MECHANICAL INTEGRITY TEST
CONDUCTED IN THE
BURNT STORE
CLASS I INJECTION WELL IW-2,
CHARLOTTE COUNTY, FL

Prepared for:

Stantec Consulting Services
1777 Tamiami Trail, Suite 206
Port Charlotte, Florida 33948

and

Charlotte County Utilities
25550 Harborview Road
Port Charlotte, FL 33982

July, 2013

Prepared by:

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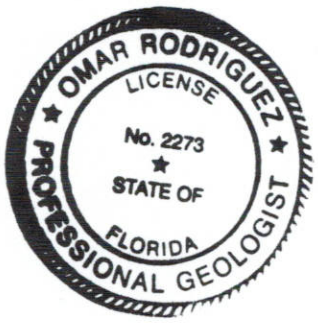
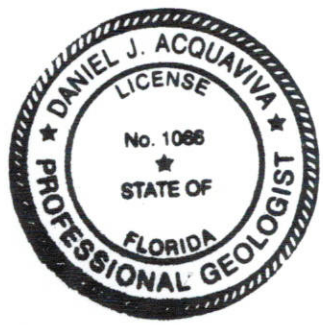
FL Geology Business License #GB560

Project # 13-692





Omar Rodriguez 7/12/13
Omar Rodriguez, P.G
President
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I. INTRODUCTION

The Charlotte County Utilities (CCU) Burnt Store reverse osmosis (RO) water treatment plant (WTP) and wastewater treatment plant (WWTP) Class I injection well 2 (IW-2) is located in southwestern Charlotte County, Florida (Figure 1-1). The well disposes of RO concentrate and excess treated municipal wastewater during periods when the treated wastewater is not needed for reuse irrigation. Operation of this well is regulated by Florida Department of Environmental Protection (FDEP) underground injection control (UIC) permit # 271367-004 (Appendix A). A mechanical integrity test (MIT) is required to be performed on IW-2 every five years. The last MIT was performed during the period of July 17 to July 22, 2008. Therefore, an MIT needed to be performed in the well prior to July 22, 2013.

IW-2 was reported to have been constructed with 24-inch diameter steel injection casing set to a depth of 2,503 below land surface (BLS), with an open-hole section to a depth of 3,003 feet BLS (Figure 1-2). Eighteen-inch outside diameter fiberglass reinforced pipe (FRP) tubing was reported set at a depth of 2,492 feet BLS. The annulus between the tubing and the casing was fully cemented at the time the well was constructed. The maximum permitted injection rate of well IW-2 is 2,000 gallons per minute (gpm), which equates to a maximum daily injection rate of 2.88 million gallons per day (MGD).

An MIT procedure plan was submitted to the Florida Department of Environmental Protection (FDEP) on March 8, 2013. FDEP approval for the planned MIT procedures (Appendix B) was received on April 17, 2013. The planned MIT included a video survey of the interior of the casing and the open-hole section of the well, a casing pressure test, a high resolution temperature log, and a radioactive tracer survey (RATS).

MIT operations began on June 24, 2013 and were completed on June 28, 2013. The well contractor for the MIT was All Webbs Enterprises (AWE) of Jupiter. During the period when the MIT was conducted, treated wastewater was directed to either well IW-1 or the on-site percolation ponds (Figure 1-3). The MIT, described in more detail herein, was successfully conducted in accordance with the planned procedures. A daily report, detailing activities conducted each day during the MIT, is provided in Appendix C.

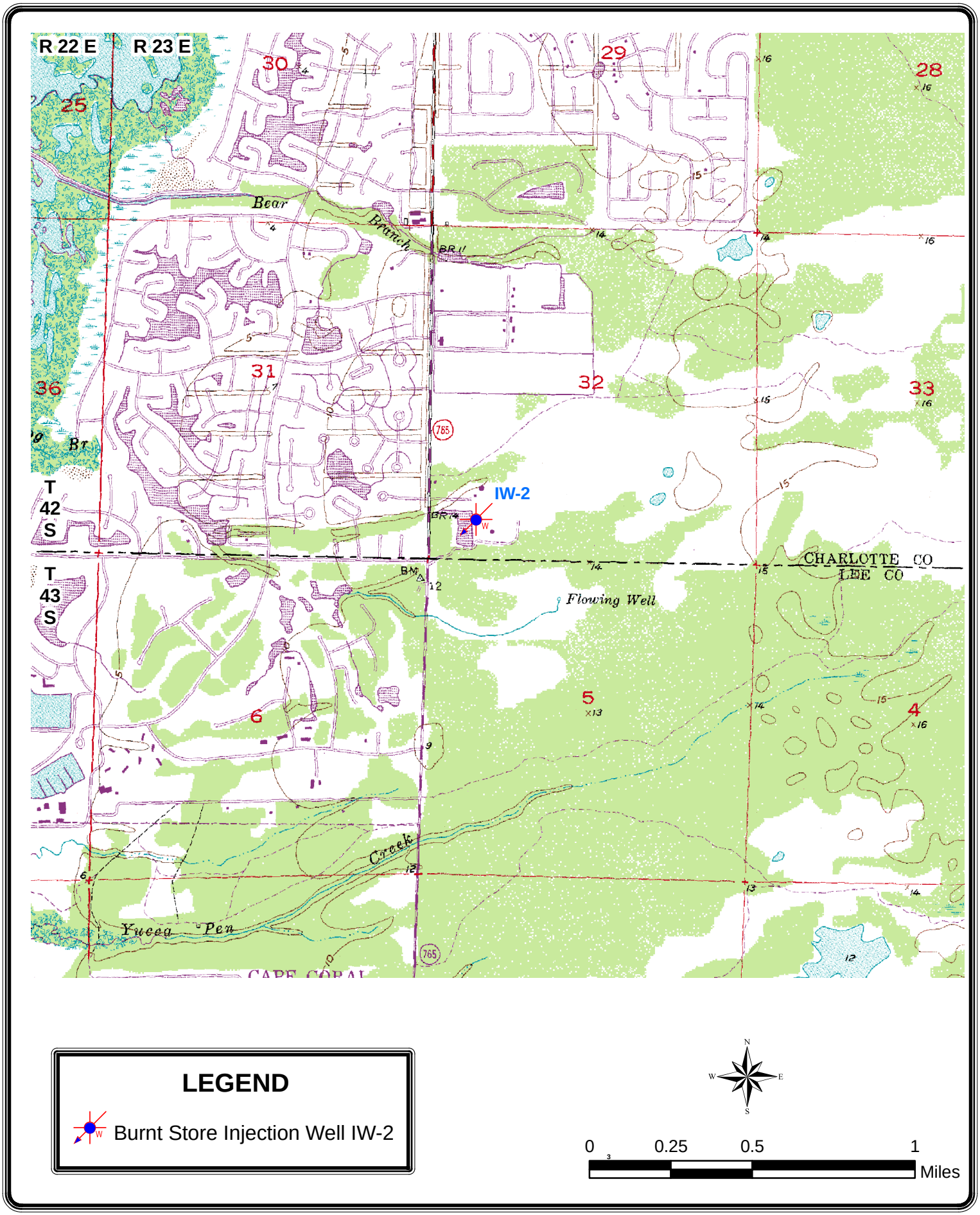
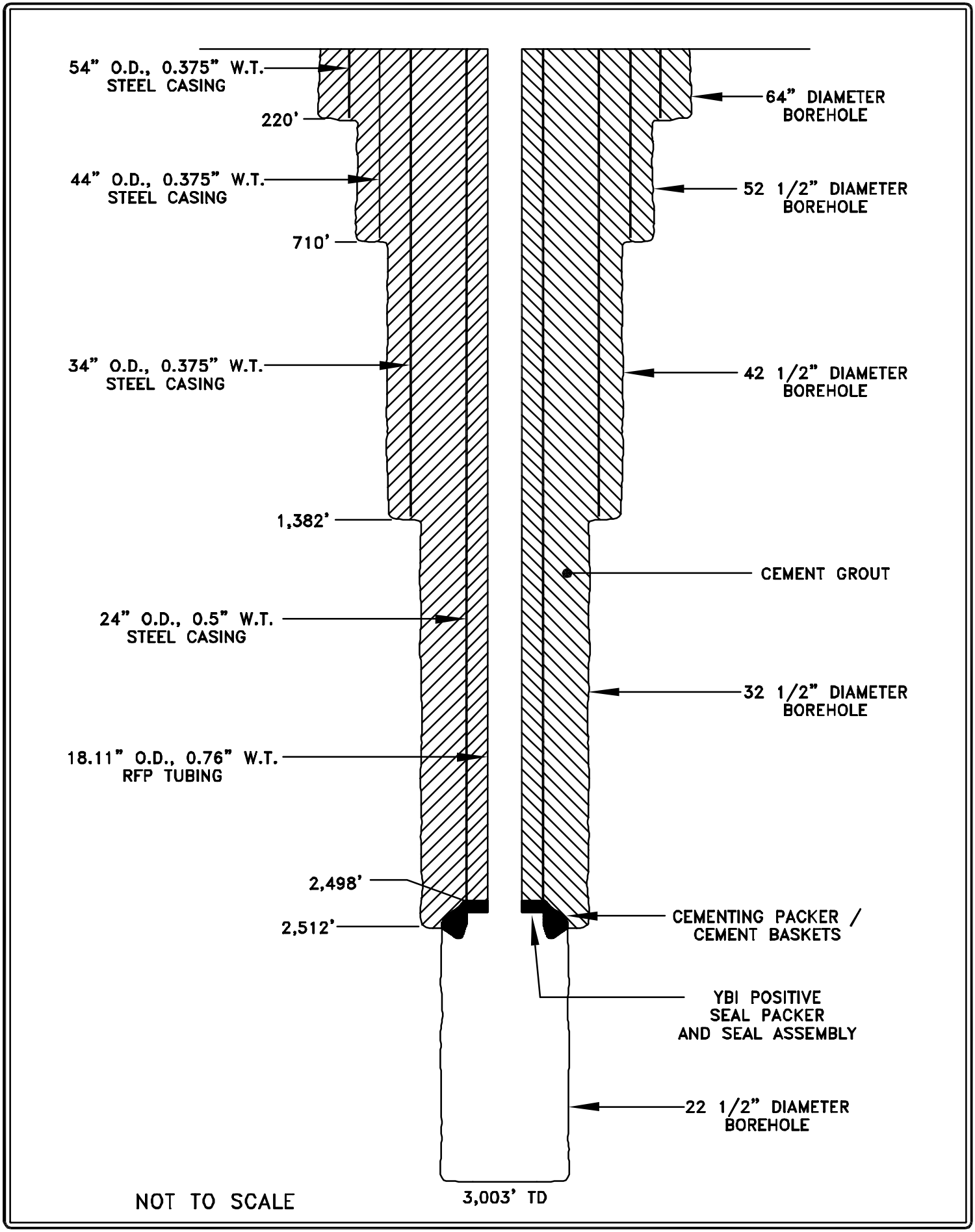


FIGURE 1-1. USGS TOPOGRAPHIC MAP SHOWING LOCATION OF CCU BURNT STORE INJECTION WELL IW-2.



RMA GeoLogic Consultants, Inc.	PROJECT NAME: BURNT STORE IW-2	
	PROJECT NUMBER: 13-692	DATE: 7/1/13

FIGURE 1-2. SCHEMATIC DIAGRAM SHOWING INJECTION WELL IW-2 CONSTRUCTION DETAILS.

FIGURE 1-3. AERIAL PHOTO SHOWING LOCATION OF CCU BURNT STORE INJECTION WELL IW-2.

II. VIDEO SURVEY

On June 27, 2013, AWE connected a 3-inch diameter flexible hose from a potable water hydrant to the wellhead. A total of approximately 96,400 gallons of fresh water were pumped into the well overnight (i.e. pumping for a period of 11 hours at an approximate rate of 146 gallons per minute) to prepare the well for the video survey. The purpose of the video survey was to inspect the condition of the casing and open-hole section of the well. During the video survey, water was pumped into the well at a rate of approximately 150 gpm.

The video survey of the 18-inch diameter FRP tubing interior and open-hole portion of the injection well did not indicate the presence of a significant amount of incrustation. No evidence of impairment to the tubing was detected. Therefore, it was determined that brushing of the tubing interior was not necessary. AWE did have a non-metallic brush on-site in case brushing was needed.

The video survey indicated the bottom of the casing at a depth of 2,512 feet below pad level (BPL). Based on the FDEP records the casing setting depth of the well was reported to be 2,503 feet. At the bottom of the casing, cement grout was observed in the annulus between the casing and the formation. The base of the FRP tubing was at a depth of 2,498 feet BPL. It was previously reported to be 2,492 feet BPL. A copy of the video survey is included in Appendix D.

The open-hole portion of the injection well, as detailed in the UIC permit, extends from 2,512 to 3,003 feet BPL. The video camera was able to pass to total depth.

Extensive fracturing of the open-hole portion of the borehole was observed, but only small caverns were present.

III. CASING PRESSURE TEST

A pressure test on the 16.59-inch inside diameter (18.11-inch outside diameter) FRP tubing was conducted by installing an inflatable packer in the well to a depth of 2,478 feet BPL (i.e. approximately 20 feet above the base of the tubing). Prior to commencing the operations to set the packer in the injection well, the well flow was killed with 8,000 pounds of salt. Thereafter, a 12-inch diameter, 20.9 feet long packer assembly with an inflatable section of 6.6 feet was lowered into the well on 2.375-inch diameter steel tubing. The inflatable section of the packer was set at a depth of 2,474.7 to 2,481.3 feet BPL, with the centerline at 2,478.0 feet BPL. The inflated packer was used to create a seal between the base of the tubing and the open-hole section of the well. The wellhead was equipped with a pressure gauge and a valve.

The casing pressure test was successfully conducted on June 26, 2013 by pressurizing the well to 150.5 pounds per square inch (psi). A pressure gauge, last calibrated on June 7, 2013 (Appendix E), was used to measure the pressure. The pressure was recorded at five minute intervals for a period of 60 minutes. A pressure decline of 1.0% occurred after one hour. Therefore, the casing pressure test was successful completed within the 5% tolerance stipulated by the FDEP. Representatives of the FDEP, RMA GeoLogic Consultants, AWE, and CCU witnessed the casing pressure test. A copy of the casing pressure test record is also provided in Appendix E.

After successfully completing the casing pressure test, the packer was deflated and removed from the well.

IV. HIGH RESOLUTION TEMPERATURE LOG

A high resolution temperature log of the injection well was conducted on June 28, 2013. A temporary standpipe assembly was installed on the wellhead to prevent the well from flowing during the period that the high resolution temperature log was conducted. The purpose of the temperature log was to provide information that could indicate any leaks in the casing. Changes in temperature resulting from formation fluid moving into the tubing can be identified by use of such a log.

The high resolution temperature logging was conducted by AWE and witnessed by an on-site RMA geologist. A maximum temperature of 83.7 degrees Fahrenheit was recorded in the tubing. The temperature log indicated no significant temperature anomalies in the tubing. The maximum temperature recorded in the open-hole was 95.3 degrees Fahrenheit.

The high resolution temperature log therefore does not indicate evidence of any leaks in the casing. A copy of the high resolution temperature log is included in Appendix F.

V. RADIOACTIVE TRACER SURVEY

A radioactive tracer survey (RATS), was conducted in the injection well on June 28, 2013. The purpose of the RATS was to determine whether any upward movement of injected fluid is occurring around the outside of the base of the casing. The RATS was conducted by AWE and witnessed by an on-site RMA geologist.

The RATS tool was configured with a lower or bottom gamma ray tool (GRB), a casing collar locator (CCL), a middle gamma ray tool (GRM), a radioactive tracer ejector, and an upper or top gamma ray tool (GRT). The configuration of the tool used in the test is shown on the RATS log included in Appendix G. The same standpipe assembly, attached to the well header, utilized during the high resolution temperature survey, was used for the RATS.

The radioactive tracer used was Iodine-131. The volume of this material loaded into the ejector was 5 millicuries. A copy of the laboratory certificate for this fluid is included in Appendix G.

The initial portion of the RATS was performed while the well was shut in. A background gamma ray (GR) log was run from total depth to land surface.

During the dynamic RATS testing, water was injected into the well at a rate of approximately 52 gallons per minute (gpm). The RATS ejector was positioned inside the casing and 5 feet above the base of the tubing, at a depth of 2,493 feet BPL. During Test 1, a volume of 1 millicurie of the tracer was ejected. The RATS tool was held in place for a period of 60 minutes to determine any upward movement of fluid as detected by the GRT tool. The tracer was detected at the GRM detector after approximately 20 seconds, and arrived at the GRB detector after 2 minutes and 30 seconds. The GRM detector was 2.8 feet below the ejector port at a depth of 2,495.8 feet BPL inside the casing. The GRB detector was below the base of the tubing at a depth of 2,506.4 feet BPL. No change in the radioactivity level was indicated at the GRT detector during the 60 minute duration of this test. These results indicate that there is no upward movement of injected water outside the base of the injection casing.

After completing the initial dynamic RATS test, the well casing was flushed by injecting 44,900 gallons of raw RO supply water. A GR log was then run to 200 feet above the base of the casing. All GR detectors indicated radioactivity at background levels. Therefore, no upward movement of the tracer behind the casing occurred.

A second dynamic RATS test (Test 2) was then performed using an eject volume of 2 millicurries, with the RATS tool held in place at the same depth as during Test 1 for a period of 30 minutes. During Test 2 water was injected into the well at a rate of approximately 52 gpm. The results of the dynamic RATS Test 2 were similar to those observed during the first test. The radioactive tracer was detected at the GRM detector approximately 20 seconds after release and at the GRB detector approximately two minutes and 10 seconds after release. There was no change in the response of the GRT detector during the 30 minutes this test was performed. This test confirmed that no upward movement of injected fluid occurred behind the casing. At the conclusion of the 30-minute logging period, a GR log was run to 200 feet above the base of the casing.

After completing the second dynamic RATS test, the RATS tool was lowered into the open-hole and the remaining radioactive tracer solution was ejected at total depth. The well was then flushed by injecting approximately 35,125 gallons of raw RO supply water.

A final GR log was performed from total depth to land surface. The radioactivity levels observed during this final GR log were similar to those observed during the background log

As detailed above, during the radioactive tracer survey conducted in well IW-2 on June 28, 2013, no upward movement of the radioactive tracer was noted during any portion of the test. A copy of the geophysical log for the radioactive tracer survey is contained in Appendix G of this report. Copies of the laboratory record for the radioactive solution and the flowmeter calibration record are also provided in Appendix G.

After completing the RATS, the wellhead was reassembled and the injection well was ready to again accept RO concentrate and wastewater by 2:30 PM on June 28, 2013.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

The following conclusions are made as a result of the mechanical integrity test conducted in the Burnt Store injection well IW-2:

- The video survey conducted in the injection well indicates that the 16-inch diameter FRP tubing has no significant incrustation. Therefore, brushing of the tubing interior was determined unnecessary.

- A successful casing pressure test was conducted in the 16-diameter FRP injection tubing at a pressure of 150.5 psi, confirming the tubing integrity.

- The high resolution temperature log also confirmed tubing integrity.

- The radioactive tracer survey conducted in the injection well indicated that no upward injectate movement occurred around the base of the casing.

- The operations conducted as part of the mechanical integrity testing of the Burnt Store injection well IW-2 demonstrates the integrity of the injection well to continue to dispose of RO concentrate and treated wastewater.

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B. Recommendations

The following recommendations are made as a result of the mechanical integrity test conducted in the Burnt Store injection well IW-2:

- The next scheduled MIT for the well should occur prior to June 28, 2018.

APPENDIX A

COPY OF FDEP UIC CLASS I OPERATIONAL PERMIT

Florida Department of Environmental Protection

South District
P.O. Box 2549
Fort Myers, Florida 33902-2549

SENT VIA ELECTRONIC MAIL:

In the Matter of an
Application for Permit by:

September 20, 2011

Ms. Terri Couture, Director
Charlotte County Utilities,
25550 Harbor View Road, Unit 1
Port Charlotte, Florida 33980
Email: Terri.Couture@charlottefl.us

Charlotte County - UIC
FDEP File Number: 271367-004-UO/1I WACS ID 72428
Burnt Store, Class 1 Injection System
IW-2 Operation Permit

NOTICE OF PERMIT

Enclosed is Permit Number 271367-004-UO/1I for operation of a Class I Injection Well (IW-2), system, issued pursuant to Section(s) 403.087, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Lee County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Jon M. Iglehart
Director of
District Management

CERTIFICATE OF SERVICE

The undersigned designated clerk hereby certifies that this **NOTICE OF PERMIT** and all copies were mailed before the close of business on September 20, 2011 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

9-20-11

Date

JMI/DR/mac

Enclosure

Cc Nancy Marsh, EPA (marsh.nancy@epa.gov)
Joe Haberfeld, FDEP (joe.haberfeld@dep.state.fl.us)
James Alexander, FDEP (James.Alexander@dep.state.fl.us)
Dan Acquaviva, RMA, (dacquaviva@rma-geologic.com)
Omar Rodriquez, RMA, (orodriquez@rma-geologic.com)
Richard Michael, P.E., Stantec, (dick.michael@stantec.com)

Florida Department of Environmental Protection

South District
P.O. Box 2549
Fort Myers, Florida 33902-2549

PERMIT

PERMITTEE:
Ms. Terri Couture, Director
Charlotte County Utilities,
25550 Harbor View Road, Unit 1
Port Charlotte, Florida 33980
Email: Terri.Couture@charlottefl.us

Charlotte County - UIC
FDEP File Number: 271367-004-UO/1I
WACS ID 72428
Date of Issue: **September 20, 2011**
Expiration Date: **September 19, 2016**
Latitude: 26° 46′ 19.6″ N
Longitude: - 82° 02′ 08.8″W
Township, Section, and Range: T42S/32/R23E

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Rules 62-4, 62-520, 62-528, 62-550, 62-600, 62-601, and 62-660. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Operate one, (1), nominal, 24-inch, (24″) outside diameter, (O.D.), tubing and packer Class I injection well (IW-2), with cemented twenty four-inch O.D., (24″) steel injection casing and a nominal 18–inch O.D. FRP injection tubing set to approximately 2492 feet below land surface (bls) and a total depth of 3003 feet bls with a nominal 23-inch open hole interval existing between 2492 and 3003 feet bls.. Injection is into the Lower Oldsmar Formation for the primary means of disposal of non-hazardous, reverse osmosis concentrate and secondary treated domestic effluent from the Charlotte County Utilities Burnt Store WTP and WRF for a maximum disposal of 2000 gallons per minute, (gpm), or 2.88 million gallons per day (MGD). The maximum injection pressure shall not exceed 103 pounds per square inch, (psi) in IW-1. The existing dual zone monitoring well (DZMW-1) is completed from 1207 to 1287 feet bls and 1832 to 1868 feet bls.

The Application to Construct/Operate/Abandon Class I, III, or V Injection well System, DEP Form 62-528.900(1), was received on January 12, 2011, with supporting documents and additional information last received on April 4, 2011. The demonstration of Financial Responsibility was complete as of February 28, 2011 and remains in effect. The project services the Charlotte County Utility Department Burnt Store WWTP and WTP facility, located at 17430 Burnt Store Road, Punta Gorda, Florida 33917. The injection system is physically located at the 17430 Burnt Store Road, Punta Gorda, Florida 33917 in the County of Charlotte. (File No. 271367-004-UO/1I). The purpose of the facility is to inject non-hazardous secondary treated domestic effluent and reverse osmosis concentrate from the Burnt Store WWTP and WTP to the existing IW-2 injection well.

Subject to Specific Conditions 1-9.

SPECIFIC CONDITIONS:

1. General Criteria, All UIC Permits:

(a) The terms, conditions, requirements, limitations and restrictions set forth in this permit are "permit conditions" and are binding and enforceable pursuant to section 403.141, F.S.

(b) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action.

(c) As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

(d) This permit conveys no title to land, water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

(e) This permit does not relieve the permittee from liability for harm to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefrom; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

(f) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, or are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

(g) The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

1. Have access to and copy any records that must be kept under conditions of this permit;
2. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

3. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time will depend on the nature of the concern being investigated.

(h) If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

1. A description of and cause of noncompliance; and

2. The period of noncompliance, including dates and times; or, if not corrected the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent the recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

(i) In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

(j) The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

(k) This permit is transferable only upon Department approval in accordance with rules 62-4.120 and 62-528.350, F.A.C. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

(l) This permit or a copy thereof shall be kept at the work site of the permitted activity.

(m) The permittee shall comply with the following:

1. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records shall be extended automatically unless the Department determines that the records are no longer required.

2. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit,

copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

3. Records of monitoring information shall include:
   a. the date, exact place, and time of sampling or measurements;
   b. the person responsible for performing the sampling or measurements;
   c. the dates analyses were performed;
   d. the person responsible for performing the analyses;
   e. the analytical techniques or methods used;
   f. the results of such analyses.

4. The permittee shall furnish to the Department, within the time requested in writing, any information which the Department requests to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

5. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

(n) All applications, reports, or information required by the Department shall be certified as being true, accurate, and complete.

(o) Reports of compliance or noncompliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each scheduled date.

(p) Any permit noncompliance constitutes a violation of the Safe Drinking Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(q) It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(r) The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

(s) This permit may be modified, revoked and reissued, or terminated for cause, as provided in 40 C.F.R. sections 144.39(a), 144.40(a), and 144.41 (1998). The filing of a request by the permittee for a permit modification, revocation or reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(t) The permittee shall retain all records of all monitoring information concerning the nature and composition of injected fluid until five years after completion of any plugging and abandonment procedures specified under rule 62-528.435, F.A.C. The permittee shall deliver the records to the Department office that issued the permit at the conclusion of the retention period unless the permittee elects to continue retention of the records.

(u) All reports and other submittals required to comply with this permit shall be signed by a person authorized under rules 62-528.340(1) or (2), F.A.C. All reports shall contain the certification required in rule 62-528.340(4), F.A.C.

(v) The permittee shall notify the Department as soon as possible of any planned physical alterations or additions to the permitted facility. In addition, prior approval is required for activities described in rule 62-528.410(1)(h).

(w) The permittee shall give advance notice to the Department of any planned changes in the permitted facility or injection activity which may result in noncompliance with permit requirements.

(x) The permittee shall report any noncompliance which may endanger health or the environment including:

1. Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water; or

2. Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2 General Criteria, All UIC Operation Permits:

(a) In accordance with rules 62-4.090(1) and 62-528.455(3)(a), F.A.C., the permittee shall submit an application for permit renewal at least 60 days prior to expiration of this permit.

(b) Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

(c) The injection system shall be monitored in accordance with rules 62-528.425(1)(g) and 62-528.430(2), F.A.C. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(d) Submittal of monthly monitoring data -see Specific Condition 3.e.

(e) Mechanical Integrity – see Specific Condition 6.

3. OPERATING REQUIREMENTS

(a) Injection of fluids other than those permitted into the disposal wells(s) will constitute a violation of this permit and shall constitute cause for permit revocation and possible enforcement action for water quality violations.

(b) Injection into the well shall not exceed 2000 gallons per minute (2.88 MGD) and injection pressure as measured at the wellhead shall not exceed 103 psi for IW-2.

(c) In the event the permittee is temporarily unable to comply with any of the conditions of a permit due to breakdown of equipment, power outages, destruction by hazard of fire, wind, or by other cause, the permittee of the facility shall notify the Department.

(1) Notification shall be made in person, by telephone, or by electronic mail within 24 hours of breakdown or malfunction to the South District office.

(2) A written report of any noncompliance referenced in Specific Condition 2.c.(1) above shall be submitted to the South District and Tallahassee offices within five days after its occurrence. The report shall describe the nature and cause of the breakdown or malfunction, the steps being taken or planned to be taken to correct the problem and prevent its reoccurrence, emergency procedures in use pending correction of the problem, and the time when the facility will again be operating in accordance with permit conditions.

(d). The permittee shall calibrate all pressure gauges, flow meters, chart recorders, and other related equipment associated with the injection well system on a semiannual basis. The permittee shall maintain all monitoring equipment and shall ensure that the monitoring equipment is calibrated and in proper operating condition at all times. Laboratory equipment, methods, and quality control will follow EPA guidelines as expressed in Standard Methods for the Examination of Water and Wastewater. The pressure gauges, flow meters, and chart recorders shall be calibrated using standard engineering methods. Calibration records shall be kept by the permittee at the permitted facility and be available for inspection by Department personnel upon request.

(e). In the event a well must be plugged or abandoned, the permittee shall obtain a permit from the Department as required by Chapter 62-528, Florida Administrative Code. When no longer used for their intended purpose, these wells shall be properly plugged and abandoned. Within 180 days of well abandonment, the permittee shall submit to the Department and the TAC the proposed plugging method, pursuant to Rule 62-528.460, F.A.C.

4. TESTING AND REPORTING REQUIREMENTS

(a) A specific injectivity test shall be performed quarterly on the injection wells as required by Rule 62-528.430(2)(b)1.b., F.A.C. Pursuant to Rule 62-528.430(2)(d), F.A.C., the specific injectivity test shall be performed with the pumping rate to the well set at a predetermined level and reported as the specific injectivity index (gallons per minute/specific pressure). The pumping rate to be used shall be based on the expected flow, the design of the pump types, and the type of pump control used. As part of this test, the wells shall be shut-in for a period of time necessary to conduct a valid observation of pressure fall-off. The specific injectivity test data shall be submitted along with the monitoring results of the injection and monitoring well data.

(b) The permittee shall demonstrate the mechanical integrity pursuant to Rule 62-528.300(6)(b) and (c), Florida Administrative Code (F.A.C.), at least once every five (5) years during the life of the wells. As part of the mechanical integrity survey a video television survey shall be conducted from the surface to the bottom of the injection zone or more frequently if deemed necessary by the Department, pursuant to Rule 62-528.425(1)(d), F.A.C. The last mechanical integrity test for injection well IW-2 was conducted on July 23, 2008. Therefore, the next mechanical integrity test on the injection wells shall be completed on or before July 22, 2013

(c) The Department must be notified seventy-two (72) hours prior to all testing for mechanical integrity on the injection wells. The testing procedure must be approved by the Department before testing begins. All testing must be initiated during daylight hours, Monday through Friday. An evaluation of all test results must be submitted with all test data.

(d) The injection system shall be monitored in accordance with Rules 62-528.425(1)(g) and 62-528.430(2), F.A.C. The following injection well performance and monitor zone data shall be recorded and reported in the Monthly Operating Report as indicated below. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

SPECIFIC CONDITIONS:

INJECTION WELL IW-2. The specifications for the injection well are as follows:

Casing Diameter and Type	*Depth Cased (ft bls)*	*Open Hole Interval (feet bls)*
54″ Steel Pit	220′	
44″ Steel Surface Casing	710′	
34″ Steel Intermediate Casing	1382′	
24″ 0.50 Wall Thickness Steel Injection Casing	2492′	
18.11″ O.D. 0.76 Wall Thickness FRP Tubing	2492′	
Open Hole Interval		From 2492′ to 3003′

* below land surface

The injection well shall be monitored in accordance with the parameters and frequencies listed below. The permittee shall submit monthly a summary of the monthly monitoring data developed from the injection well instrumentation. The injection pressure, annular pressure, and flow rate shall be recorded continuously. All samples shall be collected and analyzed in accordance with the quality assurance requirements of Chapter 62-160, F.A.C. The report shall include the following data:

Parameters	*Reporting Frequency*
Injection Pressure (psi)	Daily/Monthly
Maximum Injection Pressure	Daily/Monthly
Minimum Injection Pressure	Daily/Monthly
Average Injection Pressure	Daily/Monthly
Flow Rate (gpm)	Daily/Monthly
Maximum Flow Rate	Daily/Monthly
Minimum Flow Rate	Daily/Monthly
Average Flow Rate	Daily/Monthly
Total Volume WTP Concentrate Injected (million gallons)	Daily/Monthly
Total Volume WWTP Effluent Injected (million gallons)	Daily/Monthly

WWTP Effluent Quality

Parameters	*Reporting Frequency*
Total Kjeldahl Nitrogen (TKN) (mg/L)	Monthly
Nitrate + Nitrite (mg/L)	Monthly
Ammonia (mg/L)	Monthly

SPECIFIC CONDITIONS:

WTP Concentrate Water Quality

Parameters	*Reporting Frequency*
Specific Conductivity (µmhos/cm)	Monthly
Total Dissolved Solids (mg/L)	Monthly
pH (std. units)	Monthly
Chloride (mg/L)	Monthly
Sulfate (mg/L)	Monthly
Field Temperature (°C)	Monthly
Total Kjeldahl Nitrogen (TKN) (mg/L)	Monthly
Nitrate Nitrite mg/L	Monthly
Ammonia (mg/L)	Monthly
Sodium (mg/L)	Quarterly
Calcium (mg/L)	Quarterly
Potassium (mg/L)	Quarterly
Magnesium (mg/L)	Quarterly
Iron (mg/L)	Quarterly
Bicarbonate (mg/L)	Quarterly
Radium 226 (pCi/L)	Quarterly
Radium 228 (pCi/L)	Quarterly
Gross Alpha (pCi/L)	Quarterly

MONITOR WELL SYSTEM:
The monitor well system consists of one dual zone monitor well as listed below:

Well Name	*Casing Diameter and Type*	*Depth Cased (ft bls)/Total (feet bls)*
DZMW-1	18″ O.D. Steel Surface	551′ bls
DZMW-1(Upper)	9.625″ O.D. Steel	1207′
DZMW-1 (Upper)	10″ Open Hole	From 1207′ to 1287′ bls
DZMW-1 (Lower)	4. 5″ FRP	1832′
DZMW-1 (Lower)	8.75″ Open Hole	From 1832′ to 1868′

The monitoring parameters listed below shall be developed and reported for the monitor well listed above. The monitor well casings shall be evacuated of three (3) to five (5) well volumes prior to collection of the water sample for analysis. The volume of water evacuated shall be based on the calculated volume of water in the well casing and sampling interval. The water sample collected shall be of sufficient volume to complete the analysis required. All samples must be analyzed by a laboratory certified in the State of Florida. The laboratory reports shall be submitted; all samples shall be collected and analyzed in accordance with the quality assurance requirements of Chapter 62-160, F.A.C. The monitor well water level or pressure shall be recorded continuously. The report shall include the following data:

SPECIFIC CONDITIONS:

Parameters	*Reporting Frequency*
Maximum Water Level/Pressure (Ft NAVD or psi)	Daily/Monthly
Minimum Water Level/Pressure (Ft NAVD or psi)	Daily/Monthly
Average Water Level/Pressure	Monthly
Specific Conductivity (µmhos/cm)	Monthly
Total Dissolved Solids (mg/L)	Monthly
pH (std. units)	Monthly
Chloride (mg/L)	Monthly
Sulfate (mg/L)	Monthly
Field Temperature (°C)	Monthly
Ammonia (mg/L)	Monthly
Total Kjeldahl Nitrogen (TKN) (mg/L)	Monthly
Sodium (mg/L)	Quarterly
Calcium (mg/L)	Quarterly
Potassium (mg/L)	Quarterly
Magnesium (mg/L)	Quarterly
Iron (mg/L)	Quarterly
Bicarbonate (mg/L)	Quarterly
Gross Alpha (pCi/L)*	Quarterly
Radium 226 (pCi/L)*	Quarterly
Radium 228 (pCi/L)*	Quarterly

* Lower Zone Only

(e) The permittee shall submit to the Department the results of all monitoring data collected no later than the last day of the month immediately following the end of the month of record. The results shall be sent to the Department of Environmental Protection, South District Office, P.O. Box 2549, Fort Myers, Florida 33902-2549. Copies of the results shall also be sent to the Underground Injection Control Program, Bureau of Water Facilities Regulations, Department of Environmental Protection, 2600 Blair Stone Road, Mail Station #3530, Tallahassee, FL 32399-2400.

(f) In accordance with Rules 62-4.090(1) and 62-528.455(3)(a), F.A.C., the permittee shall submit an application for renewal of the existing operating permit (a minimum of 5 copies) with the applicable fee at least sixty (60) days prior to the expiration of this operation permit. The application for renewal shall include the items listed in Rule 62-528.455(3)(b), F.A.C.

5. EMERGENCY DISPOSAL

(a) All applicable federal, state and local permits must be in place to allow for any alternate discharges due to emergency or planned outage conditions.

(b) Any changes in emergency disposal methods must be submitted for Technical Advisory Committee (TAC) review and Department approval.

(c) The permittee shall notify the local office of the Department within 24 hours in the event the emergency discharge has been used. The notification should include the reason for using the emergency discharge, the duration of the discharge, and the volume discharged. Written notification shall be provided within 5 days after its occurrence.

6. FINANCIAL RESPONSIBILITY

(a) The permittee shall maintain separately the financial resources necessary to close, plug, and abandon the injection and associated monitor wells, at all times in accordance with Rule 62-528.435(9), F.A.C.

(b) The permittee shall update annually the plugging and abandonment cost estimate. A certified (By Professional Geologist or Professional Engineer) copy of the annual update shall be submitted to the Department's Tallahassee UIC Program each year within 60 days after the anniversary date of issuance of this permit to the following addresses:

Underground Injection Control Program
Bureau of Water Facilities Regulation
Department of Environmental Protection
2600 Blair Stone Road, Mail Station #3530
Tallahassee, FL 32399-2400

Underground Injection Control Program
Department of Environmental Protection
South District Office
2295 Victoria Avenue, Ste 364
Ft Myers, FL 33902-2549

(c). Upon the occurrence of the annual plugging and abandonment cost estimate exceeding, by 10 percent or more, (Section b. previously), the cost estimate upon which the current financial responsibility is based; the permittee shall submit to the Department certified financial documentation necessary to amend, renew, or otherwise replace the existing financial responsibility pursuant to Rule 62-528.435(9), F.A.C. and the conditions of this permit. Local governments shall include an updated *Certificate of Financial Responsibility* form and the comprehensive annual financial report for the latest completed fiscal year of that local entity.

(d) In the event that the mechanism used to demonstrate financial responsibility should become insufficient or invalid for any reason, the permittee shall notify the Department of Environmental Protection in writing within 14 days of such insufficiency or invalidation. The permittee shall within 30 days of said notification submit to the Department for approval new financial documentation certifying either the remedy of current financial insufficiency or resolution of the financial instrument invalidation in order to comply with Rule 62-528.435(9), F.A.C., and the conditions of this permit.

7. MECHANICAL INTEGRITY

(a) The permittee shall maintain the mechanical integrity of the injection well at all times.

(b) If the Department determines that the injection well lacks mechanical integrity, written notice shall be given to the permittee.

(c) Unless the Department requires immediate cessation of injection, within 48 hours of receiving written notice that the well lacks mechanical integrity the permittee shall cease injection into the well unless the Department allows continued injection pursuant to d. below.

(d) The Department may allow the permittee to continue operation of a well that lacks mechanical integrity if the permittee has made a satisfactory demonstration that fluid movement into or between underground sources of drinking water is not occurring.

8. The permittee is reminded of the necessity to comply with the pertinent regulations of any other regulatory agency, as well as any county, municipal, and federal regulations applicable to the project. These regulations may include, but are not limited to, those of the Federal Emergency Management Agency in implementing flood control measures. This permit should not be construed to imply compliance with the rules and regulations of other regulatory agencies.

9. The permittee shall be aware of and operate under the General Conditions of F.A.C. Rule 62-528.307(1)(a) through (x), and 62-528.307(3)(a) through (e). These General Conditions are binding upon the permittee and enforceable pursuant to Chapter 403 of the Florida Statutes.

Note: In the event of an emergency the permittee shall contact the Department by calling (850) 488-l320. During normal business hours, the permittee shall call (239) 344-5600.

Issued this 20th day of September, 2011

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____

Jon M. Iglehart
Director of
District Management

JMI/DR/mac

APPENDIX B

COPY OF MECHANICAL INTEGRITY TEST PLAN AND FDEP APPROVAL CORRESPONDENCE

Dan Acquaviva

From: Haberfeld, Joe <Joe.Haberfeld@dep.state.fl.us>
Sent: Wednesday, April 17, 2013 3:33 PM
To: 'Dan Acquaviva'
Cc: Rhodes, David; Alexander, James
Subject: Burnt Store IW-2 MIT

Dan,

I apologize; we did review this soon after it was submitted. It is satisfactory. The only comment is to provide at least 72 hours notice prior to running an MIT. Coordinate the witnessing of the test with Dave Rhodes.

Joseph Haberfeld
Professional Geologist
Underground Injection Control Program Coordinator
Aquifer Protection Program
Florida Department of Environmental Protection
2600 Blair Stone Road
Mail Station 3530
Tallahassee, Florida 32399-2400
Phone 850-245-8655
joe.haberfeld@dep.state.fl.us

From: Dan Acquaviva [mailto:dacquaviva@rma-geologic.com]
Sent: Wednesday, April 17, 2013 12:09 PM
To: Haberfeld, Joe
Subject: Burnt Store IW-2 MIT

Joe:

We sent a proposed plan for conducting the MIT for Burnt Store IW-2 on March 8, 2013.

Does the Department have any comments? The County needs to advertise to get a contractor, so an approval or any comments would be appreciated.

Thanks.

Daniel Acquaviva, PG.
RMA GeoLogic Consultants, Inc.
12771 World Plaza Lane
Building 87, Suite 1
Ft. Myers, FL 33907
(239) 415-1818

PROPOSED PROCEDURES FOR CONDUCTING MECHANICAL INTEGRITY TEST IN THE CHARLOTTE COUNTY UTILITIES BURNT STORE CLASS I INJECTION WELL IW-2 CHARLOTTE COUNTY, FL

Prepared for:

Stantec Consulting Services
1777 Tamiami Trail, Suite 206
Port Charlotte, Florida 33948

and

Charlotte County Utilities
25550 Harborview Road
Port Charlotte, FL 33982

March, 2013

Prepared by:

RMA
GeoLogic Consultants, Inc.
12771 World Plaza Lane
Building 87, Suite 1
Ft. Myers, FL 33907

FL Geology Business License #GB560

Project # 13-692

Daniel J. Acquaviva 3/1/2013

Daniel J. Acquaviva, P.G.
Vice President
FL Licensed Professional Geologist # 1066

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LIST OF FIGURES

I. INTRODUCTION

The Charlotte County Utilities (CCU) Burnt Store Class I injection well number 2 (IW-2) is located at the Burnt Store reverse osmosis (RO) water treatment plant (WTP) and water recovery facility (WRF) site, which is at 17430 Burnt Store Road, Punta Gorda, in the southwestern portion of the County (Figures 1-1 and 1-2). The well disposes of RO concentrate and treated wastewater from the Burnt Store water facilities. Operation of Burnt Store injection well IW-2 is regulated by Florida Department of Environmental Protection (FDEP) underground injection control (UIC) permit # 271367-004-UO/1I. A mechanical integrity test (MIT) is required to be performed on IW-2 every five years. The last MIT was performed in this well on July 23, 2008. The FDEP operation permit for the well requires an MIT be performed in the well prior to July 22, 2013.

IW-2 is constructed with 24-inch diameter steel casing set to a depth of 2,503 below land surface (BLS), with fiberglass injection tubing set to a depth of 2,492 feet BLS, and with an open-hole section to a depth of 3,003 feet BLS (Figure 1-3). The casing/tubing annulus is cemented. The maximum permitted injection rate is 2,000 gallons per minute (gpm), which equates to a maximum daily rate of 2.88 million gallons per day (MGD).

The proposed MIT to be conducted prior to July 22, 2013 will consist of a video survey of the interior of the tubing and the entire open-hole section of the well, a tubing pressure test, a high resolution temperature log of the well, and a radioactive tracer survey (RATS).

During the period of the planned MIT, which should be completed within 72 hours after mobilization of equipment to the site, injection into the well will be discontinued, the wellhead will be disassembled, and then the MIT will be conducted. After the MIT has been conducted, the wellhead will be reassembled and the well will be put back into service.

During the period when the MIT is being conducted, RO concentrate and treated wastewater will be directed to Burnt Store injection well IW-1.

Prior to conducting the MIT, the FDEP will be notified at least 48 hours in advance should an FDEP representative wish to witness any portion of the testing.

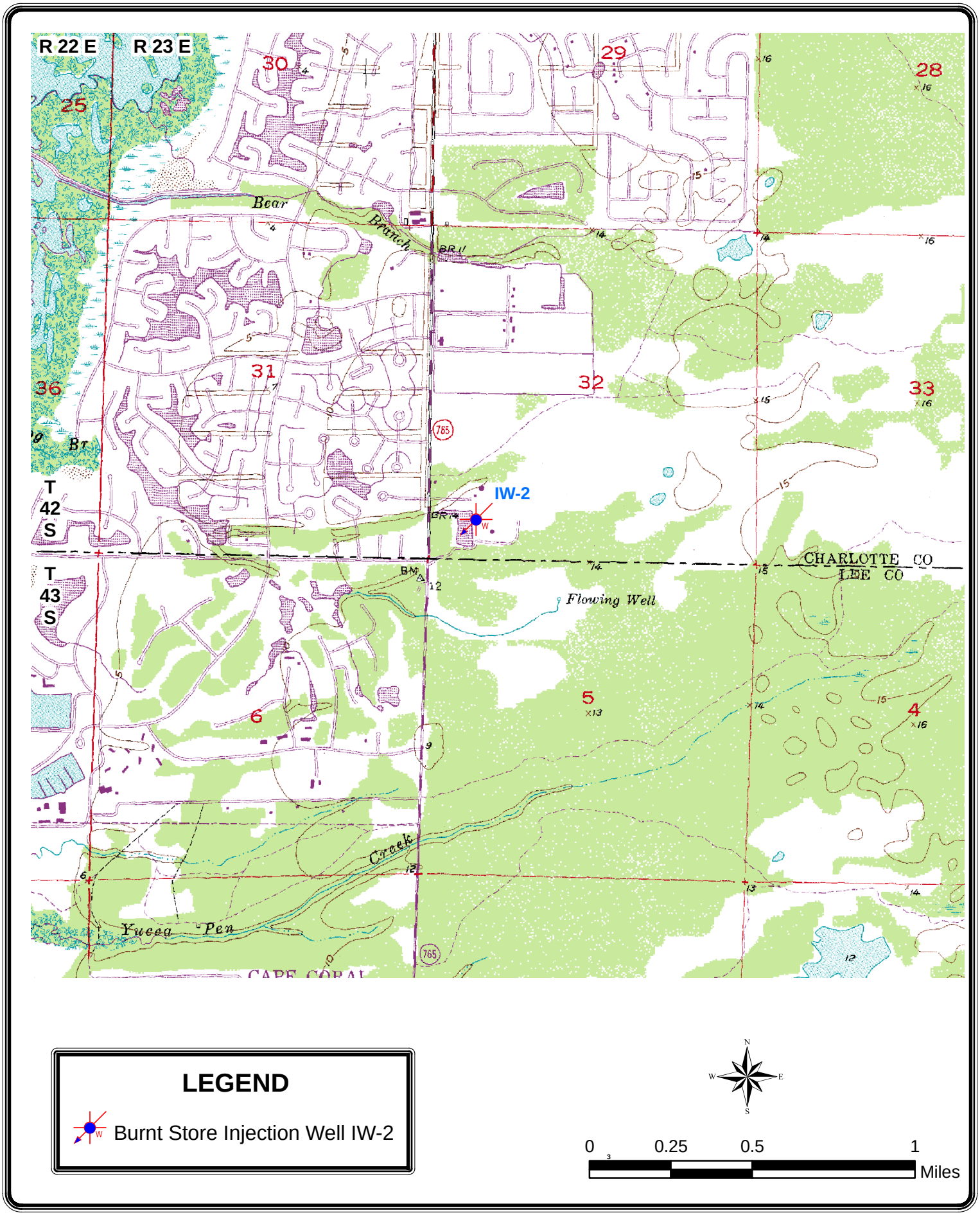
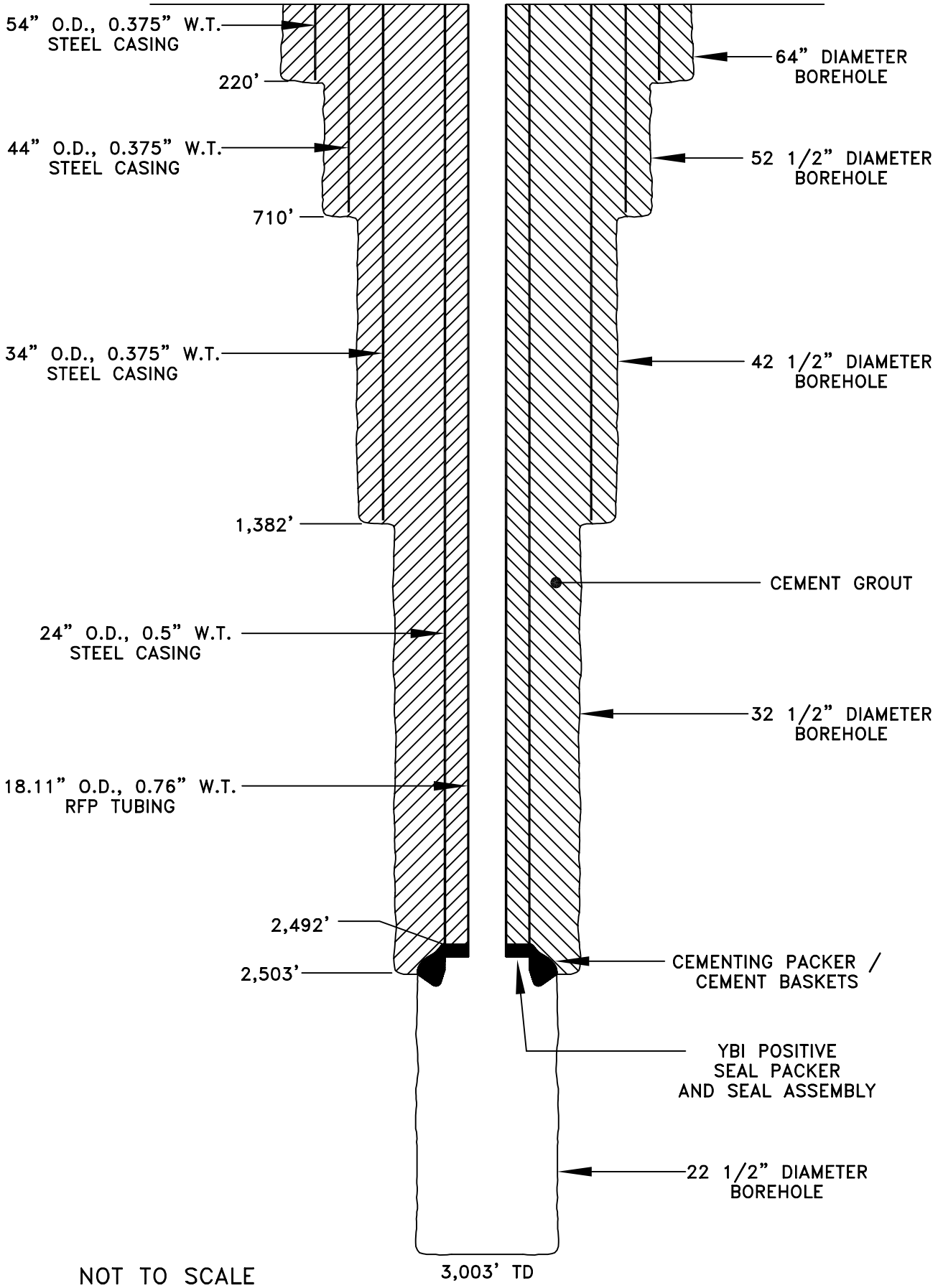


FIGURE 1-1. USGS TOPOGRAPHIC MAP SHOWING LOCATION OF CCU BURNT STORE INJECTION WELL IW-1.

FIGURE 1-2. AERIAL PHOTO SHOWING LOCATION OF CCU BURNT STORE INJECTION WELL IW-2.



RMA GeoLogic Consultants, Inc.	PROJECT NAME: BURNT STORE IW-2	
	PROJECT NUMBER: 13-692	DATE: 2/11/13

FIGURE 1-3. SCHEMATIC DIAGRAM SHOWING INJECTION WELL IW-2 CONSTRUCTION DETAILS.

A report will be prepared and submitted to Charlotte County Utilities and the FDEP describing the procedures and results of the MIT. The report will include copies of all geophysical logs and video surveys conducted during the MIT.

The well contractor has not been determined. It CCU's intent to select the well contractor through a bidding process. Once a qualified contractor has been selected, the Department will be notified.

II. VIDEO SURVEY

As previously indicated, a video survey will be conducted of the tubing interior and open-hole section of the well. Prior to conducting the video survey, potable water from a nearby fire hydrant will be injected into the well to increase the clarity for the video inspection. The volume of potable water injected will be equivalent to at least one tubing volume (i.e. 31,000 gallons). A visual inspection of the tubing will be made to check for any corrosion, incrustations, or any other anomalies. Should the interior of the tubing be found to be heavily incrusted, such that an adequate inspection of its condition is determined to not be possible, the well contractor will brush the tubing interior with a specialized tool, designed for that purpose, and the video will be rerun. The portion of the casing brush which is to be in contact with the fiberglass tubing shall be of nonmetallic construction.

The inspection of the open hole will be to detect any caving of the formation which could cause a restriction to the movement of injected fluid. An on-site RMA GeoLogic Consultants (RMA) geologist will witness the video survey and prepare an inspection log to be included in the final report of the MIT.

The video survey will be conducted by a qualified contractor selected through a bidding process.

III. TUBING PRESSURE TEST

An inflatable packer will be installed in the well casing to a depth of at least 2,472 feet BLS (i.e. within 20 feet of the base of the tubing) by the well contractor. The packer will be then inflated and the well will be pressurized to 150 pounds per square inch (psi). A pressure gauge, calibrated within the previous six months, will be used to measure pressure. Pressures will be recorded at five minute intervals for a period 60 minutes. The casing pressure test will be considered successful if a pressure decline or increase of not more than 5% occurs during the 60 minute test period. A copy of the pressure gauge calibration certificate will be included, along with the tubing pressure test results, in the final report. An on-site RMA geologist will witness the tubing pressure test and prepare a record of the test to be included in the final report of the MIT.

After successfully completing the tubing pressure test, the packer will be deflated and removed from the well. If, during the tubing pressure test, a decline or increase in pressure of more than 5% occurs, the test will need to be repeated after locating and sealing any pressure leaks identified in the wellhead fixtures. The FDEP will be provided with adequate notice of the scheduled time for any necessary repeat tubing pressure test.

IV. HIGH RESOLUTION TEMPERATURE LOG

A high resolution temperature log will be conducted in the well. A temporary wellhead assembly will be installed to prevent the well from flowing during the period the high resolution temperature log is conducted. The purpose of the temperature log will be to locate any leaks in the tubing; changes in temperature resulting from fluid movement can be identified by use of such a log. It will be witnessed by an on-site RMA geologist. A copy of the high resolution temperature log will be included in the final report along with a descriptive analysis of the log.

The high resolution temperature logging will be conducted by a qualified geophysical logging contractor selected through a bidding process.

V. RADIOACTIVE TRACER SURVEY

A radioactive tracer survey (RATS) will be conducted to determine whether any upward movement of injected fluid is occurring around the outside of the base of the casing. The RATS will be witnessed by an on-site RMA geologist. It will be conducted by a qualified well geophysical logging contractor.

The RATS tool will be configured with a lower or bottom gamma ray tool (GRB), a casing collar locator (CCL), a middle gamma ray tool (GRM), a radioactive tracer ejector, and an upper or top gamma ray tool (GRT).

The radioactive tracer used will be Iodine-131. The volume of this material to be loaded into the ejector will be 5 millicuries. A laboratory certificate for this fluid will be obtained and a copy of the certificate will be provided in the final report.

The initial portion of the RATS will be performed while the well is shut in. A background gamma ray (GR) log will be run from the base of the injection zone to land surface prior to releasing any radioactive fluid during a dynamic test.

During the dynamic RATS testing water will be injected into the well at a flow rate of not more than 5 feet per minute. The Burnt Store injection well IW-2 is equipped with a 17.36-inch inside diameter injection tubing. Therefore, the flow rate into the well will be no more than 61 gallons per minute (gpm). The RATS ejector will be positioned inside the tubing and 5 feet above the base of the tubing. An initial volume of 1 millicurie of the tracer will be ejected. The RATS tool will be held in place for a period of 60 minutes to determine any upward movement of fluid as detected by the GRM and GRT tools.

After completing the initial dynamic RATS test, if necessary, the well tubing will be flushed by injecting a minimum of one tubing volume of water (i.e. 31,000 gallons). A GR log will then be run to 200 feet above the base of the tubing. A second similarly-conducted dynamic RATS test

will then be performed using an eject volume of 2 millicurries, with the RATS tool held in place for a period of 30 minutes.

After completing the second dynamic RATS test, the well tubing will be flushed by injecting a minimum of one tubing volume of water. A GR log will then be run to 200 feet above the base of the tubing.

After completing the dynamic RATS tests, any remaining radioactive tracer fluid will be ejected below the base of the tubing. A final GR log will then be performed from the total depth of the well to land surface.

APPENDIX C

DAILY REPORTS

CHARLOTTE COUNTY UTILITIES
BURNT STORE INJECTION WELL IW-2 MIT
(SW SW Sec 32-T42S-R23E)
DAILY REPORT

CONTRACTOR: ALL WEBBS

06/24/13 Pres Ops @ 9:00 AM: Prep to disconnect WH.
Ops Last 24 Hrs: MI equipment.

06/25/13 Pres Ops @ 9:00 AM: GI tbg w/ packer.
Ops Last 24 Hrs: Killed well w/ 8,000 lbs salt. Disassembled WH. WI tbg w/ packer on 2" ID steel tbg to 65'. Packer tool length = 20.92', expandable portion = 6.6'. Tested packer @ 250 psi. Pressure held. SD for day @ 8:00 PM.

06/26/13 Pres Ops @ 9:00 AM: WO tbg pressure test.
Ops Last 24 Hrs: WI tbg w/ packer. Set packer CL @ 2,478' BPL. Inflated to 400 psi. Pressure held. Conducted pretest @ 150 psi for 15 min. Pressure held. Repaired minor leaks @ surf. SD for day @ 8:00 PM.

06/27/13 Pres Ops @ 9:00 AM: Conducting video log.
Ops Last 24 Hrs: Conducted tbg pressure test, witnessed by D. Rhodes, FDEP. Starting pressure 150.5 psi, ending pressure (after 60 minutes) 149.0 psi. Decline = 1.0%. Bled down pressure to 0 psi, drained 23.5 gals. WOW for 4 hrs. PO tbg w/ packer. Connected hydrant to WH, started flushing well @ 150 gpm w/ potable wtr. SD for day @ 10:30 PM.

06/28/13 Pres Ops @ 9:00 AM: Conducting temperature log.
Ops Last 24 Hrs: Conducted video log of tbg interior and open hole to TD (3003' BPL). Camera broke @ 1,130'. WO repairs for 4 hrs. Conducted background GR log. SD for day @ 10:00 PM.

06/29/13 Pres Ops @ 9:00 AM: Well back in service.
Ops Last 24 Hrs: Loaded RTS tool w/ 5 millicurries Io-131. Conducted RTS test w/ ejector set @ 2,493' BPL.. First eject = 1 millicurrie Io-131. Inj rate = 52 gpm. Logged in place 60 minutes. After logging out of place flushed with 44,900 gals RO supply wtr. Second eject = 2 millicuries Io-131. Logged in place 30 minutes. After logging out of place flushed with 35,125 gals RO supply wtr. Went to TD, ejected remaining Io-131. Conducted final GR. Reassembled WH. Put well back into service @ 2:30 PM.

Distribution:

APPENDIX D

VIDEO SURVEY

APPENDIX E

CASING PRESSURE TEST DATA

RMA
GeoLogic Consultants, Inc.

CASING PRESSURE TEST

Location: CCU Burnt Store WRF/WTP **Well: IW-2**

Starting Date/Time: 6/26/13 10:30Am **Starting Pressure:** 150.5 **psi**

Casing Diameter: 18-inches **Ending Pressure:** 149.0 **psi**

Elapsed Time (minutes)	Pressure (psi)	Pressure Change (psi)	Percent Change
0	150.5	0.0	0.00
5	150.5	0.0	0.00
10	150.4	0.1	0.07
15	150.2	0.3	0.20
20	150.0	0.5	0.33
25	149.9	0.6	0.40
30	149.7	0.8	0.53
35	149.5	1.0	0.66
40	149.3	1.2	0.80
45	149.1	1.4	0.93
50	149.1	1.4	0.93
55	149.0	1.5	1.00
60	149.0	1.5	1.00

Witnessed by:

David Argumia
Signature

RMA GeoLogic Consultants
Firm/Organization

Signature

Firm/Organization

David Rhodes
Signature

FDEP
Firm/Organization

Herwin Lee
Signature

AWE ENT.
Firm/Organization

2

Certificate No: 3518

Certificate OF CALIBRATION

FLORIDA STANDARDS LABORATORY
716 Bunker Rd
West Palm Beach, FL 33405-3599
(561) 585-9363

Customer: All Webbs Enterprises
309 Commerce Way
Jupiter, FL 33458

Calibration Date:	06/07/13
Due Date:	06/07/14
Serial/Asset #:	220Y1E
Manufacturer:	McDaniel Controls
Model:	200 psi
Description:	Pressure Gage

Environmental Conditions: Temperature: 75 °F Humidity: 47 % RH

Location of Service: ☒ FSL's Lab ☐ On-site—Customer Facility

The calibration of the equipment described above was performed by comparison with standards maintained by FSL traceable to the National Institute of Standards and Technology (NIST). Traceability requirements for FSL's reference standards are maintained by the use of calibration services accredited to *ISO/IEC 17025:2005*. FSL's quality management system is accredited to *ISO/IEC 17025:2005, ANSI/NCSL Z540-1-1994* and registered to *ISO 9001:2008*.

Unless stated otherwise below, the expanded measurement uncertainly of the measurement process does not exceed a test uncertainty ratio (TUR) of 4:1 between the unit under test and the measurement standards. Unless noted below, measurement uncertainties are based on a coverage factor of *k-2* (approximately 95 %) confidence level. Although the item calibrated meets the specifications and performance requirements at the time of calibration, due to any number of factors the recommended due date does not imply conformance to specifications during the recommended interval.

Received Status: 1. In tolerance per manufacturer's specifications

Left Status: 1. In tolerance per manufacturer specifications

Adjustments or repairs: 1. No adjustments were required.

Standards used: 018, 855

Comments:

Robert J Hurley

Technician

ACCREDITED
Certificate #AGS-US120811-1

APPENDIX F

HIGH RESOLUTION TEMPERATURE LOG

ALLWEBBS ENTERPRISES, INC.

HIGH RESOLUTION TEMPERATURE LOG

Company CHARLOTTE COUNTY UTILITIES / RMA GEO.
Well IW-2
Field BURNT STORE W.T.P / W.T.F
County CHARLOTTE State FLORIDA
Location: API # :
SWSW
SEC 32 TWP 42 S RGE 23 E
Permanent Datum Elevation
Log Measured From
Drilling Measured From

Other Services
SEE COMMENTS

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

Company CHARLOTTE COUNTY UTILITIES /
Well IW-2
Field BURNT STORE W.T.P / W.T.F
County CHARLOTTE
State FLORIDA

Date	28--JUN-2013
Run Number	'13 MIT
Depth Driller	3002'
Depth Logger	3000'
Bottom Logged Interval	3000'
Top Log Interval	SURFACE
Open Hole Size	22.50"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	95.3 DEGF.
Estimated Cement Top	NA
Time Well Ready	0000
Time Logger on Bottom	0000
Equipment Number	VA-203
Location	JUPITER
Recorded By	LEE
Witnessed By	D. ACQUAVIVA

Borehole Record

Run Number	Bit	From	To
	22.50"	CASING	3003'

Borehole Record

Run Number	Bit	From	To

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	24.00"	.500 W.T	SURFACE	2511'
Prot. String	18.11"	0.76" W.T	SURFACE	2498'
Production String				
Liner				

<<< Fold Here >>>

Comments

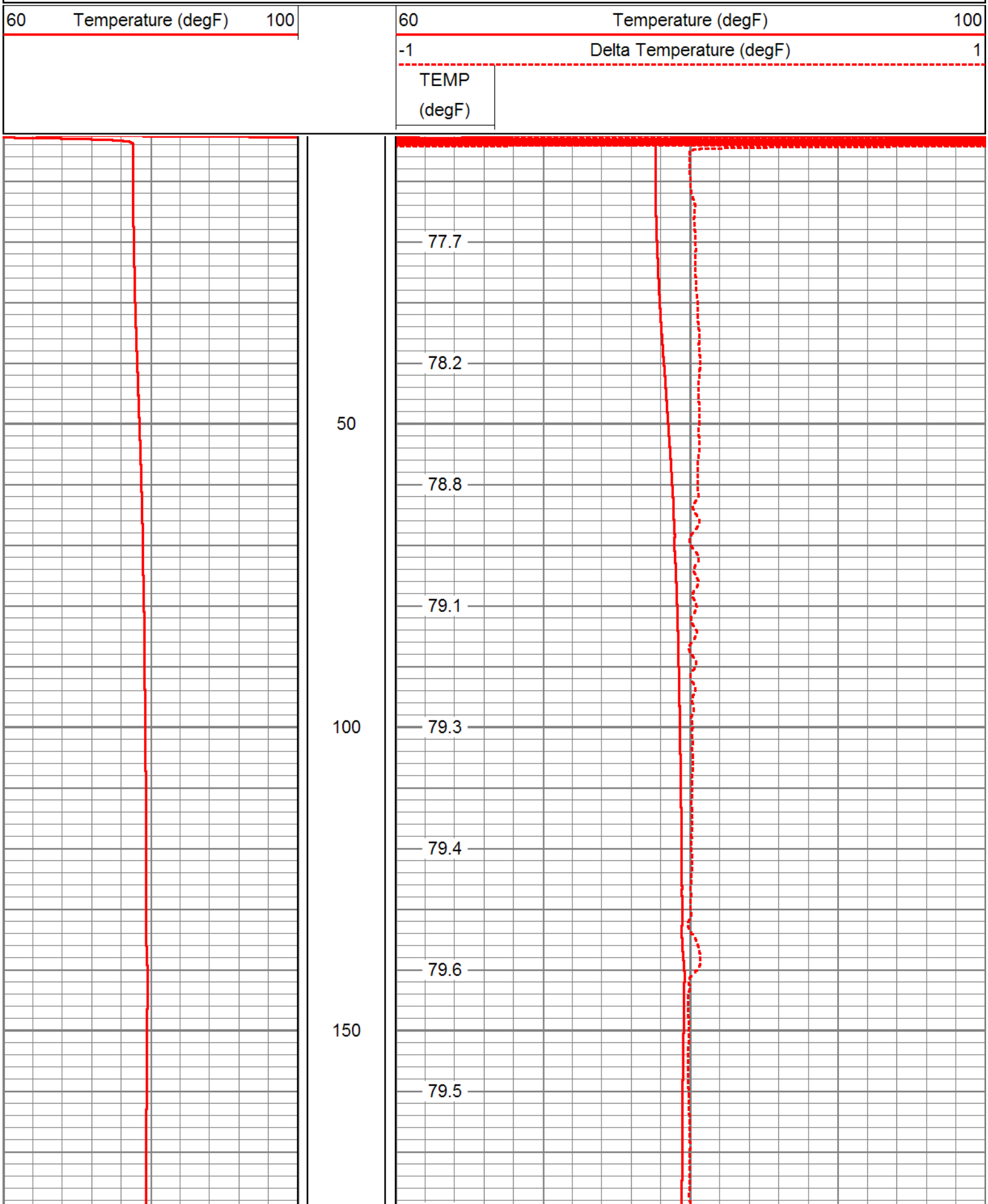
RTS
DHTVS

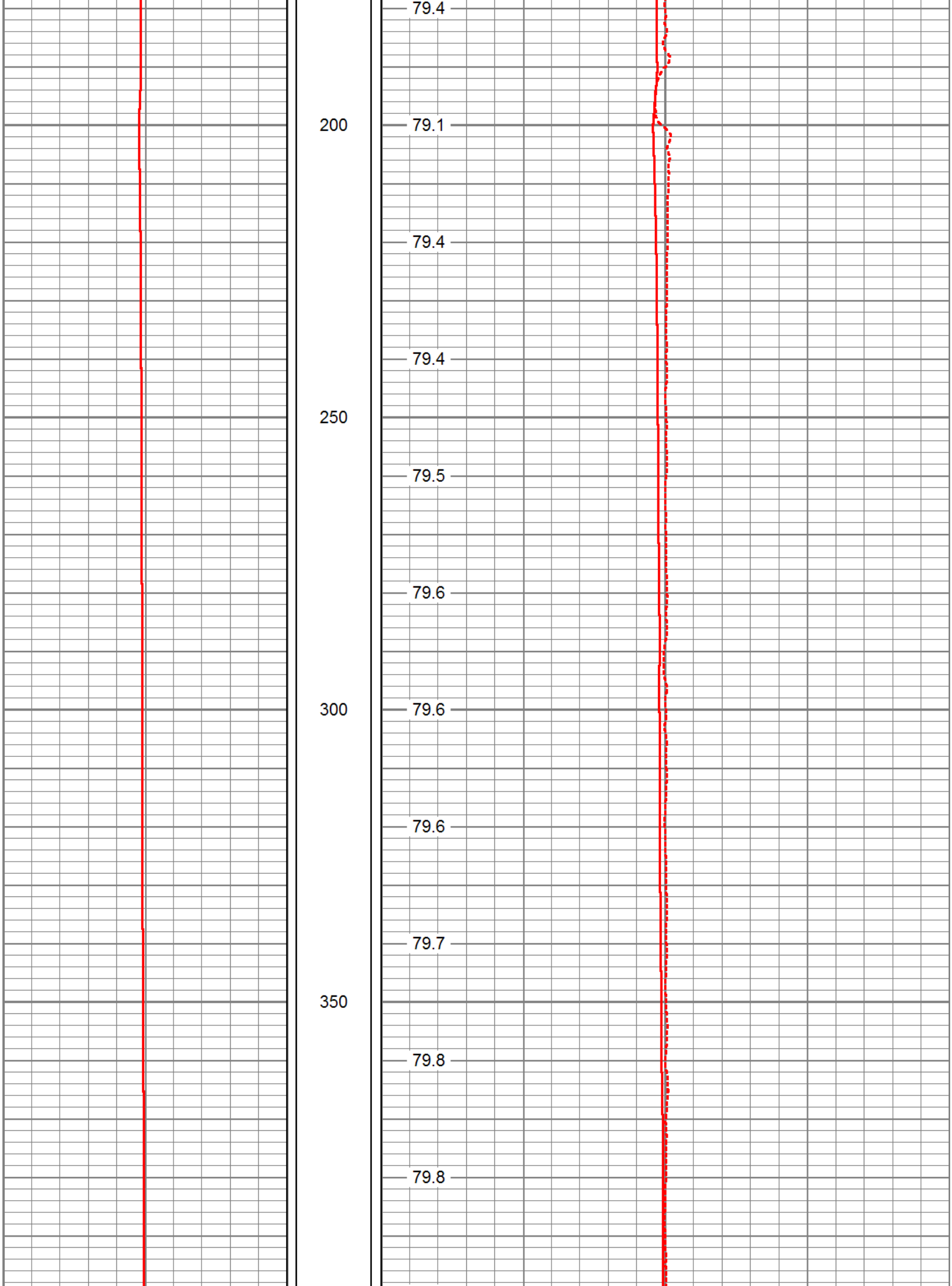
ALLWEBBS

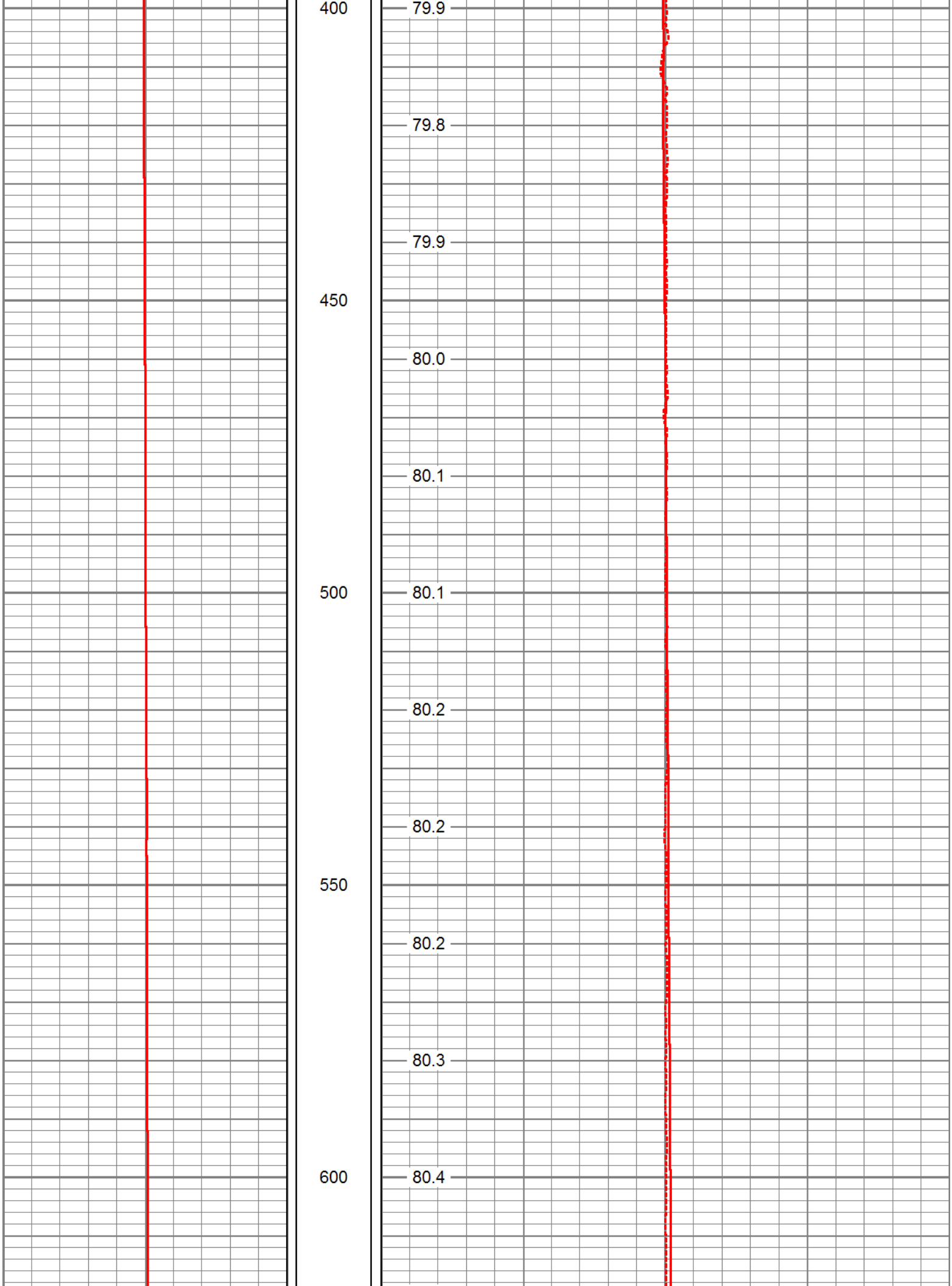
TEMPERATURE

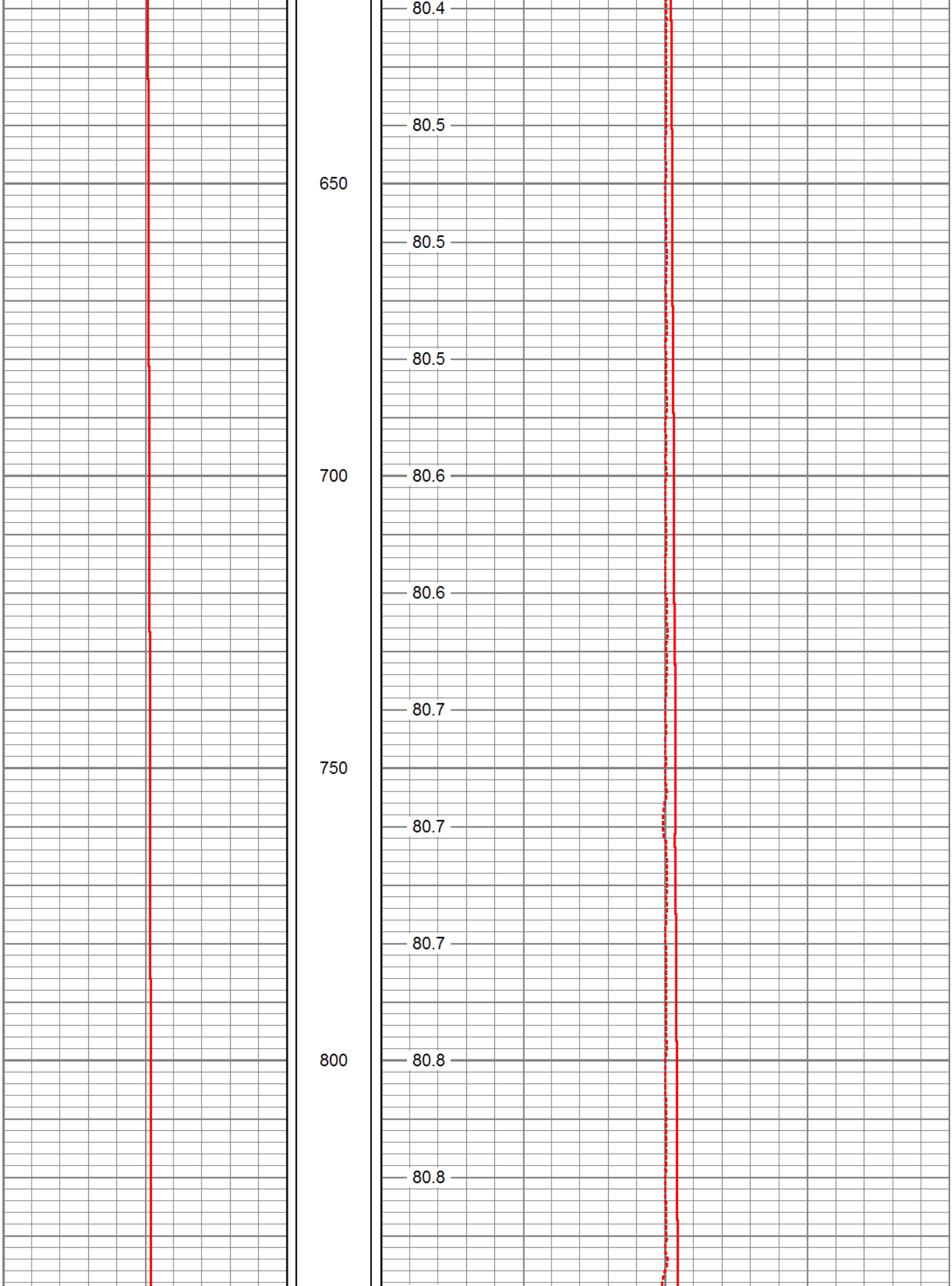
ENTERPRISES, INC.

Database File: puntagorda.db
Dataset Pathname: TEMP
Presentation Format: temp
Dataset Creation: Fri Jun 28 08:20:22 2013 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240




79.4
200
79.1
79.4
79.4
250
79.5
79.6
300
79.6
79.6
79.7
350
79.8
79.8


400
79.9
79.8
79.9
450
80.0
80.1
500
80.1
80.2
80.2
550
80.2
80.3
600
80.4


80.4
80.5
650
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80.5
700
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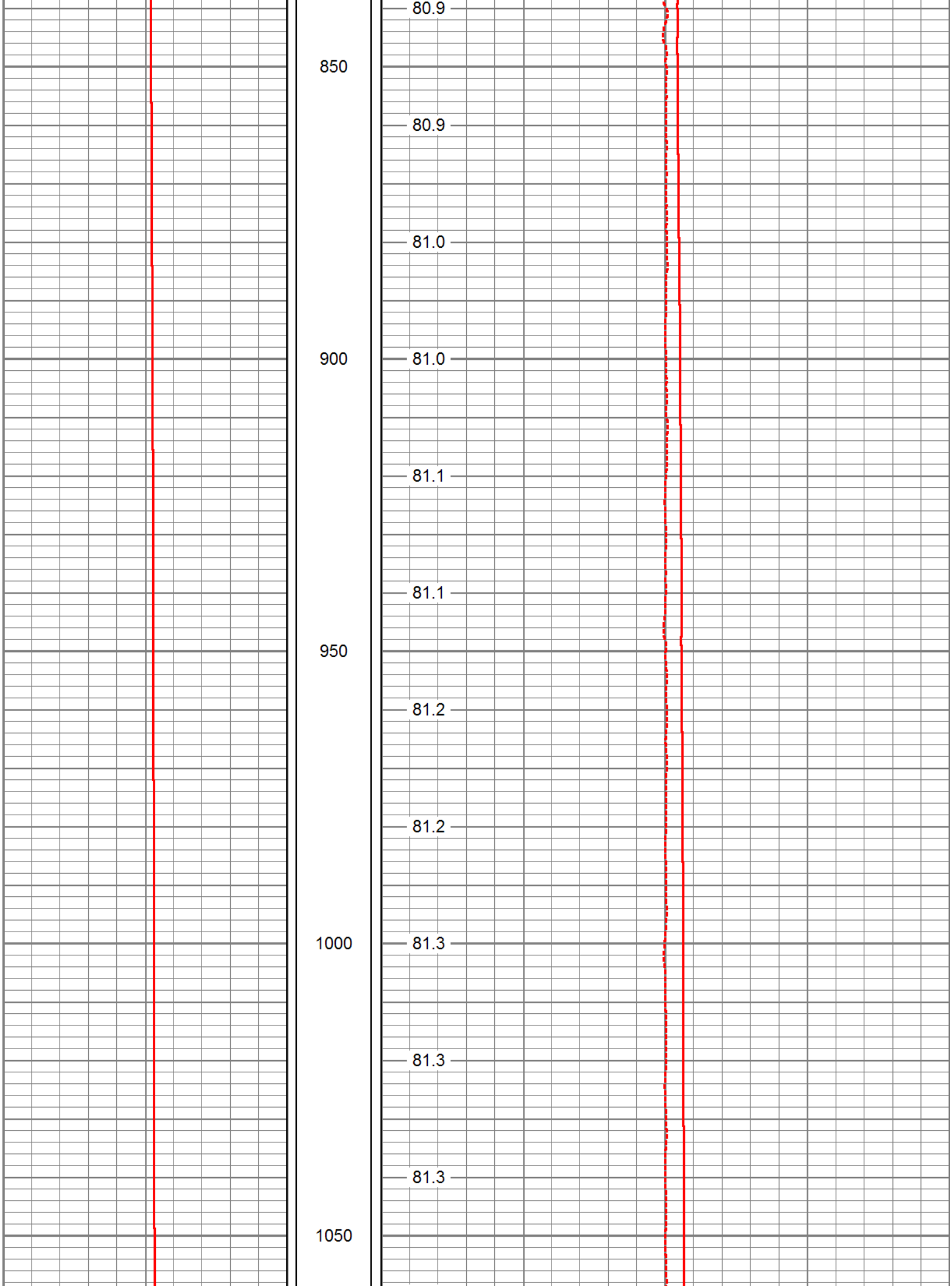
80.6
80.7
750
80.7
80.7
800
80.8
80.8


80.9
850
80.9
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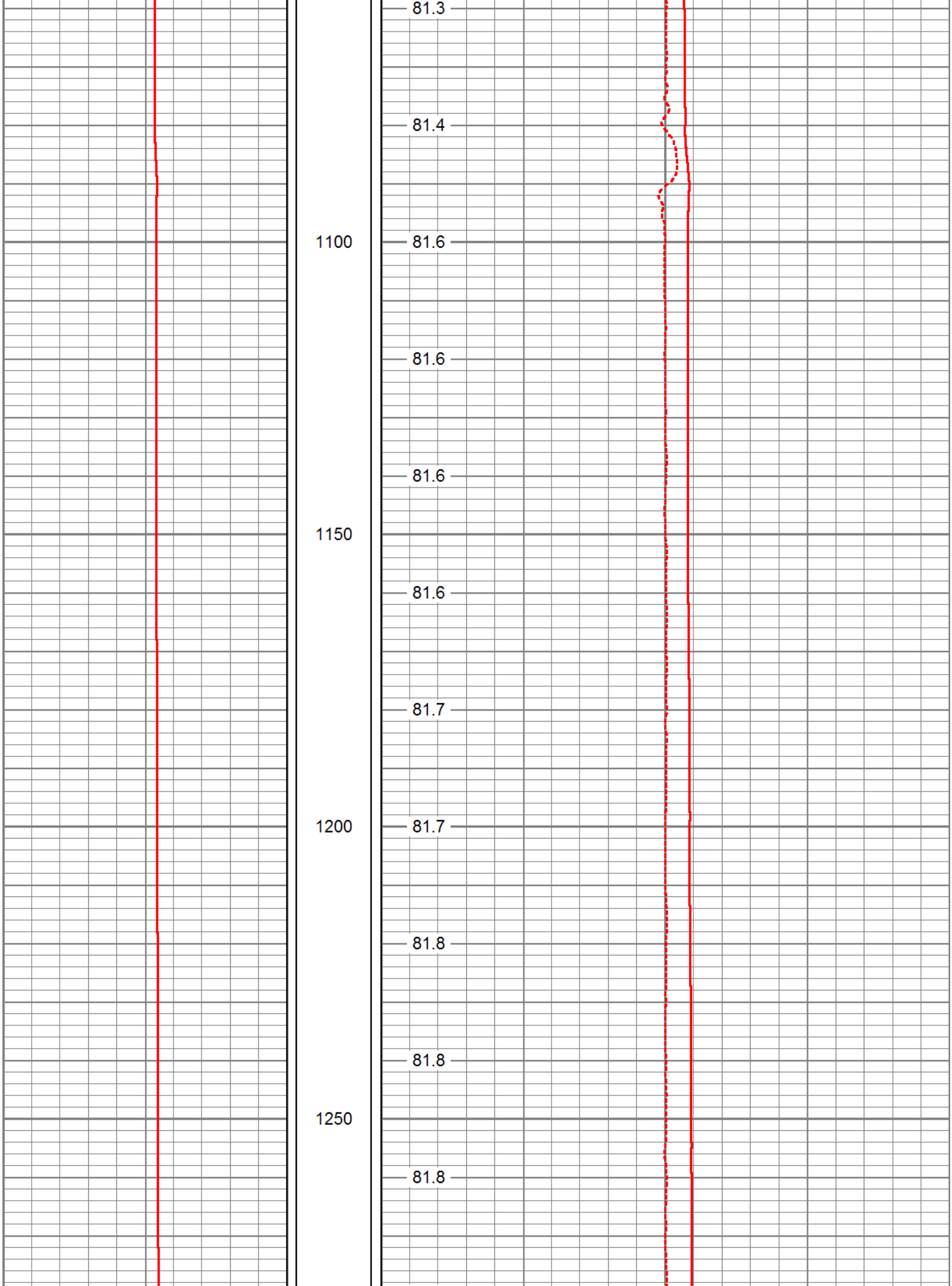
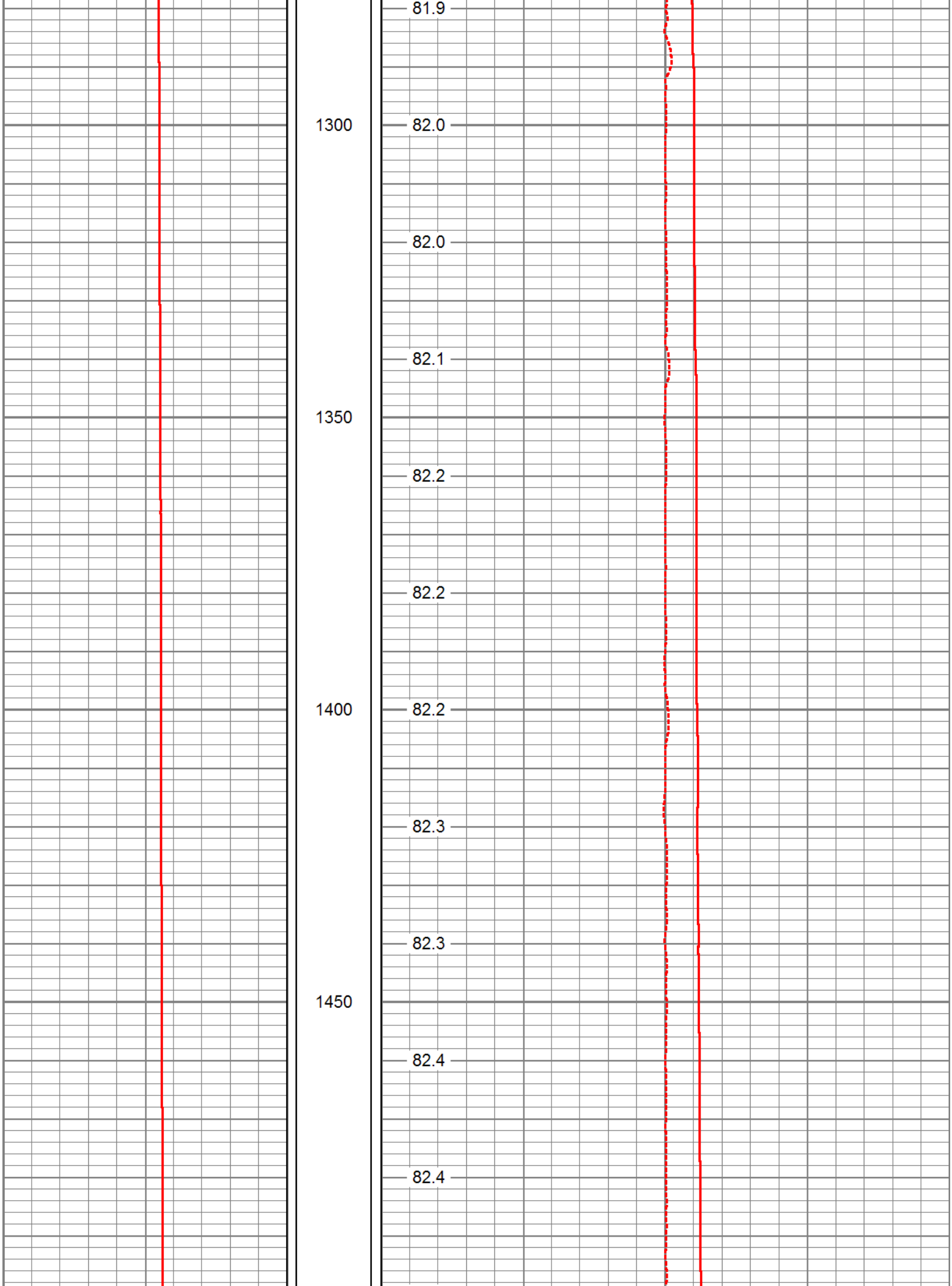
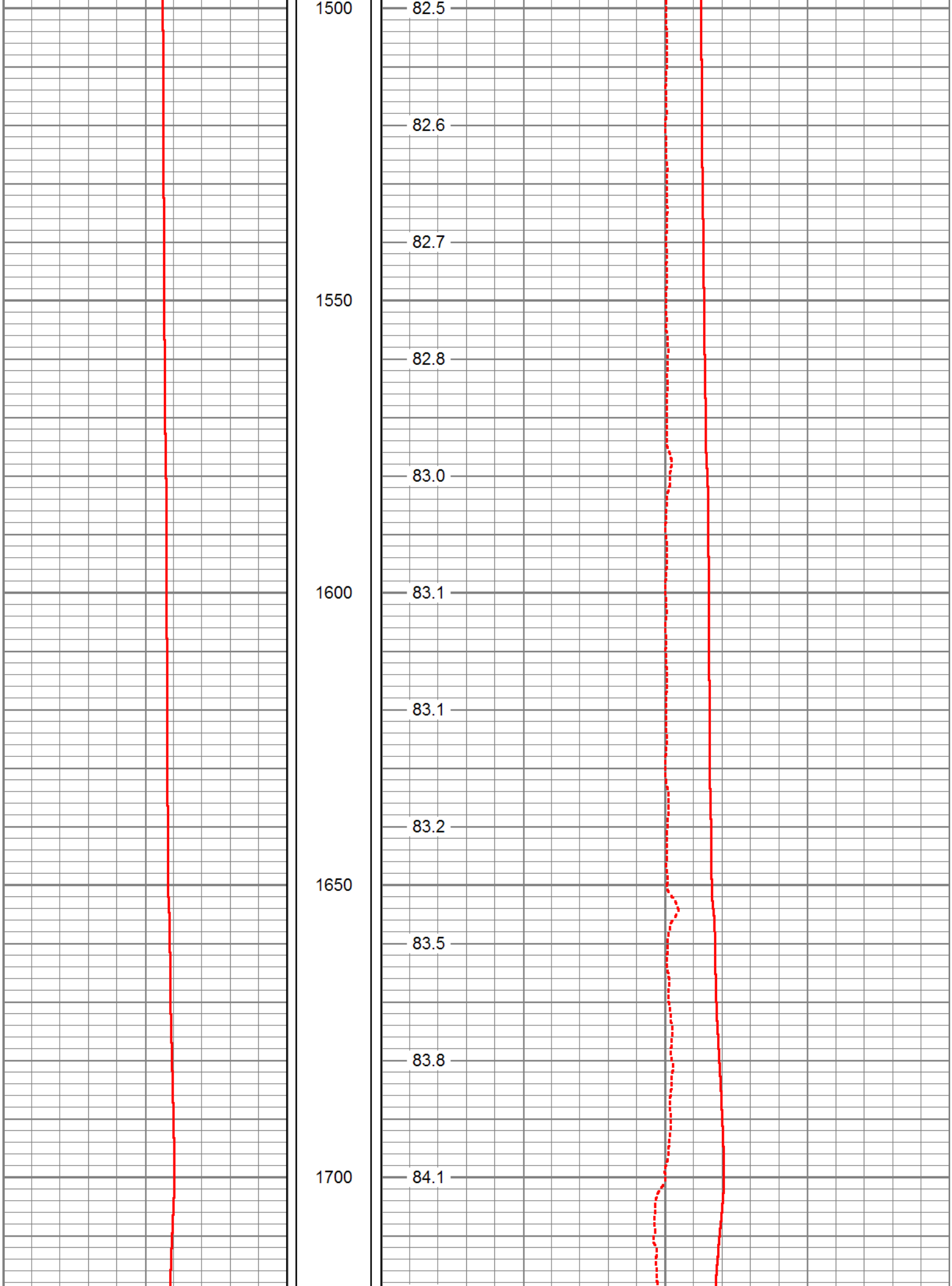
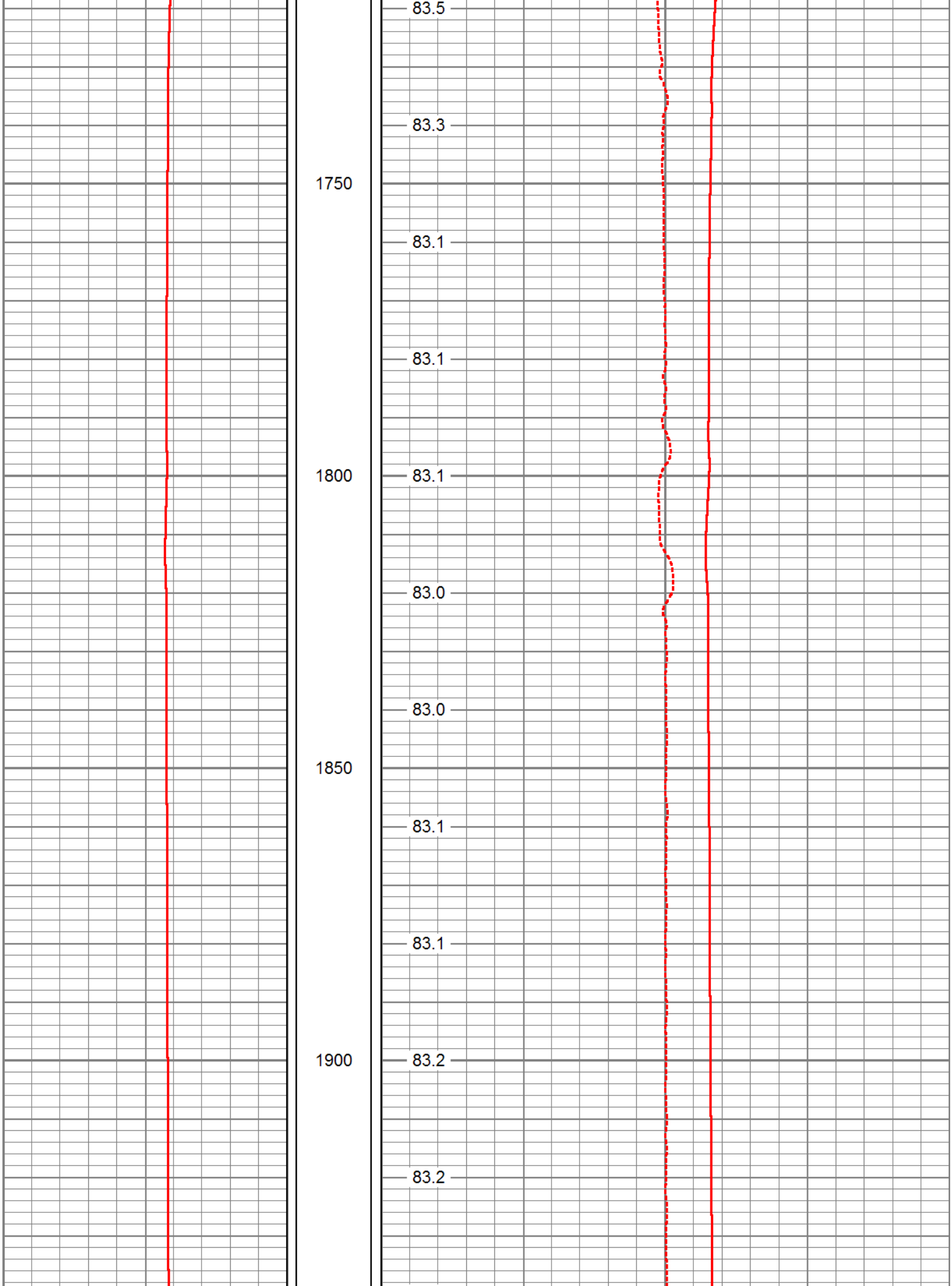
900
81.0
81.1
81.1
950
81.2
81.2
1000
81.3
81.3
81.3
1050


81.3
81.4
1100
81.6
81.6
81.6
1150
81.6
81.7
1200
81.7
81.8
81.8
1250
81.8


1300
1350
1400
1450
81.9
82.0
82.0
82.1
82.2
82.2
82.2
82.3
82.3
82.4
82.4


1500
82.5
82.6
82.7
1550
82.8
83.0
1600
83.1
83.1
83.2
1650
83.5
83.8
1700
84.1


83.5
83.3
1750
83.1
83.1
1800
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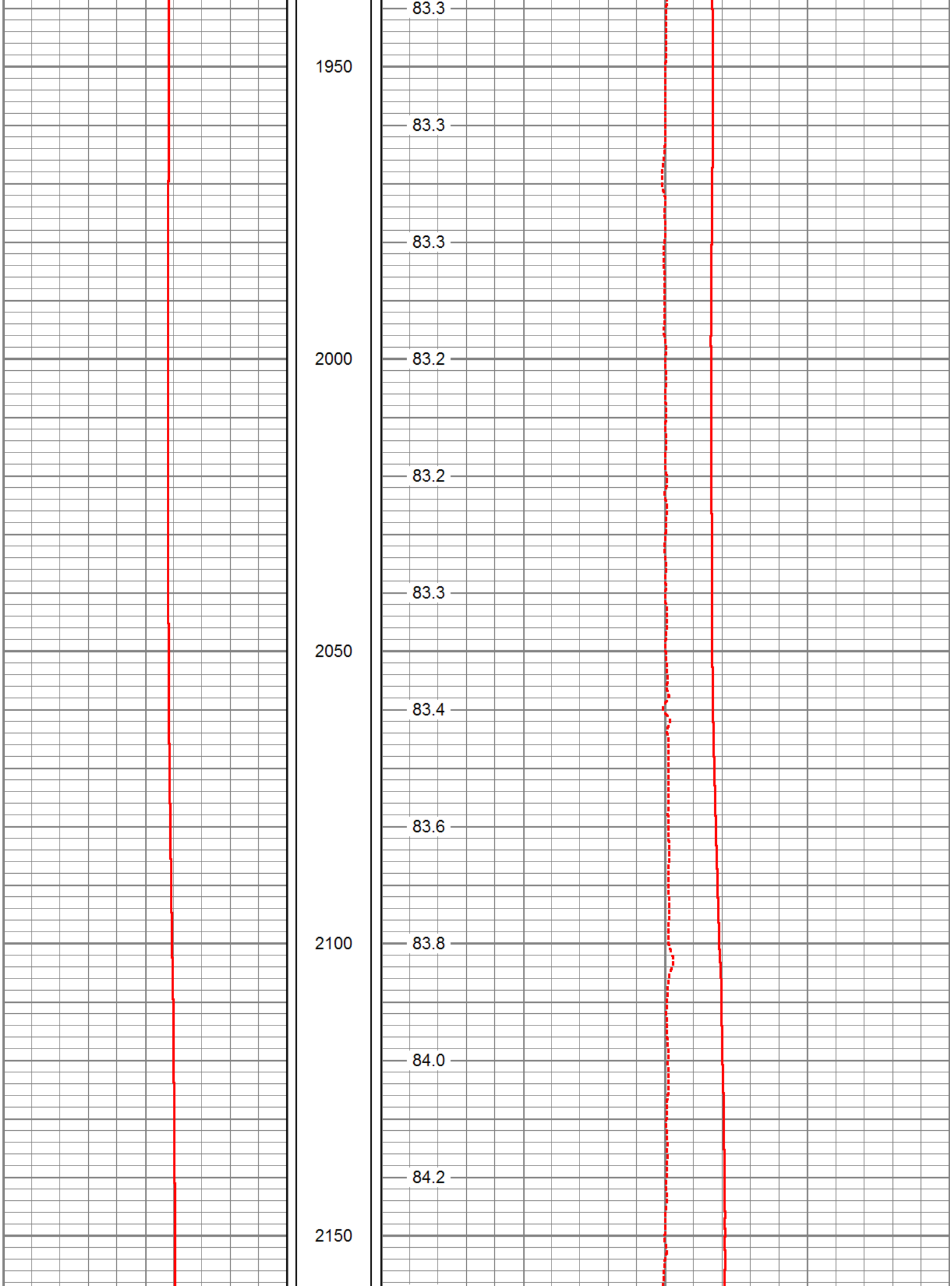
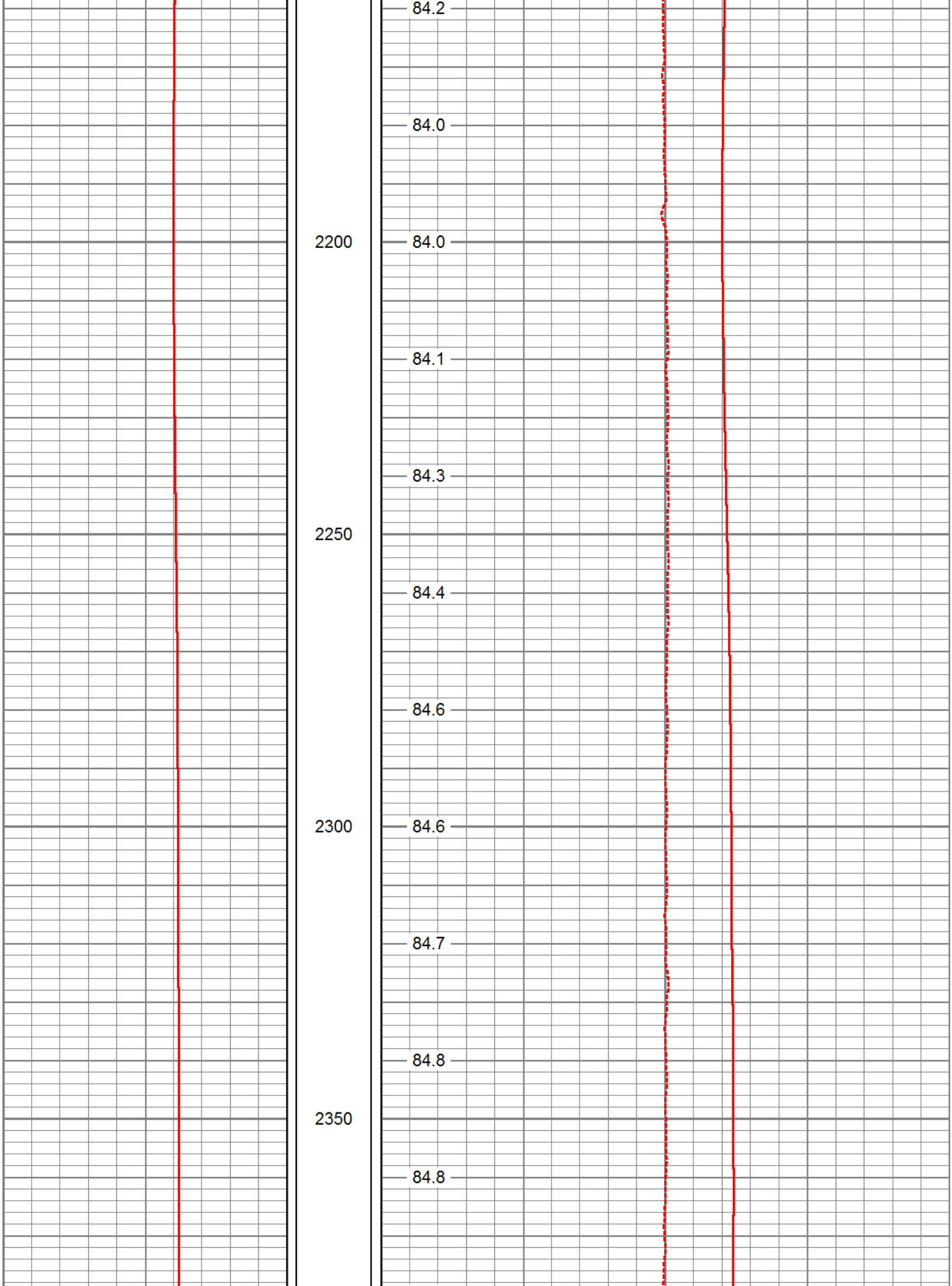
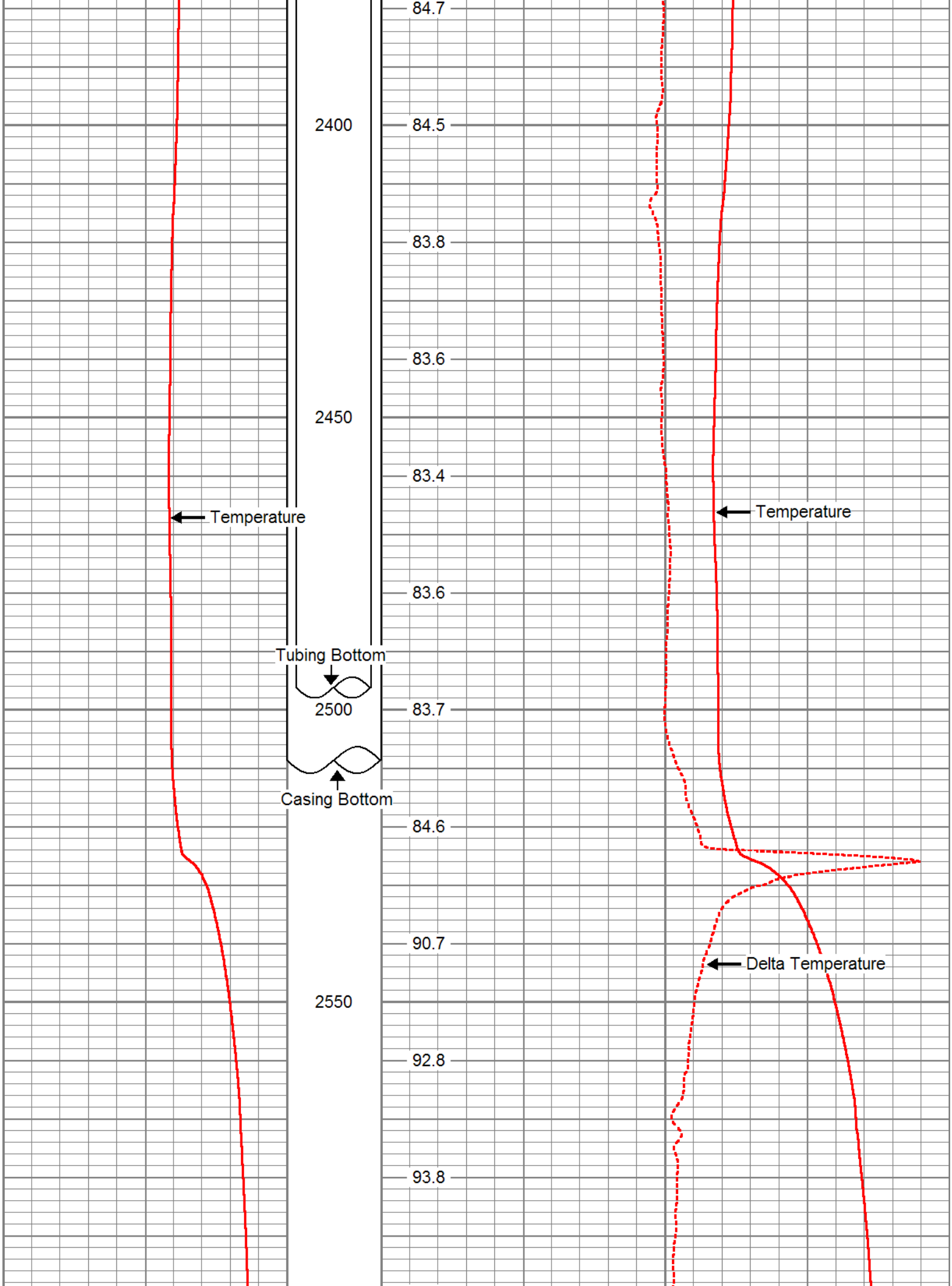
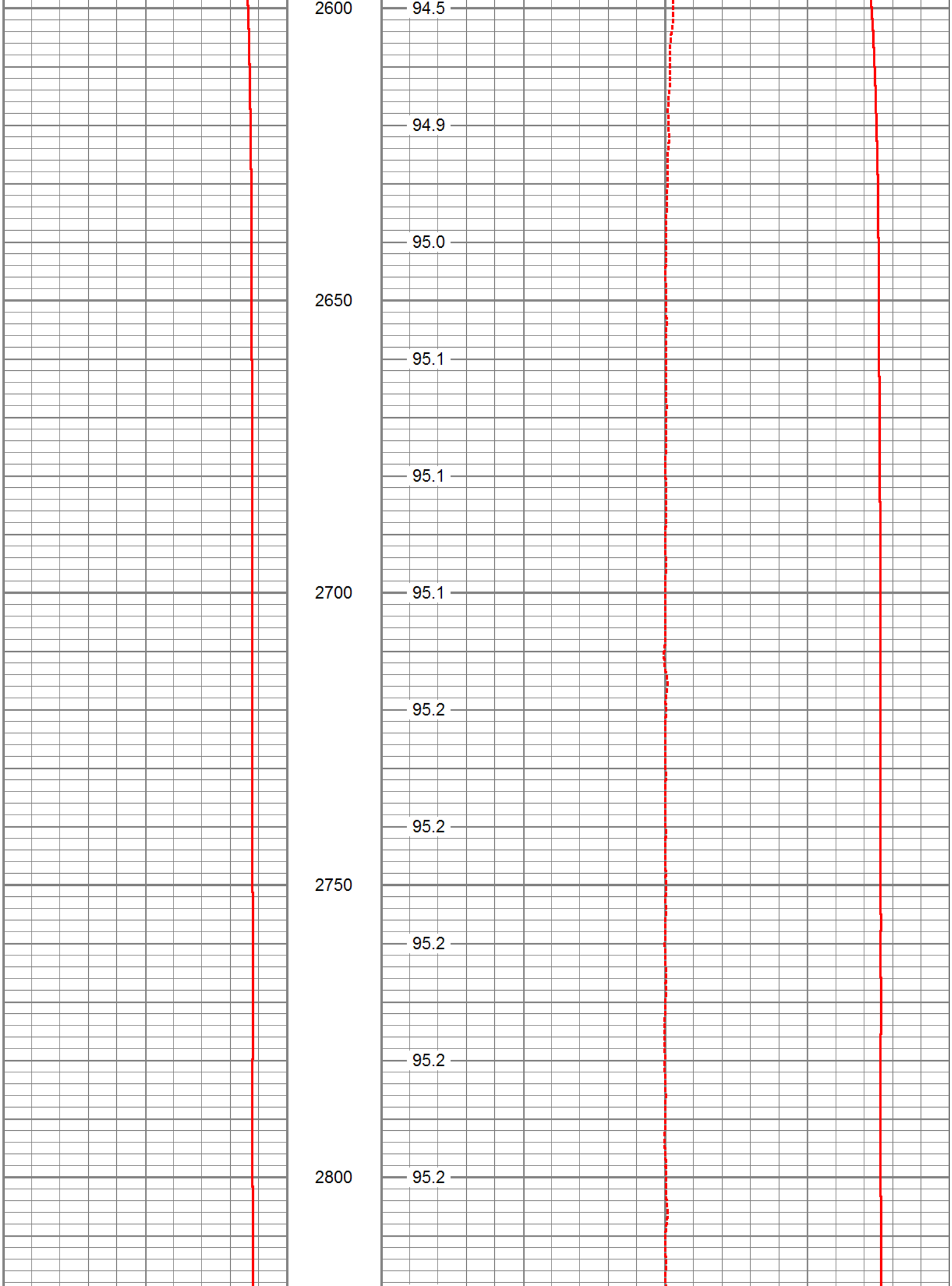
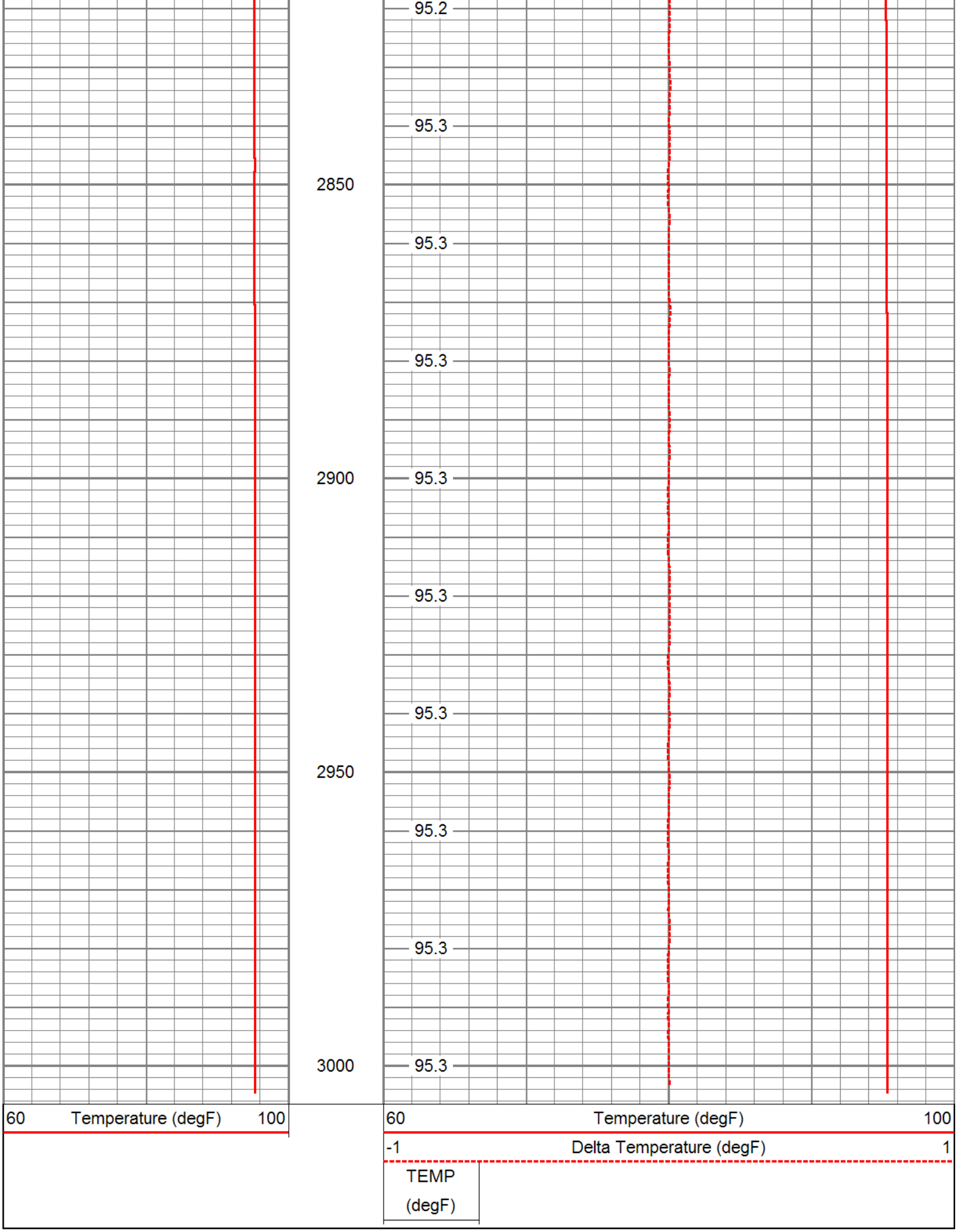
83.0
83.0
1850
83.1
83.1
1900
83.2
83.2


83.3
1950
83.3
83.3
2000
83.2
83.2
83.3
2050
83.4
83.6
2100
83.8
84.0
84.2
2150


84.2
84.0
2200
84.0
84.1
84.3
2250
84.4
84.6
2300
84.6
84.7
84.8
2350
84.8


84.7
2400
84.5
83.8
83.6
2450
83.4
Temperature
Temperature
83.6
Tubing Bottom
2500
83.7
Casing Bottom
84.6
90.7
Delta Temperature
2550
92.8
93.8


2600
94.5
94.9
95.0
2650
95.1
95.1
2700
95.1
95.2
95.2
2750
95.2
95.2
2800
95.2



Calibration Report

Database File: puntagorda.db
Dataset Pathname: TEMP
Dataset Creation: Fri Jun 28 08:20:22 2013 by Log Open-Cased 071220

Temperature Calibration Report

Serial Number: AWE_RTS
Tool Model: AWE
Performed: Thu Jun 27 18:45:45 2013

Point #	Reading		Reference	
1	366.90	cps	37.90	degF
2	855.30	cps	88.20	degF
3	1063.90	cps	113.20	degF
4		cps		degF
5		cps		degF
6		cps		degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

GR#1_BOTTOM Calibration Report

Serial Number: GR#1_B
Tool Model: GR#1
Performed: Fri Jun 28 07:54:25 2013

	Reference (GAPI)	Reading (cps)
Low:	0.000	26.800
High:	120.000	154.933
	Gain = 0.937	Offset=

Gamma Ray Calibration Report

Serial Number: GR#2_M
Tool Model: GR#2
Performed: Fri Jun 21 14:42:18 2013

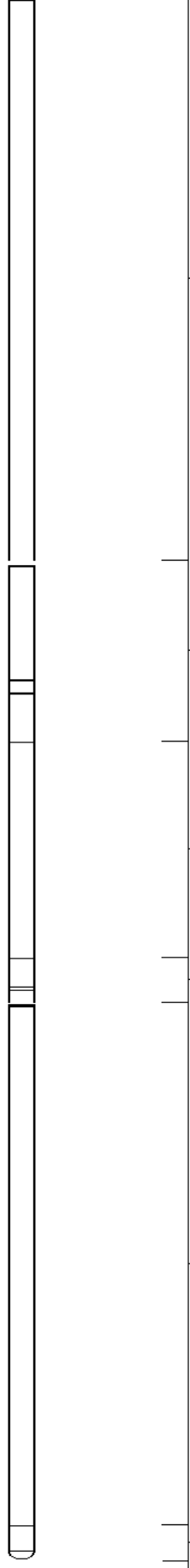
Calibrator Value:	120.0	GAPI
Background Reading:	12.0	cps
Calibrator Reading:	131.9	cps
Sensitivity:	1.0011	GAPI/cps

Gamma Ray Calibration Report

Serial Number: GR#3_T
Tool Model: GR#3
Performed: Fri Jun 28 07:54:33 2013

Calibrator Value:	120.0	GAPI
Background Reading:	21.2	cps
Calibrator Reading:	197.7	cps
Sensitivity:	1.0000	GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00



GR#3	23.83	GR #3 -GR#3 (GR#3_T) GR#3_TOP	9.33	1.69	50.00
		TREJCT-A (RTS) EJECTOR 14.00' FROM TOOL BOTTOM	3.00	1.33	10.00
GR#2	11.17	GR #2 -GR#2 (GR#2_M) GR#2_MIDDLE	3.58	1.69	25.00
CCL	9.63	CCL-000 (000001) RTS_CCL	0.75	1.69	5.00
		TRDET-GR#1 (GR#1_B) GR#1_BOTTOM	8.67	1.69	50.00
GR#1	0.58	TEMP-AWE (AWE_RTS) AWE_TEMP	0.58	1.69	5.00
TEMP	0.17				

Dataset:	puntagorda.db: field/well/run1/TEMP
Total Length:	26.92 ft
Total Weight:	150.00 lb
O.D.	1.69 in

APPENDIX G

RADIOACTIVE TRACER SURVEY LOG AND RELATED RECORDS

Packing List

CardinalHealth

JUPITER
880 JUPITER PARK DRIVE SUITE 16
JUPITER FL 33458
1 561 743-1105

Customer ID : 2100041363
ALL WEBBS ENTERPRISES INC
309 COMMERCE WAY
JUPITER FL 33458-5527
561-746-2079

Container Id : 2016
Packing List No : 1607745

Description Product Code	Activity	Cal D/T	Exp D/T	Vol	Qty	Rx # / Order #	PatientName/ ID
I-131 USP Sodium Iodide Diag. Unit Dose Sol. mCi	6.101 mCi	06/27/2013 12:00 ET	07/02/2013 23:59 ET	6.101 mL	1 via	569808	

5

P.O. Box 772887
Ocala, Florida 34477-2887
(352) 694-7195
(800) 782-5268

JUNE 21, 2013

ALL WEBBS ENTERPRISES, INC
C/O CHARLOTTE COUNTY UTILITY
17430 BURNT ROAD
PUNTA GORDA, FL 33955

				START	UNIT	FINISH	UNIT	ACTUAL	
METER BRAND	SIZE	SERIAL#	FLOWRATE	READING	GAL	READING	GAL	VOLUME	PERCENTAGE
SENSUS									
ALL WEB	2"	42893026	100 GPM	3465044	100	3465144	100	100.6	99.40%
KEN			15 GPM	3465144	100	3465244	100	100.26	99.74%
M-1601			2 GPM	3465244	100	3465344	100	99.73	100.27%
Shop used meter									

METER TEST CERTIFICATION

This letter certifies that the meter tested, was tested on an AWWA approved test bench with a gravimetric weight scale system that is traceable to NIST handbook 44.

FLOYD S. SALSER, JR. & ASSOCIATES INC.
dba/MARS COMPANY INC.
Gene Salser
Customer Service
3925 SW 13th Street
Ocala, Fl. 34474
800-782-5268
352-694-7195
352-694-7397
www.marswater.com
gsalser@marswater.com

ALLWEBBS ENTERPRISES, INC.

RADIOACTIVE TRACER SURVEY LOG

Company CHARLOTTE COUNTY UTILITIES / RMA GEO.
Well IW-2
Field BURNT STORE W.T.P / W.T.F
County CHARLOTTE State FLORIDA
Location: API # :
SWSW
SEC 32 TWP 42 S RGE 23 E
Permanent Datum Elevation
Log Measured From
Drilling Measured From

Other Services
SEE COMMENTS

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

Company CHARLOTTE COUNTY UTILITIES /
Well IW-2
Field BURNT STORE W.T.P / W.T.F
County CHARLOTTE
State FLORIDA

Date	28--JUN-2013
Run Number	'13 MIT
Depth Driller	3002'
Depth Logger	3000'
Bottom Logged Interval	3000'
Top Log Interval	SURFACE
Open Hole Size	22.50"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	95.3 DEGF.
Estimated Cement Top	NA
Time Well Ready	0000
Time Logger on Bottom	0000
Equipment Number	VA-203
Location	JUPITER
Recorded By	LEE
Witnessed By	D. ACQUAVIVA

Borehole Record

Run Number	Bit	From	To
	22.50"	CASING	3003'

Borehole Record

Run Number	Bit	From	To

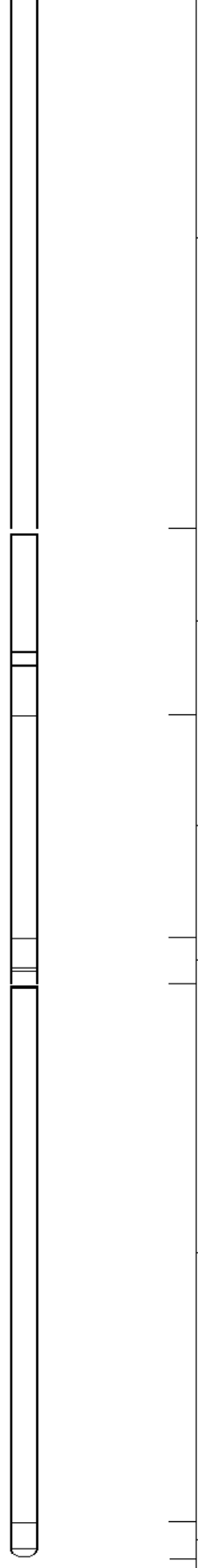
Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	24.00"	.500 W.T	SURFACE	2511'
Prot. String	18.11"	0.76" W.T	SURFACE	2498'
Production String				
Liner				

<<< Fold Here >>>

Comments

EJECTOR 14' FROM TOOL BOTTOM

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00



GR#3	23.83	GR #3 -GR#3 (GR#3_T) GR#3_TOP	9.33	1.69	50.00
		TREJCT-A (RTS) EJECTOR 14.00' FROM TOOL BOTTOM	3.00	1.33	10.00
GR#2	11.17	GR #2 -GR#2 (GR#2_M) GR#2_MIDDLE	3.58	1.69	25.00
CCL	9.63	CCL-000 (000001) RTS_CCL	0.75	1.69	5.00
		TRDET-GR#1 (GR#1_B) GR#1_BOTTOM	8.67	1.69	50.00
GR#1	0.58	TEMP-AWE (AWE_RTS) AWE_TEMP	0.58	1.69	5.00
TEMP	0.17				

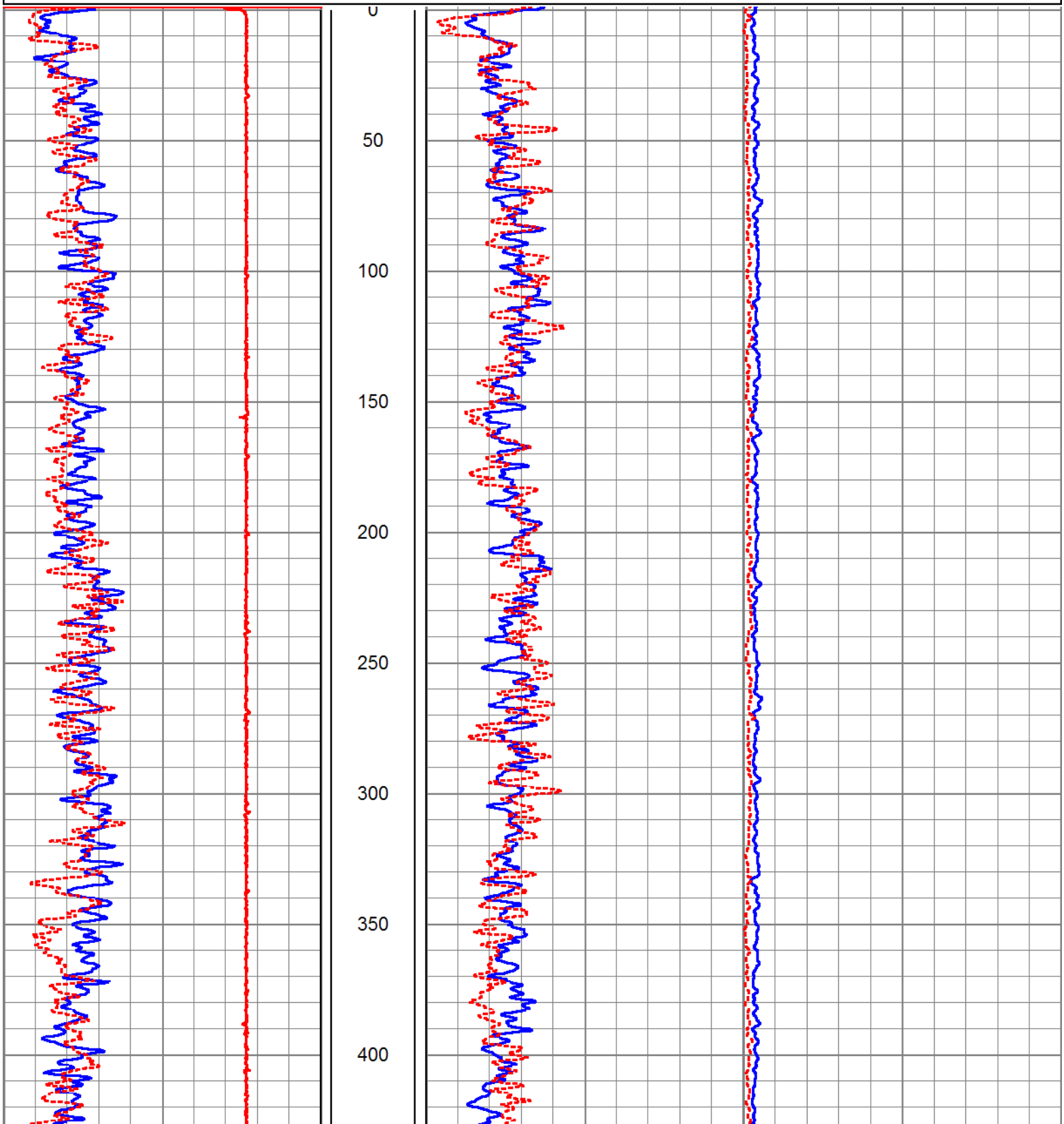
Dataset:	puntagorda.db: field/well/run1/RTSBK1
Total Length:	26.92 ft
Total Weight:	150.00 lb
O.D.	1.69 in

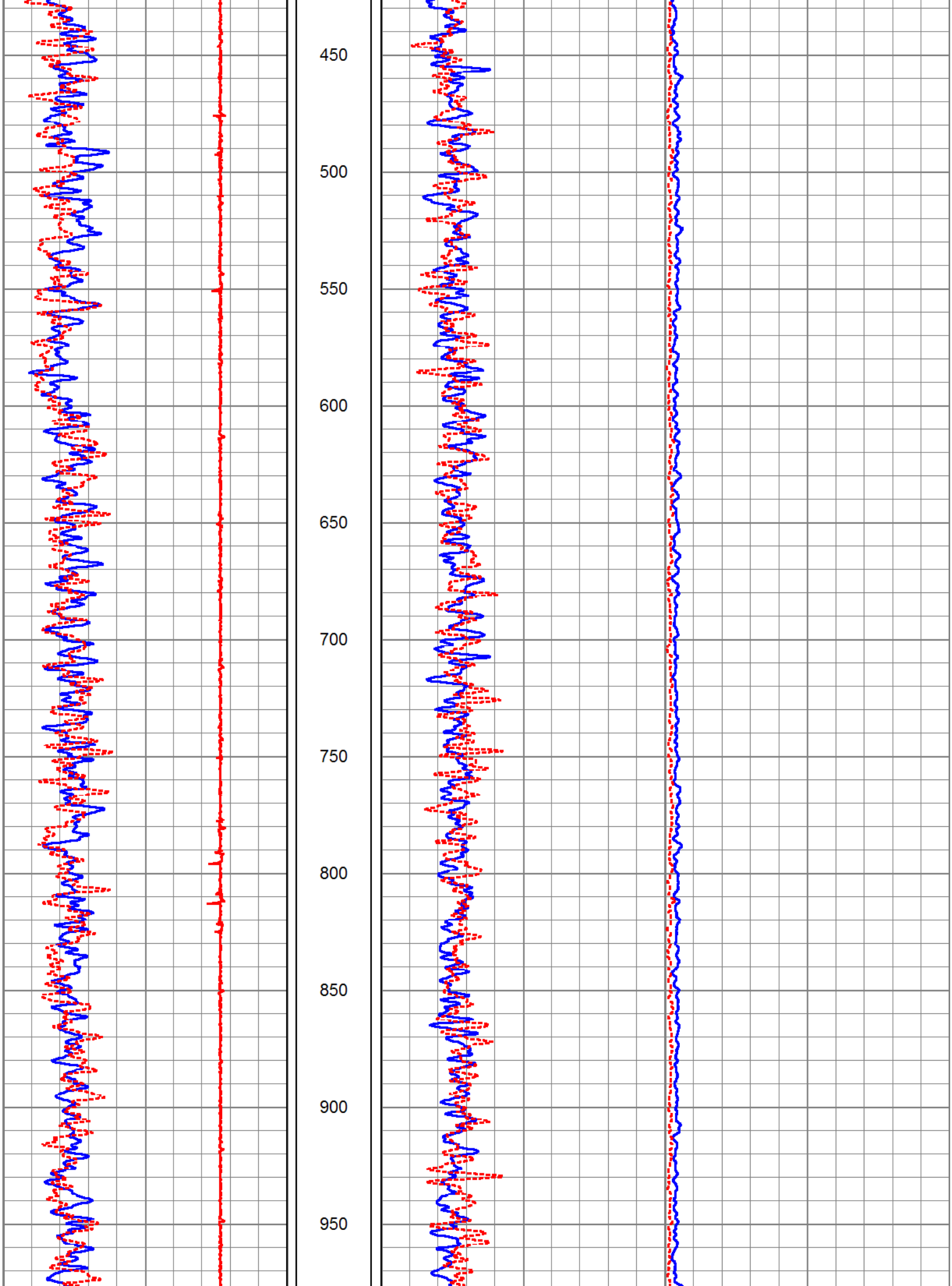
FINAL GAMMA RAY

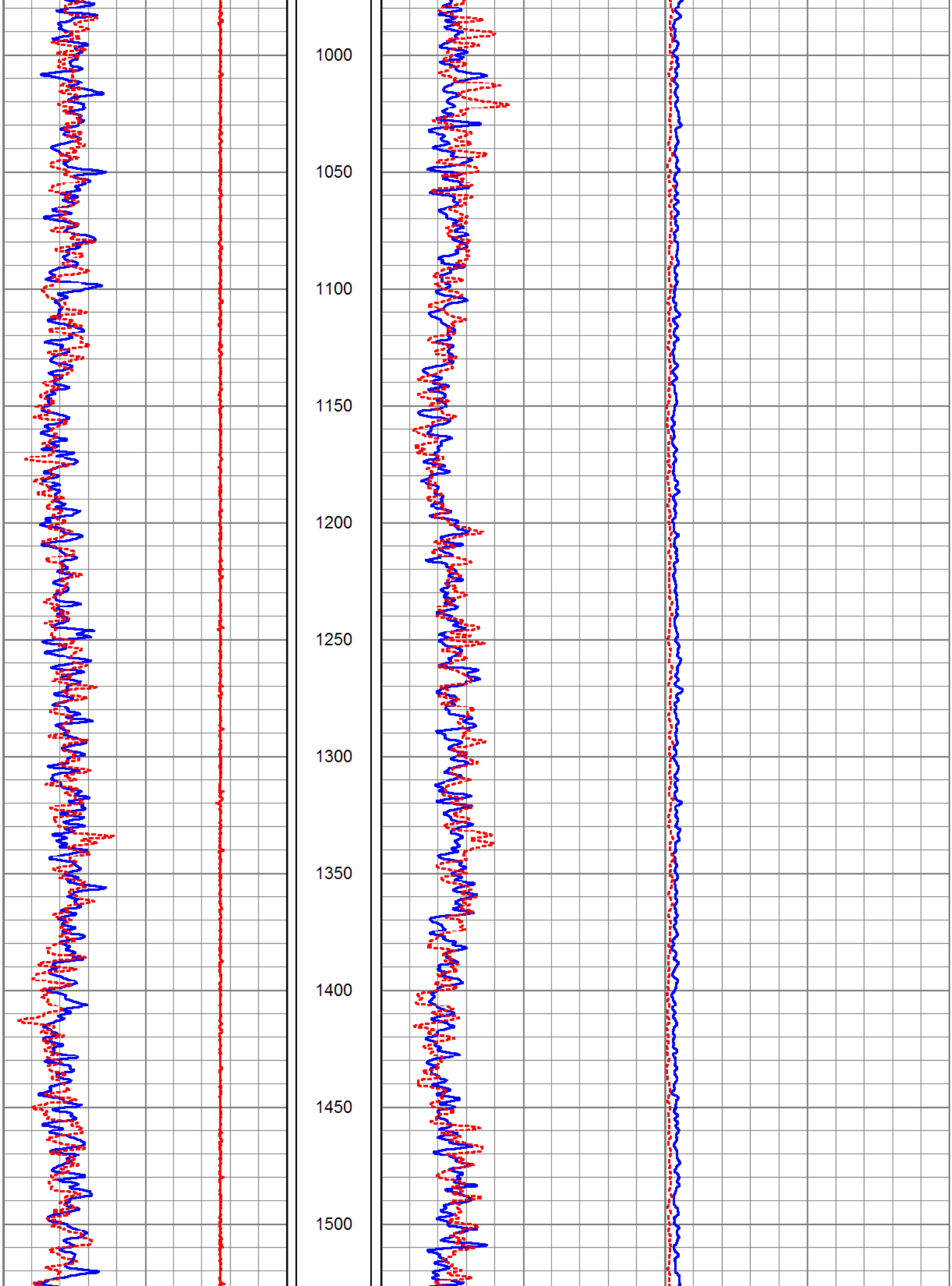
ALLWEBBS
ENTERPRISES, INC.

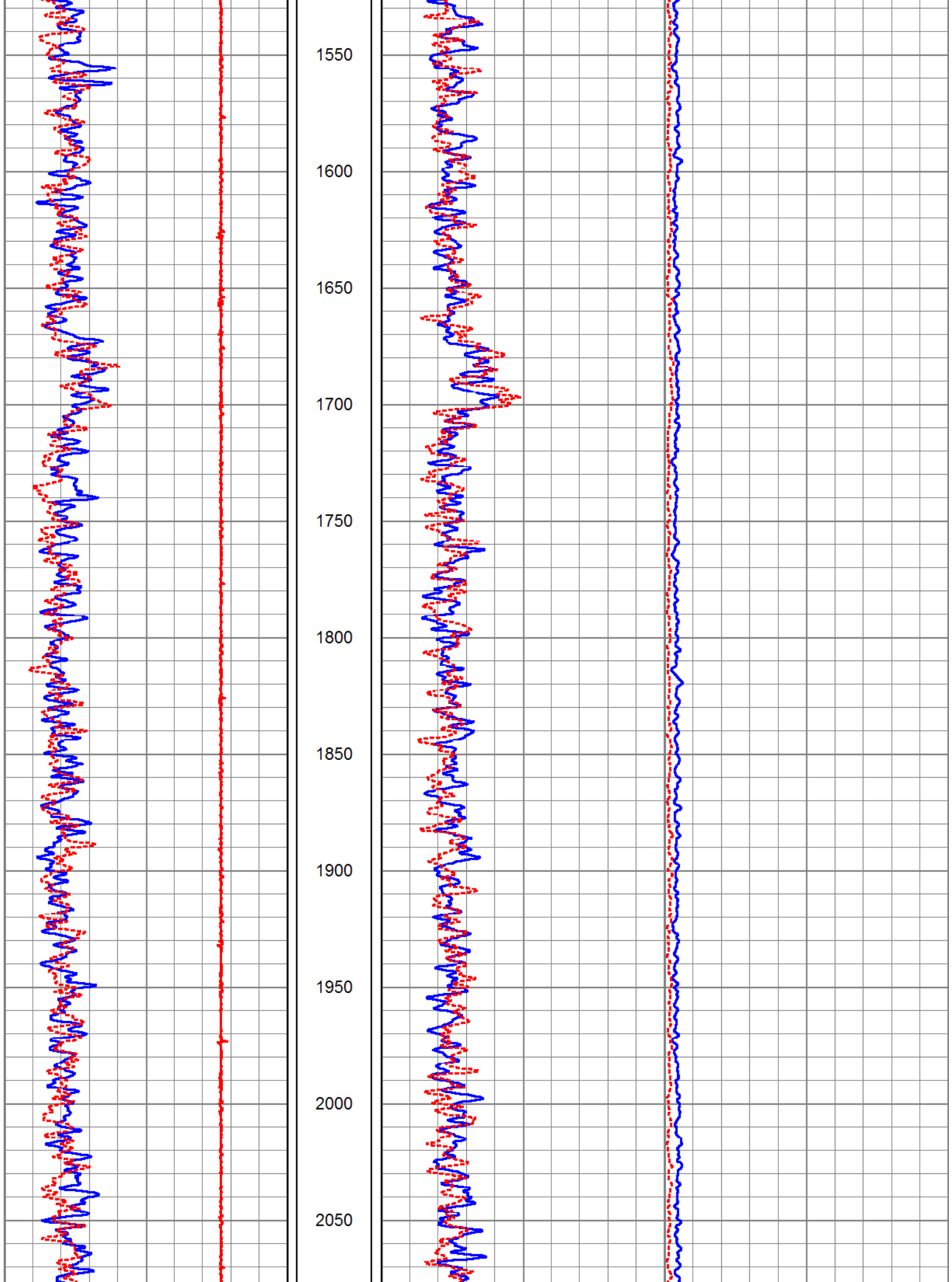
Database File:	puntagorda.db
Dataset Pathname:	FINBK
Presentation Format:	rts_lop
Dataset Creation:	Fri Jun 28 12:30:40 2013 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:600

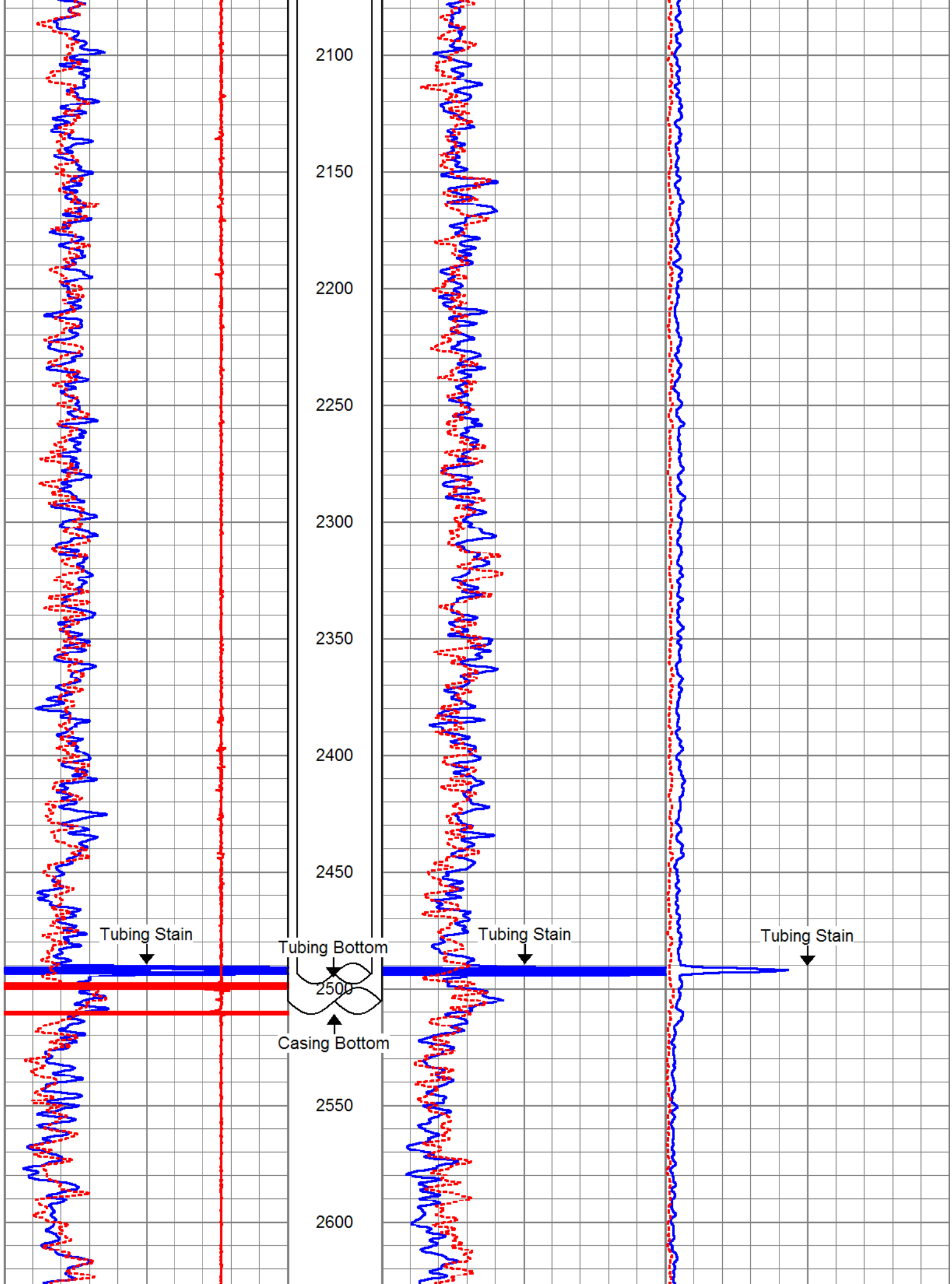
0 GR#3_TOP (GAPI) 100	0 GR#1_BOT (GAPI) 100	0 GR#2_MID (GAPI) 1000
0 GR#3-TOP_BKGRD (GAPI) 100	0 GR#1-BOT_BKGRD (GAPI) 100	0 GR#2-MID_BKGRD (GAPI) 1000
280 CCLB (mV) -60		

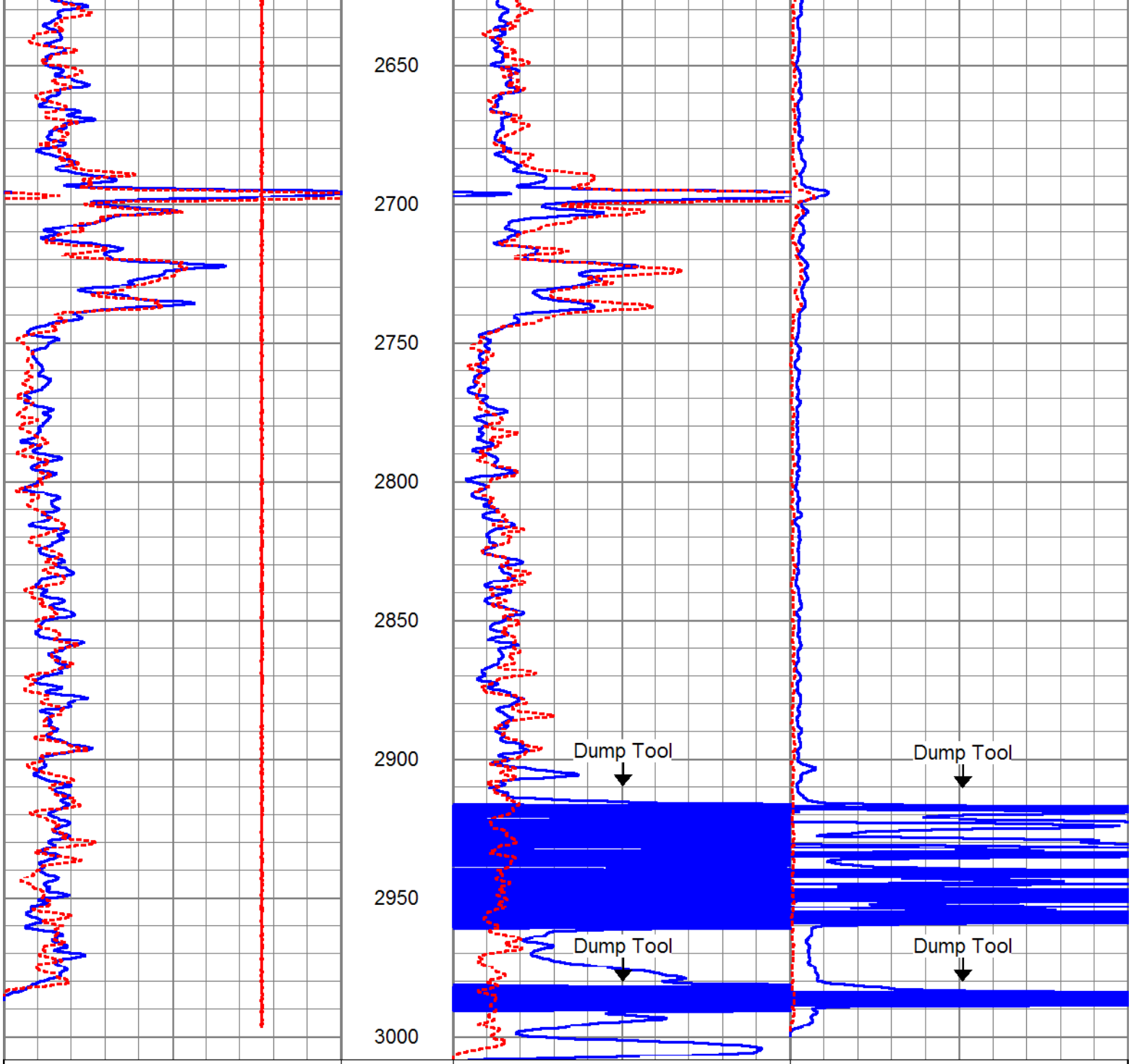



450
500
550
600
650
700
750
800
850
900
950


1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

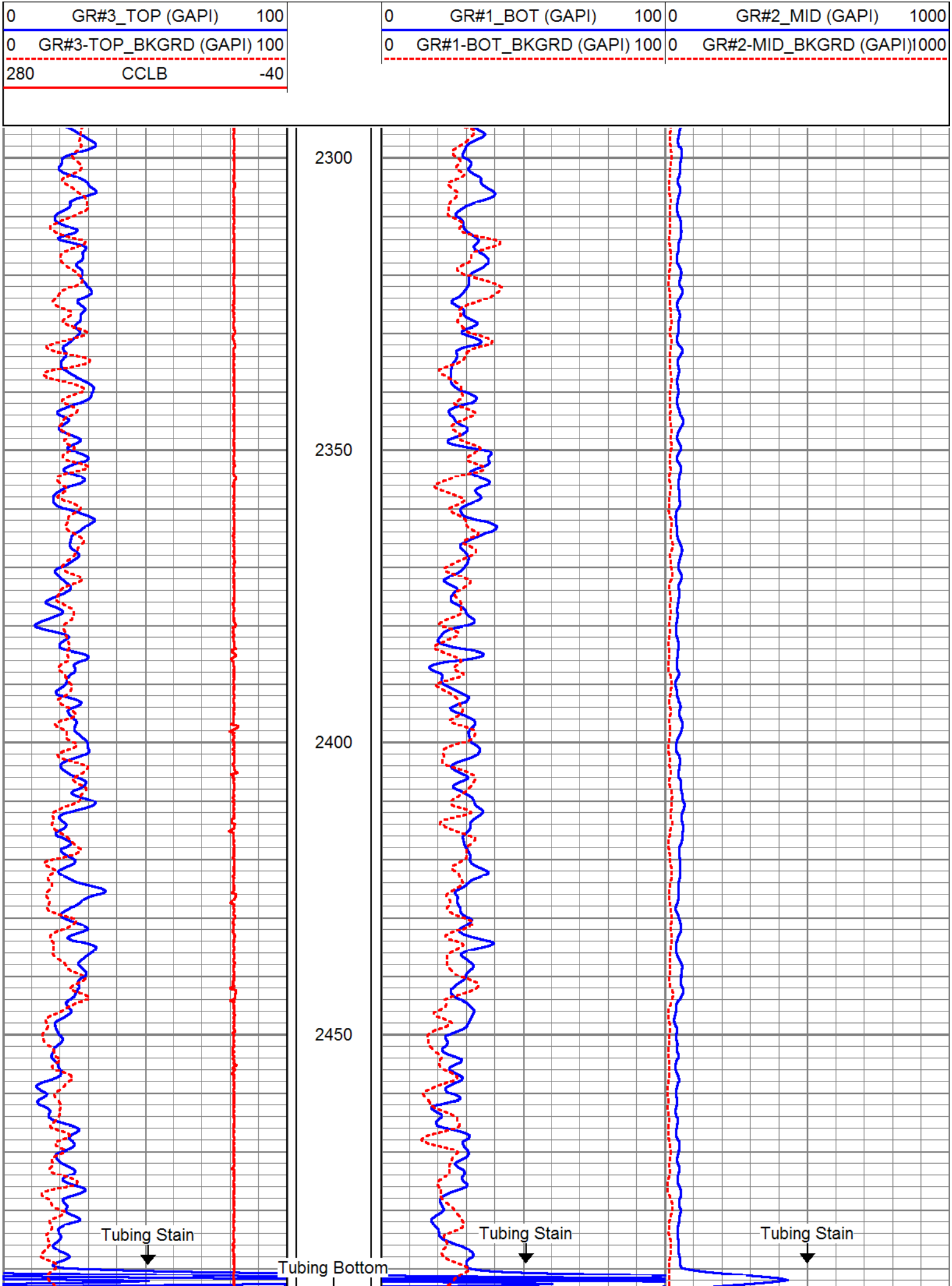

1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050

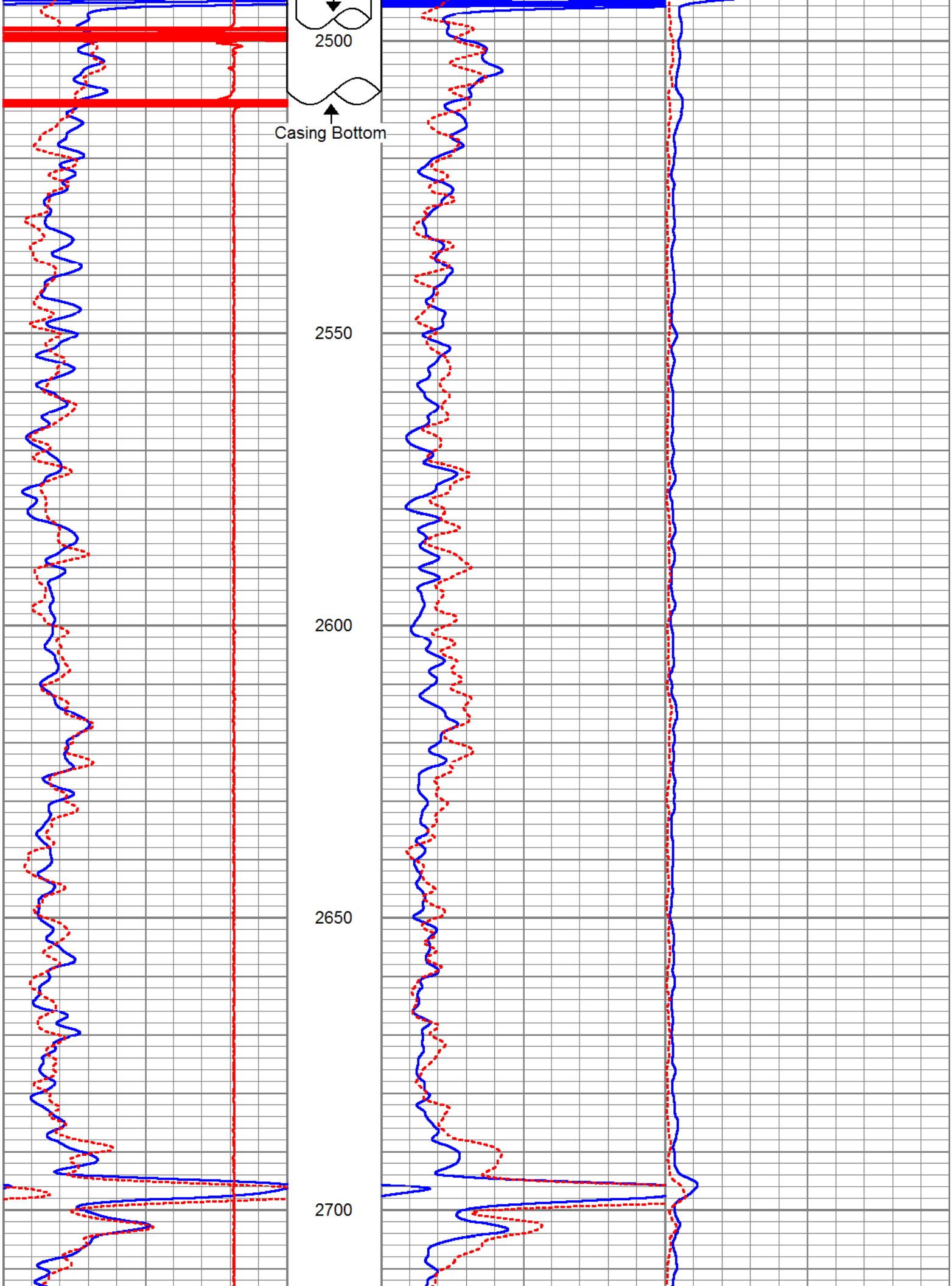

2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600
Tubing Stain
Tubing Bottom
Tubing Stain
Tubing Stain
Casing Bottom

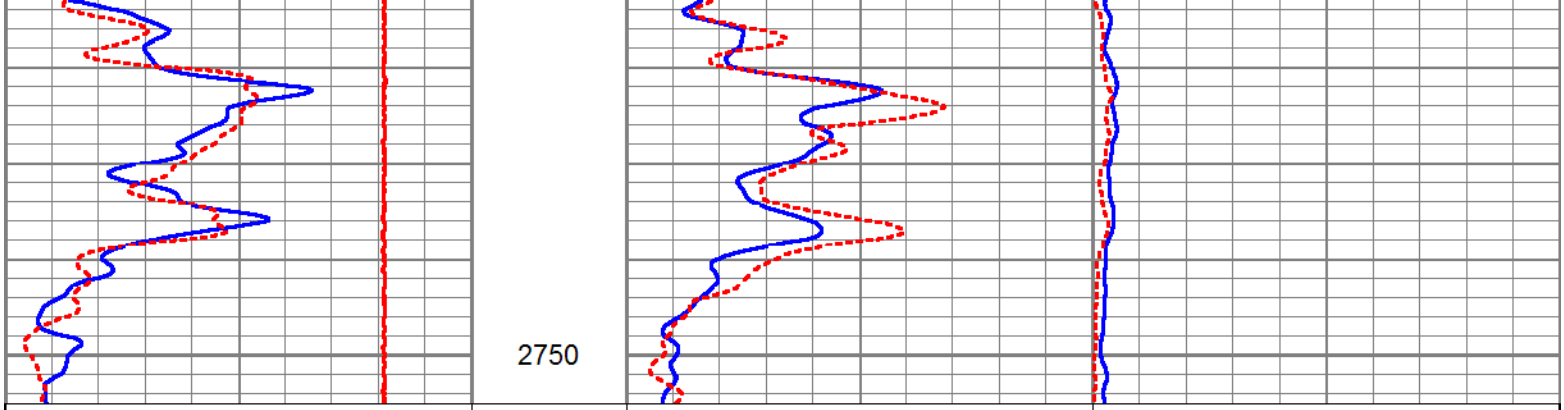


LAF #2 (35,000 GALS)

Database File:	puntagorda.db
Dataset Pathname:	LAF2
Presentation Format:	rts_laf
Dataset Creation:	Fri Jun 28 13:20:49 2013 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240


0 GR#3_TOP (GAPI) 100
0 GR#3-TOP_BKGRD (GAPI) 100
280 CCLB -40
0 GR#1_BOT (GAPI) 100
0 GR#1-BOT_BKGRD (GAPI) 100
0 GR#2_MID (GAPI) 1000
0 GR#2-MID_BKGRD (GAPI) 1000
2300
2350
2400
2450
Tubing Stain
Tubing Bottom
Tubing Stain
Tubing Stain

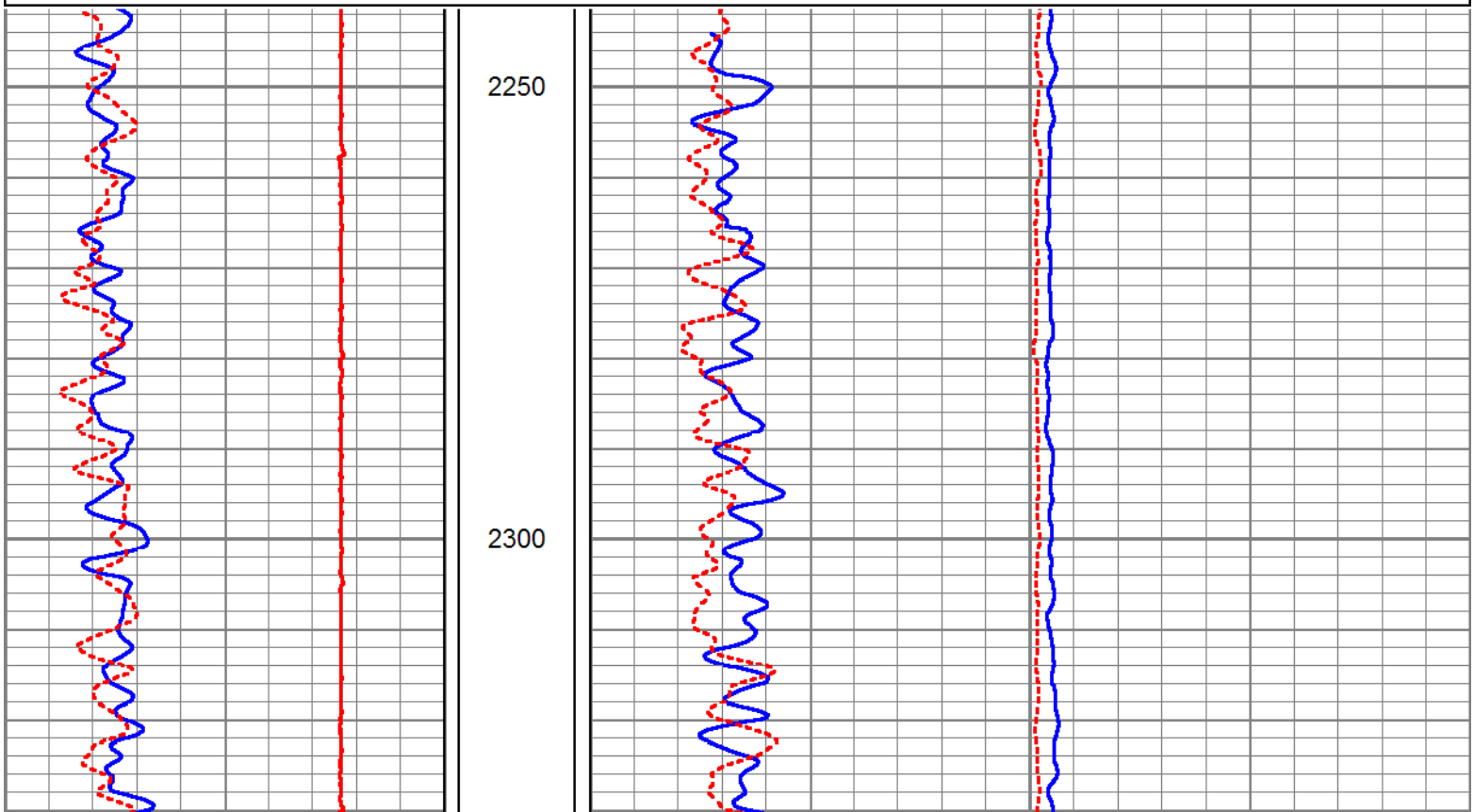

2500
Casing Bottom
2550
2600
2650
2700

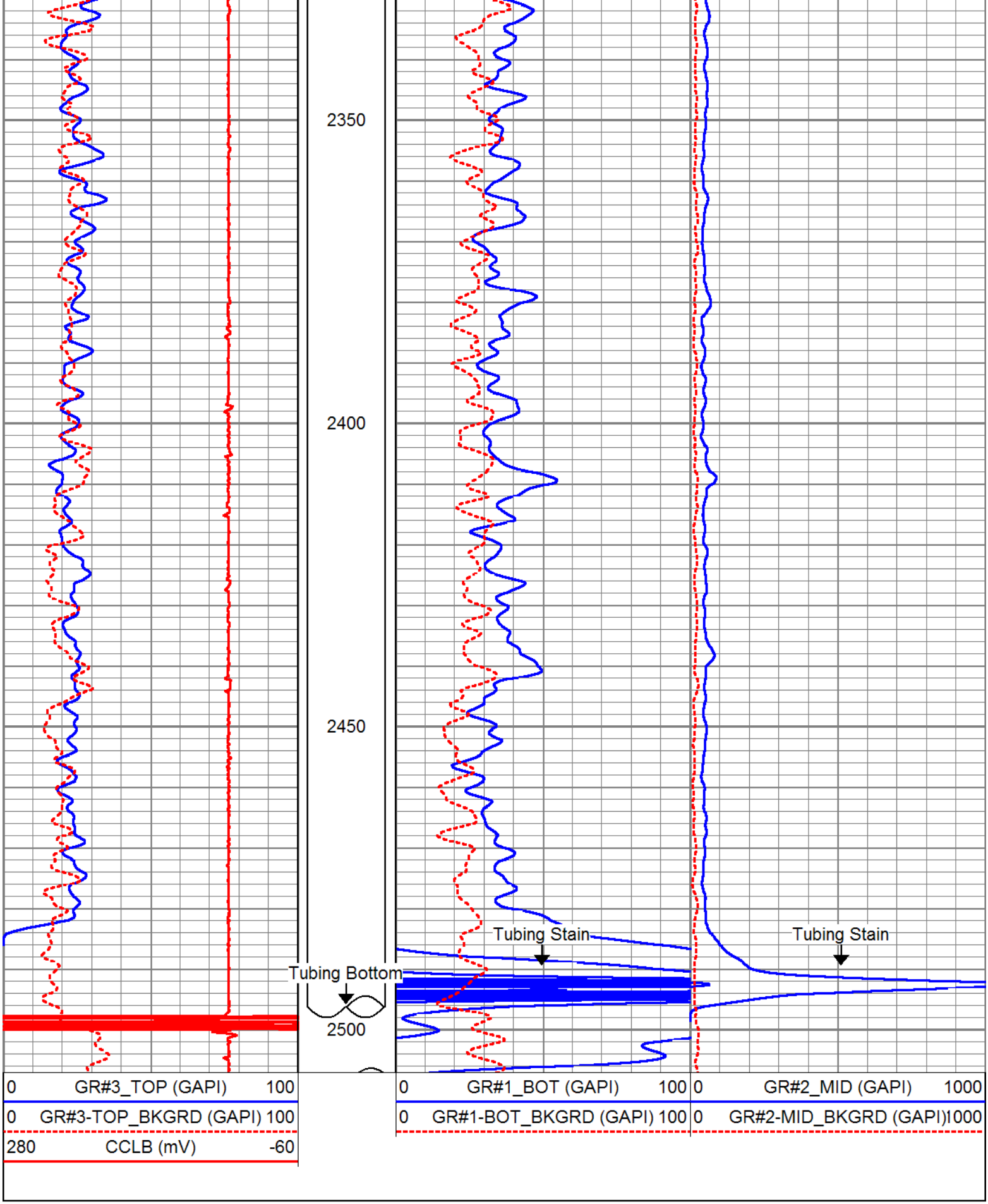


LOP #2

Database File: puntagorda.db
Dataset Pathname: RTS5
Presentation Format: rts_lop
Dataset Creation: Fri Jun 28 12:14:20 2013 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

0 GR#3_TOP (GAPI) 100	0 GR#1_BOT (GAPI) 100	0 GR#2_MID (GAPI) 1000
0 GR#3-TOP_BKGRD (GAPI) 100	0 GR#1-BOT_BKGRD (GAPI) 100	0 GR#2-MID_BKGRD (GAPI) 1000
280 CCLB (mV) -60		



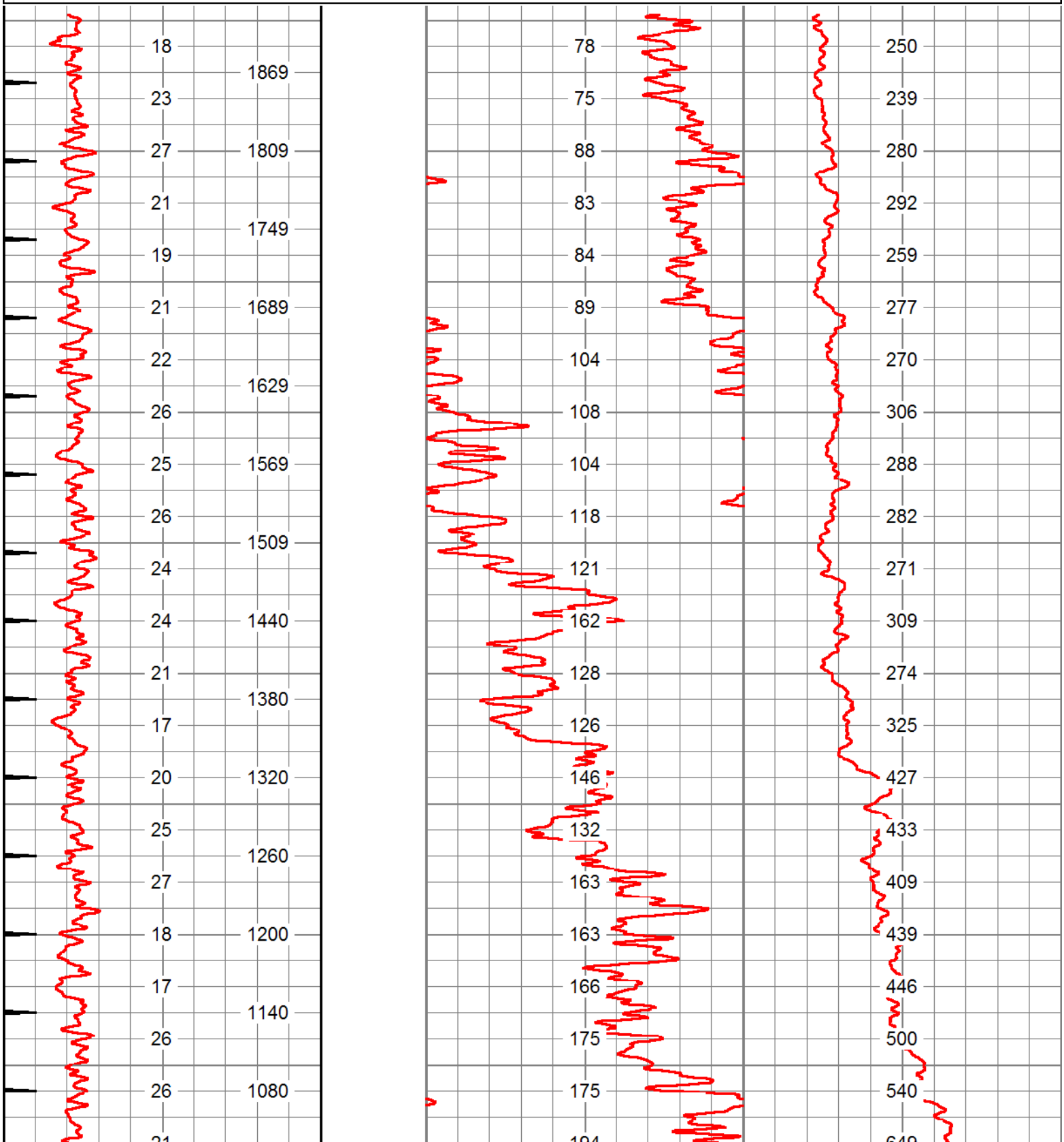

2350
2400
2450
2500
Tubing Stain
Tubing Stain
Tubing Bottom
0 GR#3_TOP (GAPI) 100
0 GR#3-TOP_BKGRD (GAPI) 100
280 CCLB (mV) -60
0 GR#1_BOT (GAPI) 100
0 GR#1-BOT_BKGRD (GAPI) 100
0 GR#2_MID (GAPI) 1000
0 GR#2-MID_BKGRD (GAPI) 1000

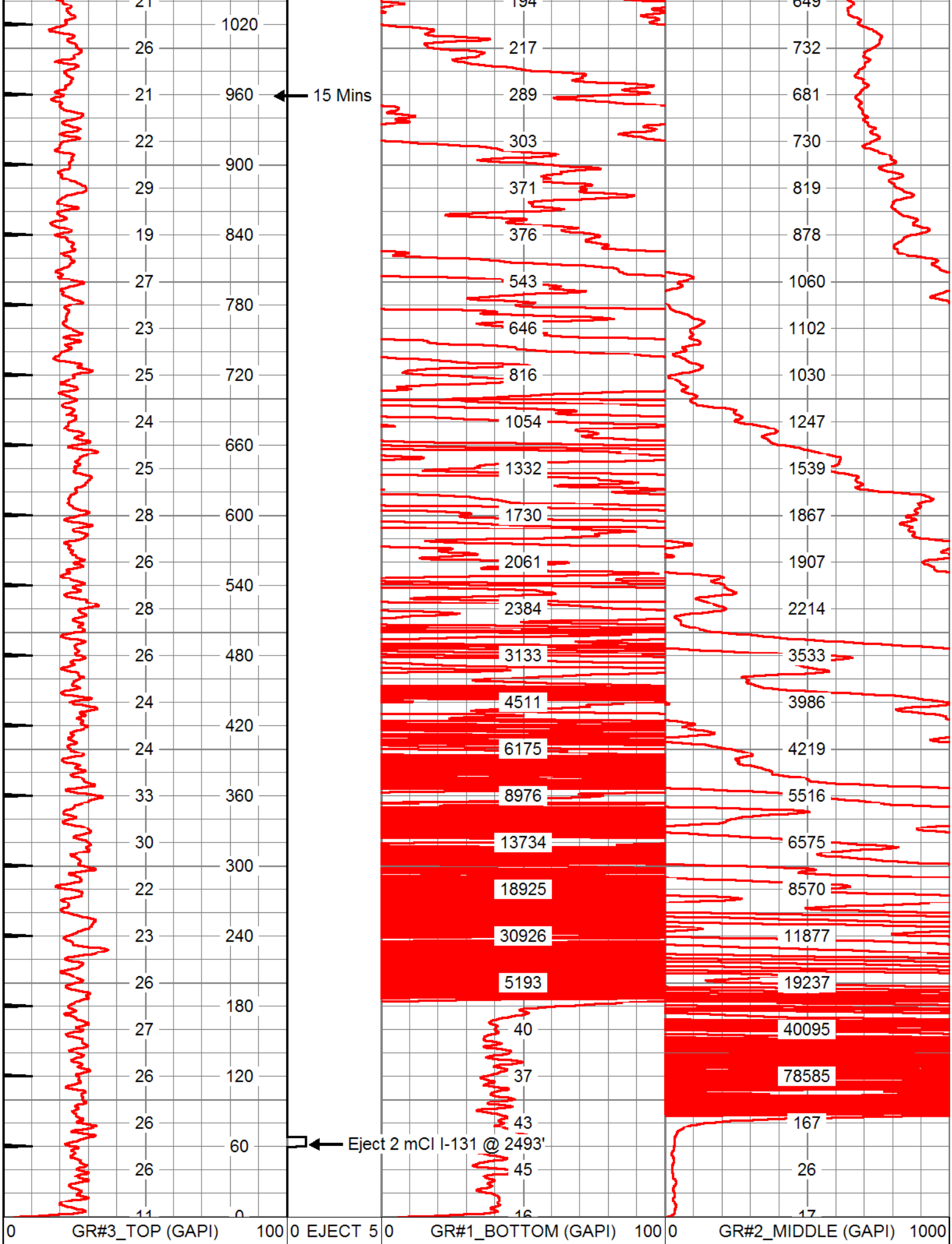
TEST #2 (52 GPM)

ALLWEBBS
ENTERPRISES, INC.

Database File:	puntagorda.db
Dataset Pathname:	RTS4
Presentation Format:	rts_time
Dataset Creation:	Fri Jun 28 11:41:57 2013 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:600

0 GR#3_TOP (GAPI) 100	0 EJECT 5	0 GR#1_BOTTOM (GAPI) 100	0 GR#2_MIDDLE (GAPI) 1000
0 MIN_MARK 10		GR#1 (GAPI)	GR#2 (GAPI)
GR#3 (GAPI) / ELTIM (sec)			




15 Mins
Eject 2 mCI I-131 @ 2493'
0 GR#3_TOP (GAPI) 100
0 EJECT 5
0 GR#1_BOTTOM (GAPI) 100
0 GR#2_MIDDLE (GAPI) 1000
0 MIN_MARK 10
GR#1 (GAPI)
GR#2 (GAPI)

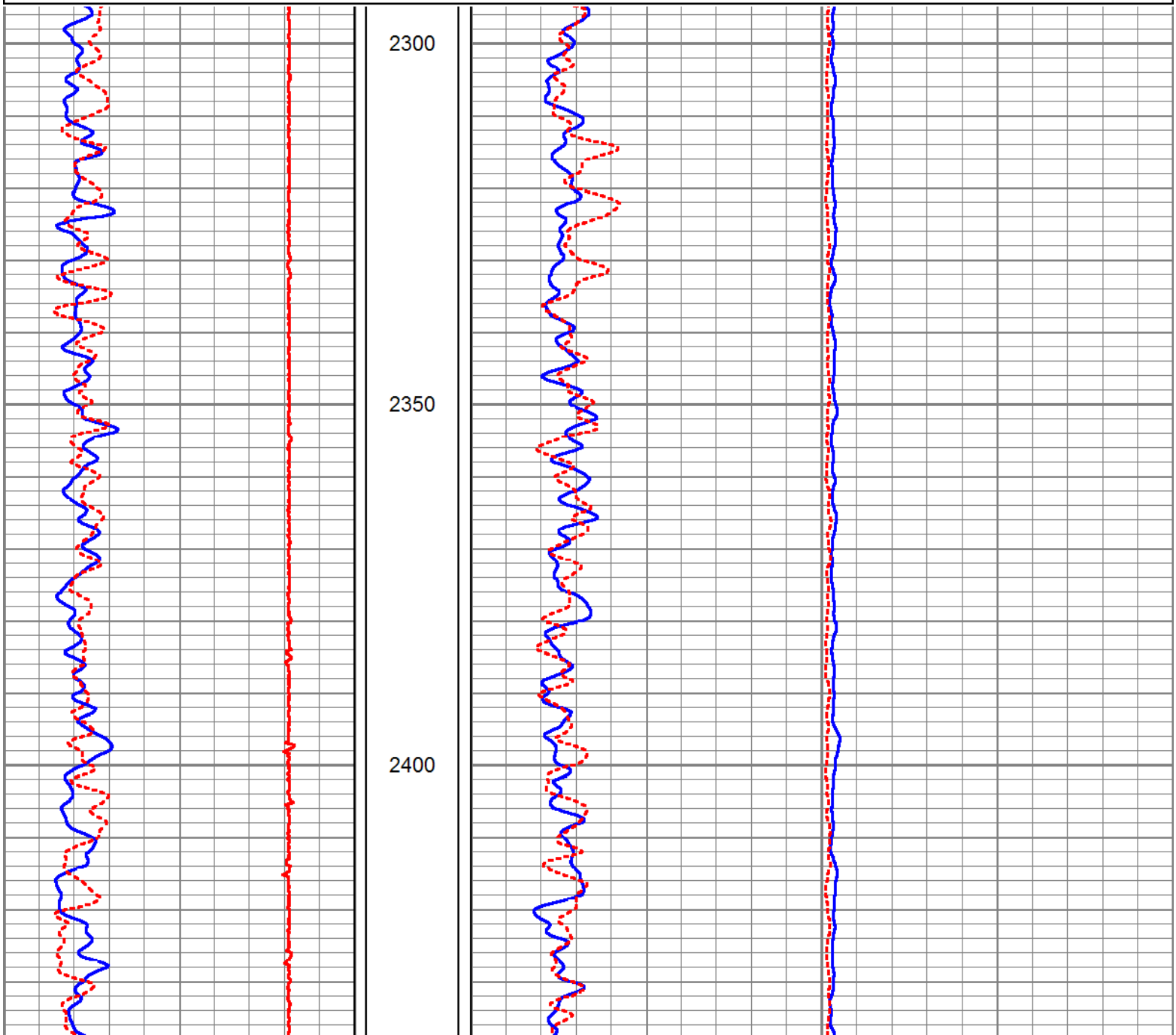
GR#3 (GAPI)	ELTIM (sec)	(GAPI)	(GAPI)

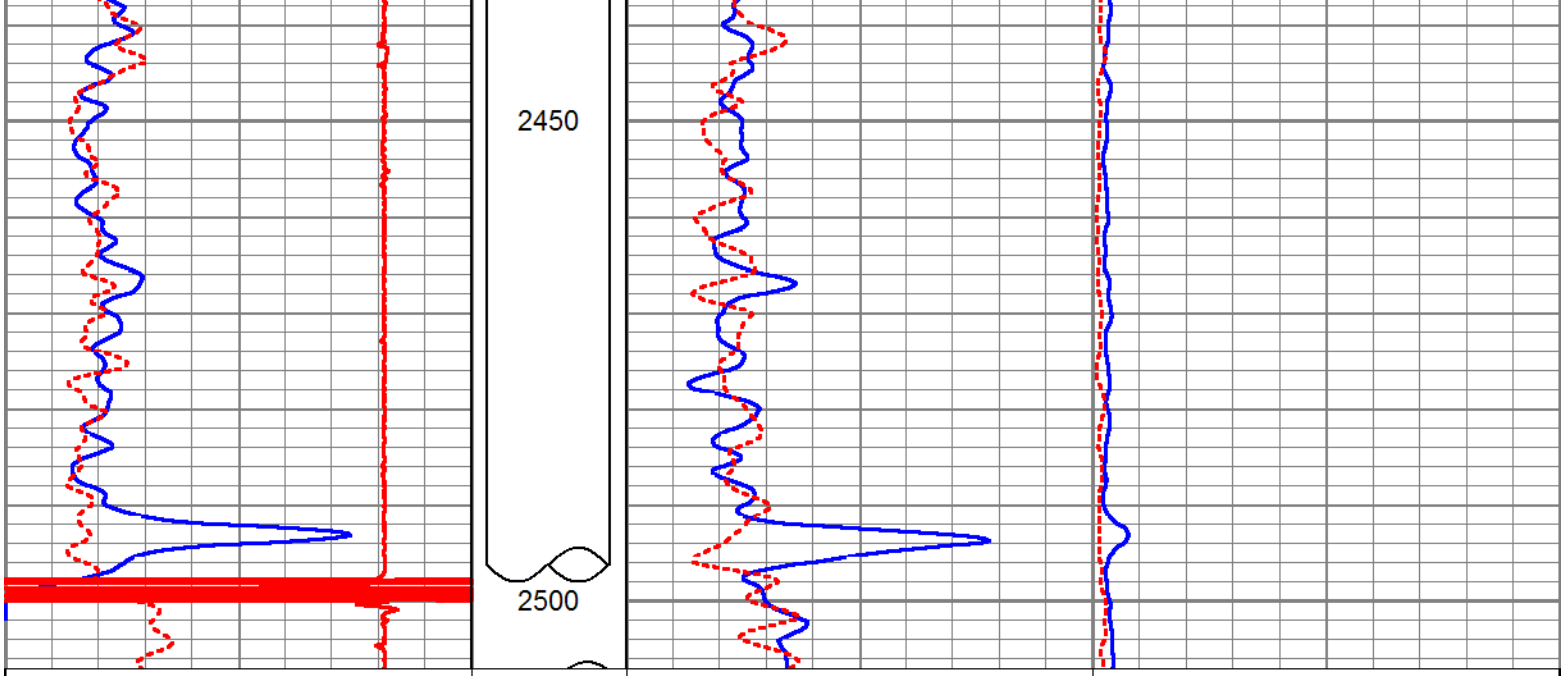
LAF #1 (35,000 GALS)

Database File:	puntagorda.db
Dataset Pathname:	RTS3.1
Presentation Format:	rts_laf
Dataset Creation:	Fri Jun 28 12:47:36 2013 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

0	GR#3_TOP (GAPI)	100	0	GR#1_BOT (GAPI)	100
0	GR#3-TOP_BKGRD (GAPI)	100	0	GR#1-BOT_BKGRD (GAPI)	100
280	CCLB	-40			

0	GR#2_MID (GAPI)	1000
0	GR#2-MID_BKGRD (GAPI)	1000



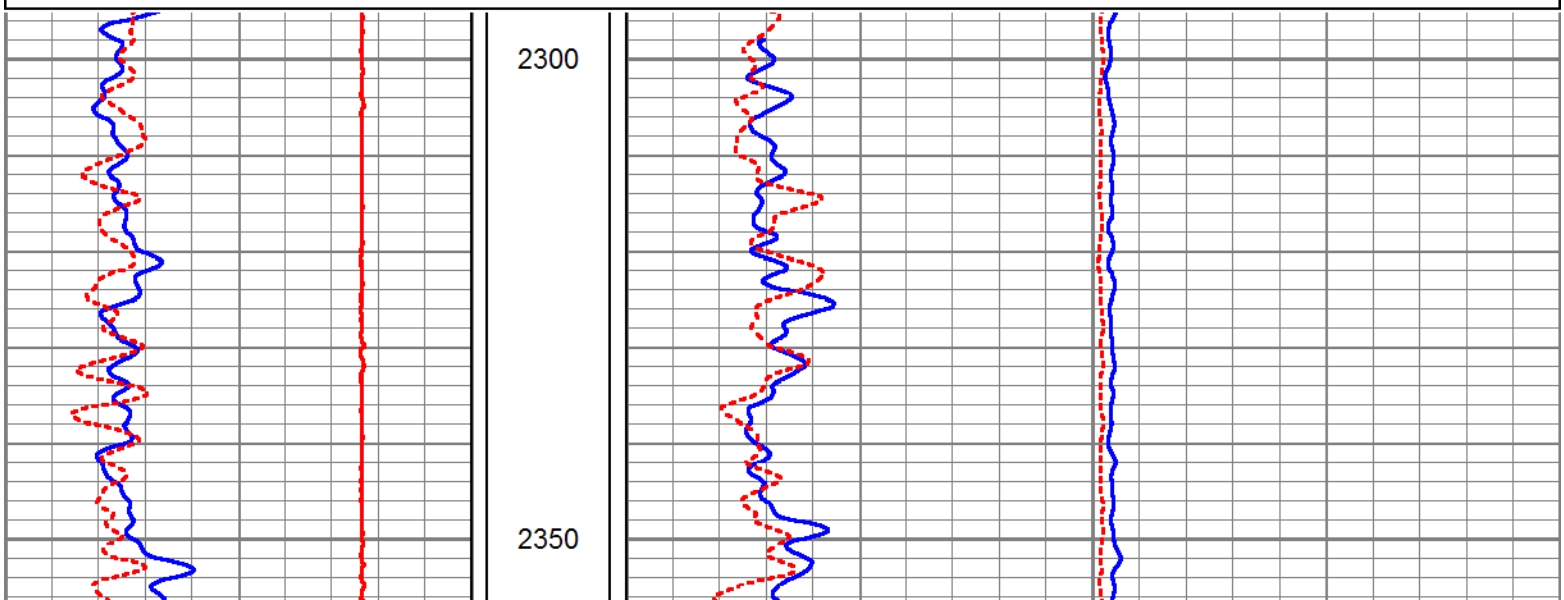


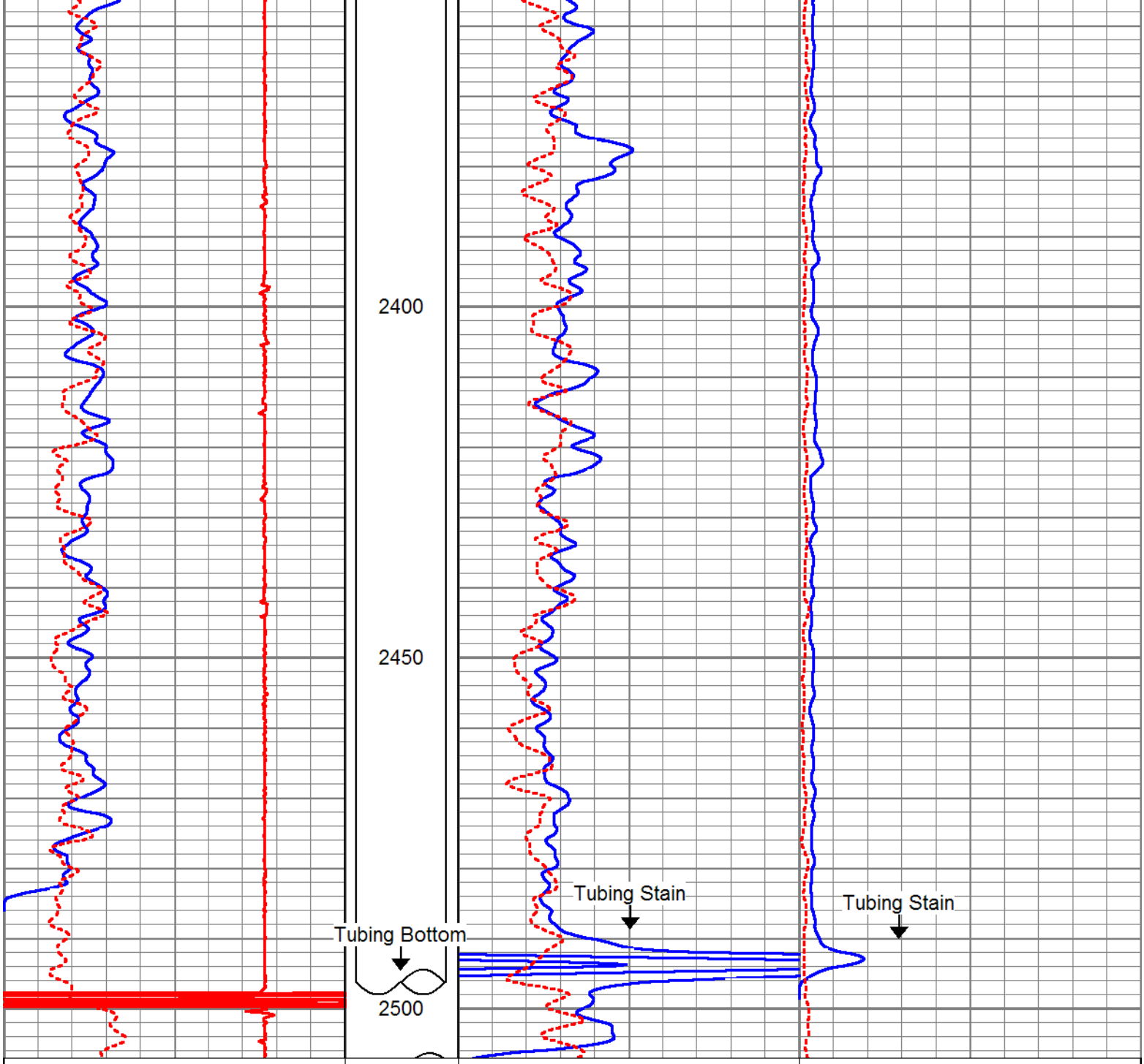
0 GR#3_TOP (GAPI) 100	0 GR#1_BOT (GAPI) 100	0 GR#2_MID (GAPI) 1000
0 GR#3-TOP_BKGRD (GAPI) 100	0 GR#1-BOT_BKGRD (GAPI) 100	0 GR#2-MID_BKGRD (GAPI) 1000
280 CCLB -40		

LOP #1

Database File:	puntagorda.db
Dataset Pathname:	RTS2
Presentation Format:	rts_lop
Dataset Creation:	Fri Jun 28 10:25:20 2013 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

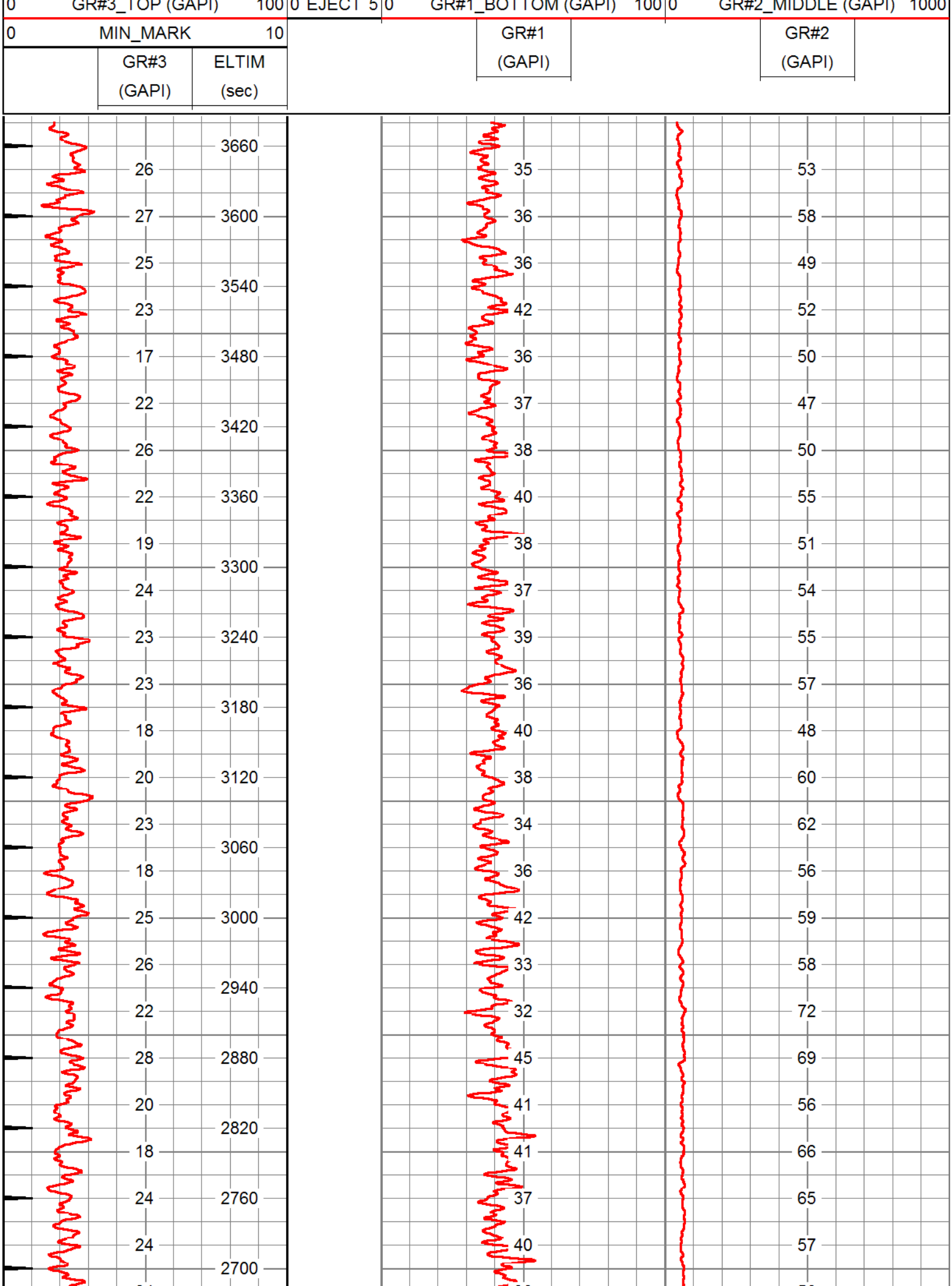
0 GR#3_TOP (GAPI) 100	0 GR#1_BOT (GAPI) 100	0 GR#2_MID (GAPI) 1000
0 GR#3-TOP_BKGRD (GAPI) 100	0 GR#1-BOT_BKGRD (GAPI) 100	0 GR#2-MID_BKGRD (GAPI) 1000
280 CCLB (mV) -60		

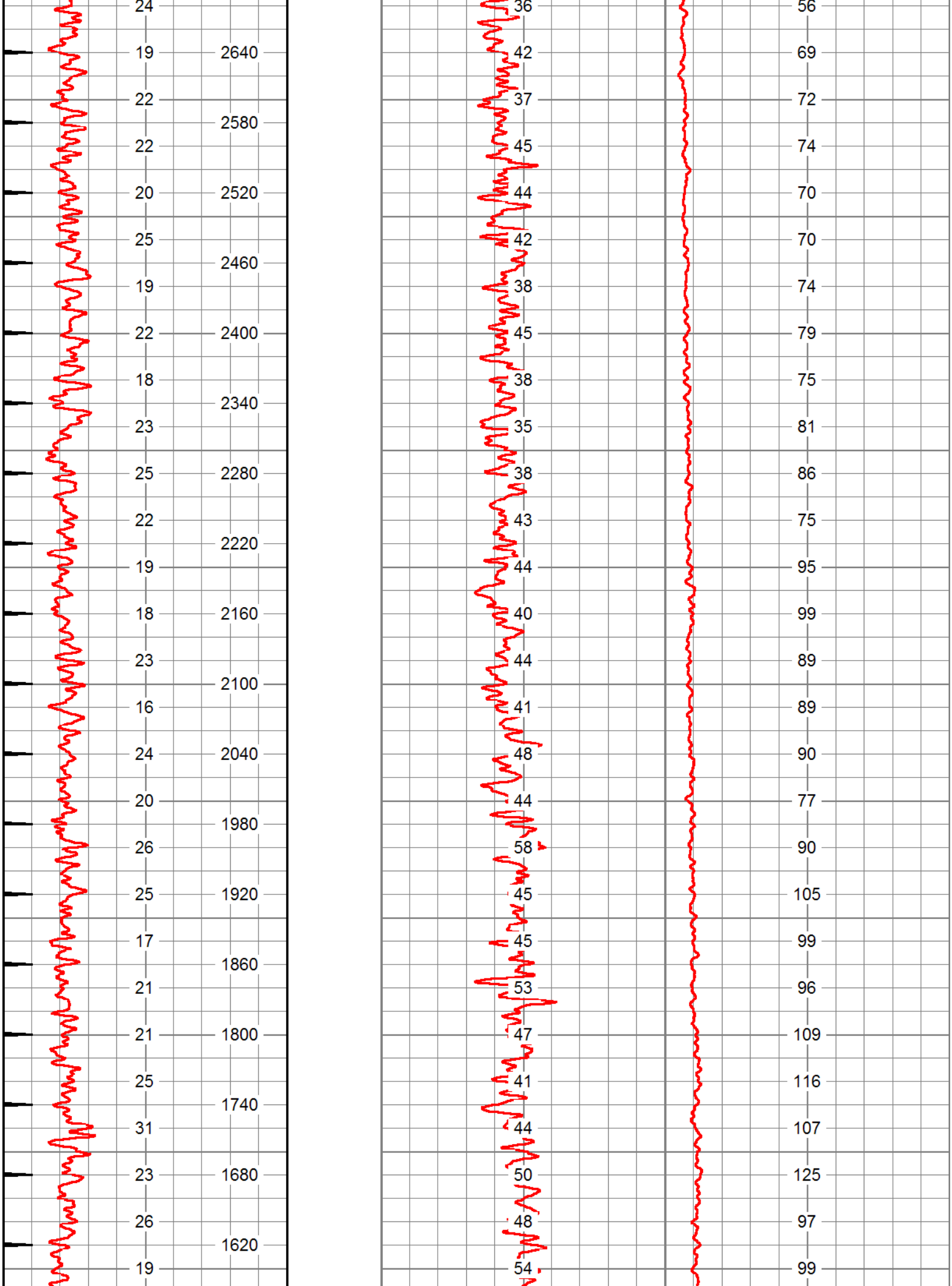


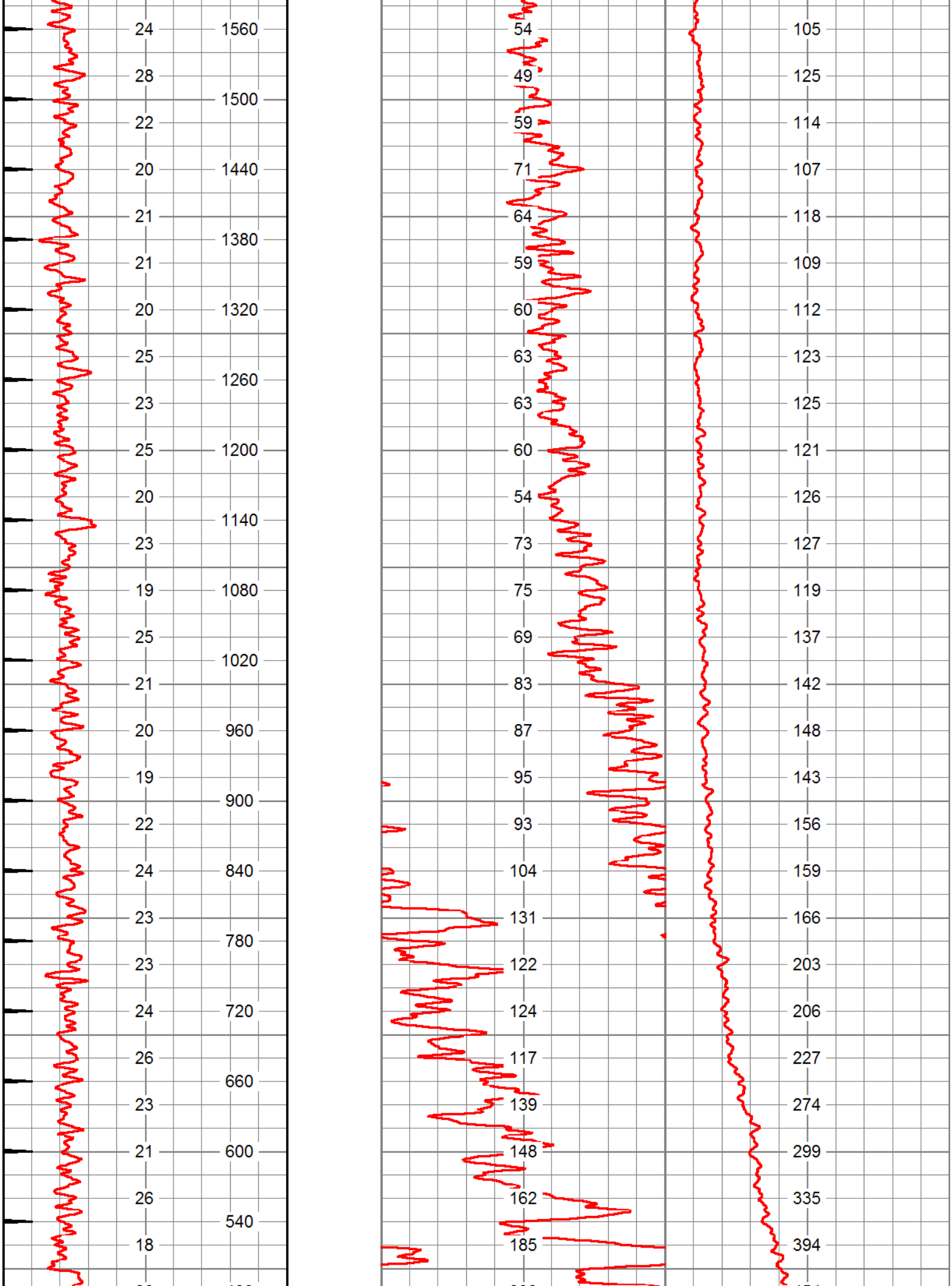


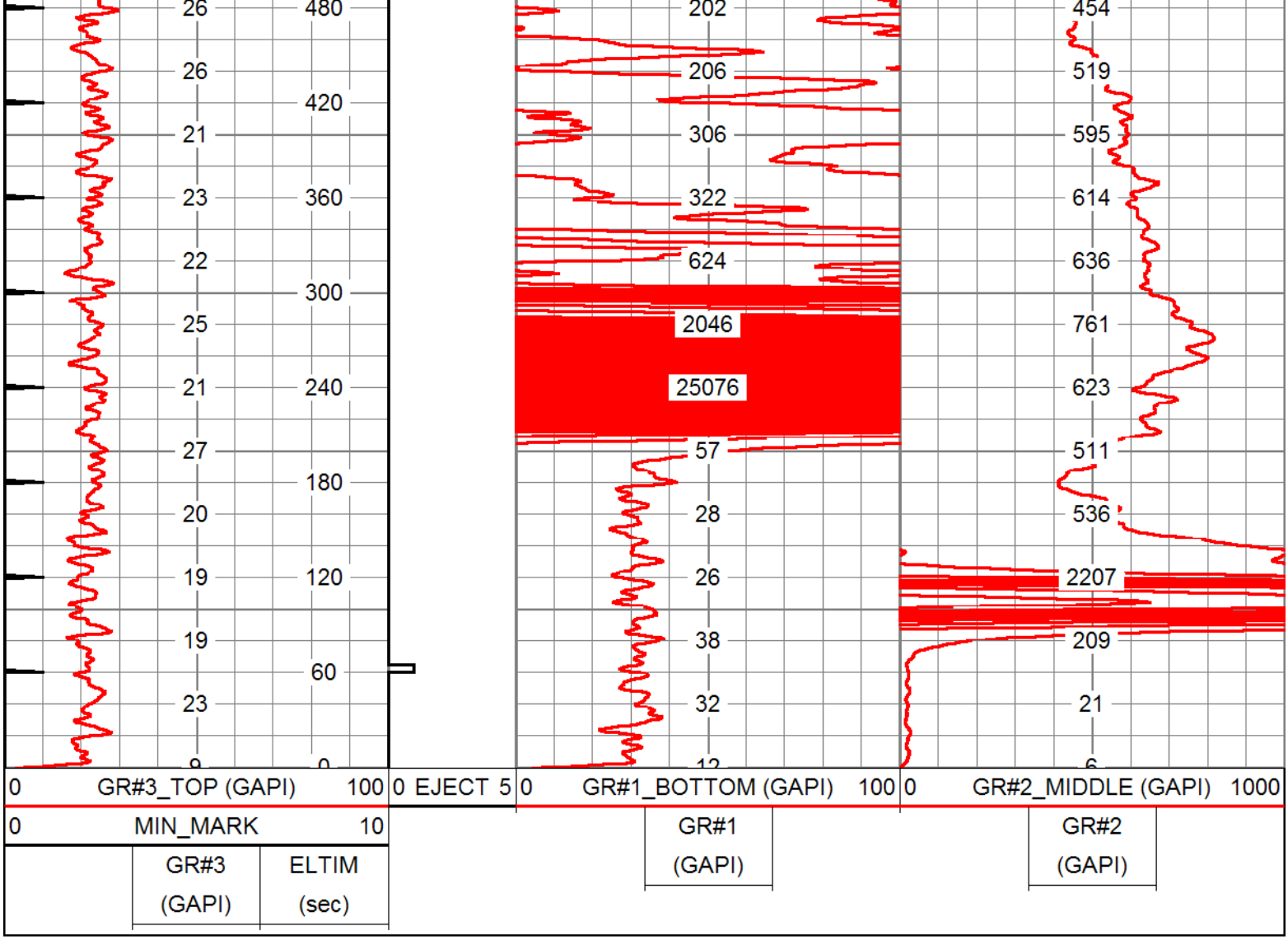
TEST #1 (52 GPM)

Database File:	puntagorda.db
Dataset Pathname:	RTS1
Presentation Format:	rts_time
Dataset Creation:	Fri Jun 28 09:23:25 2013 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:600


0 GR#3_TOP (GAPI) 100
0 EJECT 5
0 GR#1_BOTTOM (GAPI) 100
0 GR#2_MIDDLE (GAPI) 1000
0 MIN_MARK 10
GR#3 (GAPI)
ELTIM (sec)
GR#1 (GAPI)
GR#2 (GAPI)
26 27 25 23 17 22 26 22 19 24 23 23 18 20 23 18 25 26 22 28 20 18 24 24
3660 3600 3540 3480 3420 3360 3300 3240 3180 3120 3060 3000 2940 2880 2820 2760 2700
35 36 36 42 36 37 38 40 38 37 39 36 40 38 34 36 42 33 32 45 41 41 37 40
53 58 49 52 50 47 50 55 51 54 55 57 48 60 62 56 59 58 72 69 56 66 65 57


24 19 2640
22 2580
22 20 2520
25 2460
19 22 2400
18 2340
23 25 2280
22 2220
19 18 2160
23 2100
16 24 2040
20 1980
26 25 1920
17 1860
21 21 1800
25 1740
31 23 1680
26 1620
19
36 42 37 45 44 42 38 45 38 35 38 43 44 40 44 41 48 44 58 45 45 53 47 41 44 50 48 54
56 69 72 74 70 70 74 79 75 81 86 75 95 99 89 89 90 77 90 105 99 96 109 116 107 125 97 99

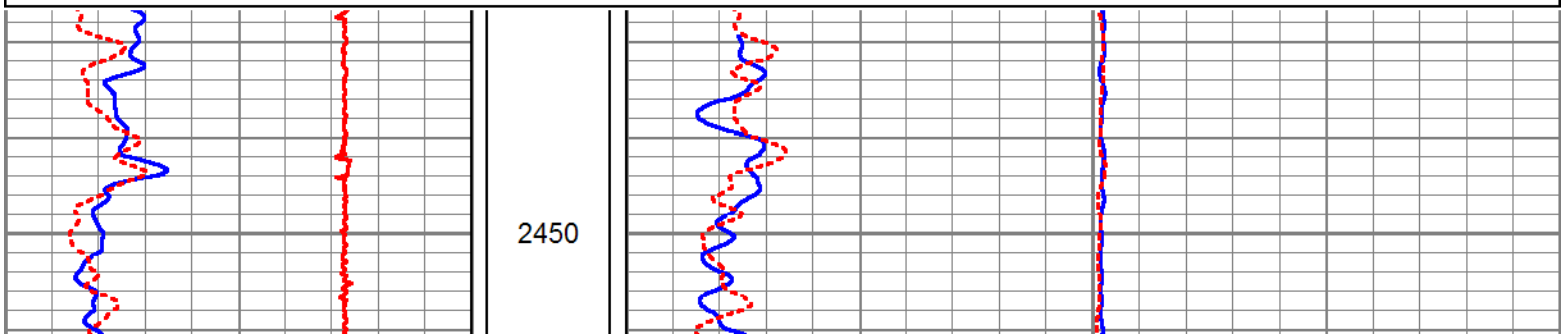

24 1560
28 1500
22
20 1440
21
21 1380
20 1320
25
23 1260
25 1200
20
1140
23
19 1080
25
1020
21
20 960
19
900
22
24 840
23
780
23
24 720
26
660
23
21 600
26
540
18
54 105
49 125
59 114
71 107
64 118
59 109
60 112
63 123
63 125
60 121
54 126
73 127
75 119
69 137
83 142
87 148
95 143
93 156
104 159
131 166
122 203
124 206
117 227
139 274
148 299
162 335
185 394

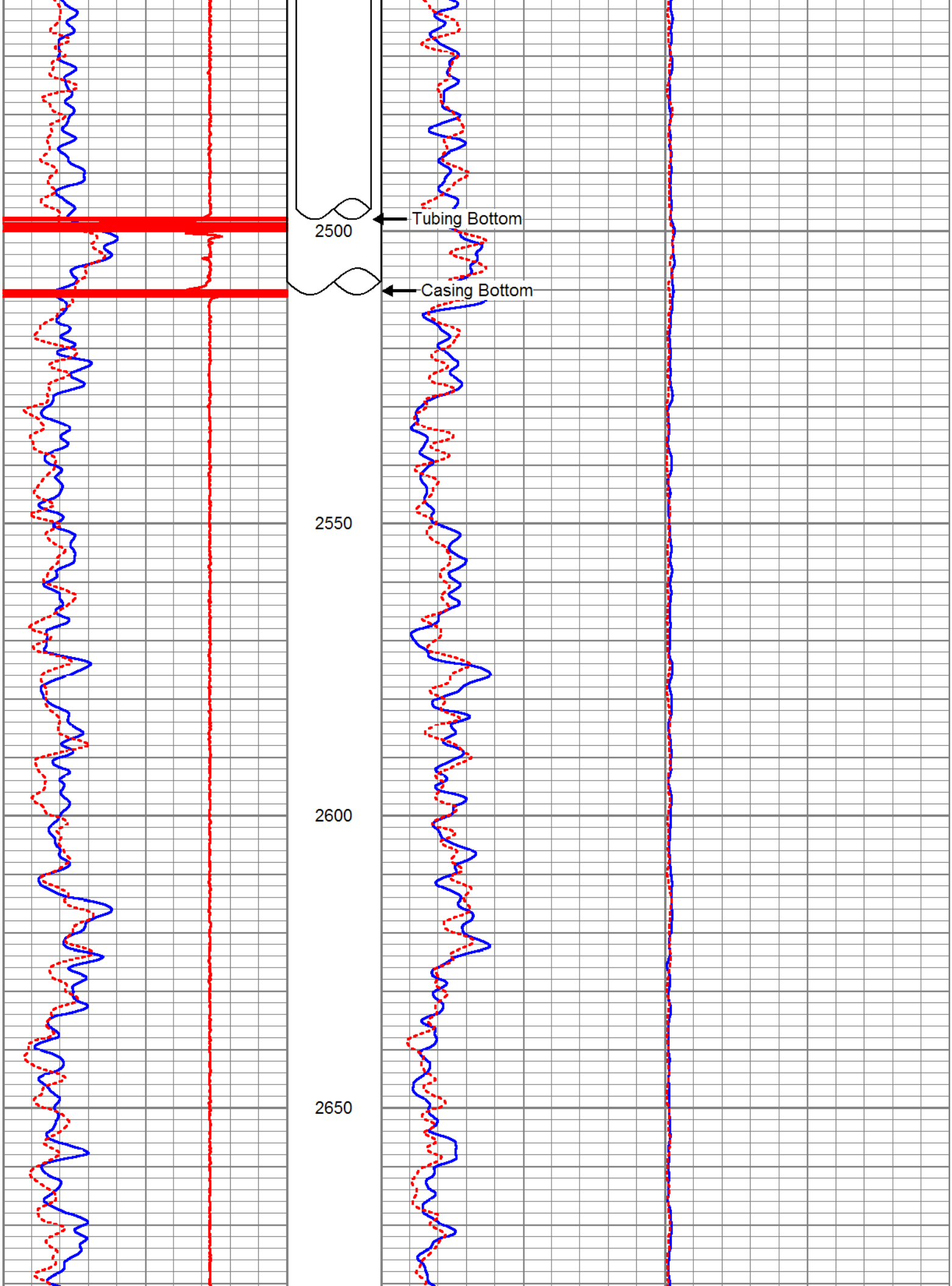


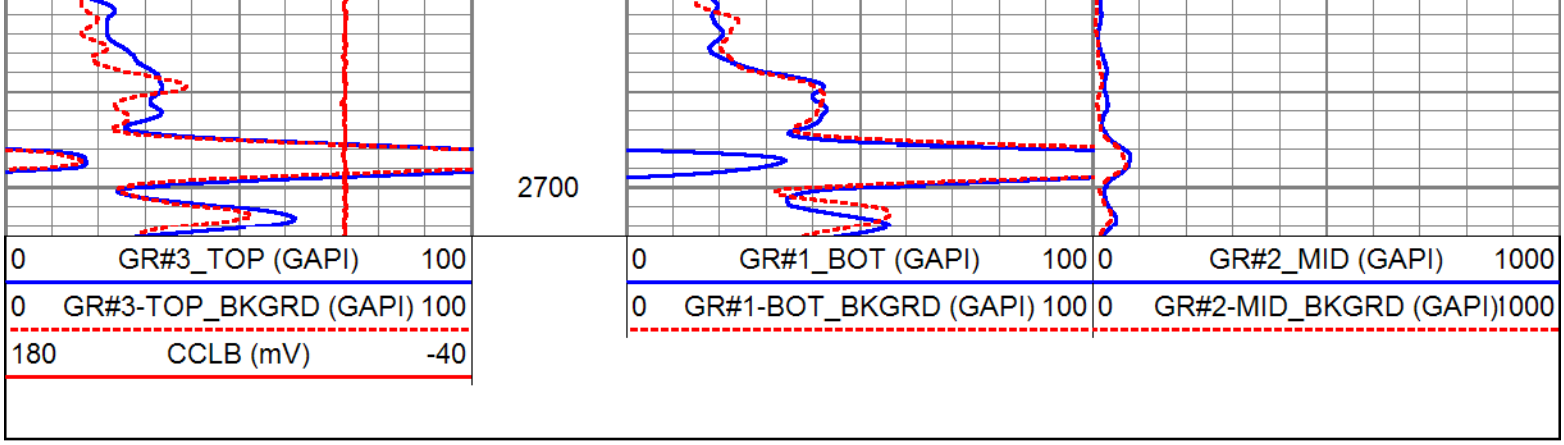
CASING TIE-IN

Database File:	puntagorda.db
Dataset Pathname:	TIE
Presentation Format:	rts_tie
Dataset Creation:	Fri Jun 28 09:11:05 2013 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

0 GR#3_TOP (GAPI) 100	0 GR#1_BOT (GAPI) 100	0 GR#2_MID (GAPI) 1000
0 GR#3-TOP_BKGRD (GAPI) 100	0 GR#1-BOT_BKGRD (GAPI) 100	0 GR#2-MID_BKGRD (GAPI)1000
180 CCLB (mV) -40		

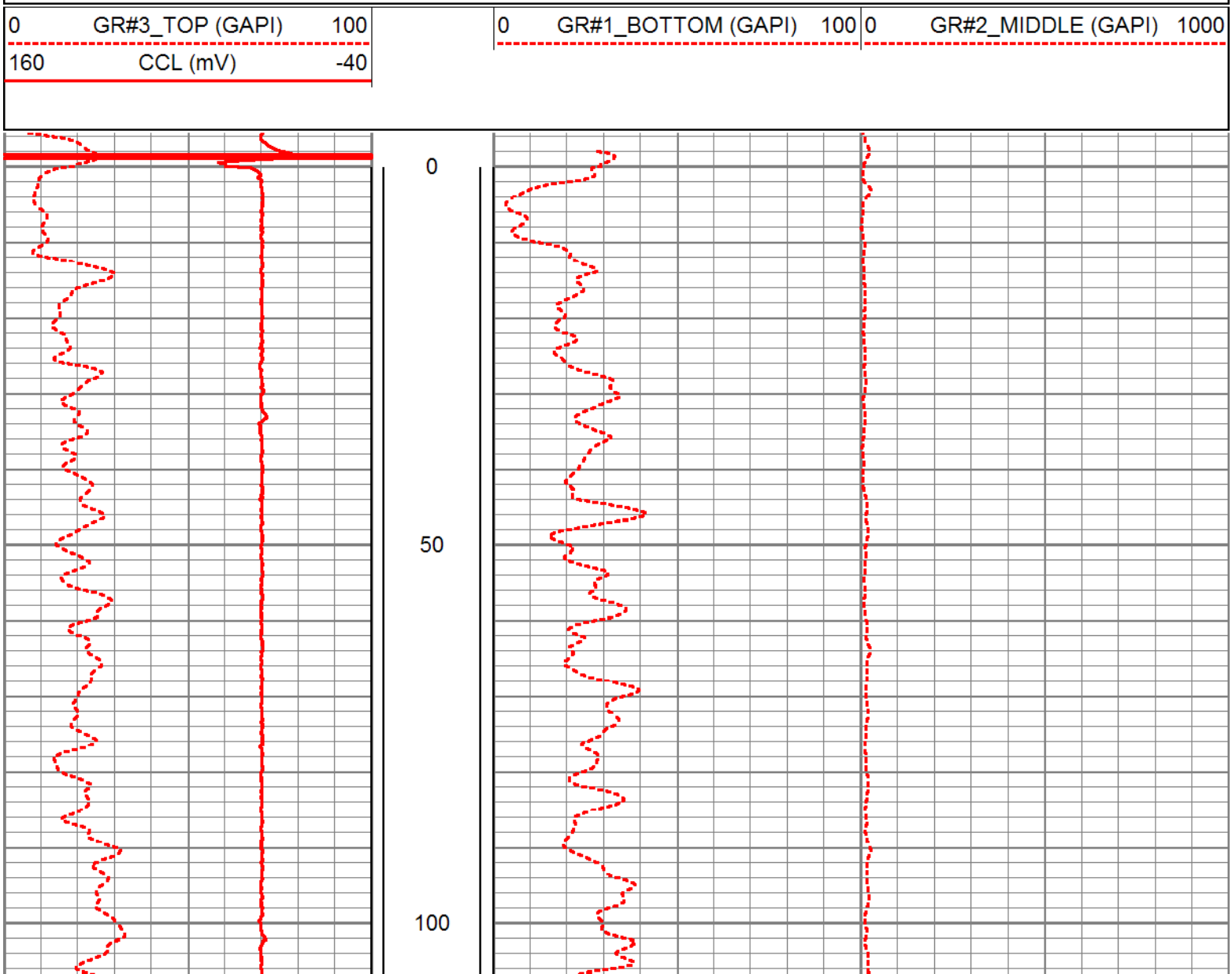


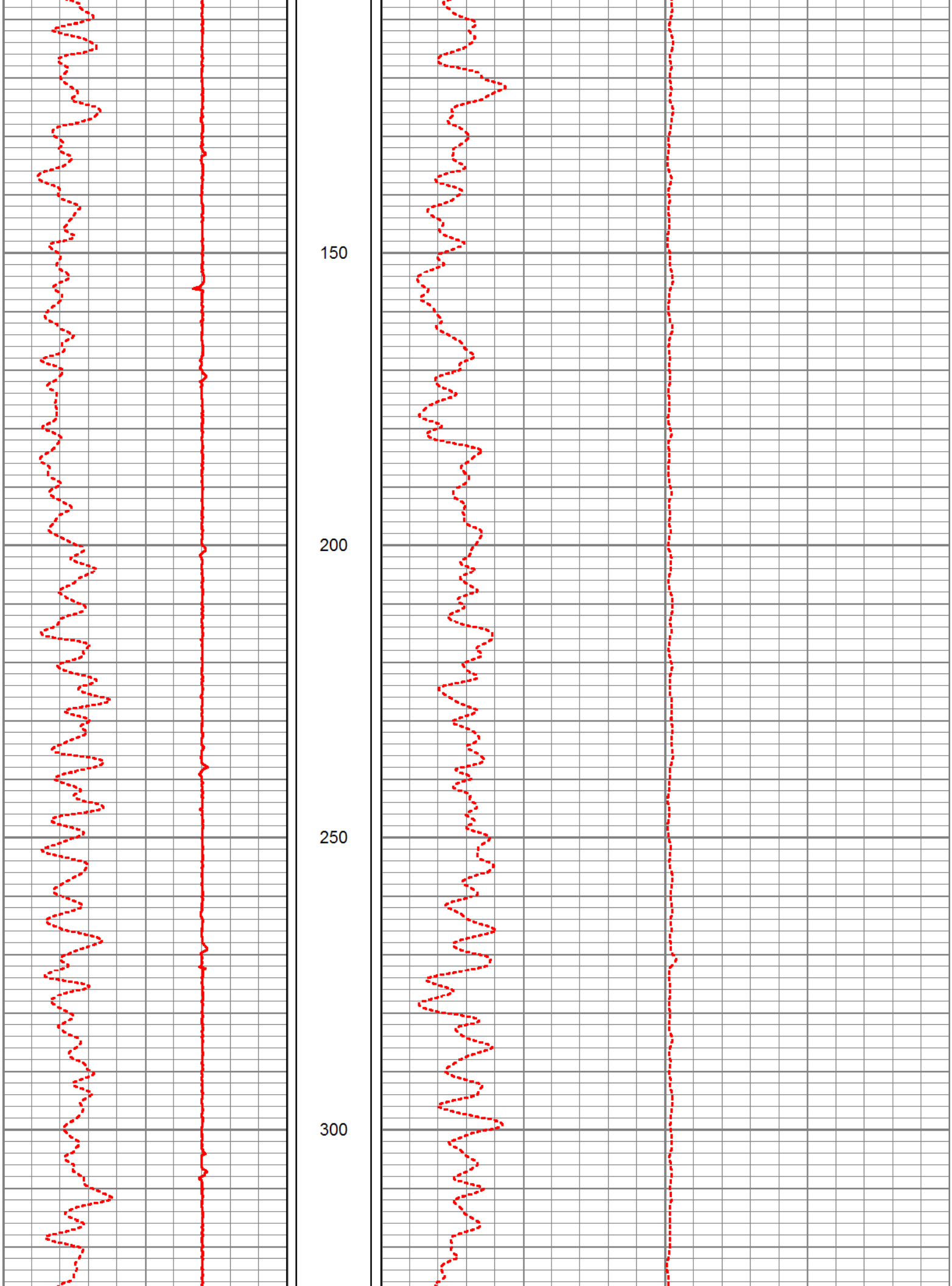

Tubing Bottom
Casing Bottom
2500
2550
2600
2650

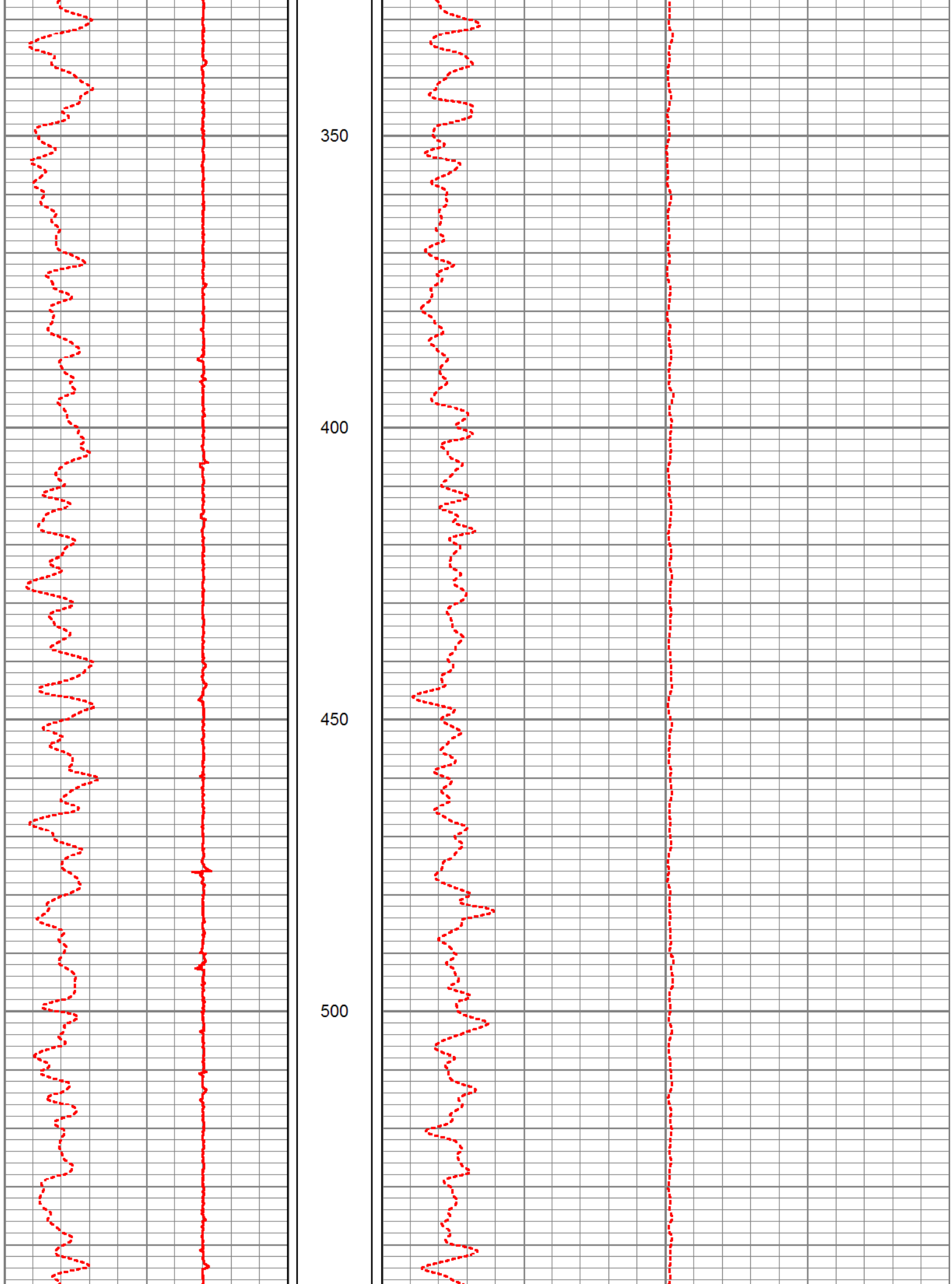


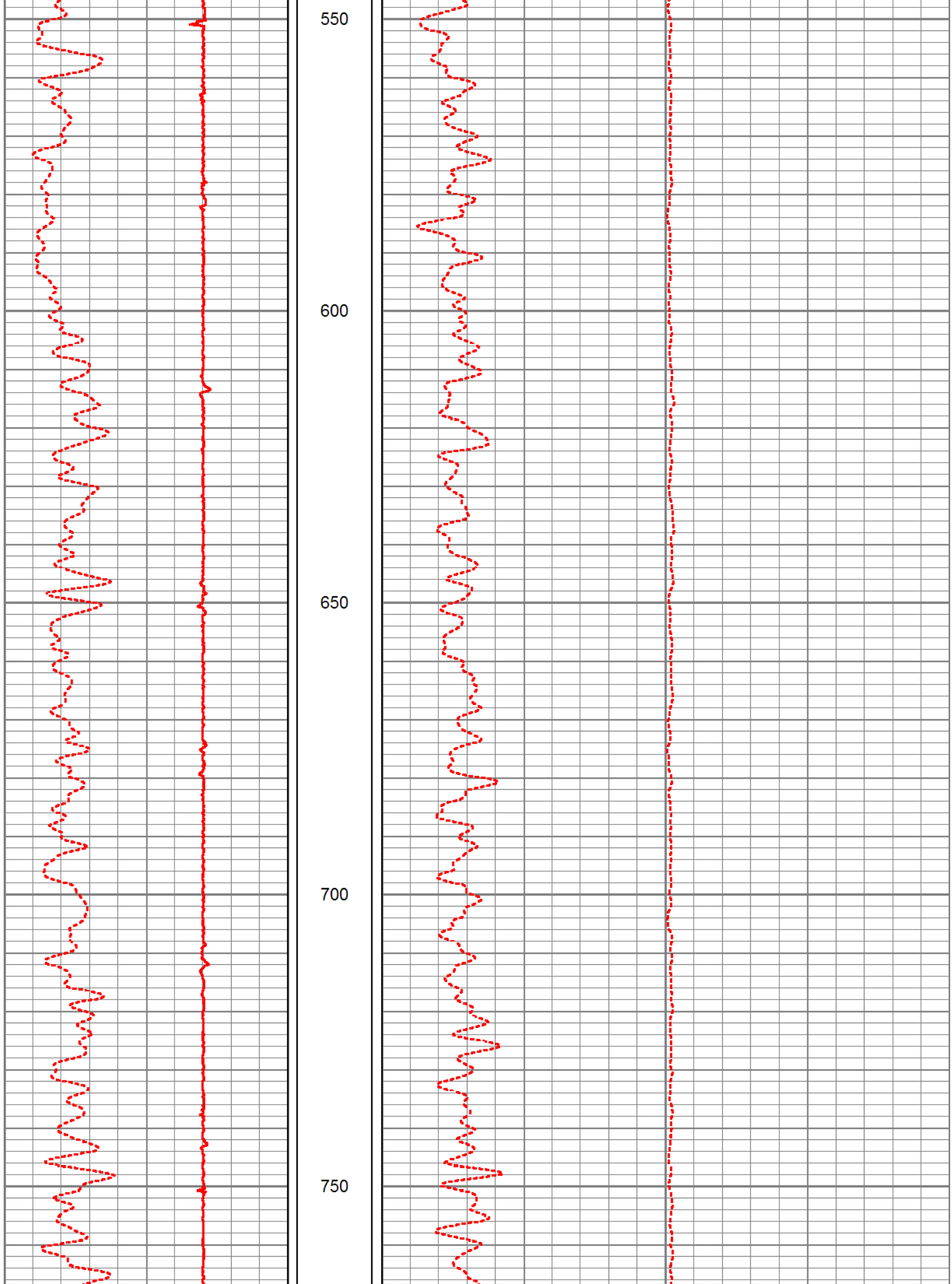
BACKGROUND GAMMA RAY

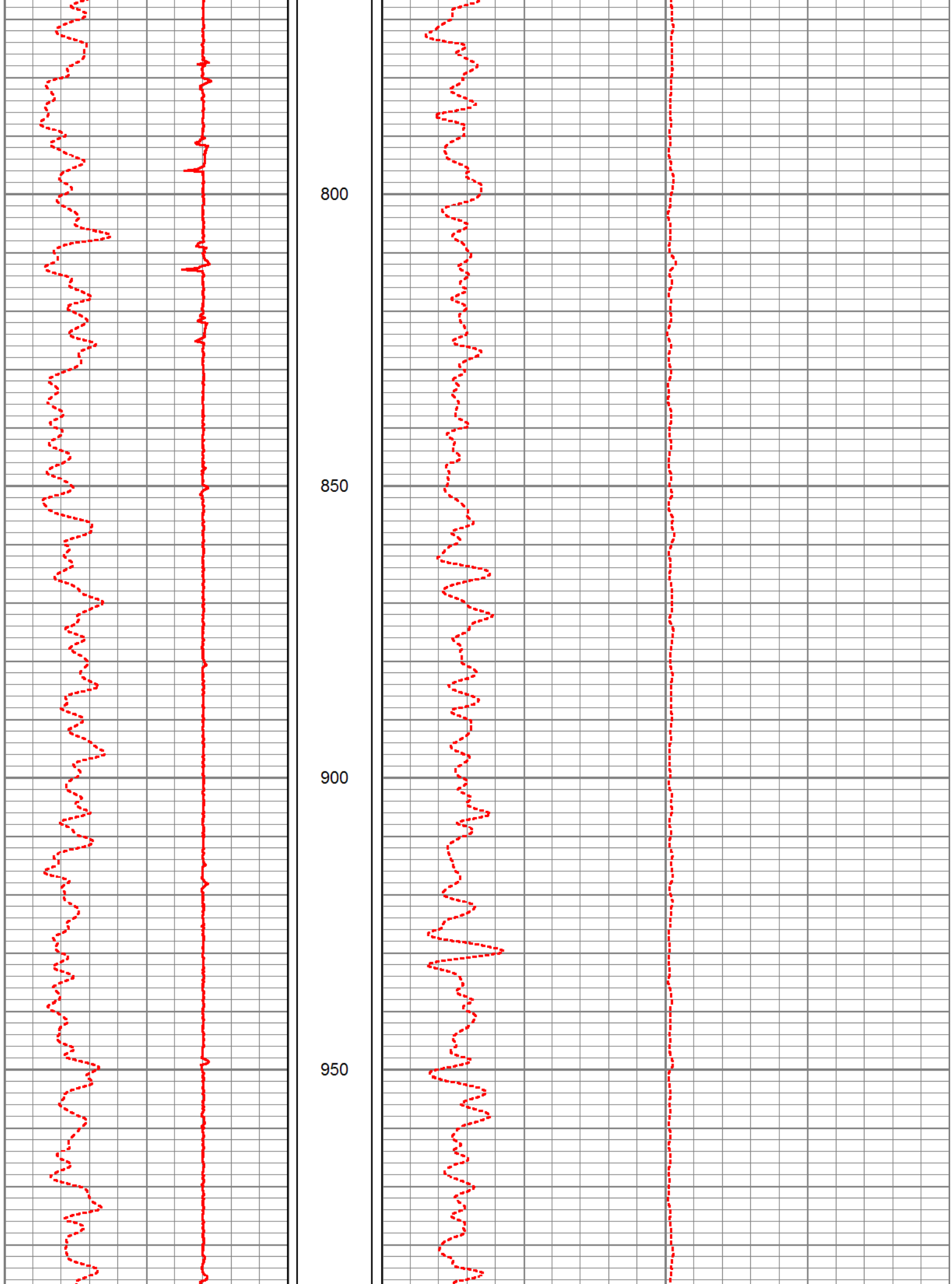
Database File: puntagorda.db
Dataset Pathname: RTSBK1
Presentation Format: rts
Dataset Creation: Fri Jun 28 09:10:10 2013 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

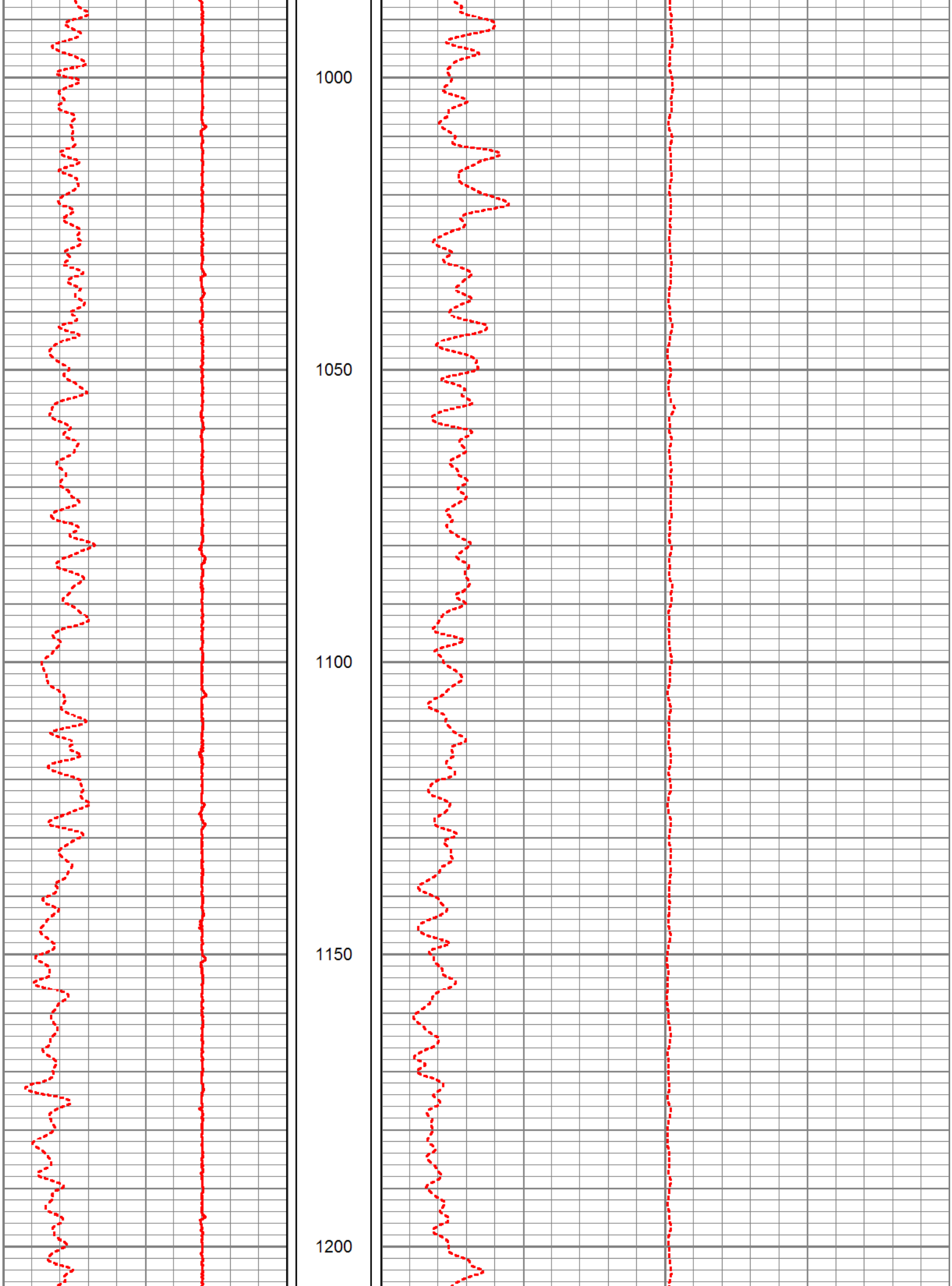


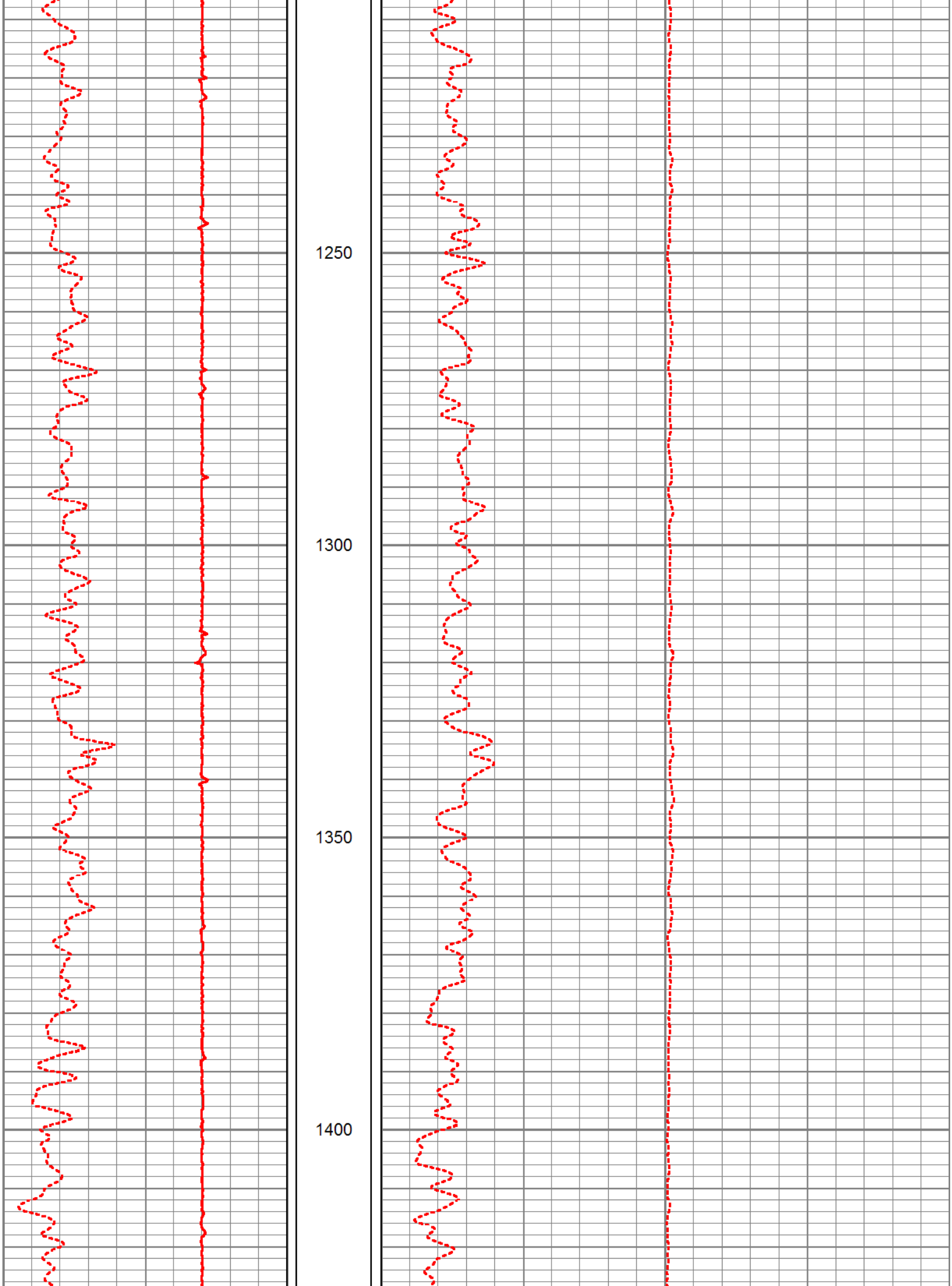

150
200
250
300

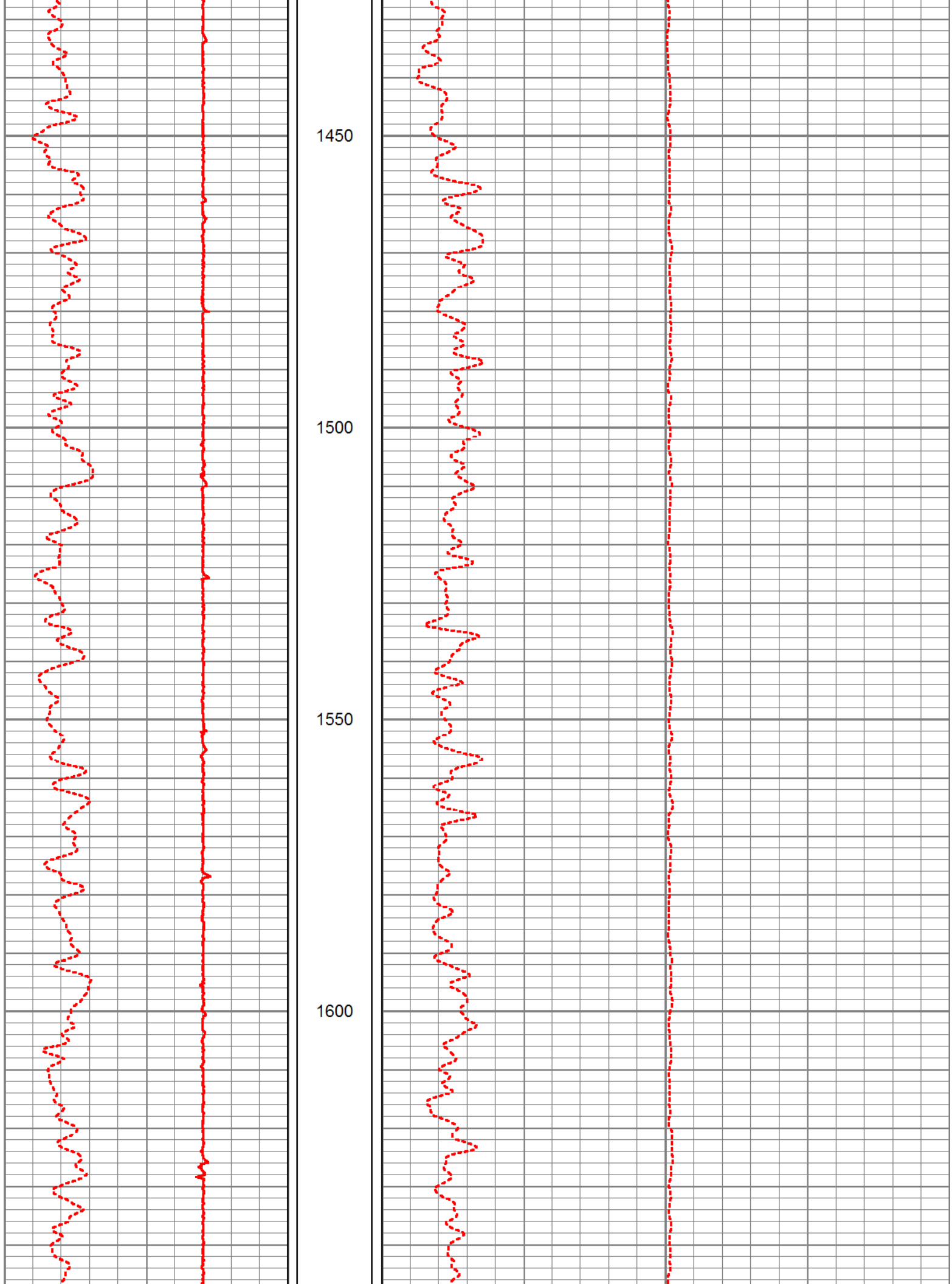

350
400
450
500

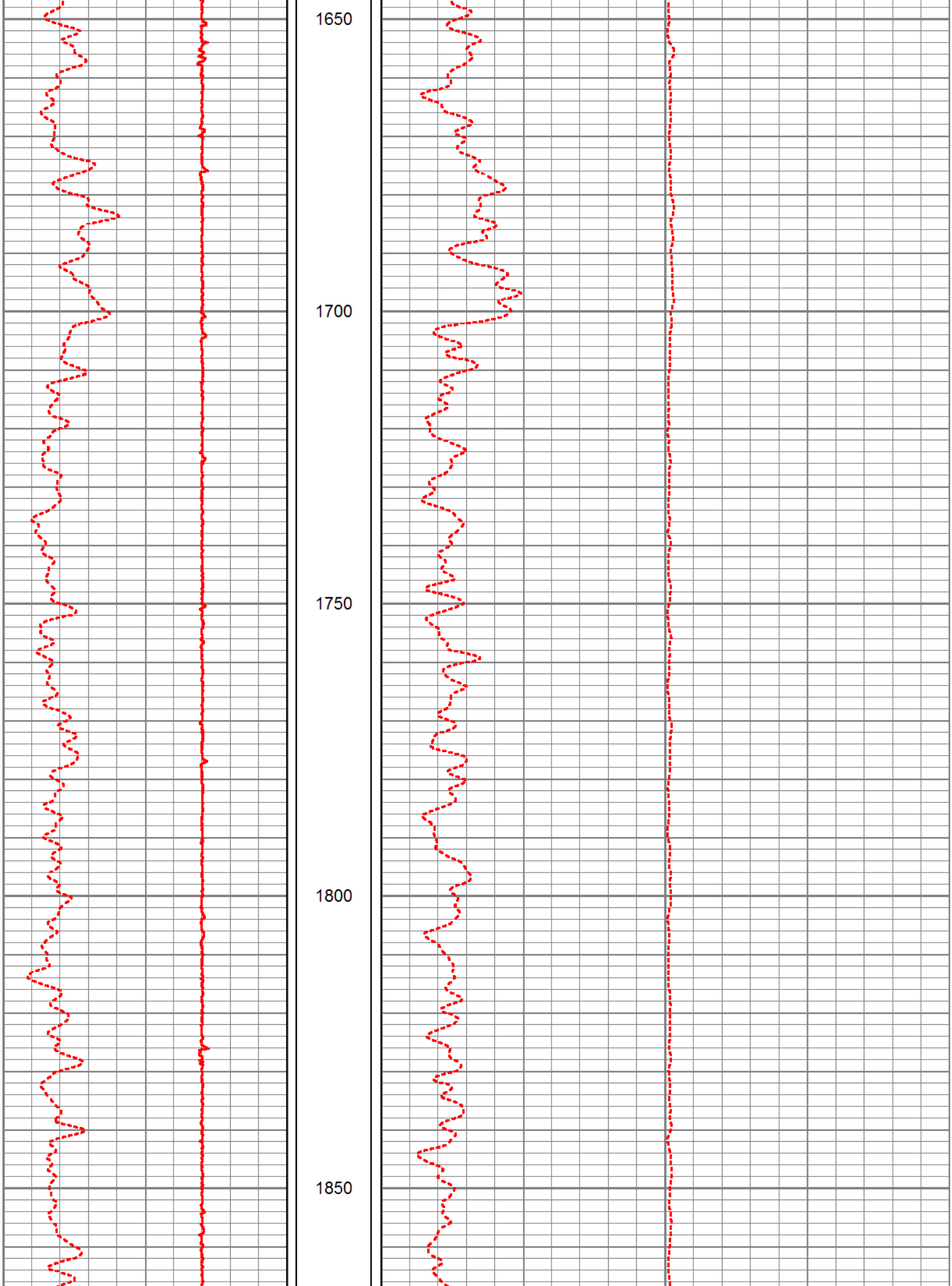

550
600
650
700
750

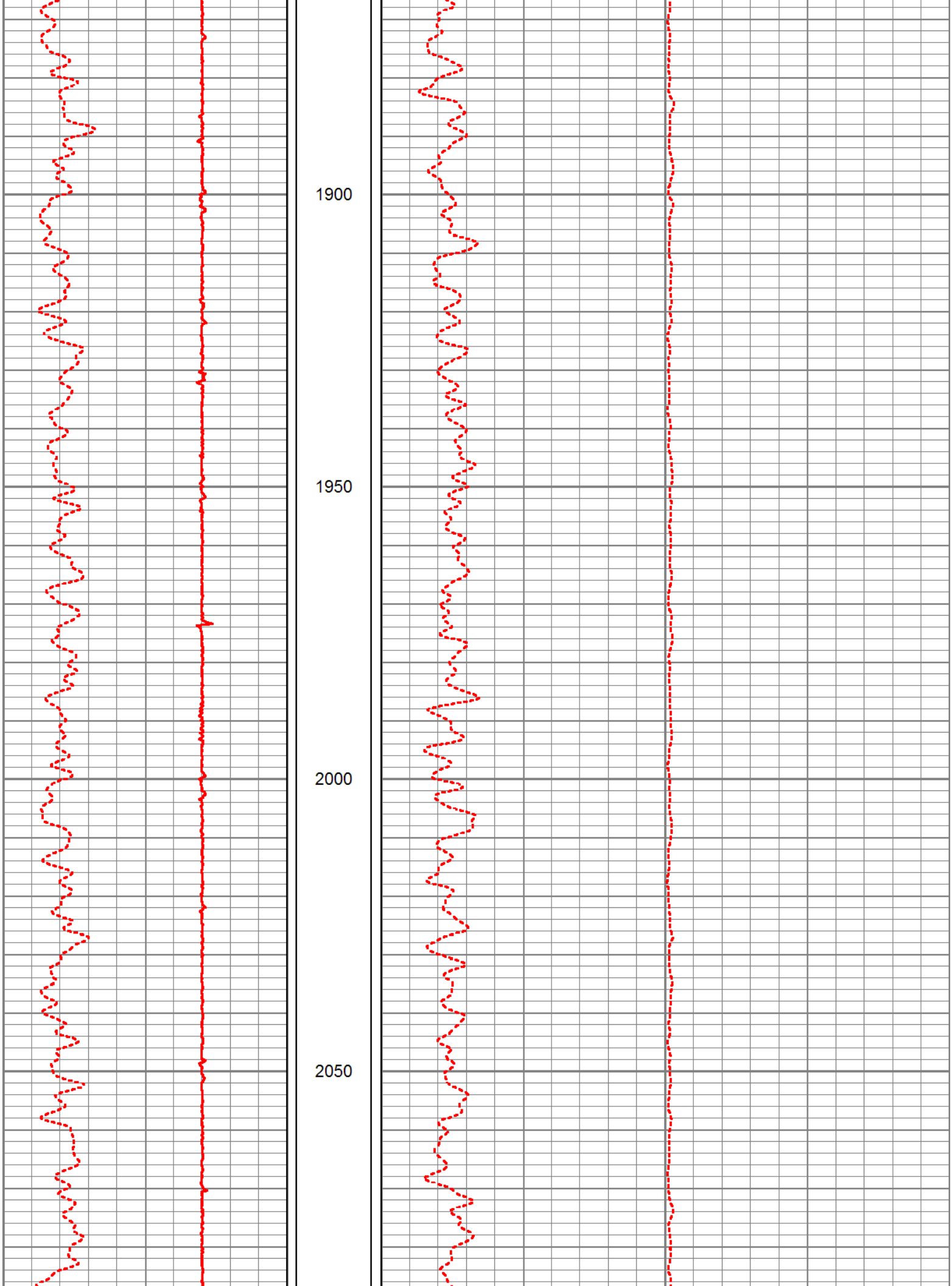

800
850
900
950

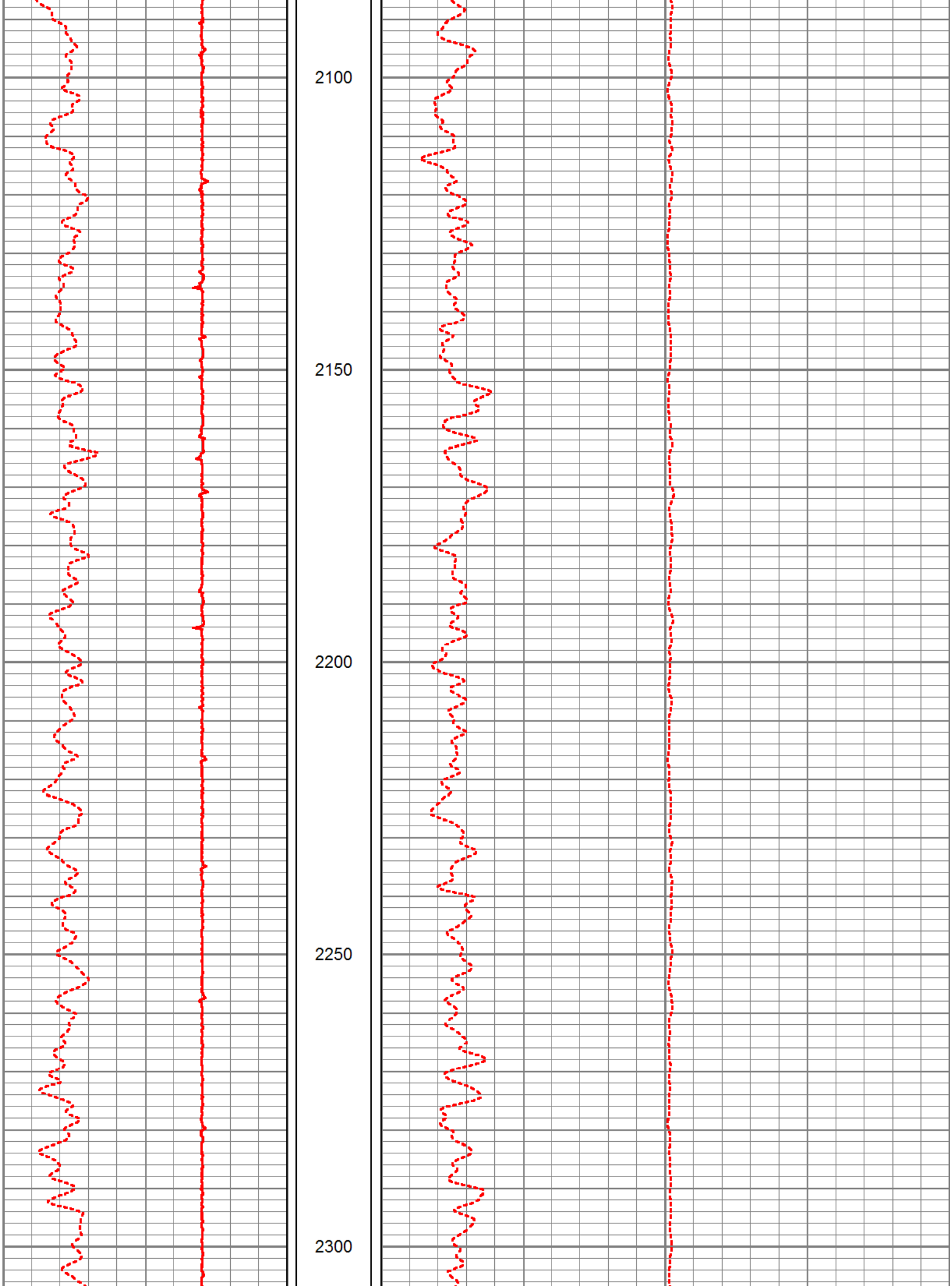

1000
1050
1100
1150
1200

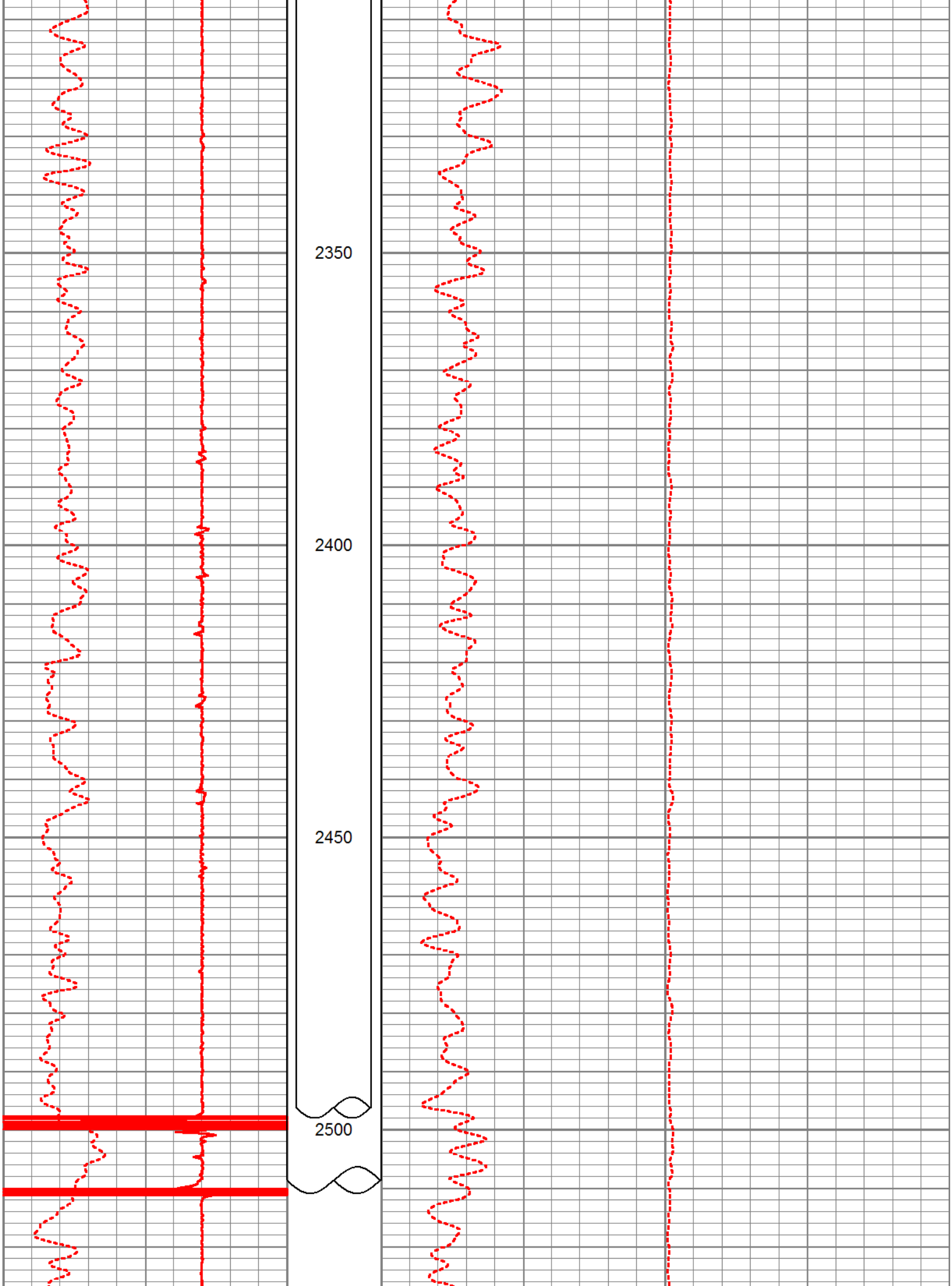

1250
1300
1350
1400

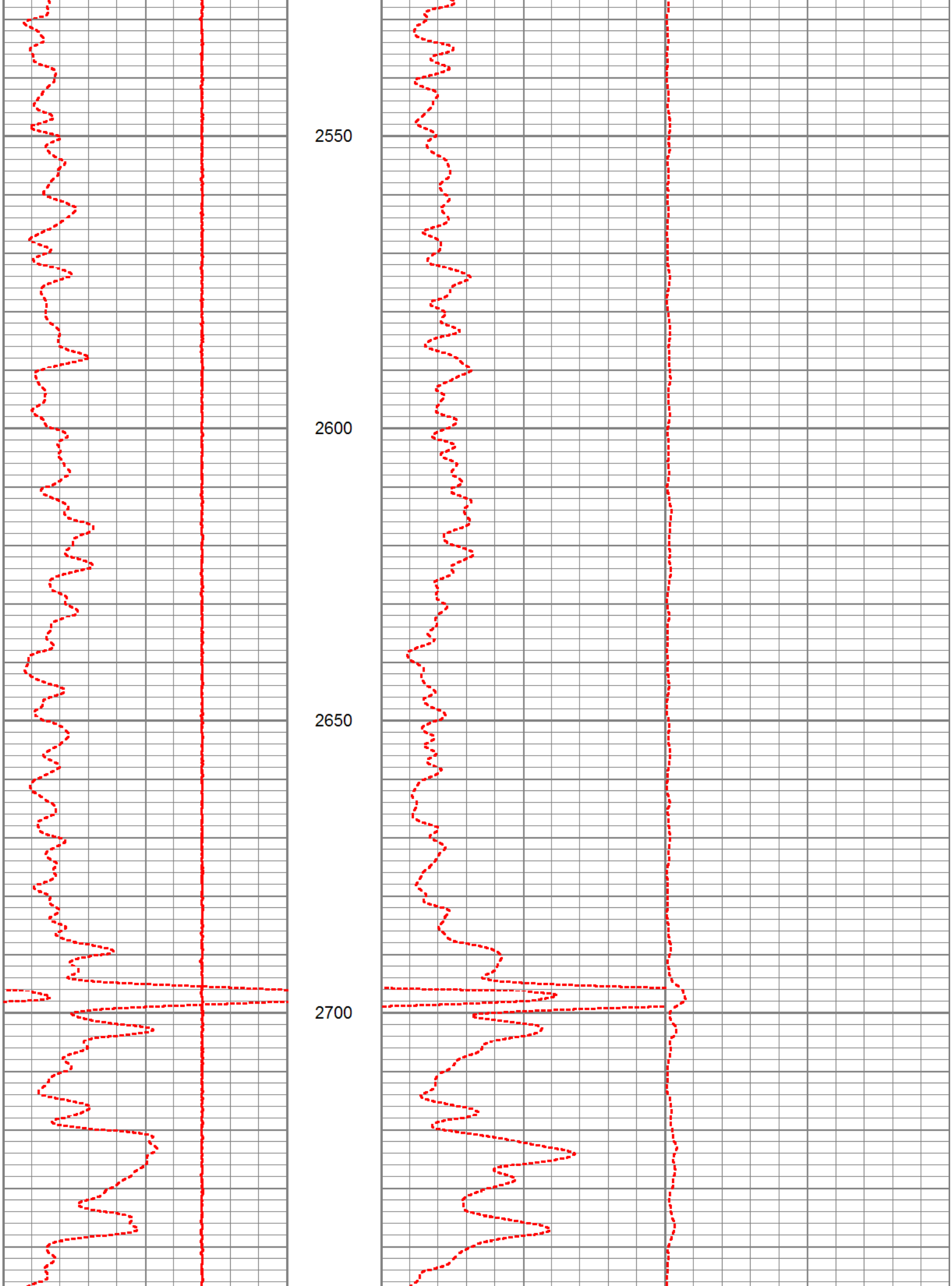

1450
1500
1550
1600

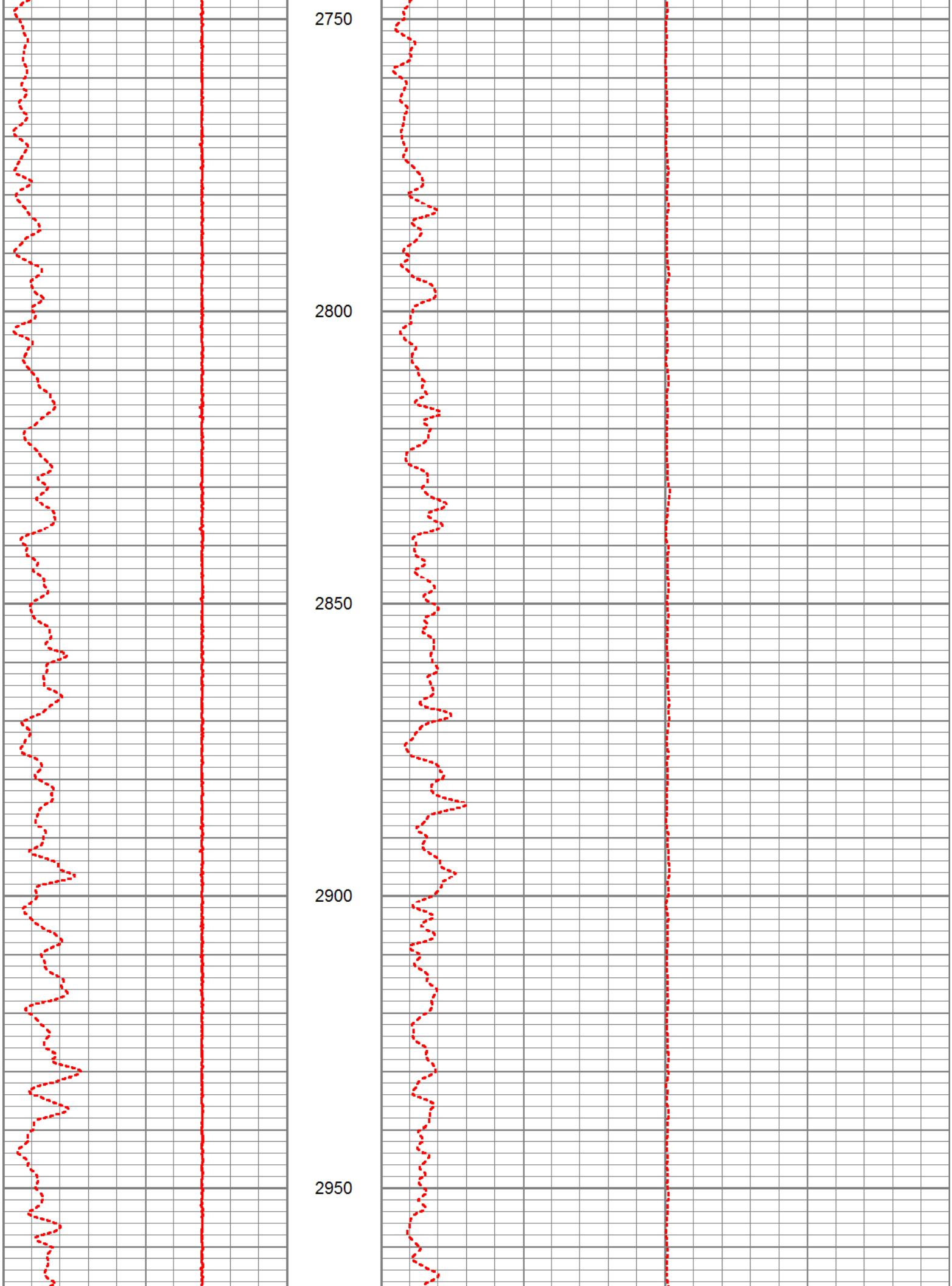

1650
1700
1750
1800
1850

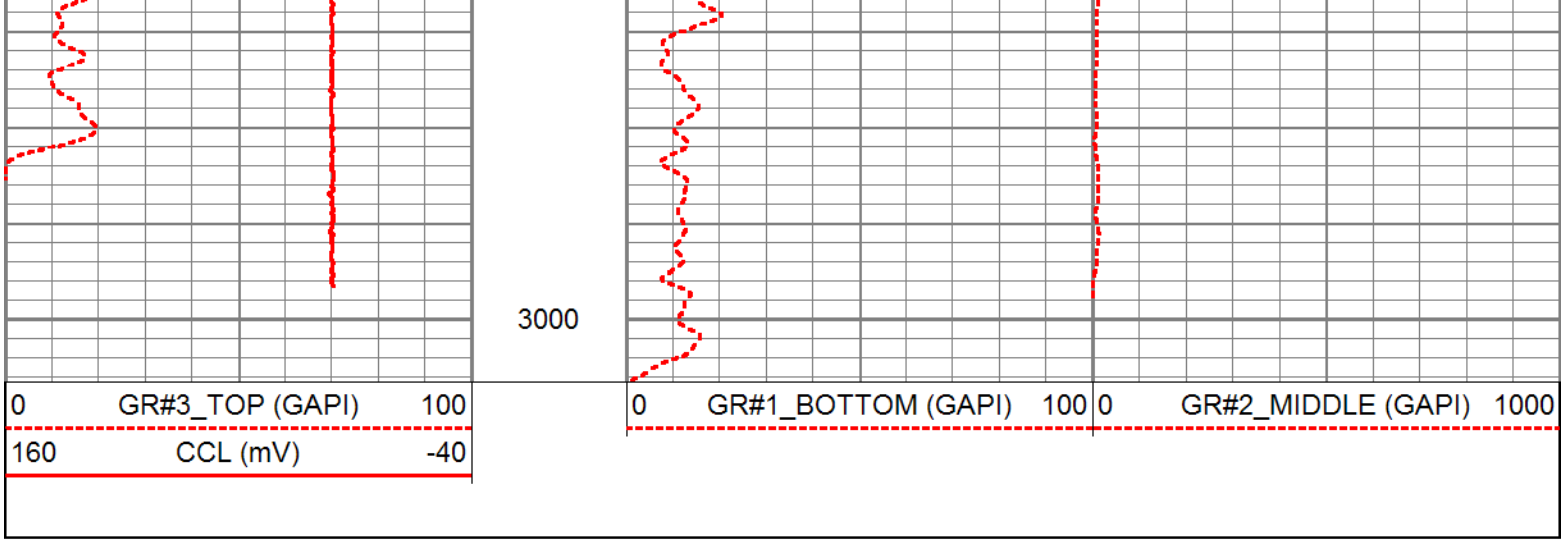

1900
1950
2000
2050


2100
2150
2200
2250
2300


2350
2400
2450
2500


2550
2600
2650
2700


2750
2800
2850
2900
2950



Calibration Report

Database File: puntagorda.db
Dataset Pathname: RTSBK1
Dataset Creation: Fri Jun 28 09:10:10 2013 by Calc Open-Cased 071220

Temperature Calibration Report

Serial Number: AWE_RTS
Tool Model: AWE
Performed: Thu Jun 27 18:45:45 2013

Point #	Reading		Reference	
1	366.90	cps	37.90	degF
2	855.30	cps	88.20	degF
3	1063.90	cps	113.20	degF
4		cps		degF
5		cps		degF
6		cps		degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

GR#1_BOTTOM Calibration Report

Serial Number: GR#1_B
Tool Model: GR#1
Performed: Thu Jun 27 18:45:27 2013

	Reference (GAPI)	Reading (cps)
Low:	0.000	26.800
High:	120.000	154.933
	Gain = 0.937	Offset=

Gamma Ray Calibration Report

Serial Number: GR#2_M
Tool Model: GR#2
Performed: Fri Jun 21 14:42:18 2013

Calibrator Value: 120.0 GAPI

Background Reading: 12.0 cps
Calibrator Reading: 131.9 cps

Sensitivity:	1.0011	GAPI/cps

Gamma Ray Calibration Report

Serial Number:	GR#3_T	
Tool Model:	GR#3	
Performed:	Fri Jun 21 14:49:23 2013	
Calibrator Value:	120.0	GAPI
Background Reading:	21.2	cps
Calibrator Reading:	197.7	cps
Sensitivity:	1.0000	GAPI/cps