



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1212385
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

| | | |
|-----------------------------------|-----------------|---|
| Spud Date or Recompletion Date | Date Reached TD | Completion Date or Recompletion Date |
|-----------------------------------|-----------------|---|

API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1212385

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

| | | | | |
|---|--|------------------------------|----------------------------------|---------------------------------|
| Drill Stem Tests Taken <i>(Attach Additional Sheets)</i> | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Log | Formation (Top), Depth and Datum | <input type="checkbox"/> Sample |
| Samples Sent to Geological Survey | <input type="checkbox"/> Yes <input type="checkbox"/> No | Name | Top | Datum |
| Cores Taken | <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| Electric Log Run | <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| List All E. Logs Run: | | | | |

| CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used | | | | | | | |
|---|-------------------|---------------------------|-------------------|---------------|----------------|--------------|----------------------------|
| Report all strings set-conductor, surface, intermediate, production, etc. | | | | | | | |
| Purpose of String | Size Hole Drilled | Size Casing Set (In O.D.) | Weight Lbs. / Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| ADDITIONAL CEMENTING / SQUEEZE RECORD | | | | |
|---|------------------|----------------|--------------|----------------------------|
| Purpose: | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
| <input type="checkbox"/> Perforate | | | | |
| <input type="checkbox"/> Protect Casing | | | | |
| <input type="checkbox"/> Plug Back TD | | | | |
| <input type="checkbox"/> Plug Off Zone | | | | |

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

| Shots Per Foot | PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i> | Depth |
|----------------|---|--|-------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
|-----------------------------------|-----------|---------|-------------|---------------|---------|
| | | | | | |

| | | |
|--|---|---|
| DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i> | METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ | PRODUCTION INTERVAL: _____ _____ |
|--|---|---|

| | |
|-----------|------------------------|
| Form | ACO1 - Well Completion |
| Operator | Darrah, John Jay, Jr. |
| Well Name | Ray B 5 |
| Doc ID | 1212385 |

Tops

| Name | Top | Datum |
|----------------|------|-------|
| Anhydrite | 1730 | +489 |
| Base Anhydrite | 1759 | +440 |
| Tecumseh Shale | 3196 | -997 |
| Lecompton Lime | 3224 | -1025 |
| Oread Lime | 3265 | -1066 |
| Hebner | 3303 | -1104 |
| Toronto | 3331 | -1132 |
| Lansing | 3348 | -1149 |
| Muncie Crk | 3454 | -1255 |
| Base KC | 3537 | -1338 |
| Arbuckle | 3579 | -1380 |
| Regan | 3588 | -1389 |
| RTD | 3593 | -1394 |

DARRAH OIL

Scale 1:240 Imperial

Well Name: #5 Ray B
Surface Location: 990' FNL 990' FWL SE/NW/NW
Bottom Location:
API: 15-147-20734
License Number: 5088
Spud Date: 3/15/2014 Time: 2:50 PM
Region: Phillips County Sec 32 T5S R20W
Drilling Completed: 3/19/2014 Time: 4:00 PM
Surface Coordinates:
Bottom Hole Coordinates:
Ground Elevation: 2194.00ft
K.B. Elevation: 2199.00ft
Logged Interval: 3100.00ft To: 3588.00ft
Total Depth: 3588.00ft
Formation: Reagan sand
Drilling Fluid Type: Chemical mud

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: -99.6052286 Latitude: 39.5791880
N/S Co-ord:
E/W Co-ord:

OPERATOR

Company: Darrah Oil Company
Address: 225 N. Market Suite #300
Wichita, KS 67202
Contact Geologist: Seth L. Evenson
Contact Phone Nbr: (316) 219-3390
Well Name: #5 Ray B
Location: 990' FNL 990' FWL SE/NW/NW API: 15-147-20734
Pool: Ray Field: Ray
State: Kansas Country: United States

CONTRACTOR

Contractor: Mallard J.V.
Rig #:
Rig Type: Standard double
Spud Date: 3/15/2014 Time: 2:50 PM
TD Date: 3/19/2014 Time: 4:00 PM
Rig Release: 3/20/2014 Time: 3:15 AM

LOGGED BY

Company: Darrah Oil Co.
Address: 225 N. Market Suite #300
Wichita, KS 67202
Phone Nbr: (316) 219-3390
Logged By: Geologist Name: Seth L. Evenson

CASING SUMMARY

Surface Intermediate Main

Bit Size
Hole Size

| | Size | Set At | Type | # of Joints | Drilled Out At |
|-------------|----------|---------|------|-------------|-------------------|
| Surf Casing | 8 5/8 in | 218 ft | 20# | 5 | 3/16/2014 4:45 AM |
| Int Casing | | | | | |
| Prod Casing | 5.5 in | 3585 ft | 14# | 86 | |

CASING SEQUENCE

| Type | Hole Size | Casing Size | At |
|------|-----------|-------------|---------|
| | 0.00 in | 0.00 | 0.00 ft |

NOTES

No open-hole logs or DST's ran

ROCK TYPES

| | | | |
|---|---|---|--|
|  Anhyprim |  Lmst fw<7 |  Ss |  Shcol |
|  Coal |  Lmst fw>7 |  Shgy |  Dol Lime |
|  Dolprim |  Mrlstcalc |  Shblk |  Ool grnst |

ACCESSORIES



MINERAL

- P Pyrite
- Sandy
- △ Chert White

FOSSIL

- Crinoids
- ⊗ Gastropods
- Oolites

STRINGER

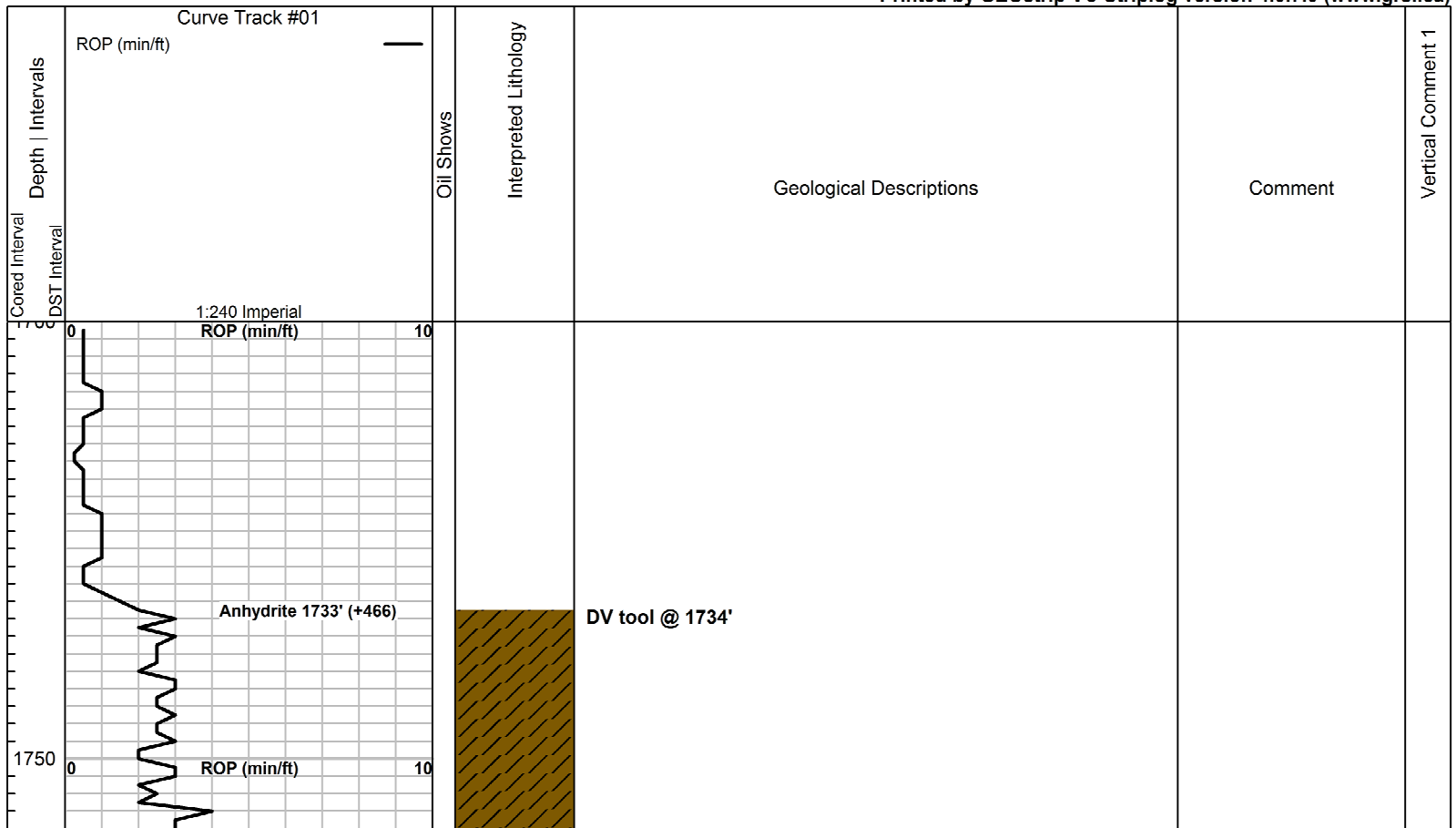
-  Limestone
-  Shale

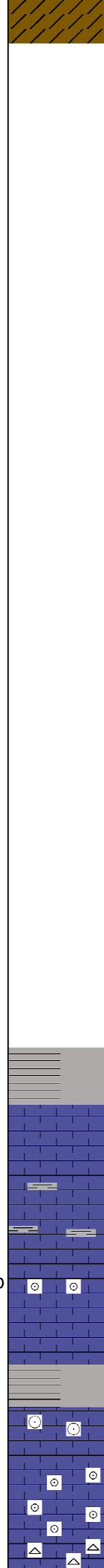
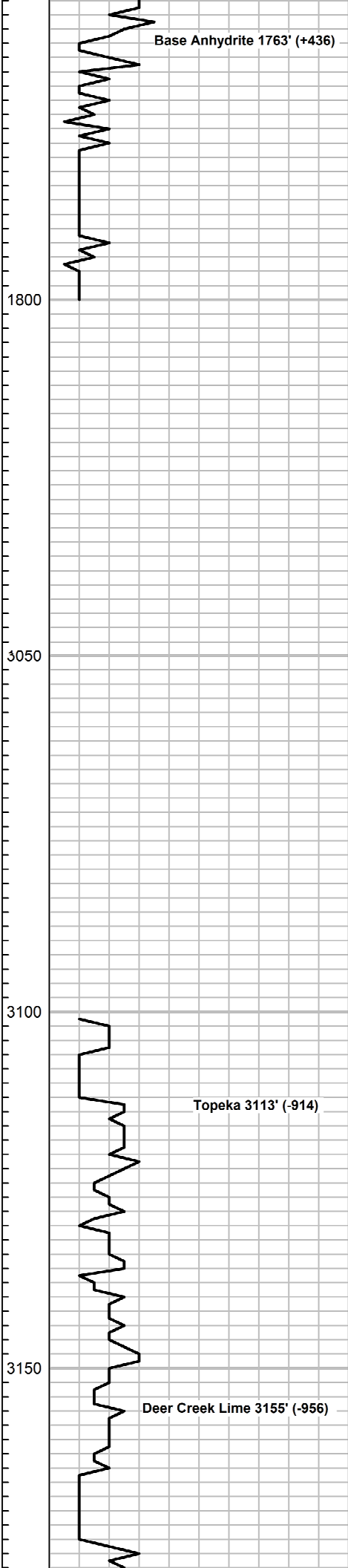
OTHER SYMBOLS

OIL SHOWS

- Even Stn
- Spotted Stn 50 - 75 %
- Spotted Stn 25 - 50 %
- Spotted Stn 1 - 25 %
- Questionable Stn
- D Dead Oil Stn
- Fluorescence

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)





3100'-10': Lms, gry, micro xtln, hrd res, no vis pr, sli shaly. Much shale, gry-vry drk gry. Trc SS, brwn, shaly, pr-no vis pr. Some sndy lms.

3110'-20': Lms, gry-crm-tan, micro-vfn xtln, med-hrd res, vry sli foss & occ ool. pr-no vis por. Much shale, gry-drk gry & red brwn.

3120'-30': Lms, gry-crm, micro-vfn xtln, mst hrd res, some silty, all pr-no vis por. Some tan/yell & grn shale sli sndy.

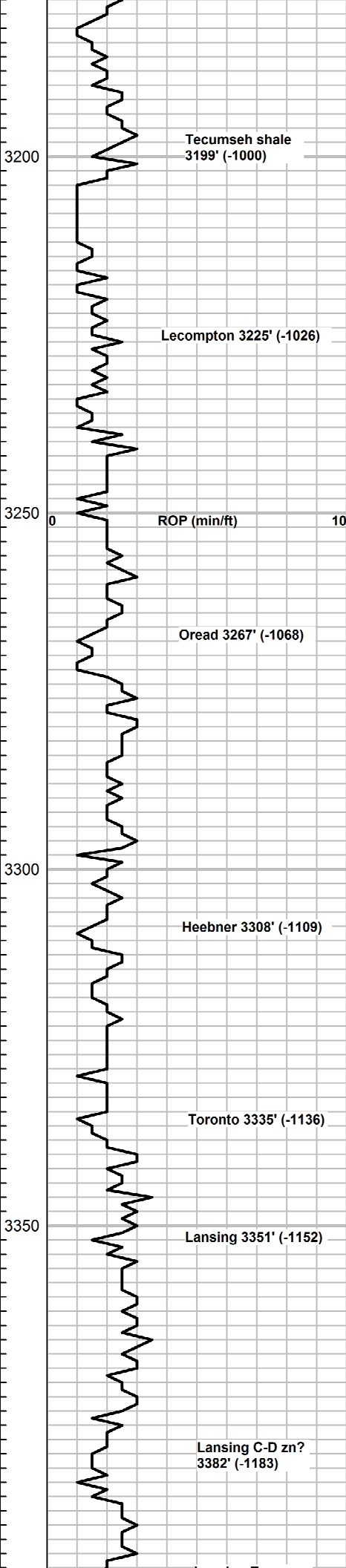
3130'-40': Lms, gry-drk gry-brwn, vfn xtln, some sli shaly, med-hrd res, no vis pr. Few vis allochems.

3140'-50': Lms, crm-lt gry, vfn xtln, sft-med res, pr vis por. Sli sndy-occ ool. Scat dead blk stn on a few pcs.

3150'-60': Lms, gry sli shaly-tan cln, micro-vfn xtln, med res, pr-no vis por. Trc crinoids, poss trc fusulinids.

3160'-70': Lms, tan-gry, fn xtln, sli ratty looking, foss, many pcs w/abndt blk foss grains, some abntdly ool, pr-no vis pr. Some drk gry lmy shale.

3170'-80': Lms, off wht-tan, chlky, sft-med res, pr vis por. A few pcs chrt. off wht-lt arv. shrp & frsh. Trc brtl. blk carb shale.



3180'-90': Lms, crm-tan, fn xtlm, brtl-med res, rough/grty text, foss, pr-no vis pr, some sli chlky. Abndt chrt, lt gry, shrp & frsh.

3190'-3200': Lms, lt gry-crm, micro-vfn xtlm, med-hrd res, pr-no vis por. some pcs, abndtly foss & ool. some chrt as abv.

3200'-10': Lms, lt gry-tan, micro-vfn xtlm, mstly smooth text, med-hrd res, no vis por. Much chrt shrp & frsh, as abv.

3210'-20': Lms, crm-gry, micro-vfn xtlm, hrd res, no vis por. Some chrt as abv. Trc brtl, blk carb shale.

3220'-30': Lms, crm-tan-gry, micro-fn xtlm, hrd res, few allochems, pr-no vis por. some shale, gry, red, grn & trc blk carb.

3230'-40': Mix lms & shale. Lms tan-gry, much gry shaley lms-lmy shale. Shale, gry, maroon, blk, etc. Scat crinoid foss. pr-no vis por

3240'-50': Lms, gry, sli shaly-shaly, micro-vfn xtlm, med-hrd res, no vis por.

3250'-60': Shale drk gry-blk & red/maroon. Mstly lms, gry as abv, and tan vfn xtlm. All no vis por. Some chrt, tan, shrp & frsh.

3260'-70': Lms, lt gry-crm, fn xtlm, med res, some w/gast foss. Pr-no vis por. Some shale, gry & red.

3270'-80': Lms, crm-tan, vfn-fn xtlm, hrd res, fr-gd scat drk brwn-blk lv stn in pnprt & small scat vugs, gd shw rainbow oil on brk, SSFO, a few drops brwn FO on brk, gd fst strming cut & gd blm, sli odr. 90% pcs NS. Fr vugular por & pr matrix por. Some pcs abndtly foss w/NS.

3280'-90': Lms, a few pcs w/fr shw rainbow oil on brk as abv. Some w/gd scat lv stn in lrg vugs. Mst pcs, lms, crm, micro xtlm, smooth text, non-allochemical (vry occ gast fossils), med-hrd res, no vis por & NS. Trc chrt, lt gry, shrp & frsh.

3290'-3300': Lms, lt gry-tan, vfn-fn xtlm, hrd res, pr-no vis por. A few scat pcs, abndtly foss, as abv.

3300'-10': Lms, lt gry, micro-vfn xtlm, med-hrd res, vry few allochems, no vis por.

3310'-20': Mstly lms, tan-lt gry, pr-no vis por. A few pcs w/gd lv stn & rainbow oil in small vugs, may be from uphole. Some shale, blk carbonaceous.

3320'-30': Blk carb shale, blk, firm. Mstly, lms, lt gry, vfn xtlm, hrd res, no vis por.

3330'-40': Lms, lt gry-tan, vfn-fn xtlm, med-hrd res, pr-no vis por. Blk carb shale as abv. A couple pcs, lms, w/fr-gd lv stn in intr ool vugs, sli rainbow oil, fr-gd strming cut & vry sli odr in sample.

3340'-50': Lms, tan-lt gry, vfn-fn xtlm, brtl-med res, abndt small intr-xtlm vugs, fr-gd even lv stn in intr-xtlm vugs, sli rainbow oil on brk, gd even dull yell fluor, gd fst strming cut, vry gd cut on brk, gd even sat many pcs, fnt odr. New zone, sli ool, w/fr-gd intr-xtlm por.

3350'-60': Lms, tan, micro-vfn xtlm, foss, med-hrd res, fr-gd lv stn in abndt intr-xtlm vugs, sli-fr rainbow oil on brk, trc gas bbls on brk. Matrix is micro xtlm, hrd & tite, much less matrix por than abv.

3360'-70': Lms, crm-lt gry, micro xtlm, hrd res, mst no vis por, sli foss. A few pcs highly ool, w/fr lv stn in scat intr oolitic vugs, NSFO, hrd, matrix vry tite fr-gd vugular por & pr matrix por. Mst pcs, no shw, non-allochemical & no vis por.

3370'-80': Lms, crm, micro xtlm, cln, med-hrd res, non-allochemical, no vis por.

3380'-90' Lms, mst pcs crm-tan, no vis por as abv. Some pcs gry shaly lms, hrd, tite. Some gry & gry/grn shale.

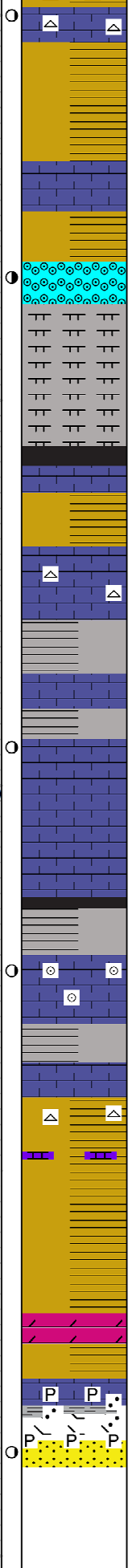
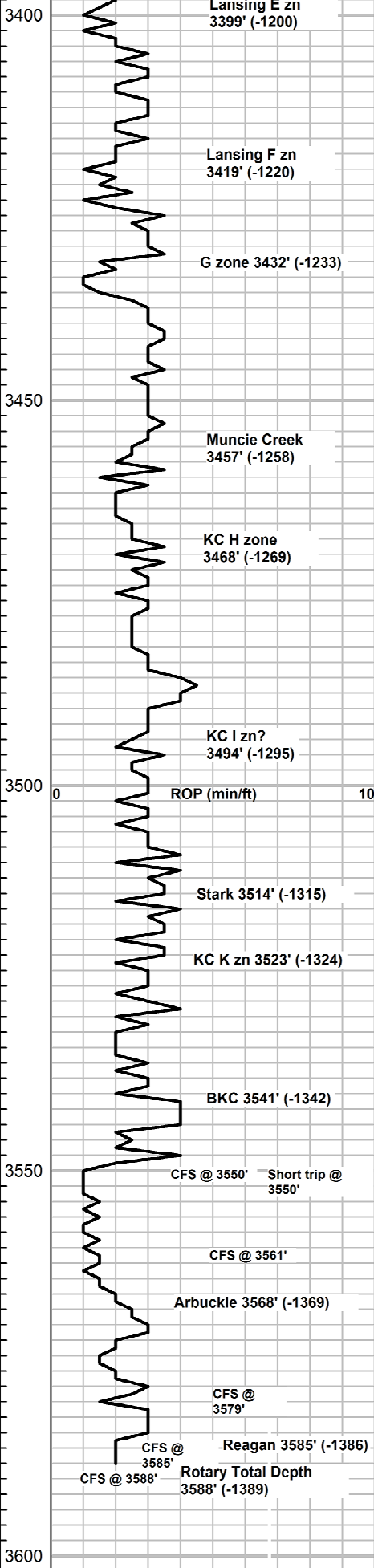
3390'-3400': Lms, foss, many pcs w/scat lt lv brwn stn in sprs intr xtlm & intr fossil vugs. Sli rainbow oil on brk. med-hrd res pr overall por. Weaker show than abv. Much lt gry-clr, semi-tranclnt chrt, shrp & frsh. Also some gry &

3270'-90': Show of live oil!
Porosity varies btw hrd pcs w/lrg vugs & pr-no matrix por. To pcs w/even stn & abndt pnprt & intr xtlm vugs, med res. the later may have fr matrix por, & emit significant rainbow oil upon brk.

3350'-60': Many pcs lms, gry-prpl shaly, tite, NS. Shale, red & grn. Also some chrt, tan-tan/orng, shrp & frsh. Conglomeratic zone.

3380'-90': Several small pcs lms, crm-tan vfn-fn xtlm, brtl w/fr-gd intr xtlm por & FSFO, brwn FO on brk. Fr brwn stn in abndt intr-xtlm vugs. Rock may differ from abv.

3390'-3400': 1 pc hvly sat lms, vgd even blk stn in abndt intr-xtlm vugs. SSEO, sli odr on brk, gd



maroon shale & lmy gry shale.

3400'-10': Lms & chrt, lms, lt gry-tan, micro-vfn xtn, mstly med-hrd res, some w/vry lt sat & stn, sli oily luster. Much chrt, lt gry, tan, & red org, all shrp & frsh. Also much shale, gry, drk gry, maroon, grn & red.

3410'-20': Mstly, tite lms, chrt & shale as abv. Many pcs lms w/fr-gd scat, uneven lt sat & stn. 2 pcs w/sli shw gsy FO. Gd scat uneven, yell fluor in about 30% of pcs. Mst pcs pr overall por.

3420'-30': Lms & shale mix. Lms, crm-lt gry, some sli shaly, micro-vfn xtn, hrd res, non-allochemical, no vis por. Shale, gry, maroon, lt prpl lmy shale, brwn etc. Some chrt as abv.

3430'-40': Vari-colored shale, gry, grn, maroon, etc. Much lms, crm-tan, some crsly ool, w/scat lrg intr-ool vugs. Fr lt scat stn, fr grsy lstr & rainbow oil, trc gas bbls upon brk, scat uneven brt yell fluor in about 30% pcs. Fr-gd strming cut & gd blm. Fr odr. Fr-gd intr xtn & vugular por.

3440'-50': Lms, tan, micro-vfn xtn, non-allochemical, med-hrd res no vis por. Much chrt, off-wht-gry, shrp & frsh. Many pcs ool lms, med-hrd res, w/fr-gd sat & stn in abndt pnpt & intr-ool vugs, grsy lstr & fr-gd rainbow oil on brk. Fr-gd odr. Many pcs hrd res, some chrt. Fr-gd vugular por.

3450'-60': Shaly lms to lmy shale, lt gry/grn, vfn-fn xtn, med res, no vis por. Some sli vuggy lmy chrt w/shw as abv. vry hrd res.

3460'-70': Lms, tan, micro-vfn xtn, hrd res, pr-no vis por & shaley lt grn lms as abv. Several pcs, crsly ool, sli chrt lms w/fr-gd stn & sat in scat intr-ool vugs, Trc FO. Fr ranbow oil, fr odr. Fr-gd vugular por. Mst pcs NS.

3470'-80': Mix shale & lms. Lms, tan-gry, vfn xtn, hrd res, mst no vis por. A few pcs ool lms w/scat stn in vugs from abv. Shale, gry, grn, maroon, blk. Some shrp & frsh chrt.

3480'-90': Lms, crm-lt gry-lt gry/grn, micro-vfn xtn, med-hrd res, no vis por.

3490'-3500': Lms, crm-tan, lt gry & lt gry/gry sli shaly as abv. Micro-vfn xtn, med-hrd res, non-allochemical, all no vis por.

3500'-10': Lms, tan, micro-vfn xtn, med res, most w/fr-gd uneven lt sat & brwn stn in pnpt surface vugs. Sli grsy lstr, vry sli rainbow oil, frt odr. Gd uneven dull yellow fluor in 50% pcs. sli shw gas bbls on brk. VSSFO.

3510'-20': Lms, crm-lt gry/grn shaley, micro-vfn xtn, pr intr xtn por. Many pcs w/scat uneven brwn stn in pnpt intr xtn surface vugs, pr-fr sat. Some grsy/rainbow lstr. trc gas bbls on brk. Some flky stn, NSFO. Weaker shw than abv.

3520'-30': Lms, crm-lt gry, micro-vfn xtn, hrd res, some foss, fr scat uneven lv brwn surf stn, pr intr xtn por. NSFO. sli odr. Stn in about 10% pcs. Much shale, gry, lt grn & maroon.

3530'-40': Lms, crm-lt gry, micro-vfn xtn, med-hrd res. About 10% pcs, lms crm-lt gry, ool, brt-hrd res/w/fr scat stn in pnpt intr xtn por, SSFO on brk, sli odr. Non-oocastic, better por, than abv.

3540'-50': Lms, crm-lt gry, micro-vfn xtn, hrd res, mst pr-no vis por. Several pcs ool lms w/scat lv stn, trc FO & gas upon brk. Med-hrd res. Losing show. Some shale, gry, maroon & prpl.

3550'-60': Shale, gry, red, grn, maroon, blk, prpl, some mottled. Much lms, crm-tan, lt gry as abv, also some prpl-yell/grn sli shaly, all micro-vfn xtn, few-no allochems, hrd res, no vis por. A few pcs chrt, tan-lt gry, trc yell/org. Some sli spicular-foss, shrp & frsh.

3560'-70': Shale, gry, grn, maroon, trc prpl. Some lms, crm-tan, gry, micro-vfn xtn, hrd res, occ sli foss, no vis por. 1 pc dolomite, brwn fn rhomb xtn, w/some maroon shale attached to edge, slw building effervescence, med res, NS.

3570'-79': Vari-colored shale, & crm-tan lms as abv. A couple pcs dolomite, brwn, vfn xtn, hrd res, 1 w/fn sub ang qtz grains included. NS.

3579'-85': Shale, mstly gry, blu/grn, grn & gry/grn, platy. Rest vari-colored shale & tight, crm-tan micro xtn lms, no vis por.

CFS @ 3588' 15 min: Vari-colored shale, increase in lt blu/gry & maroon shales. 1 pc vry highly pyritized rock. 2ndry mineral, couldve been sandstone??

CFS @ 3588' 30 min: Increase in loose qtz sand grains, mstly small-crs sub md- sub ang, clr qtz. Trc highly pyritized SS clstrs. brt-med res, pr-no vis por, due to pyrite in matrix. Med qtz grains, mod strtd. 1 clst qtz SS, pr-mod strtd, sub md grains, pr vis intr gran por, poss clay matrix, vry pr, spty stn in intr gran por. Trc cut, wk-fr dying cut on brk. No odr.

3400'-10': A few more small pcs, vry brt sucrosic lms w/vry hvy sat & stn. Vry brit & porous.

3440'-50': Fr scat yell fluor in 10-15% pcs.

3450'-60': Much chrt, also fr odr in sample.

3500'-10': Fr-gd intr xtn por in mst stained pcs.

3510'-20': Pr matrix por. Rock w/stn looks to be a poor reservoir.

CFS @ 3550' 15 min: Lms, crm-lt gry, micro-vfn xtn, hrd res, pr-no vis por, non-allochemical. some pcs w/scat lv stn surface stn, pr vis por. Some shale, gry, grn, red,

CFS @ 3550' 30 min: Lms & shale as abv. Increase in shales. Some chrt, lt gry-off wht, shrp & frsh. Trc lt prpl shaley lms. Some lt gry, sndy/silty, shaly lms. All pr vis por.

CFS @ 3561' 15 min: Shale, vari-colored as abv. Also lms, crm, lt gry, tan, lt yell, vry lt grn, mstly micro xtn, no vis por. some sli foss. A few pcs w/lv stn & sli grsy lstr, possibly from uphole. Pr intr xtn por. Trc pcs silty/shaley lms, tan-lt gry, vfn xtn, fr building effervescence in HCl. Pr vis por. NS in silty pcs.

CFS @ 3561' 30 min: Silty lmy clay, mshy, off-wht to lt gry, vfn xtn. Mush spread throughout tray. Some pcs hrd res silty/shaley lms, lt gry, pr-no vis por, no allochems. A few pcs tan-crm lms w/pr-fr scat lv stn. 1 pc highly foss, w/lv stn in intr-fossiliferous vug. Also shale as abv.

CFS @ 3561' 45 min: Shale vari-colored. Much silty/chlky, or shaly lms. No vis por & NS, as abv.

CFS @ 3579' 15min: Chlky lms, off-wht, micro xtn, sft-med res, abndt spkld pyrite grains included, some grn glauc shale included, trc snd grains included. No vis por. Trc fn xtn, shaly dolomite.

CFS @ 3579' 30 min: Lms, as abv. Also vari-colored shale.

3650

CFS @ 3588' 45 min: Many loose med rnd-sub rnd qtz sand grains. A few clst highly pyritized qtz SS, med, sub ang-ang grains, tight, no vis por. 1 minute clst, SS, trc lt stn, gd strming cut. No odr.

CFS @ 3588' 60 min: Mstly vari-colored shale & lms from uphole. 1 pc sft, lt gry/grn shale w/abndt med sub and, qtz sand grains included. Trc pyritized SS as abv. Decrease in loose qtz grains, some w/grn gluc stn on edges.

abv. All vari-colored shale, some blk carb shale. Some loose pyrite xtls, and trc of fn qtz sand grains loose in tray. 1 pc brwn vfn xtl dolomite.

CFS @ 3579' 45min: Lms, off-wht to crm, pyrite as abv. Med-hrd res, no vis por. Some pcs w/trc qtz snd and other grains included. Much lt gry mush in tray. Much vari-colored shale as abv.

CFS @ 3579' 60 min: Mix of vari-colored shale & lms, as abv.

CFS @ 3585' 15 min: Shale, gry, red-brwn, gry/grn, maroon, trc prpl. Platy.

CFS @ 3585' 30 min: Shale as abv. and lms, crm-tan tight. Increase in loose qtz grains. F-med, mstly rnd-sub rnd; a few angular grains. NS. Trc off-wht chrt, shrp & frsh.

CFS @ 3585' 45 min: Lms, lt gry, vfn xtl, brtl-hrd res, grty-silty text, effervesses readily, occ, trc snd grains included, pr-no vis por. 1 pc dolomitic lms brwn, no vis por. Mstly shale as abv.

CFS @ 3585' 60 min: Mix vari-colored shale & lms from abv. Trc loose qtz grains in tray & trc vry crs pyrite xtls. 1 pc brwn dolo vfn xtl.



Pioneer Energy Services

Gamma Ray / Neutron Log

15-147-20734-00-00

Company **Darrah Oil Company, Inc.**
 Well **Ray B No. 5**
 Field **Ray**
 County **Phillips** State **Kansas**

Location

990' FNL & 990' FWL

Other Services
GRCBL

Sec: 32 Twp: 5S Rge: 20W

Permanent Datum Ground Level Elevation 2194
 Log Measured From Kelly Bushing 5 Ft. Above Perm. Datum
 Drilling Measured From Kelly Bushing

Elevation
 K.B. 2199
 D.F.
 G.L. 2194

Date 4/6/2014

Run Number One

Type Log GRN

Depth Driller 3588

Depth Logger 3593

Bottom Logged Interval 3594

Top Logged Interval 2800

Type Fluid In Hole Water

Salinity, PPM CL

Density

Level 1610

Max. Rec. Temp. F 114

Operating Rig Time One Hour

Equipment -- Location 72 Hays

Recorded By K. Ladriagan

Witnessed By Philip Martin

Borehole Record

Run No Bit From To Size Wgt. From To

5.5 15.5# 0 T.D.

Casing Record

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Thank you for using Pioneer Energy Services, Inc. 785.625.3858

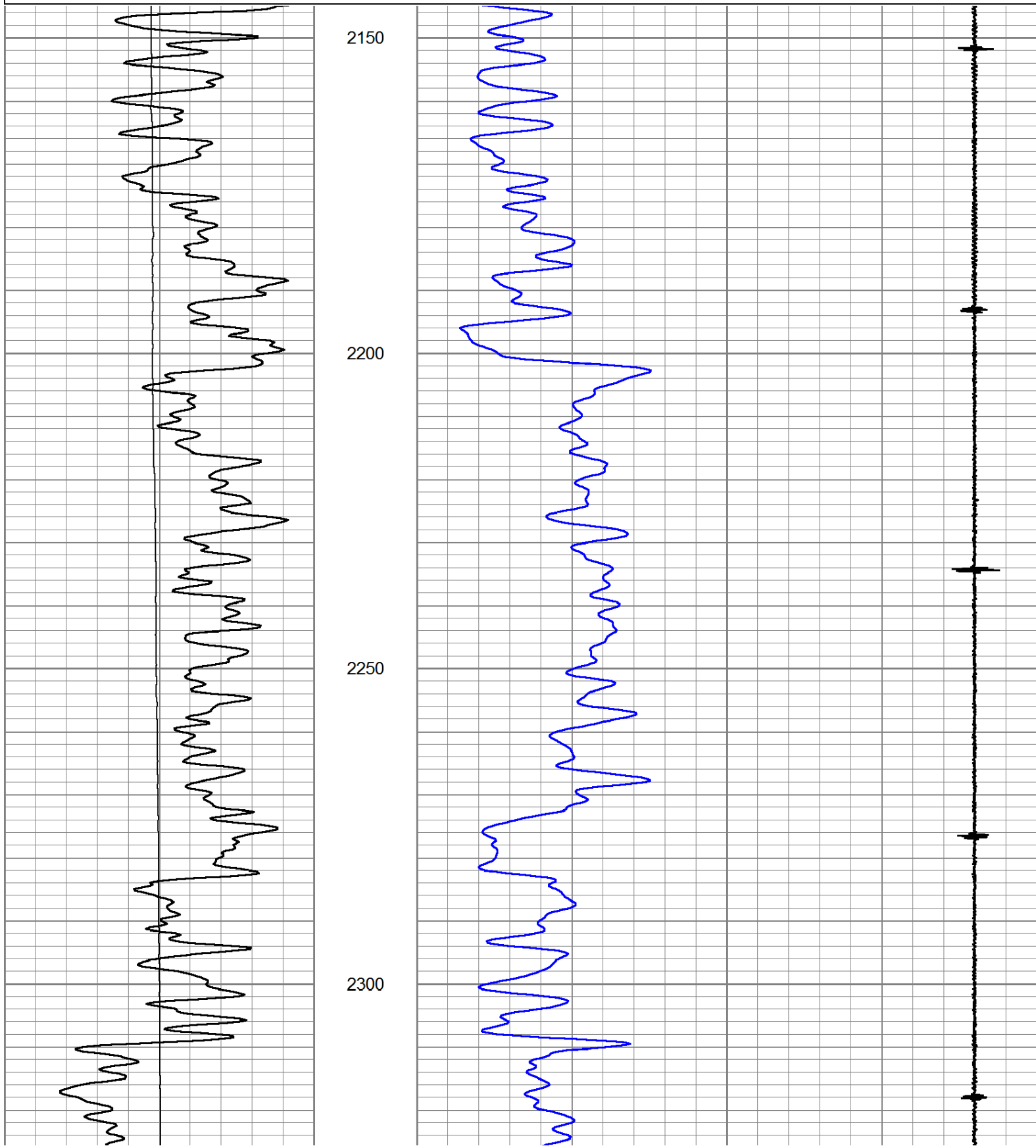
Logan, KS., South to DayDream Road (1 South of Radio Tower on Blacktop)
 2.25 West, South and West Into.

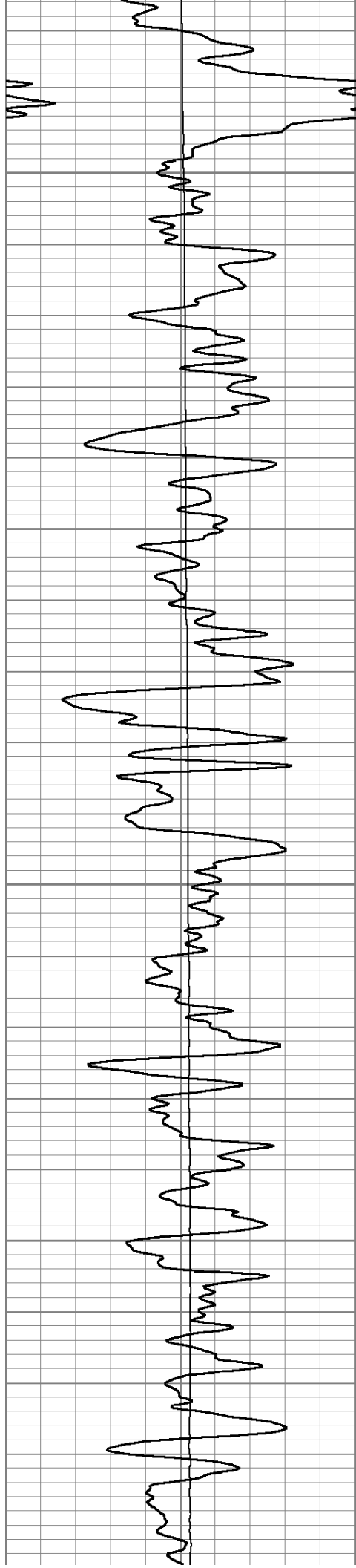


Main Pass

Database File: grcblneu.db
Dataset Pathname: grcblneu/pass13
Presentation Format: gr-n-ccl
Dataset Creation: Sun Apr 06 18:56:18 2014
Charted by: Depth in Feet scaled 1:240

| | | | | | |
|---|-----------|------|----|------------|-----|
| 0 | GR (GAPI) | 150 | 35 | NEU (NAPI) | 240 |
| 0 | LTEN (lb) | 1500 | 4 | CCL | -1 |



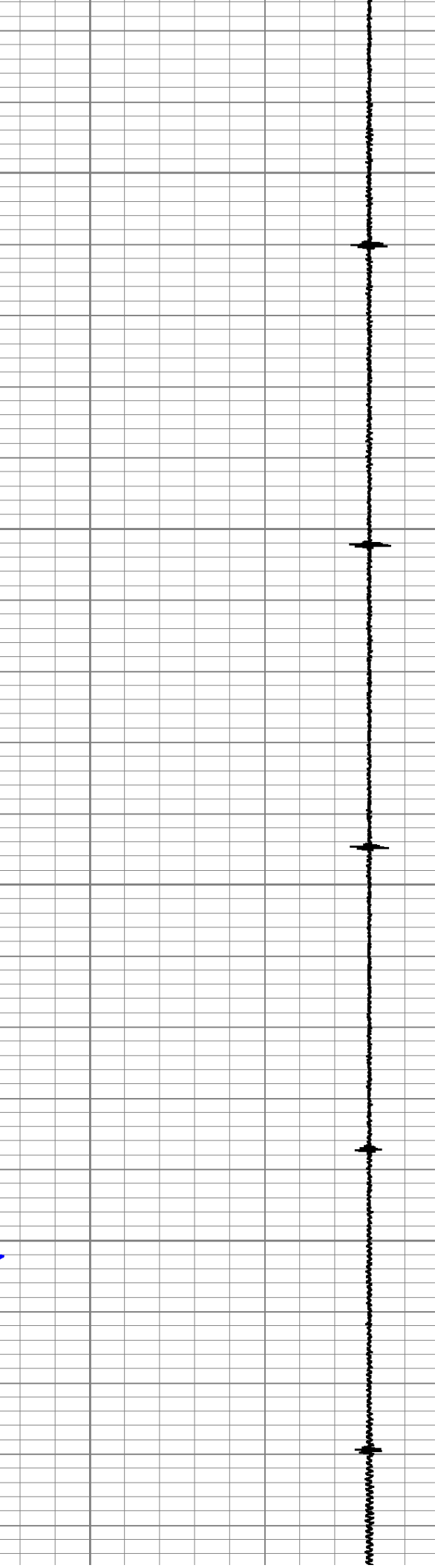
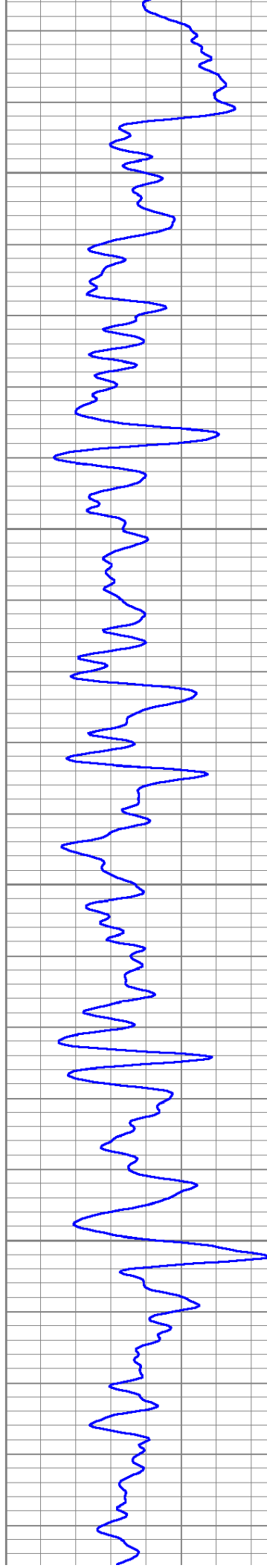


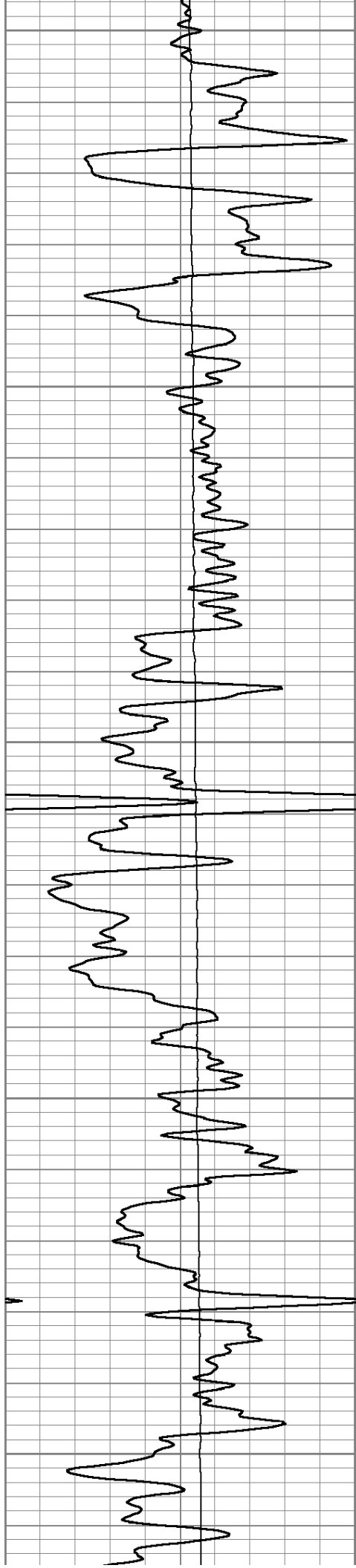
2350

2400

2450

2500





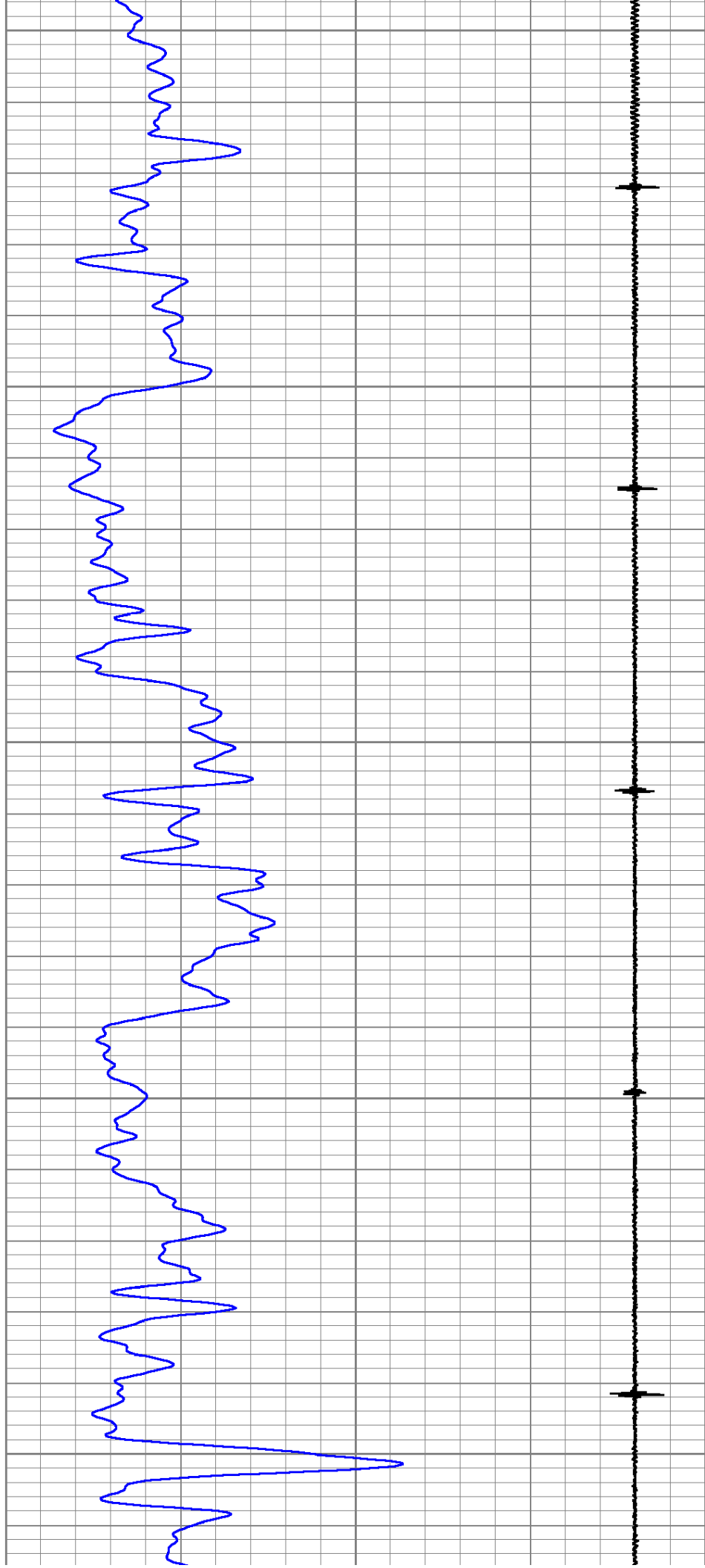
2550

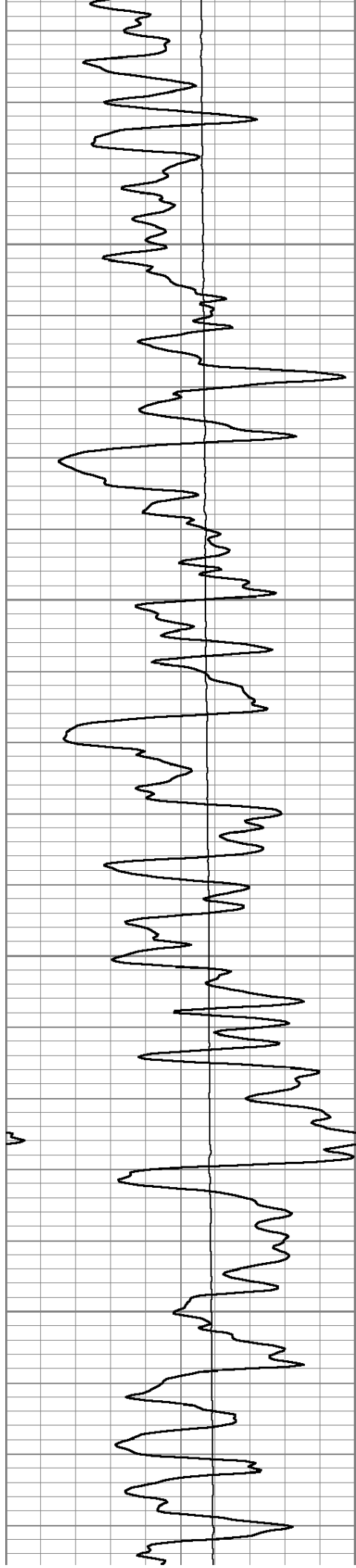
2600

2650

2700

2750



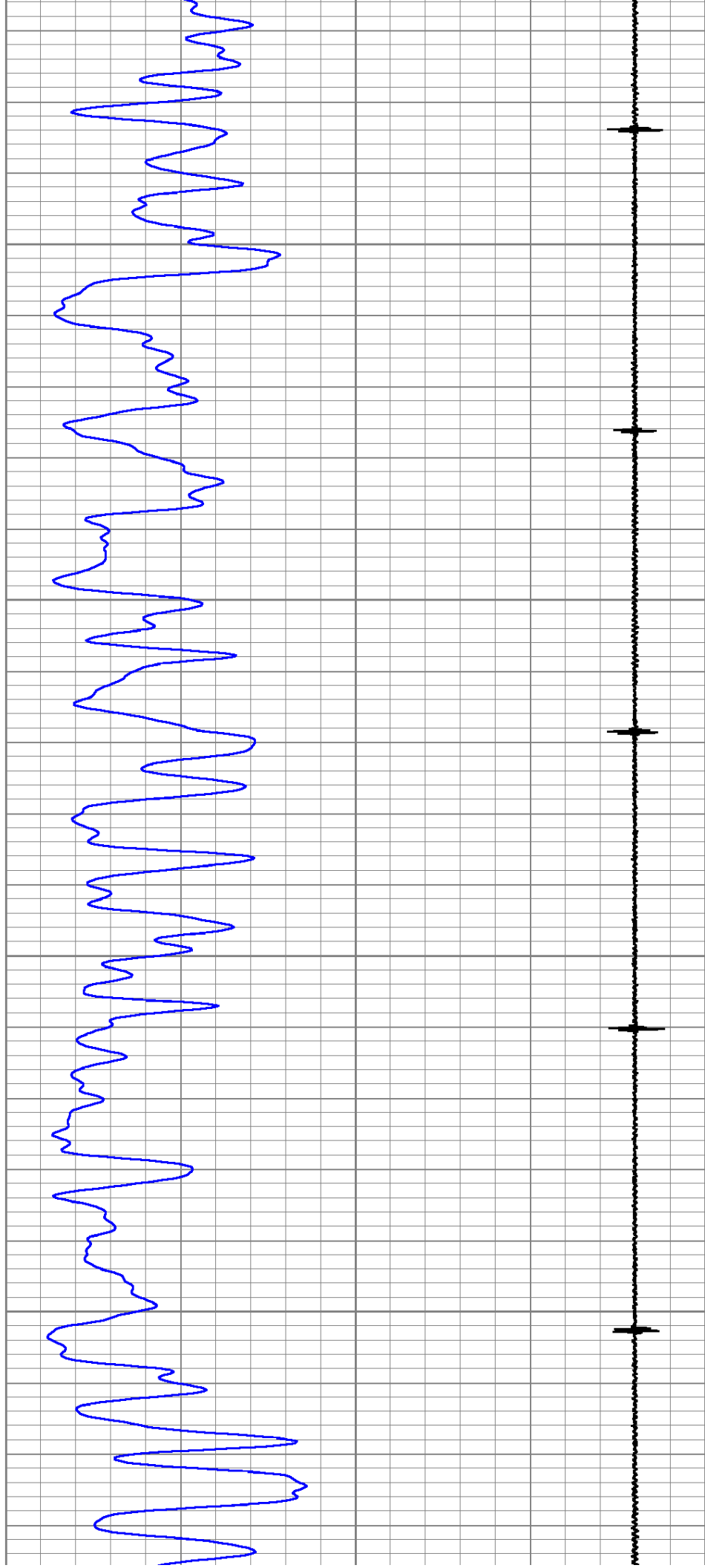


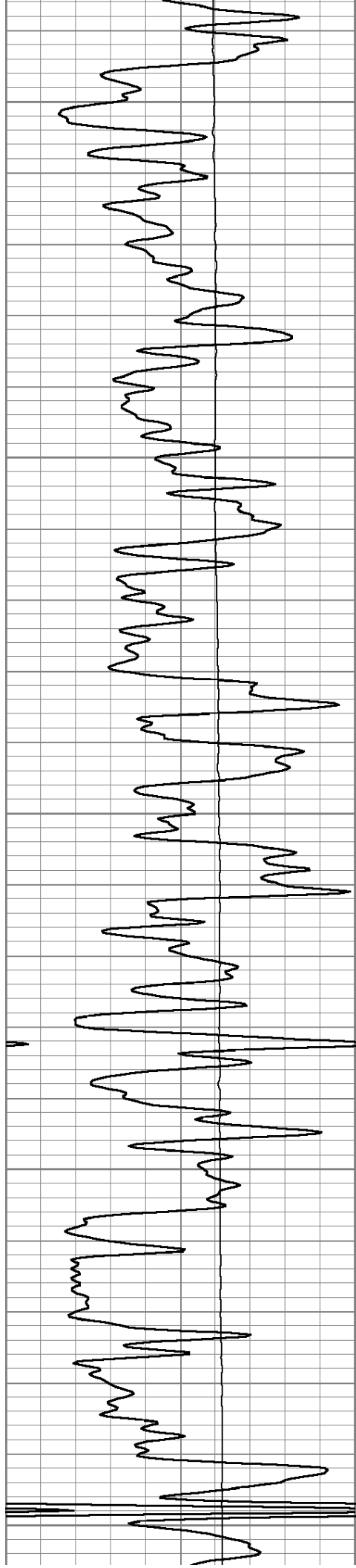
2800

2850

2900

2950





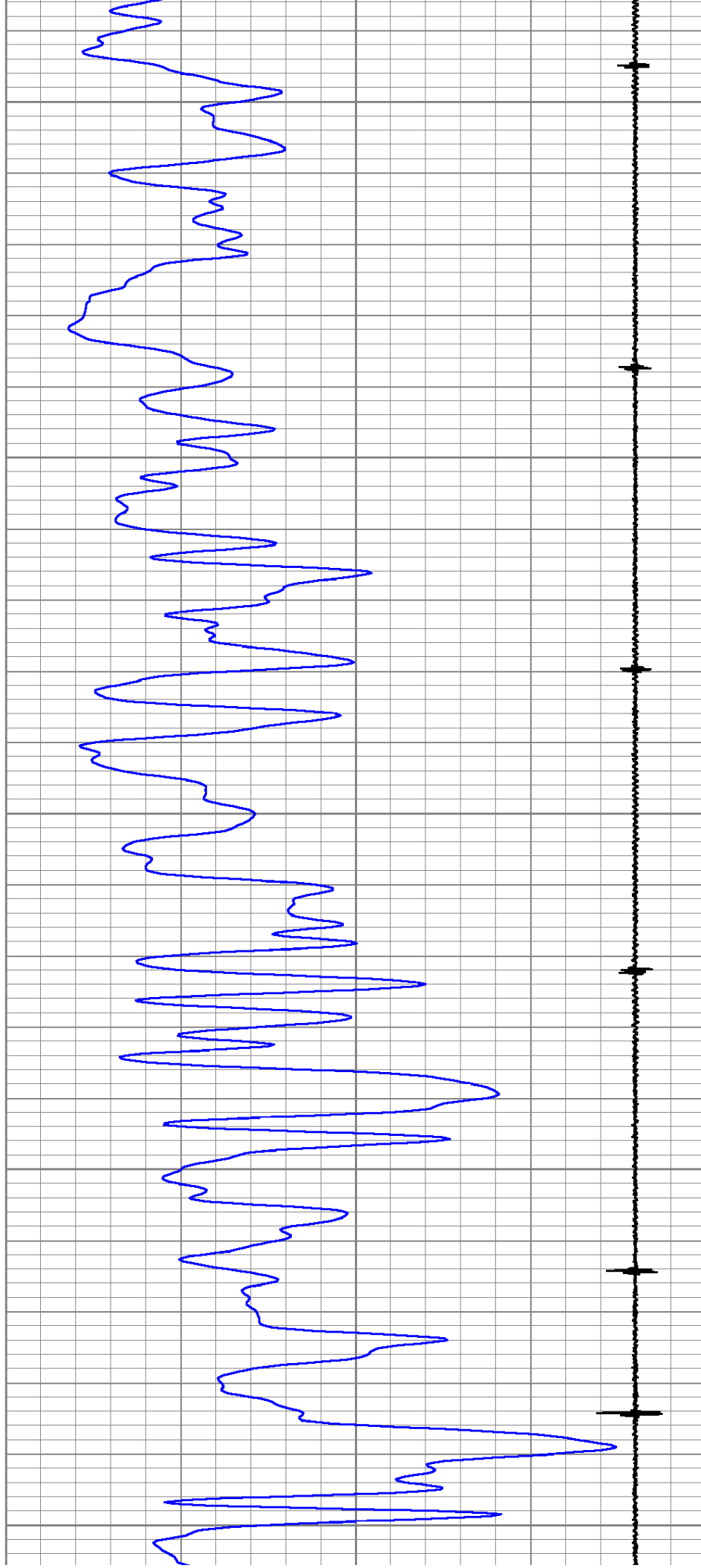
3000

3050

3100

3150

3200



+

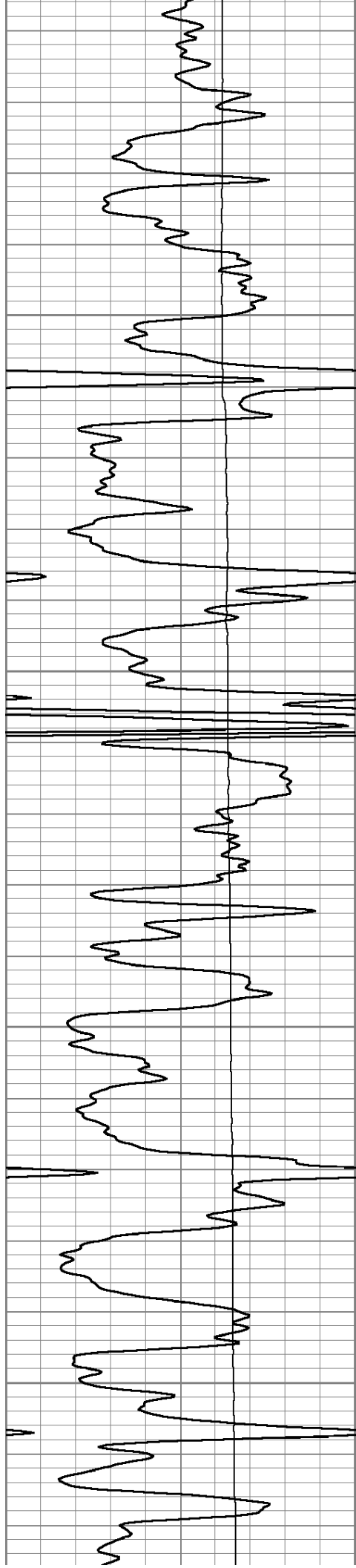
+

+

+

+

+

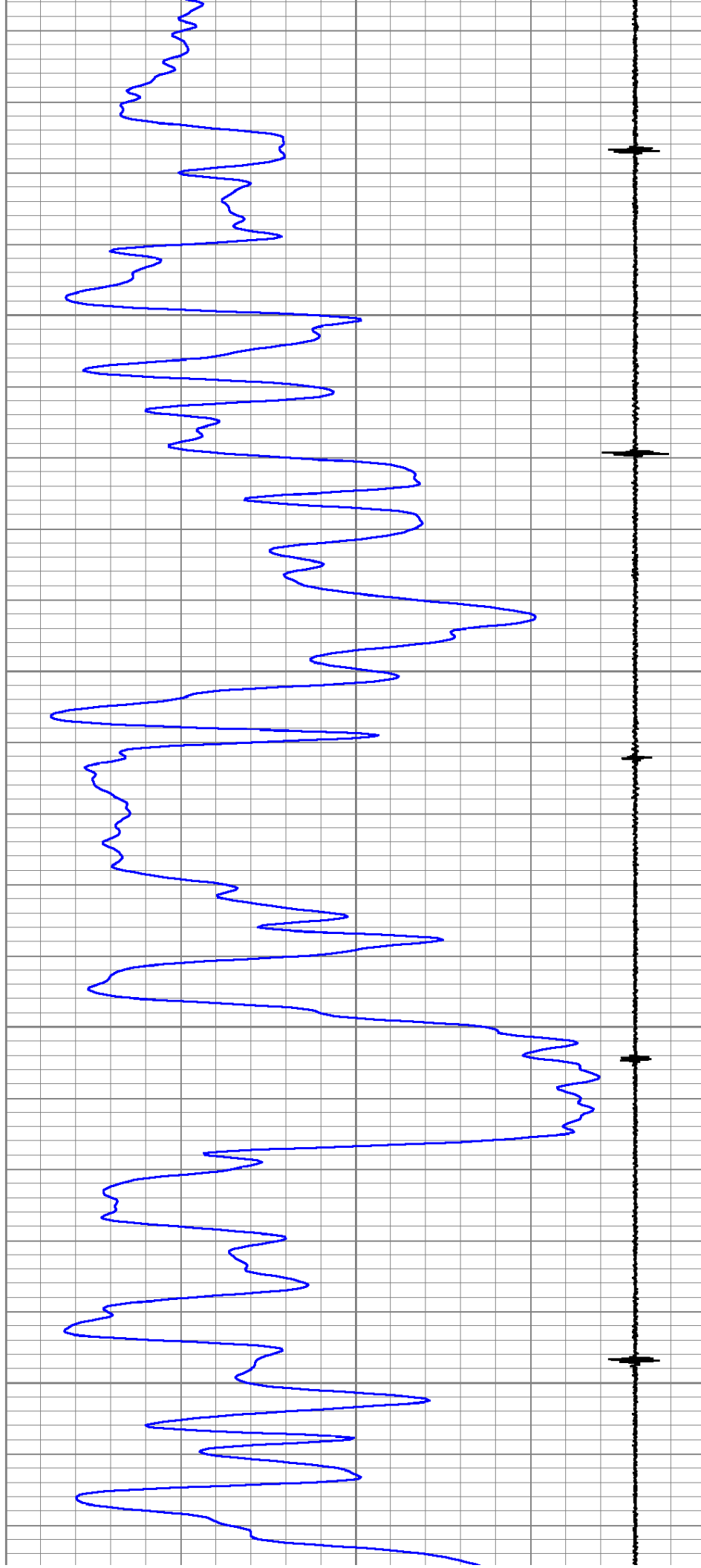


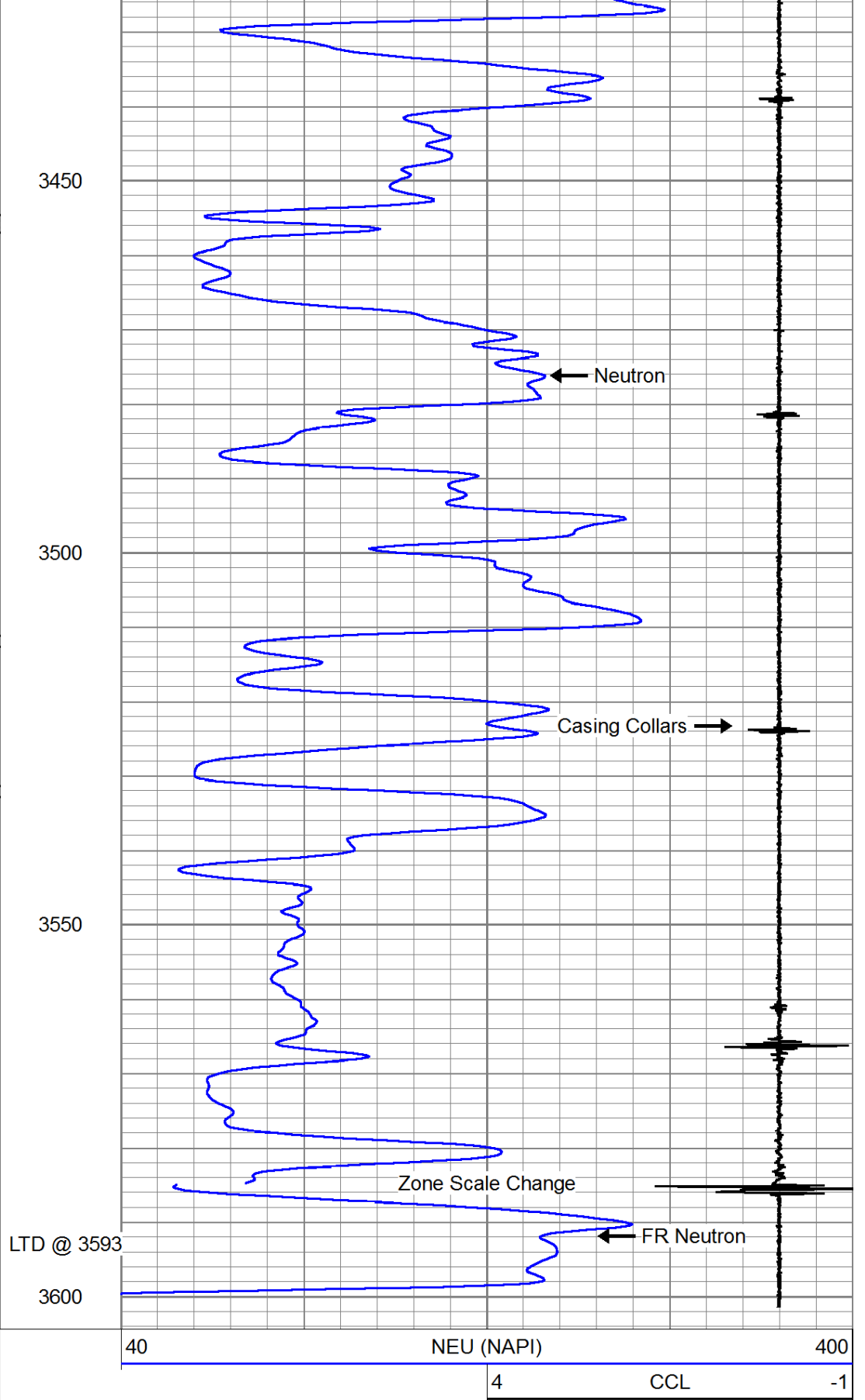
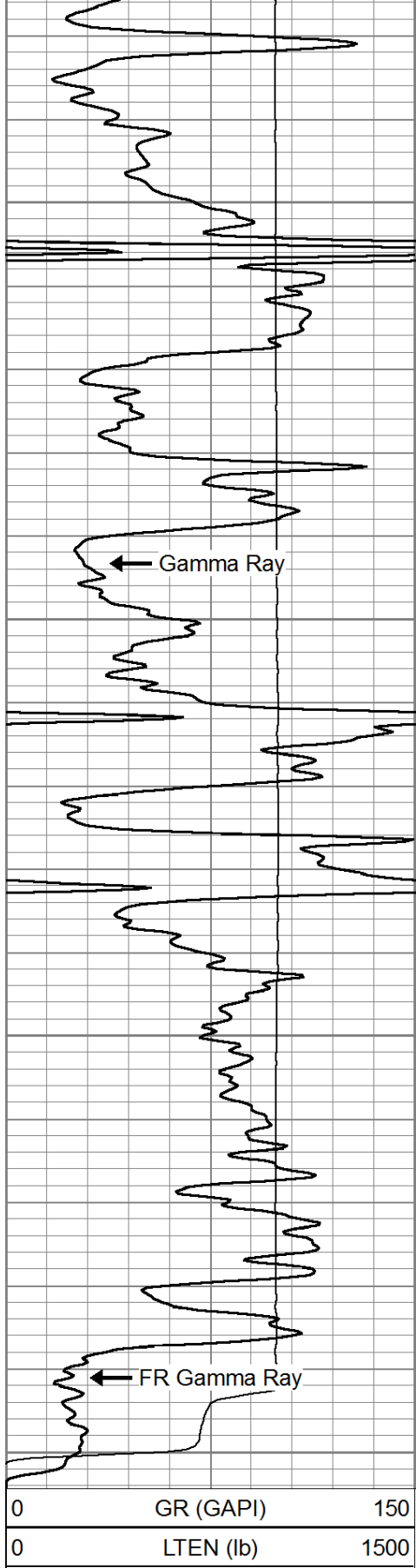
3250

3300

3350

3400







Pioneer Energy Services

Sonic Cement
Bond Log

15-147-20734-00-00

Company Darrah Oil Company, Inc.
Well Ray B No. 5
Field Ray
County Phillips
State Kansas

Location

990' FNL & 990' FWL

Other Services

GRN

Sec: 32 Twp: 5S Rge: 20W

Permanent Datum Ground Level Elevation 2194
Log Measured From Kelly Bushing 5 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Elevation
K.B. 2199
D.F.
G.L. 2194

| | | |
|---------------------------|----------------|----|
| Run Number | One | |
| Date Survey | 4/6/2014 | |
| Date Cementing | 3/19/2014 | |
| Type Cementing Operation | Primary | |
| Depth Driller | 3588 | |
| Depth Logger | 3593 | |
| Logged Interval | 3594 to 2150 | to |
| Casing Driller | 5.5 @ T.D. | @ |
| Float Collar -- D.V. Tool | 1727 | |
| Squeeze Depth | | |
| Amount & Type Cement | | |
| Amount & Type Admix | | |
| Type Fluid In Hole | Water | |
| Fluid Level | 1610 | |
| Salinity PPM CL | | |
| Weight lb/gal -- Vis. | | |
| Approx. Logged Cement Top | 2320 | |
| Calculated Cement Top | | |
| Max. Hole Temperature | 114 | |
| Tool No. | D-1 | |
| Spacing Recorded | 3-5 | |
| Equipment -- Location | 72 Hays | |
| Recorded By | K. Ladrigan | |
| Witnessed By | Philipp Martin | |

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Thank you for using Pioneer Energy Services, Inc. 785.625.3858

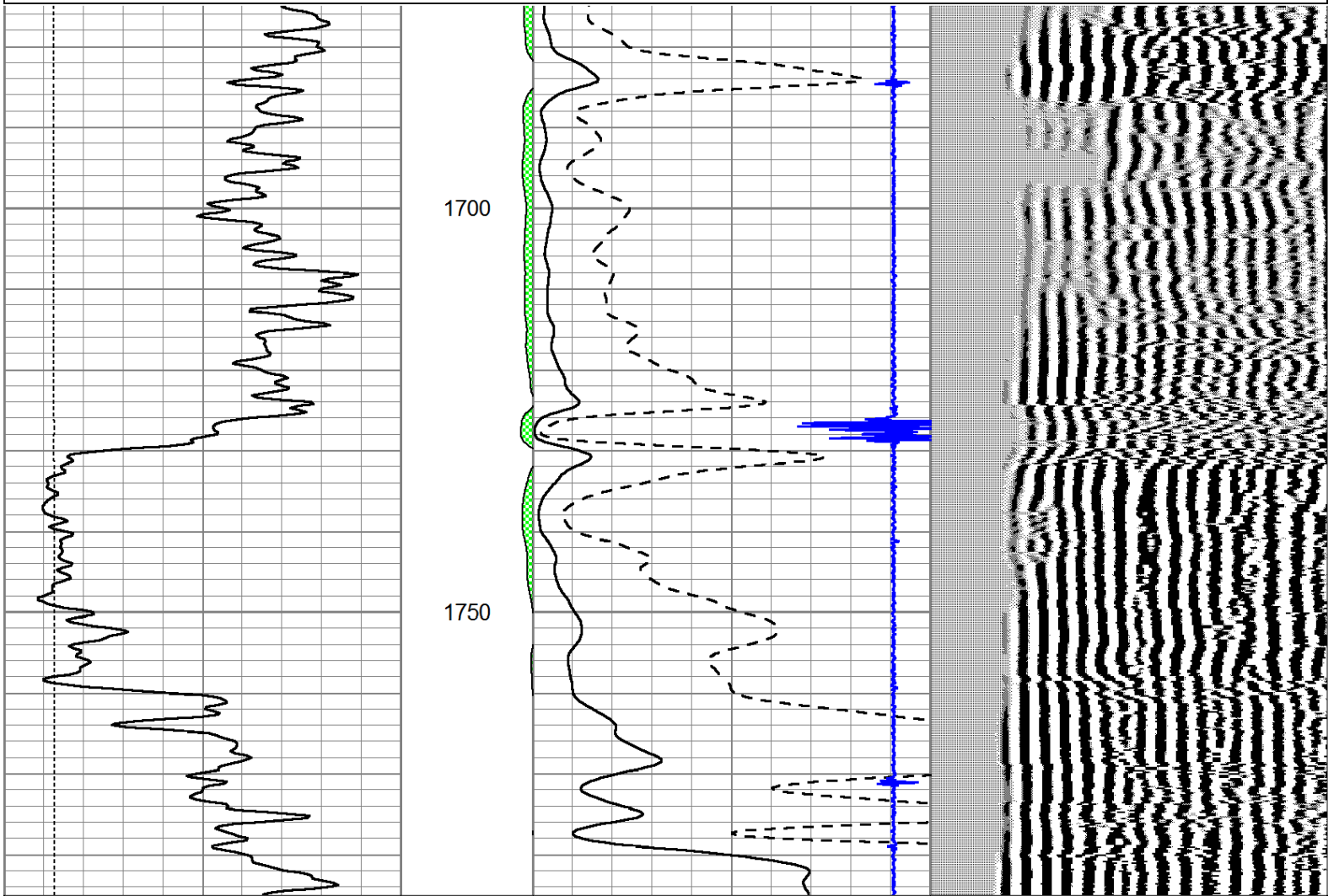
Logan, KS., South to DayDream Road (1 South of Radio Tower on Blacktop)
2.25 West, South and West Into.



D.V. Tool @ 1727

Database File: grcblneu.db
 Dataset Pathname: grcblneu/pass6
 Presentation Format: cldig
 Dataset Creation: Sun Apr 06 18:05:04 2014 by Log SCH 111116
 Charted by: Depth in Feet scaled 1:240

| | | | | | | | | | |
|-------|-----------|------|------|----|--------------------------|----------------|------|------------------|------|
| 0 | GR (GAPI) | 150 | AMP3 | 0 | Amplitude (mV) | 100 | 200 | Variable Density | 1200 |
| 0 | LTEN (lb) | 5000 | (mV) | 0 | Amplified Amplitude (mV) | 20 | | | |
| ----- | | | -100 | 10 | 5 | Collar Locator | -0.5 | | |



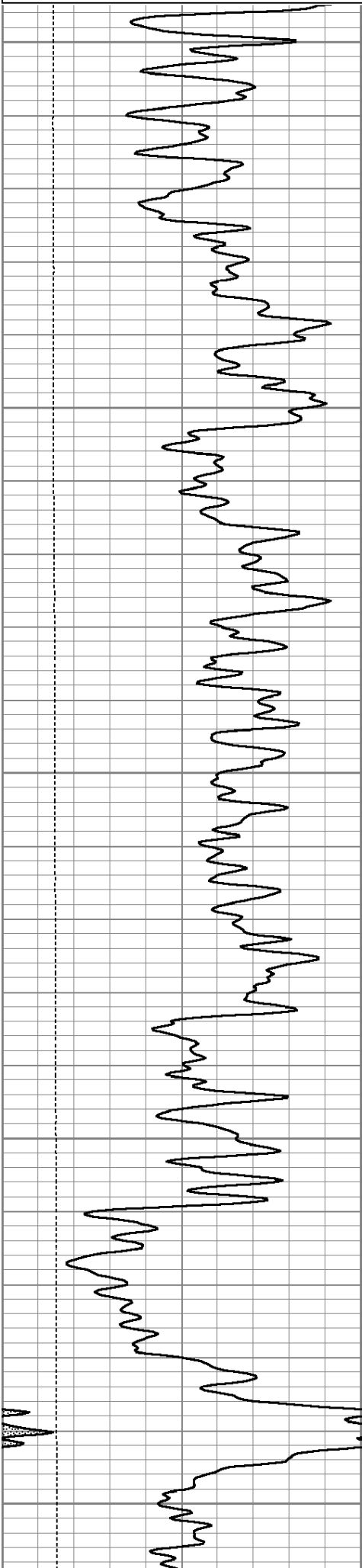
| | | | | | | | | | |
|-------|-----------|------|------|----|--------------------------|----------------|------|------------------|------|
| 0 | GR (GAPI) | 150 | AMP3 | 0 | Amplitude (mV) | 100 | 200 | Variable Density | 1200 |
| 0 | LTEN (lb) | 5000 | (mV) | 0 | Amplified Amplitude (mV) | 20 | | | |
| ----- | | | -100 | 10 | 5 | Collar Locator | -0.5 | | |



Main Pass

Database File: grcblneu.db
 Dataset Pathname: grcblneu/pass10
 Presentation Format: cldig
 Dataset Creation: Sun Apr 06 18:36:10 2014
 Charted by: Depth in Feet scaled 1:240

| | | | | | | | | | |
|-------|-----------|------|------|---|--------------------------|-----|-----|------------------|------|
| 0 | GR (GAPI) | 150 | AMP3 | 0 | Amplitude (mV) | 100 | 200 | Variable Density | 1200 |
| 0 | LTEN (lb) | 5000 | (mV) | 0 | Amplified Amplitude (mV) | 20 | | | |
| ----- | | | | | | | | | |



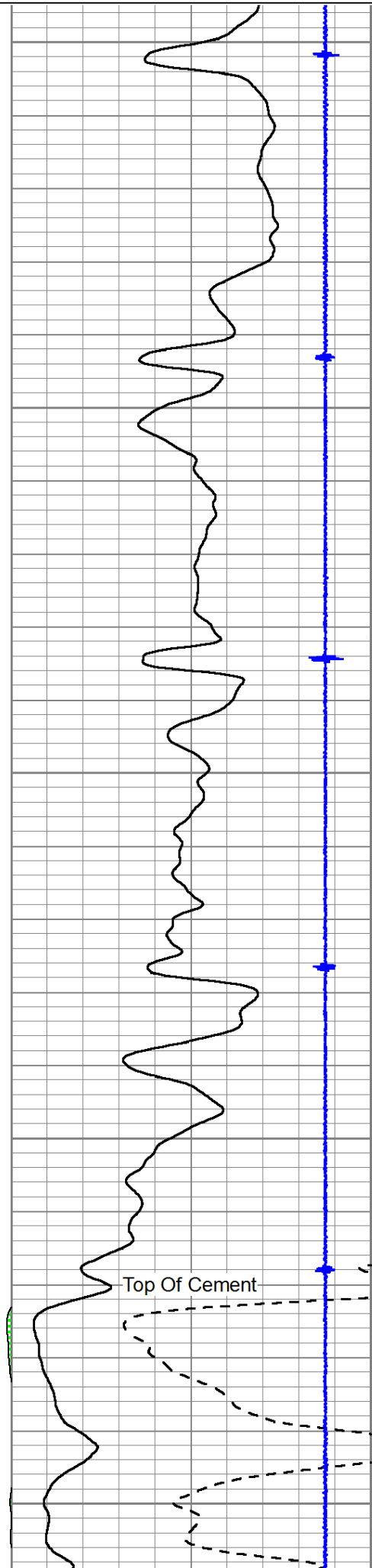
2150

2200

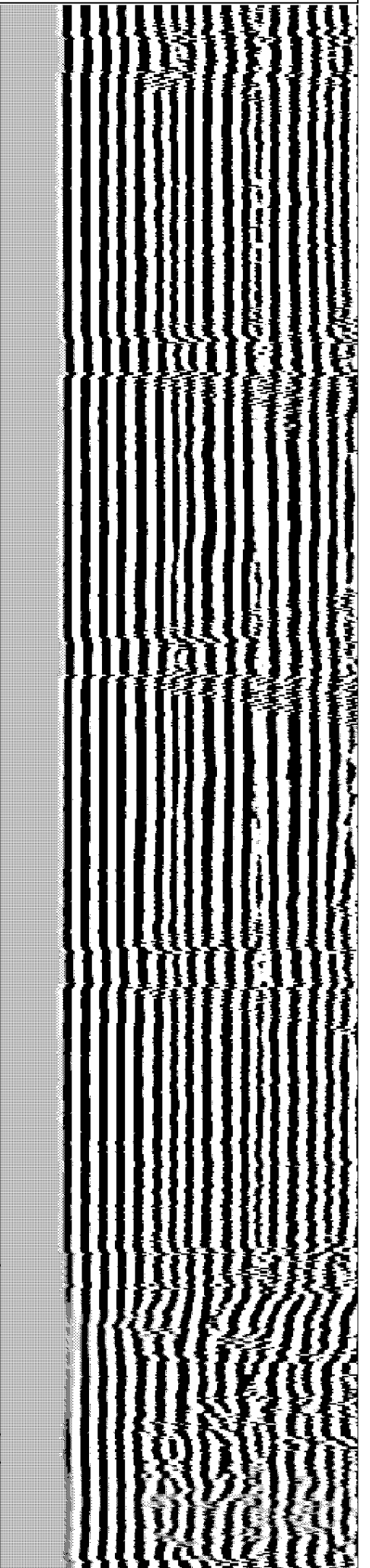
2250

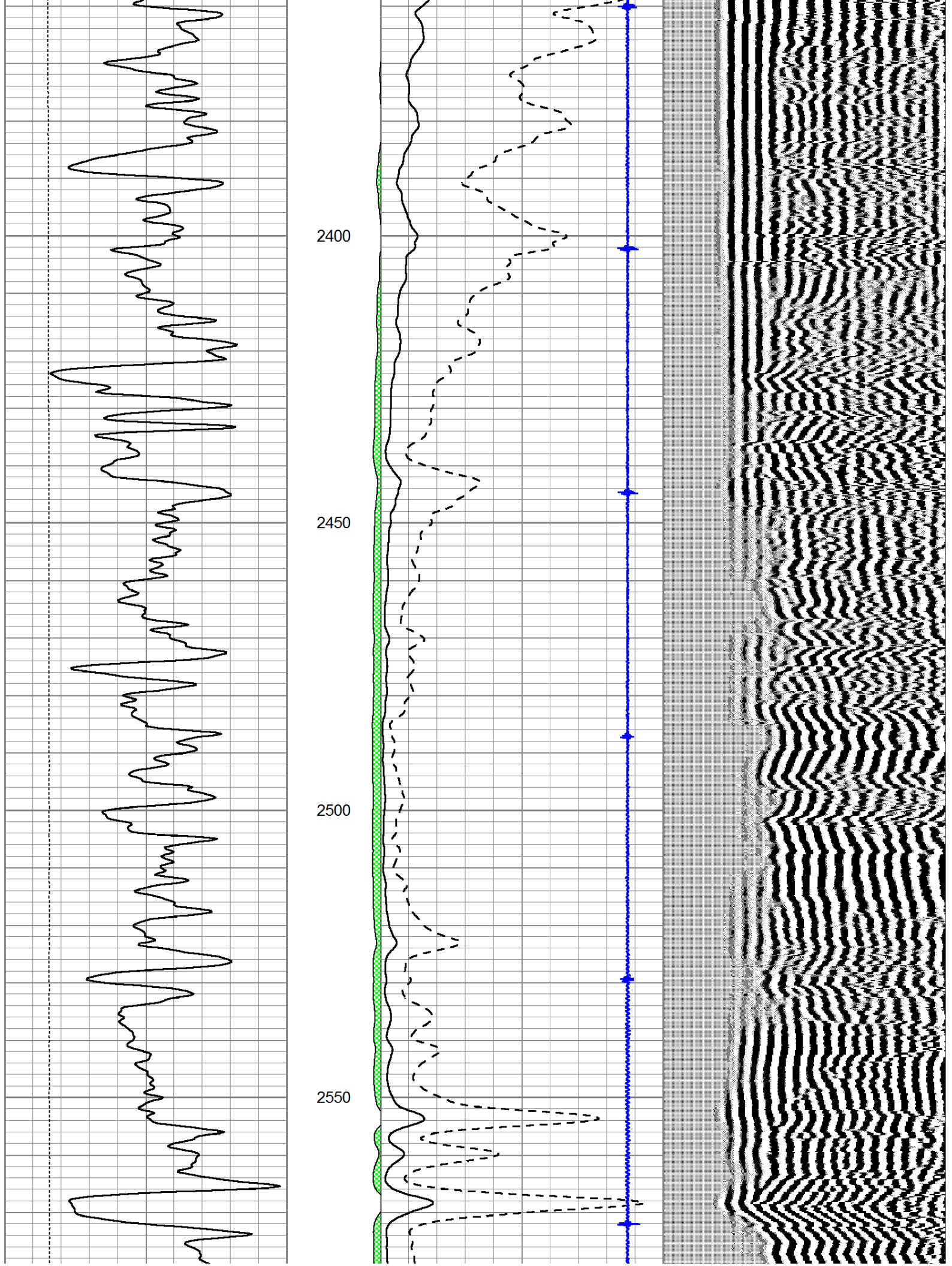
2300

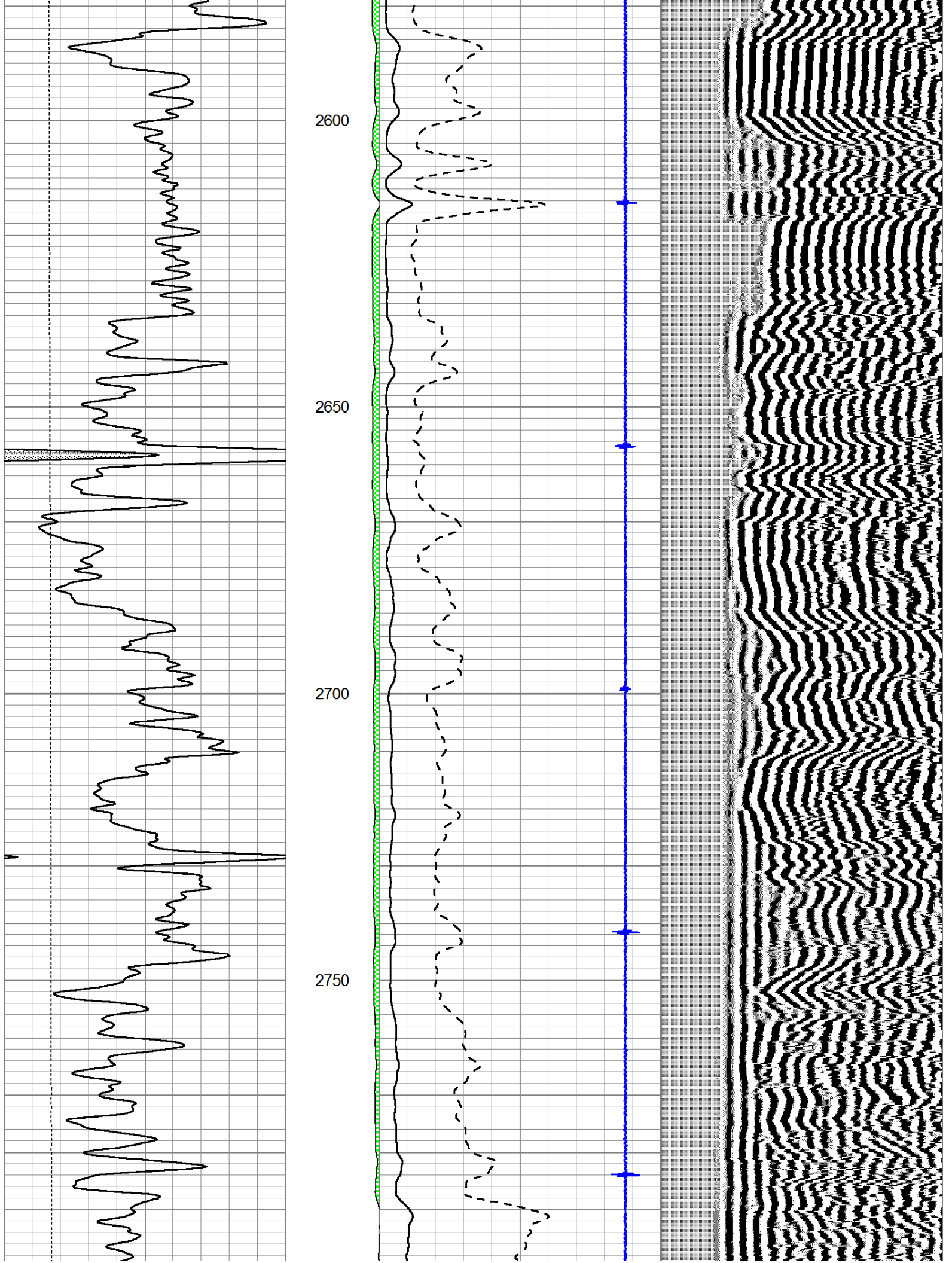
2350

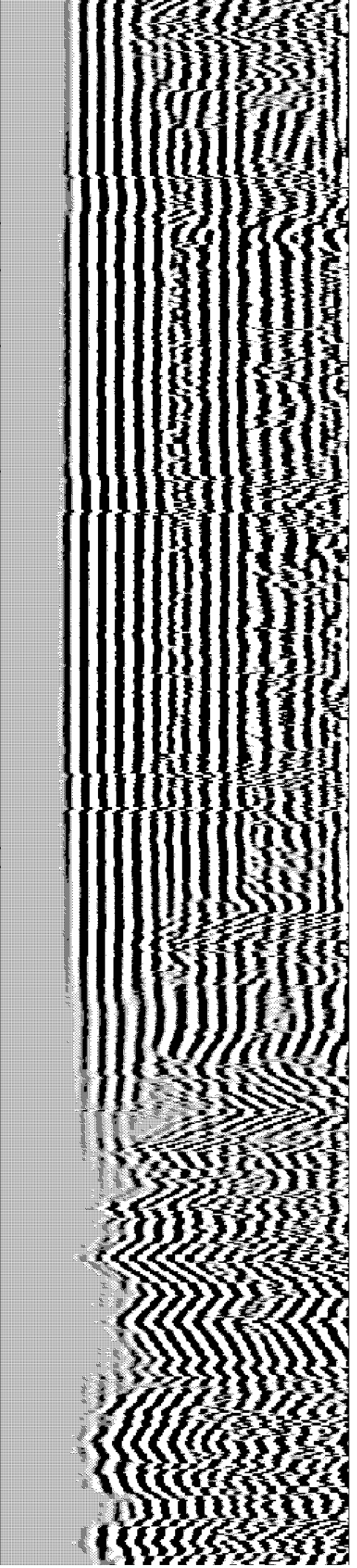
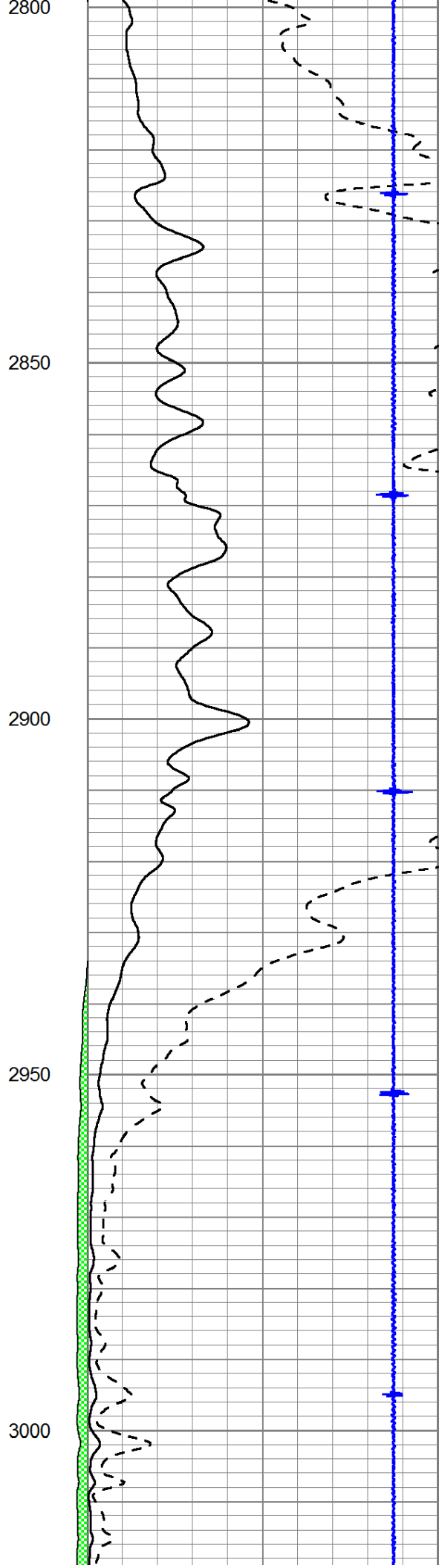
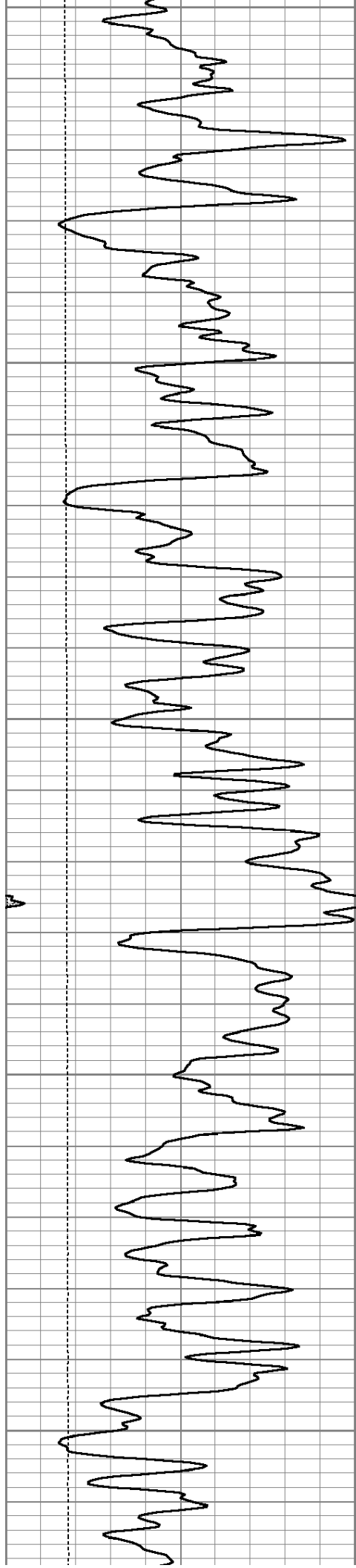


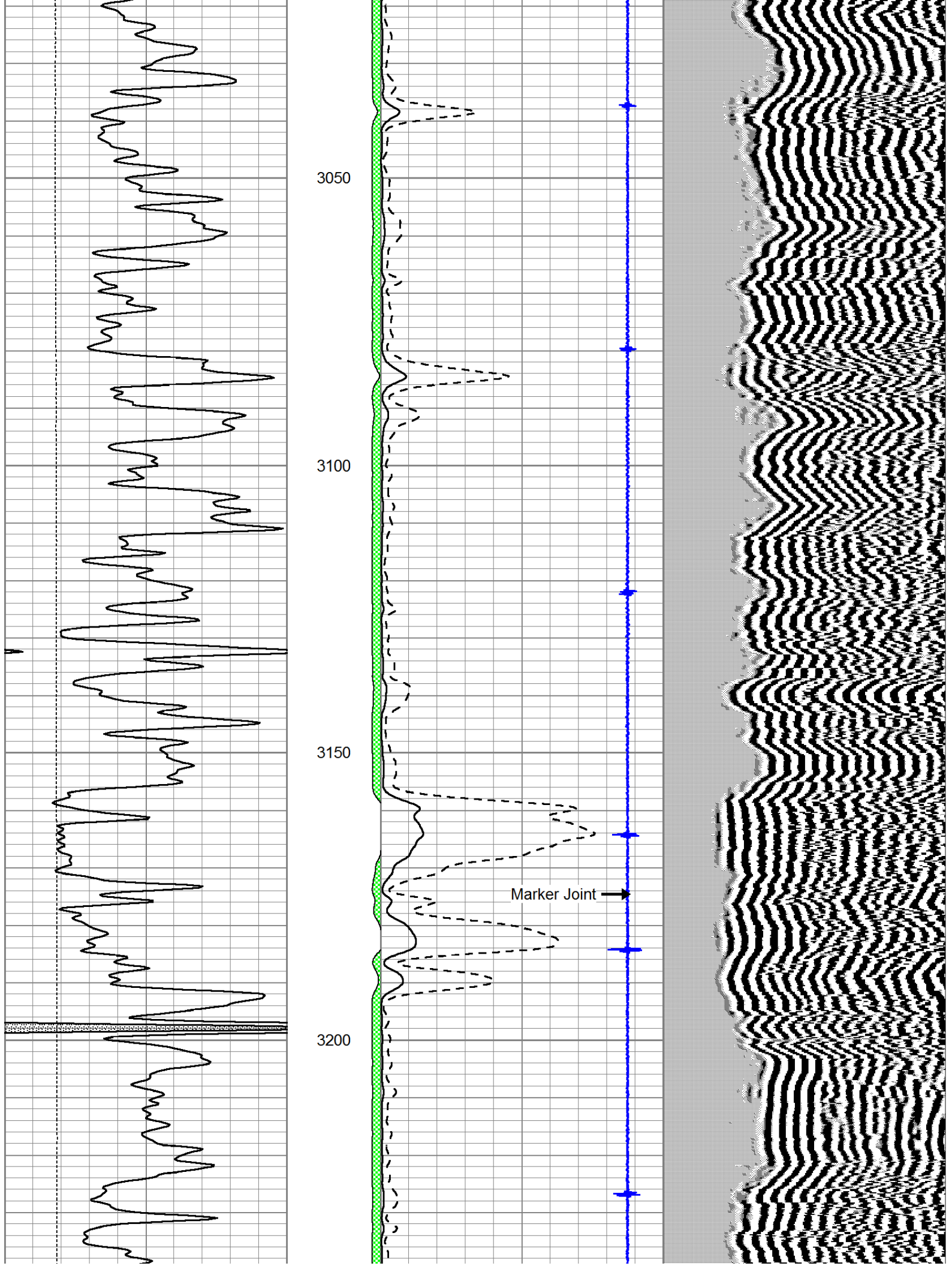
Top Of Cement

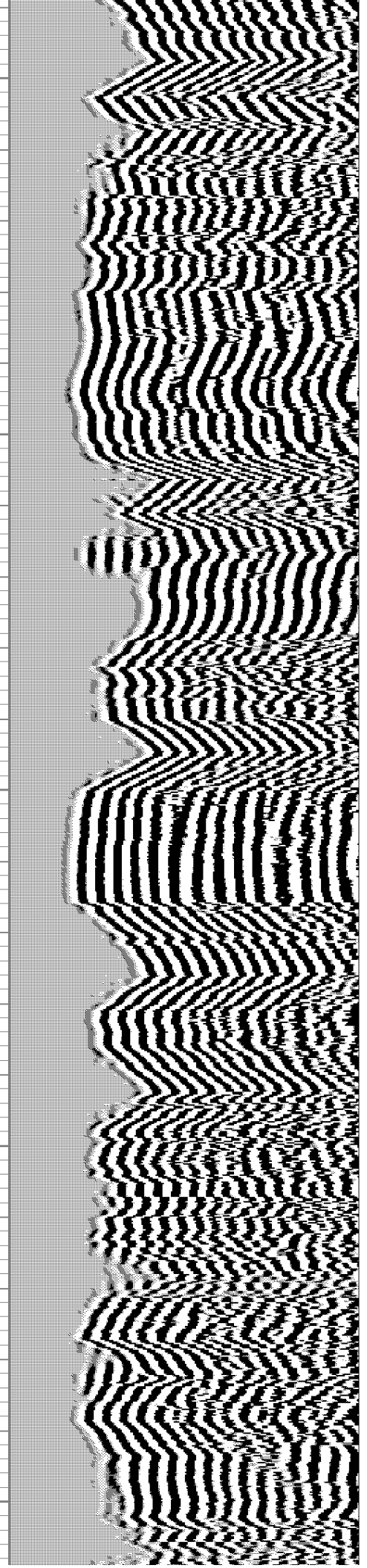
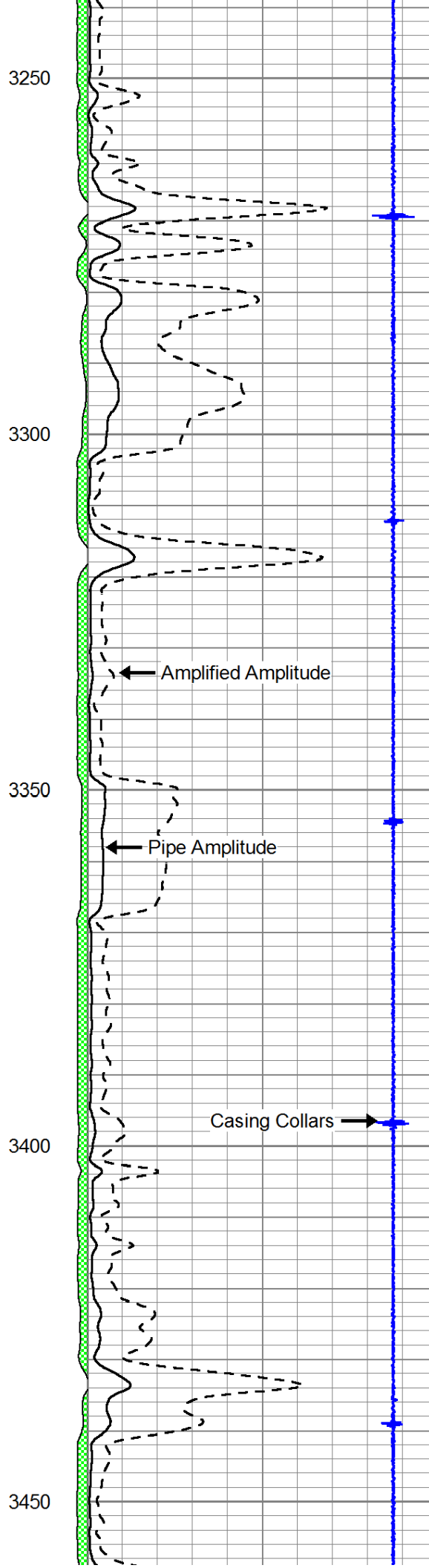
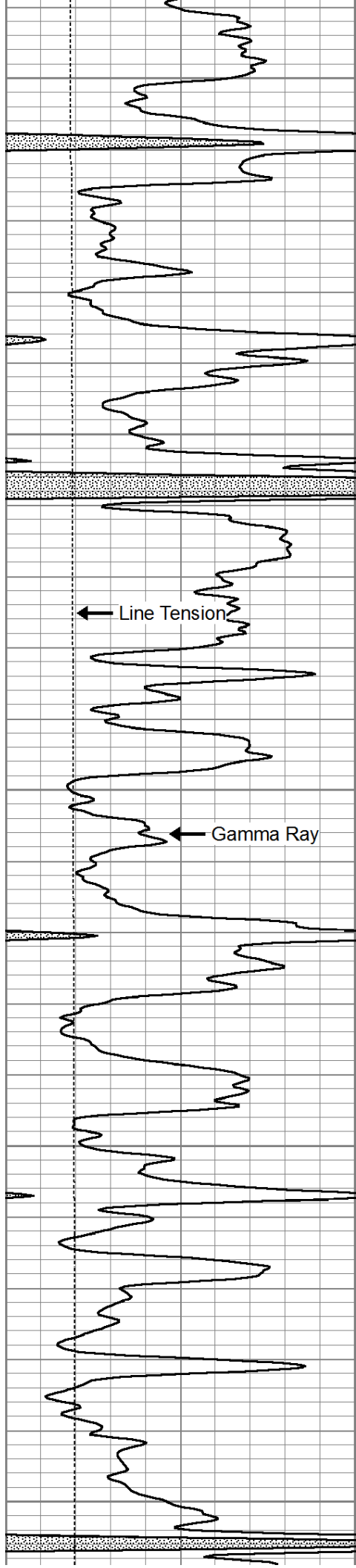


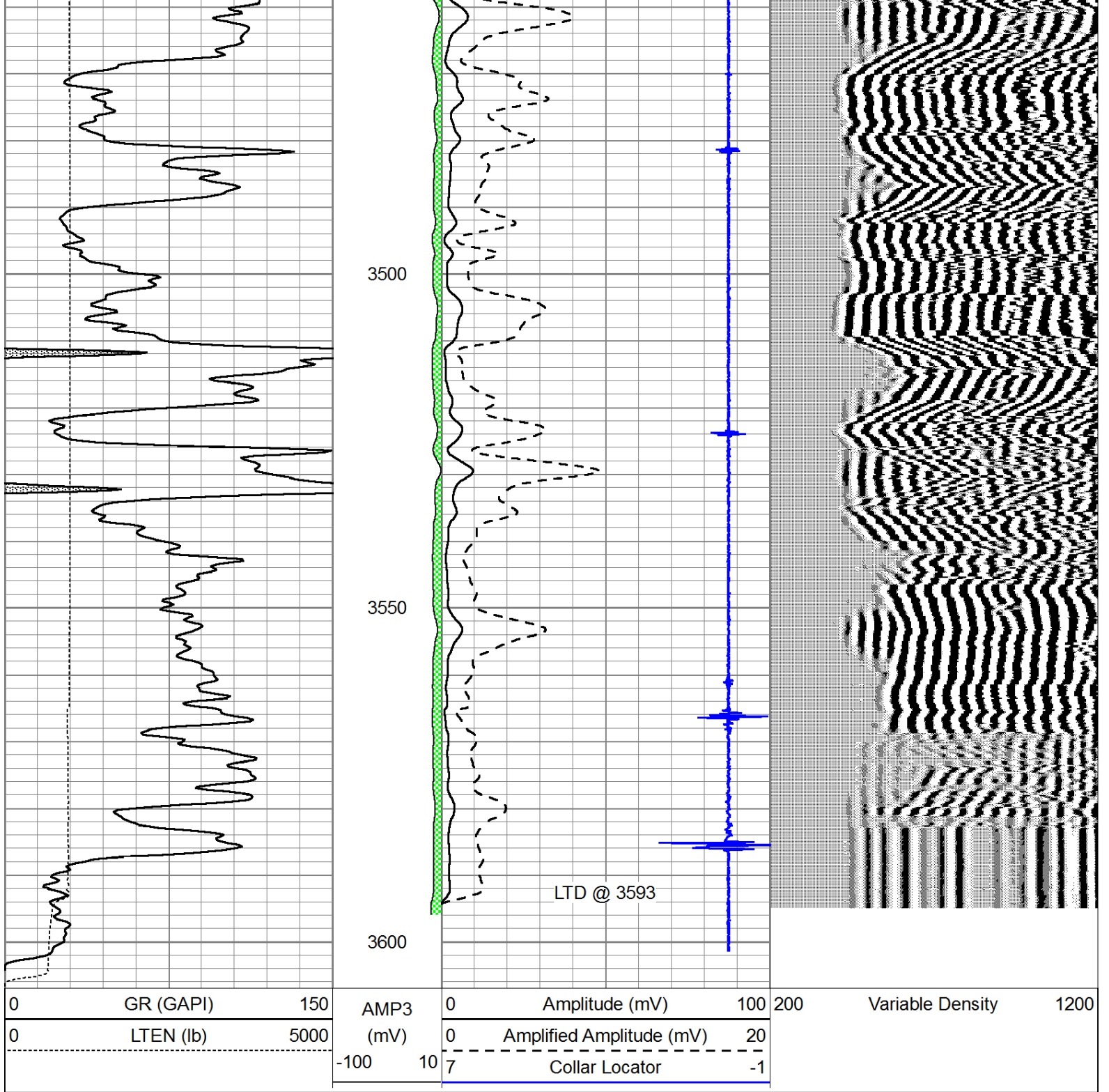








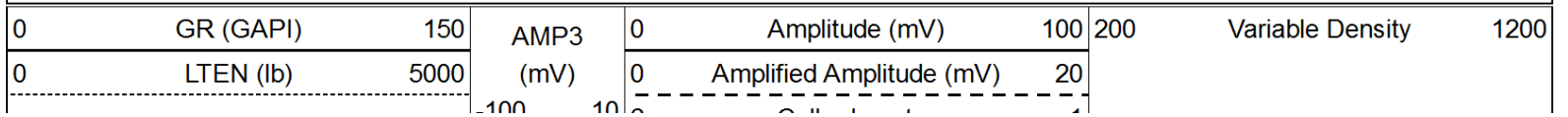


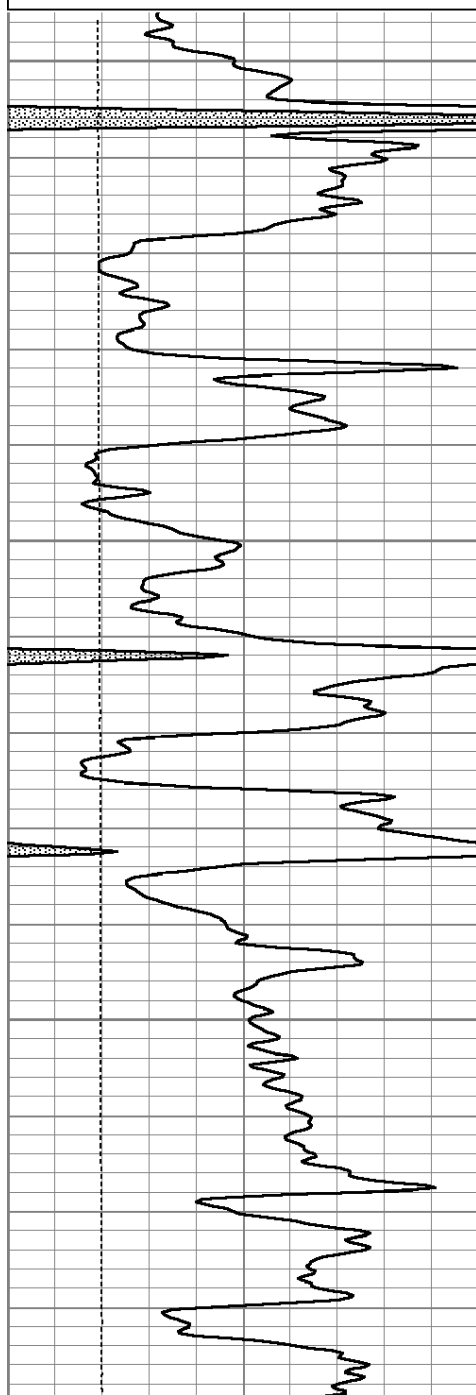


Pioneer Energy Services

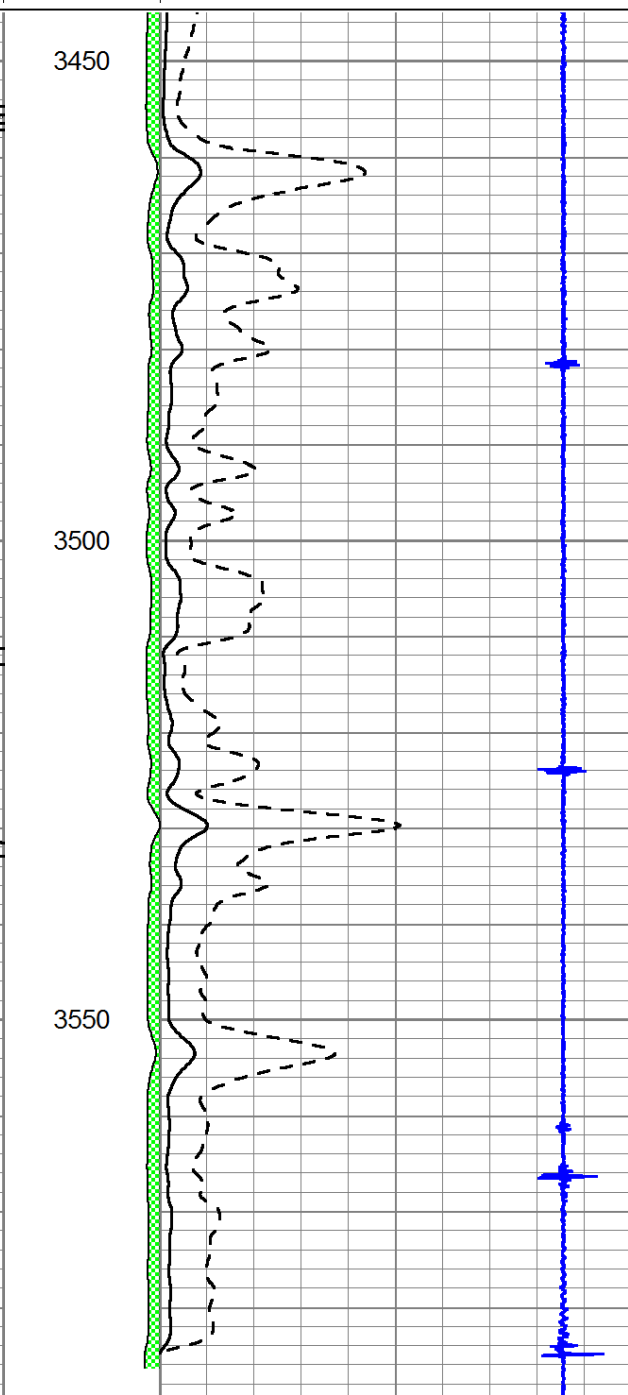
Repeat Section

Database File: grcblneu.db
 Dataset Pathname: grcblneu/pass3
 Presentation Format: cbl dig
 Dataset Creation: Sun Apr 06 17:13:34 2014 by Log SCH 111116
 Charted by: Depth in Feet scaled 1:240

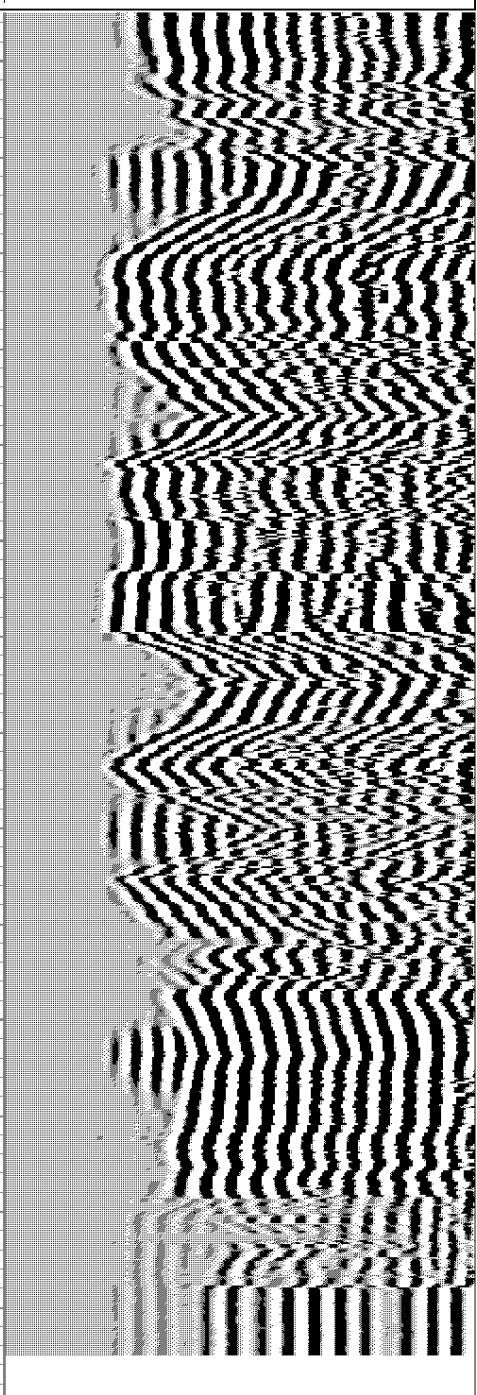




| | | |
|---|-----------|------|
| 0 | GR (GAPI) | 150 |
| 0 | LTEN (lb) | 5000 |



| | | | |
|-----------|----|--------------------------|-----|
| AMP3 (mV) | 0 | Amplitude (mV) | 100 |
| -100 | 10 | Amplified Amplitude (mV) | 20 |
| | | Collar Locator | -1 |



| | | |
|-----|------------------|------|
| 200 | Variable Density | 1200 |
|-----|------------------|------|

GLOBAL CEMENTING, L.L.C.

1272

REMIT TO 18048 170RD
RUSSELL, KS 67665

SERVICE POINT: Russell, US

| | | | | | | | |
|--------------------------------|------------------|----------|-------|------------|---------------------------|--|--|
| DATE <u>3-20-14</u> | SEC. | TWP. | RANGE | CALLED OUT | ON LOCATION | JOB START <u>10:00am</u> <u>2:15pm</u> | JOB FINISH <u>1:00pm</u> <u>3:15pm</u> |
| LEASE <u>Ray B</u> | WELL #. <u>5</u> | LOCATION | | | COUNTY <u>Phillips</u> | STATE <u>US</u> | |
| OLD OR <u>NEW</u> (CIRCLE ONE) | | | | | | | |

CONTRACTOR Mallard
 TYPE OF JOB Long string
 HOLE SIZE 7 7/8 T.D.
 CASING SIZE 5 1/2 DEPTH
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX 1500 MINIMUM 200
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG.
 PERFS
 DISPLACEMENT 87.3 bbl 42.5 bbl
 EQUIPMENT
 PUMP TRUCK CEMENTER Heath
 # P1 HELPER Cody
 BULK TRUCK
 # B1 DRIVER Eric
 BULK TRUCK
 # B4 DRIVER Walter

OWNER
 CEMENT AMOUNT ORDERED 150 sx com 10% salt
2% gel 2% plaster
440 sx 60/40 6% gel
 COMMON _____ @ _____
 POZMIX _____ @ _____
 GEL _____ @ _____
 CHLORIDE _____ @ _____
 ASC _____ @ _____
 _____ @ _____
 _____ @ _____
 _____ @ _____
 _____ @ _____
 _____ @ _____
 HANDLING _____ @ _____
 MILEAGE _____ @ _____
 TOTAL _____

REMARKS:

Ran 86 jts of 5 1/2 casing and landed
Hook up est circulation for 1 hr - Pump 500 gal
of mud flush and mix 150 sx com 10% salt 2% gel
2% plaster - wash pump and lines clean and
dis 87.3 bbl #20 - plug landed @ 1500 psi - released
and dried up - dropped chart and opened @ 1200 psi
circulated 1 hr - mixed 385 sx 60/40 6% gel and
washed pump clean dis 42.5 bbl plug landed
@ 1200 psi - released and held
RH = 30 sx MH = 15 sx

CHARGE TO: Darrah Oil
 STREET _____
 CITY _____ STATE _____ ZIP _____

Global Cementing, L.L.C.,
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Will Darrah
 SIGNATURE [Signature]

SERVICE

DEPTH OF JOB _____
 PUMP TRUCK CHARGE _____
 EXTRA FOOTAGE _____ @ _____
 MILEAGE _____ @ _____
 MANIFOLD _____ @ _____
 _____ @ _____
 TOTAL _____

PLUG & FLOAT EQUIPMENT

1 - 5 1/2 Cent @ _____
2 - 5 1/2 baskets @ _____
1 - 5 1/2 HFLU shoe @ _____
DU Tool @ _____
1 - 5 1/2 latch down @ _____
1000 gal mud flush
 TOTAL _____

SALES TAX (If Any) _____
 TOTAL CHARGES _____
 DISCOUNT _____ IF PAID IN 30 DAYS

GLOBAL CEMENTING, L.L.C.

1267

REMIT TO 18048 170RD
RUSSELL, KS 67665

SERVICE POINT: Russell, KS - Hwy 968

| | | | | | | | |
|--------------------------------|------------------|---------------|-----------------|------------|------------------------|-------------------------|--------------------------|
| DATE <u>3-15-14</u> | SEC. <u>32</u> | TWP. <u>5</u> | RANGE <u>20</u> | CALLED OUT | ON LOCATION | JOB START <u>8:15pm</u> | JOB FINISH <u>8:45pm</u> |
| LEASE <u>Ray B</u> | WELL #. <u>5</u> | LOCATION | | | COUNTY <u>Phillips</u> | STATE <u>KS</u> | |
| OLD OR <u>NEW</u> (CIRCLE ONE) | | | | | | | |

CONTRACTOR Mallord

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 218

CASING SIZE 8 7/8 DEPTH 211

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX 300psi MINIMUM 100psi

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 20ft

PERFS

DISPLACEMENT 12 1/2

EQUIPMENT

PUMP TRUCK CEMENTER Heath

P1 HELPER Cody

BULK TRUCK

B1 DRIVER Eric

BULK TRUCK DRIVER

OWNER

CEMENT AMOUNT ORDERED 175sr com 3%cc 2%gel

COMMON @

POZMIX @

GEL @

CHLORIDE @

ASC @

HANDLING @

MILEAGE @

TOTAL

REMARKS:

Run 5 Jts of 8 7/8 casing and landing it

Est Circulation with mud pump

Hook up and mix 175sr and disp 12 1/2 bbl of H2O - shut in @ 300psi.

Cement Did Circulate to surface !!

CHARGE TO: Darrah Oil

STREET

CITY STATE ZIP

SERVICE

DEPTH OF JOB

PUMP TRUCK CHARGE 32

EXTRA FOOTAGE @

MILEAGE @

MANIFOLD @

TOTAL

Global Cementing, L.L.C.,
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Frank Symank

SIGNATURE Frank Symank

PLUG & FLOAT EQUIPMENT

@

@

@

@

@

TOTAL

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS