



**RPM Geologic**

1600 Broadway Suite 1510  
 Denver CO 80202  
 (303)595-7625  
 geology@rpmconsultinginc.com

**GEOLOGY LOG**

**WellSight Systems**

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

Well Name: Lone Pine 34-11-5  
 Well Id:  
 Location: SW NW Sec. 5-T34S-R11E Iron County, UT  
 License Number: 43-021-50002  
 Spud Date: 1 September 2015  
 Surface Coordinates: 2,249' FNL & 976' FWL  
 Region: Wildcat  
 Drilling Completed:  
 Bottom Hole Assumed Same  
 Coordinates:  
 Ground Elevation (ft): 5366  
 Logged Interval (ft): 630 To: K.B. Elevation (ft): 5381  
 Formation: Rencher-Navajo  
 Type of Drilling Fluid: Fresh water w/ added minerals  
 Total Depth (ft):

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

**OPERATOR**

Company: Virtus Oil and Gas Corporation  
 Address: 1517 San Jacinto St  
 Houston, TX 77002

**GEOLOGISTS**

Name: Ryan Cox, Joe Large  
 Company: RPM Consulting Inc.  
 Address: 1600 Broadway #1510  
 Denver, CO 80202

**ROCK TYPES**

	Alluvium		Cht		Igne		Shcol
	Anhy		Clyst		Ls		Shgy
	Arg dol		Coal		Meta		Sltst
	Arg ls		ignibrite		Mrlst		Ss
	Bent		Dol		Salt		Sssilty
	Brec		Dol ls		Shale		Tuff
	Calc dol		Gyp		Shblk		Unknown

### ACCESSORIES

#### FOSSIL

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

- Plant
- Strom

#### MINERAL

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

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

- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

#### TEXTURE

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

#### STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol

### OTHER SYMBOLS

#### INTERVALS

- Core
- Dst
- Slide

#### EVENTS

- Rft
- Bit change
- Sidewall

#### POROSITY TYPE

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

#### SORTING

- Well
- Moderate
- Poor

#### ROUNDING

- Rounded
- Subrnd
- Subang

- Angular

#### OIL SHOWS

- Even
- Spotted
- Ques
- Dead

### COMMENTS

Company Men: Michael Roberts,  
 Contractor: Energy Drilling LLC #8  
 Tool Pushers: Ray Ash  
 Surface Casing: 9 5/8" 36# J-55 set to 630'

ROP	Depth	Porosity	Lithology	Oil Show	Geological Descriptions	TG, C1-C5
ROP (min/ft) ——— Gamma (API) ——— WOB ( ) - - - - -		24% 18% 12% 8%		Oil Show Symbols (Grid with symbols)		TG (units) ——— C1 (ppm) ——— C2 (ppm) ——— C3 (ppm) ——— C4 (ppm) ———
0 ROP (min/ft) 3 0 Gamma (API) 200 1 WOB ( ) 1000					RPM Geology onsite and ready to begin logging 9/5/2015	0 TG (units) 100 0 C1 (ppm) 10000 0 C2 (ppm) 10000 0 C3 (ppm) 10000 0 C4 (ppm) 10000
Drilling 8 3/4" hole w/ Bit # 2 in at 630' Make: BGU Model: TG1357 S/N: 235430 Jets: 6x14					30' samples lagged and collected by rig crews @ 670' MD	

**Drilling in Tertiary volcanic deposits**

650  
700  
750  
800  
850

640-670 BREC: trnsp, trnsl, lt brn-mod rd brn, fri, hd, md-crs grnd, sb elng, ang-sb ang, mod srtd, unkn cmnt, bio mica, slty; CLAC: crm, wh, sft, chky, mdst, anhed, mic xln, rr wh-crm CHT, no vis flu

670-700 BREC: trnsp, trnsl, lt brn-mod rd brn, fri, hd, md-crs grnd, sb elng, ang-sb ang, mod srtd, bio mica, slty; CALC: crm, wh, sft, chky, mdst, anhed, mic xln, rr wh-crm CHT, no vis flu

700-730 BREC: trnsp, trnsl, lt brn-mod rd brn, fri, hd, md-crs grnd, sb elng, ang-sb ang, mod srtd, bio mica, slty; CALC: crm, wh, sft, chky, mdst, anhed, mic xln, rr wh-crm CHT, no vis flu, occ gn-blk amph

730-760 BREC: trnsp, trnsl, lt brn-mod rd brn, fri, hd, md-crs grnd, sb elng, ang-sb ang, mod srtd, sils cmnt, mod cmnt qlty, bio mica; CALC: crm, wh, sft, chky, mdst, anhed, mic xln, rr gn-blk amph, tr wh ANHY, no vis flu

760-790 BREC: trnsp, trnsl, lt brn-mod rd brn, fri, hd, md-crs grnd, sb elng, ang-sb ang, mod srtd, bio mica; CALC: crm, wh, sft, chky, mdst, anhed, mic xln, tr wh ANHY, no vis flu

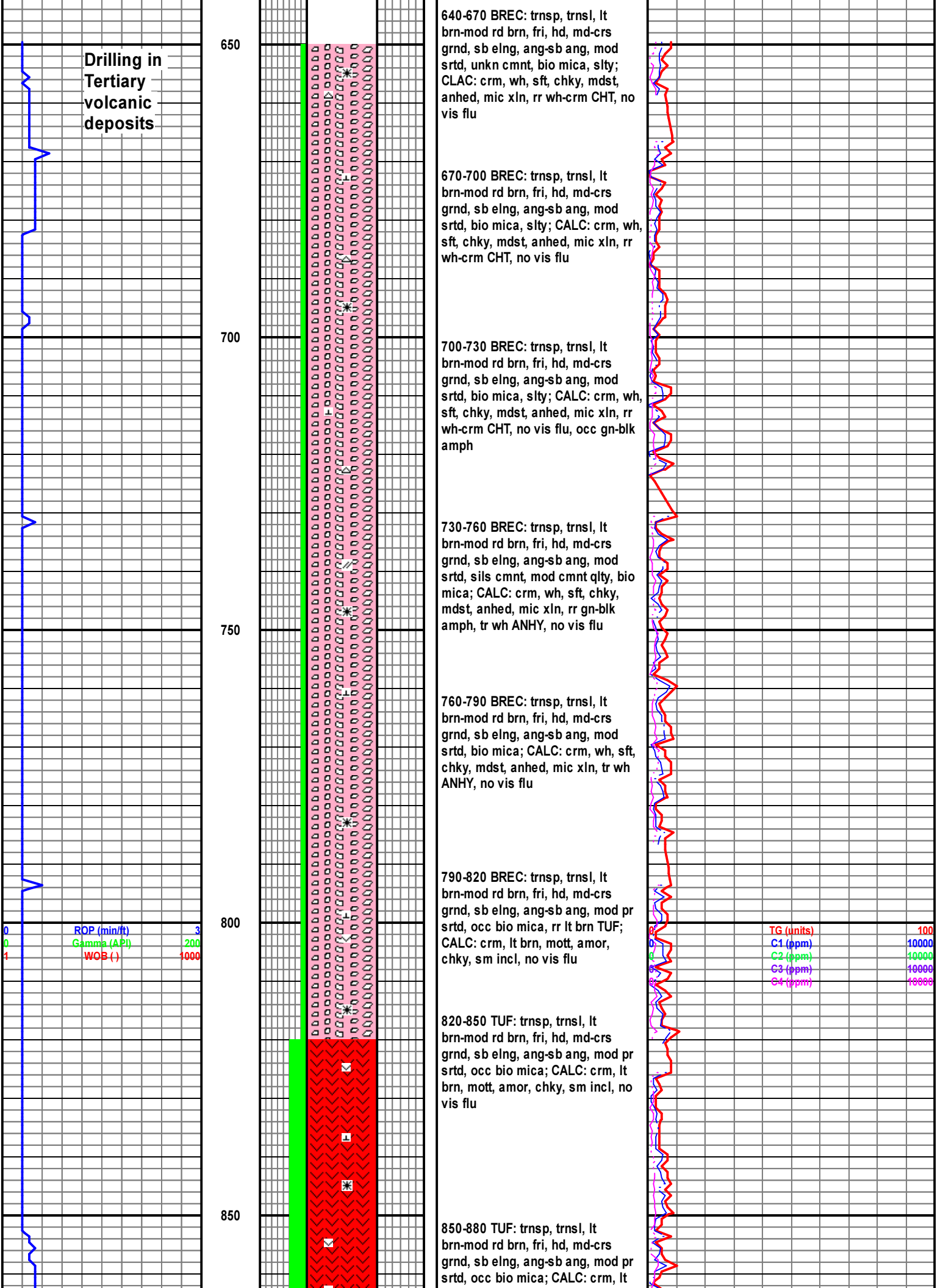
790-820 BREC: trnsp, trnsl, lt brn-mod rd brn, fri, hd, md-crs grnd, sb elng, ang-sb ang, mod pr srtd, occ bio mica, rr lt brn TUF; CALC: crm, lt brn, mott, amor, chky, sm incl, no vis flu

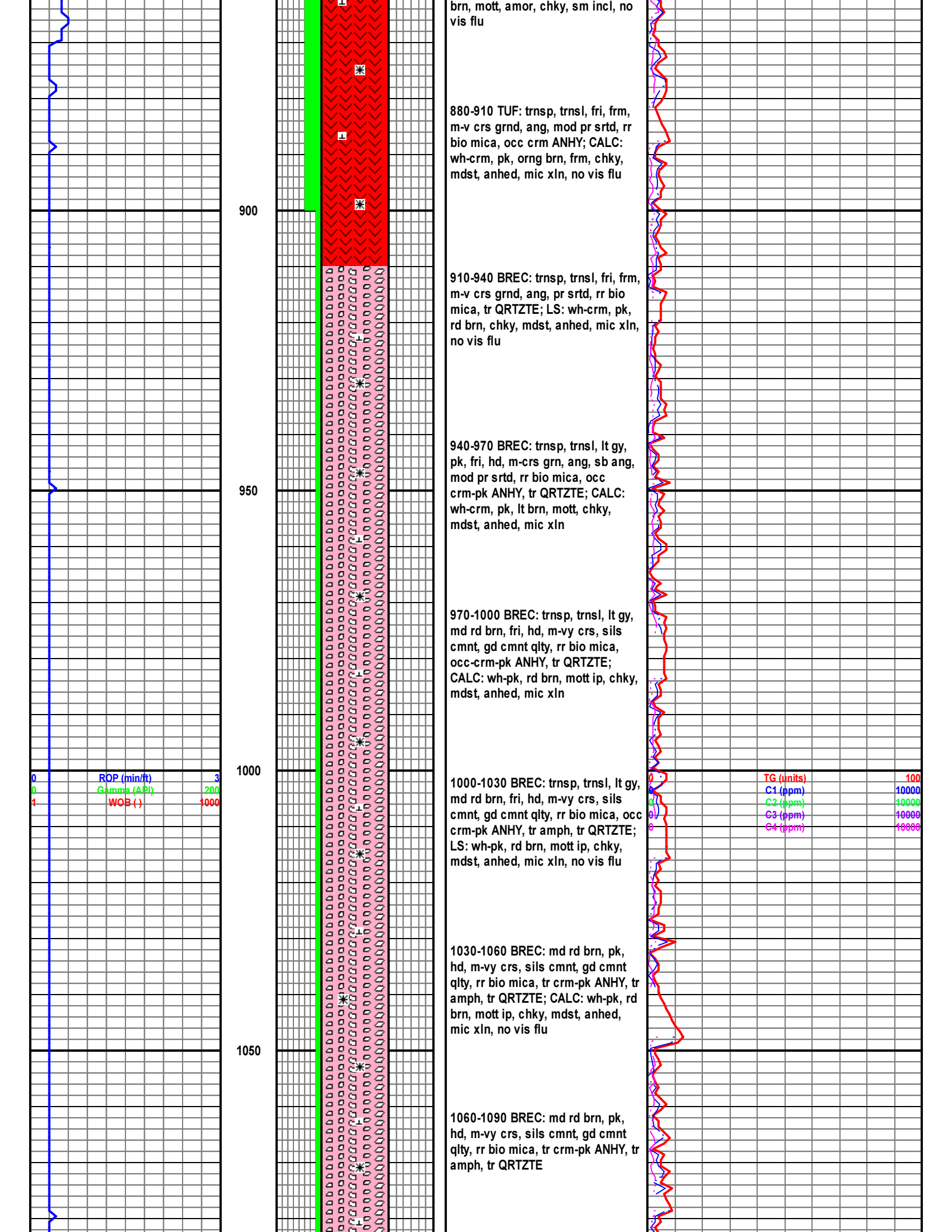
820-850 TUF: trnsp, trnsl, lt brn-mod rd brn, fri, hd, md-crs grnd, sb elng, ang-sb ang, mod pr srtd, occ bio mica; CALC: crm, lt brn, mott, amor, chky, sm incl, no vis flu

850-880 TUF: trnsp, trnsl, lt brn-mod rd brn, fri, hd, md-crs grnd, sb elng, ang-sb ang, mod pr srtd, occ bio mica; CALC: crm, lt

ROP (min/ft) 3  
Gamma (API) 200  
WOB (-) 1000

TG (units) 100  
C1 (ppm) 10000  
C2 (ppm) 10000  
C3 (ppm) 10000  
C4 (ppm) 10000





brn, mott, amor, chky, sm incl, no vis flu

880-910 TUF: trnsp, trnsl, fri, frm, m-v crs grnd, ang, mod pr srtd, rr bio mica, occ crm ANHY; CALC: wh-crm, pk, orng brn, frm, chky, mdst, anhed, mic xln, no vis flu

910-940 BREC: trnsp, trnsl, fri, frm, m-v crs grnd, ang, pr srtd, rr bio mica, tr QRTZTE; LS: wh-crm, pk, rd brn, chky, mdst, anhed, mic xln, no vis flu

940-970 BREC: trnsp, trnsl, lt gy, pk, fri, hd, m-crs grn, ang, sb ang, mod pr srtd, rr bio mica, occ crm-pk ANHY, tr QRTZTE; CALC: wh-crm, pk, lt brn, mott, chky, mdst, anhed, mic xln

970-1000 BREC: trnsp, trnsl, lt gy, md rd brn, fri, hd, m-vy crs, sils cmnt, gd cmnt qlty, rr bio mica, occ-crm-pk ANHY, tr QRTZTE; CALC: wh-pk, rd brn, mott ip, chky, mdst, anhed, mic xln

1000-1030 BREC: trnsp, trnsl, lt gy, md rd brn, fri, hd, m-vy crs, sils cmnt, gd cmnt qlty, rr bio mica, occ crm-pk ANHY, tr amph, tr QRTZTE; LS: wh-pk, rd brn, mott ip, chky, mdst, anhed, mic xln, no vis flu

1030-1060 BREC: md rd brn, pk, hd, m-vy crs, sils cmnt, gd cmnt qlty, rr bio mica, tr crm-pk ANHY, tr amph, tr QRTZTE; CALC: wh-pk, rd brn, mott ip, chky, mdst, anhed, mic xln, no vis flu

1060-1090 BREC: md rd brn, pk, hd, m-vy crs, sils cmnt, gd cmnt qlty, rr bio mica, tr crm-pk ANHY, tr amph, tr QRTZTE

0	ROP (min/ft)	3
0	Gamma (API)	200
1	WOB (-)	1000

TG (units)	100
C1 (ppm)	10000
C2 (ppm)	10000
C3 (ppm)	10000
C4 (ppm)	10000

1100

1090-1120 BREC: md rd brn, pk, hd, m-vy crs, sils cmnt, gd cmnt qlty, occ bio mica, tr crm-pk ANHY, rr amph, occ QRTZTE

1150

1120-1150 BREC: md gy, md rd, rd brn, crs sils cmnt, gd cmnt qlty, sl calc, tr bio mica, tr amph, occ QRTZTE

1200

1150-1180 BREC: md gy, md rd brn, rd brn, orng rd, yel orng, crs grnd, gd cmnt qlty, vy sl calc, tr amph, occ QRTZTE

1180-1210 TUF: md gy, md rd brn, rd brn, orng rd, yel orng, crs grnd, gd cmnt qlty, vy sl calc, tr amph, occ QRTZTE

1210-1240 TUF: md rd brn, lt-md gy ip, dk brn, hd, blk, sm, chky, tr amph, occ QRTZTE, rr bio mica, no vis flu

1250

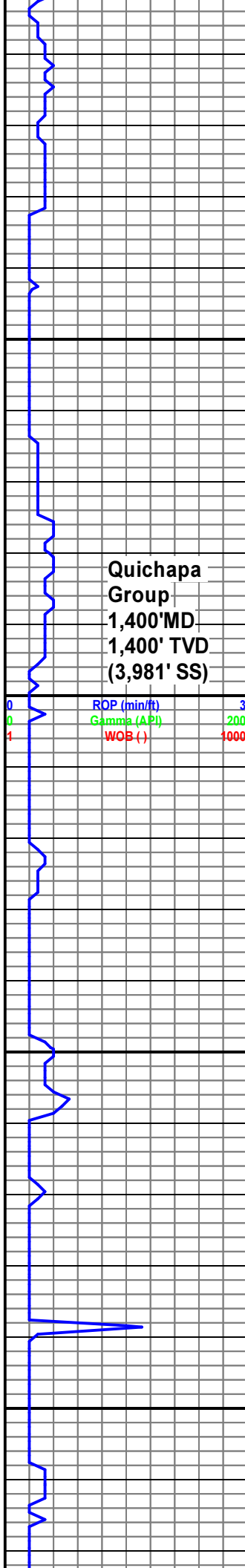
1240-1270 BREC: orng, rd orng, rd brn, lt gy, hd, m-crs grnd, ang-sb ang, pr srted, sl calc, gd cmnt qlty, tr bio mica, vit qtz grns, tr amph, rr QRTZTE, no vis flu

1300

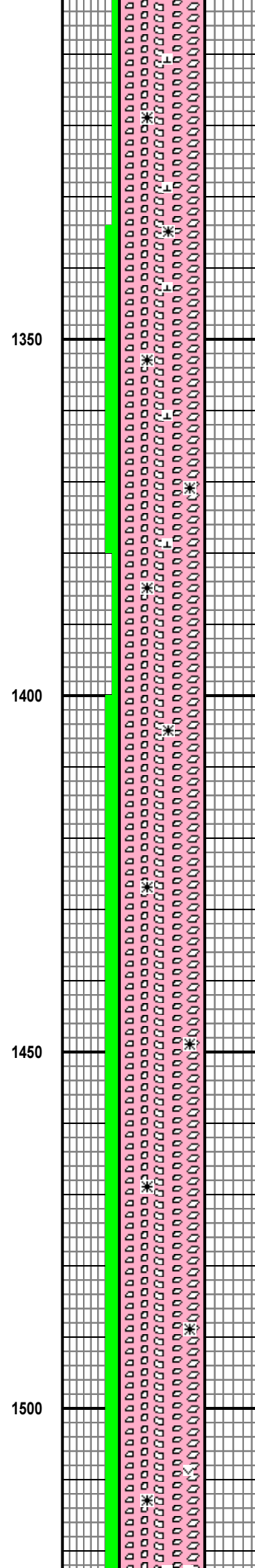
1270-1300 BREC: orng, rd orng, lt orng, gy, hd, frm, m-vy crs grnd, ang, sb ang, sb rndd, mod pr srted, sl calc, tr bio mica, vit qtz grns, tr amph, no vis flu

0	ROP (min/ft)	3
0	Gamma (API)	200
1	WOB (-)	1000

TG (units)	100
C1 (ppm)	10000
C2 (ppm)	10000
C3 (ppm)	10000
C4 (ppm)	10000



**Quichapa Group**  
 1,400' MD  
 1,400' TVD  
 (3,981' SS)



1300-1330 BREC: lt orng, rd ornge, gy, hd, m-crs grnd, sb ang, sb rndd, mod srtd, sl calc, tr bio mica, vit qtz grns, tr amph, no vis flu

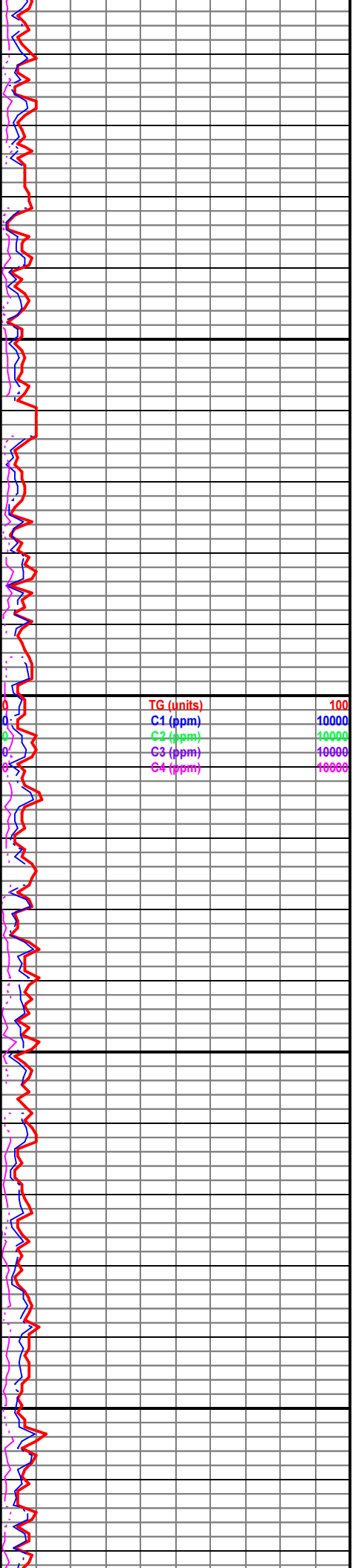
1330-1360 BREC: lt orng, rd ornge, gy, hd, crs-v crs grnd, sb ang, sb rndd, mod srtd, sl calc, tr bio mica, vit qtz grns, tr amph, no vis flu

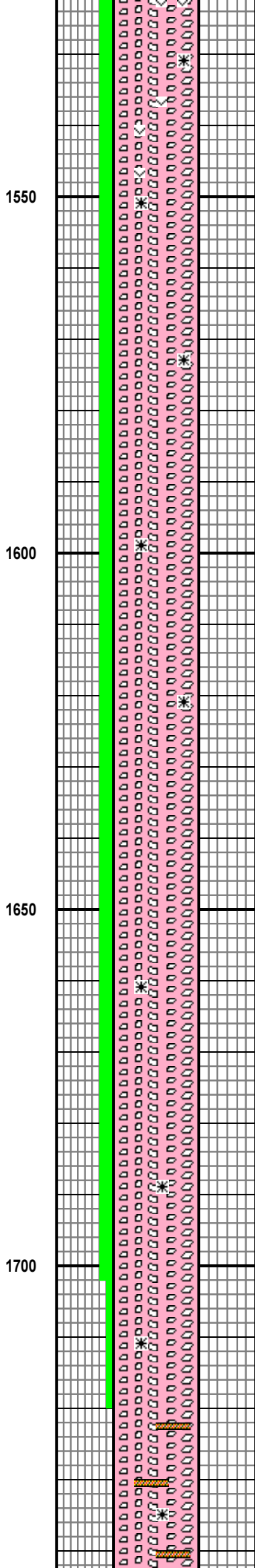
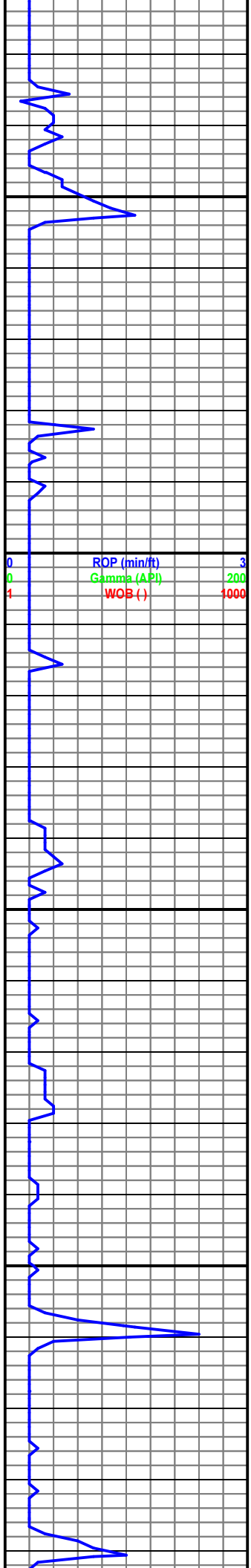
1360-1400 BREC: lt orng, rd ornge, gy, hd, m grnd, sb ang, sb rndd, mod srtd, sl calc, tr bio mica, vit qtz grns, tr amph, no vis flu

1400-1450 BREC: blk, purp, lt orng, rd ornge, gy, hd, m grnd, sb ang, sb rndd, mod srtd, sl calc, tr bio mica, vit qtz grns, tr amph, no vis flu

1450-1500 BREC: blk, purp, lt orng, rd ornge, gy, hd, vf-m grn, sb ang, sb rndd, v pr srtd, sl calc, tr bio mica, vit qtz grns, tr amph, no vis flu, incr vis ash matrix

1500-1550 BREC: Brn, pur, rdsh orng, pink, grn, bl, clr-wh, ang-sub





ang, v pr srted, v hd, abdt euhd xls,  
 vis bio mica, amphibole min pos  
 hornebl, abdt pyroxenes, abdt vit  
 qtz, pos vis olivine xls

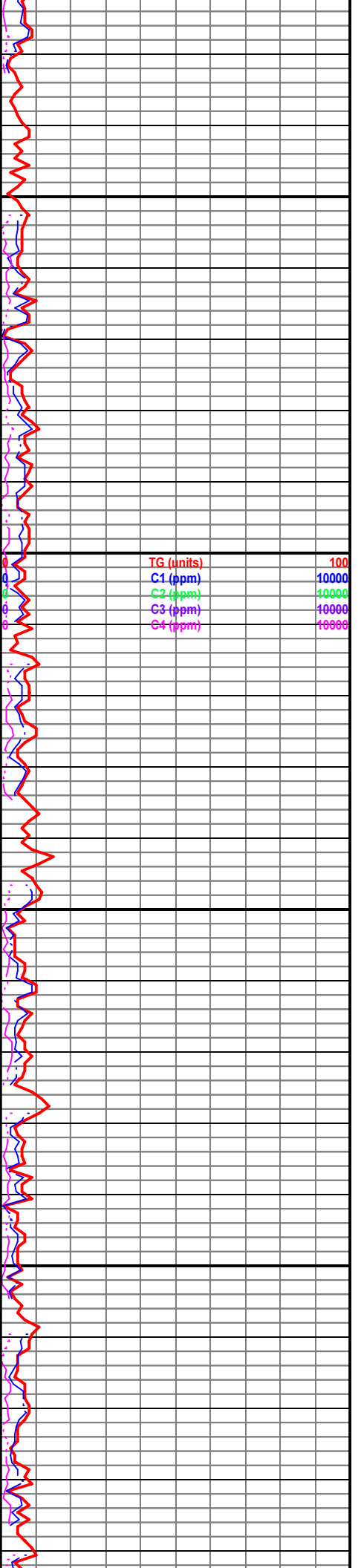
1550-1600 BREC: Brn, pur, wh-clr,  
 tr rdsh orgng, tr pink, tr blu, ang-sub  
 ang, v pr srted, v hd, abdt euhd xls,  
 vis bio mica, amphibole min pos  
 hornebl, abdt pyroxenes, abdt vit  
 qtz, pos vis olivine xls

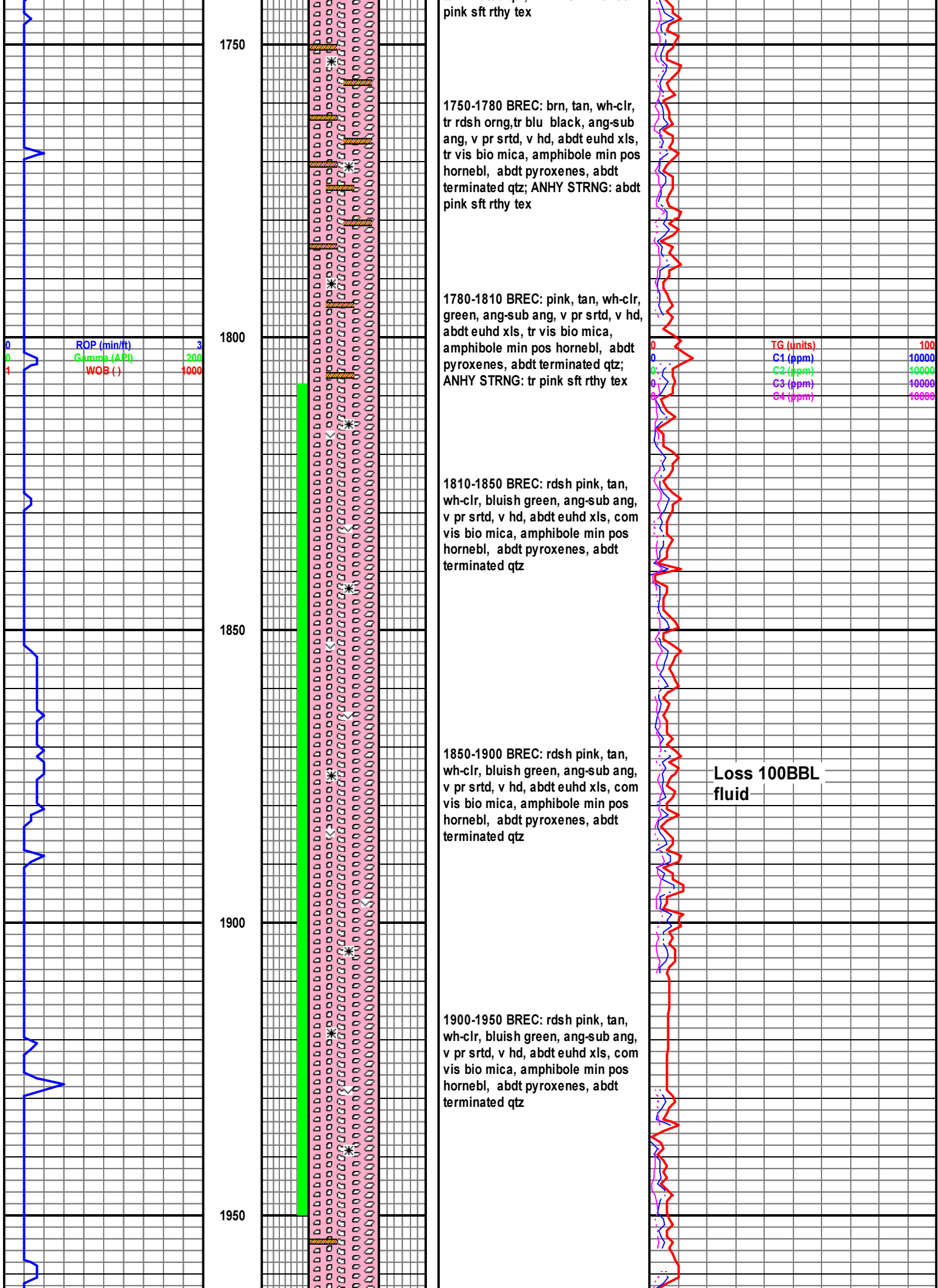
1600-1650 BREC: prplsh brn, tan,  
 wh-clr, tr rdsh orgng, tr blu black,  
 ang-sub ang, v pr srted, v hd, abdt  
 euhd xls, tr vis bio mica,  
 amphibole min pos hornebl, abdt  
 pyroxenes, abdt terminated qtz,  
 pos vis olivine xls

1650-1690 BREC: prplsh brn, tan,  
 wh-clr, tr rdsh orgng, tr blu black,  
 ang-sub ang, v pr srted, v hd, abdt  
 euhd xls, tr vis bio mica,  
 amphibole min pos hornebl, abdt  
 pyroxenes, abdt terminated qtz,  
 pos vis olivine xls

1690-1720 BREC: prplsh brn, tan,  
 wh-clr, tr rdsh orgng, tr blu black,  
 ang-sub ang, v pr srted, v hd, abdt  
 euhd xls, tr vis bio mica,  
 amphibole min pos hornebl, abdt  
 pyroxenes, abdt terminated qtz,  
 pos vis olivine xls

1720-1750 BREC: brn, tan, wh-clr,  
 tr rdsh orgng, tr blu black, ang-sub  
 ang, v pr srted, v hd, abdt euhd xls,  
 tr vis bio mica, amphibole min pos  
 hornebl, abdt pyroxenes, abdt  
 terminated qtz: ANHY STRNG: com





pink sft rthy tex

1750-1780 BREC: brn, tan, wh-clr, tr rdsh orng, tr blu black, ang-sub ang, v pr srtd, v hd, abdt euhd xls, tr vis bio mica, amphibole min pos hornebl, abdt pyroxenes, abdt terminated qtz; ANHY STRNG: abdt pink sft rthy tex

1780-1810 BREC: pink, tan, wh-clr, green, ang-sub ang, v pr srtd, v hd, abdt euhd xls, tr vis bio mica, amphibole min pos hornebl, abdt pyroxenes, abdt terminated qtz; ANHY STRNG: tr pink sft rthy tex

1810-1850 BREC: rdsh pink, tan, wh-clr, bluish green, ang-sub ang, v pr srtd, v hd, abdt euhd xls, com vis bio mica, amphibole min pos hornebl, abdt pyroxenes, abdt terminated qtz

1850-1900 BREC: rdsh pink, tan, wh-clr, bluish green, ang-sub ang, v pr srtd, v hd, abdt euhd xls, com vis bio mica, amphibole min pos hornebl, abdt pyroxenes, abdt terminated qtz

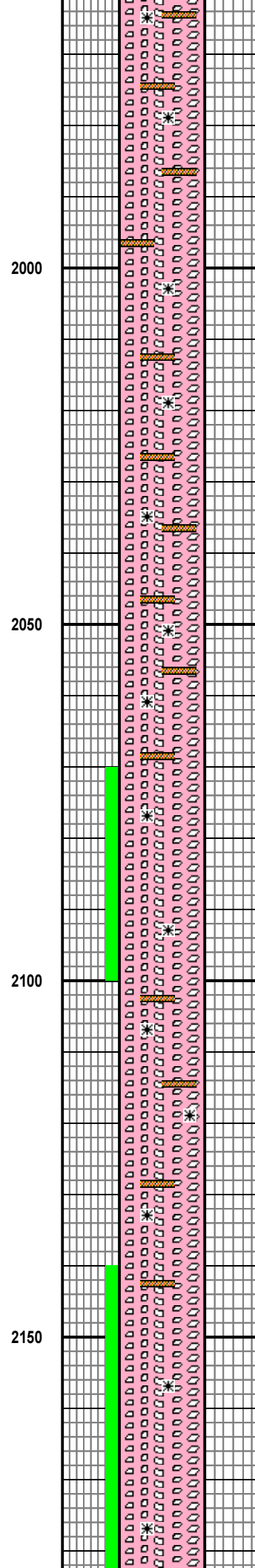
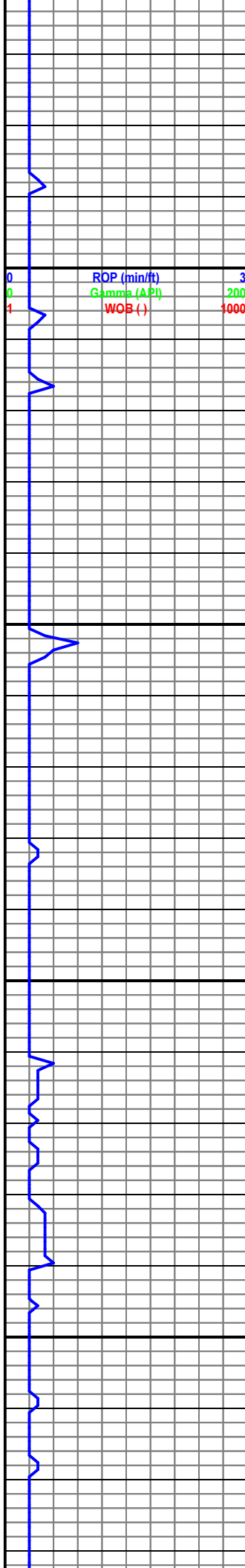
1900-1950 BREC: rdsh pink, tan, wh-clr, bluish green, ang-sub ang, v pr srtd, v hd, abdt euhd xls, com vis bio mica, amphibole min pos hornebl, abdt pyroxenes, abdt terminated qtz

Loss 100BBL fluid

ROP (min/ft) 3  
Gamma (API) 200  
WOB (-) 1000

TG (units) 100  
C1 (ppm) 10000  
C2 (ppm) 10000  
C3 (ppm) 10000  
C4 (ppm) 10000





1950-2000 BREC: rdsh pink, tan, wh-clr, bluish green, ang-sub ang, v pr srtd, v hd, abdt euhd xls, com vis bio mica, amphibole min pos hornebl, abdt pyroxenes, abdt terminated qtz; ANHY STRNG: abdt tan sft rthy tex

**Samples highly contaminated with LCM**

2000-2020 BREC: rdsh pink, tan, wh-clr, bluish green, ang-sub ang, v pr srtd, v hd, abdt euhd xls, com vis bio mica, amphibole min pos hornebl, abdt pyroxenes, com terminated qtz; ANHY STRNG: tr tan-wh sft, amor tex

TG (units)	100
C1 (ppm)	10000
C2 (ppm)	10000
C3 (ppm)	10000
C4 (ppm)	10000

**Samples highly contaminated with LCM**

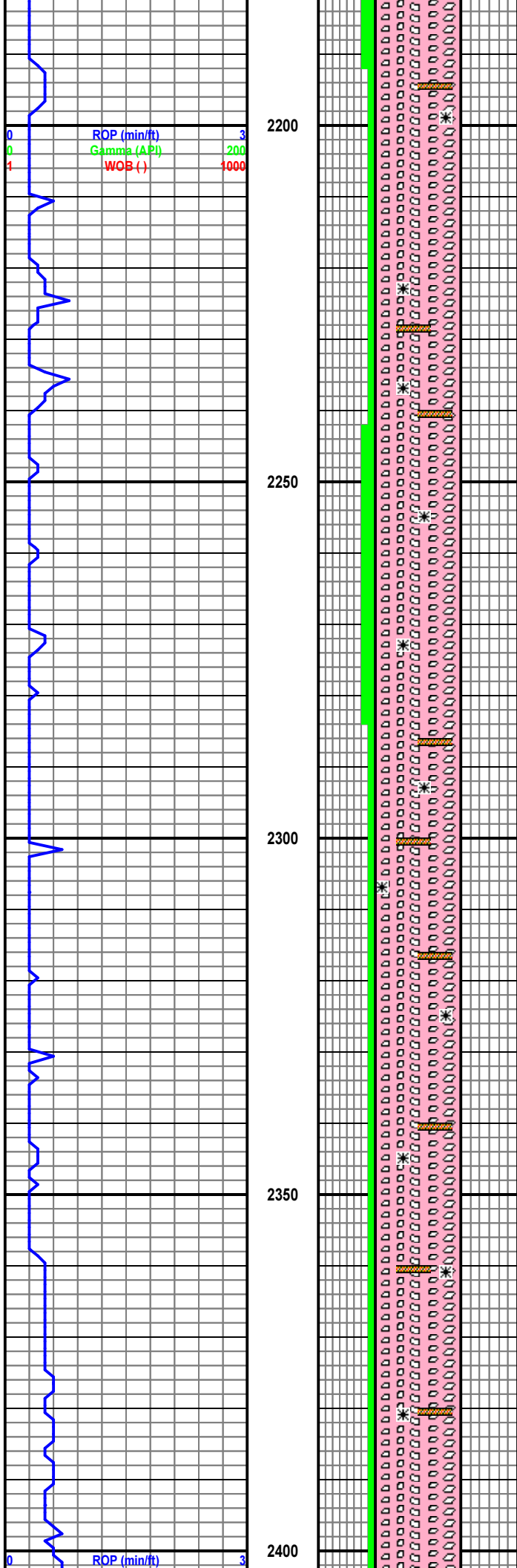
2020-2080 BREC: rdsh pink, tan, wh-clr, bluish green, ang-sub ang, v pr srtd, v hd, abdt euhd xls, com vis bio mica, amphibole min pos hornebl, abdt pyroxenes, com terminated qtz; ANHY STRNG: incr tan-wh sft, amor tex

2080-2100 BREC: abdt bluish green, clr, blk /w rd mineralization, ang-sub ang, v pr srtd, v hd, abdt euhd xls, com vis bio mica, amphibole min pos hornebl, abdt pyroxenes,

2100-2130 BREC: abdt bluish green, clr, tr tan, tr pink, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, tr vis bio mica, amphibole min pos hornebl, abdt pyroxenes, ANHY STRNG: com tan-wh sft amor tex

2130-2160 BREC: abdt bluish green, clr, tr tan, tr pink, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, tr vis bio mica, amphibole min pos hornebl, abdt pyroxenes, ANHY STRNG: com tan-wh sft amor tex

2150-2200 BREC: abdt bluish



green, clr, tr tan, tr pink, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, tr vis bio mica, amphibole min pos hornebl, abdt pyroxenes

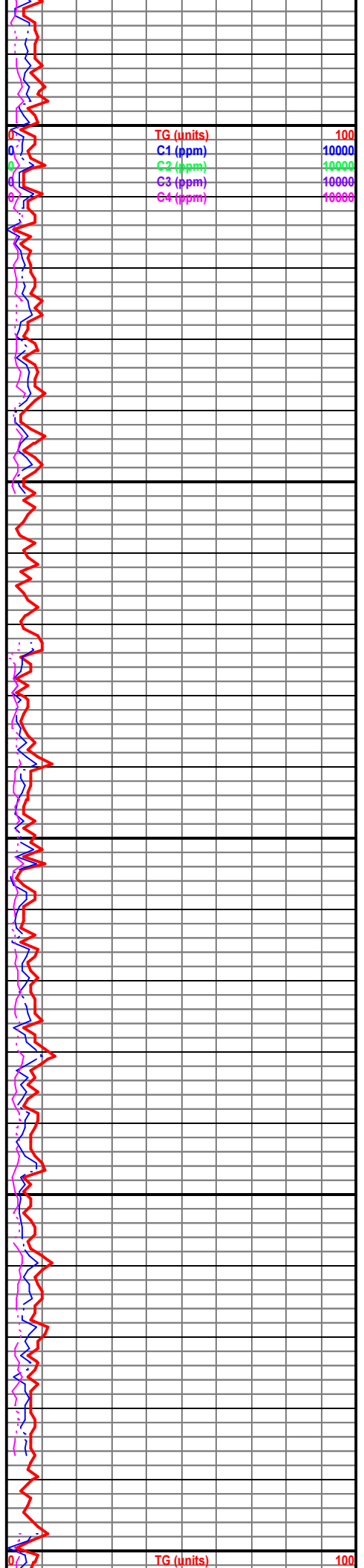
2200-2250 BREC: rdsh pink, tan, blk, wh-clr, bluish green, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, abdt vis bio mica, amphibole min pos hornebl, abdt pyroxenes, ANHY STRNG: com tan-pink sft amor tex

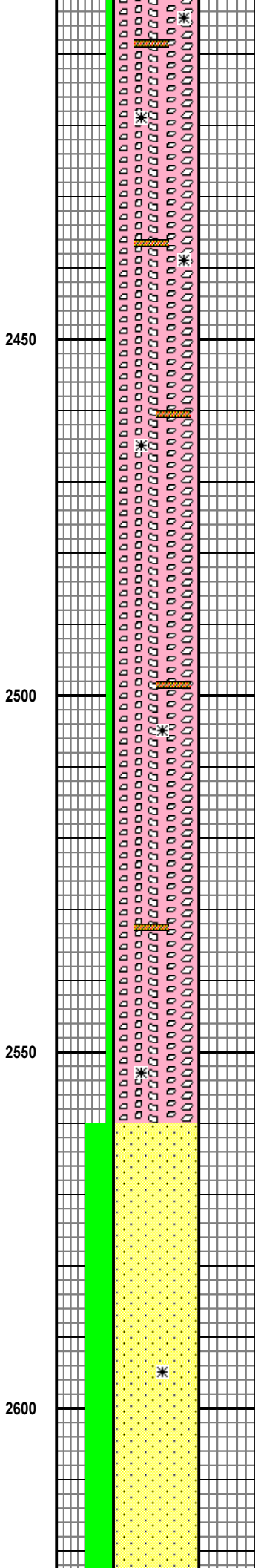
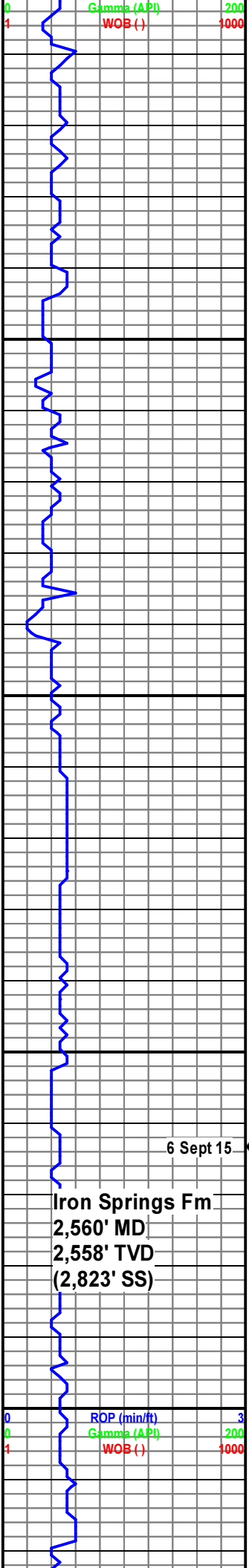
2250-2280 BREC: abdt bluish green, clr, purple, tr tan, tr pink, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, tr vis bio mica, amphibole min pos hornebl, abdt pyroxenes

2280-2310 BREC: bluish green, rdsh pink, tan, blk, wh-clr, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, abdt vis bio mica, amphibole min pos hornebl, abdt pyroxenes, ANHY STRNG: com tan-pink sft amor tex

2310-2350 BREC: bluish green, rdsh pink, tan, blk, wh-clr, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, abdt vis bio mica, amphibole min pos hornebl, abdt pyroxenes, ANHY STRNG: com tan-pink sft amor tex

2350-2400 BREC: bluish green, rdsh pink, tan, blk, wh-clr, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, abdt vis bio mica, amphibole min pos hornebl, abdt pyroxenes, ANHY STRNG: tr tan-pink sft amor tex





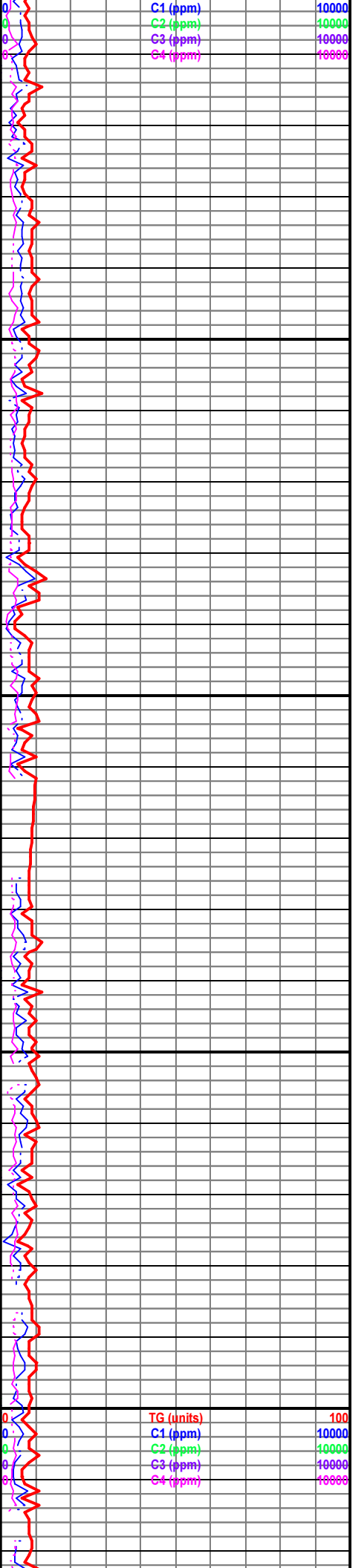
2400-2470 BREC: bluish green, rdsh pink, tan, blk, wh-clr, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, abdt vis bio mica, amphibole min pos hornebl, abdt pyroxenes, ANHY STRNG: com tan-pink sft amor tex

2470-2500 BREC: bluish green, rdsh pink, tan, blk, wh-clr, sub ang-sub rnd, v pr srtd, v hd, abdt euhd xls, abdt vis bio mica, amphibole min pos hornebl, abdt pyroxenes, ANHY STRNG: com tan-pink sft amor tex

2500-2560 BREC: blu grn, rd, pk, trnsl, sb ang, sb rndd, pr srtd, hd, abdt euhed qtz, occ bio mica, rr amphibole, occ pyrnx, rr ANHY: tn-pk, sft, amor, anhed, chky

2560-2590 SS: blu grn, rd, pk, trnsl, sb ang, sb rndd, pr srtd, hd, abdt euhed qtz, occ bio mica, rr amphibole, occ pyrnx

2590-2650 SS: trnsp, trnsl, wh, crm, fri, f-md, ang, sb ang, sb rndd, rr bio mica, rr amph, occ pyrnx



**Iron Springs Fm**  
2,560' MD  
2,558' TVD  
(2,823' SS)

6 Sept 15 ←

2650

2650-2710 SS: trnsp, trnsl, fri, f-m  
grnd, sb ang, sb rndd, mod srtd,  
abdt blu gy grn QRTZTE

2700

2710-2770 SS: trnsp, trnsl, orng, rd  
orng, lt brn, fri, f-m grnd, sb ang, sb  
rndd, mod srtd, abdt blu gy grn  
QRTZTE

2750

2770-2850 SS: trnsp, trnsl, orng, rd  
orng, lt brn, fri, f-m grnd, sb ang, sb  
rndd, mod srtd, abdt blu gy grn  
QRTZTE

2800

0	ROP (min/ft)	3
0	Gamma (API)	200
1	WOB (-)	1000

0	TG (units)	100
0	C1 (ppm)	10000
0	C2 (ppm)	10000
0	C3 (ppm)	10000
0	C4 (ppm)	10000

2850

2850-2920 SS: lt-md gy, blu gy, off wh, ornge rd, trnsp, trnsl, fri, f-m grnd, sb rndd, mod srtd, rr QRTZTE

2900

2920-2950 SS: trnsp, trnsl, blu gy, lt gy, m grnd, sb rndd, mod w srtd, rr QRTZTE

2950

2950-3000 SS: lt blu gy, lt blu gn, trnsp, trnsl, lt gy, m-crs grnd, w srtd, sb rndd, occ, vis chert ip, QRTZTE

3000

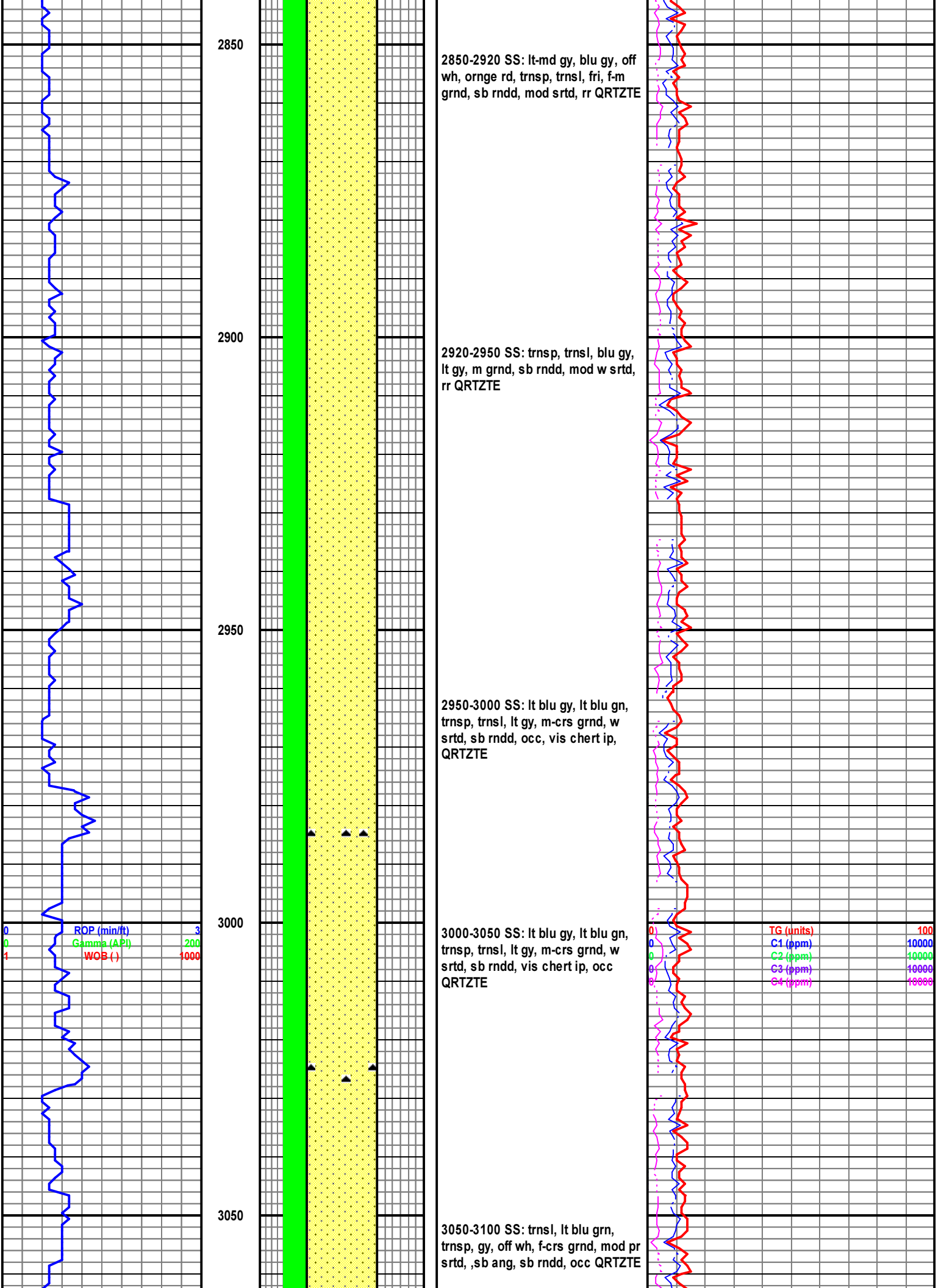
3000-3050 SS: lt blu gy, lt blu gn, trnsp, trnsl, lt gy, m-crs grnd, w srtd, sb rndd, vis chert ip, occ QRTZTE

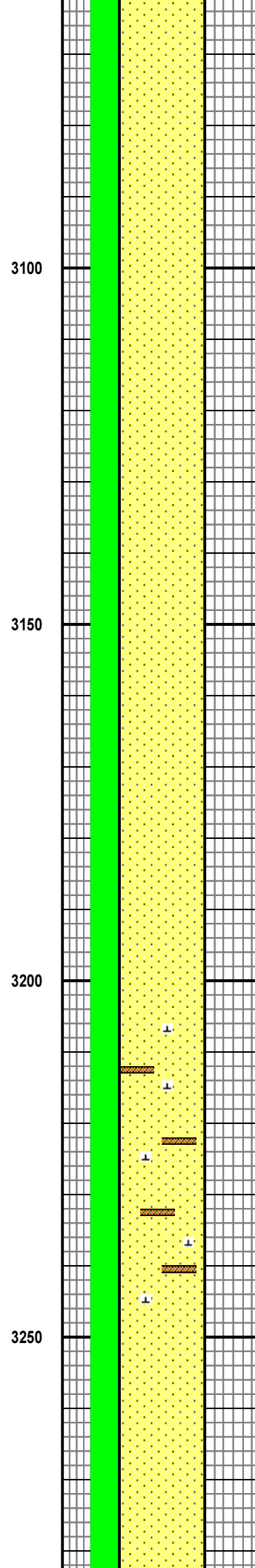
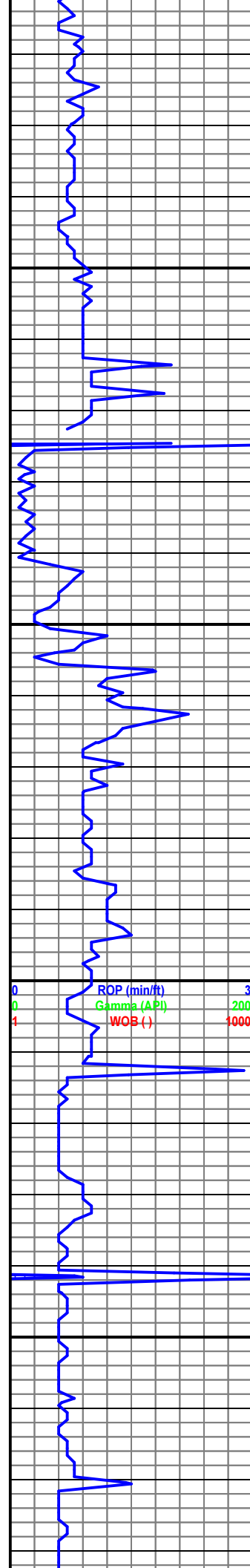
3050

3050-3100 SS: trnsl, lt blu grn, trnsp, gy, off wh, f-crs grnd, mod pr srtd, ,sb ang, sb rndd, occ QRTZTE

0	ROP (min/ft)	3
0	Gamma (API)	200
1	WOB (-)	1000

0	TG (units)	100
0	C1 (ppm)	10000
0	C2 (ppm)	10000
0	C3 (ppm)	10000
0	C4 (ppm)	10000



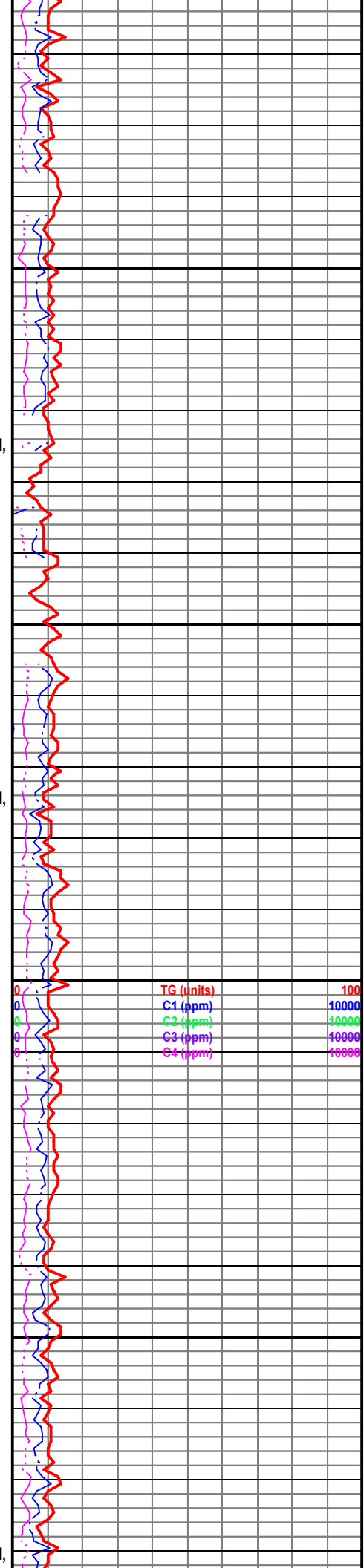


3100-3150 SS: trnsl, lt blu grn, pink, blk, trnsp, gy, off wh, f-crs grnd, mod pr srtd, ,sb ang, sb rndd, vis brecc fragments w/ phenocrysts, occ QRTZTE

3150-3200 SS: trnsl, lt blu grn, pink, blk, trnsp, gy, off wh, f-crs grnd, mod pr srtd, ,sb ang, sb rndd, vis brecc fragments w/ phenocrysts, occ QRTZT

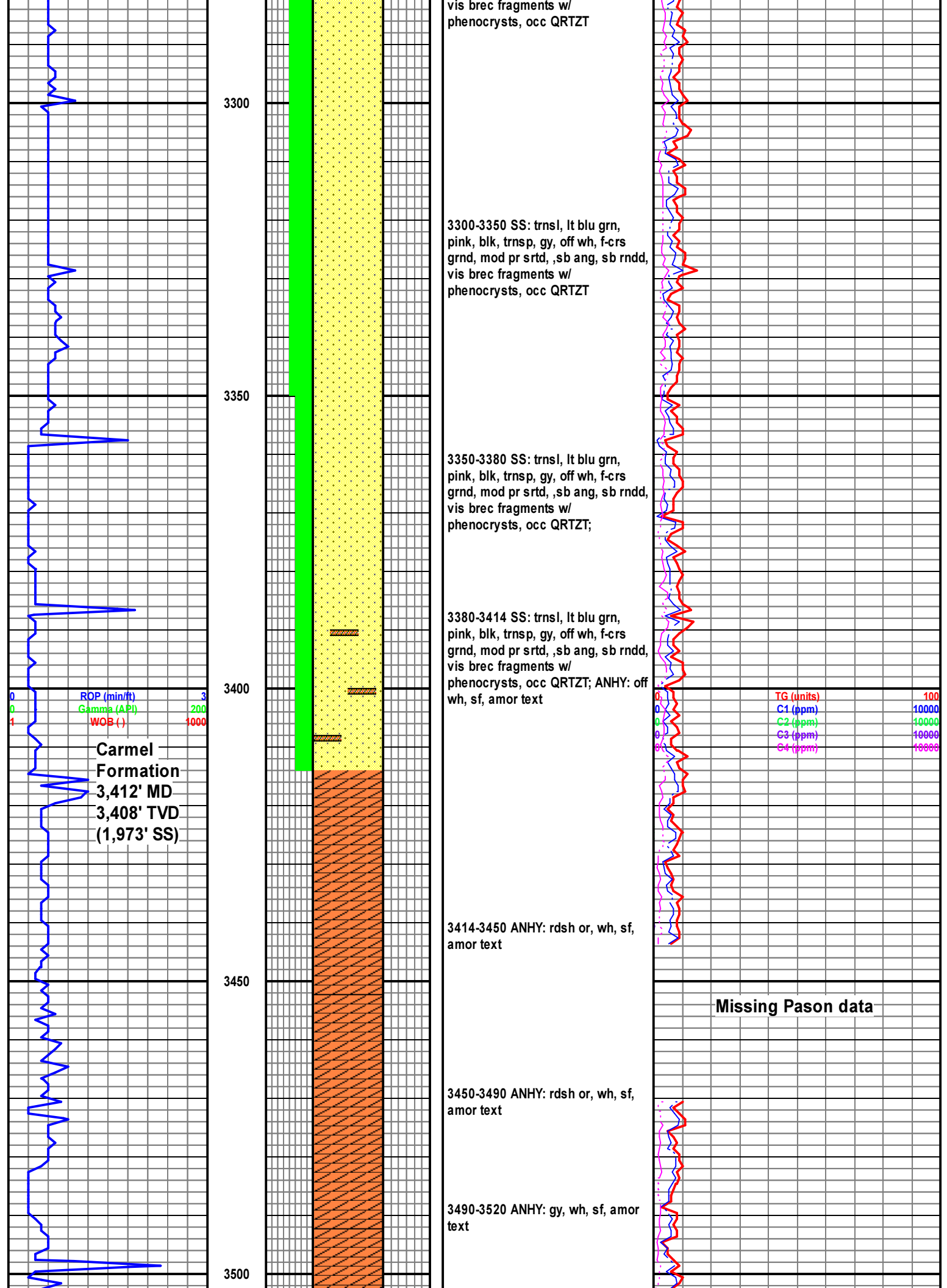
3200-3250 SS: trnsl, lt blu grn, pink, blk, trnsp, gy, wh, f-crs grnd, mod pr srtd, ,sb ang, sb rndd, vis brecc fragments w/ phenocrysts, vis spar calc, occ QRTZT; ANHY: off wh, sf, amor text

3250-3300 SS: trnsl, lt blu grn, pink, blk, trnsp, gy, off wh, f-crs grnd, mod pr srtd, ,sb ang, sb rndd,



0	ROP (min/ft)	3
0	Gamma (API)	200
1	WOB (-)	1000

0	TG (units)	100
0	C1 (ppm)	10000
0	C2 (ppm)	10000
0	C3 (ppm)	10000
0	C4 (ppm)	10000



3300

3350

3400

3450

3500

vis brecc fragments w/  
phenocrysts, occ QRTZT

3300-3350 SS: trnsl, lt blu grn,  
pink, blk, trnsp, gy, off wh, f-crs  
grnd, mod pr srtd, ,sb ang, sb rndd,  
vis brecc fragments w/  
phenocrysts, occ QRTZT

3350-3380 SS: trnsl, lt blu grn,  
pink, blk, trnsp, gy, off wh, f-crs  
grnd, mod pr srtd, ,sb ang, sb rndd,  
vis brecc fragments w/  
phenocrysts, occ QRTZT;

3380-3414 SS: trnsl, lt blu grn,  
pink, blk, trnsp, gy, off wh, f-crs  
grnd, mod pr srtd, ,sb ang, sb rndd,  
vis brecc fragments w/  
phenocrysts, occ QRTZT; ANHY: off  
wh, sf, amor text

3414-3450 ANHY: rdsh or, wh, sf,  
amor text

3450-3490 ANHY: rdsh or, wh, sf,  
amor text

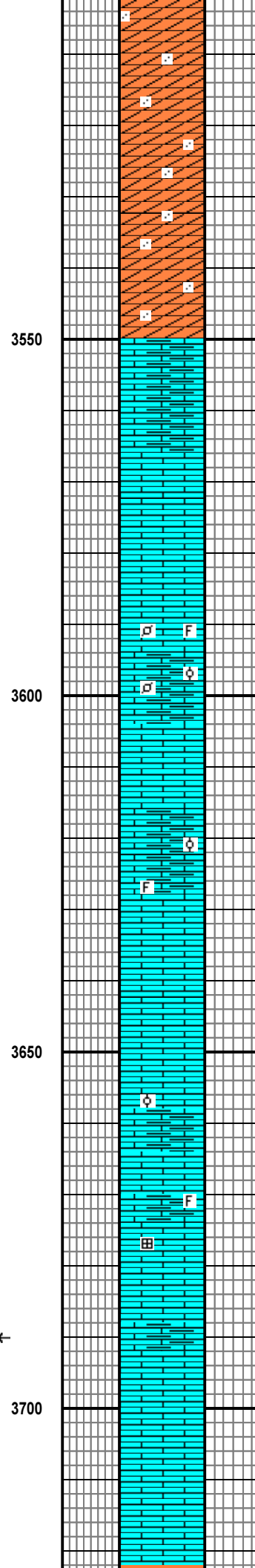
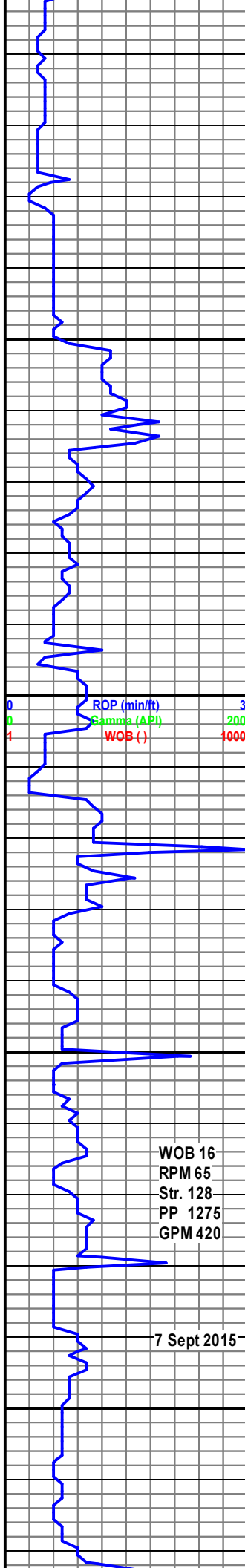
3490-3520 ANHY: gy, wh, sf, amor  
text

ROP (min/ft) 3  
Gamma (API) 200  
WOB (-) 1000

**Carmel  
Formation**  
3,412' MD  
3,408' TVD  
(1,973' SS)

TG (units) 100  
C1 (ppm) 10000  
C2 (ppm) 10000  
C3 (ppm) 10000  
C4 (ppm) 10000

**Missing Pason data**



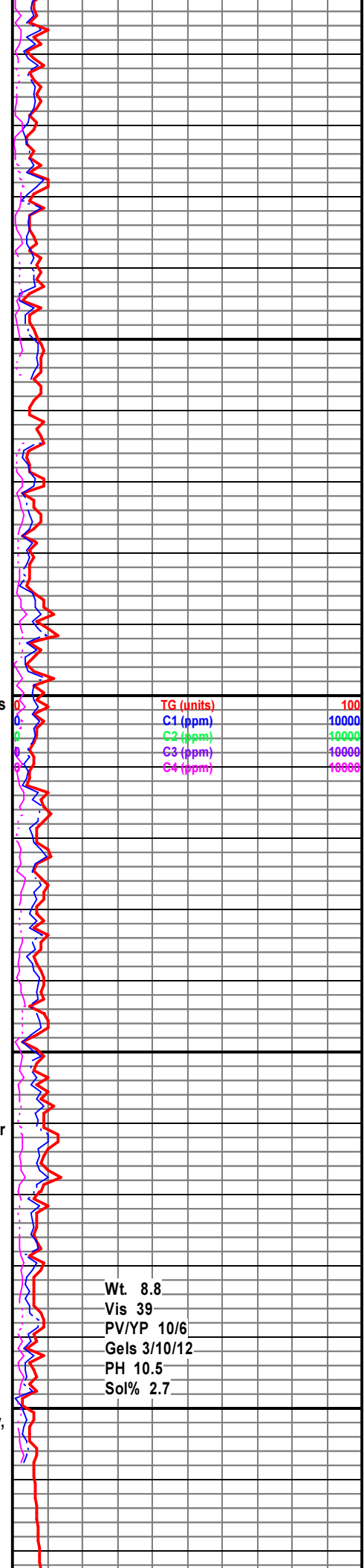
3520-3550 ANHY: gy, wh, sf, amor text, v sndy

3550-3564 ARG LS: mdst, gy, crpxln, blk, frm, dns tex, abdt clay, no vis por

3564-3650 LS: mdst, tr pkst, tan-lt brn, wh, crpxln, plty, frm, rthy tex, slty, abdt fos frag & ooids ip, no vis por

3650-3700 LS: tn, lt brn, wh, crm, md gy ip, sft-frm, brit amor, chky, frct, mdst, anhed, crp xln, abdt fos frag, no vis por, tr HAL, slty ip, mnr orng min flu

3700-3730 LS: lt-md brn, off wh, gy, sft-frm, brit, amor, rthy, chky ip, mdst, anhed, crp xln, sm fos frgs, no vis por, tr ornge min flu



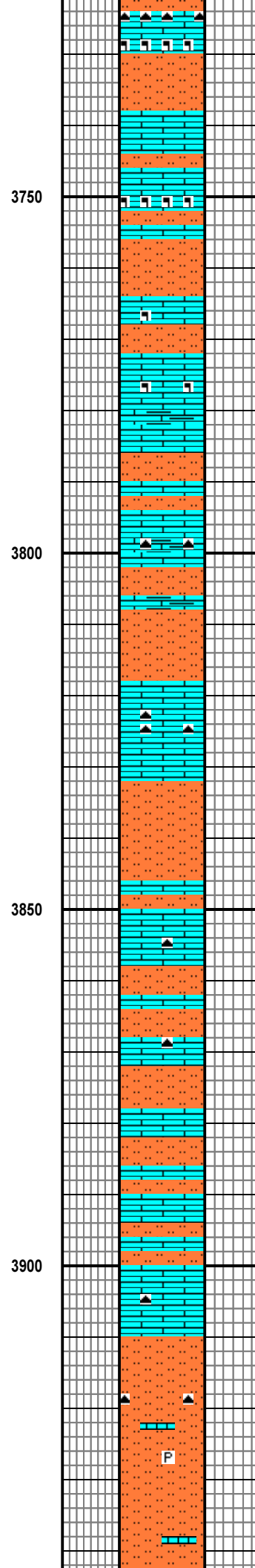
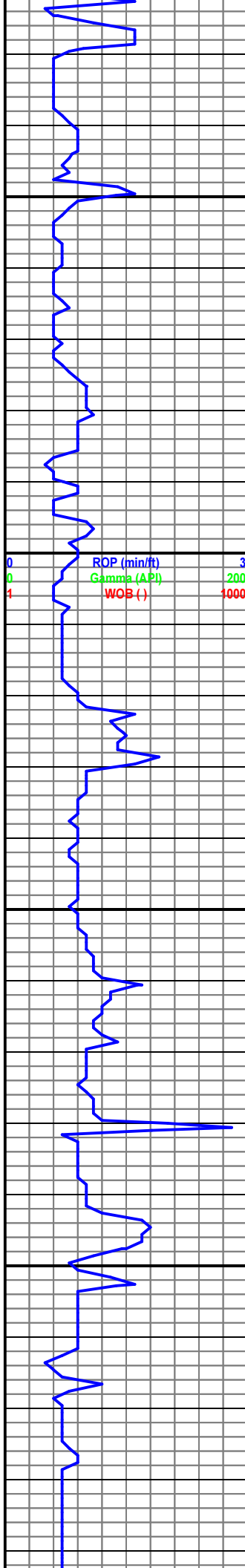
TG (units)	100
C1 (ppm)	10000
C2 (ppm)	10000
C3 (ppm)	10000
C4 (ppm)	10000

WOB 16  
RPM 65  
Str. 128  
PP 1275  
GPM 420

7 Sept 2015 ←

Wt. 8.8  
Vis 39  
PV/YP 10/6  
Gels 3/10/12  
PH 10.5  
Sol% 2.7





3730-3760 LS: md-lt brn, lt-md gy, crm, wh, sft-frm, brit, chky, rthy, mdst, anhed, crp xln, sm fos frag, no vis por, mod abdt min flu, occ HEM frag; SLTST: md brn, rd brn, sft, v f-slt, rndd, mod w srtd, calc

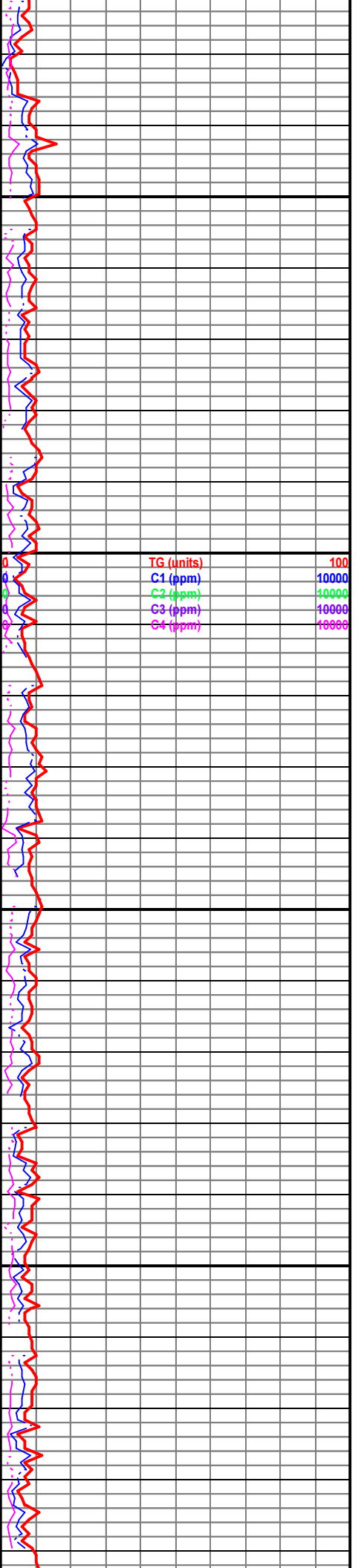
3760-3790 LS: lt-md gy, wh, crm, sft-frm, brit, chky, rthy, amor, mdst, anhed, crp xln, slty, rr HEM frag; SLTST: md-dk gy, sft-frm, rthy, chky ip, mdst-wkst, slty ip, vy calc

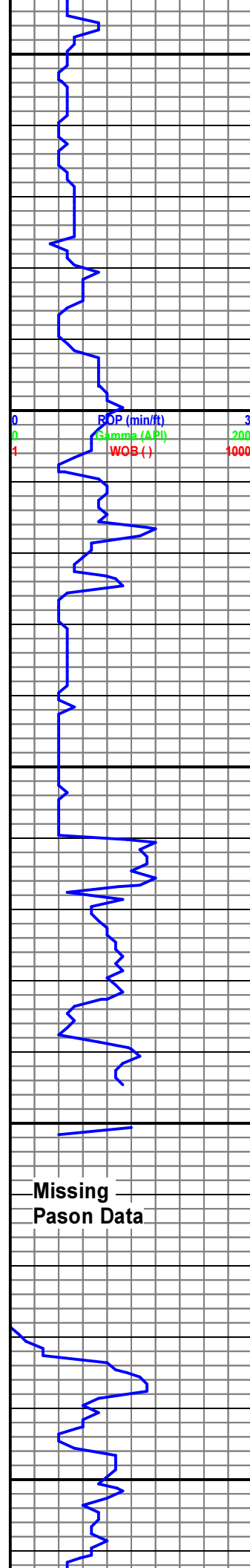
3790-3850 LS: lt gy, off wh, crm, sft-frm, rthy, chky ip, mdst-wkst, anhed, crp xln, slty ip, occ cht; SLTST: md-dk gy, sft-frm, rthy, chky ip, mdst-wkst, slty ip, vy calc

3850-3880 LS: lt gy, off wh, crm, sft-frm, rthy, chky ip, mdst-wkst, anhed, crp xln, slty ip, occ-abdt cht; SLTST: md-dk gy, sft-frm, rthy, chky ip, mdst-wkst, slty ip, vy calc

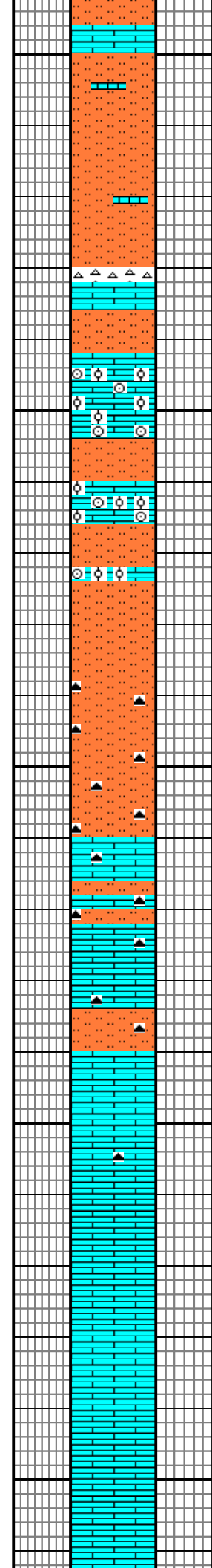
3880-3910 LS: lt pk, pk, lt gy, off wh, md gy, sft-frm, hd ip, amor, chky ip, rthy ip, mdst, anhed, mic xln; SLTST: md-dk gy, sft-frm, rthy, chky ip, mdst-wkst, slty ip, vy calc

3910-3970 SLTST: md-dk gy, sft-frm, rthy, chky ip, mdst-wkst, slty ip, vy calc, rr cht, tr vf pyr; LS STRNGR





3950  
4000  
4050  
4100  
4150



3970-4000 SLTST: md-dk gy, sft-frm, rthy, chky ip, mdst-wkst, slty ip, vy calc; LS: lt gy, off wh, yl brn-tn, frm, brit ip, chky, rthy, mdst, anhed, mic xln, occ cht

4000-4030 SLTST: md-dk gy, sft-frm, rthy, chky ip, mdst-wkst, slty ip, vy calc; LS: lt gy, off wh, yl brn-tn, frm, brit ip, chky, rthy, grnst, anhed, mic xln, occ cht; abdt ool, abdt cri stm, occ hem spherules

4030-4060 SLTST: md gy, lt gy ip, sft-frm, slit-v f grnd, rndd, mod w srtd, occ cht, vy calc

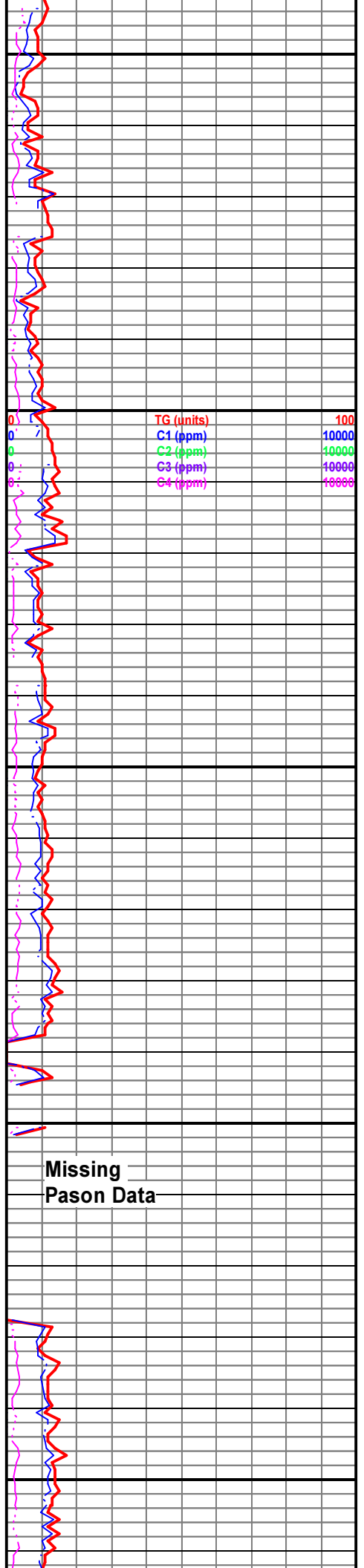
4060-4090 SLTST: md gy, lt gy ip, sft-frm, slit-v f grnd, rndd, mod w srtd, occ cht, vy calc; LS: lt gy, off wh, crm, frm-hd, amor, chky ip, mdst, anhed, mic xln

4090-4120 LS: lt gy, off wh, pk gy, frm, hd, amor, chky, amor, mdst, anhed, mic-crp xln, tr cht, tr orgn min flu

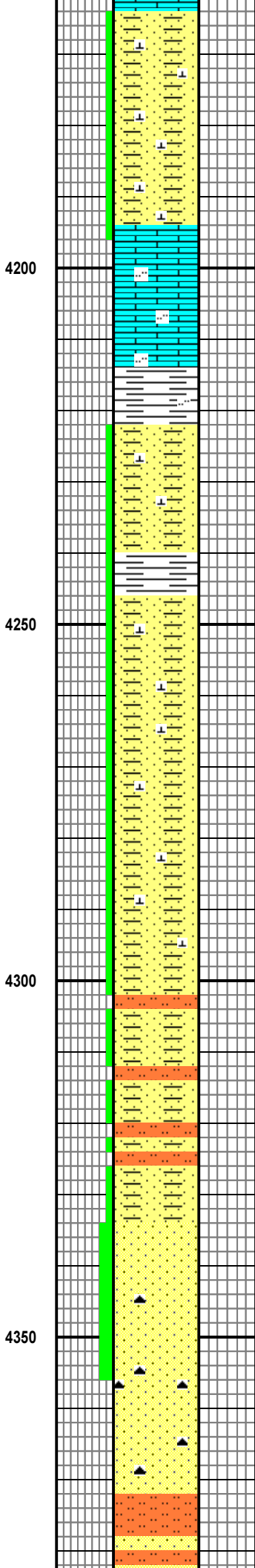
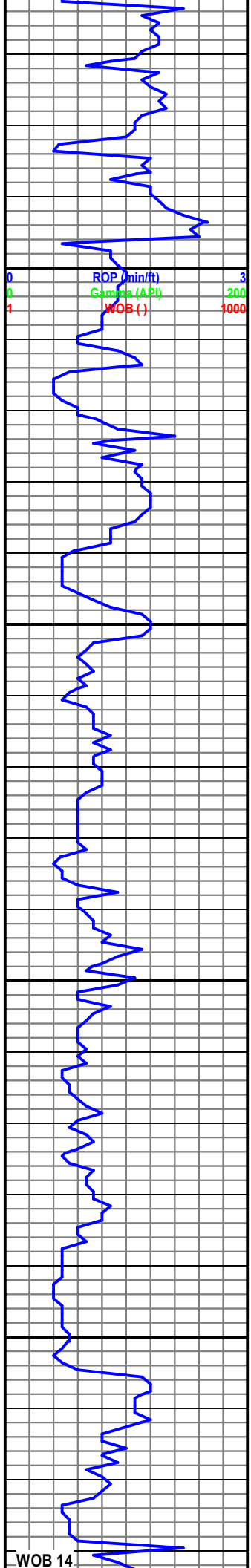
4120-4160 LS: mdst lt gy, wh, frm, plty, mic-crp xln, no vis por, tr orgn min flu

Missing Pason Data

Missing Pason Data



TG (units) 100  
C1 (ppm) 10000  
C2 (ppm) 10000  
C3 (ppm) 10000  
C4 (ppm) 10000



4160-4194 SLTY SS: rdsh purp, tan, or, lt blu, fn-v fn grn, rndd, w sorted, frm, calc cmnt, pos ingr por

4194-4214 LS: pnk, ol grn, wh, lt blu tan, mdst, miclxn, plty-blky, frm, miclxn tex, v slty ip, no vis por

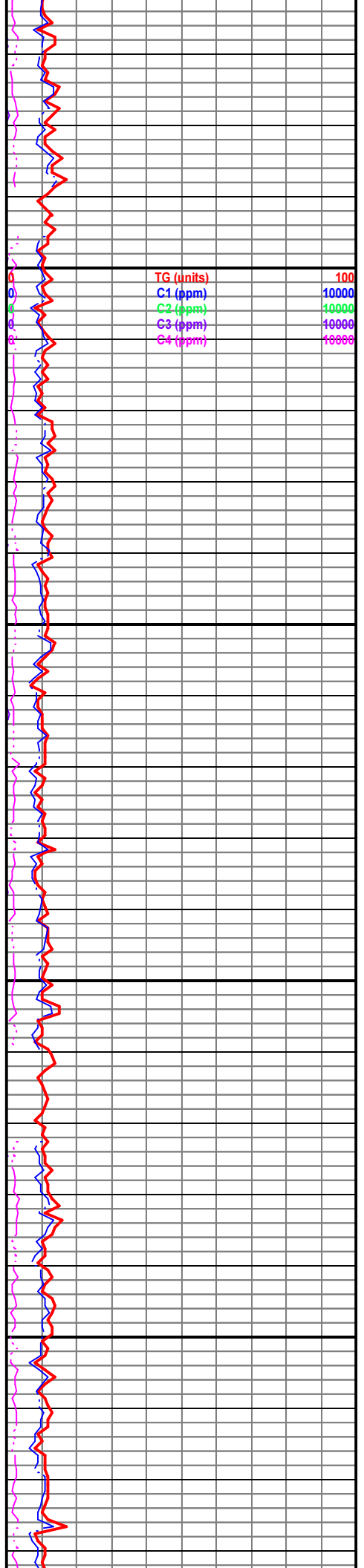
4214-4250 SLTY SS: orsh rd, rd, tan, wh, cl, med-fn grn, rndd, mod-well srtd, frm, mod calc cmnt, tr vis intgr pos; SH: blsh gy, plty, frm, smooth tex

4250-4300 SLTY SS: orsh rd, rd, tan, wh, cl, med-fn grn, sub rndd-sun ang, mod srtd, frm, incr calc cmnt, tr vis intgr pos;

4300-4336 SLTY SS: orsh rd, pink, tan, wh, cl, med-fn grn, rndd, mod-well srtd, frm, mod calc cmnt, tr vis intgr pos; SLTST: blsh gy, plty, frm, smooth tex

4336-4372 SS: clr grns in wh matrix, pinkish tan, tr orange, fn-med grn, sub ang-sub rnd, frm, prly sort, fair vis intgr por, sl calc, com-abdt chert; tr SLTST: gr, blk, sf, rthy tex

4372-4390 A.A. with increasing grey shale



ROP (min/ft) 3  
Gamma (API) 200  
WOB (-) 1000

TG (units) 100  
C1 (ppm) 10000  
C2 (ppm) 10000  
C3 (ppm) 10000  
C4 (ppm) 10000

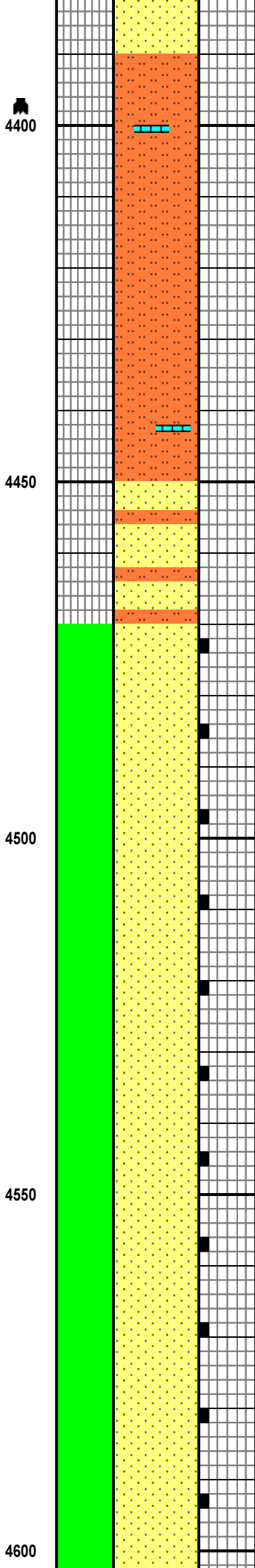
RPM 73  
 Str. 130  
 PP 1140  
 GPM 425

ROP (min/ft) 8 Sept 15 3  
 Gamma (API) 200  
 WOB (l) 1000

Bit #2 out at 4,399'  
 MD with 3,769'  
 drilled in 41.5  
 hours  
 Drilling 8 3/4" hole  
 w/  
 Bit # 3 in at 4,399'  
 Make: BGU  
 Model: TG135GBU  
 S/N: 230431  
 Jets: 6x14

Navajo Fm  
 4,480' MD  
 4,472' TVD  
 (909' SS)

ROP (min/ft) 3



4390-4450 SLTST: md-dk gy, olv,  
 slt grnd, sb rndd, w srted, gd calc  
 cmnt, occ cht, tr LS strngr

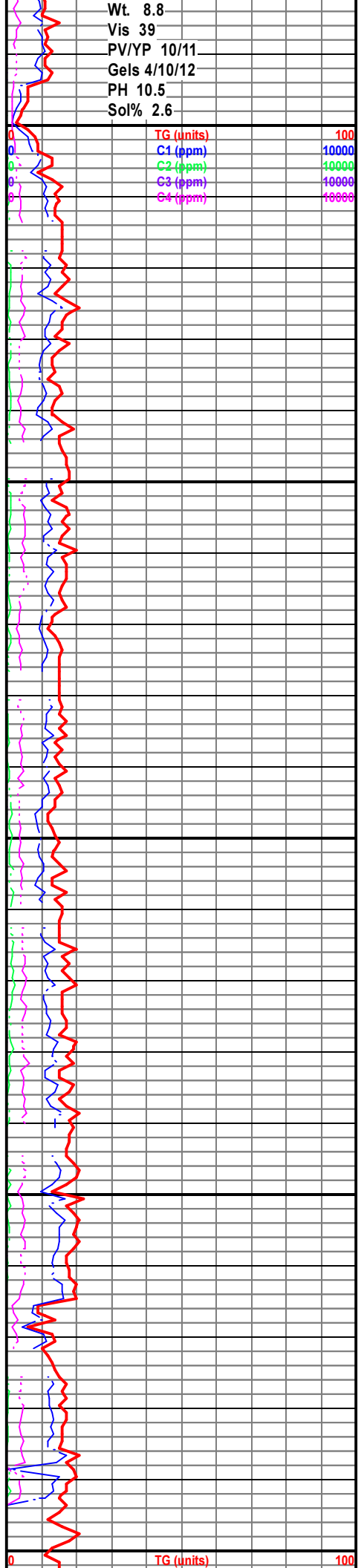
4450-4480 SLTST: md-dk gy, olv,  
 slt grnd, rndd, w srted, gd calc  
 cmnt; SS: trnsf, fri, f-m grnd, rndd,  
 sb rndd, mod w srted, unconscmnt

4480-4540 SS: trnsf, lt gy, wh,  
 trnsf, fri, f grnd, sb sph, sb  
 rndd-rndd, w srted, tr brn o stn, vy lt  
 yel-grn flu, vy dl orgn res rng

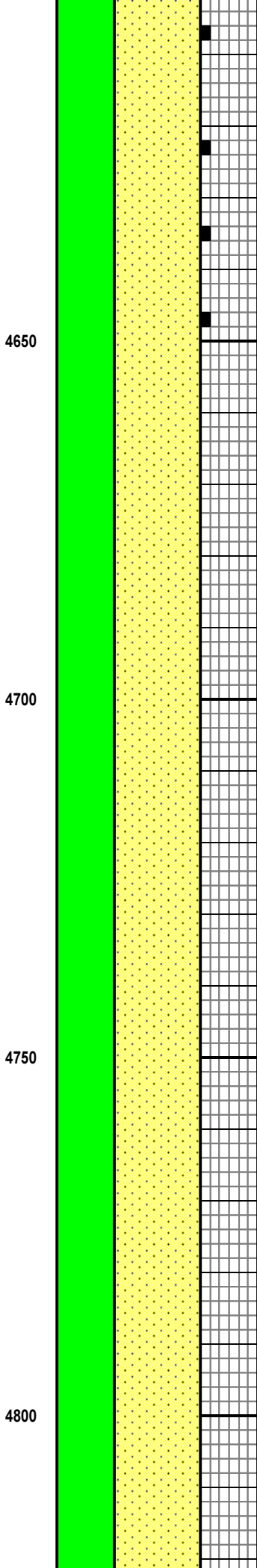
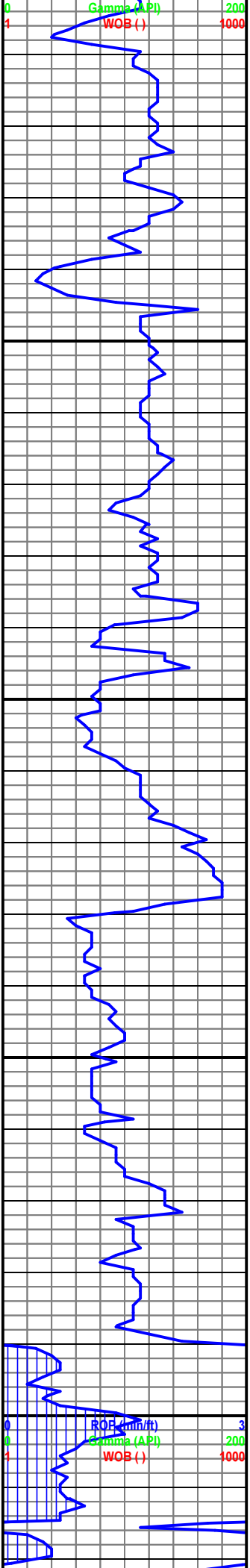
4540-4600 SS: trnsf, trnsf, wh, fri,  
 f-vf grnd, sb sph, sb rndd, w srted,  
 tr brn o stn, vy lt yel-grn flu, vy dl  
 yel-orgn res rng

Wt. 8.8  
 Vis 39  
 PV/YP 10/11  
 Gels 4/10/12  
 PH 10.5  
 Sol% 2.6

TG (units)	100
C1 (ppm)	10000
C2 (ppm)	10000
C3 (ppm)	10000
C4 (ppm)	10000



TG (units)	100
------------	-----



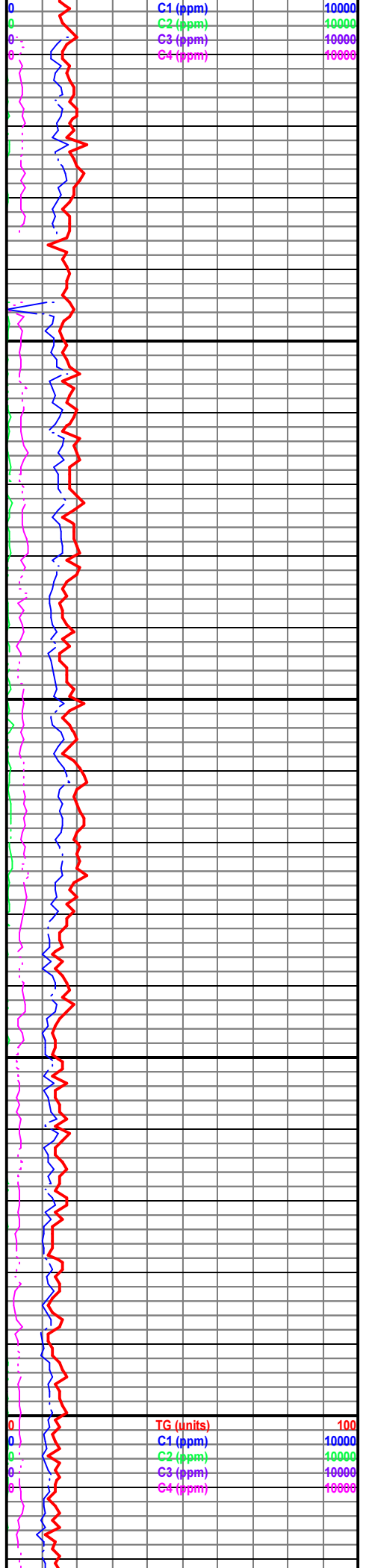
4600-4650 SS: trnsp, trnsl, wh, fri-unconsolidated, f- vf grnd, sb sph, sb rndd-rnnd, w srted, tr vy lt yel-grn flu

4650-4700 SS: trnsp, trnsl, wh, fri-unconsolidated, f- vf grnd, sb sph, sb rndd-rnnd, w srted

4700-4750 SS: trnsp, trnsl, wh, fri-unconsolidated, f- vf grnd, sb sph, sb rndd-rnnd, w srted

4750-4800 SS: trnsp, trnsl, wh, fri-unconsolidated, f- vf grnd, sb sph, sb rndd-rnnd, w srted

4800-4850 SS: trnsp, trnsl, wh, fri-unconsolidated, f- vf grnd, sb sph, sb rndd-rnnd, w srted



4800-4850 SS: trnsp, trnsl, wh,  
fri-unconsolidated, f- vf grnd, sb  
sph, sb rndd-rnnd, w srted

4850

4900-4900 SS: trnsp, trnsl, wh,  
fri-unconsolidated, f- vf grnd, sb  
sph, sb rndd-rnnd, w srted

4900

Wt. 8.8  
Vis 39  
PV/YP 6/8  
Gels 2/4/5  
PH 10.5  
Sol% 2.3

WOB 5.5  
RPM 70  
Str. 130  
PP 1120  
GPM 425

9 Sept 15 ←

4950