

PACIFIC SURVEYS

CALIPER BOREHOLE VOLUMES

| | |
|---------------------|---------------------------------|
| Job No. 16247 | Company US GEOLOGICAL SURVEY |
| Well SDHF | |
| Field SAN DIEGO | |
| County SAN DIEGO | State CA |
| File No. | |

Location:
3917 FEDERAL BLVD
GPS: N 32o 43.139' W 117o 06.587'

Sec. _____ Twp. _____ Rge. _____

Other Services:
GRILL3
ELOG
SNC

| Permanent Datum | G.L. | Elevation | Elevation |
|---------------------------|---------------|-------------------|-----------------|
| Log Measured From | G.L. | above perm. datum | K.B. D.F. G.L. |
| Drilling Measured From | G.L. | | |
| Date | 11-05-2011 | | |
| Run Number | ONE | | |
| Depth Driller | 1640' | | |
| Depth Logger | 1640' | | |
| Bottom Logged Interval | 1640' | | |
| Top Log Interval | 0' | | |
| Casing Driller | N/A | | |
| Casing Logger | N/A | | |
| Bit Size | 8.75" TO 480' | 8.5" TO 990' | 7.875" TO 1640' |
| Type Fluid in Hole | BENTONITE | | |
| Density / Viscosity | N/A | | |
| pH / Fluid Loss | N/A | | |
| Source of Sample | PIT | | |
| Rm @ Meas. Temp | 4.8 @ 77F | | |
| Rmf @ Meas. Temp | 5.9 @ 77F | | |
| Rmc @ Meas. Temp | N/A | | |
| Source of Rmf / Rmc | MEASURE | | |
| Rm @ BHT | N/A | | |
| Time Circulation Stopped | 2.5 HRS | | |
| Time Logger on Bottom | 1845 | | |
| Max. Recorded Temperature | N/A | | |
| Equipment Number | PS-3 | | |
| Location | LA | | |
| Recorded By | SCHUMACHER | | |
| Witnessed By | A. BROWN | | |

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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

Calibration Report

Database File: 16247.db
 Dataset Pathname: CAL
 Dataset Creation: Sat Nov 05 23:16:09 2011 by Log Open-Cased 090629

Temperature Calibration Report

Serial Number: PS-3_Short
 Tool Model: Short_GPH
 Performed: Fri Nov 04 15:09:55 2011

| | Reference | Reading |
|-----------------|-----------|------------|
| Low Reference: | 4.00 degF | 446.36 cps |
| High Reference: | 8.00 degF | 703.01 cps |
| Gain: | 0.02 | |
| Offset: | -2.96 | |
| Delta Spacing | 1 | |

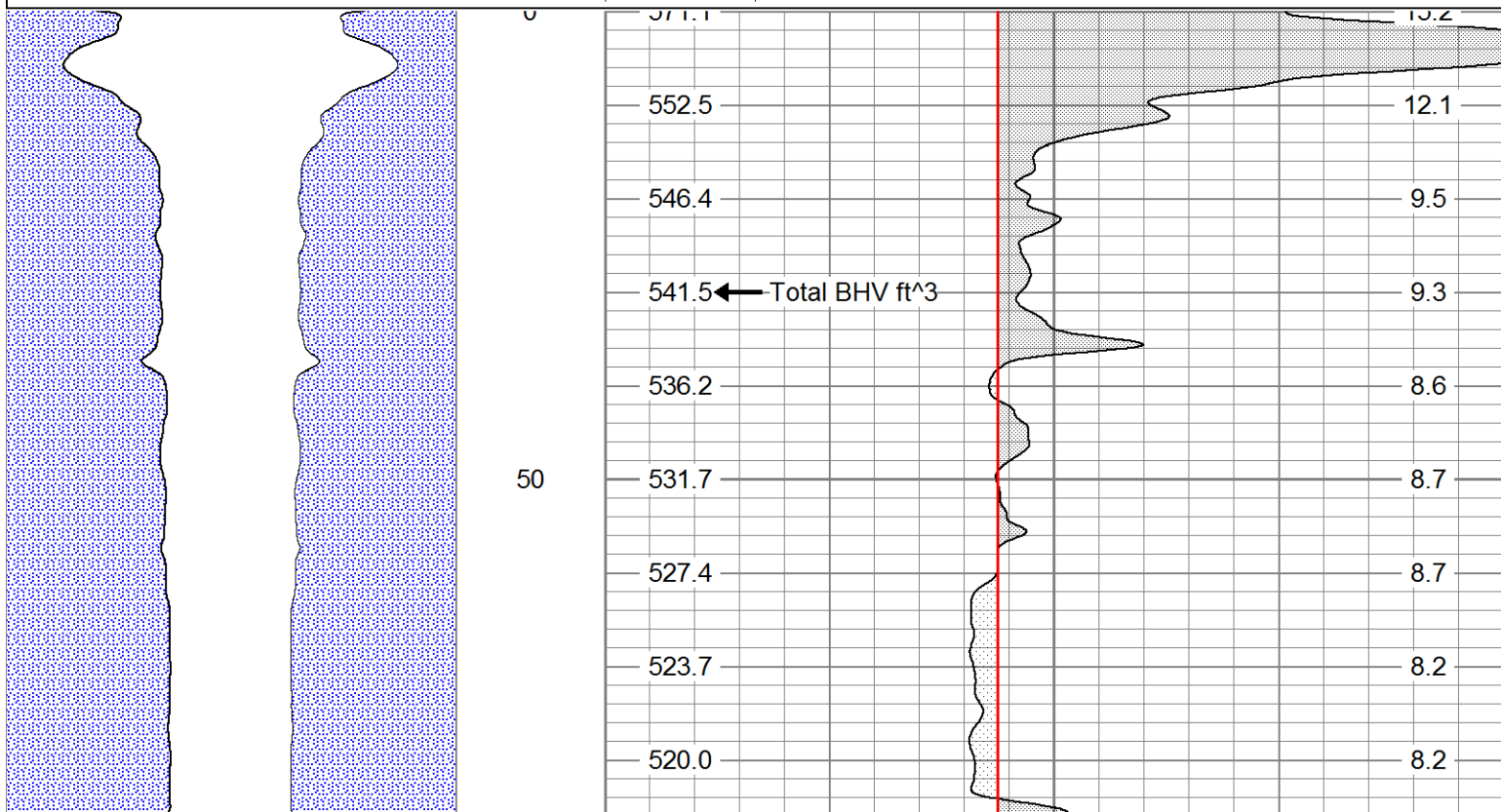
XY Caliper Calibration Report

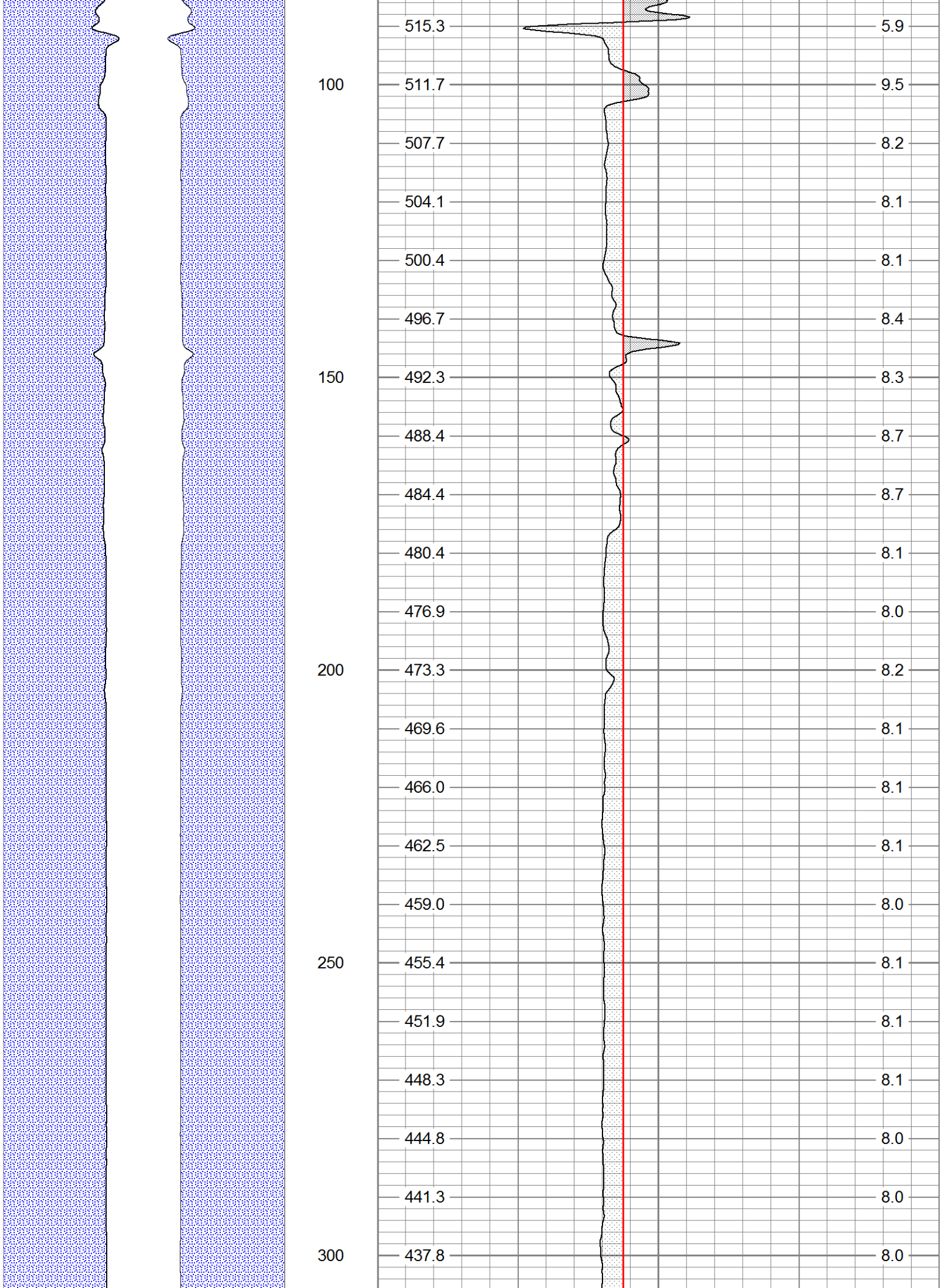
Serial Number/Model: Short-Comprobe
 Performed: Wed Jul 06 14:17:30 2011

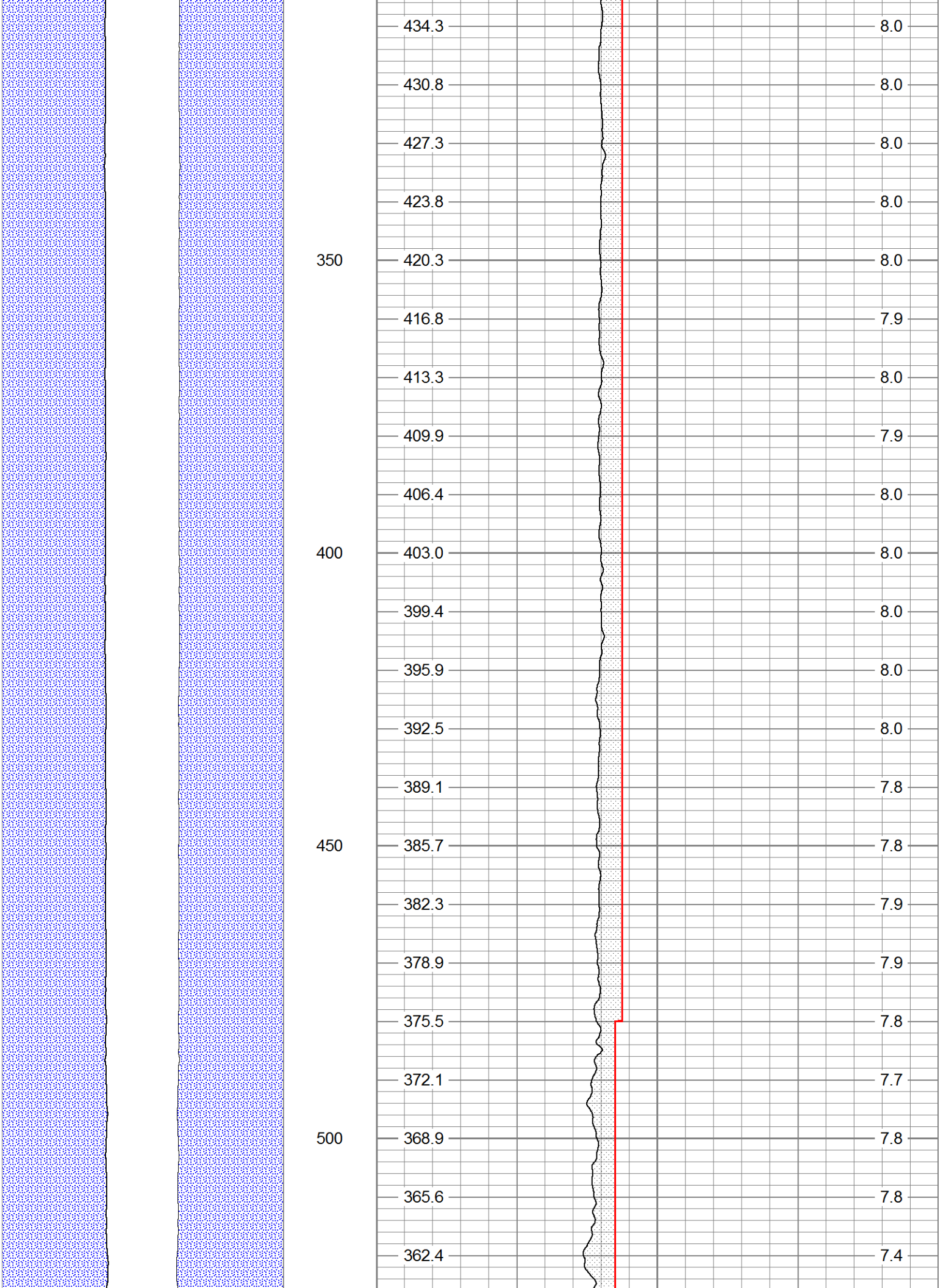
| Ring | X Caliper | Y Caliper |
|----------|-------------|-------------|
| 1: 4 in | 323.326 cps | 323.326 cps |
| 2: 8 in | 446.363 cps | 446.363 cps |
| 3: 12 in | 575.851 cps | 575.851 cps |
| 4: 16 in | 703.014 cps | 703.014 cps |
| 5: 20 in | 834.164 cps | 834.164 cps |
| 6: in | cps | cps |

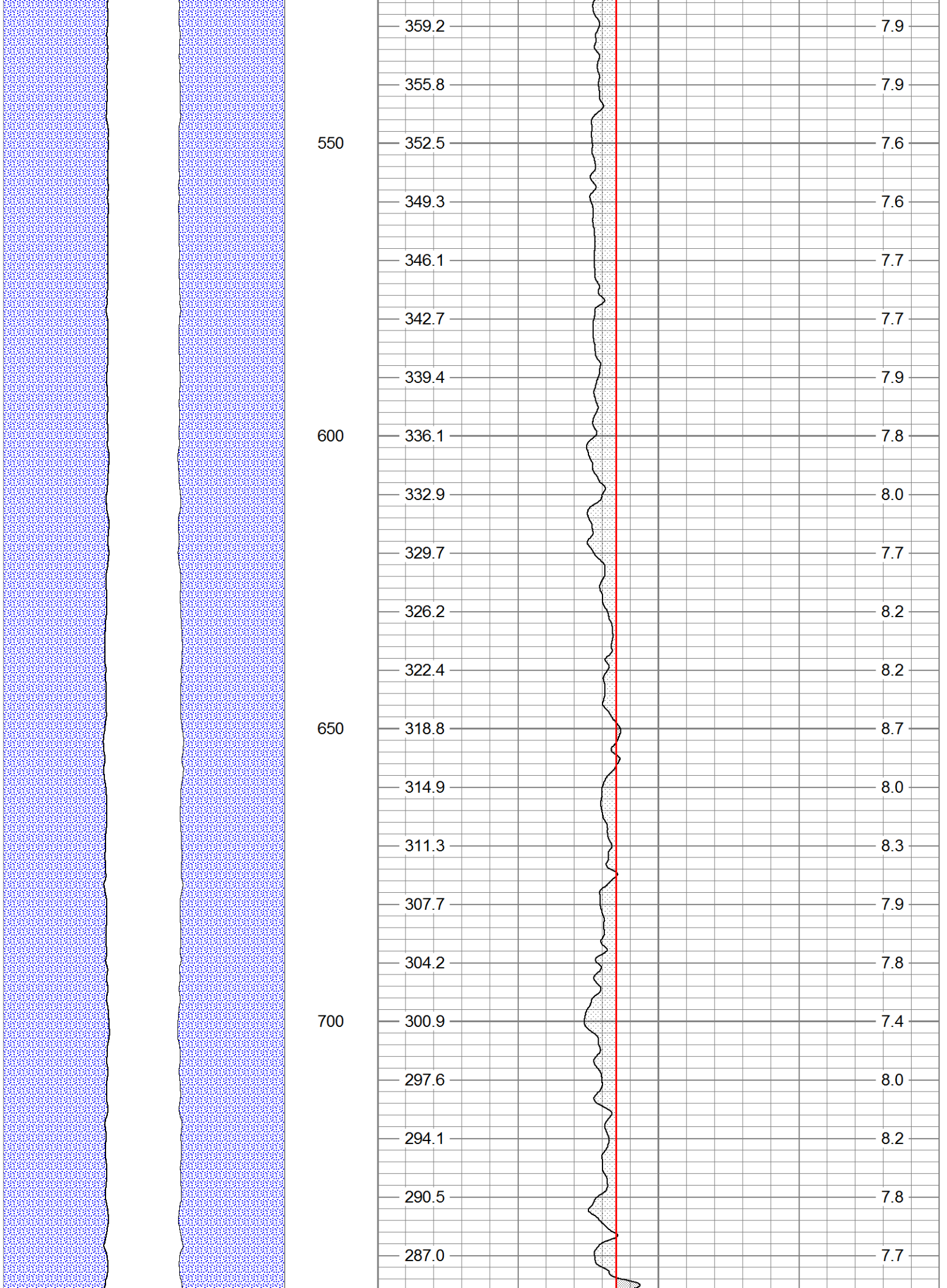
Database File: 16247.db
 Dataset Pathname: CAL
 Presentation Format: xyc_gph
 Dataset Creation: Sat Nov 05 23:16:09 2011 by Log Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

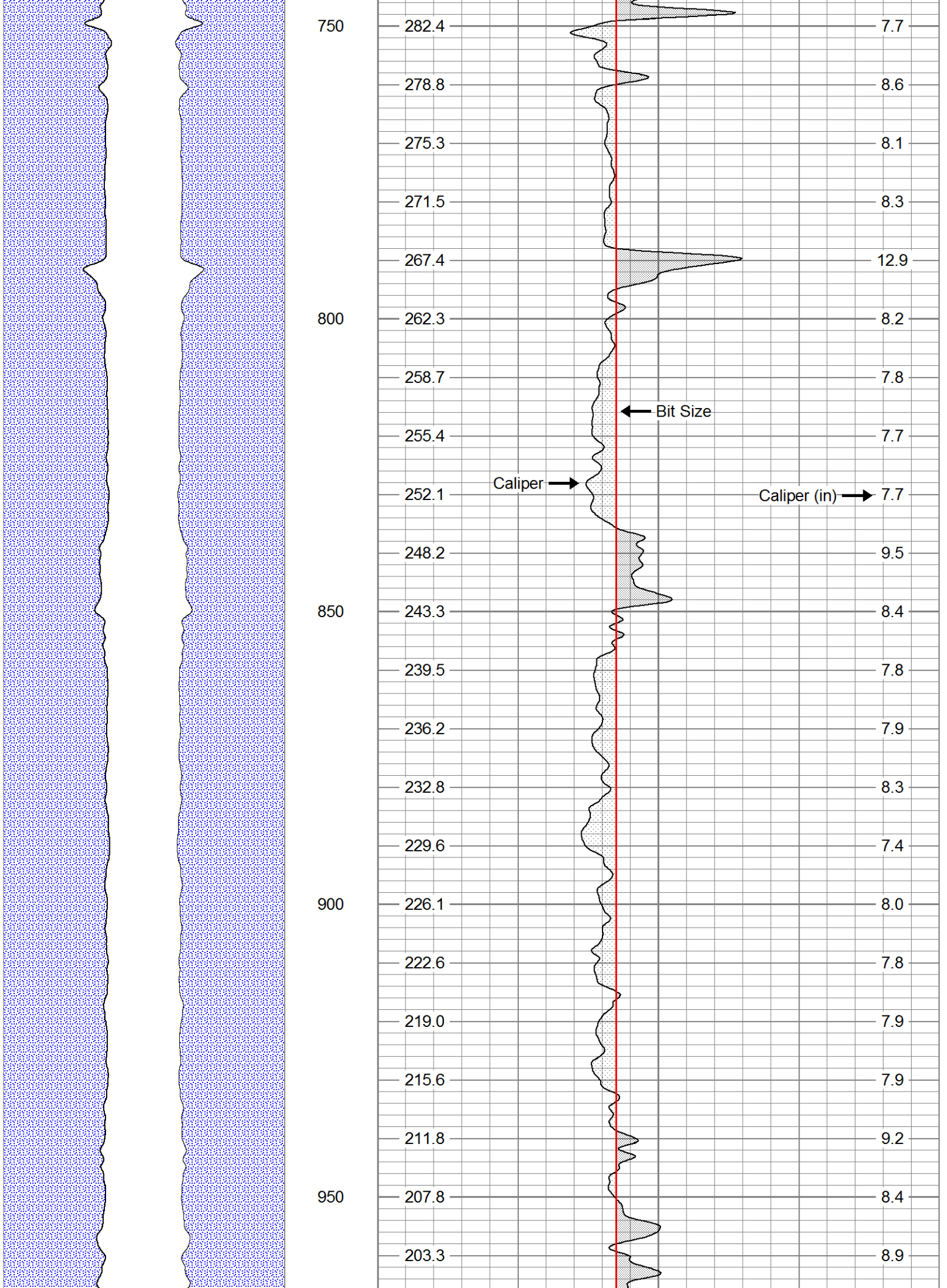
| | | | |
|---|-------------------------|---------------|--------------|
| CSG SCHEDULE Pipe(s) proportional to Hole Size | 0 | Caliper (in) | 20 |
| | 0 | Bit Size (in) | 20 |
| | total BHV ft^3 (ft3) | | Caliper (in) |

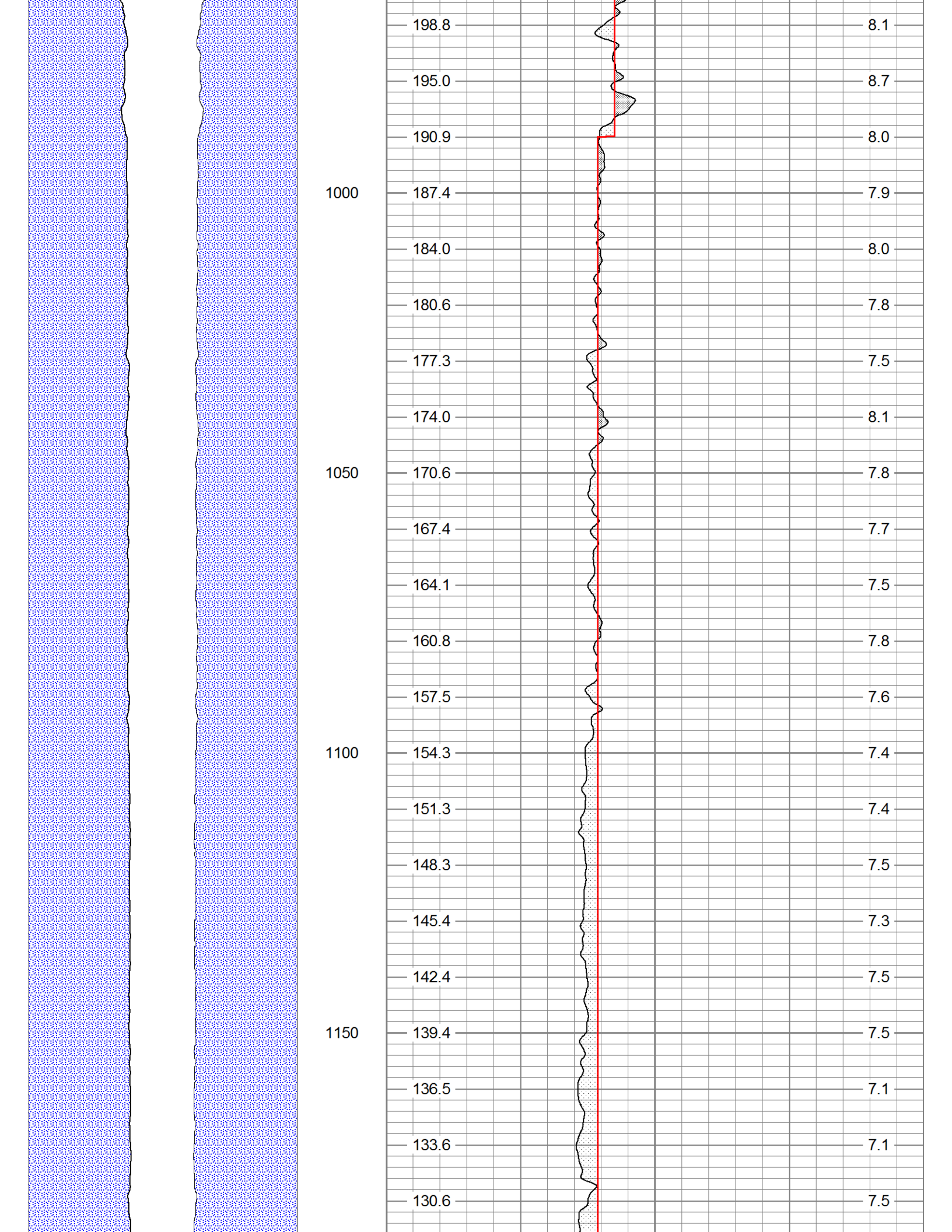


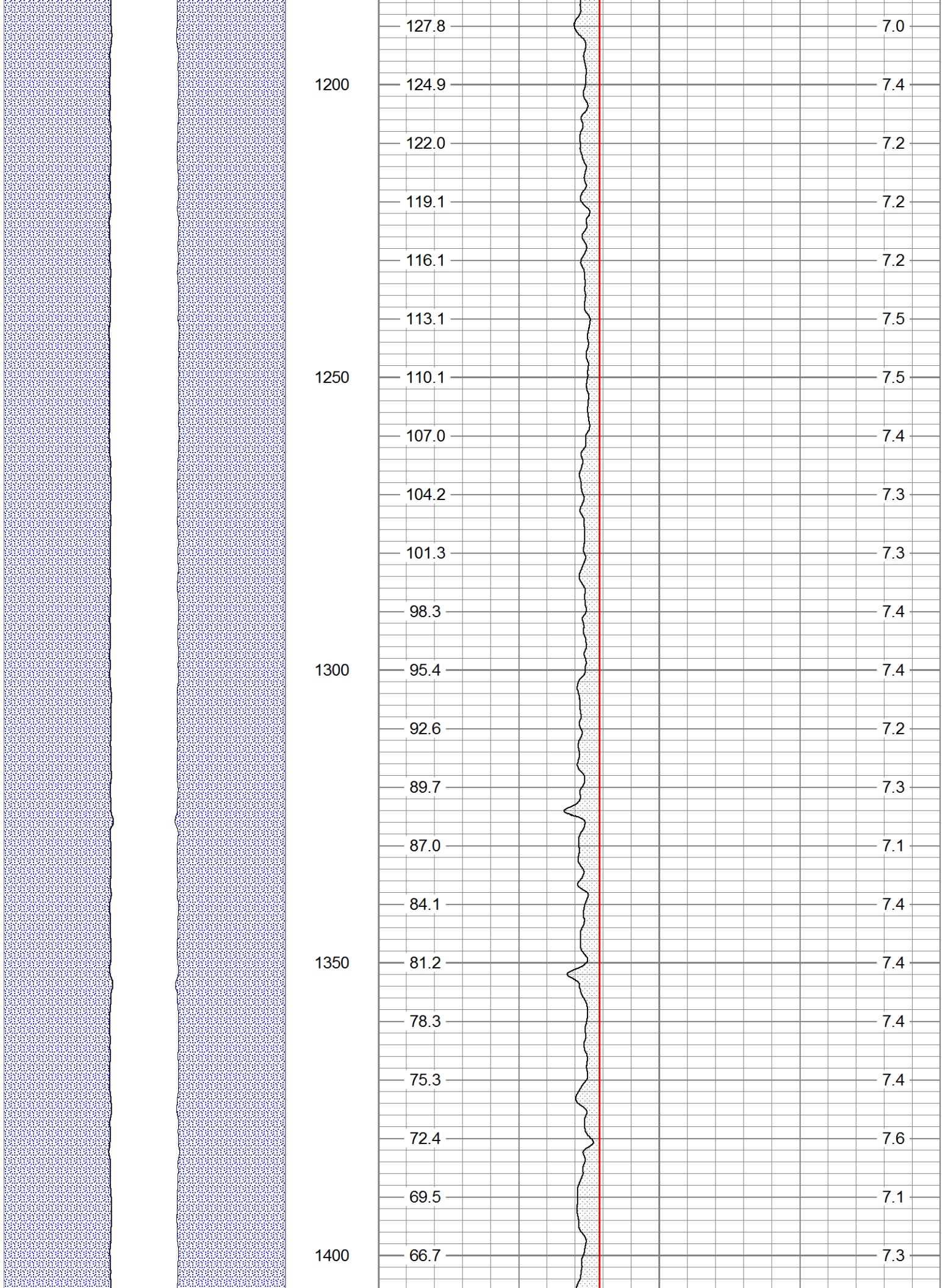


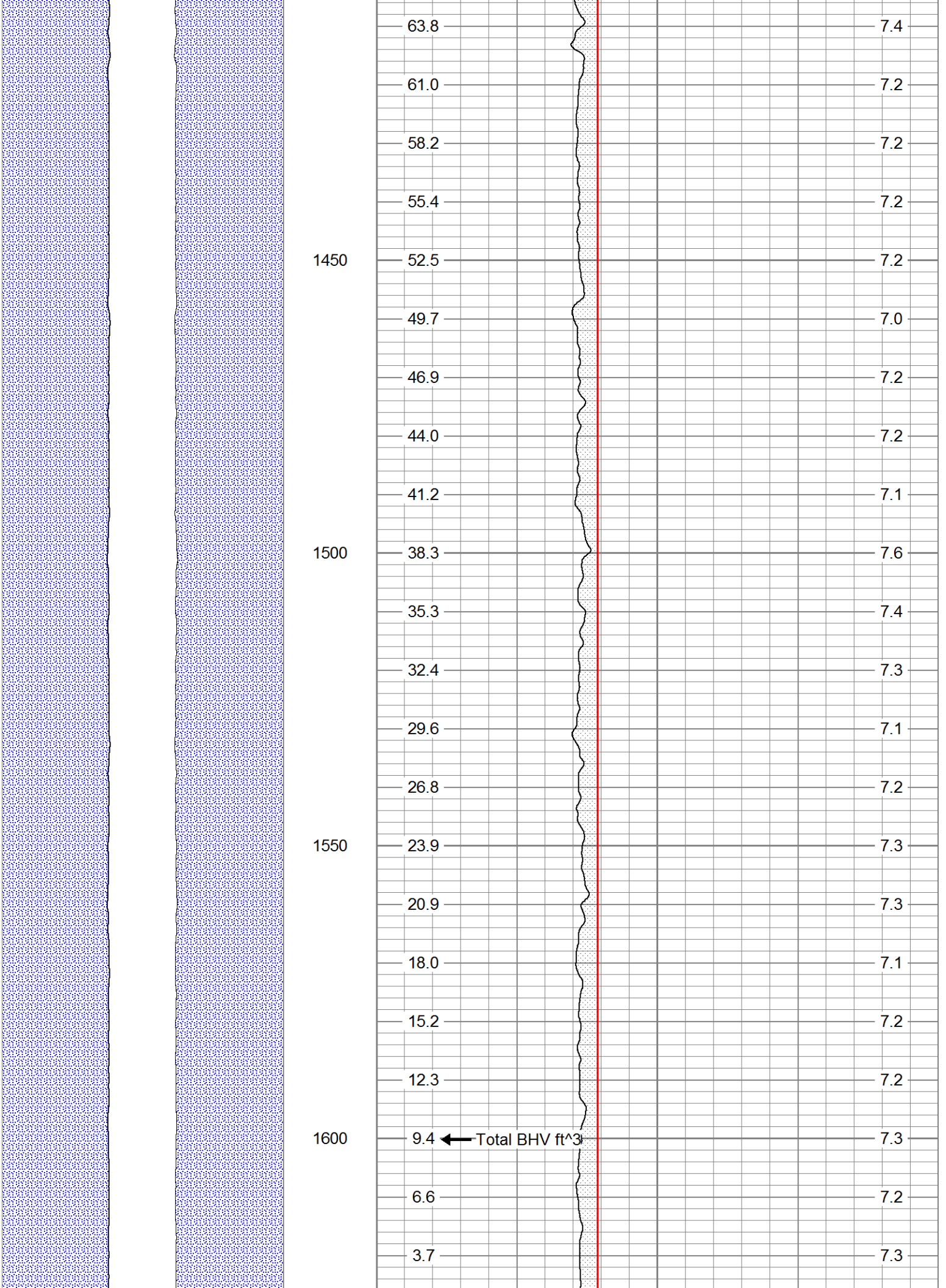


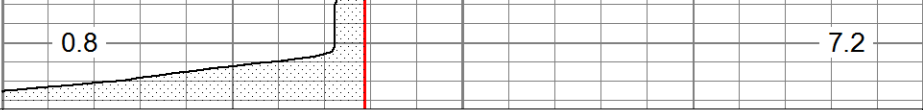
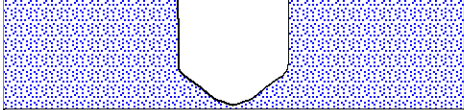












CSG SCHEDULE
Pipe(s) proportional to Hole Size

| | | |
|------------------------------------|---------------|----|
| 0 | Caliper (in) | 20 |
| 0 | Bit Size (in) | 20 |
| total BHV ft ³ (ft3) | Caliper (in) | |