



**Weatherford**

**COMPACT PHOTO DENSITY  
COMPENSATED NEUTRON  
MICRORESISTIVITY LOG**

|                               |                       |               |                |                                                       |
|-------------------------------|-----------------------|---------------|----------------|-------------------------------------------------------|
| COMPANY                       | CMX, INC.             |               |                |                                                       |
| WELL                          | CLAF LIN 1-35         |               |                |                                                       |
| FIELD                         | KRAFT - PRUSA         |               |                |                                                       |
| PROVINCE/COUNTY               | BARTON                |               |                |                                                       |
| COUNTRY/STATE                 | U.S.A. / KANSAS       |               |                |                                                       |
| LOCATION                      | 2480' FNL & 1180' FWL |               |                |                                                       |
| SEC 35                        | TWP 16S               | RGE 11W       | Other Services |                                                       |
| Latitude                      | MAI/MFE               |               |                | MSS                                                   |
| Longitude                     |                       |               |                |                                                       |
| API Number                    | 15-009-26069          |               |                |                                                       |
| Permanent Datum GL, Elevation | 1931 feet             |               |                | Elevations:<br>KB 1939.00<br>DF 1937.00<br>GL 1931.00 |
| Log Measured From             | KB                    |               |                |                                                       |
| Drilling Measured From        | KB @ 8 FEET           |               |                |                                                       |
| Date                          | 15-DEC-2014           |               |                |                                                       |
| Run Number                    | ONE                   |               |                |                                                       |
| Service Order                 | 7606-105777345        |               |                |                                                       |
| Depth Driller                 | 3383.00               |               |                | feet                                                  |
| Depth Logger                  | 3382.00               |               |                | feet                                                  |
| First Reading                 | 3381.73               |               |                | feet                                                  |
| Last Reading                  | 2900.00               |               |                | feet                                                  |
| Casing Driller                | 475.00                |               |                | feet                                                  |
| Casing Logger                 | 472.00                |               |                | feet                                                  |
| Bit Size                      | 7.875                 |               |                | inches                                                |
| Hole Fluid Type               | WBM                   |               |                |                                                       |
| Density / Viscosity           | 9.10 lb/USg           | 48.00 CP      |                |                                                       |
| PH / Fluid Loss               | 10.00                 | 7.50 ml/30Min |                |                                                       |
| Sample Source                 | MUD PIT               |               |                |                                                       |
| Rm @ Measured Temp            | 0.50 @ 75.0           | ohm-m         |                |                                                       |
| Rmf @ Measured Temp           | 0.40 @ 75.0           | ohm-m         |                |                                                       |
| Rmc @ Measured Temp           | 0.60 @ 75.0           | ohm-m         |                |                                                       |
| Source Rmf / Rmc              | CALC                  | CALC          |                |                                                       |
| Rm @ BHT                      | 0.37 @104.0           | ohm-m         |                |                                                       |
| Time Since Circulation        | 6 HOURS               |               |                |                                                       |
| Max Recorded Temp             | 104.00                | deg F         |                |                                                       |
| Equipment / Base              | 13057                 | LIB           |                |                                                       |
| Recorded By                   | BEN WELDIN            |               |                |                                                       |
| Witnessed By                  | KEN LEBLANC           |               |                |                                                       |
| JOB #                         | LB14-380              |               |                |                                                       |

**BOREHOLE RECORD**

Last Edited: 15-DEC-2014 04:35

|                    |                    |                  |
|--------------------|--------------------|------------------|
| Bit Size<br>inches | Depth From<br>feet | Depth To<br>feet |
| 7.875              | 472.00             | 3382.00          |

**CASING RECORD**

|         |                |                    |                    |                     |
|---------|----------------|--------------------|--------------------|---------------------|
| Type    | Size<br>inches | Depth From<br>feet | Shoe Depth<br>feet | Weight<br>pounds/ft |
| SURFACE | 8.625          | 0.00               | 472.00             | 24.00               |

**REMARKS**

- SOFTWARE ISSUE: WLS 14.05.5331
- RUN ONE: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
  - 0.5 INCH STANDOFF USED ON MFE.
  - TWO 0.5 INCH STANDOFFS USED ON MSS.
  - 0.5 INCH STANDOFF USED ON MAI.
- RUN TWO: MCG, MML, MDN, MPD RUN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
- RUN THREE: MCG
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST

ALL INTERVALS LOGGED AND CALLED FOR CUSTOMER REQUEST.

- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1190 CU.FT

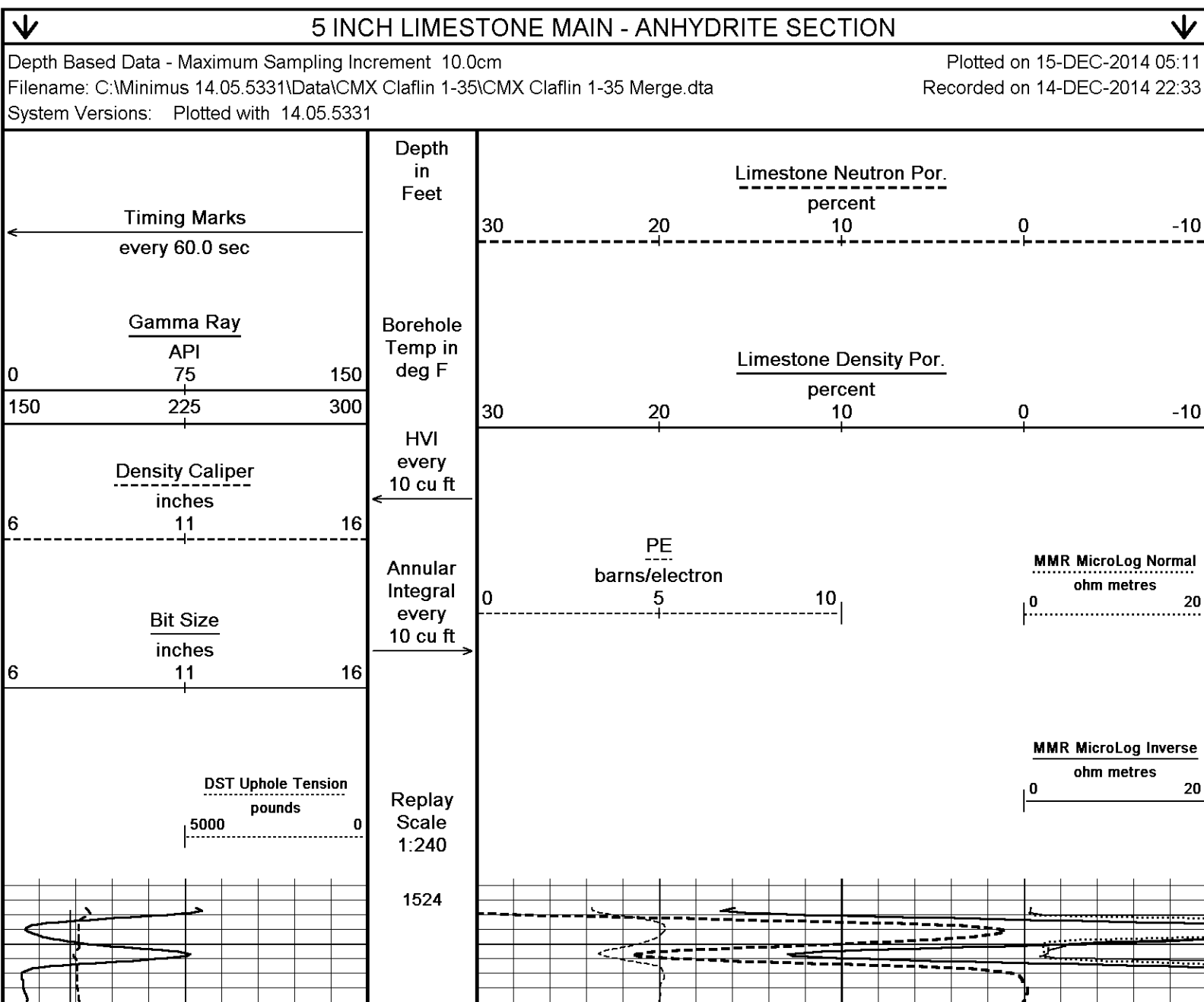
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASE: 710 CU.FT.

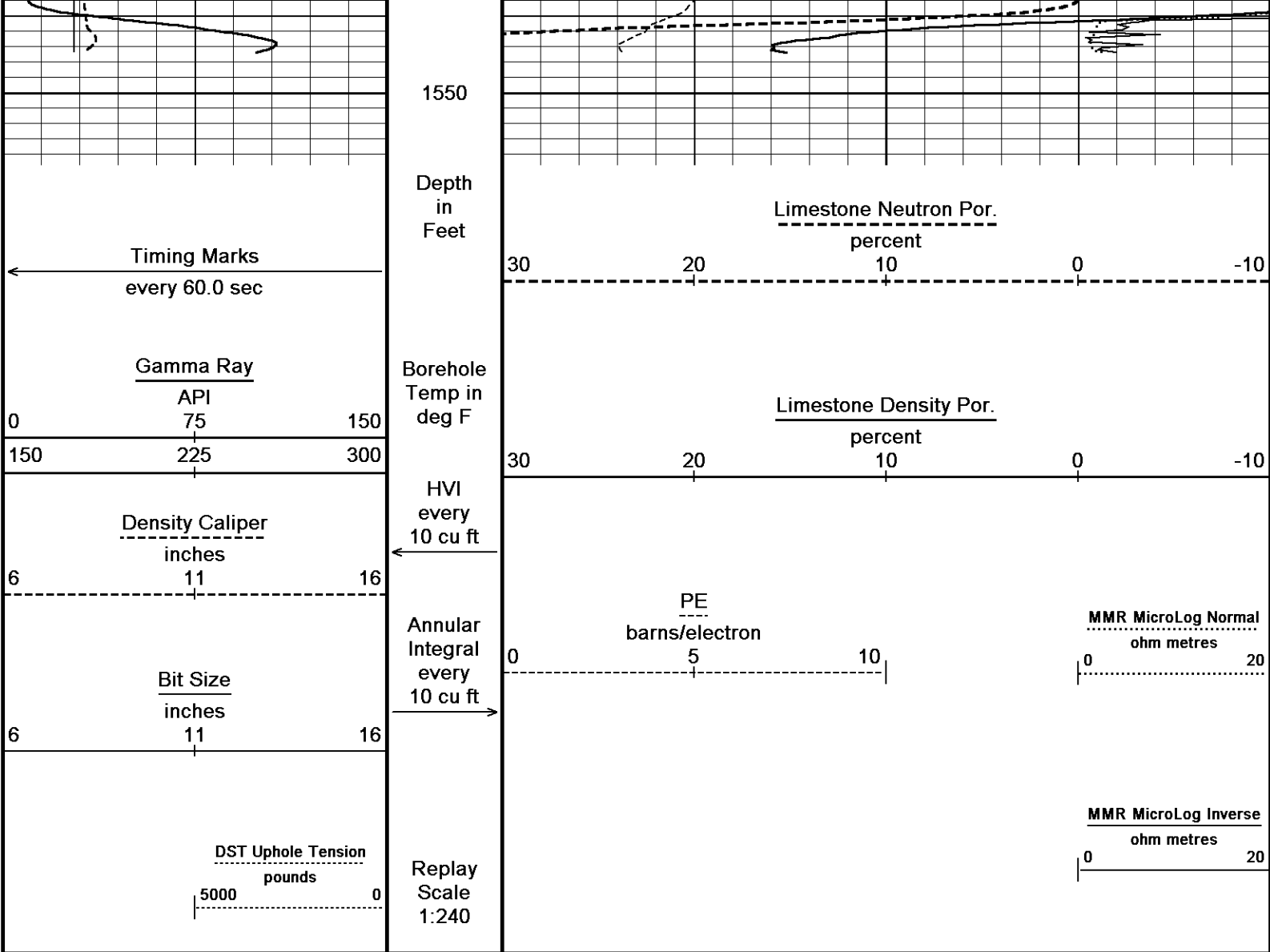
- RIG: DUKE DRILLING RIG #2

- ENGINEER: BEN WELDIN

- OPERATOR: NICK ADAME

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.





Depth Based Data - Maximum Sampling Increment 10.0cm  
Filename: C:\Minimus 14.05.5331\Data\CMX Claflin 1-35\CMX Claflin 1-35 Merge.dta  
System Versions: Plotted with 14.05.5331

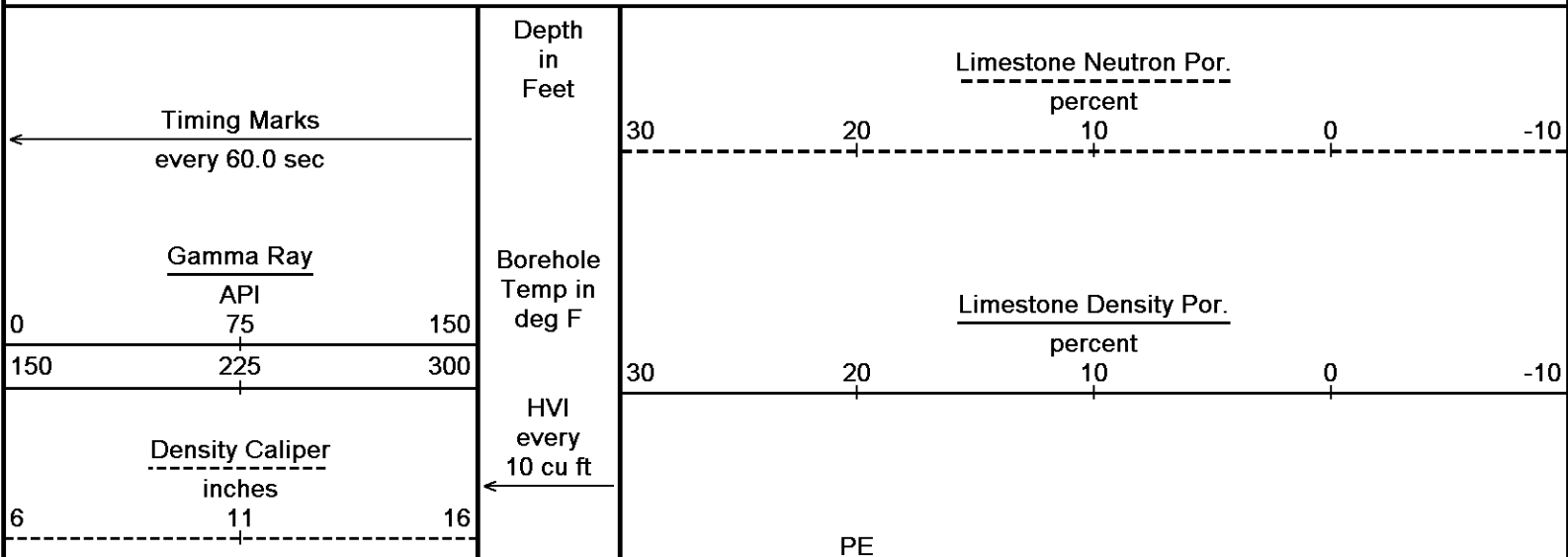
Plotted on 15-DEC-2014 05:11  
Recorded on 14-DEC-2014 22:33

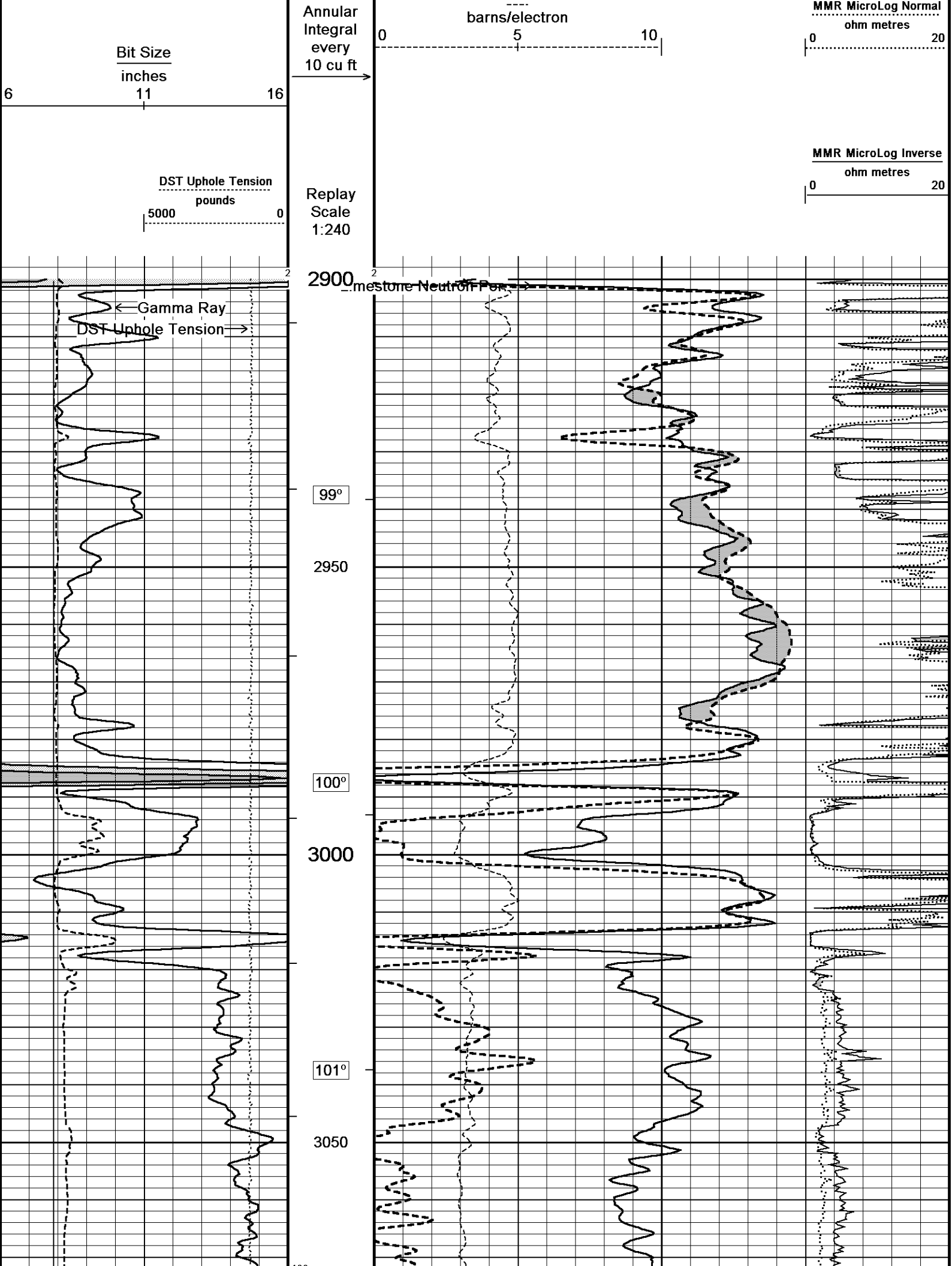
5 INCH LIMESTONE MAIN - ANHYDRITE SECTION

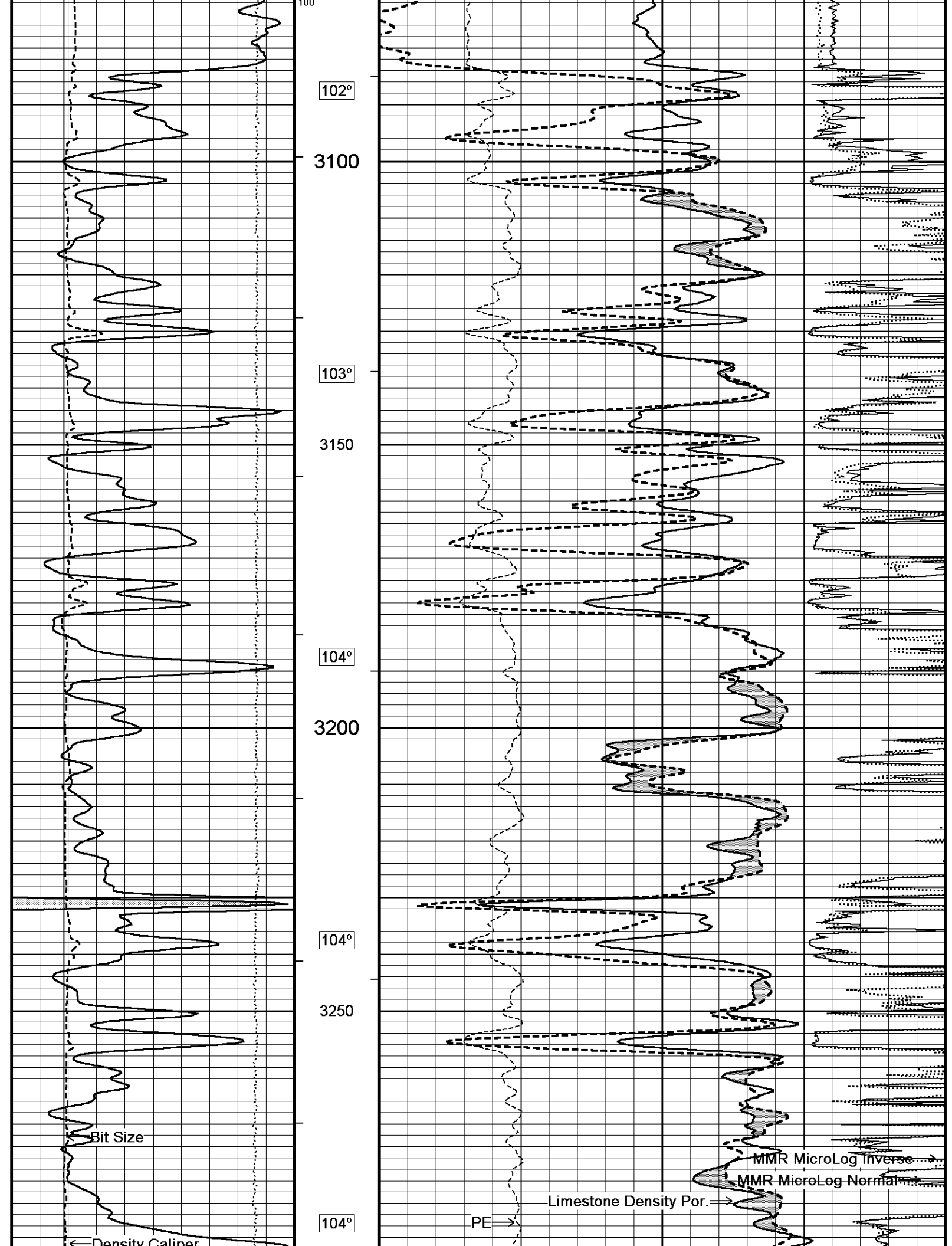
5 INCH LIMESTONE MAIN

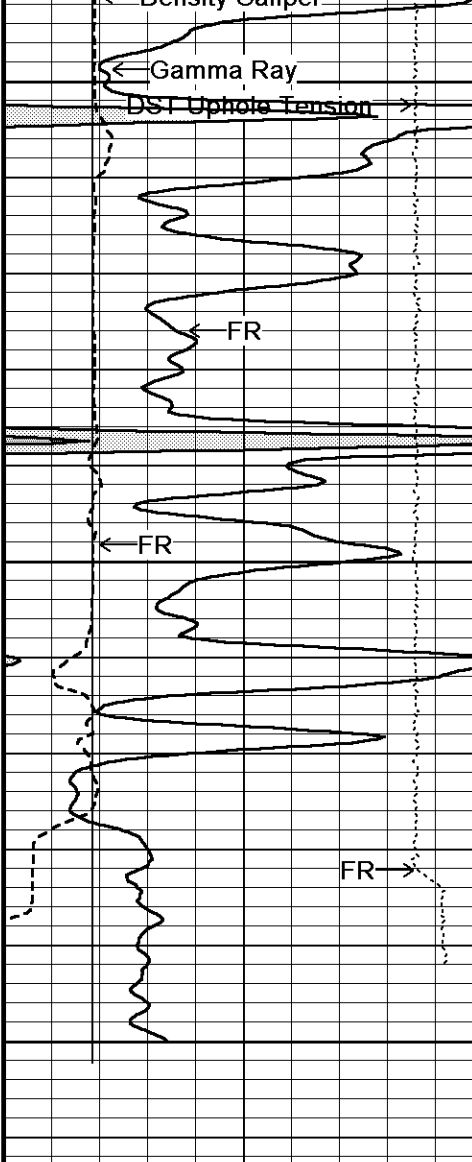
Depth Based Data - Maximum Sampling Increment 10.0cm  
Filename: C:\Minimus 14.05.5331\Data\CMX Claflin 1-35\CMX Claflin 1-35 Merge.dta  
System Versions: Plotted with 14.05.5331

Plotted on 15-DEC-2014 05:11  
Recorded on 14-DEC-2014 22:33









3300

103°

3350

TD

3400

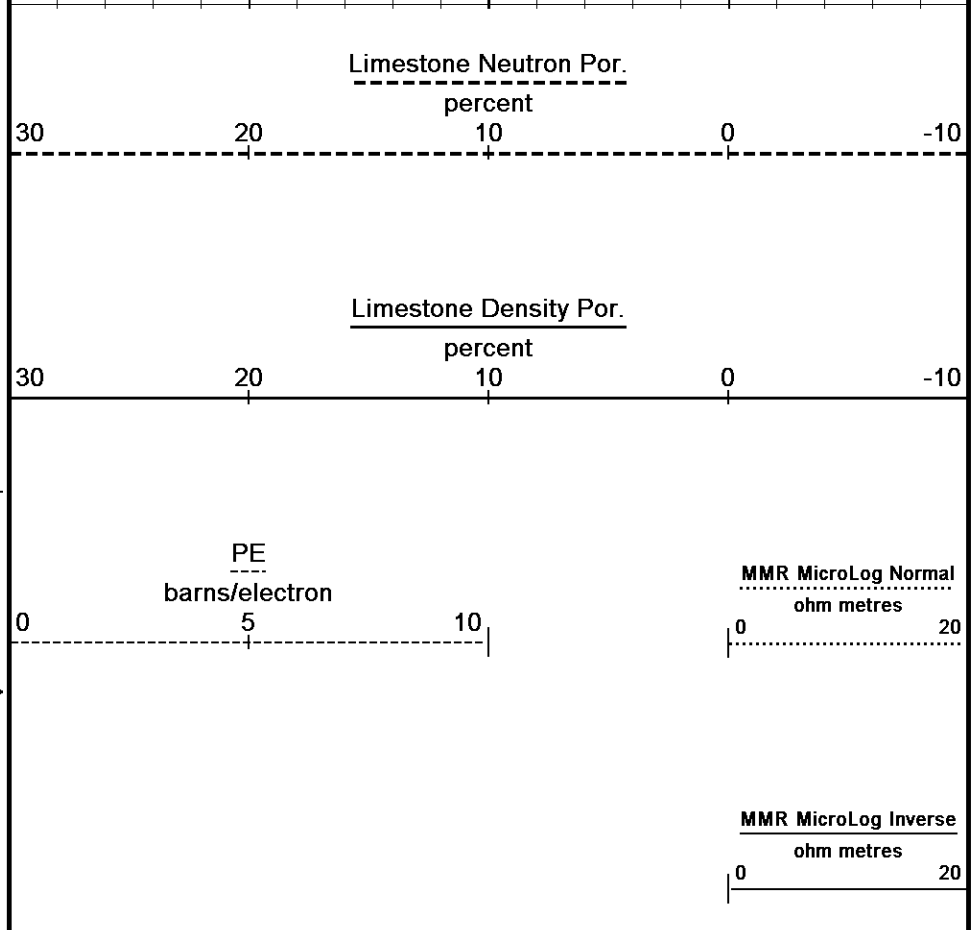
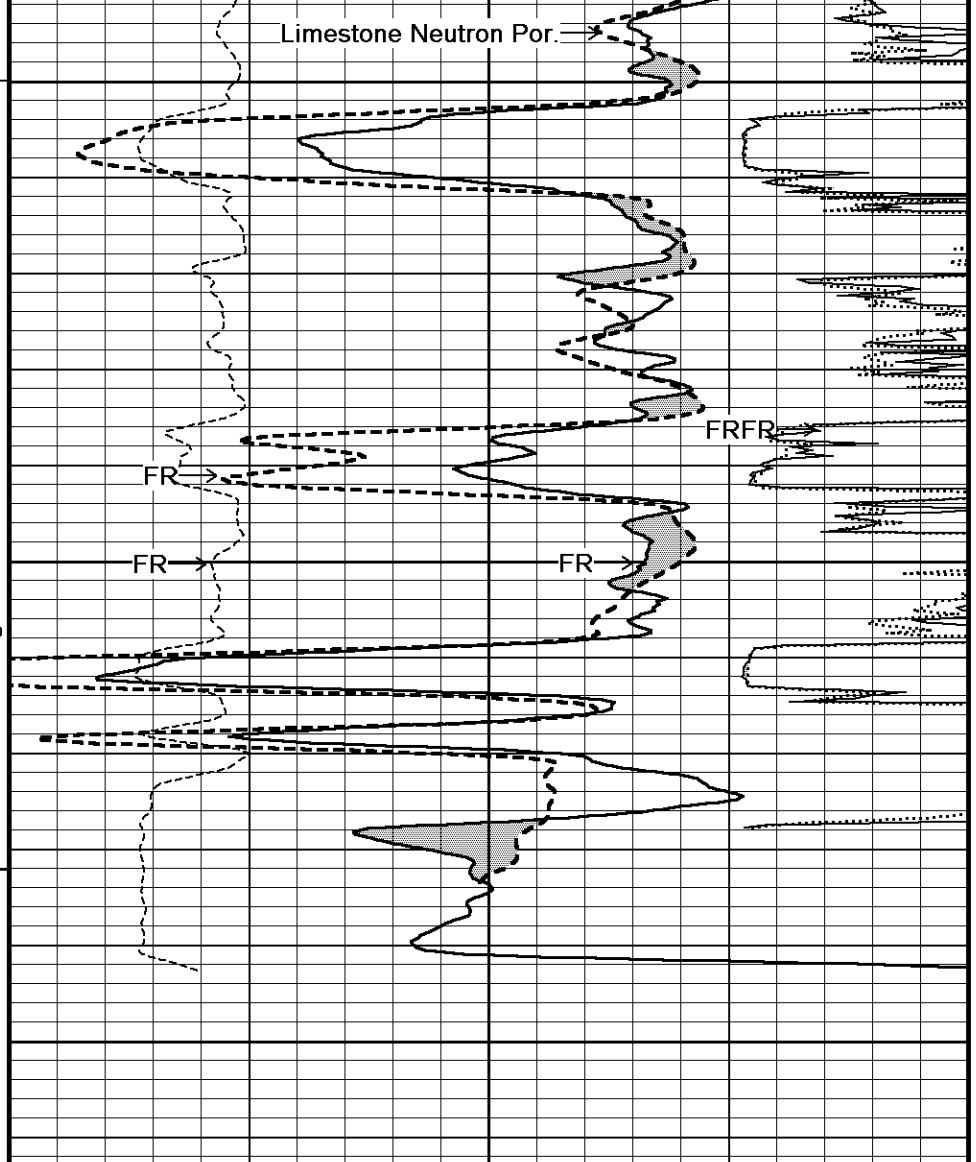
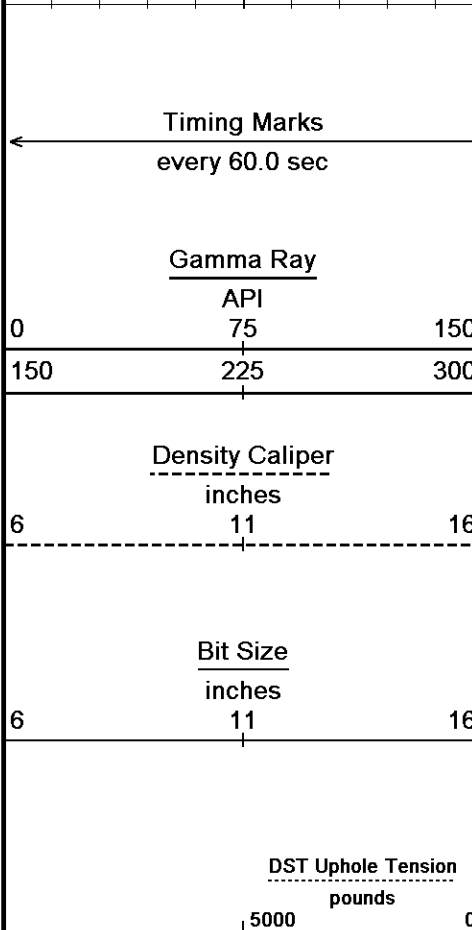
Depth  
in  
Feet

Borehole  
Temp in  
deg F

HVI  
every  
10 cu ft

Annular  
Integral  
every  
10 cu ft

Replay  
Scale



↑

5 INCH LIMESTONE MAIN

↑

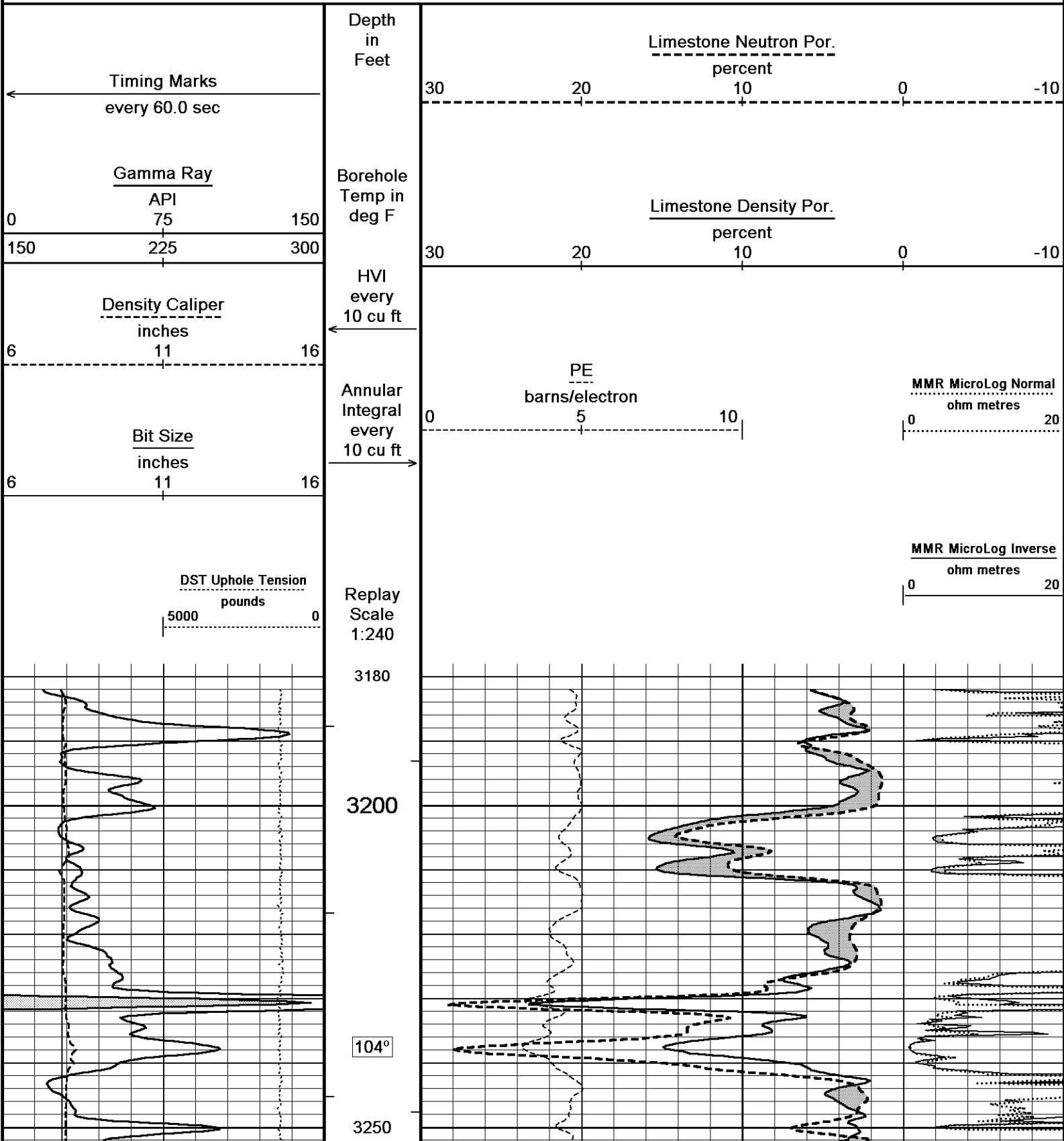
↓

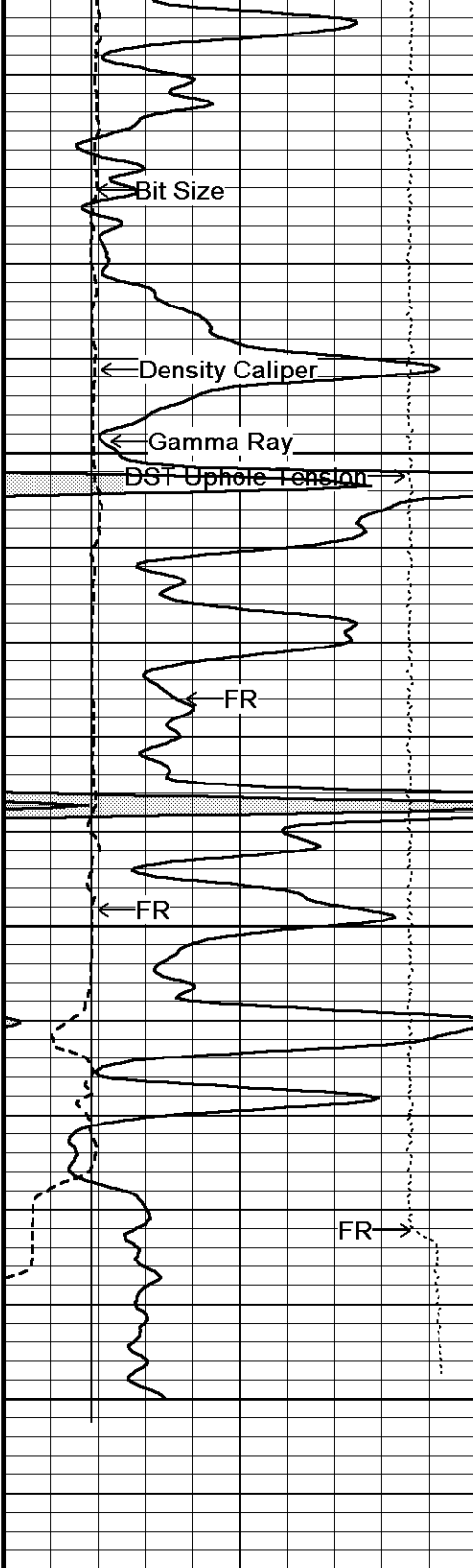
REPEAT SECTION

↓

Depth Based Data - Maximum Sampling Increment 10.0cm  
Filename: C:\Minimus 14.05.5331\Data\CMX Claflin 1-35\CMX Claflin 1-35 Repeat Merge.dta  
System Versions: Plotted with 14.05.5331

Plotted on 15-DEC-2014 05:11  
Recorded on 14-DEC-2014 21:46





104°

3300

103°

3350

TD

3400

Depth  
in  
Feet

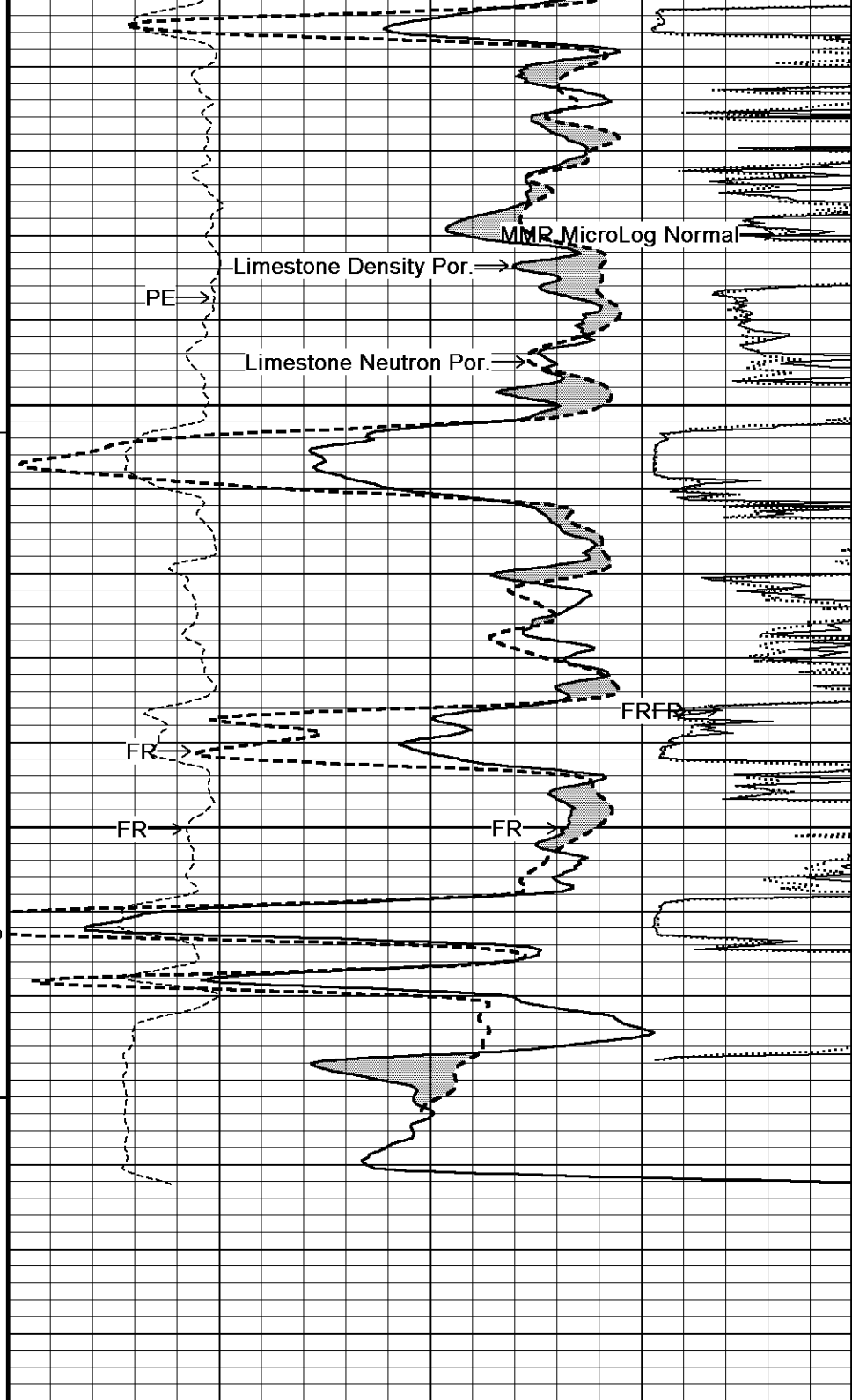
Timing Marks  
every 60.0 sec

Gamma Ray  
API  
0 75 150  
150 225 300

Density Caliper  
inches  
6 11 16

Borehole  
Temp in  
deg F

HVI  
every  
10 cu ft



MMR MicroLog Normal

Limestone Density Por.

Limestone Neutron Por.

PE

FR

FR

FR

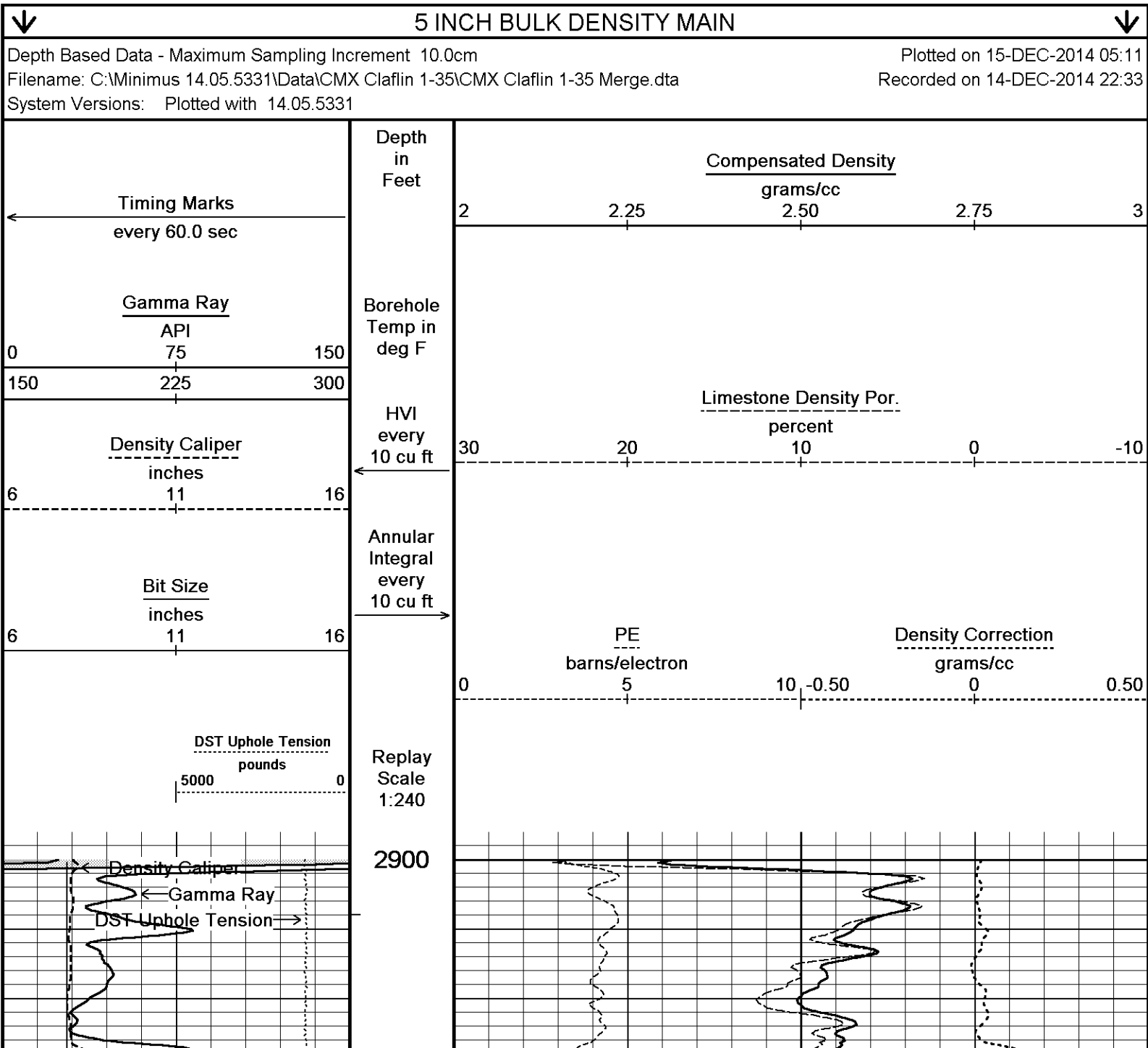
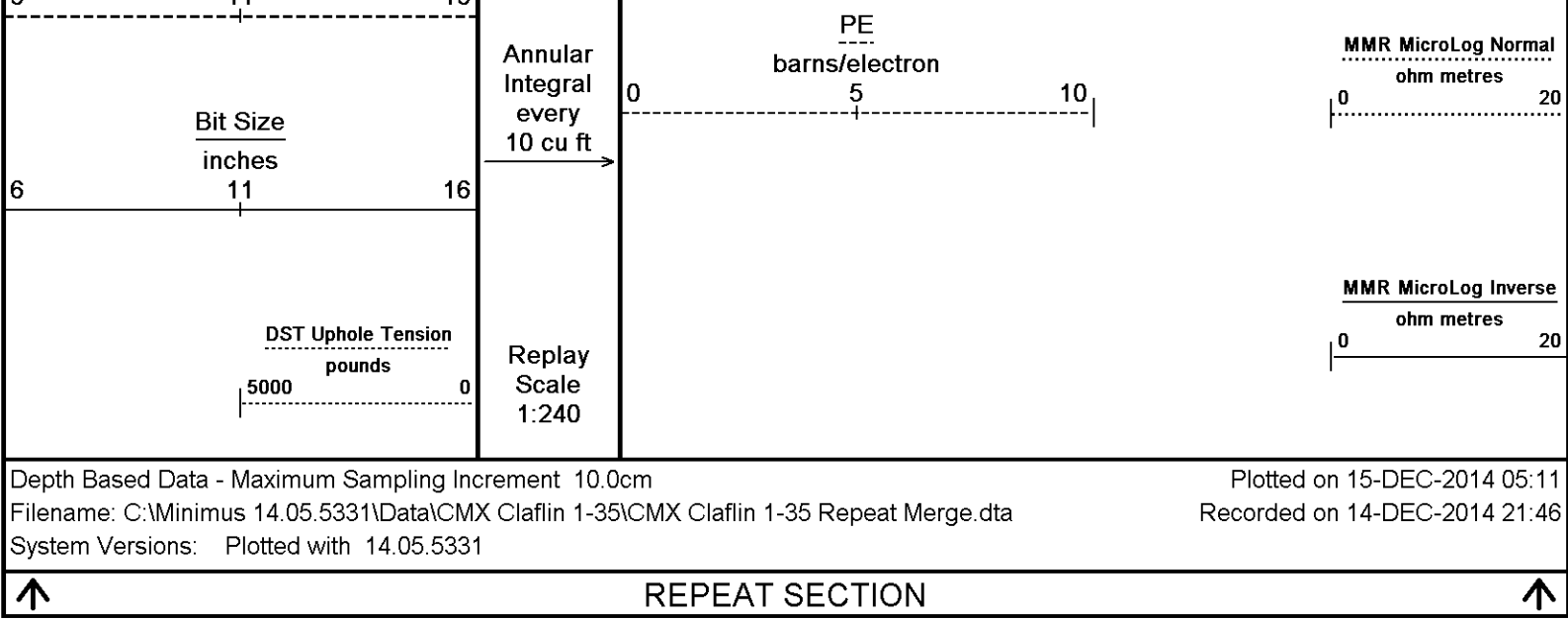
FRFR

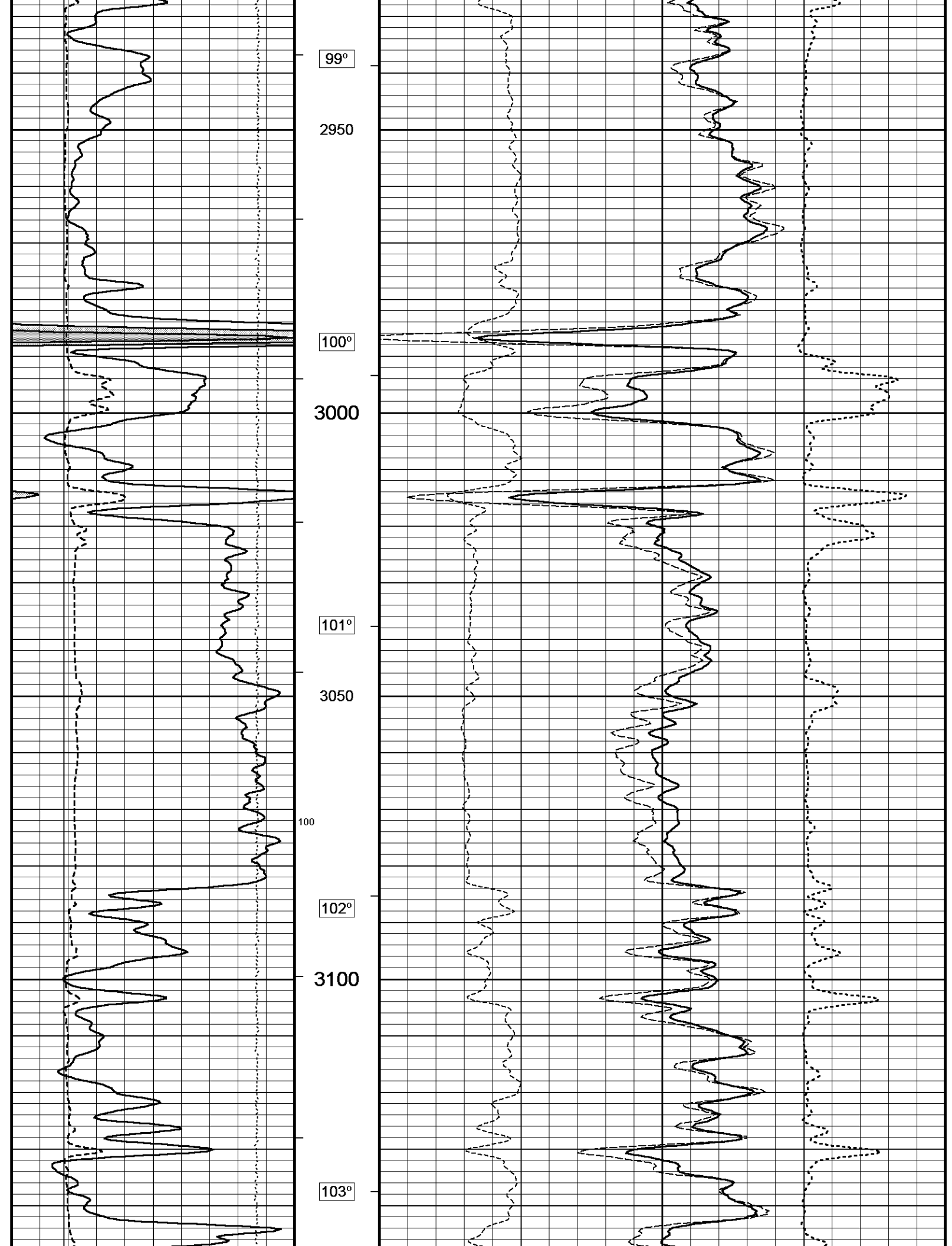
Limestone Neutron Por.  
percent

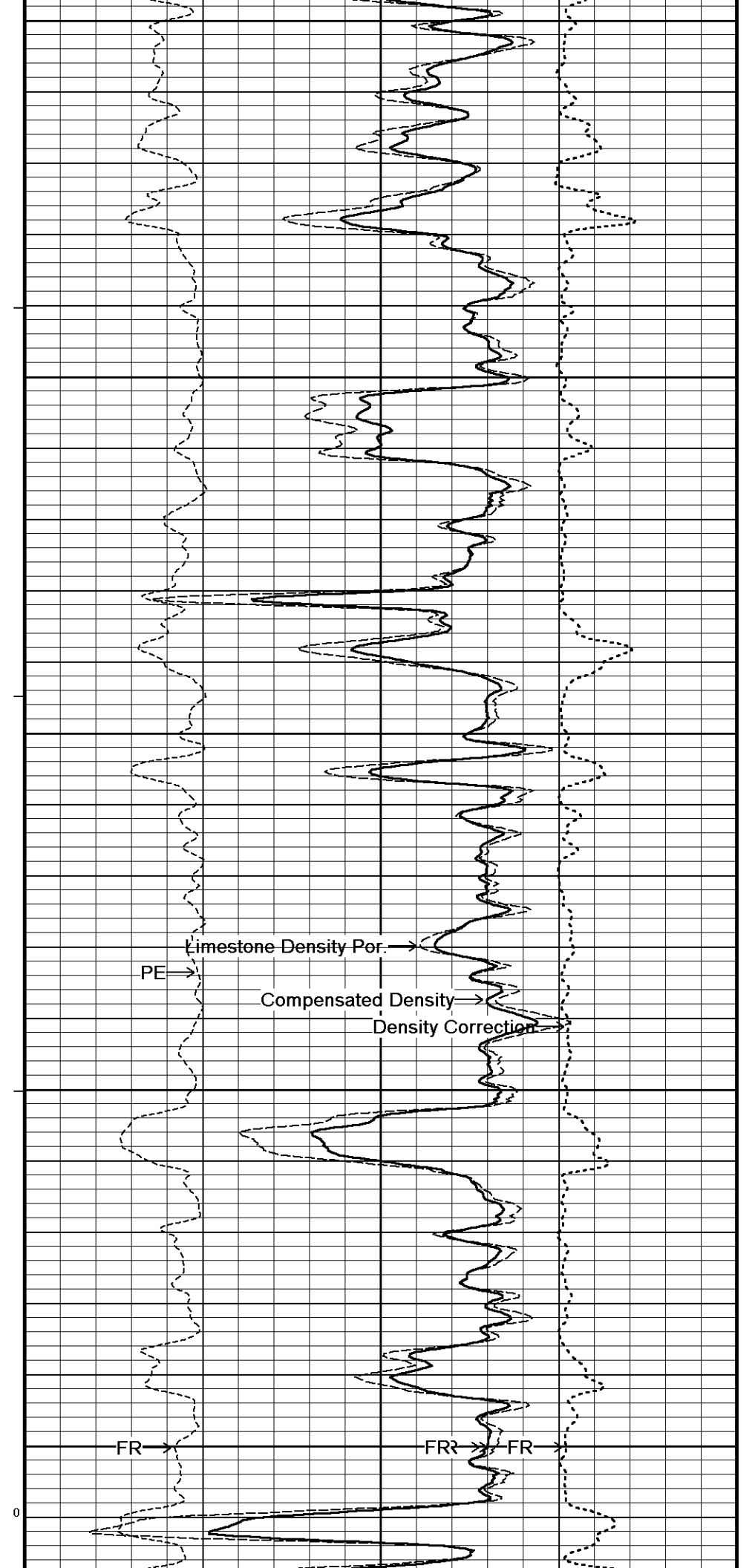
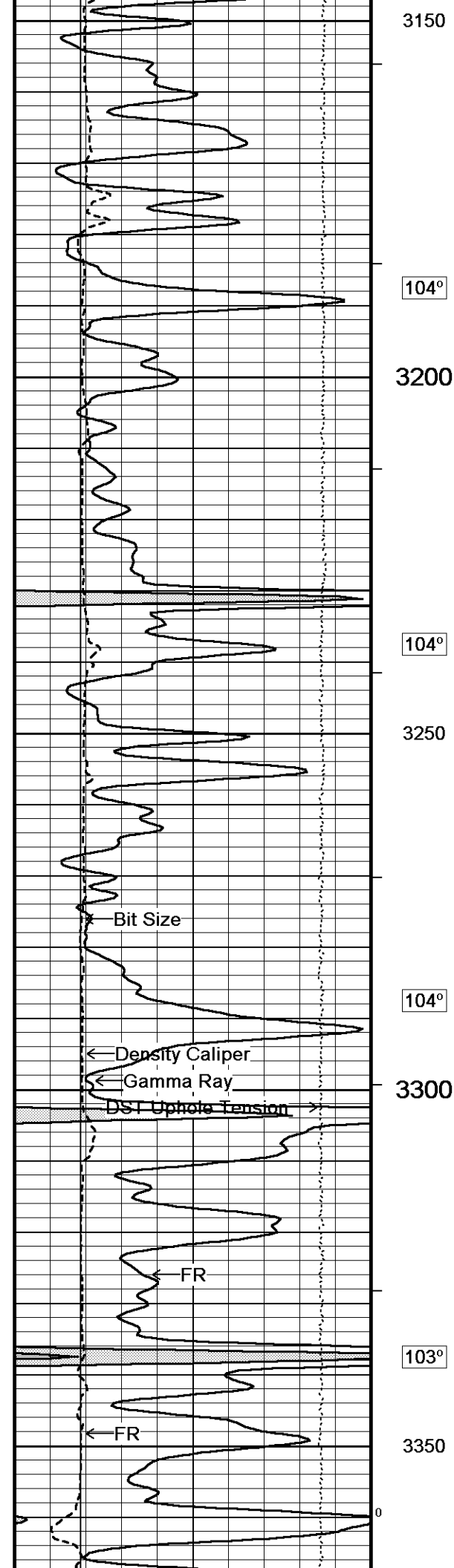
30 20 10 0 -10

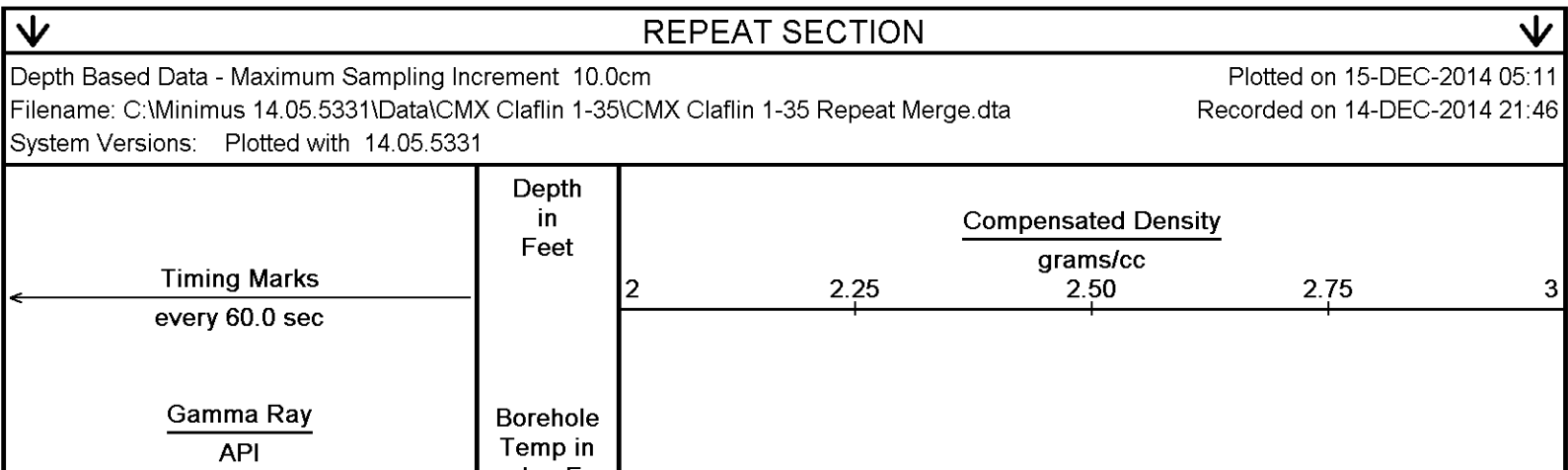
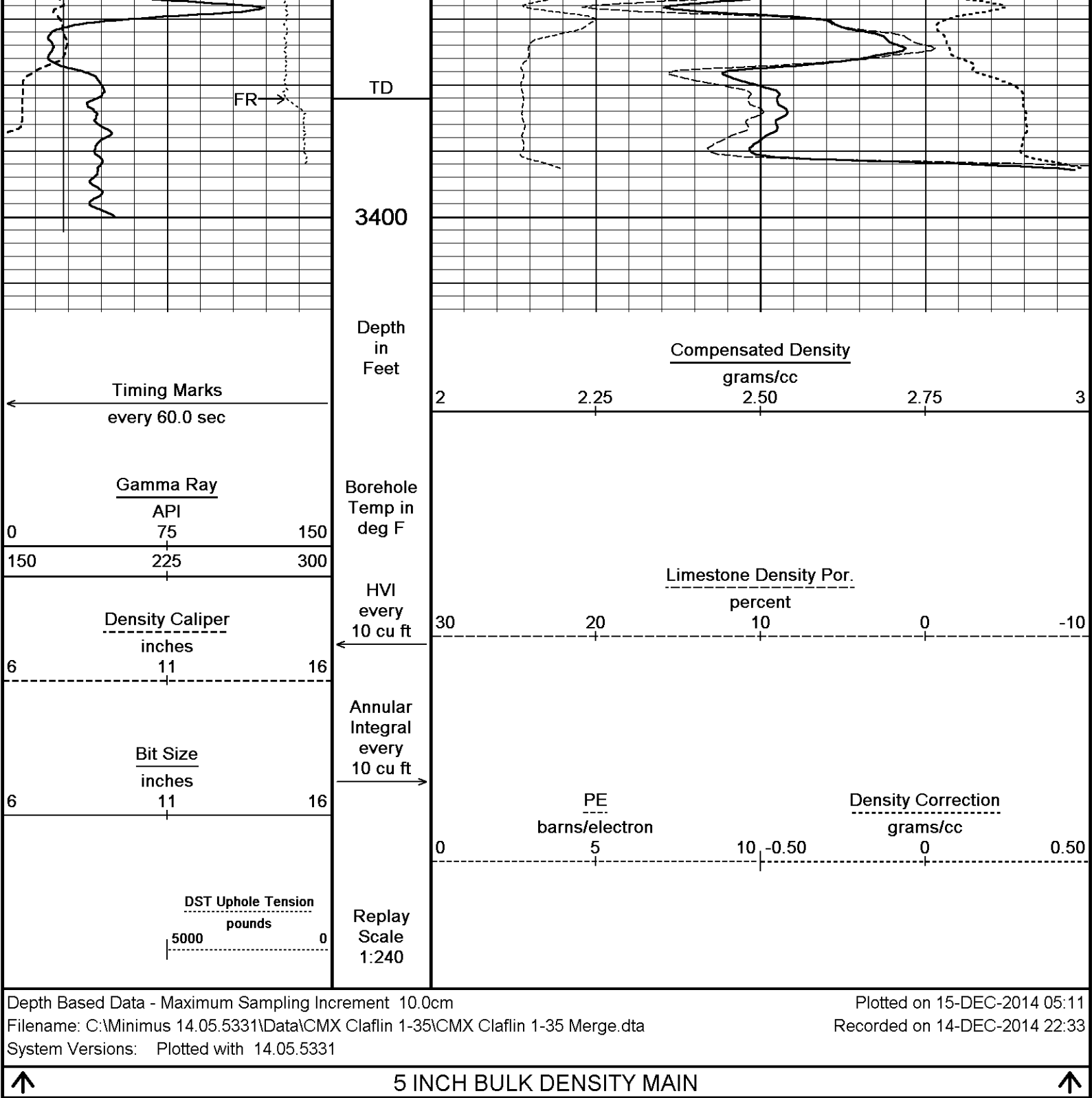
Limestone Density Por.  
percent

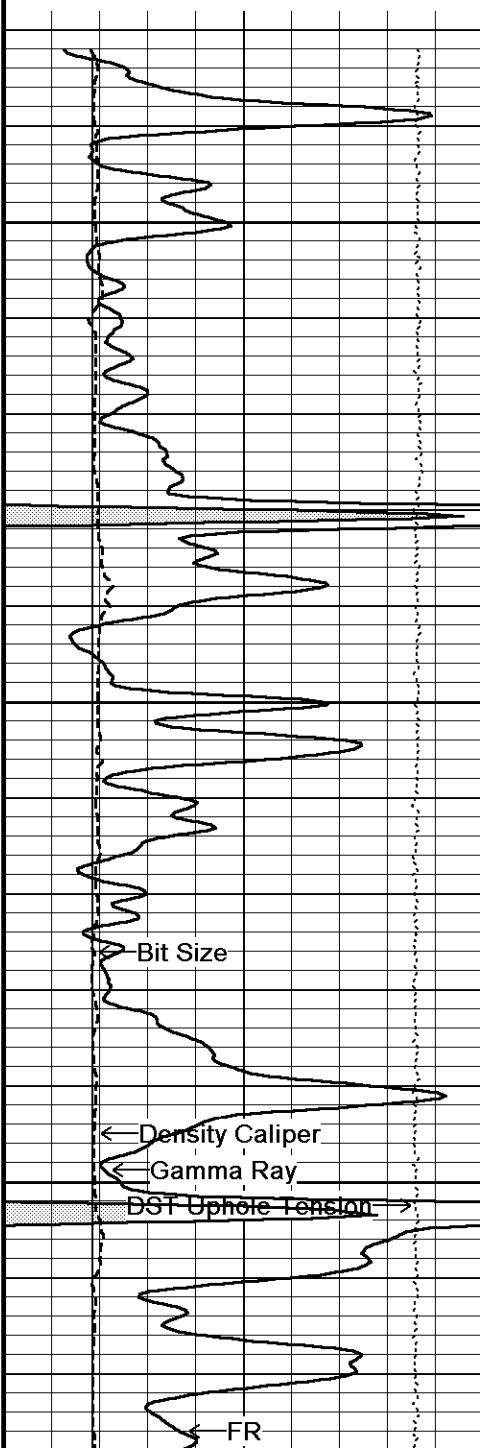
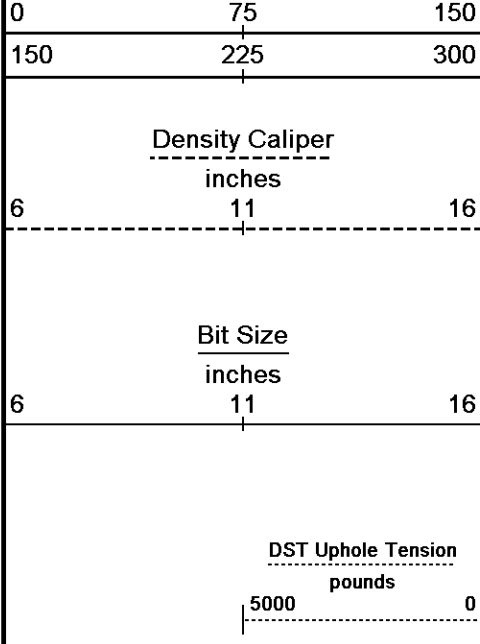
30 20 10 0 -10











deg F

HVI  
every  
10 cu ft

Annular  
Integral  
every  
10 cu ft

Replay  
Scale  
1:240

3180

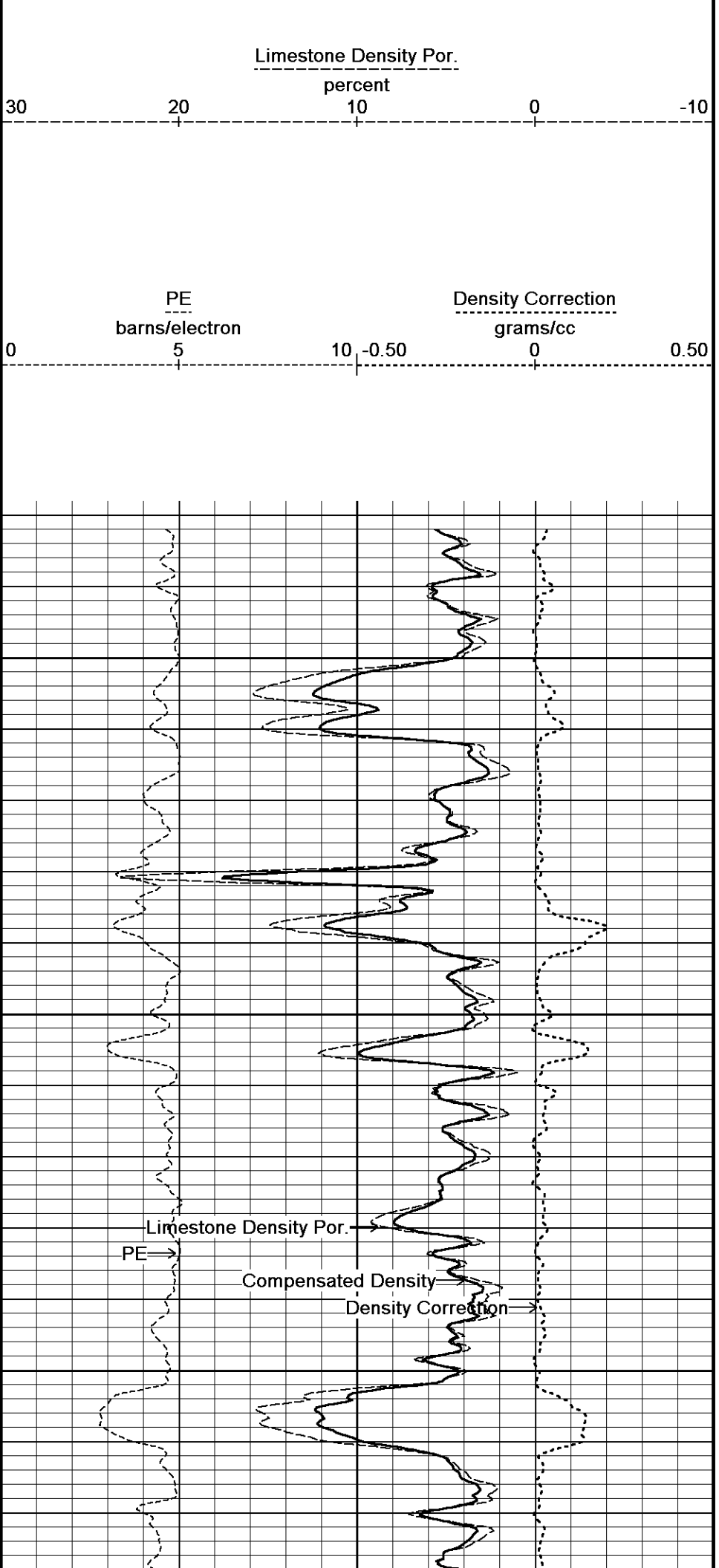
3200

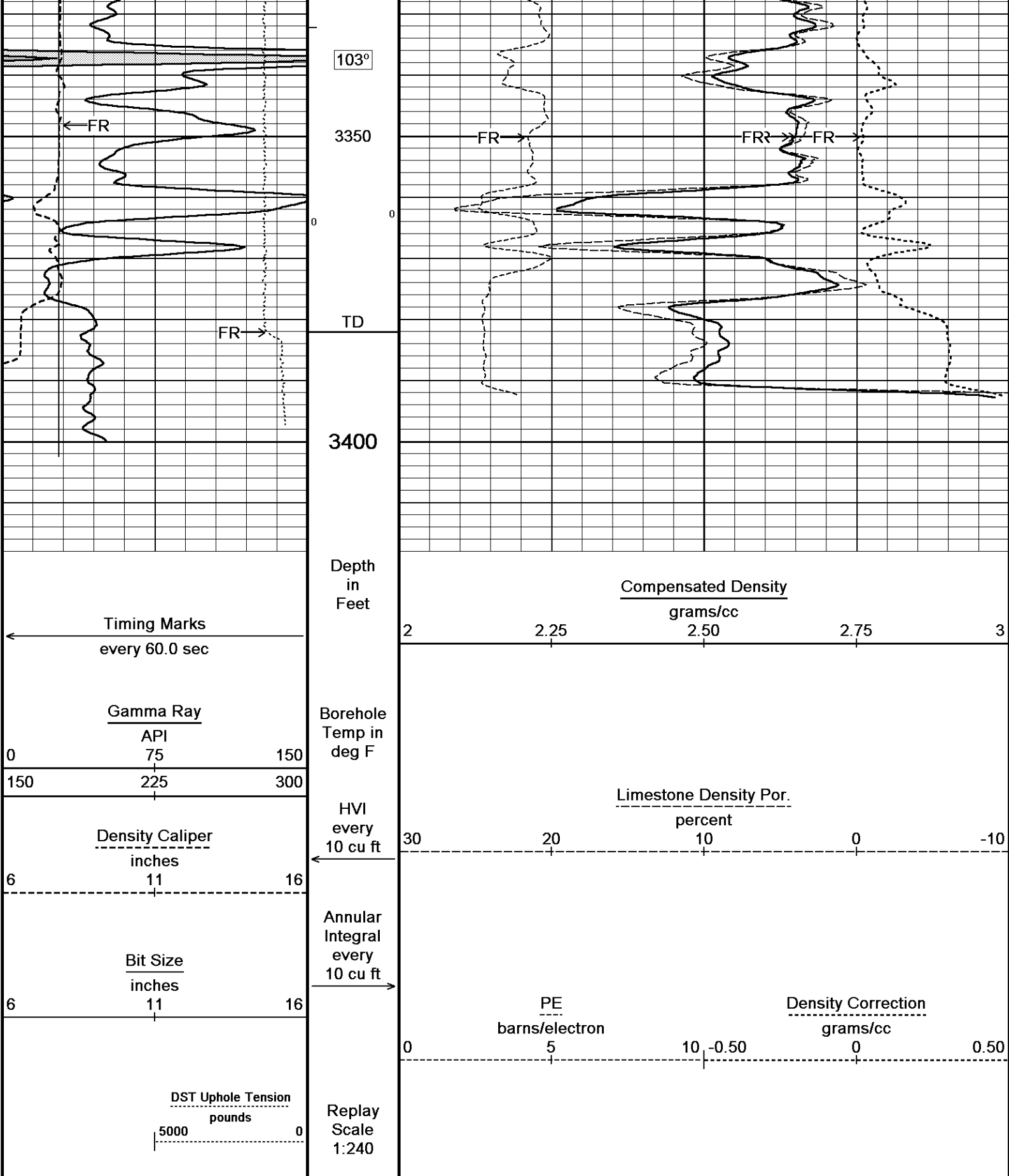
104°

3250

104°

3300





# DOWNHOLE EQUIPMENT

C:\Minimus 14.05.5331\Data\CMX Claflin 1-35\CMX Claflin 1-35 Porosity.dta

3/8" Triple Cone Cable Head (MCB C A)  
MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.244 in

Compact Comms Gamma  
MCG-D.K 443 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

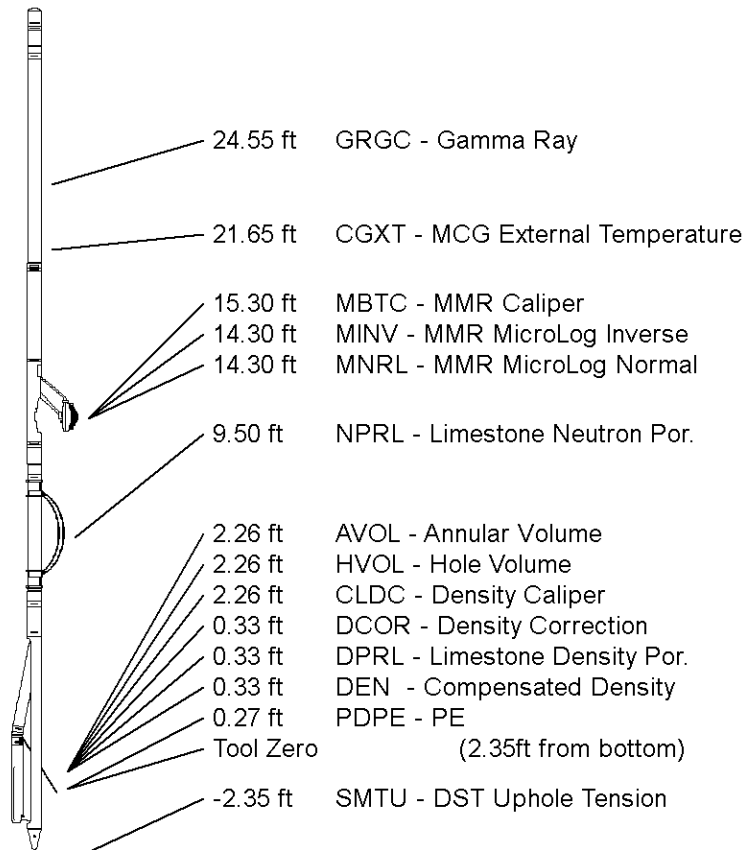
Compact Micro-Resistivity  
MMR-A 11 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron  
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper  
MPD-D.A 482 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Pressure Bung  
HFS 2 LG: 0.13 ft WT: 4.4 lb OD: 2.244 in

Total Length: 33.63 ft Weight: 306.4 lb



COMPANY CMX, INC.  
WELL CLAFLIN 1-35  
FIELD KRAFT - PRUSA  
PROVINCE/COUNTY BARTON  
COUNTRY/STATE U.S.A. / KANSAS

|                         |         |      |               |         |      |
|-------------------------|---------|------|---------------|---------|------|
| Elevation Kelly Bushing | 1939.00 | feet | First Reading | 3381.73 | feet |
| Elevation Drill Floor   | 1937.00 | feet | Depth Driller | 3383.00 | feet |
| Elevation Ground Level  | 1931.00 | feet | Depth Logger  | 3382.00 | feet |



**Weatherford®**

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COMPENSATED NEUTRON  
MICRORESISTIVITY LOG