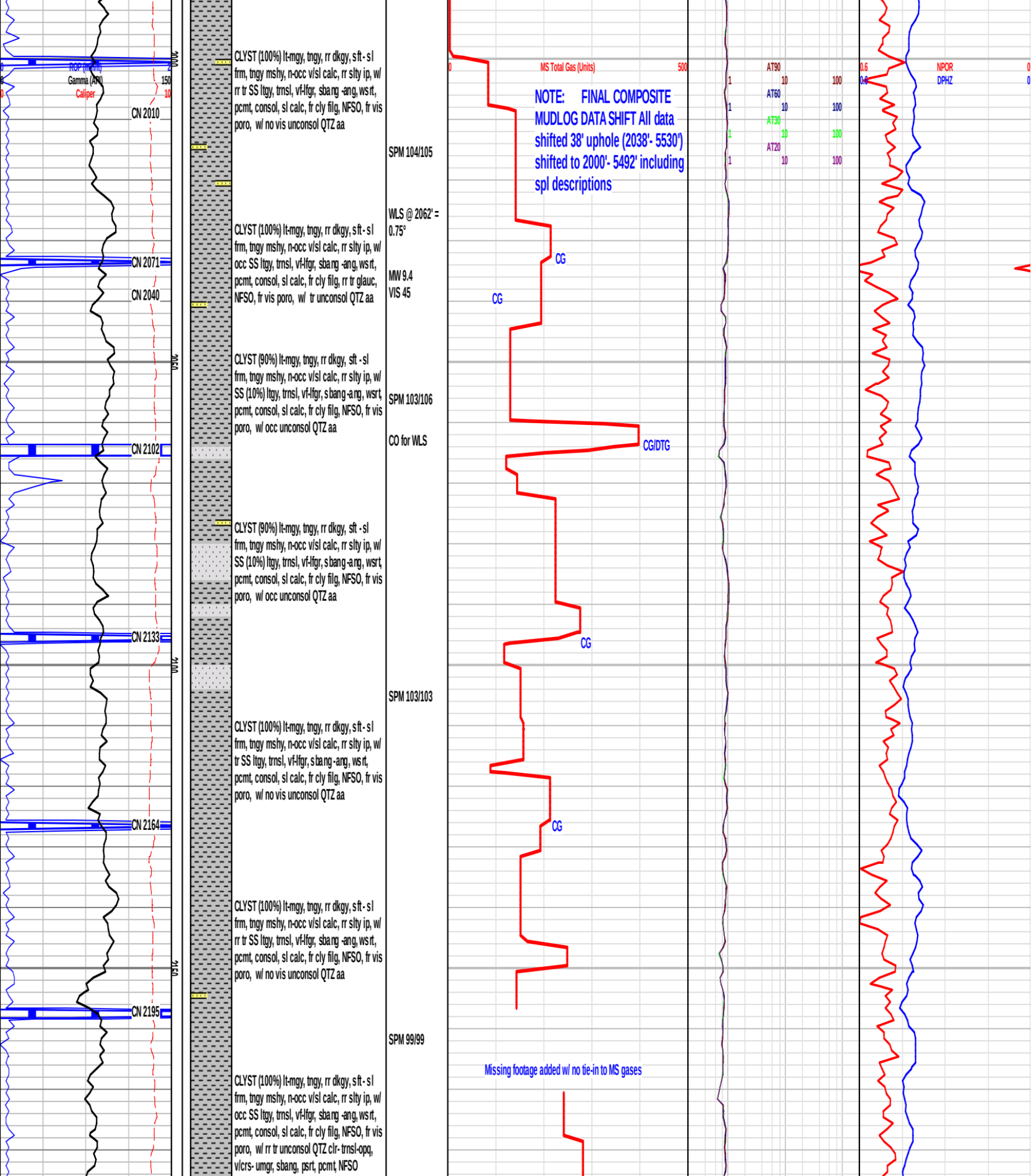

CN 937
CN 969
CN 999
ROP (min/ft)
Gamma (API)
Caliper
WOB
Flux
CN 1030
CN 1061
ZWOB
GR
Caliper
CN 1092
8-(30-31)-14
CN 1108
CN 1138
1000
1050
1100
1150
CLYST (100%) ltgy, v/ ltgy, sft-sl frm, mshy ip, rr - occ sl slty, n-occ v/sl calc, w/ rr tr TUFF v/ ltgy, hd - v/ hd, (dolmitic-turns purp in Aliz Red and is sl calc, rr mod calc)
CLYST (98%) ltgy, v/ ltgy, sft-sl frm, mshy ip, rr - occ sl slty, n-occ v/sl calc, v/ ltgy mod slty/occ mod calc, w/ TUFF (2%) v/ ltgy, hd - v/ hd - frm, (dolmitic- turns purp in Aliz Red and is sl calc), occ sl slty/mod calc
CLYST (100%) ltgy, v/ ltgy, sft-sl frm, mshy ip, n-occ v/sl calc, v/ ltgy mod slty/occ mod calc, w/ tr TUFF v/ ltgy, hd- v/ hd - frm ip, (dolmitic-turns purp in Aliz Red and is sl calc), occ sl slty/rr mod calc
CLYST (100%) ltgy, v/ ltgy, sft-sl frm, mshy ip, n-occ v/sl calc, v/ ltgy mod slty/occ mod calc, no vis TUFF in spl
1061' - CO, C&C hole, Wiper trip to surface, TIH, Drilling
CLYST (95%) ltgy, v/ ltgy, sft-sl frm, mshy ip, n-occ v/sl calc, v/ ltgy mod slty/occ mod calc, w/ SS (5%) unconsol Qtz clr-trnsl-opq, m-lcrsgr, tr uf&ucrs/ gr, sbrnd-sl sbang, psrt, pcmt, tr inbd biot, NFSOC, no vis TUFF in spl
9 5/8" surface csg set @ 1082'
1094' - TD for SCP
SS (75%) unconsol Qtz clr-trnsl-opq, m-lcrsgr, tr uf&ucrs/ gr, sbrnd-sl sb/ ang, psrt, pcmt, tr inbd biot, NFSO, w/ CLYST (25%) ltgy, v/ ltgy, mgy, sft - sl frm, mshy ip, n-occ v/sl calc
SS (65%) unconsol Qtz clr-trnsl-opq, m-lcrsgr, tr uf&ucrs/ gr, sbrnd-sl sb/ ang, psrt, pcmt, tr inbd biot, NFSO, w/ CLYST (20%) ltgy, v/ ltgy, mgy, sft - sl frm, mshy ip, n-occ v/sl calc, w/ SS (15%) ltgy, tn, trnsl, vfgr, sbang, wsrt, pcmt, consol, sl calc, abnd cly filg, tr glauc, NFSO, fr vis poro
SPM 115/115
Flush out flowline, CO
SPM 115/115
Adding fluid to active
WLS @ 1068' = 0.25°
Mud Check @ 1094'
Wt 8.4+
Vis 29
Pv 8
Yp 5
Gels 2/4
Fil 22.0
Ck 1
Sol 2.4
Sd 0.1
pH 8.4
Chl 120
Ca 60
Bit #1 Drld 960' in 17.0 hrs (avg 56.5 ft/hr)
NB #2, 8 3/4", Hughes, DP505, 7x16 jets, PDC, in at 1094', w/ Mtr & Jars
1108' - CO for FIT & WLS
NOTE: No spl cuts made on cuttings, everything cutting in Invert Emulsion mud
CG
MS Total Gas (Units)
0
100
TG 73u
1094' - TD for SCP on 8-29-14 @ 1600 hrs - CO, C&C hole, TOOH, Run/Set/Cmt 9 5/8" surf csg @ 1082', Displace hole w/ Invert Emulsion Mud, WOC, ND/NU, Test BOP, PU NB/BHA, TIH, Drill flt clr/cmt/shoe, Drill 1094'- 1108', FIT to 10.0 lb EMW, Drill ahead on 8-31-14 @ 1400 hrs
NOTE: MS Total Gas scale chg
Scale Change
MS Total Gas (Units)
0-500u
500
Invert Mud Chk @ 1094'
Wt 9.5
Vis 57
Pv 13
Yp 9
Gels 3/5
Fil 20.0
Ck 1.5
Sol 14.0
ES 525
Lime 5.82
O/W 79/21
AT90
AT60
AT30
AT20
1
10
100
Resistivity
NPOR
DPHZ
0.6
Porosity

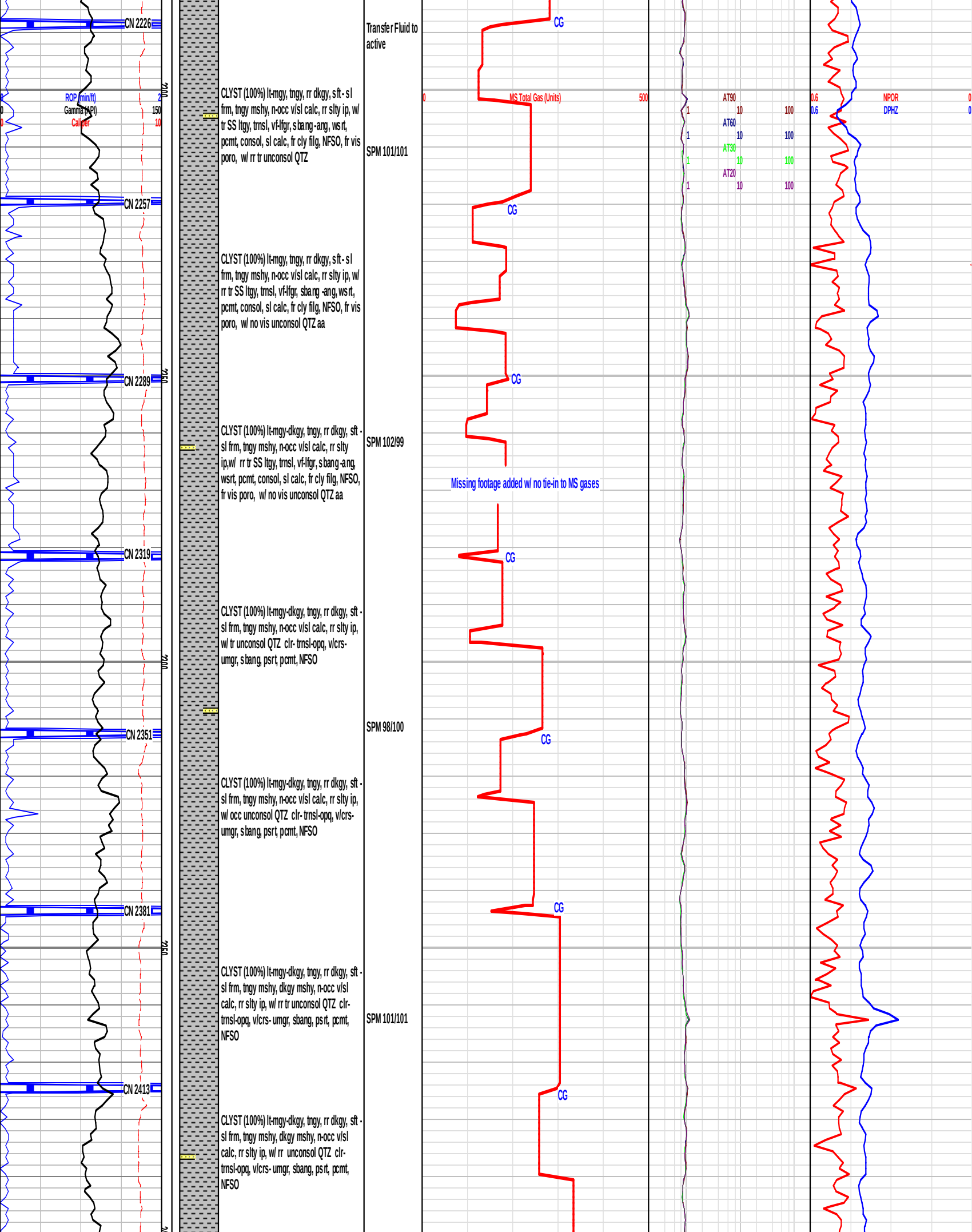

SS (60%) unconsol Qtz clr-trnsl-opq, m-lcrsgr, tr uf&ucrs/ gr, sbrnd-sl sb/ ang, psrt, pcmt, tr inbd biot, NFSO, w/ CLYST (20%) ltgy, mgy, v/ ltgy, sft - sl frm, mshy ip, n-occ v/sl calc, w/ SS (20%) ltgy, tn, trnsl, vfgr, sbang, wsrt, pcmt, consol, sl calc, abnd cly filg, rr glauc, NFSO, fr vis poro
SPM 0/120
CN 1171
Both pumps on hole
SPM 95/96
CG
Missing footage added w/ no tie-in to MS gases
CLYST (80%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ SS (20%) ltgy, trnsl, vfgr, sbang, wsrt, pcmt, consol, sl calc, abnd cly filg, rr tr glauc, NFSO, tr unconsol QTZ aa
MW 9.5
Vis 56
CN 1200
ROP (min/ft)
Gamma (API)
Caliper
150
10
MS Total Gas (Units)
500
AT90
AT60
AT30
AT20
NPOR
DPHZ
CLYST (90%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ SS (10%) ltgy, trnsl, vfgr, sbang, wsrt, pcmt, consol, sl calc, abnd cly filg, rr tr glauc, NFSO, tr unconsol QTZ aa
1218'-1230' Depth Corr
CN 1233
Missing footage added w/ no tie-in to MS gases
SPM 95/97
SS (50%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ CLYST (50%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa
Missing footage added w/ no tie-in to MS gases
CN 1264
HAMILTON SAND @ 1273' (1133)
SS (60%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ CLYST (40%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa
CN 1295
SPM 52/56
SS (55%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro,,w/ tr inbd biot, w/ CLYST (45%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa
CN 1327
SPM 95/97
SS (60%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro,,w/ tr inbd biot, w/ CLYST (40%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa
CN 1357
SPM 96/99
CLYST (70%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa, w/ SS (30%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot

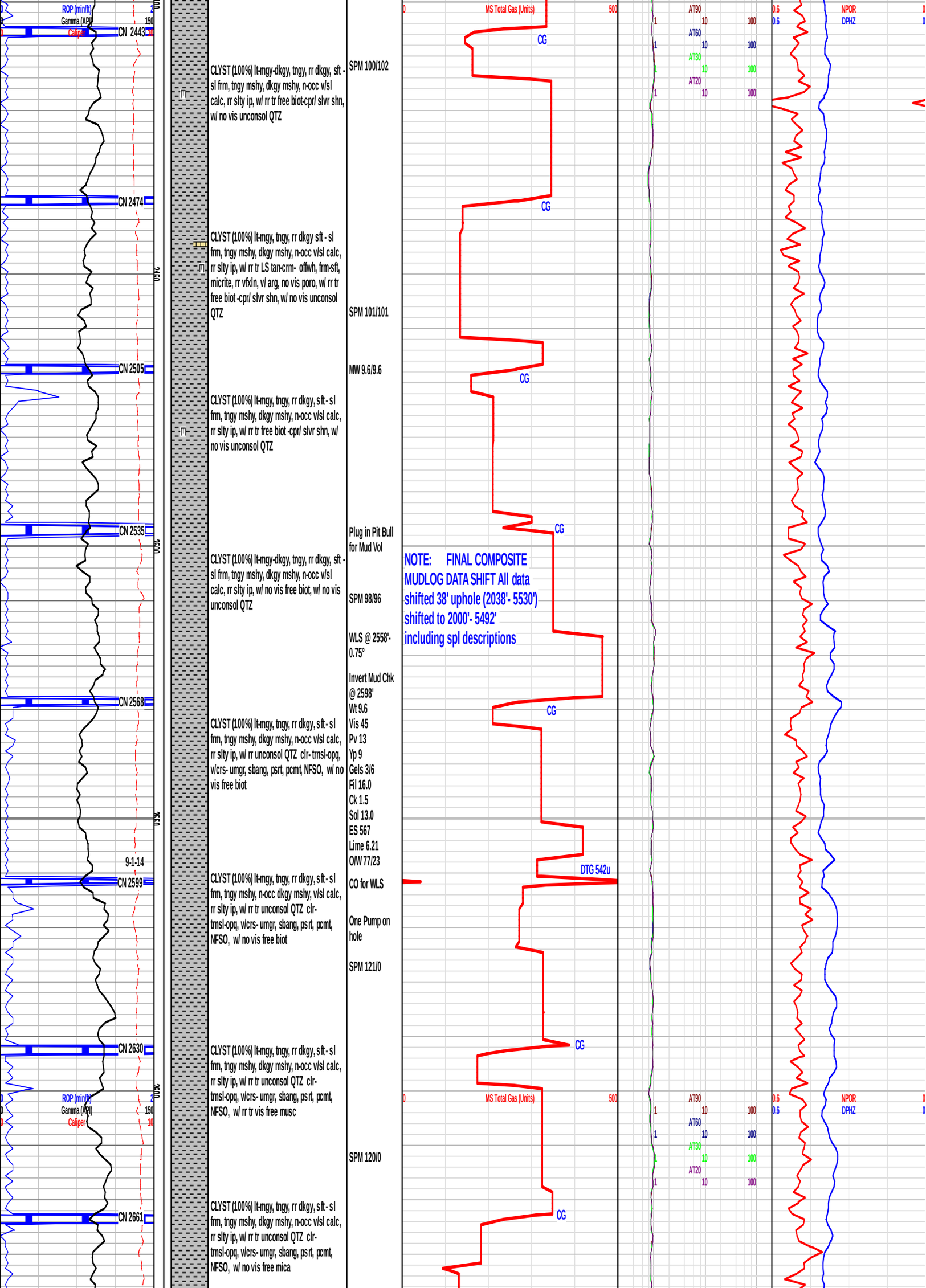

CN 1388
CN 1419
CN 1451
CN 1482
CN 1513
CN 1545
CN 1576
1400
1450
1500
1550
ROP (min/ft)
Gamma (API)
Caliper
0
2
150
10
CLYST (75%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa, w/ SS (25%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot
CLYST (90%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa, w/ SS (10%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot
CLYST (95%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa, w/ SS (5%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot
CLYST (90%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa, w/ SS (10%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot
CLYST (95%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa, w/ SS (5%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot
CLYST (100%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa, w/ occ SS ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot
CLYST (95%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ aa, w/ SS (5%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot
SPM 101/103
SPM 106/104
SPM 104/105
SPM 94/92
CG
0
MS Total Gas (Units)
500
Missing footage added w/ no tie-in to MS gases
AT90
AT60
AT30
AT20
1
10
100
0.6
NPOR
DPHZ

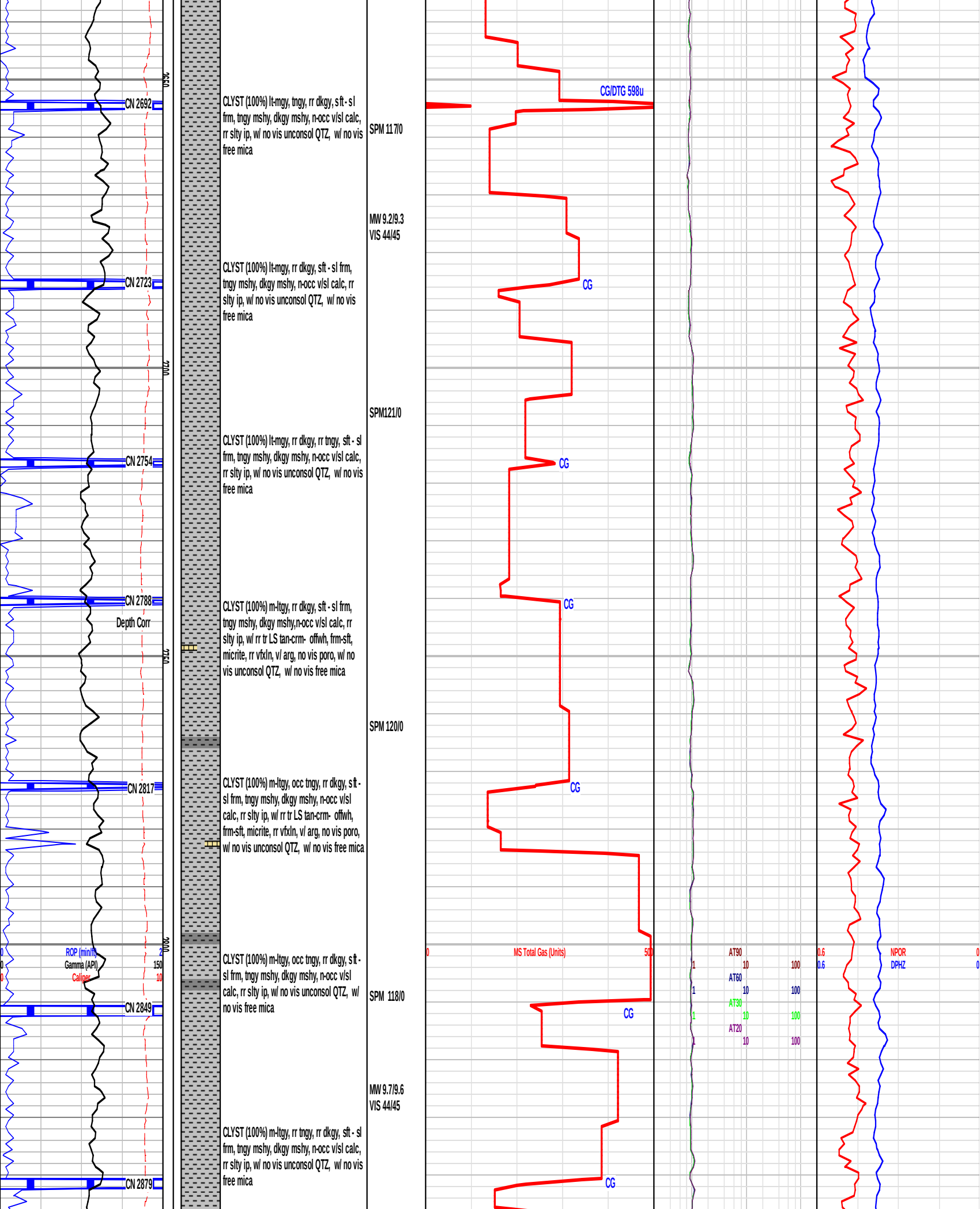

ROP (min/ft)
Gamma (API)
Caliper
CN 1605
CN 1636
CN 1668
CN 1700
CN 1730
CN 1760
1600
1650
1700
1750
SS (55%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr inbd biot, w/ CLYST (30%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ SS (15%) unconsol QTZ aa clr-trnsl -opq, v/crs-crsgr, sbrnd-sl sbang, psrt, pcmt, NFSO, w/ rr tr inbd biot
SS (60%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro,,w/ tr inbd biot, w/ CLYST (20%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ SS (20%) unconsol QTZ clr-trnsl -opq, v/crs-crsgr, sbrnd-sl sbang, psrt, pcmt, NFSO, w/ rr tr inbd biot
CLYST (95%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ SS (5%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr unconsol QTZ aa, w/ rr tr inbd biot
CLYST (100%) lt-mgy, tngy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ SS ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ rr tr inbd biot, w/ tr unconsol QTZ aa
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ SS ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ no vis inbd biot, w/ tr unconsol QTZ aa
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ SS ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ no vis inbd biot, w/ tr unconsol QTZ aa
SPM 103/103
WLS @ 1605' = 0.75°
CO for WLS
SPM 105/105
SPM 105/105
SPM 106/105
MS Total Gas (Units)
0
500
CG
Missing footage added w/ no tie-in to MS gases
AT90
AT60
AT30
AT20
1
10
100
NPOR
DPHZ
0.6

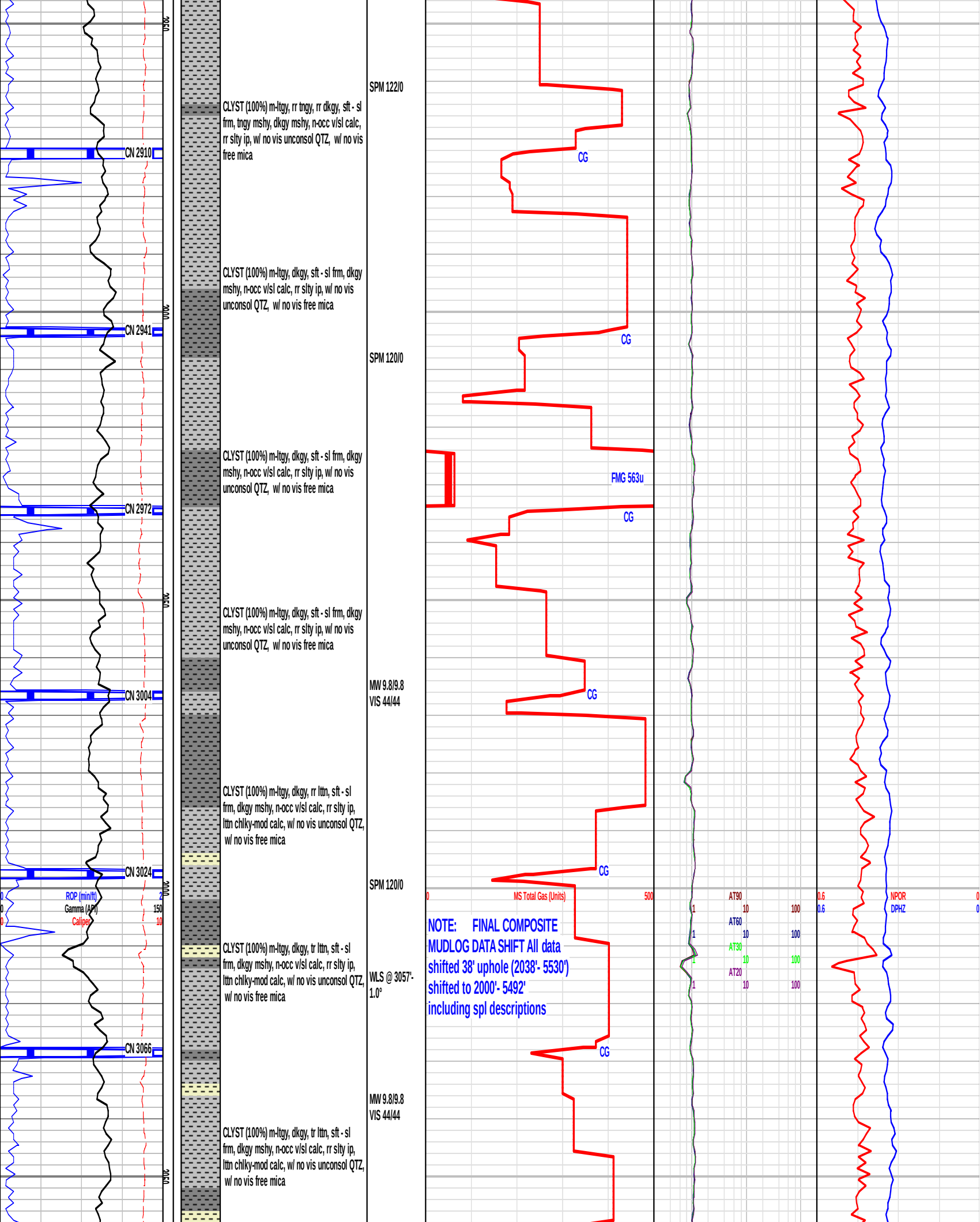

ROP (min/ft)
Gamma (API)
Caliper
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ
CN 1791
CN 1823
CN 1854
CN 1885
CN 1916
CN 1947
CN 1978
SPM 101/102
SPM 102/107
SPM 105/104
SPM 101/104
SPM 102/104
CG
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ SS ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ rr vis inbd biot, w/ tr unconsol QTZ aa
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ no vis inbd biot, w/ rr unconsol QTZ aa
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ no vis inbd biot, w/ rr unconsol QTZ aa
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ no vis inbd biot, w/ rr tr unconsol QTZ aa
CLYST (95%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ SS (5%) ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ no vis inbd biot, w/ rr unconsol QTZ aa
Abnd Cuttings in Poss Belly plugging trap and filling calcium tube w/ mud - repair
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ rr tr unconsol QTZ aa
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ rr tr unconsol QTZ aa
Abnd Cuttings in Poss Belly plugging trap and filling calcium tube w/ mud - repair

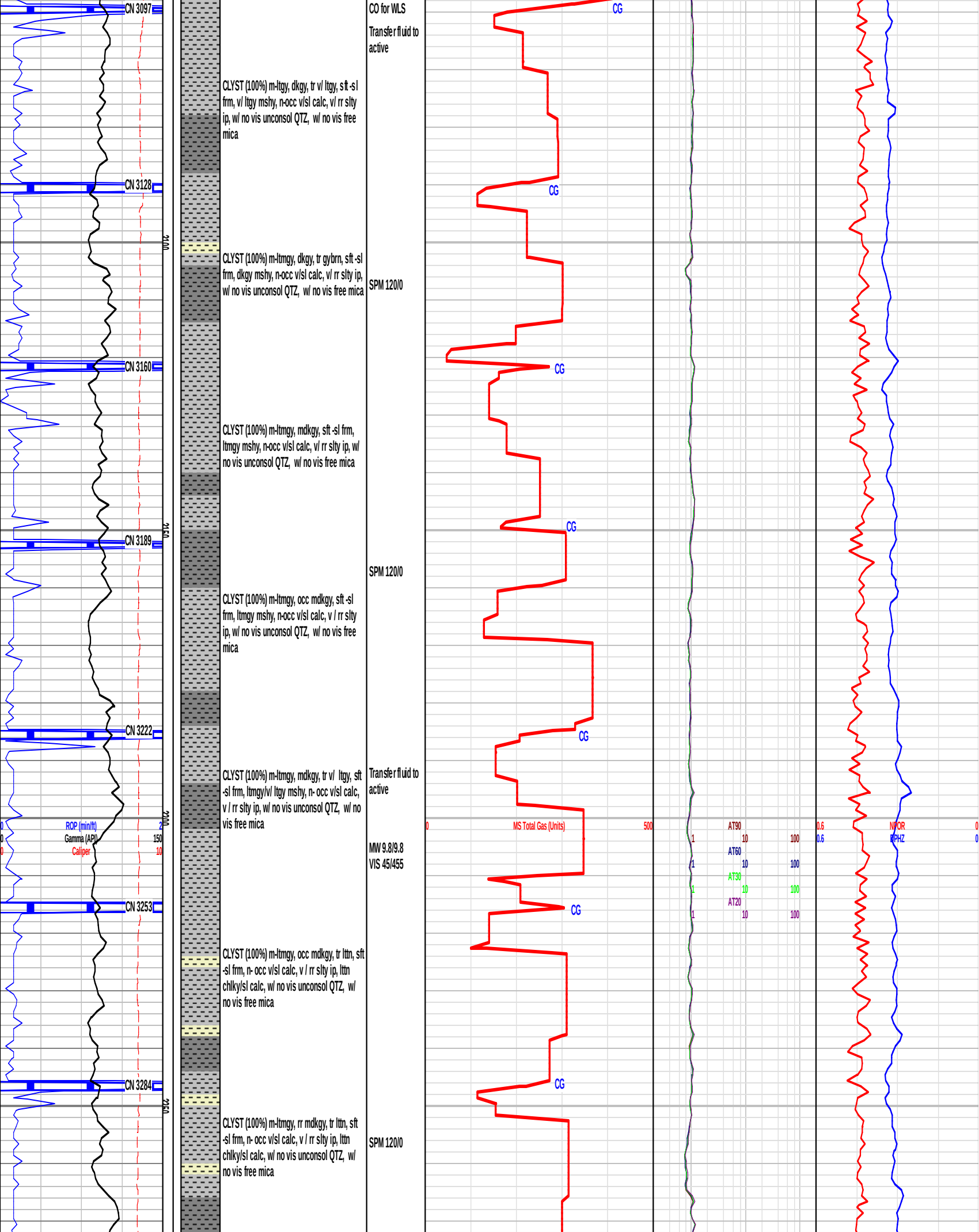

ROP (min/ft)
Gamma (API)
Caliper
150
10
CN 2010
CN 2071
CN 2040
CN 2102
CN 2133
CN 2164
CN 2195
2000
2050
2100
2150
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ no vis unconsol QTZ aa
SPM 104/105
WLS @ 2062' = 0.75°
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, rr tr glauc, NFSO, fr vis poro, w/ tr unconsol QTZ aa
MW 9.4
VIS 45
CLYST (90%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ SS (10%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ occ unconsol QTZ aa
SPM 103/106
CO for WLS
CLYST (90%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ SS (10%) ltgy, trnsl, vf-lfgr, sbang-ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ occ unconsol QTZ aa
SPM 103/103
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ no vis unconsol QTZ aa
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ no vis unconsol QTZ aa
SPM 99/99
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ rr tr unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO
MS Total Gas (Units)
0
500
NOTE: FINAL COMPOSITE MUDLOG DATA SHIFT All data shifted 38' uphole (2038'- 5530') shifted to 2000'- 5492' including spl descriptions
CG
CG
CG/DTG
CG
CG
Missing footage added w/ no tie-in to MS gases
AT90
AT60
AT30
AT20
1
10
100
0.6
NPOR
DPHZ

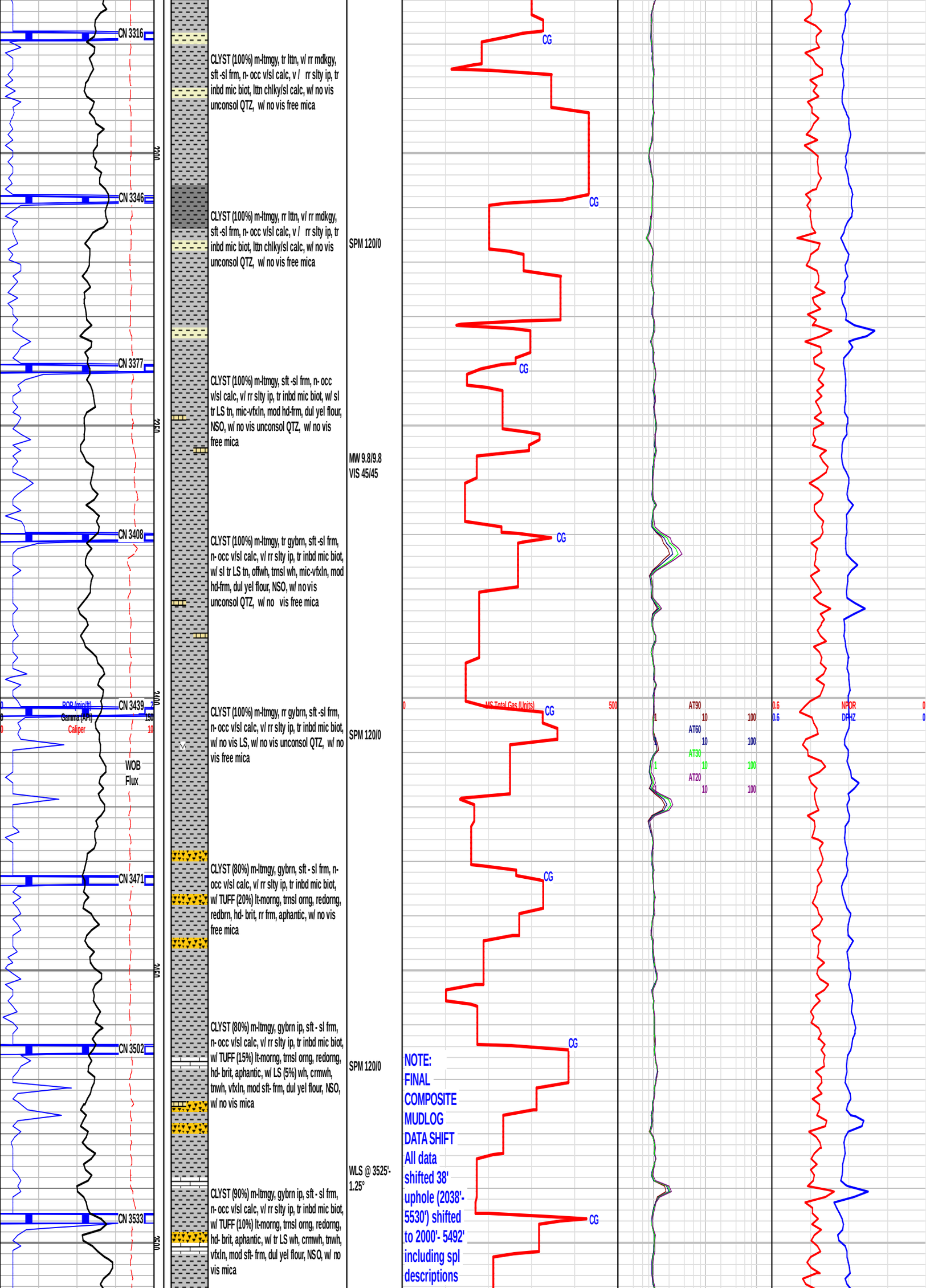

ROP (min/ft)
Gamma (API)
Caliper
150
10
CN 2226
CN 2257
CN 2289
CN 2319
CN 2351
CN 2381
CN 2413
Transfer Fluid to active
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ rr tr unconsol QTZ
SPM 101/101
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ no vis unconsol QTZ aa
CLYST (100%) lt-mgy-dkgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip,w/ rr tr SS ltgy, trnsl, vf-lfgr, sbang -ang, wsrt, pcmt, consol, sl calc, fr cly filg, NFSO, fr vis poro, w/ no vis unconsol QTZ aa
SPM 102/99
CLYST (100%) lt-mgy-dkgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ tr unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO
SPM 98/100
CLYST (100%) lt-mgy-dkgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ v/sl calc, rr slty ip, w/ occ unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO
SPM 101/101
CLYST (100%) lt-mgy-dkgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO
CLYST (100%) lt-mgy-dkgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO
CG
MS Total Gas (Units)
0
500
Missing footage added w/ no tie-in to MS gases
AT90
AT60
AT30
AT20
1
10
100
NPOR
DPHZ
0.6

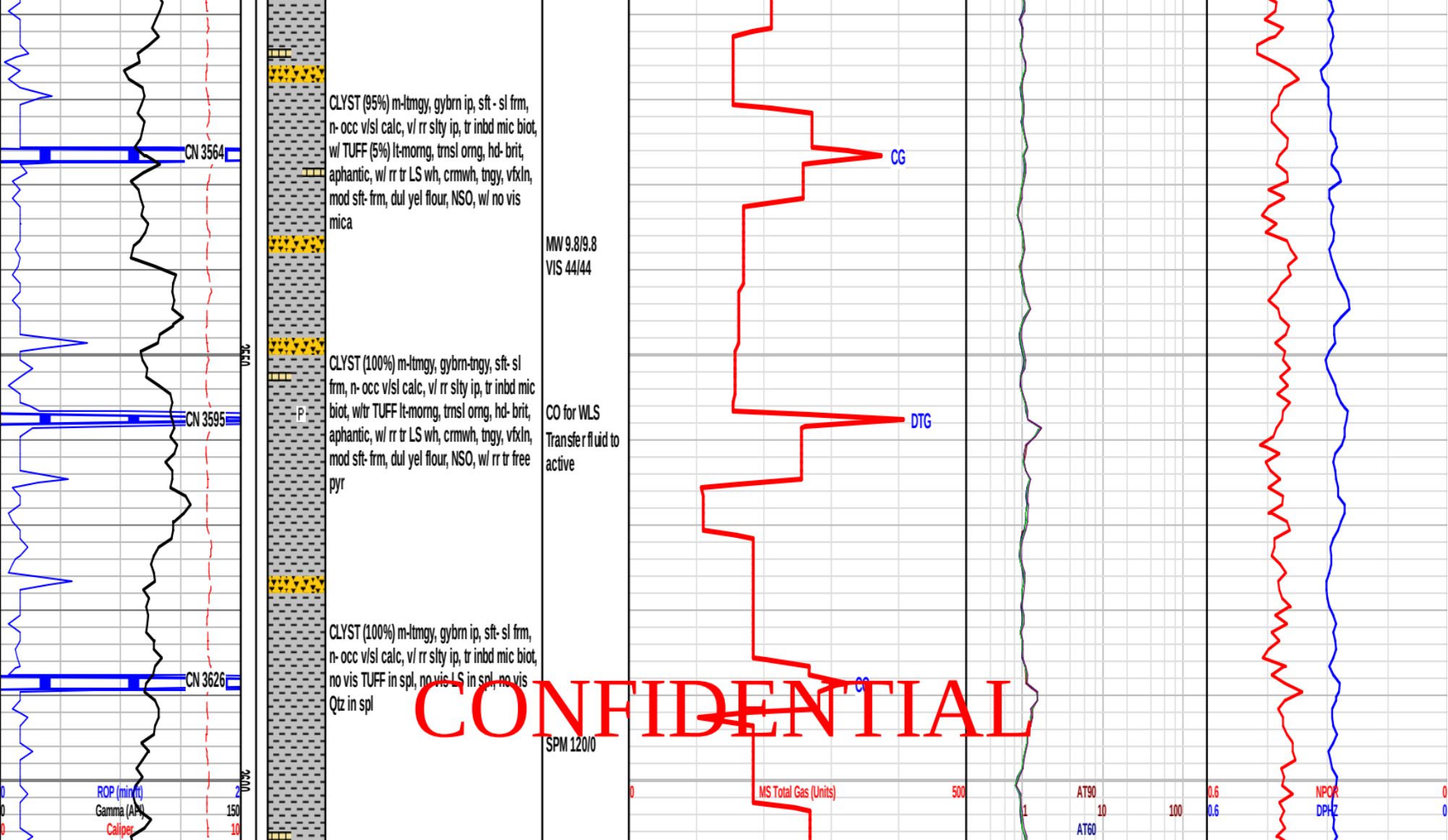

ROP (min/ft)
Gamma (API)
Caliper
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ
CN 2443
CN 2474
CN 2505
CN 2535
CN 2568
CN 2599
CN 2630
CN 2661
CG
DTG 542u
9-1-14
CLYST (100%) lt-mgy-dkgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr free biot-cpr/ slvr shn, w/ no vis unconsol QTZ
SPM 100/102
CLYST (100%) lt-mgy, tngy, rr dkgy sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr LS tan-crm- offwh, frm-sft, micrite, rr vfxln, v/ arg, no vis poro, w/ rr tr free biot -cpr/ slvr shn, w/ no vis unconsol QTZ
SPM 101/101
MW 9.6/9.6
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr free biot -cpr/ slvr shn, w/ no vis unconsol QTZ
Plug in Pit Bull for Mud Vol
CLYST (100%) lt-mgy-dkgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis free biot, w/ no vis unconsol QTZ
SPM 98/96
WLS @ 2558'- 0.75°
Invert Mud Chk @ 2598'
Wt 9.6
Vis 45
Pv 13
Yp 9
Gels 3/6
Fil 16.0
Ck 1.5
Sol 13.0
ES 567
Lime 6.21
O/W 77/23
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO, w/ no vis free biot
CO for WLS
One Pump on hole
SPM 121/0
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, n-occ dkgy mshy, v/sl calc, rr slty ip, w/ rr tr unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO, w/ no vis free biot
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO, w/ rr tr vis free musc
SPM 120/0
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr unconsol QTZ clr- trnsl-opq, v/crs- umgr, sbang, psrt, pcmt, NFSO, w/ no vis free mica
NOTE: FINAL COMPOSITE MUDLOG DATA SHIFT All data shifted 38' uphole (2038'- 5530') shifted to 2000'- 5492' including spl descriptions


2650
CN 2692
CLYST (100%) lt-mgy, tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
SPM 117/0
CG/DTG 598u
MW 9.2/9.3
VIS 44/45
CN 2723
CLYST (100%) lt-mgy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CG
2700
SPM121/0
CN 2754
CLYST (100%) lt-mgy, rr dkgy, rr tngy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CG
CN 2788
Depth Corr
CLYST (100%) m-ltgy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy,n-occ v/sl calc, rr slty ip, w/ rr tr LS tan-crm- offwh, frm-sft, micrite, rr vfxln, v/ arg, no vis poro, w/ no vis unconsol QTZ, w/ no vis free mica
CG
2750
SPM 120/0
CN 2817
CLYST (100%) m-ltgy, occ tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ rr tr LS tan-crm- offwh, frm-sft, micrite, rr vfxln, v/ arg, no vis poro, w/ no vis unconsol QTZ, w/ no vis free mica
CG
2800
ROP (min/ft)
Gamma (API)
Caliper
150
10
MS Total Gas (Units)
500
AT90
AT60
AT30
AT20
0.6
NPOR
DPHZ
CLYST (100%) m-ltgy, occ tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
SPM 118/0
CN 2849
CG
MW 9.7/9.6
VIS 44/45
CLYST (100%) m-ltgy, rr tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CN 2879
CG


CN 2910
CN 2941
CN 2972
CN 3004
CN 3024
CN 3066
ROP (min/ft)
Gamma (API)
Caliper
CLYST (100%) m-ltgy, rr tngy, rr dkgy, sft - sl frm, tngy mshy, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltgy, dkgy, sft - sl frm, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltgy, dkgy, sft - sl frm, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltgy, dkgy, sft - sl frm, dkgy mshy, n-occ v/sl calc, rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltgy, dkgy, rr lttn, sft - sl frm, dkgy mshy, n-occ v/sl calc, rr slty ip, lttn chlky-mod calc, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltgy, dkgy, tr lttn, sft - sl frm, dkgy mshy, n-occ v/sl calc, rr slty ip, lttn chlky-mod calc, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltgy, dkgy, tr lttn, sft - sl frm, dkgy mshy, n-occ v/sl calc, rr slty ip, lttn chlky-mod calc, w/ no vis unconsol QTZ, w/ no vis free mica
SPM 122/0
SPM 120/0
MW 9.8/9.8
VIS 44/44
SPM 120/0
WLS @ 3057'-
1.0°
MW 9.8/9.8
VIS 44/44
CG
FMG 563u
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ
NOTE: FINAL COMPOSITE
MUDLOG DATA SHIFT All data
shifted 38' uphole (2038'- 5530')
shifted to 2000'- 5492'
including spl descriptions

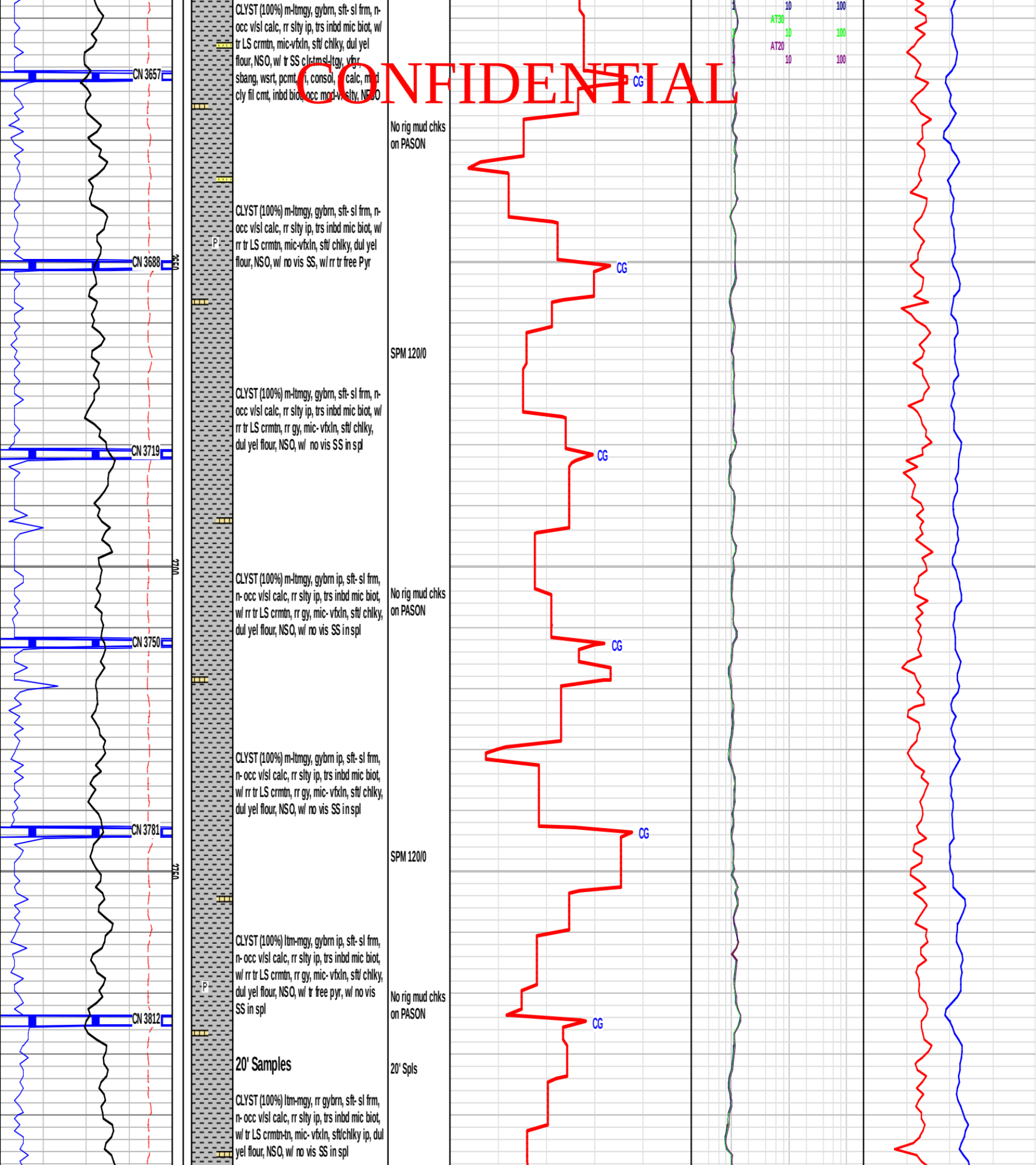

CN 3097
CN 3128
CN 3160
CN 3189
CN 3222
CN 3253
CN 3284
2100
2150
2200
2250
ROP (min/ft)
Gamma (API)
Caliper
CLYST (100%) m-ltgy, dkgy, tr v/ ltgy, sft -sl frm, v/ ltgy mshy, n-occ v/sl calc, v/ rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltmgy, dkgy, tr gybrn, sft -sl frm, dkgy mshy, n-occ v/sl calc, v/ rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltmgy, mdkgy, sft -sl frm, ltmgy mshy, n-occ v/sl calc, v/ rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltmgy, occ mdkgy, sft -sl frm, ltmgy mshy, n-occ v/sl calc, v / rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltmgy, mdkgy, tr v/ ltgy, sft -sl frm, ltmgy/v/ ltgy mshy, n- occ v/sl calc, v / rr slty ip, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltmgy, occ mdkgy, tr lttn, sft -sl frm, n- occ v/sl calc, v / rr slty ip, lttn chlky/sl calc, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltmgy, rr mdkgy, tr lttn, sft -sl frm, n- occ v/sl calc, v / rr slty ip, lttn chlky/sl calc, w/ no vis unconsol QTZ, w/ no vis free mica
CO for WLS
Transfer fluid to active
SPM 120/0
SPM 120/0
Transfer fluid to active
MW 9.8/9.8
VIS 45/455
SPM 120/0
CG
MS Total Gas (Units)
0
500
AT90
AT60
AT30
AT20
1
10
100
0.6
NPOR
DPHZ

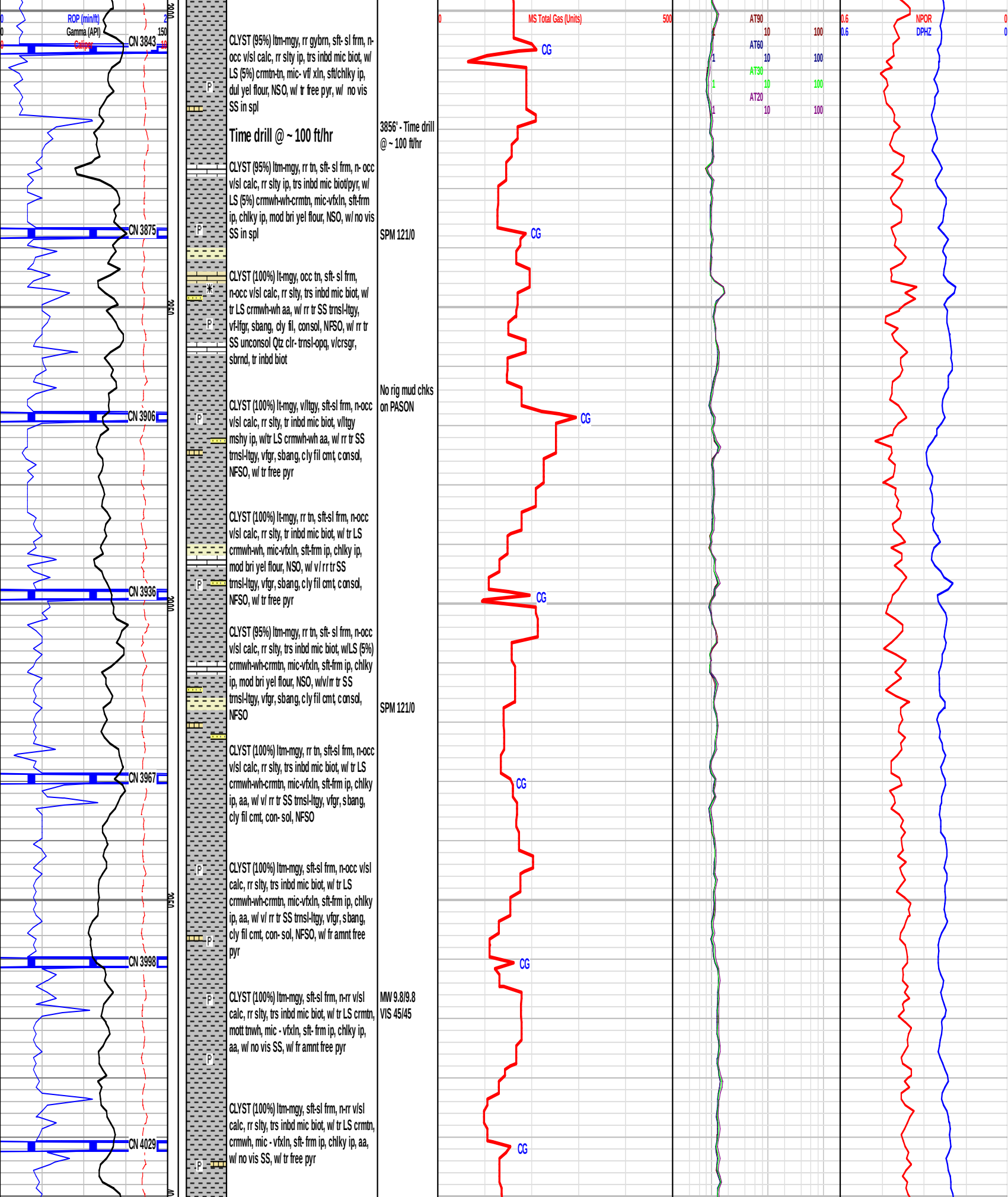

CN 3316
CN 3346
CN 3377
CN 3408
CN 3439
CN 3471
CN 3502
CN 3533
2000
2500
3000
3500
4000
4500
ROP (min/ft)
Gamma (API)
Caliper
WOB
Flux
CLYST (100%) m-ltmgy, tr lttn, v/ rr mdkgy, sft -sl frm, n- occ v/sl calc, v / rr slty ip, tr inbd mic biot, lttn chlky/sl calc, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltmgy, rr lttn, v/ rr mdkgy, sft -sl frm, n- occ v/sl calc, v / rr slty ip, tr inbd mic biot, lttn chlky/sl calc, w/ no vis unconsol QTZ, w/ no vis free mica
SPM 120/0
CLYST (100%) m-ltmgy, sft -sl frm, n- occ v/sl calc, v/ rr slty ip, tr inbd mic biot, w/ sl tr LS tn, mic-vfxln, mod hd-frm, dul yel flour, NSO, w/ no vis unconsol QTZ, w/ no vis free mica
MW 9.8/9.8
VIS 45/45
CLYST (100%) m-ltmgy, tr gybrn, sft -sl frm, n- occ v/sl calc, v/ rr slty ip, tr inbd mic biot, w/ sl tr LS tn, offwh, trnsl wh, mic-vfxln, mod hd-frm, dul yel flour, NSO, w/ no vis unconsol QTZ, w/ no vis free mica
CLYST (100%) m-ltmgy, rr gybrn, sft -sl frm, n- occ v/sl calc, v/ rr slty ip, tr inbd mic biot, w/ no vis LS, w/ no vis unconsol QTZ, w/ no vis free mica
SPM 120/0
CLYST (80%) m-ltmgy, gybrn, sft - sl frm, n- occ v/sl calc, v/ rr slty ip, tr inbd mic biot, w/ TUFF (20%) lt-morng, trnsl orng, redorng, redbrn, hd- brit, rr frm, aphantic, w/ no vis free mica
CLYST (80%) m-ltmgy, gybrn ip, sft - sl frm, n- occ v/sl calc, v/ rr slty ip, tr inbd mic biot, w/ TUFF (15%) lt-morng, trnsl orng, redorng, hd- brit, aphantic, w/ LS (5%) wh, crmwh, tnwh, vfxln, mod sft- frm, dul yel flour, NSO, w/ no vis mica
SPM 120/0
WLS @ 3525'-
1.25°
CLYST (90%) m-ltmgy, gybrn ip, sft - sl frm, n- occ v/sl calc, v/ rr slty ip, tr inbd mic biot, w/ TUFF (10%) lt-morng, trnsl orng, redorng, hd- brit, aphantic, w/ tr LS wh, crmwh, tnwh, vfxln, mod sft- frm, dul yel flour, NSO, w/ no vis mica
CG
MS Total Gas (Units)
0
500
AT90
AT60
AT30
AT20
1
10
100
0.6
NPOR
DPHZ
NOTE:
FINAL
COMPOSITE
MUDLOG
DATA SHIFT
All data
shifted 38'
uphole (2038'-
5530') shifted
to 2000'- 5492'
including spl
descriptions

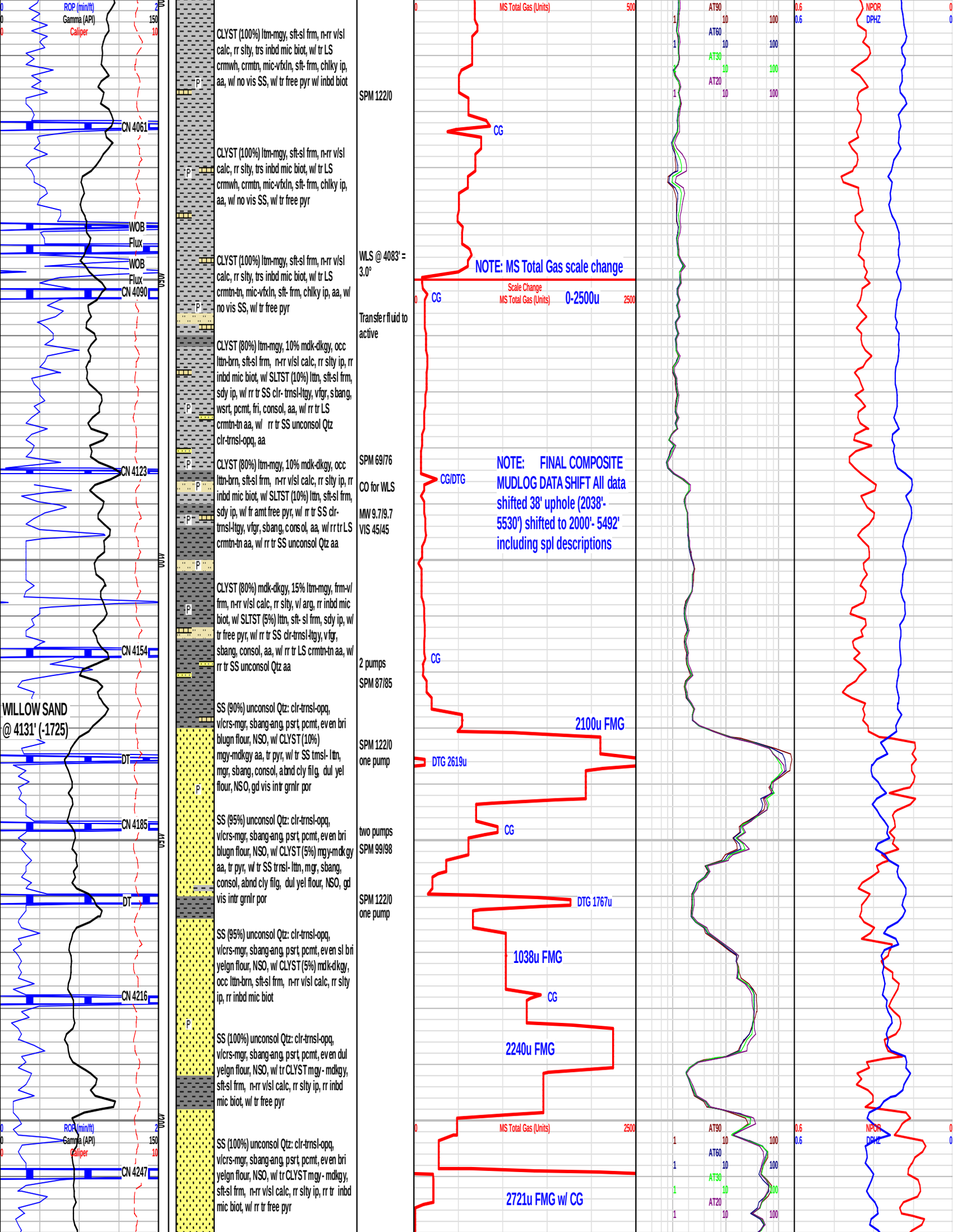


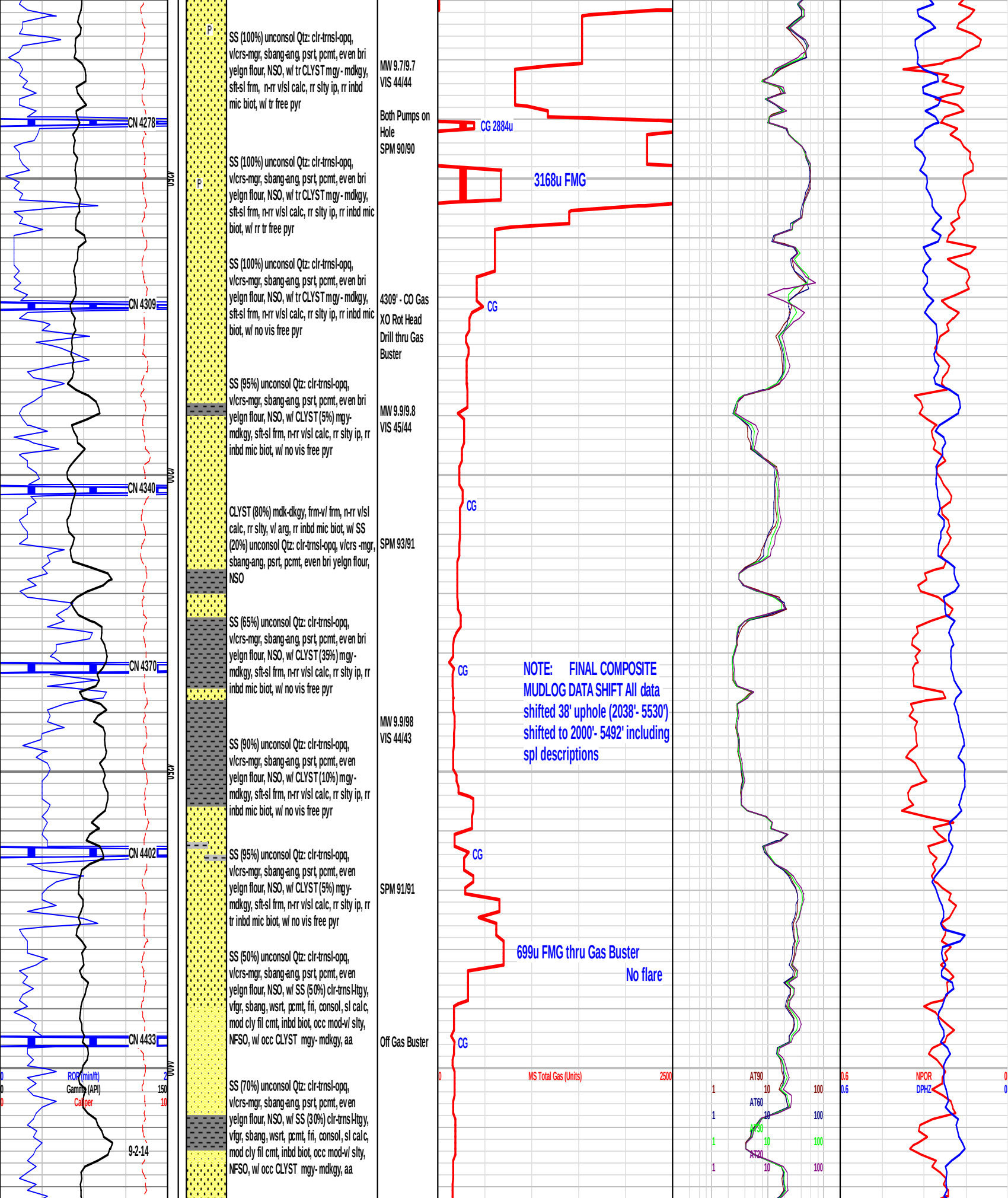
CONFIDENTIAL

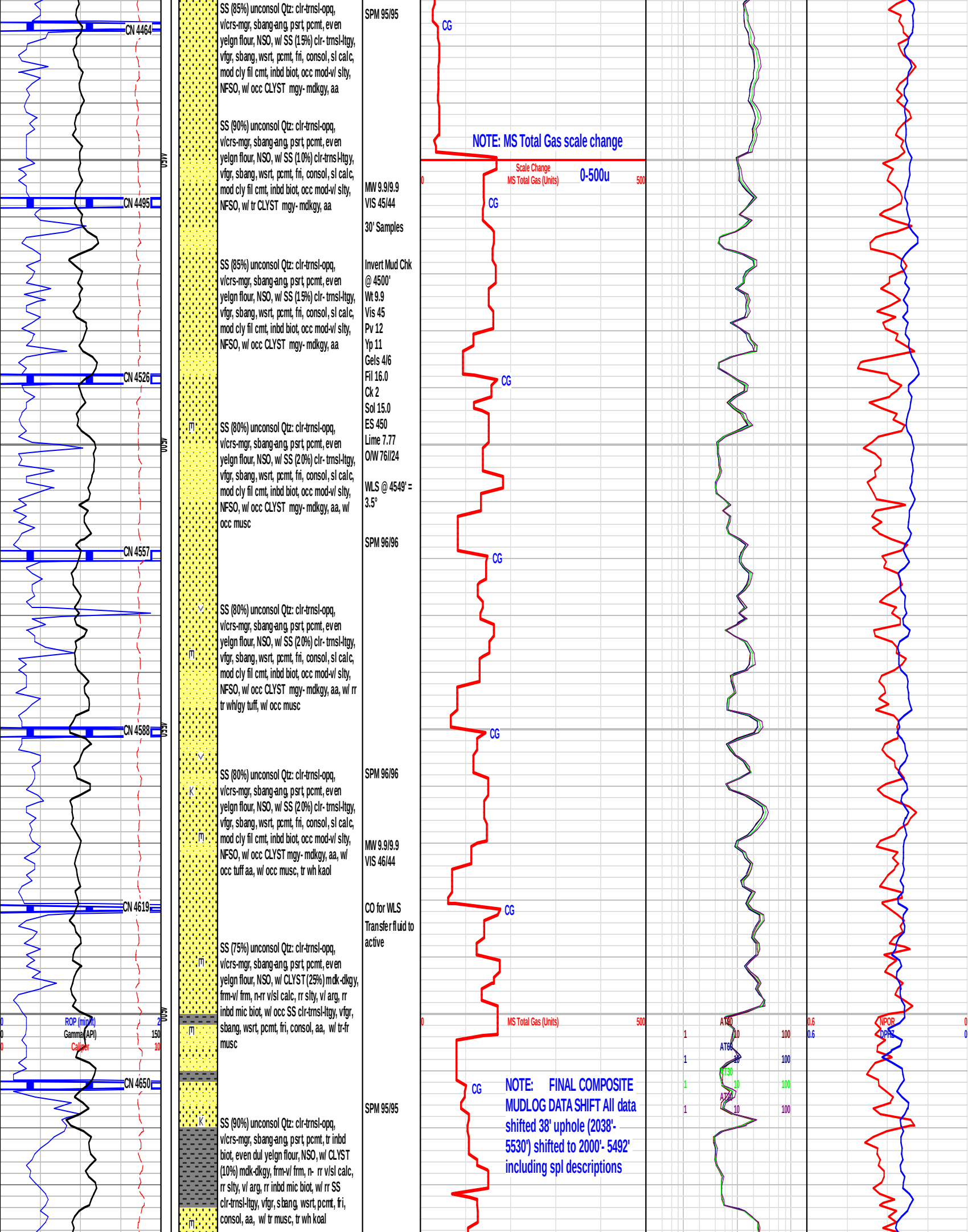
CONFIDENTIAL

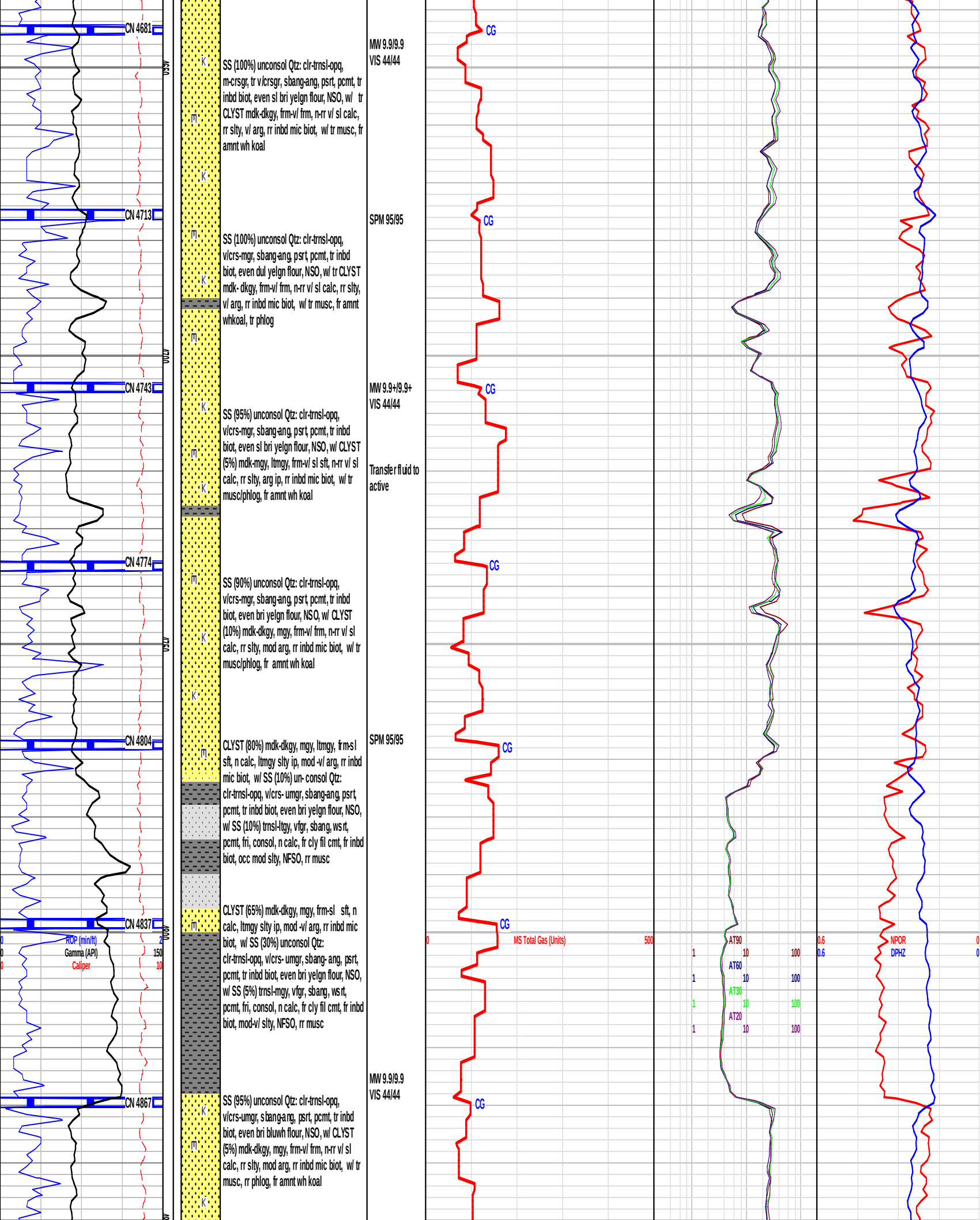


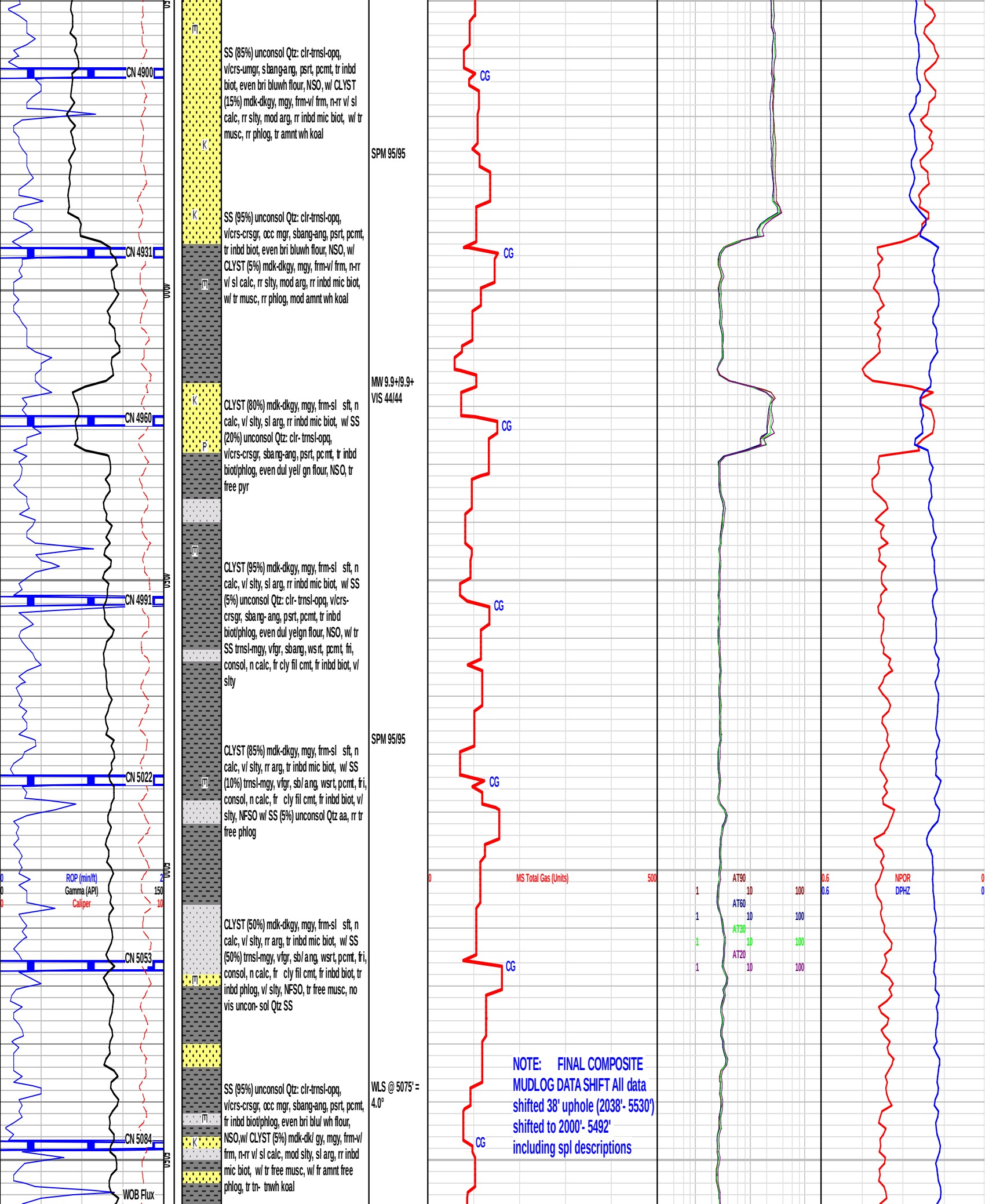

ROP (min/ft)
Gamma (API)
Caliper
CN 3843
CN 3875
CN 3906
CN 3936
CN 3967
CN 3998
CN 4029
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ
CG
CLYST (95%) ltm-mgy, rr gybrn, sft- sl frm, n-occ v/sl calc, rr slty ip, trs inbd mic biot, w/ LS (5%) crmtn-tn, mic- vfl xln, sft/chlky ip, dul yel flour, NSO, w/ tr free pyr, w/ no vis SS in spl
Time drill @ ~ 100 ft/hr
3856' - Time drill @ ~ 100 ft/hr
CLYST (95%) ltm-mgy, rr tn, sft- sl frm, n- occ v/sl calc, rr slty ip, trs inbd mic biot/pyr, w/ LS (5%) crmwh-wh-crmtn, mic-vfxln, sft-frm ip, chlky ip, mod bri yel flour, NSO, w/ no vis SS in spl
SPM 121/0
CLYST (100%) lt-mgy, occ tn, sft- sl frm, n-occ v/sl calc, rr slty, trs inbd mic biot, w/ tr LS crmwh-wh aa, w/ rr tr SS trnsl-ltgy, vf-lfgr, sbang, cly fil, consol, NFSO, w/ rr tr SS unconsol Qtz clr- trnsl-opq, v/crsgr, sbrnd, tr inbd biot
No rig mud chks on PASON
CLYST (100%) lt-mgy, v/ltgy, sft-sl frm, n-occ v/sl calc, rr slty, tr inbd mic biot, v/ltgy mshy ip, w/tr LS crmwh-wh aa, w/ rr tr SS trnsl-ltgy, vfgr, sbang, cly fil cmt, consol, NFSO, w/ tr free pyr
CLYST (100%) lt-mgy, rr tn, sft-sl frm, n-occ v/sl calc, rr slty, tr inbd mic biot, w/ tr LS crmwh-wh, mic-vfxln, sft-frm ip, chlky ip, mod bri yel flour, NSO, w/ v/ rr tr SS trnsl-ltgy, vfgr, sbang, cly fil cmt, consol, NFSO, w/ tr free pyr
CLYST (95%) ltm-mgy, rr tn, sft- sl frm, n-occ v/sl calc, rr slty, trs inbd mic biot, w/LS (5%) crmwh-wh-crmtn, mic-vfxln, sft-frm ip, chlky ip, mod bri yel flour, NSO, w/v/rr tr SS trnsl-ltgy, vfgr, sbang, cly fil cmt, consol, NFSO
SPM 121/0
CLYST (100%) ltm-mgy, rr tn, sft-sl frm, n-occ v/sl calc, rr slty, trs inbd mic biot, w/ tr LS crmwh-wh-crmtn, mic-vfxln, sft-frm ip, chlky ip, aa, w/ v/ rr tr SS trnsl-ltgy, vfgr, sbang, cly fil cmt, con- sol, NFSO
CLYST (100%) ltm-mgy, sft-sl frm, n-occ v/sl calc, rr slty, trs inbd mic biot, w/ tr LS crmwh-wh-crmtn, mic-vfxln, sft-frm ip, chlky ip, aa, w/ v/ rr tr SS trnsl-ltgy, vfgr, sbang, cly fil cmt, con- sol, NFSO, w/ fr amnt free pyr
MW 9.8/9.8
VIS 45/45
CLYST (100%) ltm-mgy, sft-sl frm, n-rr v/sl calc, rr slty, trs inbd mic biot, w/ tr LS crmtn, mott tnwh, mic - vfxln, sft- frm ip, chlky ip, aa, w/ no vis SS, w/ fr amnt free pyr
CLYST (100%) ltm-mgy, sft-sl frm, n-rr v/sl calc, rr slty, trs inbd mic biot, w/ tr LS crmtn, crmwh, mic - vfxln, sft- frm ip, chlky ip, aa, w/ no vis SS, w/ tr free pyr

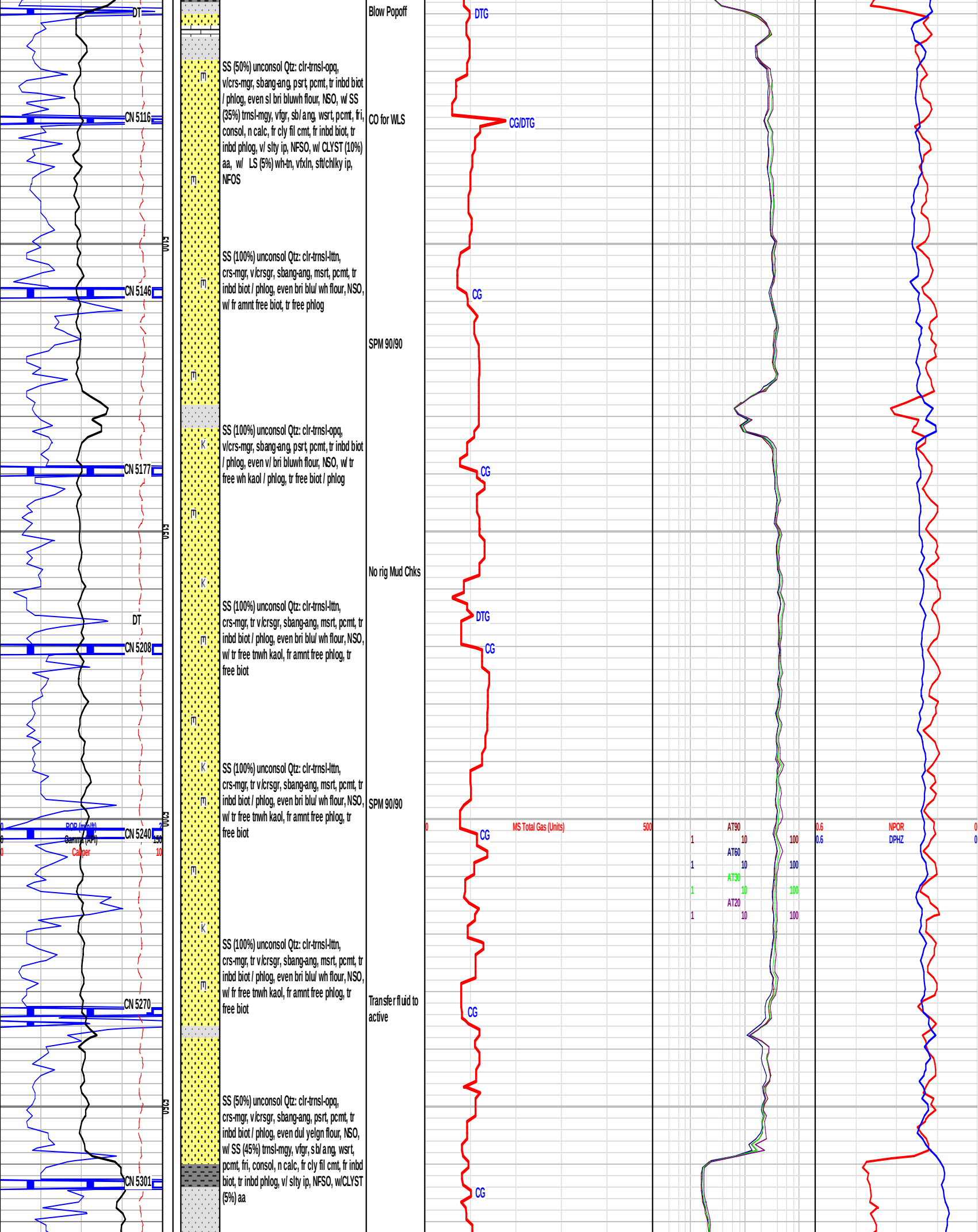

ROP (min/ft)
Gamma (API)
Caliper
CN 4061
WOB
Flux
WOB
Flux
CN 4090
CN 4123
CN 4154
WILLOW SAND
@ 4131' (-1725)
DT
CN 4185
DT
CN 4216
CN 4247
CLYST (100%) ltm-mgy, sft-sl frm, n-rr v/sl calc, rr slty, trs inbd mic biot, w/ tr LS crmwh, crmtn, mic-vfxln, sft- frm, chlky ip, aa, w/ no vis SS, w/ tr free pyr w/ inbd biot
SPM 122/0
CLYST (100%) ltm-mgy, sft-sl frm, n-rr v/sl calc, rr slty, trs inbd mic biot, w/ tr LS crmwh, crmtn, mic-vfxln, sft- frm, chlky ip, aa, w/ no vis SS, w/ tr free pyr
CLYST (100%) ltm-mgy, sft-sl frm, n-rr v/sl calc, rr slty, trs inbd mic biot, w/ tr LS crmtn-tn, mic-vfxln, sft- frm, chlky ip, aa, w/ no vis SS, w/ tr free pyr
WLS @ 4083' = 3.0°
Transfer fluid to active
CLYST (80%) ltm-mgy, 10% mdk-dkgy, occ lttn-brn, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ SLTST (10%) lttn, sft-sl frm, sdy ip, w/ rr tr SS clr- trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, aa, w/ rr tr LS crmtn-tn aa, w/ rr tr SS unconsol Qtz clr-trnsl-opq, aa
SPM 69/76
CO for WLS
MW 9.7/9.7
VIS 45/45
CLYST (80%) ltm-mgy, 10% mdk-dkgy, occ lttn-brn, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ SLTST (10%) lttn, sft-sl frm, sdy ip, w/ fr amt free pyr, w/ rr tr SS clr-trnsl-ltgy, vfgr, sbang, consol, aa, w/ rr tr LS crmtn-tn aa, w/ rr tr SS unconsol Qtz aa
CLYST (80%) mdk-dkgy, 15% ltm-mgy, frm-v/frm, n-rr v/sl calc, rr slty, v/ arg, rr inbd mic biot, w/ SLTST (5%) lttn, sft- sl frm, sdy ip, w/ tr free pyr, w/ rr tr SS clr-trnsl-ltgy, vfgr, sbang, consol, aa, w/ rr tr LS crmtn-tn aa, w/ rr tr SS unconsol Qtz aa
2 pumps
SPM 87/85
SS (90%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even bri blugn flour, NSO, w/ CLYST (10%) mgy-mdkgy aa, tr pyr, w/ tr SS trnsl- lttn, mgr, sbang, consol, abnd cly filg, dul yel flour, NSO, gd vis intr grnlr por
SPM 122/0
one pump
SS (95%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even bri blugn flour, NSO, w/ CLYST (5%) mgy-mdkgy aa, tr pyr, w/ tr SS trnsl- lttn, mgr, sbang, consol, abnd cly filg, dul yel flour, NSO, gd vis intr grnlr por
two pumps
SPM 99/98
SPM 122/0
one pump
SS (95%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even sl bri yelgn flour, NSO, w/ CLYST (5%) mdk-dkgy, occ lttn-brn, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot
SS (100%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even dul yelgn flour, NSO, w/ tr CLYST mgy - mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ tr free pyr
SS (100%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even bri yelgn flour, NSO, w/ tr CLYST mgy - mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr tr inbd mic biot, w/ rr tr free pyr
MS Total Gas (Units)
CG
NOTE: MS Total Gas scale change
Scale Change
MS Total Gas (Units)
0-2500u
CG
CG/DTG
NOTE: FINAL COMPOSITE MUDLOG DATA SHIFT All data shifted 38' uphole (2038'-5530') shifted to 2000'- 5492' including spl descriptions
CG
2100u FMG
DTG 2619u
CG
DTG 1767u
1038u FMG
CG
2240u FMG
2721u FMG w/ CG
AT90
AT60
AT30
AT20
NPOR
DPHZ

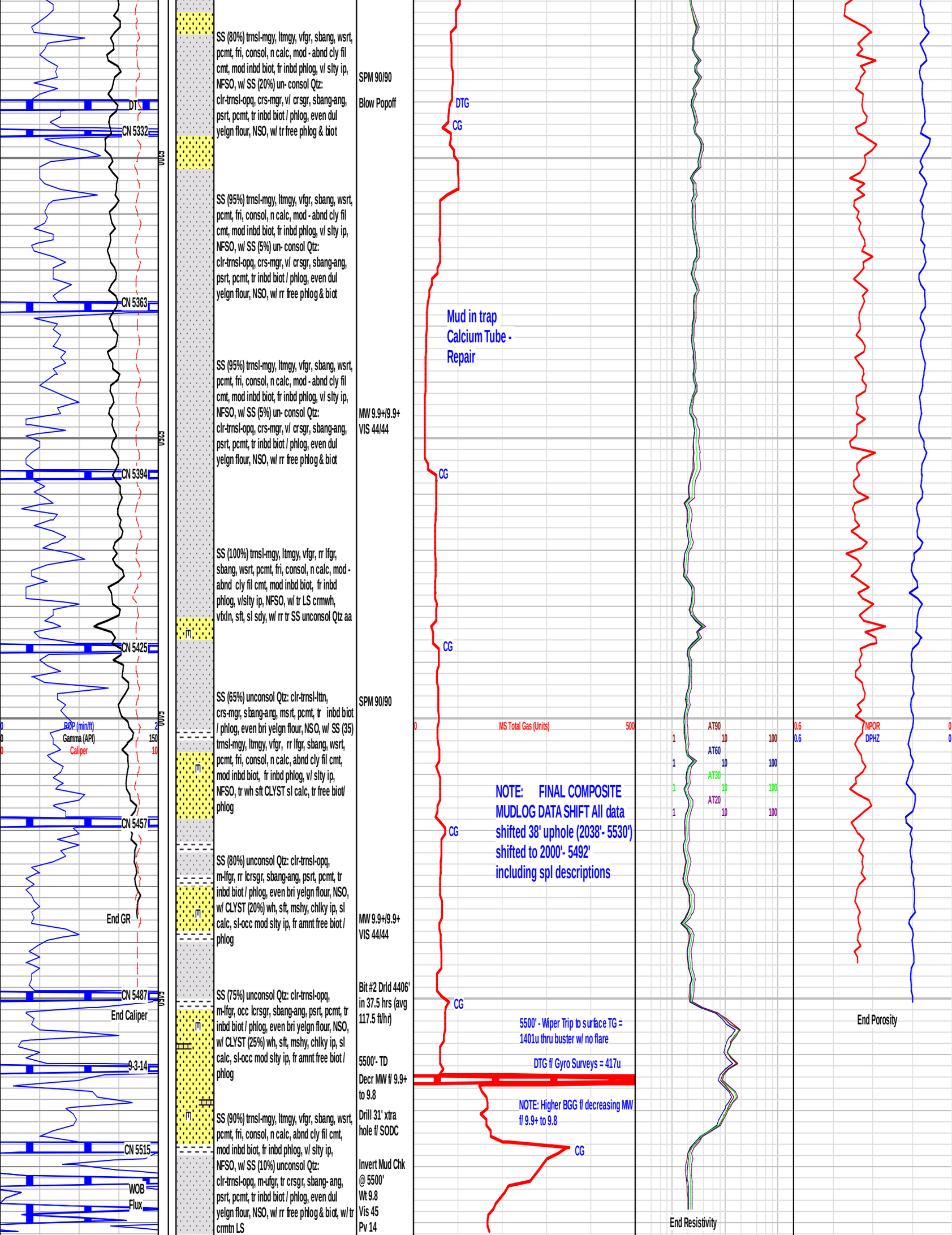

CN 4278
CN 4309
CN 4340
CN 4370
CN 4402
CN 4433
ROP (min/ft)
Gamma (API)
Caliper
9-2-14
SS (100%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even bri yelgn flour, NSO, w/ tr CLYST mgy- mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ tr free pyr
MW 9.7/9.7
VIS 44/44
Both Pumps on Hole
SPM 90/90
SS (100%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even bri yelgn flour, NSO, w/ tr CLYST mgy- mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ rr tr free pyr
SS (100%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even bri yelgn flour, NSO, w/ tr CLYST mgy- mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ no vis free pyr
4309' - CO Gas
XO Rot Head
Drill thru Gas Buster
SS (95%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even bri yelgn flour, NSO, w/ CLYST (5%) mgy- mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ no vis free pyr
MW 9.9/9.8
VIS 45/44
CLYST (80%) mdk-dkgy, frm-v/ frm, n-rr v/sl calc, rr slty, v/ arg, rr inbd mic biot, w/ SS (20%) unconsol Qtz: clr-trnsl-opq, v/crs -mgr, sbang-ang, psrt, pcmt, even bri yelgn flour, NSO
SPM 93/91
SS (65%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even bri yelgn flour, NSO, w/ CLYST (35%) mgy- mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ no vis free pyr
MW 9.9/98
VIS 44/43
SS (90%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ CLYST (10%) mgy- mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr inbd mic biot, w/ no vis free pyr
SS (95%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ CLYST (5%) mgy- mdkgy, sft-sl frm, n-rr v/sl calc, rr slty ip, rr tr inbd mic biot, w/ no vis free pyr
SPM 91/91
SS (50%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ SS (50%) clr-trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, sl calc, mod cly fil cmt, inbd biot, occ mod-v/ slty, NFSO, w/ occ CLYST mgy- mdkgy, aa
Off Gas Buster
SS (70%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ SS (30%) clr-trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, sl calc, mod cly fil cmt, inbd biot, occ mod-v/ slty, NFSO, w/ occ CLYST mgy- mdkgy, aa
CG 2884u
3168u FMG
CG
CG
CG
NOTE: FINAL COMPOSITE MUDLOG DATA SHIFT All data shifted 38' uphole (2038'- 5530') shifted to 2000'- 5492' including spl descriptions
CG
699u FMG thru Gas Buster
No flare
CG
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ


CN 4464
CN 4495
CN 4526
CN 4557
CN 4588
CN 4619
CN 4650
4450
4500
4550
4600
ROP (min/ft)
Gamma (API)
Caliper
SS (85%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ SS (15%) clr- trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, sl calc, mod cly fil cmt, inbd biot, occ mod-v/ slty, NFSO, w/ occ CLYST mgy- mdkgy, aa
SS (90%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ SS (10%) clr-trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, sl calc, mod cly fil cmt, inbd biot, occ mod-v/ slty, NFSO, w/ tr CLYST mgy- mdkgy, aa
SS (85%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ SS (15%) clr- trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, sl calc, mod cly fil cmt, inbd biot, occ mod-v/ slty, NFSO, w/ occ CLYST mgy- mdkgy, aa
SS (80%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ SS (20%) clr- trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, sl calc, mod cly fil cmt, inbd biot, occ mod-v/ slty, NFSO, w/ occ CLYST mgy- mdkgy, aa, w/ occ musc
SS (80%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ SS (20%) clr- trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, sl calc, mod cly fil cmt, inbd biot, occ mod-v/ slty, NFSO, w/ occ CLYST mgy- mdkgy, aa, w/ rr tr wh/gy tuff, w/ occ musc
SS (80%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ SS (20%) clr- trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, sl calc, mod cly fil cmt, inbd biot, occ mod-v/ slty, NFSO, w/ occ CLYST mgy- mdkgy, aa, w/ occ tuff aa, w/ occ musc, tr wh kaol
SS (75%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, even yelgn flour, NSO, w/ CLYST (25%) mdk-dkgy, frm-v/ frm, n-rr v/sl calc, rr slty, v/ arg, rr inbd mic biot, w/ occ SS clr-trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, aa, w/ tr-fr musc
SS (90%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, tr inbd biot, even dul yelgn flour, NSO, w/ CLYST (10%) mdk-dkgy, frm-v/ frm, n- rr v/sl calc, rr slty, v/ arg, rr inbd mic biot, w/ rr SS clr-trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, aa, w/ tr musc, tr wh koal
SPM 95/95
MW 9.9/9.9
VIS 45/44
30' Samples
Invert Mud Chk
@ 4500'
Wt 9.9
Vis 45
Pv 12
Yp 11
Gels 4/6
Fil 16.0
Ck 2
Sol 15.0
ES 450
Lime 7.77
O/W 76//24
WLS @ 4549' = 3.5°
SPM 96/96
SPM 96/96
MW 9.9/9.9
VIS 46/44
CO for WLS
Transfer fluid to active
SPM 95/95
CG
NOTE: MS Total Gas scale change
Scale Change
MS Total Gas (Units)
0-500u
0
500
MS Total Gas (Units)
NOTE: FINAL COMPOSITE MUDLOG DATA SHIFT All data shifted 38' uphole (2038'- 5530') shifted to 2000'- 5492' including spl descriptions
AT90
AT60
AT30
AT10
NPOR
DPHZ


CN 4681
CN 4713
CN 4743
CN 4774
CN 4804
CN 4837
CN 4867
4650
4700
4750
4800
ROP (min/ft)
Gamma (API)
Caliper
150
10
SS (100%) unconsol Qtz: clr-trnsl-opq, m-crsgr, tr v/crsgr, sbang-ang, psrt, pcmt, tr inbd biot, even sl bri yelgn flour, NSO, w/ tr CLYST mdk-dkgy, frm-v/ frm, n-rr v/ sl calc, rr slty, v/ arg, rr inbd mic biot, w/ tr musc, fr amnt wh koal
MW 9.9/9.9
VIS 44/44
SS (100%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, tr inbd biot, even dul yelgn flour, NSO, w/ tr CLYST mdk- dkgy, frm-v/ frm, n-rr v/ sl calc, rr slty, v/ arg, rr inbd mic biot, w/ tr musc, fr amnt whkoal, tr phlog
SPM 95/95
SS (95%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, tr inbd biot, even sl bri yelgn flour, NSO, w/ CLYST (5%) mdk-mgy, ltmgy, frm-v/ sl sft, n-rr v/ sl calc, rr slty, arg ip, rr inbd mic biot, w/ tr musc/phlog, fr amnt wh koal
MW 9.9+/9.9+
VIS 44/44
Transfer fluid to active
SS (90%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, tr inbd biot, even bri yelgn flour, NSO, w/ CLYST (10%) mdk-dkgy, mgy, frm-v/ frm, n-rr v/ sl calc, rr slty, mod arg, rr inbd mic biot, w/ tr musc/phlog, fr amnt wh koal
CLYST (80%) mdk-dkgy, mgy, ltmgy, frm-sl sft, n calc, ltmgy slty ip, mod -v/ arg, rr inbd mic biot, w/ SS (10%) un- consol Qtz: clr-trnsl-opq, v/crs- umgr, sbang-ang, psrt, pcmt, tr inbd biot, even bri yelgn flour, NSO, w/ SS (10%) trnsl-ltgy, vfgr, sbang, wsrt, pcmt, fri, consol, n calc, fr cly fil cmt, fr inbd biot, occ mod slty, NFSO, rr musc
CLYST (65%) mdk-dkgy, mgy, frm-sl sft, n calc, ltmgy slty ip, mod -v/ arg, rr inbd mic biot, w/ SS (30%) unconsol Qtz: clr-trnsl-opq, v/crs- umgr, sbang- ang, psrt, pcmt, tr inbd biot, even bri yelgn flour, NSO, w/ SS (5%) trnsl-mgy, vfgr, sbang, wsrt, pcmt, fri, consol, n calc, fr cly fil cmt, fr inbd biot, mod-v/ slty, NFSO, rr musc
MW 9.9/9.9
VIS 44/44
SS (95%) unconsol Qtz: clr-trnsl-opq, v/crs-umgr, sbang-ang, psrt, pcmt, tr inbd biot, even bri bluwh flour, NSO, w/ CLYST (5%) mdk-dkgy, mgy, frm-v/ frm, n-rr v/ sl calc, rr slty, mod arg, rr inbd mic biot, w/ tr musc, rr phlog, fr amnt wh koal
CG
0
MS Total Gas (Units)
500
AT90
AT60
AT30
AT20
1
10
100
0.6
NPOR
DPHZ


CN 4900
CN 4931
CN 4960
CN 4991
CN 5022
CN 5053
CN 5084
WOB Flux
ROP (min/ft)
Gamma (API)
Caliper
SS (85%) unconsol Qtz: clr-trnsl-opq, v/crs-umgr, sbang-ang, psrt, pcmt, tr inbd biot, even bri bluwh flour, NSO, w/ CLYST (15%) mdk-dkgy, mgy, frm-v/ frm, n-rr v/ sl calc, rr slty, mod arg, rr inbd mic biot, w/ tr musc, rr phlog, tr amnt wh koal
SPM 95/95
SS (95%) unconsol Qtz: clr-trnsl-opq, v/crs-crsgr, occ mgr, sbang-ang, psrt, pcmt, tr inbd biot, even bri bluwh flour, NSO, w/ CLYST (5%) mdk-dkgy, mgy, frm-v/ frm, n-rr v/ sl calc, rr slty, mod arg, rr inbd mic biot, w/ tr musc, rr phlog, mod amnt wh koal
MW 9.9+/9.9+
VIS 44/44
CLYST (80%) mdk-dkgy, mgy, frm-sl sft, n calc, v/ slty, sl arg, rr inbd mic biot, w/ SS (20%) unconsol Qtz: clr- trnsl-opq, v/crs-crsgr, sbang-ang, psrt, pcmt, tr inbd biot/phlog, even dul yel/ gn flour, NSO, tr free pyr
CLYST (95%) mdk-dkgy, mgy, frm-sl sft, n calc, v/ slty, sl arg, rr inbd mic biot, w/ SS (5%) unconsol Qtz: clr- trnsl-opq, v/crs-crsgr, sbang- ang, psrt, pcmt, tr inbd biot/phlog, even dul yelgn flour, NSO, w/ tr SS trnsl-mgy, vfgr, sbang, wsrt, pcmt, fri, consol, n calc, fr cly fil cmt, fr inbd biot, v/ slty
SPM 95/95
CLYST (85%) mdk-dkgy, mgy, frm-sl sft, n calc, v/ slty, rr arg, tr inbd mic biot, w/ SS (10%) trnsl-mgy, vfgr, sb/ang, wsrt, pcmt, fri, consol, n calc, fr cly fil cmt, fr inbd biot, v/ slty, NFSO w/ SS (5%) unconsol Qtz aa, rr tr free phlog
CLYST (50%) mdk-dkgy, mgy, frm-sl sft, n calc, v/ slty, rr arg, tr inbd mic biot, w/ SS (50%) trnsl-mgy, vfgr, sb/ang, wsrt, pcmt, fri, consol, n calc, fr cly fil cmt, fr inbd biot, tr inbd phlog, v/ slty, NFSO, tr free musc, no vis uncon- sol Qtz SS
WLS @ 5075' = 4.0°
SS (95%) unconsol Qtz: clr-trnsl-opq, v/crs-crsgr, occ mgr, sbang-ang, psrt, pcmt, fr inbd biot/phlog, even bri blu/ wh flour, NSO,w/ CLYST (5%) mdk-dk/ gy, mgy, frm-v/ frm, n-rr v/ sl calc, mod slty, sl arg, rr inbd mic biot, w/ tr free musc, w/ fr amnt free phlog, tr tn- tnwh koal
CG
MS Total Gas (Units)
AT90
AT60
AT30
AT20
NPOR
DPHZ
NOTE: FINAL COMPOSITE MUDLOG DATA SHIFT All data shifted 38' uphole (2038'- 5530') shifted to 2000'- 5492' including spl descriptions


DT
CN 5116
5100
CN 5146
CN 5177
5150
DT
CN 5208
5200
ROP (min/ft)
Gamma (API)
Caliper
CN 5240
CN 5270
5250
CN 5301
Blow Popoff
SS (50%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, tr inbd biot / phlog, even sl bri bluwh flour, NSO, w/ SS (35%) trnsl-mgy, vfgr, sb/ang, wsrt, pcmt, fri, consol, n calc, fr cly fil cmt, fr inbd biot, tr inbd phlog, v/ slty ip, NFSO, w/ CLYST (10%) aa, w/ LS (5%) wh-tn, vfxln, sft/chlky ip, NFOS
CO for WLS
SS (100%) unconsol Qtz: clr-trnsl-lttn, crs-mgr, v/crsgr, sbang-ang, msrt, pcmt, tr inbd biot / phlog, even bri blu/ wh flour, NSO, w/ fr amnt free biot, tr free phlog
SPM 90/90
SS (100%) unconsol Qtz: clr-trnsl-opq, v/crs-mgr, sbang-ang, psrt, pcmt, tr inbd biot / phlog, even v/ bri bluwh flour, NSO, w/ tr free wh kaol / phlog, tr free biot / phlog
No rig Mud Chks
SS (100%) unconsol Qtz: clr-trnsl-lttn, crs-mgr, tr v/crsgr, sbang-ang, msrt, pcmt, tr inbd biot / phlog, even bri blu/ wh flour, NSO, w/ tr free tnwh kaol, fr amnt free phlog, tr free biot
SS (100%) unconsol Qtz: clr-trnsl-lttn, crs-mgr, tr v/crsgr, sbang-ang, msrt, pcmt, tr inbd biot / phlog, even bri blu/ wh flour, NSO, w/ tr free tnwh kaol, fr amnt free phlog, tr free biot
SPM 90/90
SS (100%) unconsol Qtz: clr-trnsl-lttn, crs-mgr, tr v/crsgr, sbang-ang, msrt, pcmt, tr inbd biot / phlog, even bri blu/ wh flour, NSO, w/ fr free tnwh kaol, fr amnt free phlog, tr free biot
Transfer fluid to active
SS (50%) unconsol Qtz: clr-trnsl-opq, crs-mgr, v/crsgr, sbang-ang, psrt, pcmt, tr inbd biot / phlog, even dul yelgn flour, NSO, w/ SS (45%) trnsl-mgy, vfgr, sb/ang, wsrt, pcmt, fri, consol, n calc, fr cly fil cmt, fr inbd biot, tr inbd phlog, v/ slty ip, NFSO, w/CLYST (5%) aa
DTG
CG/DTG
CG
CG
DTG
CG
CG
CG
CG
0
MS Total Gas (Units)
500
AT90
AT60
AT30
AT20
1
10
100
0.6
NPOR
DPHZ


DT
CN 5332
2300
CN 5363
2350
CN 5394
CN 5425
2400
BOP (min/ft)
Gamma (API)
Caliper
CN 5457
End GR
CN 5487
2450
End Caliper
9-3-14
CN 5515
WOB
Flux
SS (80%) trnsl-mgy, ltmgy, vfgr, sbang, wsrt, pcmt, fri, consol, n calc, mod - abnd cly fil cmt, mod inbd biot, fr inbd phlog, v/ slty ip, NFSO, w/ SS (20%) un- consol Qtz: clr-trnsl-opq, crs-mgr, v/ crsgr, sbang-ang, psrt, pcmt, tr inbd biot / phlog, even dul yelgn flour, NSO, w/ tr free phlog & biot
SS (95%) trnsl-mgy, ltmgy, vfgr, sbang, wsrt, pcmt, fri, consol, n calc, mod - abnd cly fil cmt, mod inbd biot, fr inbd phlog, v/ slty ip, NFSO, w/ SS (5%) un- consol Qtz: clr-trnsl-opq, crs-mgr, v/ crsgr, sbang-ang, psrt, pcmt, tr inbd biot / phlog, even dul yelgn flour, NSO, w/ rr free phlog & biot
SS (95%) trnsl-mgy, ltmgy, vfgr, sbang, wsrt, pcmt, fri, consol, n calc, mod - abnd cly fil cmt, mod inbd biot, fr inbd phlog, v/ slty ip, NFSO, w/ SS (5%) un- consol Qtz: clr-trnsl-opq, crs-mgr, v/ crsgr, sbang-ang, psrt, pcmt, tr inbd biot / phlog, even dul yelgn flour, NSO, w/ rr free phlog & biot
SS (100%) trnsl-mgy, ltmgy, vfgr, rr lfgr, sbang, wsrt, pcmt, fri, consol, n calc, mod - abnd cly fil cmt, mod inbd biot, fr inbd phlog, v/slty ip, NFSO, w/ tr LS crmwh, vfxln, sft, sl sdy, w/ rr tr SS unconsol Qtz aa
SS (65%) unconsol Qtz: clr-trnsl-lttn, crs-mgr, sbang-ang, msrt, pcmt, tr inbd biot / phlog, even bri yelgn flour, NSO, w/ SS (35) trnsl-mgy, ltmgy, vfgr, rr lfgr, sbang, wsrt, pcmt, fri, consol, n calc, abnd cly fil cmt, mod inbd biot, fr inbd phlog, v/ slty ip, NFSO, tr wh sft CLYST sl calc, tr free biot/ phlog
SS (80%) unconsol Qtz: clr-trnsl-opq, m-lfgr, rr lcrsgr, sbang-ang, psrt, pcmt, tr inbd biot / phlog, even bri yelgn flour, NSO, w/ CLYST (20%) wh, sft, mshy, chlky ip, sl calc, sl-occ mod slty ip, fr amnt free biot / phlog
SS (75%) unconsol Qtz: clr-trnsl-opq, m-lfgr, occ lcrsgr, sbang-ang, psrt, pcmt, tr inbd biot / phlog, even bri yelgn flour, NSO, w/ CLYST (25%) wh, sft, mshy, chlky ip, sl calc, sl-occ mod slty ip, fr amnt free biot / phlog
SS (90%) trnsl-mgy, ltmgy, vfgr, sbang, wsrt, pcmt, fri, consol, n calc, abnd cly fil cmt, mod inbd biot, fr inbd phlog, v/ slty ip, NFSO, w/ SS (10%) unconsol Qtz: clr-trnsl-opq, m-ufgr, tr crsgr, sbang- ang, psrt, pcmt, tr inbd biot / phlog, even dul yelgn flour, NSO, w/ rr free phlog & biot, w/ tr crmtn LS
SPM 90/90
Blow Popoff
MW 9.9+/9.9+
VIS 44/44
SPM 90/90
MW 9.9+/9.9+
VIS 44/44
Bit #2 Drld 4406' in 37.5 hrs (avg 117.5 ft/hr)
5500'- TD
Decr MW f/ 9.9+ to 9.8
Drill 31' xtra hole f/ SODC
Invert Mud Chk @ 5500'
Wt 9.8
Vis 45
Pv 14
DTG
CG
Mud in trap
Calcium Tube -
Repair
CG
CG
CG
CG
MS Total Gas (Units)
0
500
NOTE: FINAL COMPOSITE
MUDLOG DATA SHIFT All data
shifted 38' uphole (2038'- 5530')
shifted to 2000'- 5492'
including spl descriptions
5500' - Wiper Trip to surface TG =
1401u thru buster w/ no flare
DTG f/ Gyro Surveys = 417u
NOTE: Higher BGG f/ decreasing MW
f/ 9.9+ to 9.8
CG
AT90
AT60
AT30
AT20
1
10
100
End Resistivity
NPOR
DPHZ
0.6
End Porosity

TD @ 5500'	9-(4-7)-14	5500		TD @ 5500' on 9-2-14 @ 1530 hrs MST NOTE: Driller TD = 5500', "Strap In" tally after wiper trip to surface 31' off uphole, Re-set hole depth and drill 31' to 5500' corrected TD. Re-drilled footage downloaded. TG @ 5500' off by 2' - could not be corrected. Driller TD = 5500' Logger TD = 5488' NOTE: FINAL COMPOSITE MUDLOG DATA SHIFT All data shifted 38' uphole (2038'- 5530') shifted to 2000'- 5492' including spl descriptions	Yp 12 Gels 5/9 Fil 16.0 Ck 2 Sol 15.0 ES 490 Lime 5.83 O/W 78//22	5500' - Wiper TG = 2118u thru buster w/ no flare 5500' - Wiper TG = 2070u thru buster w/ no flare 5500' - TG after LOGS/SWC = 3114u thru buster w/ no flare 5500'- TD - CO, C&C hole, TOOH to shoe, Cut drlg line, TOOH, LD bit/mtr/rmrs/jars, PU RR Tricone bit, TIH (Strap In), CO TG thru buster w/ 1401u (no flare), "Strap In" tally 31' off uphole, Drill 31' to corrected TD @ 5500', CO, Run Gyro Surveys, 417u DTG, CO, C&C hole, TOOH to shoe, WO Loggers, TIH, C&C hole, TG thru buster w/ 2118u (no flare), TOOH to shoe, WO Loggers, TIH, C&C hole, TG thru buster w/ 2070u (no flare), TOOH for LOGS, Run LOGS, Run Sidewall Cores, TIH, C&C hole, TG thru buster w/ 3114u (no flare), Pump cmt plug @ 4950', TOOH, PU bit, TIH, Tag cmt, CO TG thru buster w/ u (no flare), TOOH sideways (LD DP)		

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