LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name:	Dutch Lane 1-13		
API:	11-075-20038		
Location:	NW 1/4 Sec 13 T8N R5W, Payette County, Idaho		
License Number:	AFE 111721	Region:	Wildcat
Spud Date:	12/18/21	Drilling Completed:	
Surface Coordinates:	Lat N 44°01' 59.302", Long W116°53' 16.500"		
Bottom Hole Coordinates:			
Ground Elevation (ft):	2165'	K.B. Elevation (ft):	2176'
Logged Interval (ft):	140' To:	Total Depth (ft):	4575'
Formation:			
Type of Drilling Fluid:	WBM		

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

OPERATOR

Company: Snake River Oil & Gas
Address: PO Box 500
Magnolia, AR 71753

GEOLOGIST

Name: JC Nerud, N Peters
Company: King Canyon Buffalo, Inc.
Address: 33 King Canyon Rd.
Chadron, NE 69337

Comments

ROCK TYPES

Anhy rose
Anhy wh
Basalt
Bent
Cht
Dol blk
Dol brn
Dol salmon
Dol gy
Igne
Ls white
Ls off wh
Ls crm
Dol tn
Dol tn
Ls ltgy
Ls tn
Ls wh
Ls brn
Ls gy
Sltst rdbrn
Sltst brn
Ss wh
Sltst wh
Sltst dkgy
Sltst ltgy
Sltst tn
Ss dkbrn
Ss lt blue
Ss gn
Ss
Ss red brn
Ss crs
Ss ltgy
Sh rdbrn
Sh brn
Sh gn
Sh vcol
Sh tan
Sh dkgy
Sh medgy
Sh ltgy
Carbsh
Tuff ltgy
Tuff ltgrn
Tuff white
Tuff dkgy
Tuff orng
Sh sdy
Clyst tn
Clyst brn
Clyst lt blue
Clyst gygn
Clyst wh
Clyst ltgrn
Clyst dkgy
Clyst rdbrn
Clyst gy

ACCESSORIES

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

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

STRINGER
Anhy wh
Tuff
Anhy
Arg
Bent
Coal
Dol
Dol
Gyp
Ls
Mrst
Sltst
Ss
Ss
Clyst
Ls
Ls

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

OTHER SYMBOLS

POROSITY
Earthy
Fenest
Fracture
Inter
Moldic
Organic
Pinpoint
Vuggy

OIL SHOW
Even
Spotted
Ques
Dead

SORTING
Well
Moderate
Poor

ROUNDING
Rounded
Subrnd
Subang
Angular

INTERVAL
Core
Dst
Casing

EVENT
Rft
Sidewall
Survey
Isotube
Fault
Csg
New bit

ROP (min/ft)
ROP (min/ft)
MUD VOLUME

Depth Scale | DEPTH | Lithology | Geological Descriptions | Rig/Mud Data | Mass Spec Total Gas | DEPTH | Components C1 thru C10

Mass Spec Total Gas
MS Total Gas (Units)
Total Aromatics (ppm)

Components C1 thru C10
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)

SNAKE RIVER OIL & GAS
Dutch Lane 1-13
1316'FWL & 2398'FNL
Section 13, T8N R5W
PAYETTE COUNTY IDAHO
API # 11-075-20038
GL Elevation: 2165 ft
KB Elevation: 2177.5 ft

KING CANYON BUFFALO, LLC
12681 Hazelrodt Cutoff
Custer, SD 57730
kcbison@yahoo.com
kingcanyonbuffalo.com

Well Logged by JC Nerud, Nate Peters w/ SPEC Mass Spectrometer #1003 and QGM Trap

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

TOTAL AROMATICS (green dashed curve) describes increasing hydrocarbon wetness. This could be called the "Liquids Line." Higher Total Aromatics indicate higher probability of producing liquid hydrocarbons

King Canyon Buffalo, LLC On location 12/15/2021 @ 1030 hrs, Rigged up & fully operational 12/17/2021 at 1600 hrs, begin monitoring gas at 2200 HRS on 12/18/2021

In nature, we usually see 10 times more C1 than C2, 10 times more C2 than C3, and so on, on through C10. When significant increases in heavier components (C5-C10) are not matched by increases in lighter components (C1-C3), we have learned that this is almost always mud system contamination. Contamination and recirculation of (C5-C10) will be clearly annotated when identified.

DRILLING 12 1/4" HOLE
NB# 1 SMITH XR+CPS
IN at 133'

MUD @ PreSpud
WT 9.2
Vis 52
PV 25
YP 9
GELS 1/1
FIL 5.2
CK 1
SOL 3
pH 6.9
CL- 1800
Ca++ 280

SPUD IN 2300 HRS 12/18/2021

12/19/2021

BG = Background Gas
BIB = Break in Bit
CN = Connection
CG = Connection gas
DOT = Dropped on trip
DT = Downtime
DTG = Downtime gas
FMG = Formation gas
LTC = Lagged to Connection
NB = New Bit
TG = Trip Gas
SG = Swab Gas
STG = Short Trip Gas

MUD
WT 9.2
VIS 42

DRILLERS DEPTH CORRECTION

133-140 SS 100% pred clr & fr qtz occ pastel gr, vc-pbl gr, ang, v lt gy slty tuff ctd.

140-150 SLTST 90% lt gy, sblky, fm, hyd to mush, sm-chlky tex, v arg w abndt mica flecks, sl-mod calc, tr lt & dk calc fos frag. SS 10%: v cly coated, pred clr & fr qtz occ pastel gr, vc-pbl gr, ang, v lt gy slty tuff ctd.

150-200 SLTST 50% lt gy, sbblky-rd, sl fm, hyd to mush, sm-sl gritty tex, arg, com dk flecks, sl-n calc. CLYST 40% lt gy, sbbkly-rd, hyd to mush, sm-chlky tex, lam ip, sl calc. QTZ lse, vc-pbl gr, ang or broken, clr & lt brn, occ fros, pred cln.

200-250 SLTST 80% lt gy - v lt brn, fm, hyd to mush, sm-sl gritty tex, com mica & dk flecks, n calc. QTZ 20% lse, vc-pbl gr, ang or broken, clr & lt brn, hvy cly ctg.

250-300 SLTST 50% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip CLYST 50% ltgy-off wh, sbblky-lmpy, sm-chlky tex, slty thru, sl-n calc

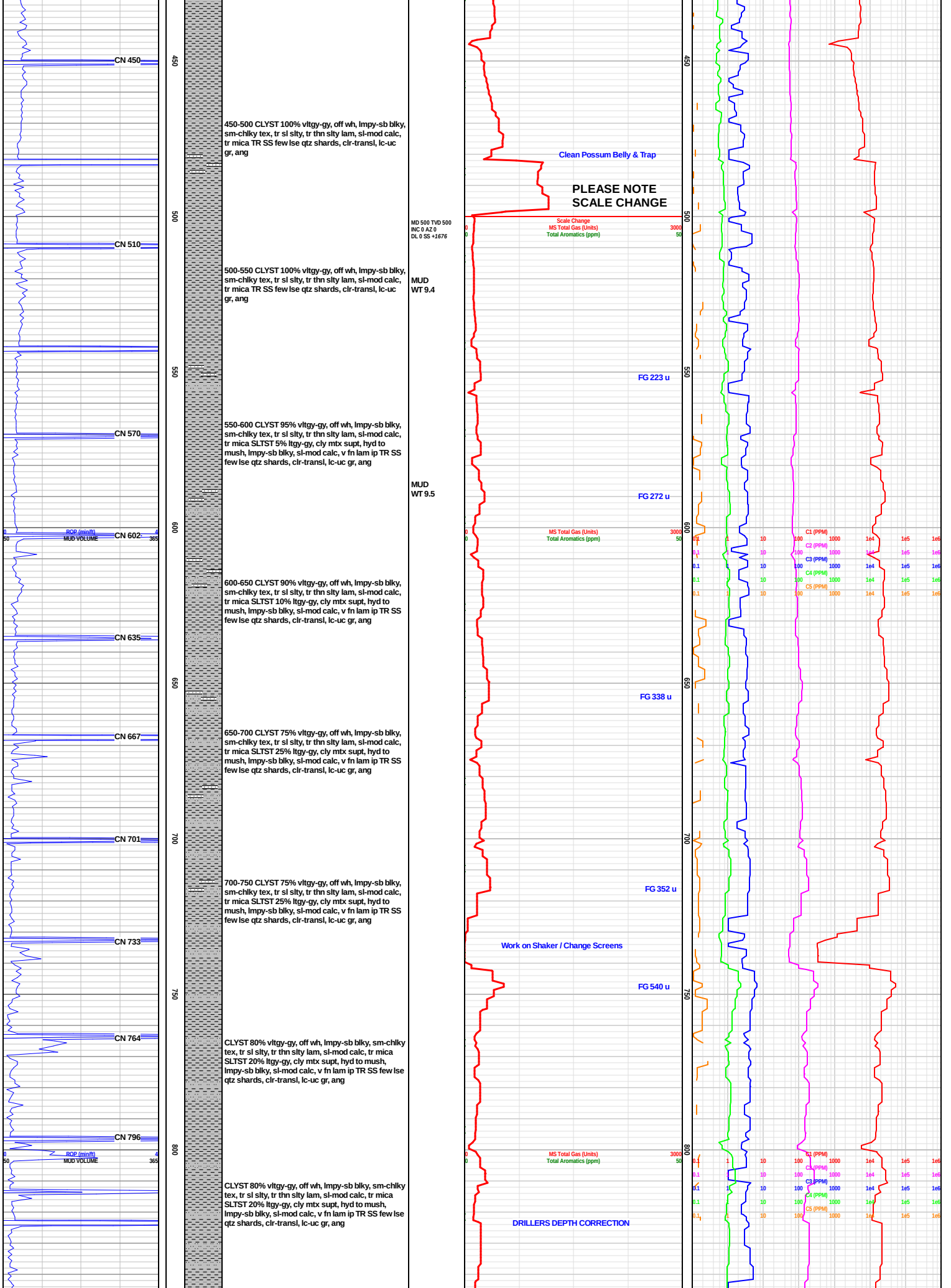
CITRIC ACID ADDITION IN MUD REACTING WITH LIMESTONE TO PRODUCE CO2

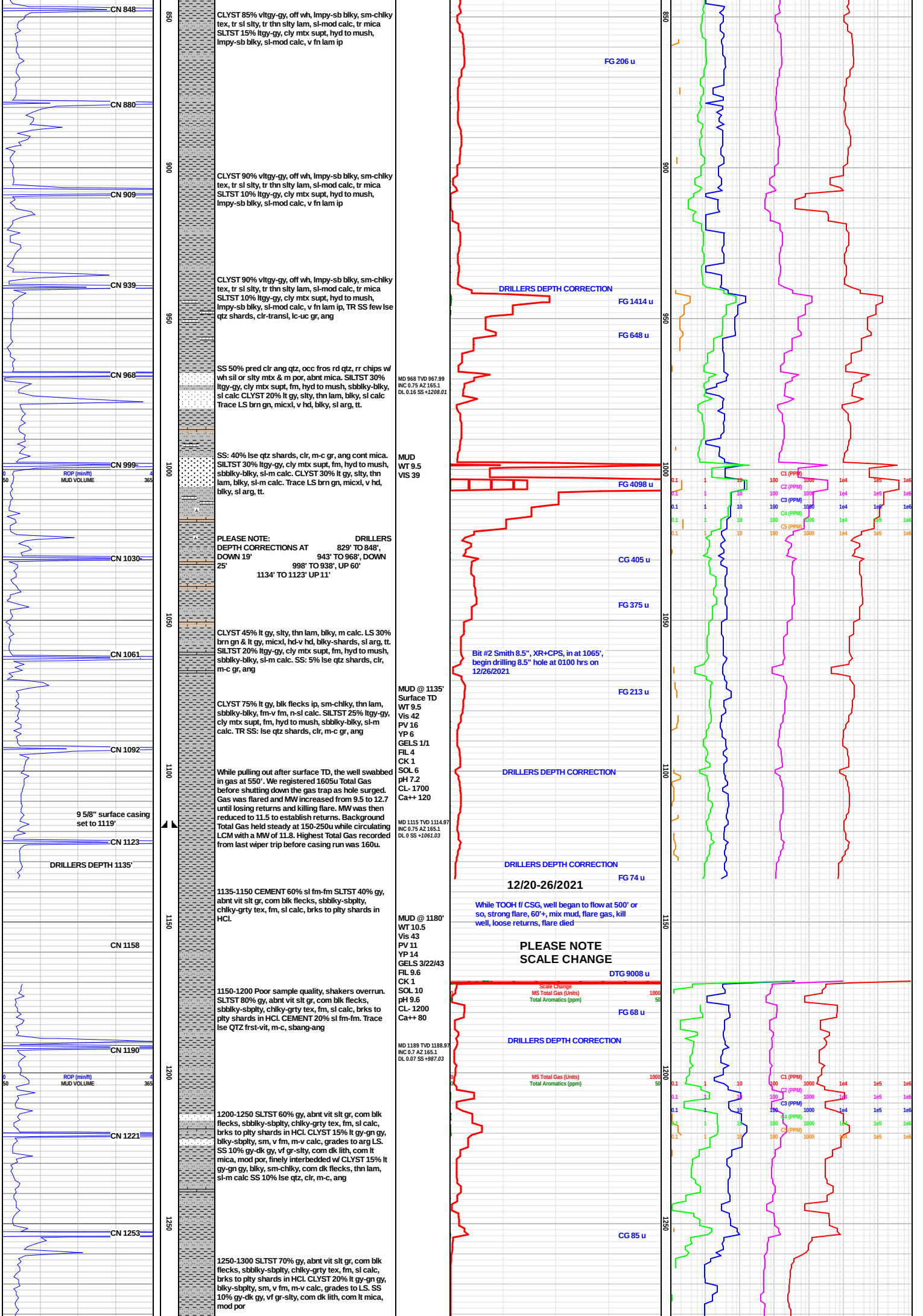
300-350 CLYST 85% ltgy-off wh, sbblky-lmpy, sm-chlky tex, sl slty thru, vsl-n calc, SLTST 15% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, mod calc, v fn lam ip

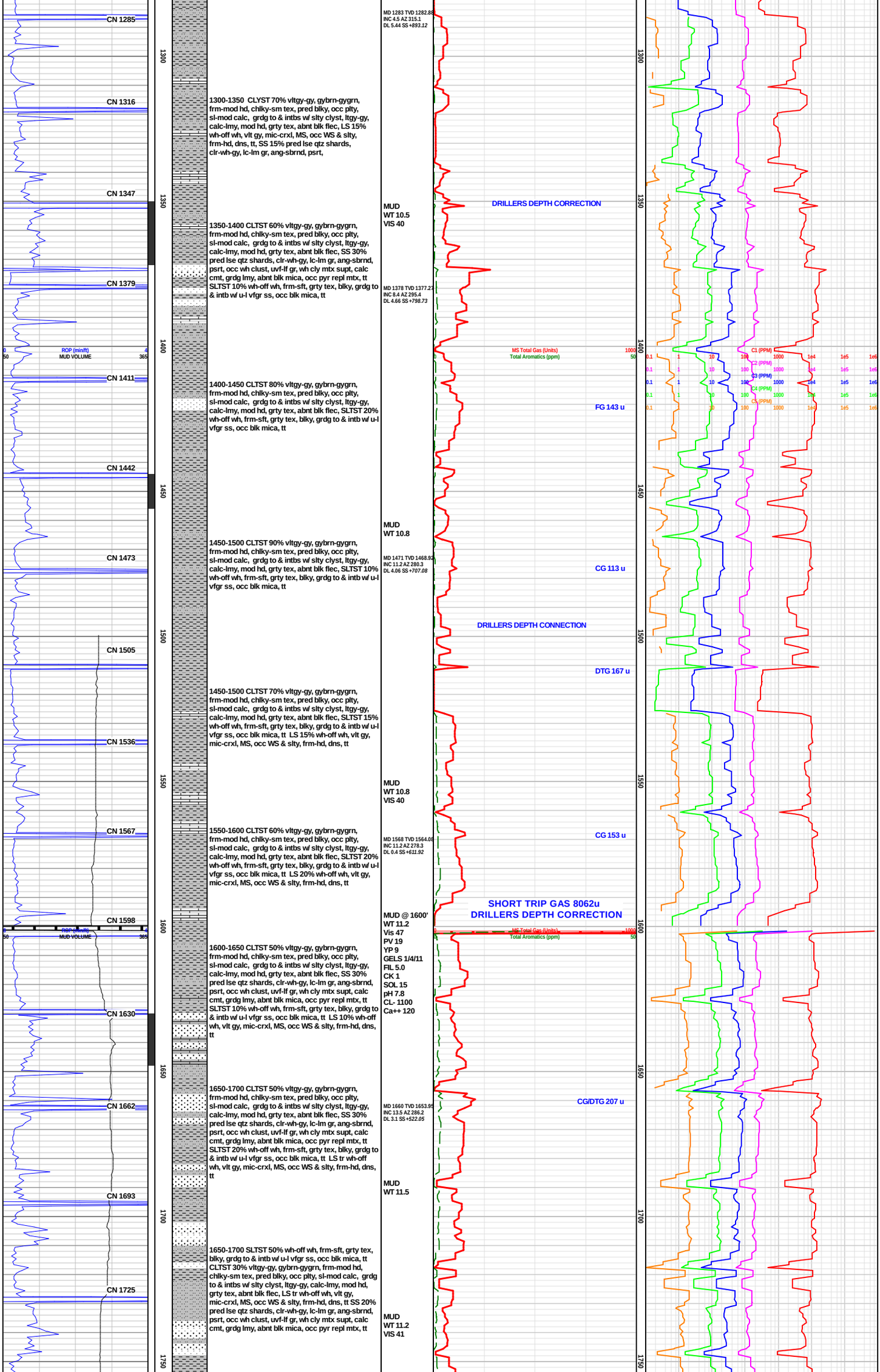
350-400 CLYST 100% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, occ sl slty, occ thn slty lam, sl-mod calc, tr mica

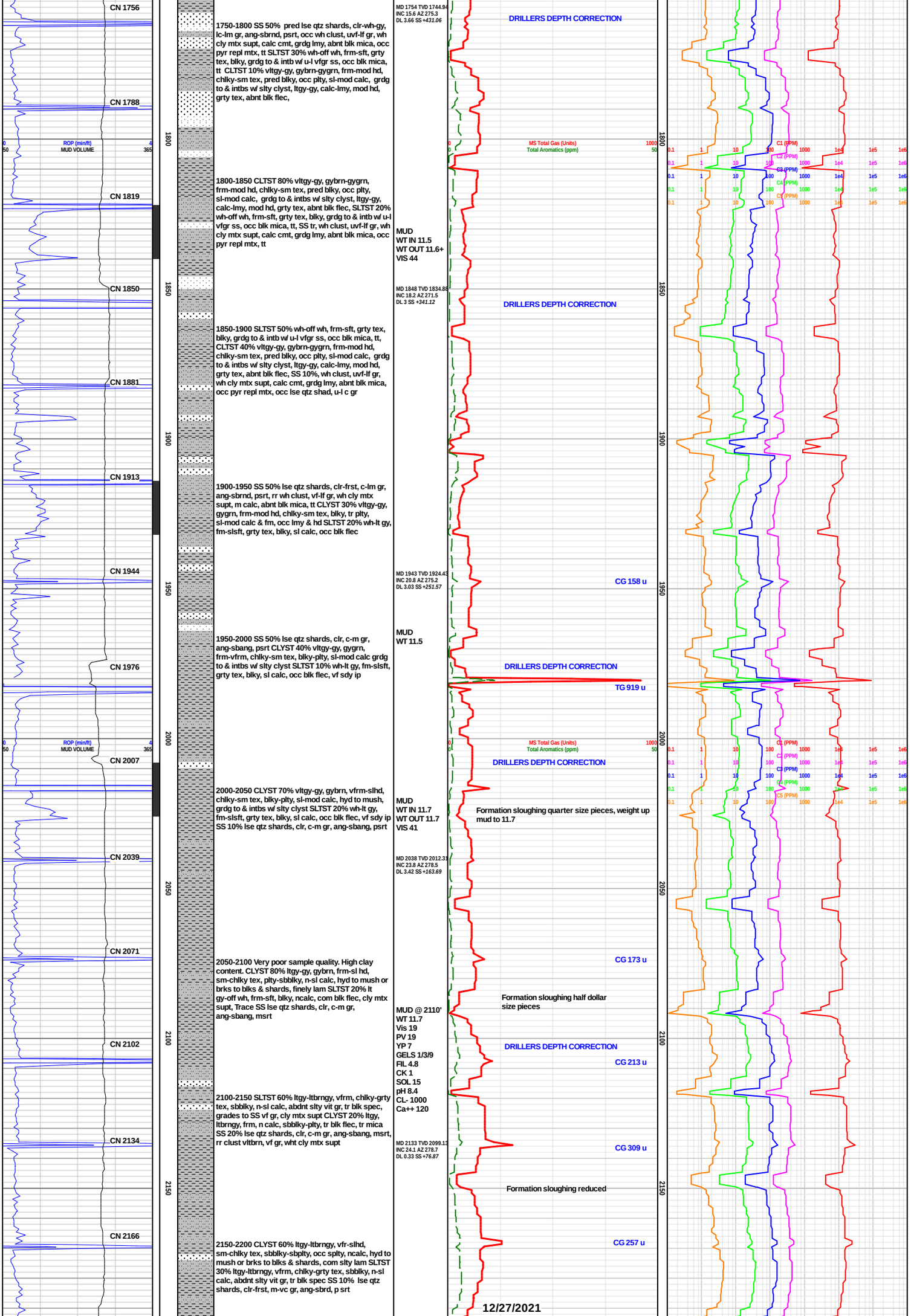
400-450 CLYST 100% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica

CN 231
CN 262
CN 294
CN 347
CN 385
CN 417

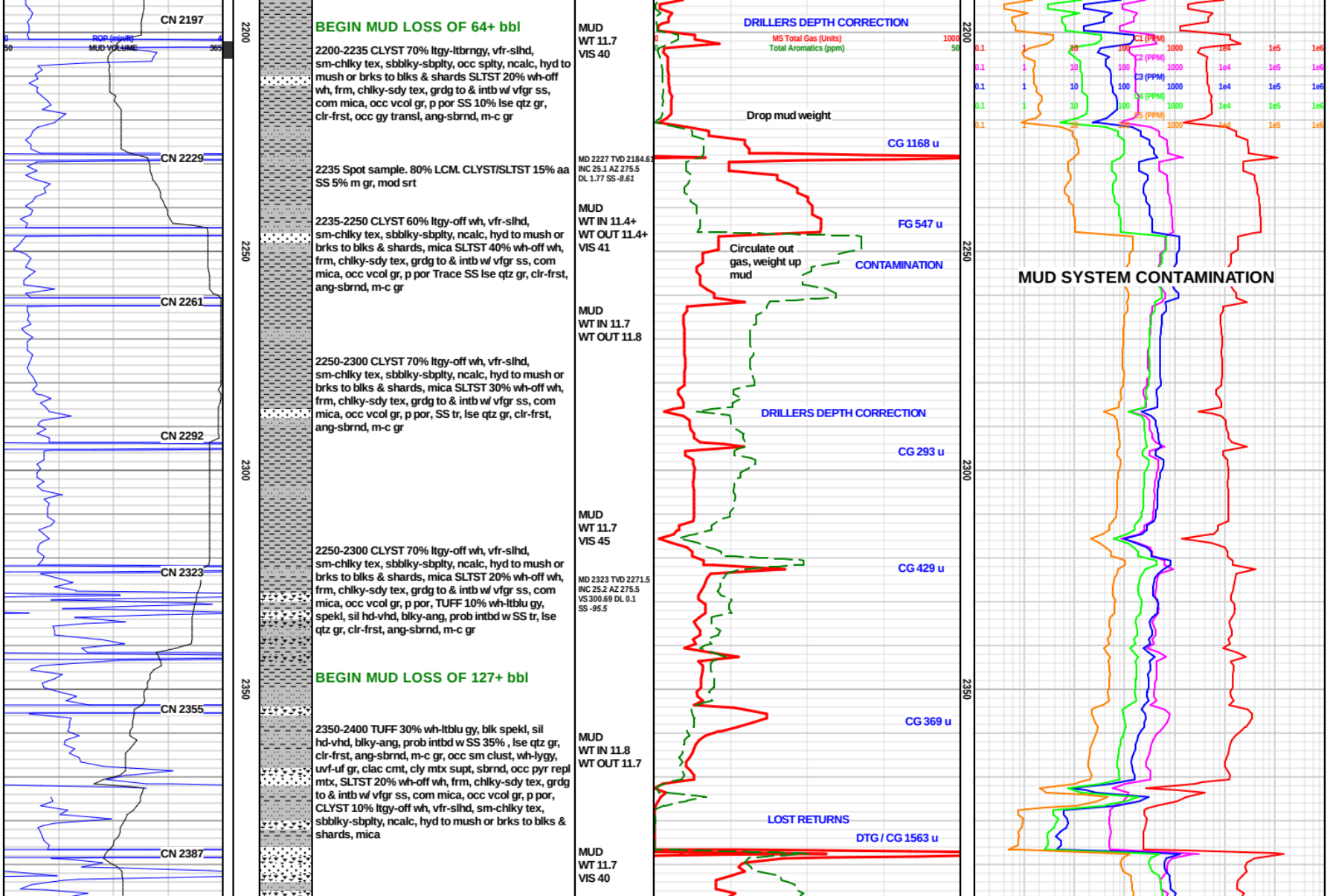

CN 450
CN 510
CN 570
CN 602
CN 635
CN 667
CN 701
CN 733
CN 764
CN 796
ROP (min/ft)
MUD VOLUME
450
500
550
600
650
700
750
800
450-500 CLYST 100% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
500-550 CLYST 100% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
550-600 CLYST 95% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 5% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
600-650 CLYST 90% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 10% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
650-700 CLYST 75% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 25% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
700-750 CLYST 75% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 25% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
CLYST 80% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 20% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
CLYST 80% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 20% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
MD 500 TVD 500
INC 0 AZ 0
DL 0 SS +1676
MUD WT 9.4
MUD WT 9.5
Clean Possum Belly & Trap
PLEASE NOTE SCALE CHANGE
Scale Change
MS Total Gas (Units)
Total Aromatics (ppm)
FG 223 u
FG 272 u
FG 338 u
FG 352 u
Work on Shaker / Change Screens
FG 540 u
DRILLERS DEPTH CORRECTION
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)

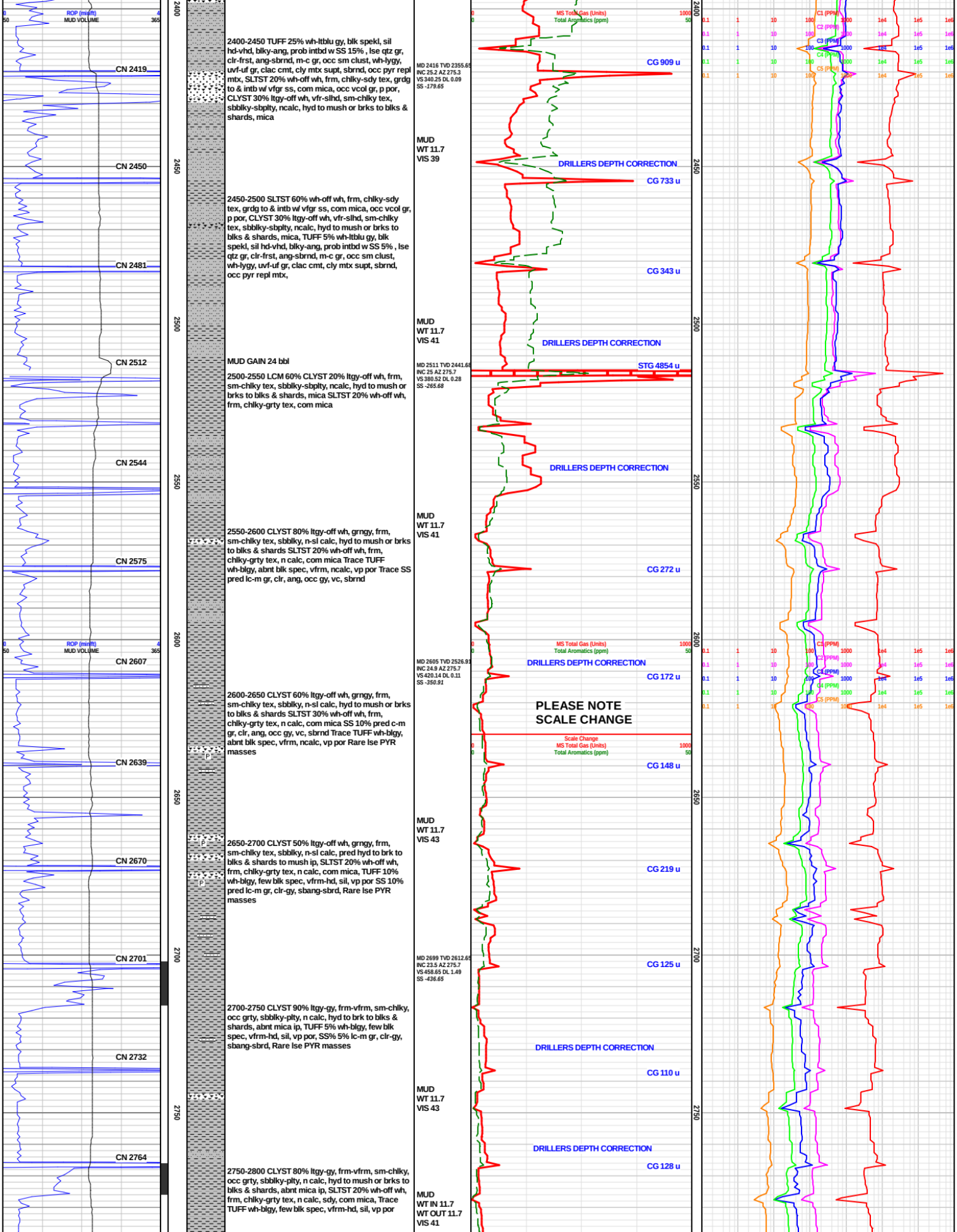

CN 848
CN 880
CN 909
CN 939
CN 968
CN 999
ROP (min/ft)
MUD VOLUME
CN 1030
CN 1061
CN 1092
9 5/8" surface casing set to 1119'
CN 1123
DRILLERS DEPTH 1135'
CN 1158
CN 1190
CN 1221
CN 1253
850
900
950
1000
1050
1100
1150
1200
1250
CLYST 85% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 15% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip
CLYST 90% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 10% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip
CLYST 90% vltgy-gy, off wh, lmpy-sb blky, sm-chlky tex, tr sl slty, tr thn slty lam, sl-mod calc, tr mica SLTST 10% ltgy-gy, cly mtx supt, hyd to mush, lmpy-sb blky, sl-mod calc, v fn lam ip, TR SS few lse qtz shards, clr-transl, lc-uc gr, ang
SS 50% pred clr ang qtz, occ fros rd qtz, rr chips w/ wh sil or slty mtx & m por, abnt mica. SILTST 30% ltgy-gy, cly mtx supt, fm, hyd to mush, sbblky-blky, sl calc CLYST 20% lt gy, slty, thn lam, blky, sl calc Trace LS brn gn, micxl, v hd, blky, sl arg, tt.
SS: 40% lse qtz shards, clr, m-c gr, ang cont mica. SILTST 30% ltgy-gy, cly mtx supt, fm, hyd to mush, sbblky-blky, sl-m calc. CLYST 30% lt gy, slty, thn lam, blky, sl-m calc. Trace LS brn gn, micxl, v hd, blky, sl arg, tt.
PLEASE NOTE: DRILLERS DEPTH CORRECTIONS AT 829' TO 848', DOWN 19' 943' TO 968', DOWN 25' 998' TO 938', UP 60' 1134' TO 1123' UP 11'
CLYST 45% lt gy, slty, thn lam, blky, m calc. LS 30% brn gn & lt gy, micxl, hd-v hd, blky-shards, sl arg, tt. SILTST 20% ltgy-gy, cly mtx supt, fm, hyd to mush, sbblky-blky, sl-m calc. SS: 5% lse qtz shards, clr, m-c gr, ang
CLYST 75% lt gy, blk flecks ip, sm-chlky, thn lam, sbblky-blky, fm-v fm, n-sl calc. SILTST 25% ltgy-gy, cly mtx supt, fm, hyd to mush, sbblky-blky, sl-m calc. TR SS: lse qtz shards, clr, m-c gr, ang
While pulling out after surface TD, the well swabbed in gas at 550'. We registered 1605u Total Gas before shutting down the gas trap as hole surged. Gas was flared and MW increased from 9.5 to 12.7 until losing returns and killing flare. MW was then reduced to 11.5 to establish returns. Background Total Gas held steady at 150-250u while circulating LCM with a MW of 11.8. Highest Total Gas recorded from last wiper trip before casing run was 160u.
1135-1150 CEMENT 60% sl fm-fm SLTST 40% gy, abnt vit slt gr, com blk flecks, sbblky-sbplty, chlky-grty tex, fm, sl calc, brks to plty shards in HCl.
1150-1200 Poor sample quality, shakers overrun. SLTST 80% gy, abnt vit slt gr, com blk flecks, sbblky-sbplty, chlky-grty tex, fm, sl calc, brks to plty shards in HCl. CEMENT 20% sl fm-fm. Trace lse QTZ frst-vit, m-c, sbang-ang
1200-1250 SLTST 60% gy, abnt vit slt gr, com blk flecks, sbblky-sbplty, chlky-grty tex, fm, sl calc, brks to plty shards in HCl. CLYST 15% lt gy-gn gy, blky-sbplty, sm, v fm, m-v calc, grades to arg LS. SS 10% gy-dk gy, vf gr-slty, com dk lith, com lt mica, mod por, finely interbedded w/ CLYST 15% lt gy-gn gy, blky, sm-chlky, com dk flecks, thn lam, sl-m calc SS 10% lse qtz, clr, m-c, ang
1250-1300 SLTST 70% gy, abnt vit slt gr, com blk flecks, sbblky-sbplty, chlky-grty tex, fm, sl calc, brks to plty shards in HCl. CLYST 20% lt gy-gn gy, blky-sbplty, sm, v fm, m-v calc, grades to LS. SS 10% gy-dk gy, vf gr-slty, com dk lith, com lt mica, mod por
MD 968 TVD 967.99
INC 0.75 AZ 165.1
DL 0.16 SS +1208.01
MUD
WT 9.5
VIS 39
MD 1115 TVD 1114.97
INC 0.75 AZ 165.1
DL 0 SS +1061.03
MUD @ 1135'
Surface TD
WT 9.5
Vis 42
PV 16
YP 6
GELS 1/1
FIL 4
CK 1
SOL 6
pH 7.2
CL- 1700
Ca++ 120
MUD @ 1180'
WT 10.5
Vis 43
PV 11
YP 14
GELS 3/22/43
FIL 9.6
CK 1
SOL 10
pH 9.6
CL- 1200
Ca++ 80
MD 1189 TVD 1188.97
INC 0.7 AZ 165.1
DL 0.07 SS +987.03
FG 206 u
DRILLERS DEPTH CORRECTION
FG 1414 u
FG 648 u
FG 4098 u
CG 405 u
FG 375 u
Bit #2 Smith 8.5", XR+CPS, in at 1065', begin drilling 8.5" hole at 0100 hrs on 12/26/2021
FG 213 u
DRILLERS DEPTH CORRECTION
DRILLERS DEPTH CORRECTION
FG 74 u
12/20-26/2021
While TOOH f/ CSG, well began to flow at 500' or so, strong flare, 60'+, mix mud, flare gas, kill well, loose returns, flare died
PLEASE NOTE
SCALE CHANGE
DTG 9008 u
Scale Change
MS Total Gas (Units)
Total Aromatics (ppm)
FG 68 u
DRILLERS DEPTH CORRECTION
CG 85 u
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)

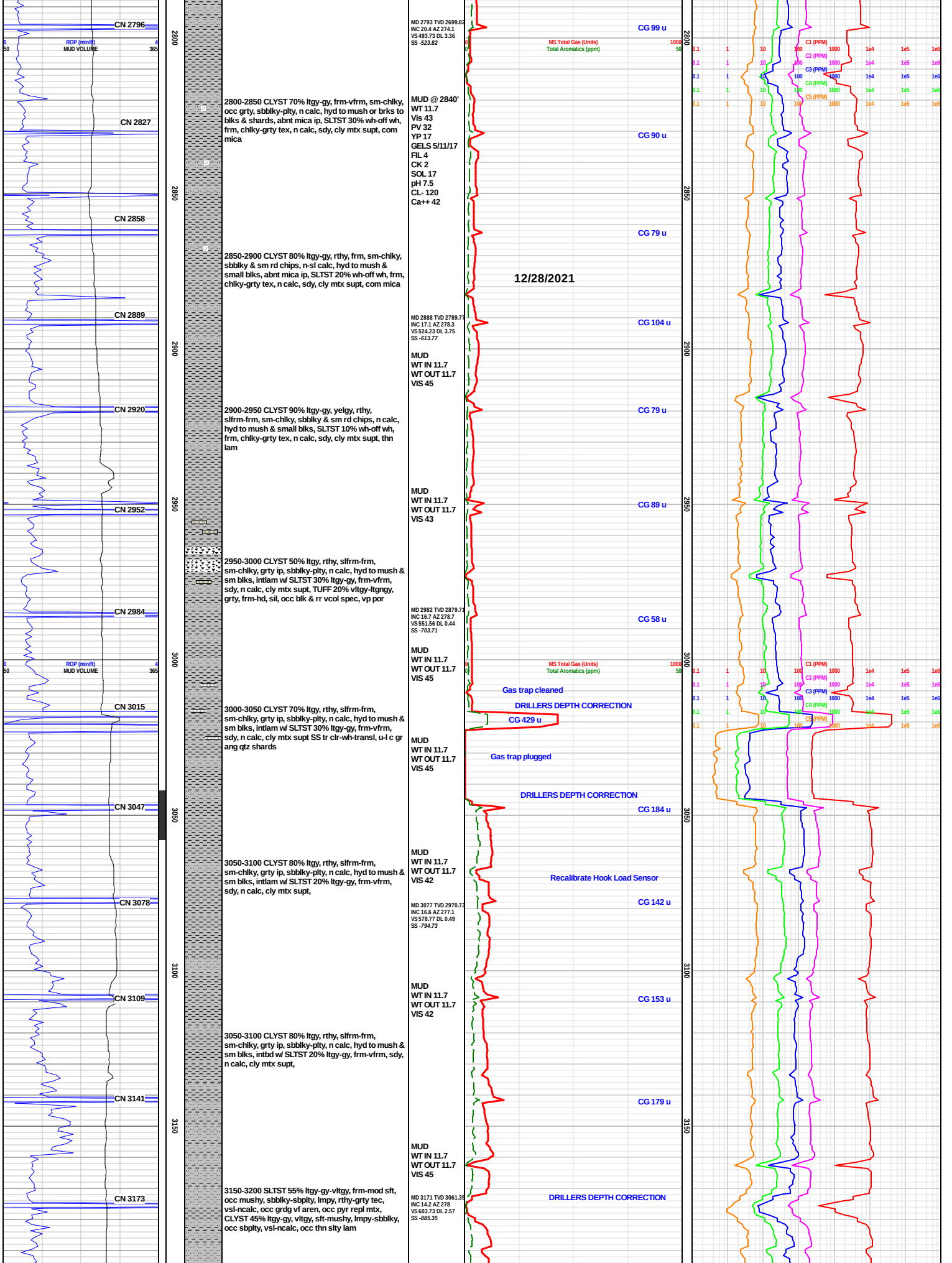

CN 1285
CN 1316
CN 1347
CN 1379
CN 1411
CN 1442
CN 1473
CN 1505
CN 1536
CN 1567
CN 1598
CN 1630
CN 1662
CN 1693
CN 1725
ROP (min/ft)
MUD VOLUME
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750
1300-1350 CLYST 70% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, LS 15% wh-off wh, vlt gy, mic-crxl, MS, occ WS & slty, frm-hd, dns, tt, SS 15% pred lse qtz shards, clr-wh-gy, lc-lm gr, ang-sbrnd, psrt,
1350-1400 CLTST 60% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SS 30% pred lse qtz shards, clr-wh-gy, lc-lm gr, ang-sbrnd, psrt, occ wh clust, uvf-lf gr, wh cly mtx supt, calc cmt, grdg lmy, abnt blk mica, occ pyr repl mtx, tt SLTST 10% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt
1400-1450 CLTST 80% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SLTST 20% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt
1450-1500 CLTST 90% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SLTST 10% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt
1450-1500 CLTST 70% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SLTST 15% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt LS 15% wh-off wh, vlt gy, mic-crxl, MS, occ WS & slty, frm-hd, dns, tt
1550-1600 CLTST 60% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SLTST 20% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt LS 20% wh-off wh, vlt gy, mic-crxl, MS, occ WS & slty, frm-hd, dns, tt
1600-1650 CLTST 50% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SS 30% pred lse qtz shards, clr-wh-gy, lc-lm gr, ang-sbrnd, psrt, occ wh clust, uvf-lf gr, wh cly mtx supt, calc cmt, grdg lmy, abnt blk mica, occ pyr repl mtx, tt SLTST 10% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt LS 10% wh-off wh, vlt gy, mic-crxl, MS, occ WS & slty, frm-hd, dns, tt
1650-1700 CLTST 50% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SS 30% pred lse qtz shards, clr-wh-gy, lc-lm gr, ang-sbrnd, psrt, occ wh clust, uvf-lf gr, wh cly mtx supt, calc cmt, grdg lmy, abnt blk mica, occ pyr repl mtx, tt SLTST 20% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt LS tr wh-off wh, vlt gy, mic-crxl, MS, occ WS & slty, frm-hd, dns, tt
1650-1700 SLTST 50% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt CLTST 30% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, LS tr wh-off wh, vlt gy, mic-crxl, MS, occ WS & slty, frm-hd, dns, tt SS 20% pred lse qtz shards, clr-wh-gy, lc-lm gr, ang-sbrnd, psrt, occ wh clust, uvf-lf gr, wh cly mtx supt, calc cmt, grdg lmy, abnt blk mica, occ pyr repl mtx, tt
MD 1283 TVD 1282.88
INC 4.5 AZ 315.1
DL 5.44 SS +893.12
MUD
WT 10.5
VIS 40
MD 1378 TVD 1377.22
INC 8.4 AZ 295.4
DL 4.66 SS +798.73
MUD
WT 10.8
MD 1471 TVD 1468.92
INC 11.2 AZ 280.3
DL 4.06 SS +707.08
MUD
WT 10.8
VIS 40
MD 1568 TVD 1564.08
INC 11.2 AZ 278.3
DL 0.4 SS +611.92
MUD @ 1600'
WT 11.2
Vis 47
PV 19
YP 9
GELS 1/4/11
FIL 5.0
CK 1
SOL 15
pH 7.8
CL- 1100
Ca++ 120
MD 1660 TVD 1653.95
INC 13.5 AZ 286.2
DL 3.1 SS +522.05
MUD
WT 11.5
MUD
WT 11.2
VIS 41
DRILLERS DEPTH CORRECTION
MS Total Gas (Units)
Total Aromatics (ppm)
FG 143 u
CG 113 u
DRILLERS DEPTH CONNECTION
DTG 167 u
CG 153 u
SHORT TRIP GAS 8062u
DRILLERS DEPTH CORRECTION
CG/DTG 207 u
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)

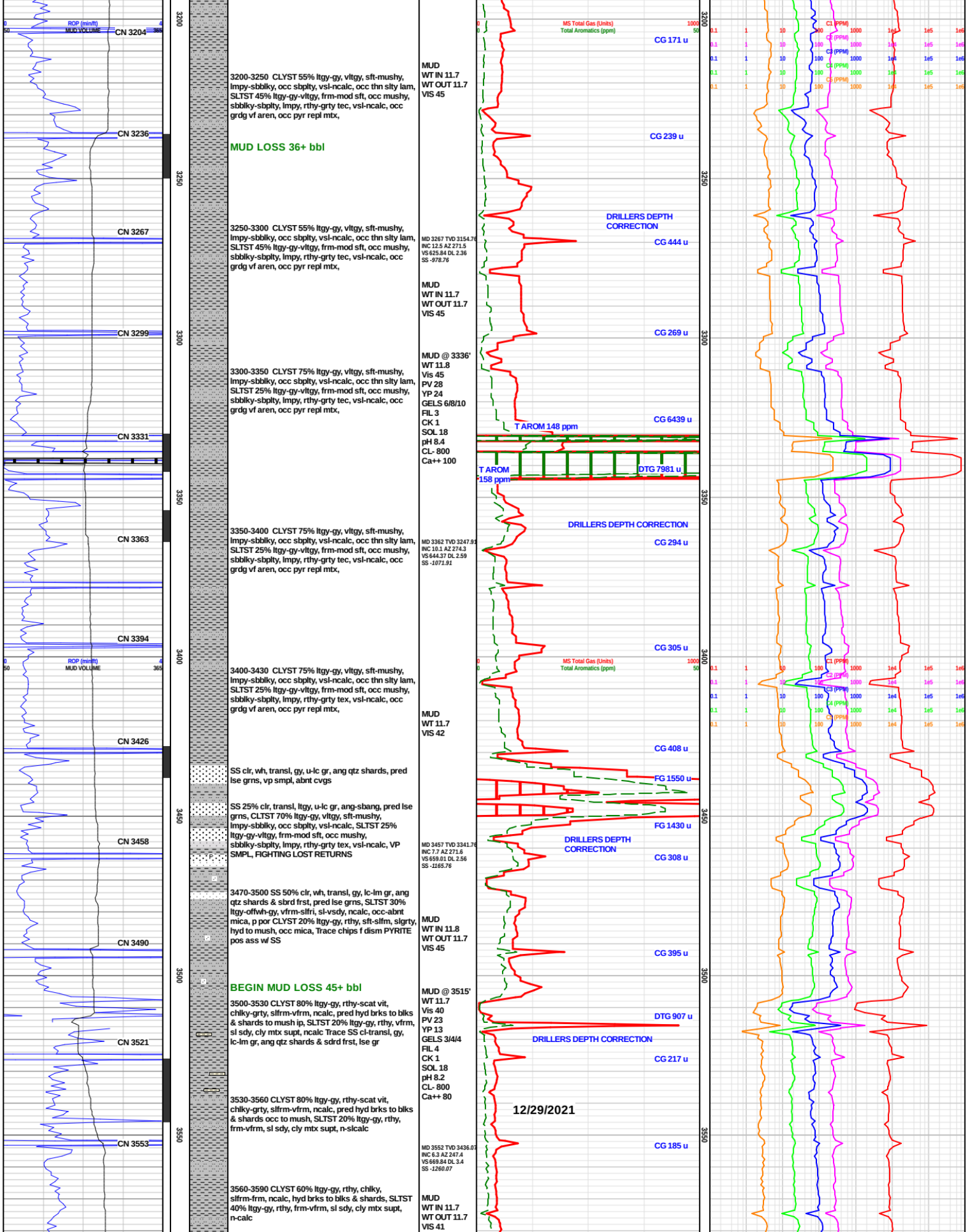

CN 1756
CN 1788
CN 1819
CN 1850
CN 1881
CN 1913
CN 1944
CN 1976
CN 2007
CN 2039
CN 2071
CN 2102
CN 2134
CN 2166
ROP (min/ft)
MUD VOLUME
1800
1850
1900
1950
2000
2050
2100
2150
1750-1800 SS 50% pred lse qtz shards, clr-wh-gy, lc-lm gr, ang-sbrnd, psrt, occ wh clust, uvf-lf gr, wh cly mtx supt, calc cmt, grdg lmy, abnt blk mica, occ pyr repl mtx, tt SLTST 30% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt CLTST 10% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec,
1800-1850 CLTST 80% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SLTST 20% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt, SS tr, wh clust, uvf-lf gr, wh cly mtx supt, calc cmt, grdg lmy, abnt blk mica, occ pyr repl mtx, tt
1850-1900 SLTST 50% wh-off wh, frm-sft, grty tex, blky, grdg to & intb w/ u-l vfgr ss, occ blk mica, tt, CLTST 40% vltgy-gy, gybrn-gygrn, frm-mod hd, chlky-sm tex, pred blky, occ plty, sl-mod calc, grdg to & intbs w/ slty clyst, ltgy-gy, calc-lmy, mod hd, grty tex, abnt blk flec, SS 10%, wh clust, uvf-lf gr, wh cly mtx supt, calc cmt, grdg lmy, abnt blk mica, occ pyr repl mtx, occ lse qtz shad, u-l c gr
1900-1950 SS 50% lse qtz shards, clr-frst, c-lm gr, ang-sbrnd, psrt, rr wh clust, vf-lf gr, wh cly mtx supt, m calc, abnt blk mica, tt CLYST 30% vltgy-gy, gygrn, frm-mod hd, chlky-sm tex, blky, tr plty, sl-mod calc & fm, occ lmy & hd SLTST 20% wh-lt gy, fm-slsft, grty tex, blky, sl calc, occ blk flec
1950-2000 SS 50% lse qtz shards, clr, c-m gr, ang-sbang, psrt CLYST 40% vltgy-gy, gygrn, frm-vfrm, chlky-sm tex, blky-plty, sl-mod calc grdg to & intbs w/ slty clyst SLTST 10% wh-lt gy, fm-slsft, grty tex, blky, sl calc, occ blk flec, vf sdy ip
2000-2050 CLYST 70% vltgy-gy, gybrn, vfrm-slhd, chlky-sm tex, blky-plty, sl-mod calc, hyd to mush, grdg to & intbs w/ slty clyst SLTST 20% wh-lt gy, fm-slsft, grty tex, blky, sl calc, occ blk flec, vf sdy ip SS 10% lse qtz shards, clr, c-m gr, ang-sbang, psrt
2050-2100 Very poor sample quality. High clay content. CLYST 80% ltgy-gy, gybrn, frm-sl hd, sm-chlky tex, plty-sbblky, n-sl calc, hyd to mush or brks to blks & shards, finely lam SLTST 20% lt gy-off wh, frm-sft, blky, ncalc, com blk flec, cly mtx supt, Trace SS lse qtz shards, clr, c-m gr, ang-sbang, msrt
2100-2150 SLTST 60% ltgy-ltbrngy, vfrm, chlky-grty tex, sbblky, n-sl calc, abdnt slty vit gr, tr blk spec, grades to SS vf gr, cly mtx supt CLYST 20% ltgy, ltbrngy, frm, n calc, sbblky-plty, tr blk flec, tr mica SS 20% lse qtz shards, clr, c-m gr, ang-sbang, msrt, rr clust vltbrn, vf gr, wht cly mtx supt
2150-2200 CLYST 60% ltgy-ltbrngy, vfr-slhd, sm-chlky tex, sbblky-sbplty, occ splty, ncalc, hyd to mush or brks to blks & shards, com slty lam SLTST 30% ltgy-ltbrngy, vfrm, chlky-grty tex, sbblky, n-sl calc, abdnt slty vit gr, tr blk spec SS 10% lse qtz shards, clr-frst, m-vc gr, ang-sbrd, p srt
MD 1754 TVD 1744.94
INC 15.6 AZ 275.3
DL 3.66 SS +431.06
MUD
WT IN 11.5
WT OUT 11.6+
VIS 44
MD 1848 TVD 1834.88
INC 19.2 AZ 271.5
DL 3 SS +341.12
MD 1943 TVD 1924.43
INC 20.8 AZ 275.2
DL 3.03 SS +251.57
MUD
WT 11.5
MUD
WT IN 11.7
WT OUT 11.7
VIS 41
MD 2038 TVD 2012.33
INC 23.8 AZ 278.5
DL 3.42 SS +163.69
MUD @ 2110'
WT 11.7
Vis 19
PV 19
YP 7
GELS 1/3/9
FIL 4.8
CK 1
SOL 15
pH 8.4
CL- 1000
Ca++ 120
MD 2133 TVD 2099.13
INC 24.1 AZ 278.7
DL 0.33 SS +76.87
DRILLERS DEPTH CORRECTION
MS Total Gas (Units)
Total Aromatics (ppm)
CG 158 u
TG 919 u
Formation sloughing quarter size pieces, weight up mud to 11.7
CG 173 u
Formation sloughing half dollar size pieces
CG 213 u
CG 309 u
Formation sloughing reduced
CG 257 u
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)

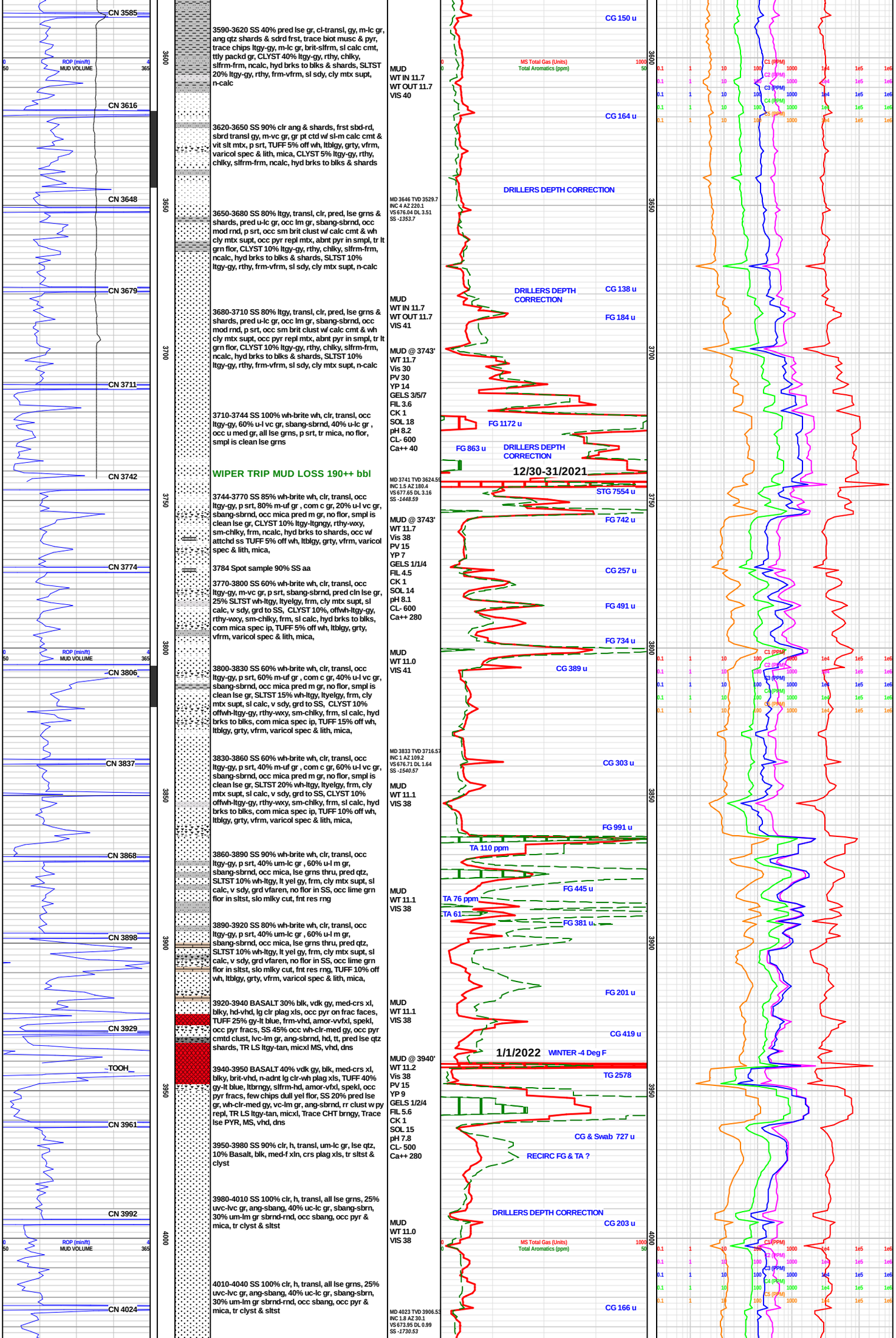
12/27/2021

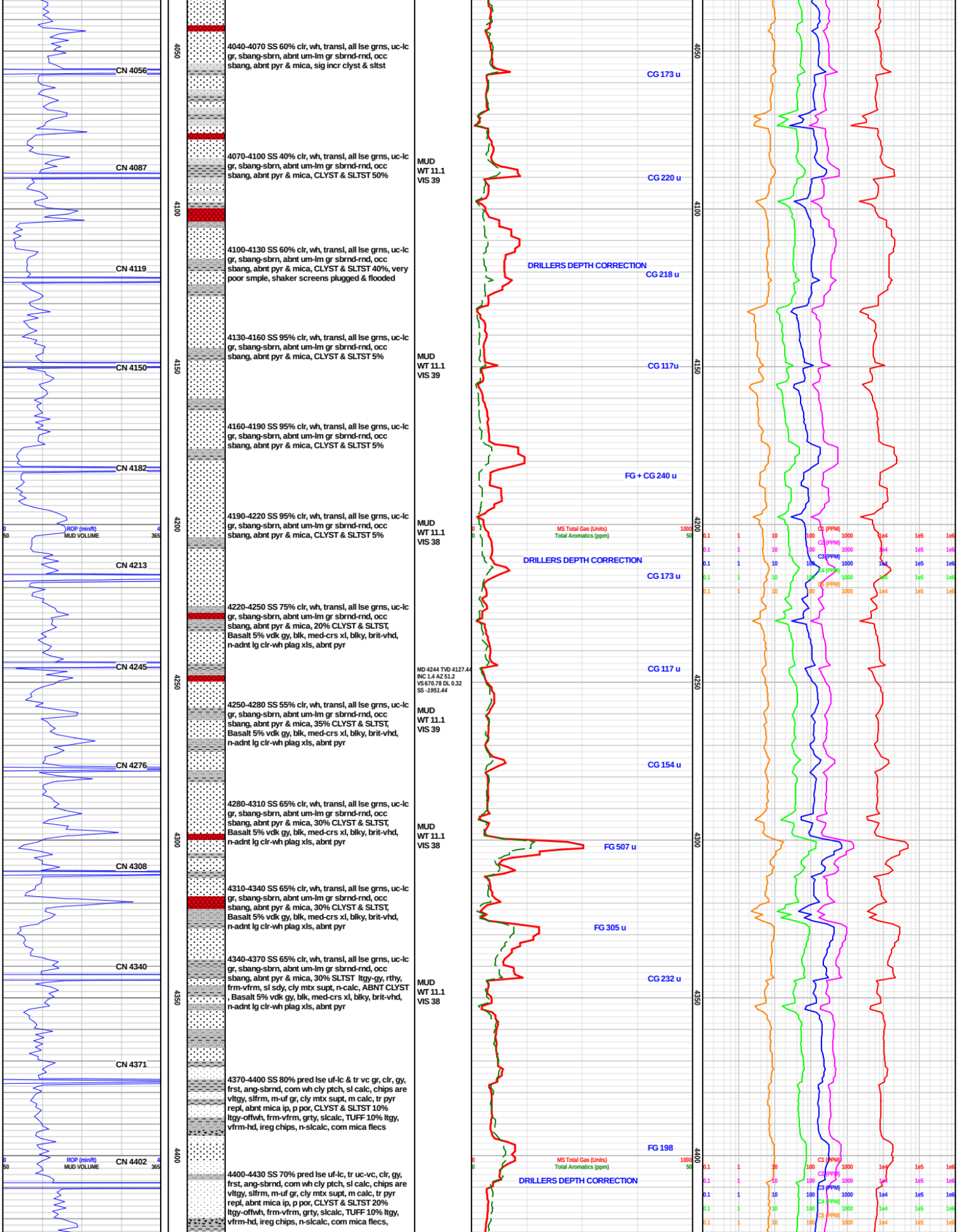

CN 2197
ROP (min/ft)
MUD VOLUME
CN 2229
CN 2261
CN 2292
CN 2323
CN 2355
CN 2387
2200
2250
2300
2350
BEGIN MUD LOSS OF 64+ bbl
2200-2235 CLYST 70% ltgy-ltbrngy, vfr-slhd, sm-chlky tex, sbblky-sbplty, occ splty, ncalc, hyd to mush or brks to blks & shards SLTST 20% wh-off wh, frm, chlky-sdy tex, grdg to & intb w/ vfgr ss, com mica, occ vcol gr, p por SS 10% lse qtz gr, clr-frst, occ gy transl, ang-sbrnd, m-c gr
2235 Spot sample. 80% LCM. CLYST/SLTST 15% aa SS 5% m gr, mod srt
2235-2250 CLYST 60% ltgy-off wh, vfr-slhd, sm-chlky tex, sbblky-sbplty, ncalc, hyd to mush or brks to blks & shards, mica SLTST 40% wh-off wh, frm, chlky-sdy tex, grdg to & intb w/ vfgr ss, com mica, occ vcol gr, p por Trace SS lse qtz gr, clr-frst, ang-sbrnd, m-c gr
2250-2300 CLYST 70% ltgy-off wh, vfr-slhd, sm-chlky tex, sbblky-sbplty, ncalc, hyd to mush or brks to blks & shards, mica SLTST 30% wh-off wh, frm, chlky-sdy tex, grdg to & intb w/ vfgr ss, com mica, occ vcol gr, p por, SS tr, lse qtz gr, clr-frst, ang-sbrnd, m-c gr
2250-2300 CLYST 70% ltgy-off wh, vfr-slhd, sm-chlky tex, sbblky-sbplty, ncalc, hyd to mush or brks to blks & shards, mica SLTST 20% wh-off wh, frm, chlky-sdy tex, grdg to & intb w/ vfgr ss, com mica, occ vcol gr, p por, TUFF 10% wh-ltblu gy, spekl, sil hd-vhd, blky-ang, prob intbd w SS tr, lse qtz gr, clr-frst, ang-sbrnd, m-c gr
BEGIN MUD LOSS OF 127+ bbl
2350-2400 TUFF 30% wh-ltblu gy, blk spekl, sil hd-vhd, blky-ang, prob intbd w SS 35% , lse qtz gr, clr-frst, ang-sbrnd, m-c gr, occ sm clust, wh-lygy, uvf-uf gr, clac cmt, cly mtx supt, sbrnd, occ pyr repl mtx, SLTST 20% wh-off wh, frm, chlky-sdy tex, grdg to & intb w/ vfgr ss, com mica, occ vcol gr, p por, CLYST 10% ltgy-off wh, vfr-slhd, sm-chlky tex, sbblky-sbplty, ncalc, hyd to mush or brks to blks & shards, mica
MUD WT 11.7 VIS 40
MD 2227 TVD 2184.61 INC 25.1 AZ 275.5 DL 1.77 SS -8.61
MUD WT IN 11.4+ WT OUT 11.4+ VIS 41
MUD WT IN 11.7 WT OUT 11.8
MUD WT 11.7 VIS 45
MD 2323 TVD 2271.5 INC 25.2 AZ 275.5 VS 300.69 DL 0.1 SS -95.5
MUD WT IN 11.8 WT OUT 11.7
MUD WT 11.7 VIS 40
DRILLERS DEPTH CORRECTION
MS Total Gas (Units)
Total Aromatics (ppm)
Drop mud weight
CG 1168 u
FG 547 u
Circulate out gas, weight up mud
CONTAMINATION
DRILLERS DEPTH CORRECTION
CG 293 u
CG 429 u
CG 369 u
LOST RETURNS
DTG / CG 1563 u
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)
MUD SYSTEM CONTAMINATION

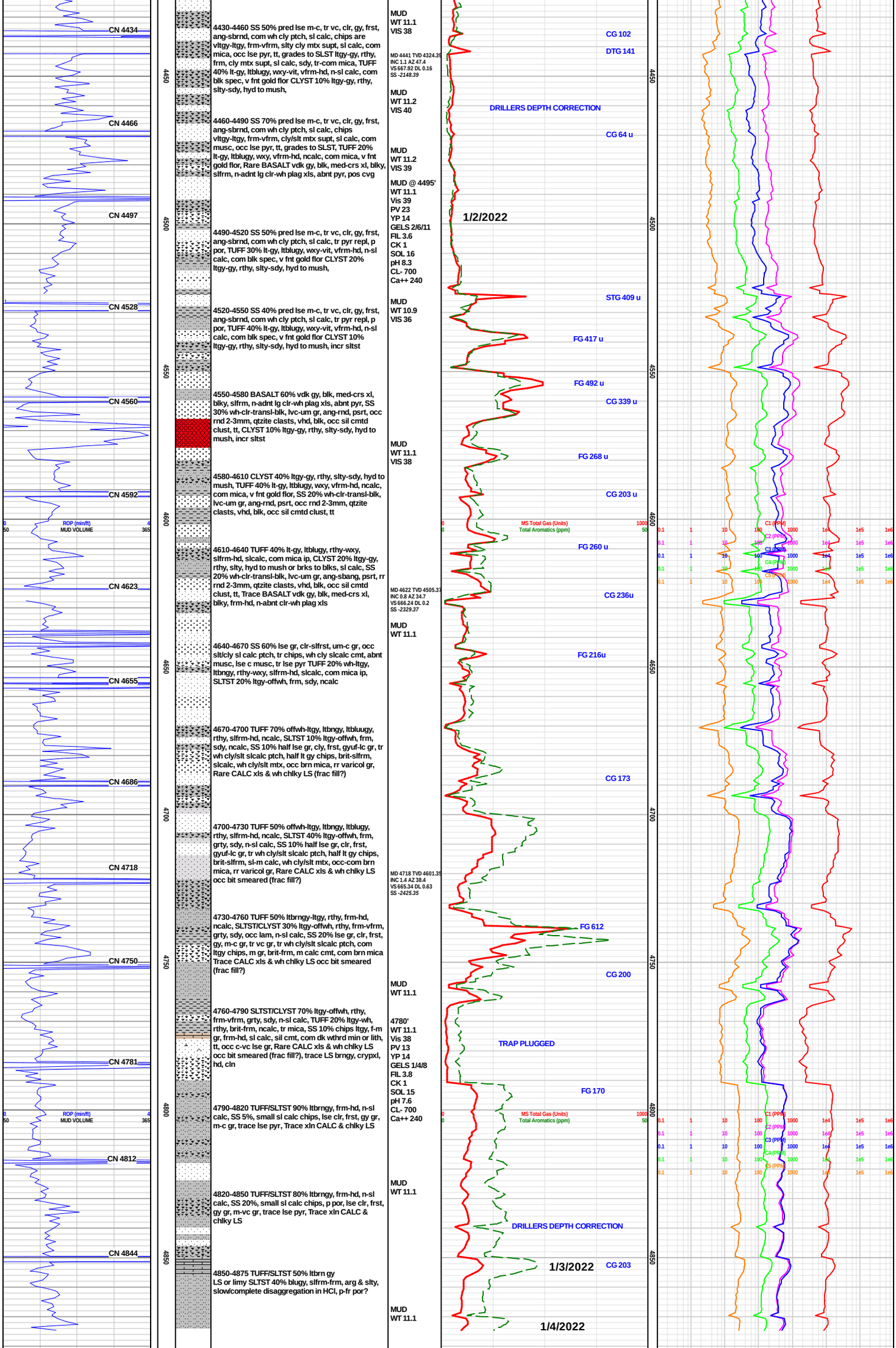

ROP (min/ft)
MUD VOLUME
CN 2419
CN 2450
CN 2481
CN 2512
CN 2544
CN 2575
CN 2607
CN 2639
CN 2670
CN 2701
CN 2732
CN 2764
2400
2450
2500
2550
2600
2650
2700
2750
2400-2450 TUFF 25% wh-ltblu gy, blk spekl, sil hd-vhd, blky-ang, prob intbd w SS 15% , lse qtz gr, clr-frst, ang-sbrnd, m-c gr, occ sm clust, wh-lygy, uvf-uf gr, clac cmt, cly mtx supt, sbrnd, occ pyr repl mtx, SLTST 20% wh-off wh, frm, chlky-sdy tex, grdg to & intb w/ vfgr ss, com mica, occ vcol gr, p por, CLYST 30% ltgy-off wh, vfr-slhd, sm-chlky tex, sbblky-sbplty, ncalc, hyd to mush or brks to blks & shards, mica
2450-2500 SLTST 60% wh-off wh, frm, chlky-sdy tex, grdg to & intb w/ vfgr ss, com mica, occ vcol gr, p por, CLYST 30% ltgy-off wh, vfr-slhd, sm-chlky tex, sbblky-sbplty, ncalc, hyd to mush or brks to blks & shards, mica, TUFF 5% wh-ltblu gy, blk spekl, sil hd-vhd, blky-ang, prob intbd w SS 5% , lse qtz gr, clr-frst, ang-sbrnd, m-c gr, occ sm clust, wh-lygy, uvf-uf gr, clac cmt, cly mtx supt, sbrnd, occ pyr repl mtx,
MUD GAIN 24 bbl
2500-2550 LCM 60% CLYST 20% ltgy-off wh, frm, sm-chlky tex, sbblky-sbplty, ncalc, hyd to mush or brks to blks & shards, mica SLTST 20% wh-off wh, frm, chlky-grty tex, com mica
2550-2600 CLYST 80% ltgy-off wh, grngy, frm, sm-chlky tex, sbblky, n-sl calc, hyd to mush or brks to blks & shards SLTST 20% wh-off wh, frm, chlky-grty tex, n calc, com mica Trace TUFF wh-blgy, abnt blk spec, vfrm, ncalc, vp por Trace SS pred lc-m gr, clr, ang, occ gy, vc, sbrnd
2600-2650 CLYST 60% ltgy-off wh, grngy, frm, sm-chlky tex, sbblky, n-sl calc, hyd to mush or brks to blks & shards SLTST 30% wh-off wh, frm, chlky-grty tex, n calc, com mica SS 10% pred c-m gr, clr, ang, occ gy, vc, sbrnd Trace TUFF wh-blgy, abnt blk spec, vfrm, ncalc, vp por Rare lse PYR masses
2650-2700 CLYST 50% ltgy-off wh, grngy, frm, sm-chlky tex, sbblky, n-sl calc, pred hyd to brk to blks & shards to mush ip, SLTST 20% wh-off wh, frm, chlky-grty tex, n calc, com mica, TUFF 10% wh-blgy, few blk spec, vfrm-hd, sil, vp por SS 10% pred lc-m gr, clr-gy, sbang-sbrd, Rare lse PYR masses
2700-2750 CLYST 90% ltgy-gy, frm-vfrm, sm-chlky, occ grty, sbblky-plty, n calc, hyd to brk to blks & shards, abnt mica ip, TUFF 5% wh-blgy, few blk spec, vfrm-hd, sil, vp por, SS% 5% lc-m gr, clr-gy, sbang-sbrd, Rare lse PYR masses
2750-2800 CLYST 80% ltgy-gy, frm-vfrm, sm-chlky, occ grty, sbblky-plty, n calc, hyd to mush or brks to blks & shards, abnt mica ip, SLTST 20% wh-off wh, frm, chlky-grty tex, n calc, sdy, com mica, Trace TUFF wh-blgy, few blk spec, vfrm-hd, sil, vp por
MUD
WT 11.7
VIS 39
MUD
WT 11.7
VIS 41
MUD
WT 11.7
VIS 41
MUD
WT 11.7
VIS 43
MUD
WT 11.7
VIS 43
MUD
WT IN 11.7
WT OUT 11.7
VIS 41
MD 2416 TVD 2355.65
INC 25.2 AZ 275.3
VS 340.25 DL 0.09
SS -179.65
MD 2511 TVD 2441.68
INC 25 AZ 275.7
VS 380.52 DL 0.28
SS -265.68
MD 2605 TVD 2526.91
INC 24.9 AZ 275.7
VS 420.14 DL 0.11
SS -350.91
MD 2699 TVD 2612.65
INC 23.5 AZ 275.7
VS 458.65 DL 1.49
SS -436.65
MS Total Gas (Units)
Total Aromatics (ppm)
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)
CG 909 u
DRILLERS DEPTH CORRECTION
CG 733 u
CG 343 u
DRILLERS DEPTH CORRECTION
STG 4854 u
DRILLERS DEPTH CORRECTION
CG 272 u
DRILLERS DEPTH CORRECTION
CG 172 u
PLEASE NOTE
SCALE CHANGE
Scale Change
CG 148 u
CG 219 u
CG 125 u
DRILLERS DEPTH CORRECTION
CG 110 u
DRILLERS DEPTH CORRECTION
CG 128 u


CN 2796
ROP (min/ft)
MUD VOLUME
CN 2827
CN 2858
CN 2889
CN 2920
CN 2952
CN 2984
CN 3015
CN 3047
CN 3078
CN 3109
CN 3141
CN 3173
2800
2850
2900
2950
3000
3050
3100
3150
2800-2850 CLYST 70% ltgy-gy, frm-vfrm, sm-chlky, occ grty, sbblky-plty, n calc, hyd to mush or brks to blks & shards, abnt mica ip, SLTST 30% wh-off wh, frm, chlky-grty tex, n calc, sdy, cly mtx supt, com mica
2850-2900 CLYST 80% ltgy-gy, rthy, frm, sm-chlky, sbblky & sm rd chips, n-sl calc, hyd to mush & small blks, abnt mica ip, SLTST 20% wh-off wh, frm, chlky-grty tex, n calc, sdy, cly mtx supt, com mica
2900-2950 CLYST 90% ltgy-gy, yelgy, rthy, slfrm-frm, sm-chlky, sbblky & sm rd chips, n calc, hyd to mush & small blks, SLTST 10% wh-off wh, frm, chlky-grty tex, n calc, sdy, cly mtx supt, thn lam
2950-3000 CLYST 50% ltgy, rthy, slfrm-frm, sm-chlky, grty ip, sbblky-plty, n calc, hyd to mush & sm blks, intlam w/ SLTST 30% ltgy-gy, frm-vfrm, sdy, n calc, cly mtx supt, TUFF 20% vltgy-ltgngy, grty, frm-hd, sil, occ blk & rr vcol spec, vp por
3000-3050 CLYST 70% ltgy, rthy, slfrm-frm, sm-chlky, grty ip, sbblky-plty, n calc, hyd to mush & sm blks, intlam w/ SLTST 30% ltgy-gy, frm-vfrm, sdy, n calc, cly mtx supt SS tr clr-wh-transl, u-l c gr ang qtz shards
3050-3100 CLYST 80% ltgy, rthy, slfrm-frm, sm-chlky, grty ip, sbblky-plty, n calc, hyd to mush & sm blks, intlam w/ SLTST 20% ltgy-gy, frm-vfrm, sdy, n calc, cly mtx supt,
3050-3100 CLYST 80% ltgy, rthy, slfrm-frm, sm-chlky, grty ip, sbblky-plty, n calc, hyd to mush & sm blks, intbd w/ SLTST 20% ltgy-gy, frm-vfrm, sdy, n calc, cly mtx supt,
3150-3200 SLTST 55% ltgy-gy-vltgy, frm-mod sft, occ mushy, sbblky-sbplty, lmpy, rthy-grty tec, vsl-ncalc, occ grdg vf aren, occ pyr repl mtx, CLYST 45% ltgy-gy, vltgy, sft-mushy, lmpy-sbblky, occ sbplty, vsl-ncalc, occ thn slty lam
MD 2793 TVD 2699.82
INC 20.4 AZ 274.1
VS 493.73 DL 3.36
SS -523.82
MUD @ 2840'
WT 11.7
Vis 43
PV 32
YP 17
GELS 5/11/17
FIL 4
CK 2
SOL 17
pH 7.5
CL- 120
Ca++ 42
MD 2888 TVD 2789.77
INC 17.1 AZ 278.3
VS 524.23 DL 3.75
SS -613.77
MUD
WT IN 11.7
WT OUT 11.7
VIS 45
MUD
WT IN 11.7
WT OUT 11.7
VIS 43
MD 2982 TVD 2879.73
INC 16.7 AZ 278.7
VS 551.56 DL 0.44
SS -703.71
MUD
WT IN 11.7
WT OUT 11.7
VIS 45
MUD
WT IN 11.7
WT OUT 11.7
VIS 45
MUD
WT IN 11.7
WT OUT 11.7
VIS 42
MD 3077 TVD 2970.73
INC 16.6 AZ 277.1
VS 578.77 DL 0.49
SS -794.73
MUD
WT IN 11.7
WT OUT 11.7
VIS 42
MUD
WT IN 11.7
WT OUT 11.7
VIS 45
MD 3171 TVD 3061.35
INC 14.2 AZ 278
VS 603.73 DL 2.57
SS -885.35
CG 99 u
CG 90 u
CG 79 u
12/28/2021
CG 104 u
CG 79 u
CG 89 u
CG 58 u
Gas trap cleaned
DRILLERS DEPTH CORRECTION
CG 429 u
Gas trap plugged
DRILLERS DEPTH CORRECTION
CG 184 u
Recalibrate Hook Load Sensor
CG 142 u
CG 153 u
CG 179 u
DRILLERS DEPTH CORRECTION
MS Total Gas (Units)
Total Aromatics (ppm)
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)


ROP (min/ft)
MUD VOLUME
CN 3204
CN 3236
CN 3267
CN 3299
CN 3331
CN 3363
CN 3394
CN 3426
CN 3458
CN 3490
CN 3521
CN 3553
3200
3250
3300
3350
3400
3450
3500
3550
3200-3250 CLYST 55% ltgy-gy, vltgy, sft-mushy, lmpy-sbblky, occ sbplty, vsl-ncalc, occ thn slty lam, SLTST 45% ltgy-gy-vltgy, frm-mod sft, occ mushy, sbblky-sbplty, lmpy, rthy-grty tec, vsl-ncalc, occ grdg vf aren, occ pyr repl mtx,
MUD LOSS 36+ bbl
3250-3300 CLYST 55% ltgy-gy, vltgy, sft-mushy, lmpy-sbblky, occ sbplty, vsl-ncalc, occ thn slty lam, SLTST 45% ltgy-gy-vltgy, frm-mod sft, occ mushy, sbblky-sbplty, lmpy, rthy-grty tec, vsl-ncalc, occ grdg vf aren, occ pyr repl mtx,
3300-3350 CLYST 75% ltgy-gy, vltgy, sft-mushy, lmpy-sbblky, occ sbplty, vsl-ncalc, occ thn slty lam, SLTST 25% ltgy-gy-vltgy, frm-mod sft, occ mushy, sbblky-sbplty, lmpy, rthy-grty tec, vsl-ncalc, occ grdg vf aren, occ pyr repl mtx,
3350-3400 CLYST 75% ltgy-gy, vltgy, sft-mushy, lmpy-sbblky, occ sbplty, vsl-ncalc, occ thn slty lam, SLTST 25% ltgy-gy-vltgy, frm-mod sft, occ mushy, sbblky-sbplty, lmpy, rthy-grty tec, vsl-ncalc, occ grdg vf aren, occ pyr repl mtx,
3400-3430 CLYST 75% ltgy-gy, vltgy, sft-mushy, lmpy-sbblky, occ sbplty, vsl-ncalc, occ thn slty lam, SLTST 25% ltgy-gy-vltgy, frm-mod sft, occ mushy, sbblky-sbplty, lmpy, rthy-grty tex, vsl-ncalc, occ grdg vf aren, occ pyr repl mtx,
SS clr, wh, transl, gy, u-lc gr, ang qtz shards, pred lse grns, vp smpl, abnt cvgs
SS 25% clr, transl, ltgy, u-lc gr, ang-sbang, pred lse grns, CLTST 70% ltgy-gy, vltgy, sft-mushy, lmpy-sbblky, occ sbplty, vsl-ncalc, SLTST 25% ltgy-gy-vltgy, frm-mod sft, occ mushy, sbblky-sbplty, lmpy, rthy-grty tex, vsl-ncalc, VP SMPL, FIGHTING LOST RETURNS
3470-3500 SS 50% clr, wh, transl, gy, lc-lm gr, ang qtz shards & sbrd frst, pred lse grns, SLTST 30% ltgy-offwh-gy, vfrm-slfri, sl-vsdy, ncalc, occ-abnt mica, p por CLYST 20% ltgy-gy, rthy, sft-slfm, slgrty, hyd to mush, occ mica, Trace chips f dism PYRITE pos ass w/ SS
BEGIN MUD LOSS 45+ bbl
3500-3530 CLYST 80% ltgy-gy, rthy-scat vit, chlky-grty, slfrm-vfrm, ncalc, pred hyd brks to blks & shards to mush ip, SLTST 20% ltgy-gy, rthy, vfrm, sl sdy, cly mtx supt, ncalc Trace SS cl-transl, gy, lc-lm gr, ang qtz shards & sdrd frst, lse gr
3530-3560 CLYST 80% ltgy-gy, rthy-scat vit, chlky-grty, slfrm-vfrm, ncalc, pred hyd brks to blks & shards occ to mush, SLTST 20% ltgy-gy, rthy, frm-vfrm, sl sdy, cly mtx supt, n-slcalc
3560-3590 CLYST 60% ltgy-gy, rthy, chlky, slfrm-frm, ncalc, hyd brks to blks & shards, SLTST 40% ltgy-gy, rthy, frm-vfrm, sl sdy, cly mtx supt, n-calc
MUD
WT IN 11.7
WT OUT 11.7
VIS 45
MD 3267 TVD 3154.76
INC 12.5 AZ 271.5
VS 625.84 DL 2.36
SS -978.76
MUD
WT IN 11.7
WT OUT 11.7
VIS 45
MUD @ 3336'
WT 11.8
Vis 45
PV 28
YP 24
GELS 6/8/10
FIL 3
CK 1
SOL 18
pH 8.4
CL- 800
Ca++ 100
MD 3362 TVD 3247.91
INC 10.1 AZ 274.3
VS 644.37 DL 2.59
SS -1071.91
MUD
WT 11.7
VIS 42
MD 3457 TVD 3341.76
INC 7.7 AZ 271.6
VS 659.01 DL 2.56
SS -1165.76
MUD
WT IN 11.8
WT OUT 11.7
VIS 45
MUD @ 3515'
WT 11.7
Vis 40
PV 23
YP 13
GELS 3/4/4
FIL 4
CK 1
SOL 18
pH 8.2
CL- 800
Ca++ 80
MD 3552 TVD 3436.07
INC 6.3 AZ 247.4
VS 669.84 DL 3.4
SS -1260.07
MUD
WT IN 11.7
WT OUT 11.7
VIS 41
MS Total Gas (Units)
Total Aromatics (ppm)
CG 171 u
CG 239 u
DRILLERS DEPTH CORRECTION
CG 444 u
CG 269 u
CG 6439 u
T AROM 148 ppm
T AROM 158 ppm
DTG 7981 u
DRILLERS DEPTH CORRECTION
CG 294 u
CG 305 u
CG 408 u
FG 1550 u
FG 1430 u
DRILLERS DEPTH CORRECTION
CG 308 u
CG 395 u
DTG 907 u
DRILLERS DEPTH CORRECTION
CG 217 u
12/29/2021
CG 185 u
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)


CN 3585
ROP (min/ft)
MUD VOLUME
CN 3616
CN 3648
CN 3679
CN 3711
CN 3742
CN 3774
CN 3806
CN 3837
CN 3868
CN 3898
CN 3929
TOOH
CN 3961
CN 3992
CN 4024
3600
3650
3700
3750
3800
3850
3900
3950
4000
3590-3620 SS 40% pred lse gr, cl-transl, gy, m-lc gr, ang qtz shards & sdrd frst, trace biot musc & pyr, trace chips ltgy-gy, m-lc gr, brit-slfrm, sl calc cmt, ttly packd gr, CLYST 40% ltgy-gy, rthy, chlky, slfrm-frm, ncalc, hyd brks to blks & shards, SLTST 20% ltgy-gy, rthy, frm-vfrm, sl sdy, cly mtx supt, n-calc
MUD
WT IN 11.7
WT OUT 11.7
VIS 40
3620-3650 SS 90% clr ang & shards, frst sbd-rd, sbrd transl gy, m-vc gr, gr pt ctd w/ sl-m calc cmt & vit slt mtx, p srt, TUFF 5% off wh, ltblgy, grty, vfrm, varicol spec & lith, mica, CLYST 5% ltgy-gy, rthy, chlky, slfrm-frm, ncalc, hyd brks to blks & shards
MD 3646 TVD 3529.7
INC 4 AZ 220.1
VS 676.04 DL 3.51
SS -1353.7
3650-3680 SS 80% ltgy, transl, clr, pred, lse grns & shards, pred u-lc gr, occ lm gr, sbang-sbrnd, occ mod rnd, p srt, occ sm brit clust w/ calc cmt & wh cly mtx supt, occ pyr repl mtx, abnt pyr in smpl, tr lt grn flor, CLYST 10% ltgy-gy, rthy, chlky, slfrm-frm, ncalc, hyd brks to blks & shards, SLTST 10% ltgy-gy, rthy, frm-vfrm, sl sdy, cly mtx supt, n-calc
MUD
WT IN 11.7
WT OUT 11.7
VIS 41
3680-3710 SS 80% ltgy, transl, clr, pred, lse grns & shards, pred u-lc gr, occ lm gr, sbang-sbrnd, occ mod rnd, p srt, occ sm brit clust w/ calc cmt & wh cly mtx supt, occ pyr repl mtx, abnt pyr in smpl, tr lt grn flor, CLYST 10% ltgy-gy, rthy, chlky, slfrm-frm, ncalc, hyd brks to blks & shards, SLTST 10% ltgy-gy, rthy, frm-vfrm, sl sdy, cly mtx supt, n-calc
MUD @ 3743'
WT 11.7
Vis 30
PV 30
YP 14
GELS 3/5/7
FIL 3.6
CK 1
SOL 18
pH 8.2
CL- 600
Ca++ 40
3710-3744 SS 100% wh-brite wh, clr, transl, occ ltgy-gy, 60% u-l vc gr, sbang-sbrnd, 40% u-lc gr , occ u med gr, all lse grns, p srt, tr mica, no flor, smpl is clean lse grns
WIPER TRIP MUD LOSS 190++ bbl
MD 3741 TVD 3624.59
INC 1.5 AZ 180.4
VS 677.65 DL 3.16
SS -1448.59
3744-3770 SS 85% wh-brite wh, clr, transl, occ ltgy-gy, p srt, 80% m-uf gr , com c gr, 20% u-l vc gr, sbang-sbrnd, occ mica pred m gr, no flor, smpl is clean lse gr, CLYST 10% ltgy-ltgngy, rthy-wxy, sm-chlky, frm, ncalc, hyd brks to shards, occ w/ attchd ss TUFF 5% off wh, ltblgy, grty, vfrm, varicol spec & lith, mica,
MUD @ 3743'
WT 11.7
Vis 38
PV 15
YP 7
GELS 1/1/4
FIL 4.5
CK 1
SOL 14
pH 8.1
CL- 600
Ca++ 280
3784 Spot sample 90% SS aa
3770-3800 SS 60% wh-brite wh, clr, transl, occ ltgy-gy, m-vc gr, p srt, sbang-sbrnd, pred cln lse gr, 25% SLTST wh-ltgy, ltyelgy, frm, cly mtx supt, sl calc, v sdy, grd to SS, CLYST 10%, offwh-ltgy-gy, rthy-wxy, sm-chlky, frm, sl calc, hyd brks to blks, com mica spec ip, TUFF 5% off wh, ltblgy, grty, vfrm, varicol spec & lith, mica,
MUD
WT 11.0
VIS 41
3800-3830 SS 60% wh-brite wh, clr, transl, occ ltgy-gy, p srt, 60% m-uf gr , com c gr, 40% u-l vc gr, sbang-sbrnd, occ mica pred m gr, no flor, smpl is clean lse gr, SLTST 15% wh-ltgy, ltyelgy, frm, cly mtx supt, sl calc, v sdy, grd to SS, CLYST 10% offwh-ltgy-gy, rthy-wxy, sm-chlky, frm, sl calc, hyd brks to blks, com mica spec ip, TUFF 15% off wh, ltblgy, grty, vfrm, varicol spec & lith, mica,
MD 3833 TVD 3716.57
INC 1 AZ 109.2
VS 676.71 DL 1.64
SS -1540.57
3830-3860 SS 60% wh-brite wh, clr, transl, occ ltgy-gy, p srt, 40% m-uf gr , com c gr, 60% u-l vc gr, sbang-sbrnd, occ mica pred m gr, no flor, smpl is clean lse gr, SLTST 20% wh-ltgy, ltyelgy, frm, cly mtx supt, sl calc, v sdy, grd to SS, CLYST 10% offwh-ltgy-gy, rthy-wxy, sm-chlky, frm, sl calc, hyd brks to blks, com mica spec ip, TUFF 10% off wh, ltblgy, grty, vfrm, varicol spec & lith, mica,
MUD
WT 11.1
VIS 38
3860-3890 SS 90% wh-brite wh, clr, transl, occ ltgy-gy, p srt, 40% um-lc gr , 60% u-l m gr, sbang-sbrnd, occ mica, lse grns thru, pred qtz, SLTST 10% wh-ltgy, lt yel gy, frm, cly mtx supt, sl calc, v sdy, grd vfaren, no flor in SS, occ lime grn flor in sltst, slo mlky cut, fnt res rng
MUD
WT 11.1
VIS 38
3890-3920 SS 80% wh-brite wh, clr, transl, occ ltgy-gy, p srt, 40% um-lc gr , 60% u-l m gr, sbang-sbrnd, occ mica, lse grns thru, pred qtz, SLTST 10% wh-ltgy, lt yel gy, frm, cly mtx supt, sl calc, v sdy, grd vfaren, no flor in SS, occ lime grn flor in sltst, slo mlky cut, fnt res rng, TUFF 10% off wh, ltblgy, grty, vfrm, varicol spec & lith, mica,
MUD
WT 11.1
VIS 38
3920-3940 BASALT 30% blk, vdk gy, med-crs xl, blky, hd-vhd, lg clr plag xls, occ pyr on frac faces, TUFF 25% gy-lt blue, frm-vhd, amor-vvfxl, spekl, occ pyr fracs, SS 45% occ wh-clr-med gy, occ pyr cmtd clust, lvc-lm gr, ang-sbrnd, hd, tt, pred lse qtz shards, TR LS ltgy-tan, micxl MS, vhd, dns
MUD @ 3940'
WT 11.2
Vis 38
PV 15
YP 9
GELS 1/2/4
FIL 5.6
CK 1
SOL 15
pH 7.8
CL- 500
Ca++ 280
3940-3950 BASALT 40% vdk gy, blk, med-crs xl, blky, brit-vhd, n-adnt lg clr-wh plag xls, TUFF 40% gy-lt blue, ltbrngy, slfrm-hd, amor-vfxl, spekl, occ pyr fracs, few chips dull yel flor, SS 20% pred lse gr, wh-clr-med gy, vc-lm gr, ang-sbrnd, rr clust w py repl, TR LS ltgy-tan, micxl, Trace CHT brngy, Trace lse PYR, MS, vhd, dns
3950-3980 SS 90% clr, h, transl, um-lc gr, lse qtz, 10% Basalt, blk, med-f xln, crs plag xls, tr sltst & clyst
3980-4010 SS 100% clr, h, transl, all lse grns, 25% uvc-lvc gr, ang-sbang, 40% uc-lc gr, sbang-sbrn, 30% um-lm gr sbrnd-rnd, occ sbang, occ pyr & mica, tr clyst & sltst
MUD
WT 11.0
VIS 38
4010-4040 SS 100% clr, h, transl, all lse grns, 25% uvc-lvc gr, ang-sbang, 40% uc-lc gr, sbang-sbrn, 30% um-lm gr sbrnd-rnd, occ sbang, occ pyr & mica, tr clyst & sltst
MD 4023 TVD 3906.53
INC 1.8 AZ 30.1
VS 673.95 DL 0.99
SS -1730.53
CG 150 u
MS Total Gas (Units)
Total Aromatics (ppm)
CG 164 u
DRILLERS DEPTH CORRECTION
DRILLERS DEPTH CORRECTION
CG 138 u
FG 184 u
FG 1172 u
FG 863 u
DRILLERS DEPTH CORRECTION
12/30-31/2021
STG 7554 u
FG 742 u
CG 257 u
FG 491 u
FG 734 u
CG 389 u
CG 303 u
FG 991 u
TA 110 ppm
FG 445 u
TA 76 ppm
TA 61
FG 381 u
FG 201 u
CG 419 u
1/1/2022
WINTER -4 Deg F
TG 2578
CG & Swab 727 u
RECIRC FG & TA ?
DRILLERS DEPTH CORRECTION
CG 203 u
CG 166 u
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)


CN 4056
CN 4087
CN 4119
CN 4150
CN 4182
CN 4213
CN 4245
CN 4276
CN 4308
CN 4340
CN 4371
CN 4402
ROP (min/ft)
MUD VOLUME
4050
4100
4150
4200
4250
4300
4350
4400
4040-4070 SS 60% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, sig incr clyst & sltst
4070-4100 SS 40% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, CLYST & SLTST 50%
4100-4130 SS 60% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, CLYST & SLTST 40%, very poor smple, shaker screens plugged & flooded
4130-4160 SS 95% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, CLYST & SLTST 5%
4160-4190 SS 95% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, CLYST & SLTST 5%
4190-4220 SS 95% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, CLYST & SLTST 5%
4220-4250 SS 75% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, 20% CLYST & SLTST, Basalt 5% vdk gy, blk, med-crs xl, blky, brit-vhd, n-adnt lg clr-wh plag xls, abnt pyr
4250-4280 SS 55% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, 35% CLYST & SLTST, Basalt 5% vdk gy, blk, med-crs xl, blky, brit-vhd, n-adnt lg clr-wh plag xls, abnt pyr
4280-4310 SS 65% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, 30% CLYST & SLTST, Basalt 5% vdk gy, blk, med-crs xl, blky, brit-vhd, n-adnt lg clr-wh plag xls, abnt pyr
4310-4340 SS 65% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, 30% CLYST & SLTST, Basalt 5% vdk gy, blk, med-crs xl, blky, brit-vhd, n-adnt lg clr-wh plag xls, abnt pyr
4340-4370 SS 65% clr, wh, transl, all lse grns, uc-lc gr, sbang-sbrn, abnt um-lm gr sbrnd-rnd, occ sbang, abnt pyr & mica, 30% SLTST ltgy-gy, rthy, frm-vfrm, sl sdy, cly mtx supt, n-calc, ABNT CLYST , Basalt 5% vdk gy, blk, med-crs xl, blky, brit-vhd, n-adnt lg clr-wh plag xls, abnt pyr
4370-4400 SS 80% pred lse uf-lc & tr vc gr, clr, gy, frst, ang-sbrnd, com wh cly ptch, sl calc, chips are vltgy, slfrm, m-uf gr, cly mtx supt, m calc, tr pyr repl, abnt mica ip, p por, CLYST & SLTST 10% ltgy-offwh, frm-vfrm, grty, slcalc, TUFF 10% ltgy, vfrm-hd, ireg chips, n-slcalc, com mica flecs
4400-4430 SS 70% pred lse uf-lc, tr uc-vc, clr, gy, frst, ang-sbrnd, com wh cly ptch, sl calc, chips are vltgy, slfrm, m-uf gr, cly mtx supt, m calc, tr pyr repl, abnt mica ip, p por, CLYST & SLTST 20% ltgy-offwh, frm-vfrm, grty, slcalc, TUFF 10% ltgy, vfrm-hd, ireg chips, n-slcalc, com mica flecs,
MUD WT 11.1 VIS 39
MUD WT 11.1 VIS 38
MD 4244 TVD 4127.44
INC 1.4 AZ 51.2
VS 670.78 DL 0.32
SS -1951.44
CG 173 u
CG 220 u
DRILLERS DEPTH CORRECTION
CG 218 u
CG 117u
FG + CG 240 u
CG 117 u
CG 154 u
FG 507 u
FG 305 u
CG 232 u
FG 198
MS Total Gas (Units)
Total Aromatics (ppm)
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)


CN 4434
CN 4466
CN 4497
CN 4528
CN 4560
CN 4592
CN 4623
CN 4655
CN 4686
CN 4718
CN 4750
CN 4781
CN 4812
CN 4844
ROP (min/ft)
MUD VOLUME
4450
4500
4550
4600
4650
4700
4750
4800
4850
4430-4460 SS 50% pred lse m-c, tr vc, clr, gy, frst, ang-sbrnd, com wh cly ptch, sl calc, chips are vltgy-ltgy, frm-vfrm, slty cly mtx supt, sl calc, com mica, occ lse pyr, tt, grades to SLST ltgy-gy, rthy, frm, cly mtx supt, sl calc, sdy, tr-com mica, TUFF 40% lt-gy, ltblugy, wxy-vit, vfrm-hd, n-sl calc, com blk spec, v fnt gold flor CLYST 10% ltgy-gy, rthy, slty-sdy, hyd to mush,
4460-4490 SS 70% pred lse m-c, tr vc, clr, gy, frst, ang-sbrnd, com wh cly ptch, sl calc, chips vltgy-ltgy, frm-vfrm, cly/slt mtx supt, sl calc, com musc, occ lse pyr, tt, grades to SLST, TUFF 20% lt-gy, ltblugy, wxy, vfrm-hd, ncalc, com mica, v fnt gold flor, Rare BASALT vdk gy, blk, med-crs xl, blky, slfrm, n-adnt lg clr-wh plag xls, abnt pyr, pos cvg
4490-4520 SS 50% pred lse m-c, tr vc, clr, gy, frst, ang-sbrnd, com wh cly ptch, sl calc, tr pyr repl, p por, TUFF 30% lt-gy, ltblugy, wxy-vit, vfrm-hd, n-sl calc, com blk spec, v fnt gold flor CLYST 20% ltgy-gy, rthy, slty-sdy, hyd to mush,
4520-4550 SS 40% pred lse m-c, tr vc, clr, gy, frst, ang-sbrnd, com wh cly ptch, sl calc, tr pyr repl, p por, TUFF 40% lt-gy, ltblugy, wxy-vit, vfrm-hd, n-sl calc, com blk spec, v fnt gold flor CLYST 10% ltgy-gy, rthy, slty-sdy, hyd to mush, incr sltst
4550-4580 BASALT 60% vdk gy, blk, med-crs xl, blky, slfrm, n-adnt lg clr-wh plag xls, abnt pyr, SS 30% wh-clr-transl-blk, lvc-um gr, ang-rnd, psrt, occ rnd 2-3mm, qtzite clasts, vhd, blk, occ sil cmtd clust, tt, CLYST 10% ltgy-gy, rthy, slty-sdy, hyd to mush, incr sltst
4580-4610 CLYST 40% ltgy-gy, rthy, slty-sdy, hyd to mush, TUFF 40% lt-gy, ltblugy, wxy, vfrm-hd, ncalc, com mica, v fnt gold flor, SS 20% wh-clr-transl-blk, lvc-um gr, ang-rnd, psrt, occ rnd 2-3mm, qtzite clasts, vhd, blk, occ sil cmtd clust, tt
4610-4640 TUFF 40% lt-gy, ltblugy, rthy-wxy, slfrm-hd, slcalc, com mica ip, CLYST 20% ltgy-gy, rthy, slty, hyd to mush or brks to blks, sl calc, SS 20% wh-clr-transl-blk, lvc-um gr, ang-sbang, psrt, rr rnd 2-3mm, qtzite clasts, vhd, blk, occ sil cmtd clust, tt, Trace BASALT vdk gy, blk, med-crs xl, blky, frm-hd, n-abnt clr-wh plag xls
4640-4670 SS 60% lse gr, clr-slfrst, um-c gr, occ slt/cly sl calc ptch, tr chips, wh cly slcalc cmt, abnt musc, lse c musc, tr lse pyr TUFF 20% wh-ltgy, ltbngy, rthy-wxy, slfrm-hd, slcalc, com mica ip, SLTST 20% ltgy-offwh, frm, sdy, ncalc
4670-4700 TUFF 70% offwh-ltgy, ltbngy, ltbluugy, rthy, slfrm-hd, ncalc, SLTST 10% ltgy-offwh, frm, sdy, ncalc, SS 10% half lse gr, cly, frst, gyuf-lc gr, tr wh cly/slt slcalc ptch, half lt gy chips, brit-slfrm, slcalc, wh cly/slt mtx, occ brn mica, rr varicol gr, Rare CALC xls & wh chlky LS (frac fill?)
4700-4730 TUFF 50% offwh-ltgy, ltbngy, ltblugy, rthy, slfrm-hd, ncalc, SLTST 40% ltgy-offwh, frm, grty, sdy, n-sl calc, SS 10% half lse gr, clr, frst, gyuf-lc gr, tr wh cly/slt slcalc ptch, half lt gy chips, brit-slfrm, sl-m calc, wh cly/slt mtx, occ-com brn mica, rr varicol gr, Rare CALC xls & wh chlky LS occ bit smeared (frac fill?)
4730-4760 TUFF 50% ltbrngy-ltgy, rthy, frm-hd, ncalc, SLTST/CLYST 30% ltgy-offwh, rthy, frm-vfrm, grty, sdy, occ lam, n-sl calc, SS 20% lse gr, clr, frst, gy, m-c gr, tr vc gr, tr wh cly/slt slcalc ptch, com ltgy chips, m gr, brit-frm, m calc cmt, com brn mica Trace CALC xls & wh chlky LS occ bit smeared (frac fill?)
4760-4790 SLTST/CLYST 70% ltgy-offwh, rthy, frm-vfrm, grty, sdy, n-sl calc, TUFF 20% ltgy-wh, rthy, brit-frm, ncalc, tr mica, SS 10% chips ltgy, f-m gr, frm-hd, sl calc, sil cmt, com dk wthrd min or lith, tt, occ c-vc lse gr, Rare CALC xls & wh chlky LS occ bit smeared (frac fill?), trace LS brngy, crypxl, hd, cln
4790-4820 TUFF/SLTST 90% ltbrngy, frm-hd, n-sl calc, SS 5%, small sl calc chips, lse clr, frst, gy gr, m-c gr, trace lse pyr, Trace xln CALC & chlky LS
4820-4850 TUFF/SLTST 80% ltbrngy, frm-hd, n-sl calc, SS 20%, small sl calc chips, p por, lse clr, frst, gy gr, m-vc gr, trace lse pyr, Trace xln CALC & chlky LS
4850-4875 TUFF/SLTST 50% ltbrn gy LS or limy SLTST 40% blugy, slfrm-frm, arg & slty, slow/complete disaggregation in HCl, p-fr por?
MUD
WT 11.1
VIS 38
MD 4441 TVD 4324.39
INC 1.1 AZ 47.4
VS 667.92 DL 0.16
SS -2148.39
MUD
WT 11.2
VIS 40
MUD
WT 11.2
VIS 39
MUD @ 4495'
WT 11.1
Vis 39
PV 23
YP 14
GELS 2/6/11
FIL 3.6
CK 1
SOL 16
pH 8.3
CL- 700
Ca++ 240
MUD
WT 10.9
VIS 36
MUD
WT 11.1
VIS 38
MD 4622 TVD 4505.37
INC 0.8 AZ 34.7
VS 666.24 DL 0.2
SS -2329.37
MUD
WT 11.1
MD 4718 TVD 4601.35
INC 1.4 AZ 38.4
VS 665.34 DL 0.63
SS -2425.35
MUD
WT 11.1
4780'
WT 11.1
Vis 38
PV 13
YP 14
GELS 1/4/8
FIL 3.8
CK 1
SOL 15
pH 7.6
CL- 700
Ca++ 240
MUD
WT 11.1
MUD
WT 11.1
CG 102
DTG 141
DRILLERS DEPTH CORRECTION
CG 64 u
1/2/2022
STG 409 u
FG 417 u
FG 492 u
CG 339 u
FG 268 u
CG 203 u
MS Total Gas (Units)
Total Aromatics (ppm)
FG 260 u
CG 236u
FG 216u
CG 173
FG 612
CG 200
TRAP PLUGGED
FG 170
DRILLERS DEPTH CORRECTION
1/3/2022
CG 203
1/4/2022
C1 (PPM)
C2 (PPM)
C3 (PPM)
C4 (PPM)
C5 (PPM)

DRILLERS TD 4875'
LOGGERS TD

4900

4950

50

4900

4950

50