

UIC - I - __5__

C-103s

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-045-28653
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Sunco Disposal
8. Well Number 1
9. OGRID Number 247130
10. Pool name or Wildcat SWD-MV

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other SWD Class I	
2. Name of Operator Agua Moss, LLC	
3. Address of Operator PO Box 600 Farmington, NM 87499	
4. Well Location Unit Letter <u>E</u> : <u>1595</u> feet from the <u>North</u> line and <u>1005</u> feet from the <u>West</u> line Section <u>2</u> Township <u>29N</u> Range <u>12W</u> NMPM County <u>San Juan</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 5859'	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: Alternative FOT <input checked="" type="checkbox"/>		OTHER: FOT <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Agua Moss, LLC proposes to perform the following reservoir pressure evaluation test in place of the FOT. Please see the attached procedure.

Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Philana Thompson TITLE Regulatory Compliance Spec DATE 8/25/2020

Type or print name Philana Thompson E-mail address: pthompson@merrion.bz PHONE: 505-486-1171

For State Use Only

APPROVED BY: Carl J. Thompson TITLE Environmental Engineer DATE 8/25/2020

Conditions of Approval (if any):

SUBJECT: REQUEST TO MODIFY THE SUNCO #1 2020 ANNUAL FALL OFF TEST

Dear Carl Chavez:

Agua Moss, LLC requests the OCD's approval to forego the Sunco #1's annual fall off test for the 2020 reporting period and instead complete a reservoir pressure evaluation test (RPE).

After evaluating the 2020 injection volumes and economic viability for the Sunco #1, Agua Moss, LLC feels that performing a fall of test this year would only affirm existing data. Over the past few years, the fall off test results have yielded similar results and have not indicated reasons for concern. Please see the table below.

Fall Off Test Results	2019	2018	2017	2016	2015	2010	2009	2008	2007
Rate (bbl/day)		3292	3150	3132	3340	4500			
P* (psi)	2939¹	3479	3273	3114	3283	3231	3242	3176	3258
K (md)		10.8	10.4	11.5	15.8	13.6	10.2	20.7	
S		-6.0	-6.0	-5.93	-5.97	-7.18	-7.23	-6.79	
Radius of Inv (ft)		1690	1790	1430	1580	1450	1250	1750	1620
Frac ½ Length (ft)		598	517	594	467	893	926	596	688
Boundary		None	none	none	none	648, 1520	755	987	none

¹ Pressure collected from Reservoir Pressure Evaluation test, all other data from Fall Off Test

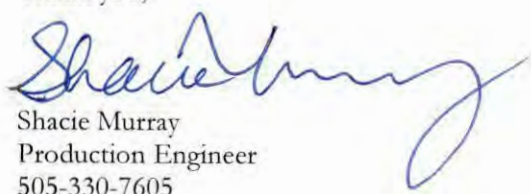
This year, our total injected volume has been minimal. From January to July of 2020, we've injected ~5600 total bbls of fluid. The fall off test alone requires ~6500 bbls to perform, so we would have to outsource a significant volume of fluid. Additionally, the well has not indicated any abnormal mechanical issues or pressures. The highest injection pressure recorded this year was 2175 psig, which is significantly below the facility's max allowable pressure of 2400 psig. Based on this year's injection volumes and current operating conditions, we presume that there is no additional stress to the injection zone that would warrant concern or require fall off test analytics. We are also requesting to forgo the slickline work. Operating surface pressures have not indicated restrictions downhole. If an indication does occur it will be addressed at that time.

Economics are another reason for not performing the fall off test. When evaluating the viability of continuing operations, the cost to perform and analyze the fall off test plays a significant role in the economics. This cost especially impacts the economics when volumes are marginal. Agua Moss understands the importance of this well to the State, so the avoidance of any additional expenditure aids in the continuance of our operations.

In addition, the RPE test that we are requesting requires fewer people on location. During COVID-19 restrictions it is best to limit contact for everyone even though this is essential work.

Please let us know your decision as soon as possible. If we aren't able to perform the RPE, we would need to plan accordingly to make the September report submission deadline.

Thank you,



Shacie Murray
Production Engineer
505-330-7605

Well Information			
Well:	Sunco Disposal 1	Field:	Mesaverde SWD
Location:	1595' fnl & 1005' fwl S2, T29N, R12W San Juan Co. New Mexico	Elevations:	5859' GL 5872' RKB
		Depths:	4706' KB PBTD 4760' KB TD
		Engineer:	Shacie Murray(505.330.7605)
API:	30-045-28653	Date:	August 21, 2020
Surface Casing:	8- 5/8" @ 209' KB w/ 150sx; Circ to surface	Production Casing:	5-1/2" @ 4750' KB w/ 230 sx stage 1, 515 sx stage 2, circ 25 sx to surf, DV tool @ 2244' KB
Tubulars:	2- 7/8" 6.5# EUE (Epoxy Coated) @ 4282' KB	Packer:	Arrow XL-W retrievable seal bore @ 4282' KB.
Perforations (MV)		4350-4460' KB 2 spf (2000 gals 15% HCL, Frac w/ 100,000# 20/40)	
Additional Perforations			
Perforations (MV)		None	

Version 1: Static Reservoir Pressure Evaluation Procedure subject to change based on changing well conditions.

Proposed Test Schedule:

Date	Event	Remarks
Monday, September 1 st , 2020	Check conditions, check pressures and perform MIT	MIT, check tubing pressure 9 am
Friday, September 5 th , 2020	96 hrs	Conclude test at 9am

Test Considerations:

- V.1 The pressure acquisition will be performed with pressure gauges at the surface.
- V.2 There will be adequate storage capacity for waste water for the duration of the test.
- V.3 There is one offset well completed in the Point Lookout disposal formation. The McGrath #4 is a class II disposal operated by ConocoPhillips approx 1.25 miles to the north west of the Sunco #1. The well has been P&A'd, so there will not be any injection activity from offset wells during the test.
- V.4 A shut-in valve is located on the injection riser approx 3-feet from the wellhead. This valve can be shut to isolated the tubing at the wellhead.
- V.5 Bottomhole pressure will not be collected directly but calculated from the surface pressure collected using the appropriate gradient. The use of surface pressure for the test is justified by the fact that the well will maintain a positive pressure at the surface during the entire test (injection and pressure falloff).
- V.6 A test log will be kept during the test and submitted with the FOT results. The log will include key events with date and times.
- Well isolation
 - Pressure recordings
- V.7 Surface pressures will be recorded continuously using a data logger and transducer during the FOT. If any abnormal surface pressure change occurs the test validity will be questioned and the test will be aborted if deemed invalid.

V.8 The continuous data recording consists of a HOBO UX120-006M data logger with a TE connectivity M5200 industrial pressure transducer. The data logger features 4MB memory capable of keeping 1.9 million measurements, 1 year batter life (at 1 minute logging and 15 second sampling interval), and an accuracy of +/- 0.3%. Data will be recorded every 15 seconds. The pressure transducer has an accuracy of +/-0.25% and operating pressure range of 0-3,000 psi.

V.9 In addition, a chart recorder will monitor the tubing and casing pressure during the test as a backup for the data logger

Reservoir Pressure Test Procedure:

Prepare Well for Fall Off Test

1. Perform MIT
2. Setup pressure recording chart and digital gauge

Conduct Pressure Monitoring

1. Ensure surface gauges are configured properly
2. Record surface tubing pressure data for 96 hrs, Pressure reading will be taken every minute.
 - a. Bottomhole pressures will be calculated and compiled for the test for review
3. Put well back into service for normal operation.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, September 18, 2018 5:19 PM
To: Philana Thompson
Cc: Kuehling, Monica, EMNRD; Perrin, Charlie, EMNRD; Powell, Brandon, EMNRD; Griswold, Jim, EMNRD; Jones, William V, EMNRD; Ryan Merrion; Ryan Davis (rdavis@merrion.bz); Sanchez, Daniel J., EMNRD
Subject: RE: Sunco Fall off Test
Attachments: OCD C-103 Approval FOT 9-18-2018.pdf

Philana:

Please see attachment. Please notify OCD Aztec of the date and time proposed for the FOT to witness installation of bottom hole gauge(s) and at closure of valve for start of FOT monitoring.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us

“Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?” (To see how, go to: <http://www.emnrd.state.nm.us/OCD> and see “Publications”)

From: Philana Thompson <pthompson@merrion.bz>
Sent: Wednesday, September 12, 2018 5:06 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Kuehling, Monica, EMNRD <monica.kuehling@state.nm.us>; Perrin, Charlie, EMNRD <charlie.perrin@state.nm.us>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; Ryan Merrion <ryan@merrion.bz>
Subject: Sunco Fall off Test

Greetings,

We have amended the FOT procedure after speaking with Jim G. & Will J. in the Santa Fe office.

We understand that Carl is out of the office and have postponed the FOT until he has returned to the office and can approve the C103. We have re-scheduled the crews for the week of 10/1/18. Monica, I will contact you 48 hours prior to starting the FOT.

Thank you,
Philana

--

Philana Thompson
Regulatory Compliance
Merrion Oil & Gas Corp
cell 505-486-1171
fax 505-324-5300

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
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1000 Rio Brazos Rd., Aztec, NM 87410
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State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.
30-045-28653

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name
Sunco Disposal

8. Well Number
#1

9. OGRID Number
247130

10. Pool name or Wildcat
SWD-MV

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other SWD Class I

2. Name of Operator
Agua Moss, LLC

3. Address of Operator
PO Box 600 Farmington, NM 87499

4. Well Location

Unit Letter E: 1595 feet from the North line and 1005 feet from the West line
Section 2 Township 29N Range 12W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5859' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: Fall Off Test ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Agua Moss, LLC proposes to perform the annual Fall Off Test at the Sunco Disposal #1. Please see the attached detailed procedure.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Philana Thompson TITLE Regulatory Compliance Specialist DATE 9/11/2018

Type or print name Philana Thompson E-mail address: pthompson@merrion.bz PHONE: 505-486-1171

For State Use Only

APPROVED BY: Carl J. Chang TITLE Environmental Engineer DATE 9/18/2018

Conditions of Approval (if any):

- Must achieve pseudo-steady state injection rate before valve closure.
- Must achieve at least 90 gpm injection rate.

Fall Off Test Procedure:

Prepare Well for Fall Off Test

1. Arrange for adequate injection fluid storage
2. Accumulate 3000 bbls of produced water
3. Perform MIT
4. MIRU wireline
5. RIH w/ Gauge ring to SN
6. POOH w/ Gauge ring and PU impression block (or something to run thru SN)
7. RIH tag and record fill depth
8. If no restrictions exist and fill is below the perms continue on to FOT. Otherwise remediate problem or adjust FOT procedure before continuing.

Conduct Fall Off Test

9. POOH pick up pressure gauges
10. RIH and hang gauges off @ 4405' KB
11. Begin injection, (125 bph) 3000 bwpd, Record time
12. Inject for 50 hrs, total of 6250 bbls. Record start and stop time
 - a. Ensure injection pressures have stabilized before proceeding
13. S/D injection pump and close valve @ wellhead, Record time
 - a. Once surface pressure stabilizes record start time of fall off
14. Record pressure data for 164 hrs, Record start and stop time
15. POOH making gradient stops @ 4000', 3000', 2000', 1000' and surface
16. Secure well and bleed pressure off lubricator
17. R/D wireline
18. Put well back into service for normal operation.

Well Information			
Well:	Sunco Disposal 1	Field:	Mesaverde SWD
Location:	1595' fnl & 1005' fnl S2, T29N, R12W San Juan Co. New Mexico	Elevations:	5859' GL 5872' RKB
		Depths:	4706' KB PBTD 4760' KB TD
		Engineer:	J. Ryan Davis (505.324.5335)
API:	30-045-28653	Date:	9/6/2018
Surface Casing:	8- 5/8" @ 209' KB w/ 150sx; Circ to surface	Production Casing:	5-1/2" @ 4750' KB w/ 230 sx stage 1, 515 sx stage 2, circ 25 sx to surf, DV tool @ 2244' KB
Tubulars:	2- 7/8" 6.5# EUE (Epoxy Coated) @ 4282' KB	Packer:	Arrow XL-W retrievable seal bore @ 4282' KB.
Perforations (MV)		4350-4460' KB 2 spf (2000 gals 15% HCL, Frac w/ 100,000# 20/40)	
Additional Perforations			
Perforations (MV)		None	

Version 1 : Procedure subject to change based on changing well conditions.

Proposed Test Schedule:

Date	Event	Remarks
Wednesday, September 12 th 2018	Check conditions; Perform MIT and Begin Injection (50 hrs)	TD; Fill; Restrictions and hang Gauges
Friday, September 14 th 2018	End Injection and Begin FOT	Shut in and monitor
Wednesday, September 21 st 2017	164 hrs	Could pull gauges at 10am

Test Considerations:

V.1 The triplex pump at the facility is capable of maintaining a constant rate of **3600** bpd against the anticipated injection pressures.

V.2 The injection rate of **3600** bpd (87.5 gpm) will be sufficient to produce valid test data. (For reference: During normal injection at 3600 bpd (8 hrs) the surface pressure build up is approx. 200 psi with a mirrored fall off over a 8 hr period.)

V.3 The normal waste liquid will be used during the FOT due to the cost effectiveness and availability.

V.4 The total volume of fluid needed for the FOT is **6250** bbls.

- A total of 3600 bbls will be onsite prior to starting the injection for the FOT and water will continue to be hauled to facility in the case that more fluid is needed during the injection period.
- Lowering the injection rate will be considered if well conditions merit a change or storage of fluid becomes a constraint.
- City water will be purchased for the FOT if it becomes necessary to make up the volume required for the test.

V.5 The gauges will be RH and the injection period will be a minimum of 50 hrs to ensure radial flow and stabilization. A total of 15 hrs was calculated using the EPA Region 6 UIC Pressure Falloff Testing Guideline design calculations found on pg A-4. The fall off portion will be a minimum of 72 hrs justified by this being the time frame used on the previous FOT.

V.6 There will be adequate storage capacity for waste water for the duration of the FOT.

V.7 There is one offset well completed in the Point Lookout disposal formation. The McGrath #4 is a class II disposal operated by ConocoPhillips approx 1.25 miles to the north west of the Sunco #1. The well has been P&A'd, so there will not be any injection activity from offset wells during the FOT.

V.8 Crown valve is currently in-place on the Sunco #1 wellhead. The gauges will be RIH through a lubricator prior to the injection period.

V.9 A shut-in valve is located on the injection riser approx 3-feet from the wellhead. This valve can be shut quickly to reduce erratic pressure response and minimize the wellbore storage.

V.10 Prior to the FOT a gauge ring will be run through the tubing to ensure no restrictions in the tubing and slickline will also be used to tag up and determine wellbore fill. Test parameters will be adjusted accordingly or the needed repairs will be made to remedy the situation.

V.11 Surface readout gauges will not be used in the FOT data collection due to cost and the fact Key performed the 2010 FOT with tandem memory down hole gauges with successful data collection. The gauges used will be latest available technology from Teftiller, Inc which will meet or exceed the pressure range, accuracy and resolution requirements. The gauges will be setup on auto resolution capture based on pressure change. Each gauge will be setup with a different auto resolution range to ensure all data is captured accurately.

V.12 A test log will be kept during the test and submitted with the FOT results. The log will include key events with date and times.

- Gauge ring run
- Tag depth
- Gauge activation
- Gauges on bottom
- Injection start
- Injection stop
- Well isolation
- Pressure stabilization
- End of Fall Off

V.13 Surface pressures will be recorded continuously using a chart recorder during the FOT. If any abnormal surface pressure change occurs the test validity will be questioned and the test will be aborted if deemed invalid.

V.14 The memory gauges being used for the FOT have auto resolution capability that changes the resolution based on rate of pressure change. First gauge will be configured to obtain data every 15 seconds and adjust to every one minute. The second gauge will be configured to obtain data every 30 seconds and adjust to every two minutes. Memory capacity is 35 day and 69 days respectively. The minimum 15 second resolution was used during the 2010 FOT and proved to be acceptable. The length of the fall off portion is based on the 2016 FOT, 120 hours proved to be adequate.

V.15 The tri-plex injection pump at the facility that is normally used for injection will be used for the FOT. It is a positive displacement pump running at a constant RPM which will ensure constant injection rate during the FOT. A constant injection rate of approximately 3000 bpd will be sufficient to create a minimum of 100 psi differential between final injection pressure and shut-in pressure. The rate will be carefully monitored prior to shut down to ensure a steady state injection is maintained prior to beginning the fall-off portion of the test.

Submit 1 Copy To Appropriate District
Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
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87505

State of New Mexico
Energy, Minerals and Natural Resources

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Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-045-28653
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other SWD Class I		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator Agua Moss, LLC		6. State Oil & Gas Lease No.
3. Address of Operator PO Box 600 Farmington, NM 87499		7. Lease Name or Unit Agreement Name Sunco Disposal
4. Well Location Unit Letter <u>E</u> : 1595 feet from the <u>North</u> line and 1005 feet from the <u>West</u> line Section <u>2</u> Township <u>29N</u> Range <u>12W</u> NMPM County <u>San Juan</u>		8. Well Number #1
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 5859' GL		9. OGRID Number 247130
		10. Pool name or Wildcat SWD-MV

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: Acid Job <input checked="" type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Agua Moss, LLC proposes to perform an acid job on the Sunco Disposal #1 on 9/7/2018. Please see the attached detailed procedure.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Philana Thompson TITLE Regulatory Compliance Specialist DATE 9/6/2018

Type or print name Philana Thompson E-mail address: pthompson@merrion.bz PHONE: 505-486-1171

For State Use Only

APPROVED BY: Carol J. Chavez TITLE Environmental Engineer DATE 9/7/2018

Conditions of Approval (if any):

Well Information			
Well:	Sunco Disposal 1	Field:	Mesaverde SWD
Location:	1595' fnl & 1005' fwl S2, T29N, R12W San Juan Co. New Mexico	Elevations:	5859' GL 5872' RKB
		Depths:	4706' KB PBTD 4760' KB TD
		Engineer:	J. Ryan Davis (505.324.5335)
API:	30-045-28653	Date:	9/7/2018
Surface Casing:	8- 5/8" @ 209' KB w/ 150sx; Clrc to surface	Production Casing:	5-1/2" @ 4750' KB w/ 230 sx stage 1, 515 sx stage 2, clrc 25 sx to surf, DV tool @ 2244' KB
Tubulars:	2- 7/8" 6.5# EUE (Epoxy Coated) @ 4282' KB	Packer:	Arrow XL-W retrievable seal bore @ 4282' KB.
Perforations (MV)		4350-4460' KB 2 spf (2000 gals 15% HCL, Frac w/ 100,000# 20/40)	
Additional Perforations			
Perforations (MV)		None	

Version 1 : Procedure subject to change based on changing well conditions.

Acid Clean Up Procedure:

Prepare Well for Fall Off Test

1. Check and record tbq and csg pressures
2. MIRU pump truck
3. Tie in pump truck to the tbq

Pump Acid

4. Pump 100 gallons of P150 of solvent down the tbq
5. Pump 500 gallons of 15% HCL acid down the tbq
6. Displace the acid to the top perf with approx 25 bbls of water
7. Allow the acid to soak the perms for 2-4 hrs.
8. Put well back into service for normal operation.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, June 27, 2018 4:02 PM
To: Ryan Merrion
Cc: Ryan Davis; Sanchez, Daniel J., EMNRD; Griswold, Jim, EMNRD; Goetze, Phillip, EMNRD; Jeff Davis; Philana Thompson; Shacie Murray; Perrin, Charlie, EMNRD
Subject: RE: Agua Moss Sunco Well Mtg.(UICI-5) C-103 Form Dated by Operator 6/14/2018

Ryan:

The New Mexico Oil Conservation Division is in receipt of the survey results and will respond soon.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
UIC Program Quality Assurance Officer
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us

“Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?” (To see how, go to: <http://www.emnrd.state.nm.us/OCD> and see “Publications”)

From: Ryan Merrion <ryan@merrion.bz>
Sent: Wednesday, June 27, 2018 2:36 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Ryan Davis <rdavis@merrion.bz>; Sanchez, Daniel J., EMNRD <daniel.sanchez@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>; Jeff Davis <jdaguamoss@hotmail.com>; Philana Thompson <pthompson@merrion.bz>; Shacie Murray <shacie@merrion.bz>; Perrin, Charlie, EMNRD <charlie.perrin@state.nm.us>
Subject: Re: Agua Moss Sunco Well Mtg.(UICI-5) C-103 Form Dated by Operator 6/14/2018

Carl, et al,

Philana is out of the office today, but I wanted to get the temperature survey results to you. Please see the report below:

06/22/2018

Tubing: 0 psig. Casing: 825 psig. Rig up Tefteller slickline. RIH with a spear and equalized tubing plug. Tubing pressure increased to 1475 psig. RIH with an overshot and retrieved tubing plug at 4,460'. Shut in tubing and rigged down Tefteller.

06/26/2018

Tubing: 1500 psig. Casing: 850 psig. RU BlueJet Inc wireline. RIH with base temperature log and surveyed from 700' KB to 4506' KB. Pulled logging tools up to 3,989' KB. Injected 100 bbls of water down tubing at 75 bbl/hr. Please see the following table:

Tubing (psig)	Casing (psig)	Time
1700	850	9:04 AM
1800	775	9:15 AM
1825	500	9:30 AM
1900	420	10:00 AM
1920	410	10:25 AM

Temperature at the tool depth decreased from 128 deg F to 86 deg F during injection. After injecting fluid, two log runs were made from 4200' KB to 4506' KB. The timeframe for these log intervals was 30 minutes and 1:20 minutes after injecting fluid. The final temperature survey was completed coming out of hole. Tubing was shut in and wireline rigged down. Final casing pressure was 800 psig.

Log Interpretation:

The baseline temperature survey (TEMP) shows a normal temperature gradient from surface down to the packer. Below the packer, temperature significantly decreases around the interval of injection. TEMP Pass #2 and #3 were ran 30 minutes and 1:20 minutes after injecting 100 bbls of fluid. Both temperature curves converge and maintain temperature at the perforation interval 4,350'-4,460'. Thermal warming effects take place above the injection interval as time progresses. No major anomalies off temperature gradient were noticed above the packer. From these temperature survey results, Agua Moss believes injection is still maintained within the Pt. Lookout formation. Please see attached.

Please let me know if you have any questions.

Thanks,

Ryan Merrion
Production Engineer



ryan@merrion.bz

(303) 653-2231



**TEMPERATURE SURVEY
1 7/16" DIGITAL TEMP TOOL
FINAL PRINT**


Company AGUA MOSS, LLC		Company AGUA MOSS, LLC	
Well SUNCO DISPOSAL NO. 1		Well SUNCO DISPOSAL NO. 1	
Field FLORA VISTA MESAVERDE		Field FLORA VISTA MESAVERDE	
County SAN JUAN		County SAN JUAN	
State N.M.		State N.M.	
Location:		API #: NA	
1595 FNL & 1005 FWL		Other Services	
SEC 2 TWP 29N RGE 12W			
Permanent Datum G.L.		Elevation 5859	
Log Measured From KB		K.B. 5874	
Drilling Measured From KB		D.F. 5873	
		G.L. 5859	
Date		6/26/2018	
Run Number	1		
Depth Driller	4711		
Depth Logger	4506		
Bottom Logged Interval	4506		
Top Log Interval	3990		
Open Hole Size			
Type Fluid	H2O		
Density / Viscosity	NA		
Max. Recorded Temp.			
Estimated Cement Top			
Time Well Ready	7:45 AM		
Time Logger on Bottom	9:00 AM		
Equipment Number	D6 TEMP 005		
Location	FRM		
Recorded By	ETHAN RISLEY		
Witnessed By	RYAN MERRION		
Borehole Record		Tubing Record	
Run Number	Bit From To Size Weight From To		
ONE	12.25 0 235 4760		
	7.875 235		
Casing Record	Size Wgt/Ft Top Bottom		
Surface String	8.625 24# 0 235		
Prot. String	5.5 15.5# 235 4760		
Production String			
Liner			

<<< Fold Here >>>

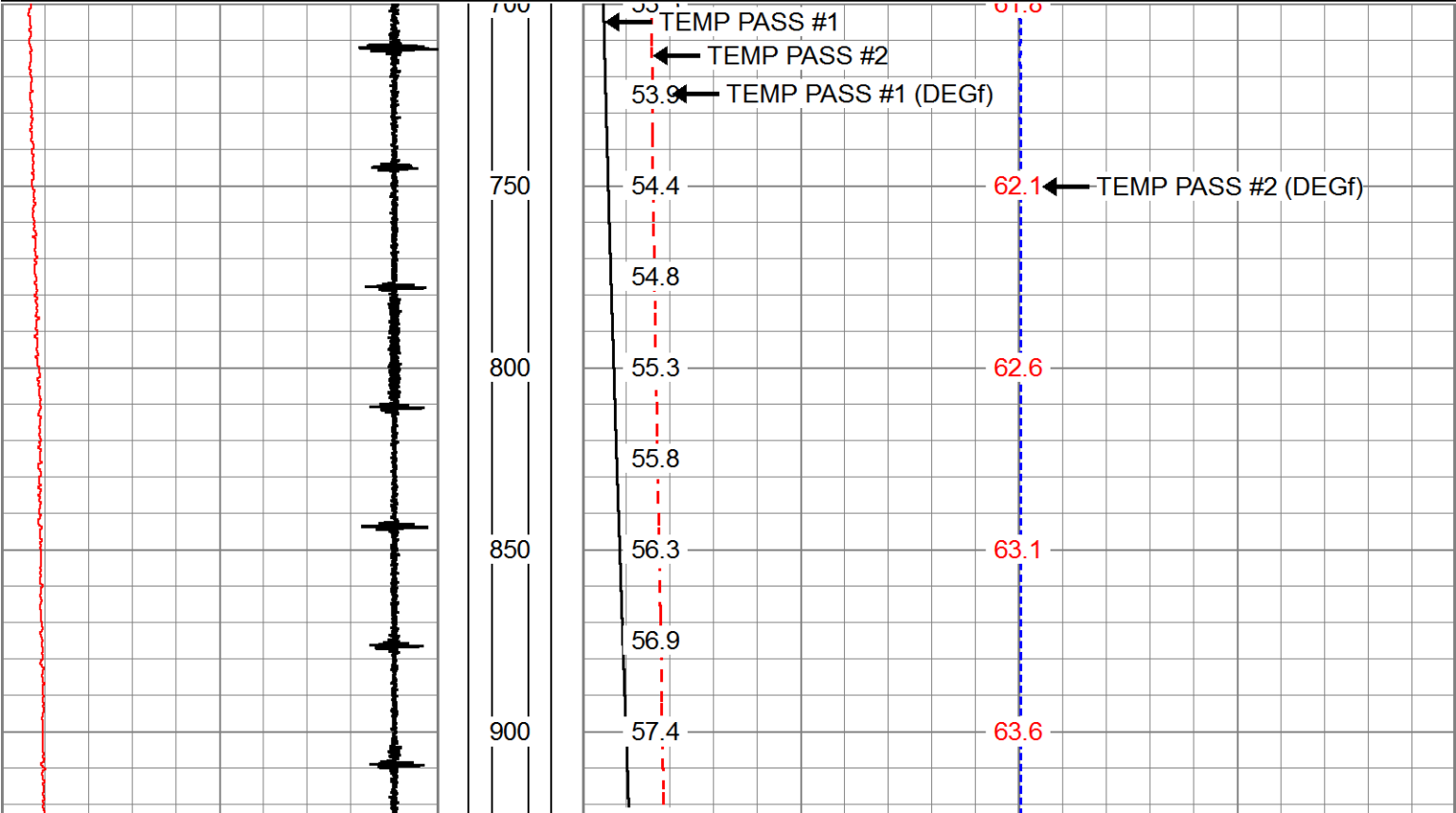
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

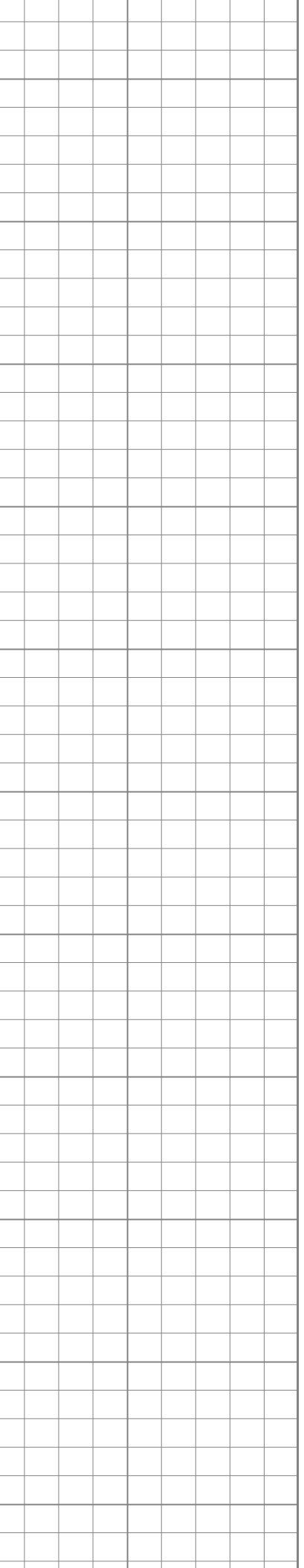
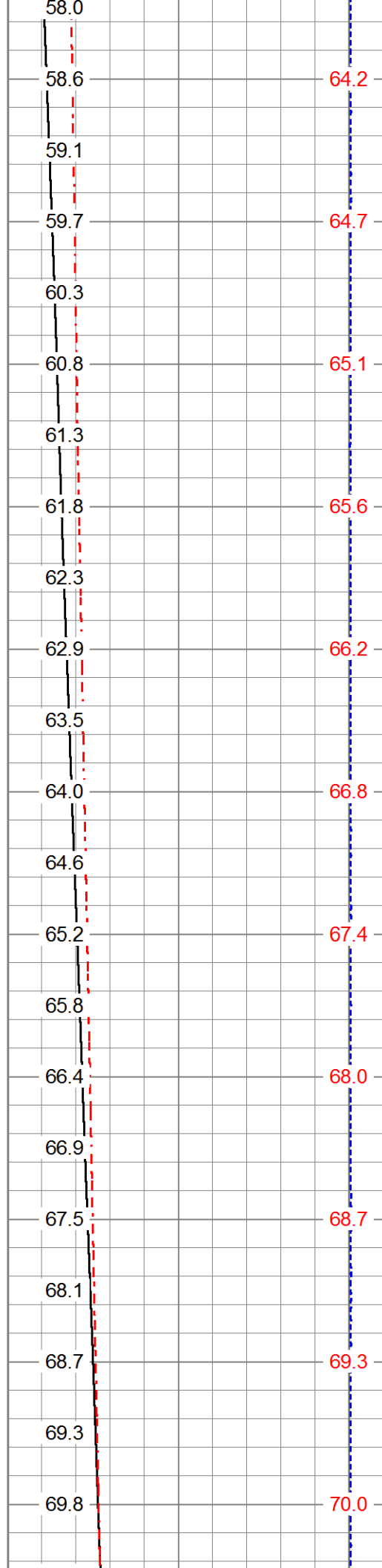
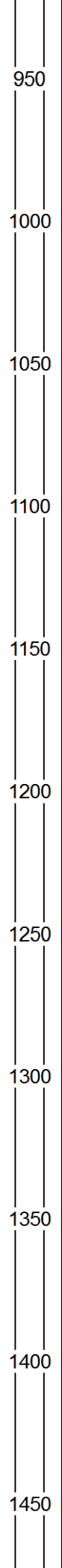
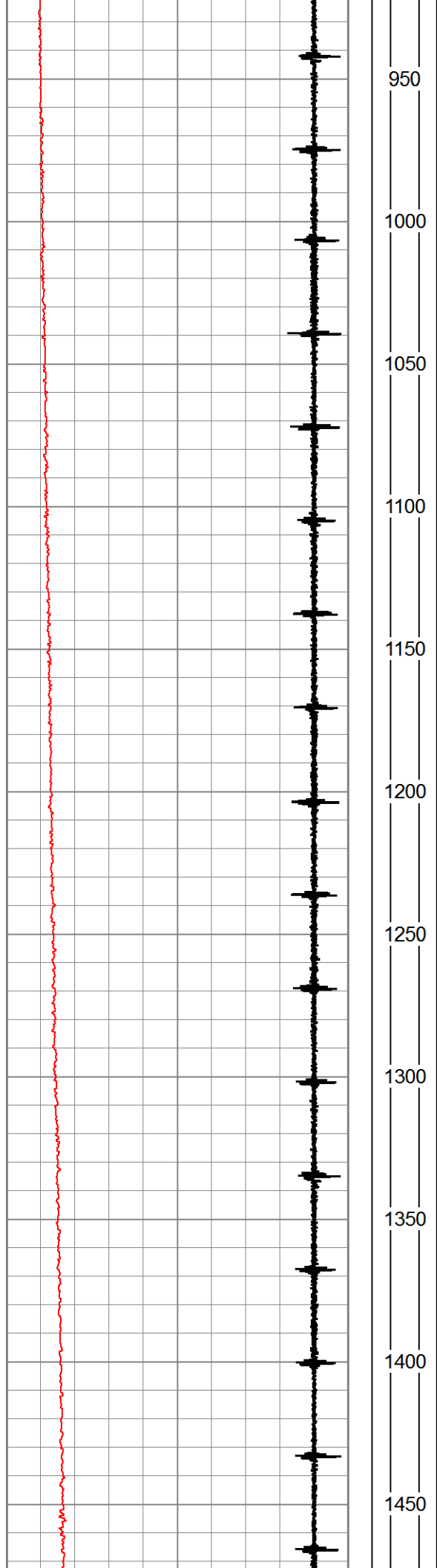
Comments

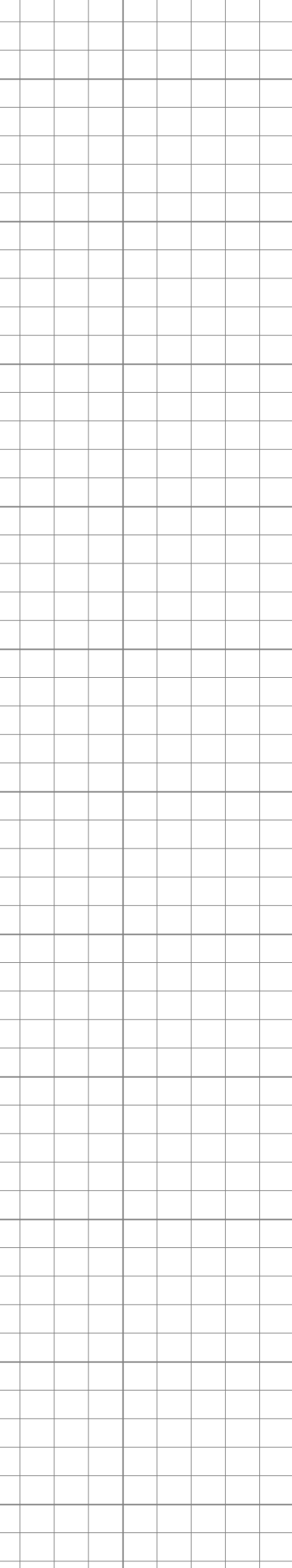
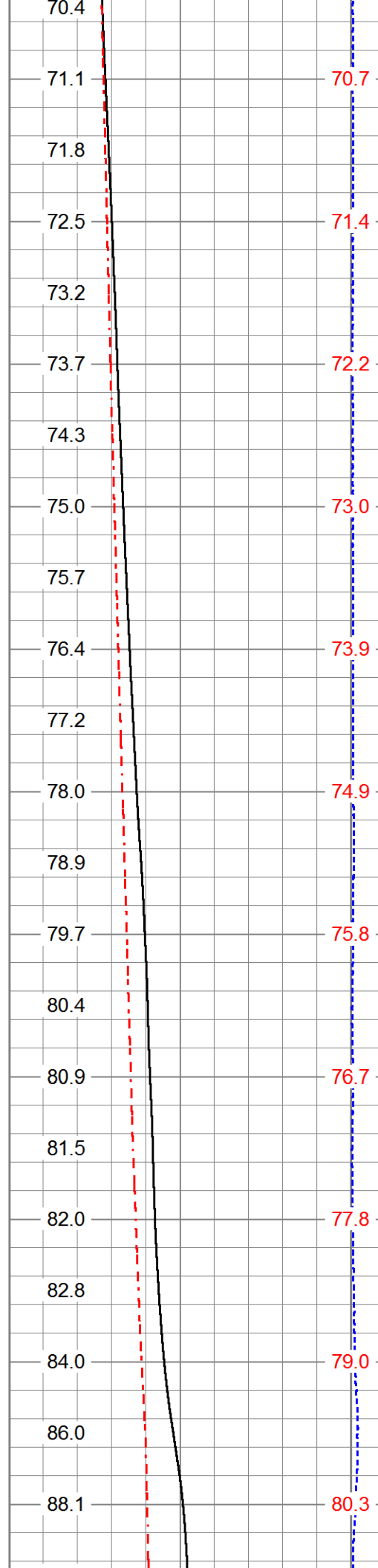
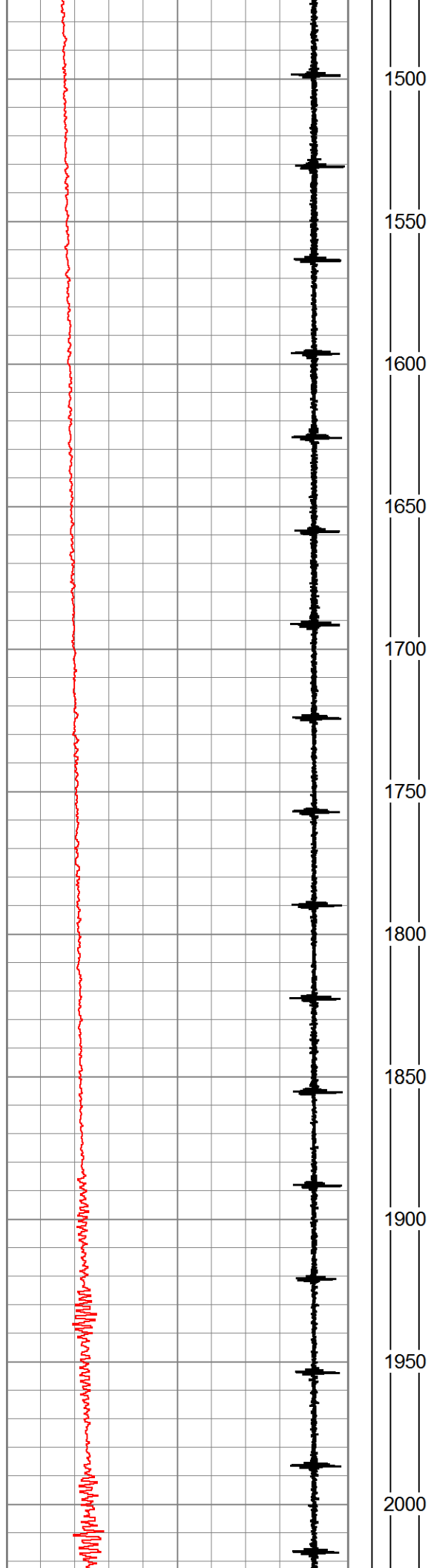
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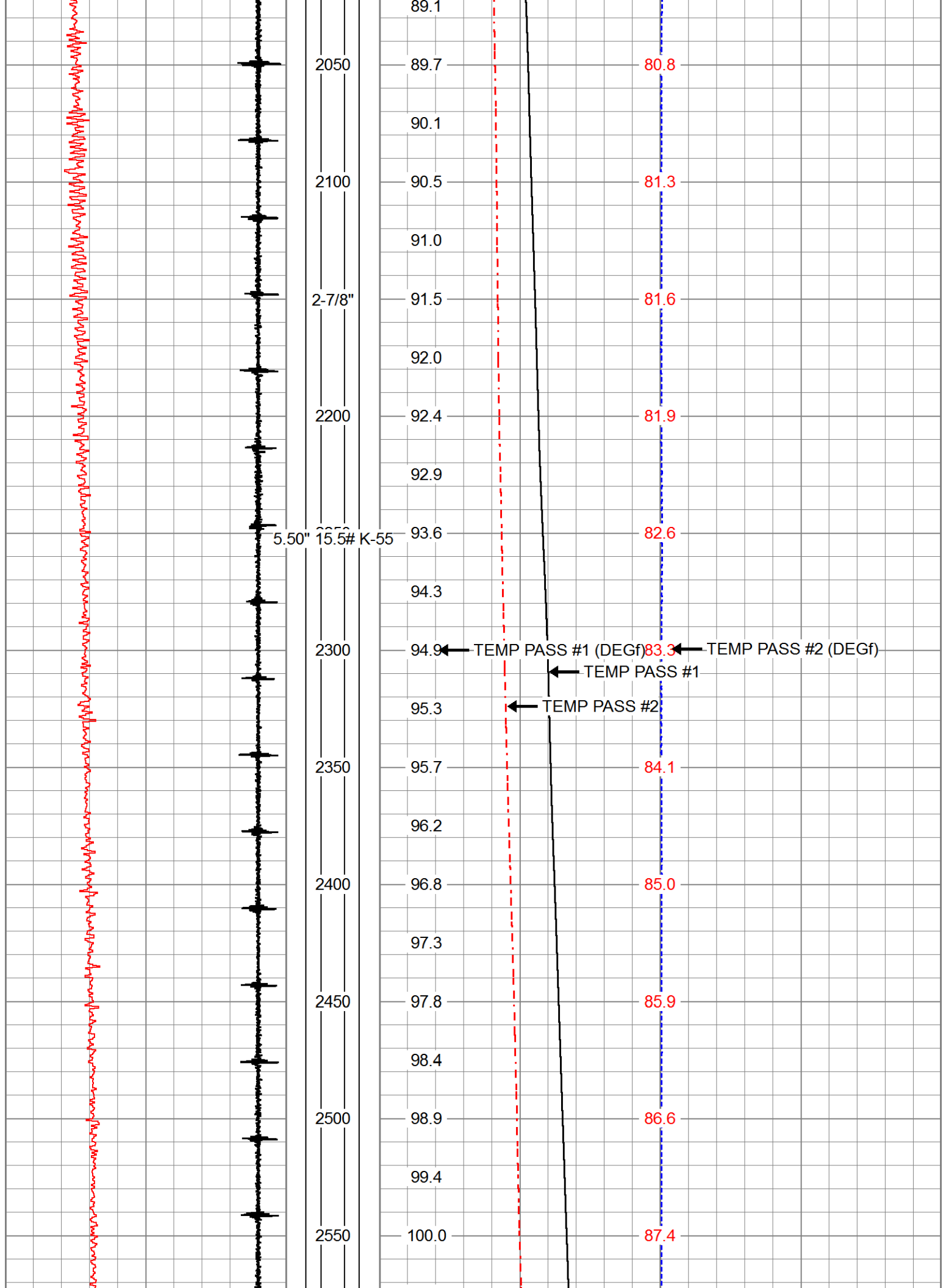
				1 11/16" Logging CCL				
				TEMP-Comprobe (FW1302-005) Comprobe Temperature Tool	2.30	1.44	4.00	
TEMP	0.17							
		Dataset:	merrionsunco#1swdtemp.db: field/well/run1/pass2.C					
		Total length:	3.65 ft					
		Total weight:	14.00 lb					
		O.D.:	1.69 in					

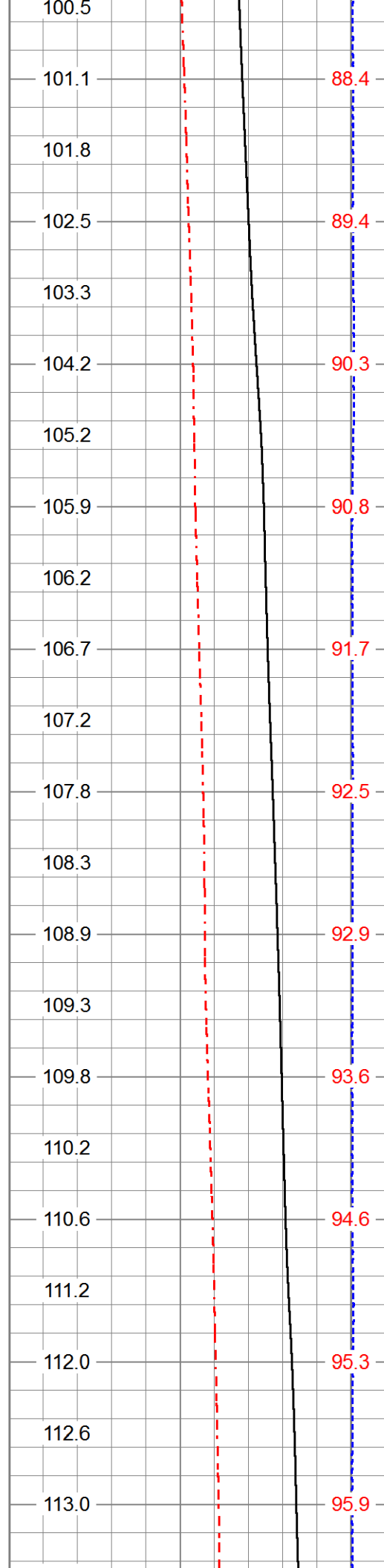
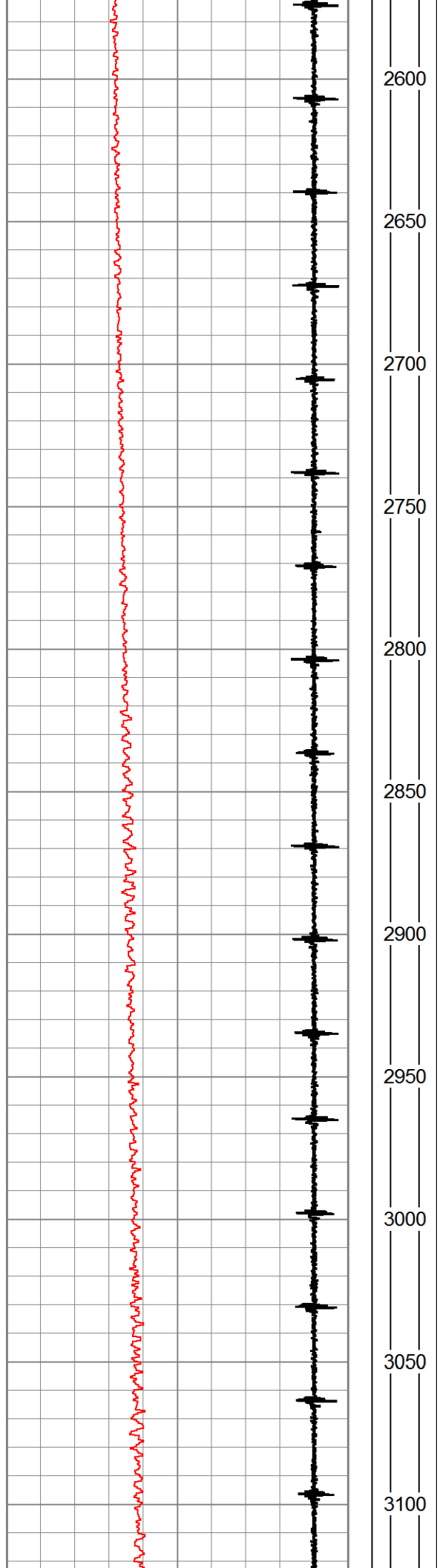
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Dataset Pathname		pass2.C				
Presentation Format		temp				
Dataset Creation		Tue Jun 26 13:38:22 2018				
Charted by		Depth in Feet scaled 1:600				
9	CCL	-1	50	TEMP (degF)		200
0	LTEN (lb)	1700	-5	DTMP (degF)		5
			50	TEM2 (degF)		200
			TEMP		TEM2	
			(degF)		(degF)	

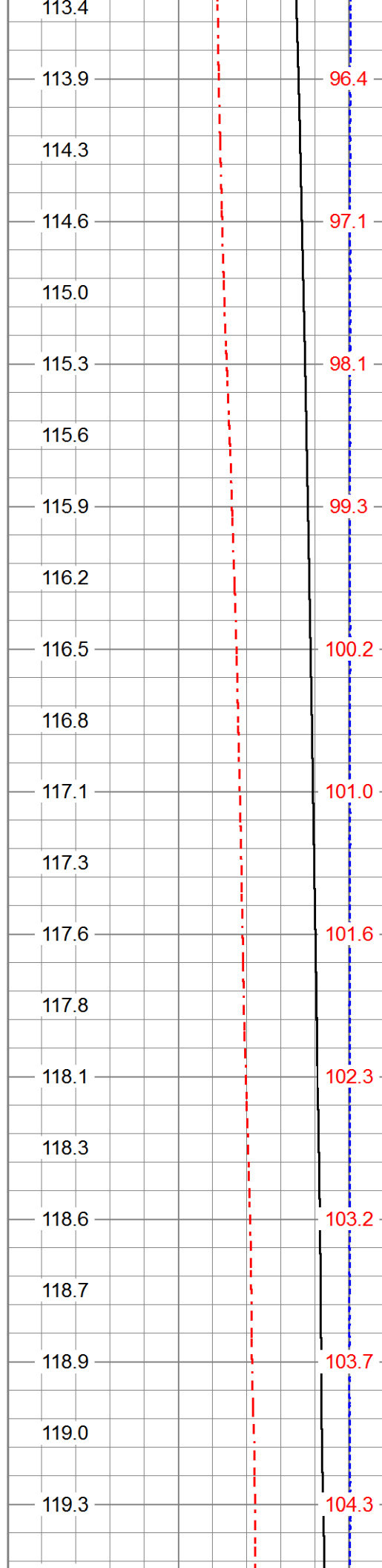
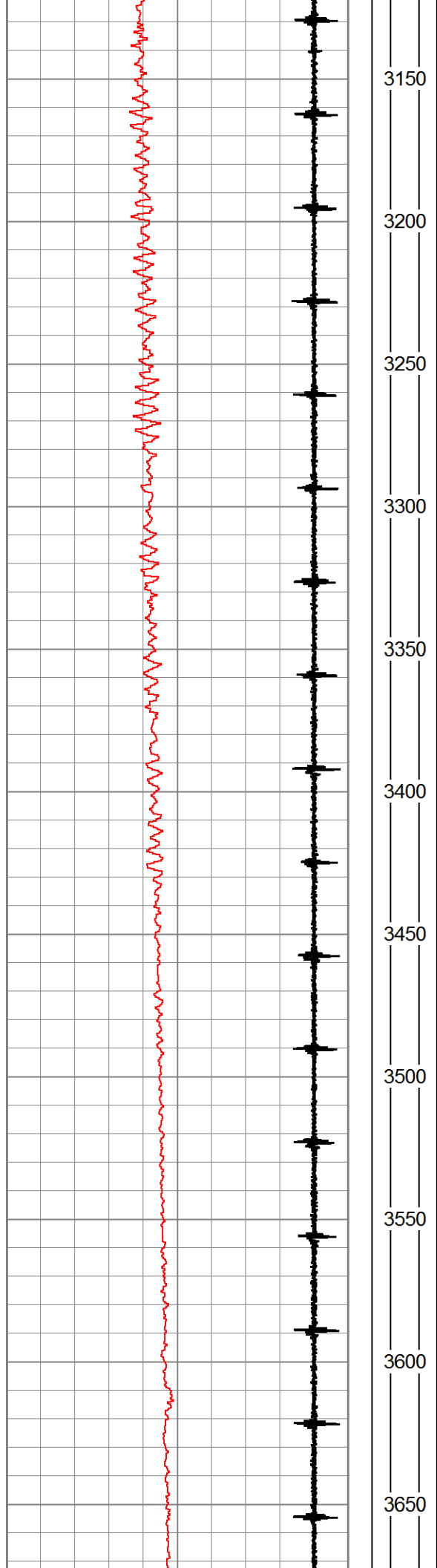




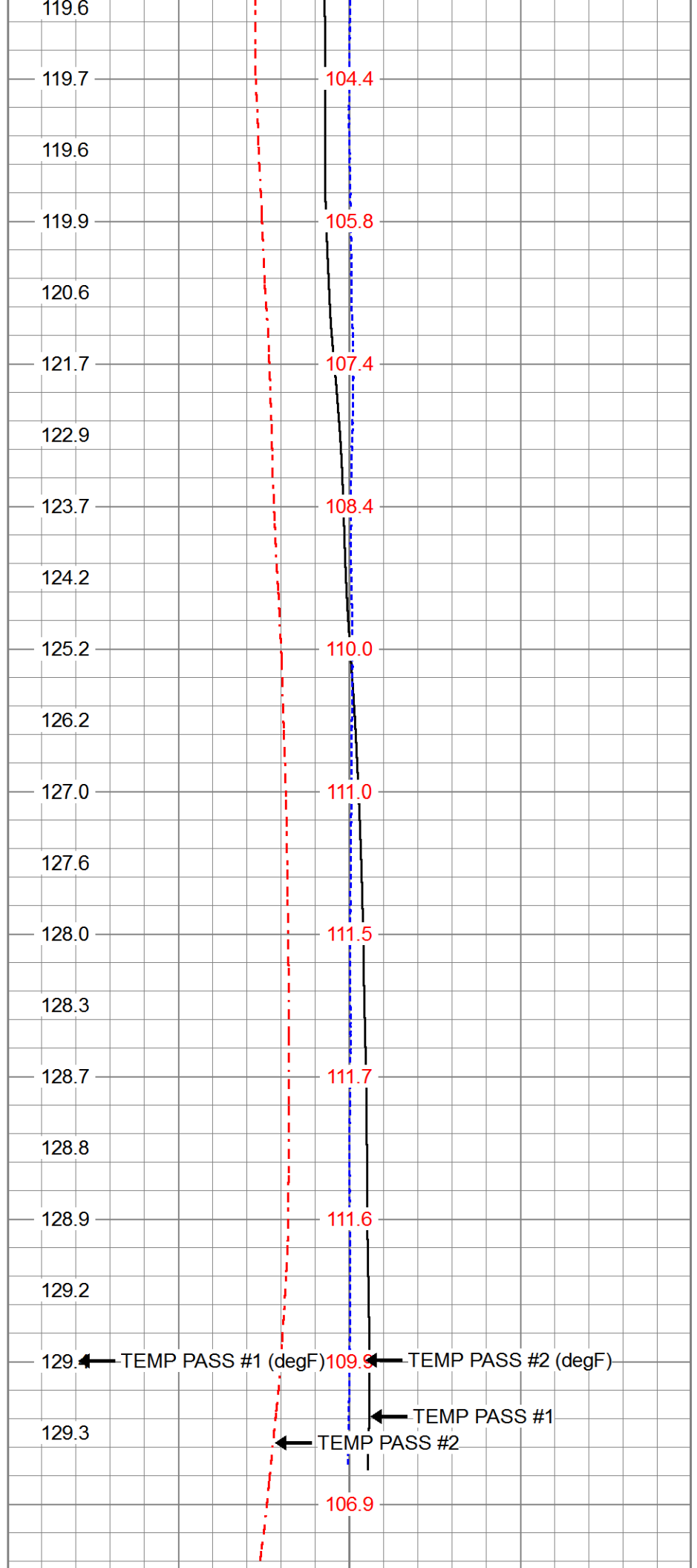
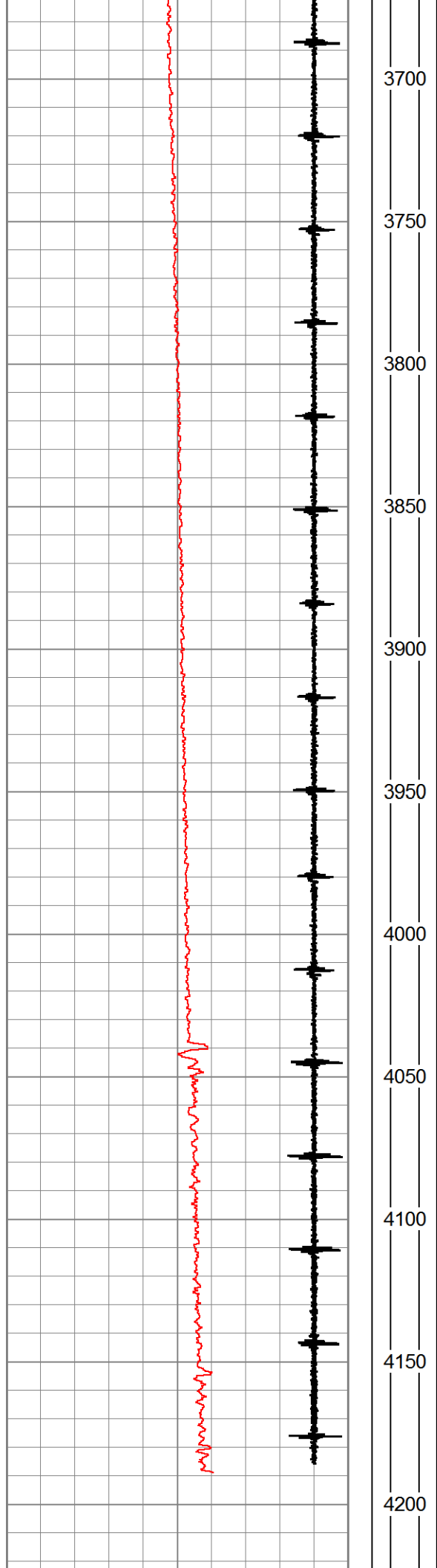


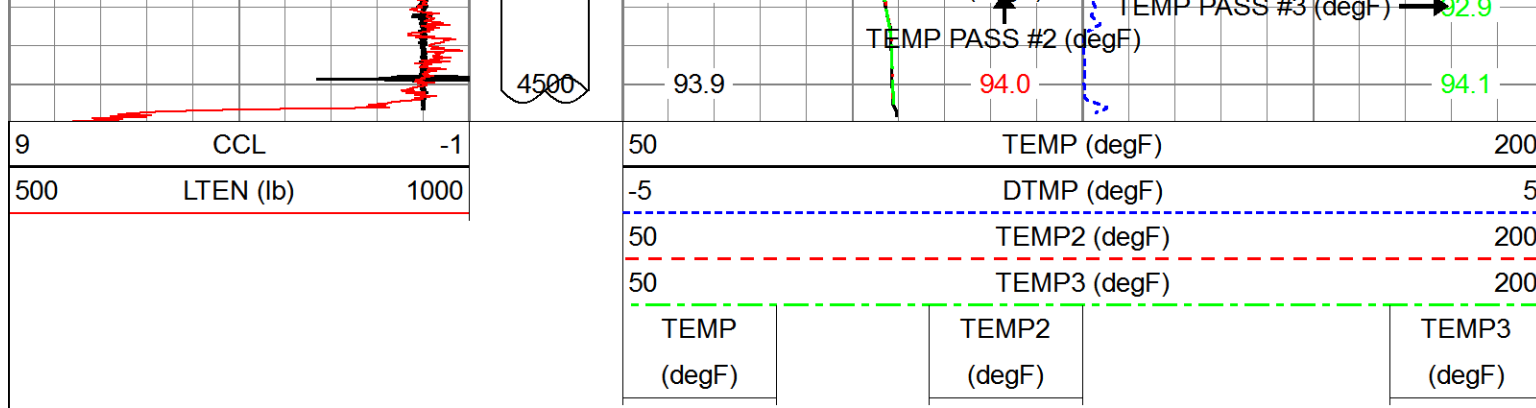




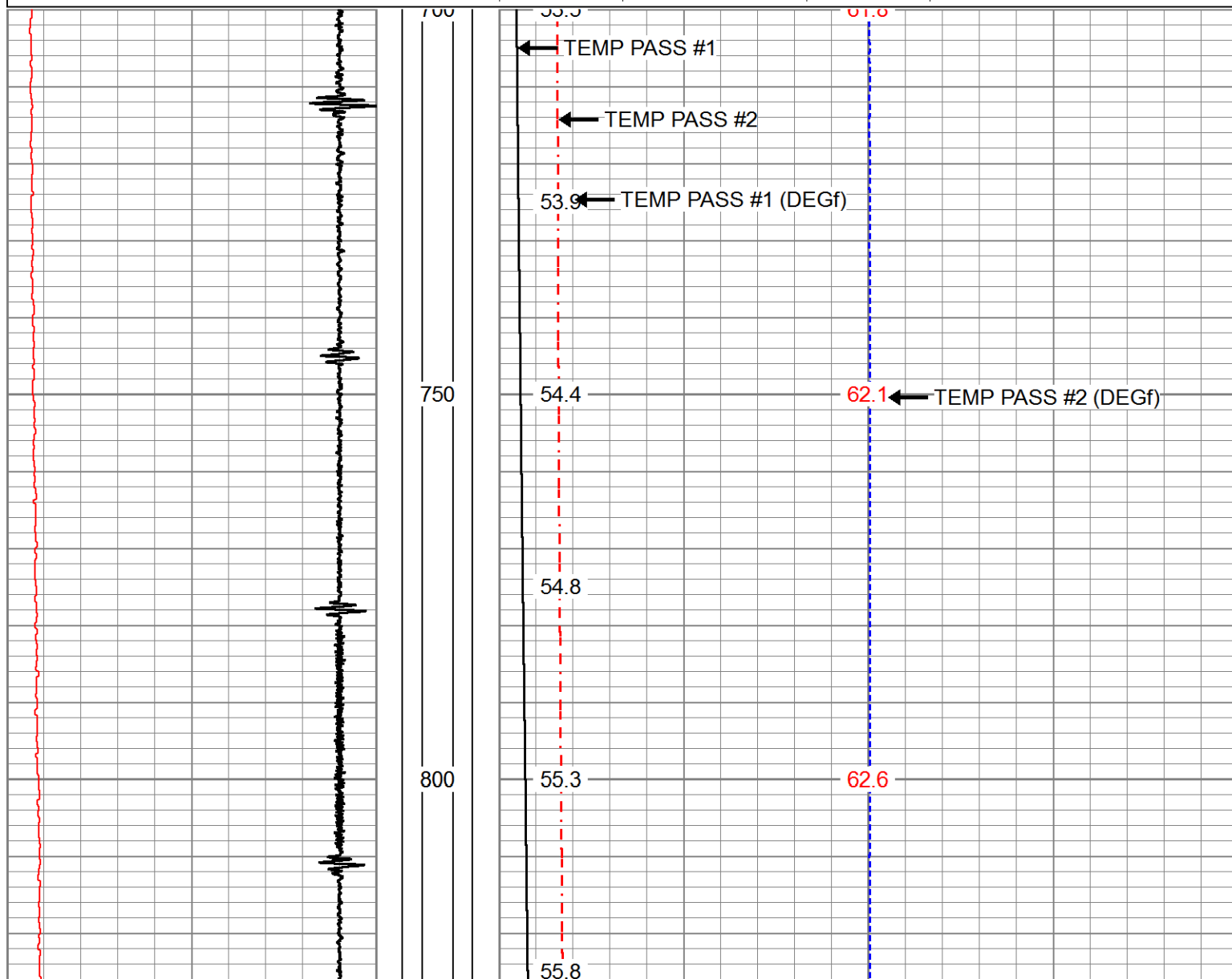
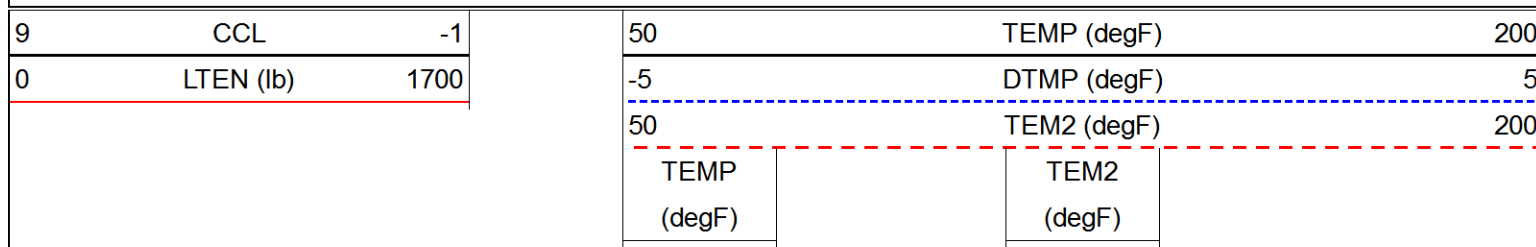


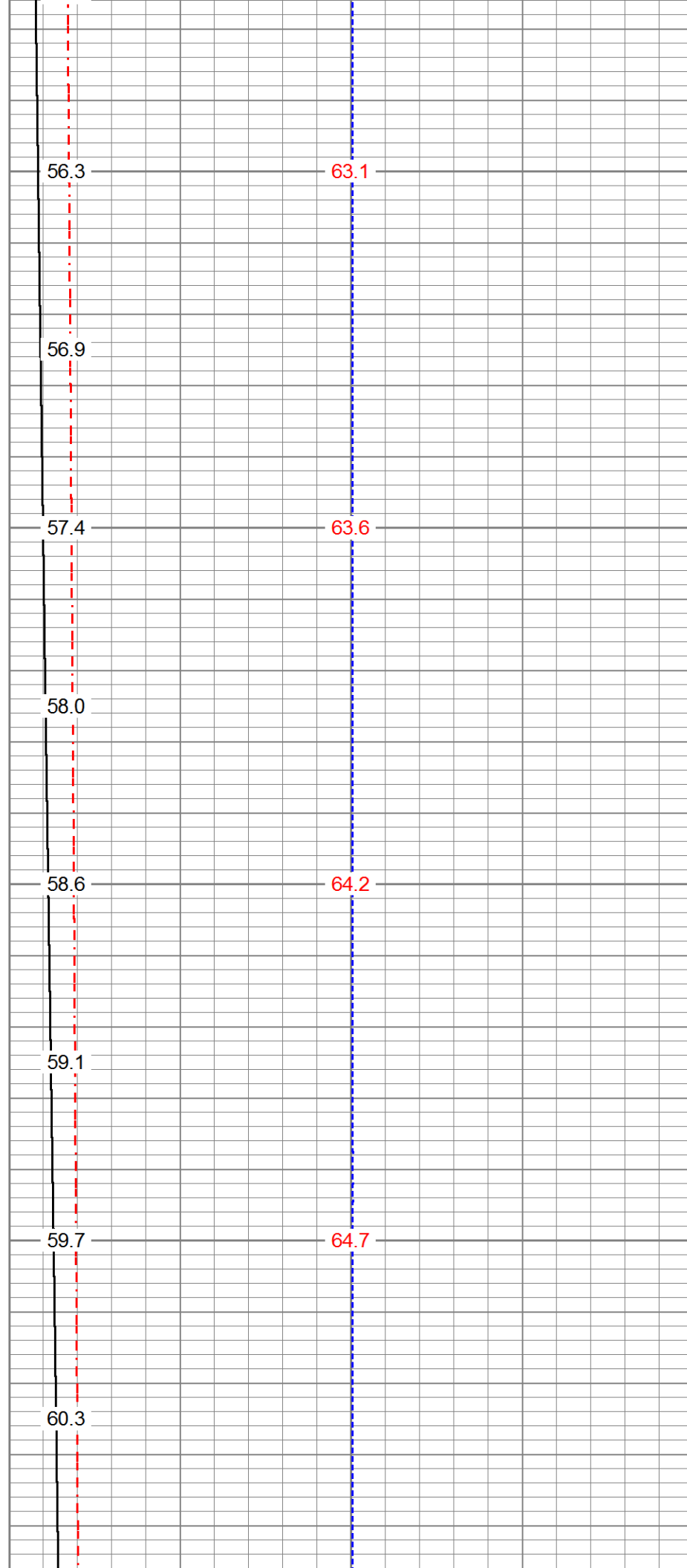
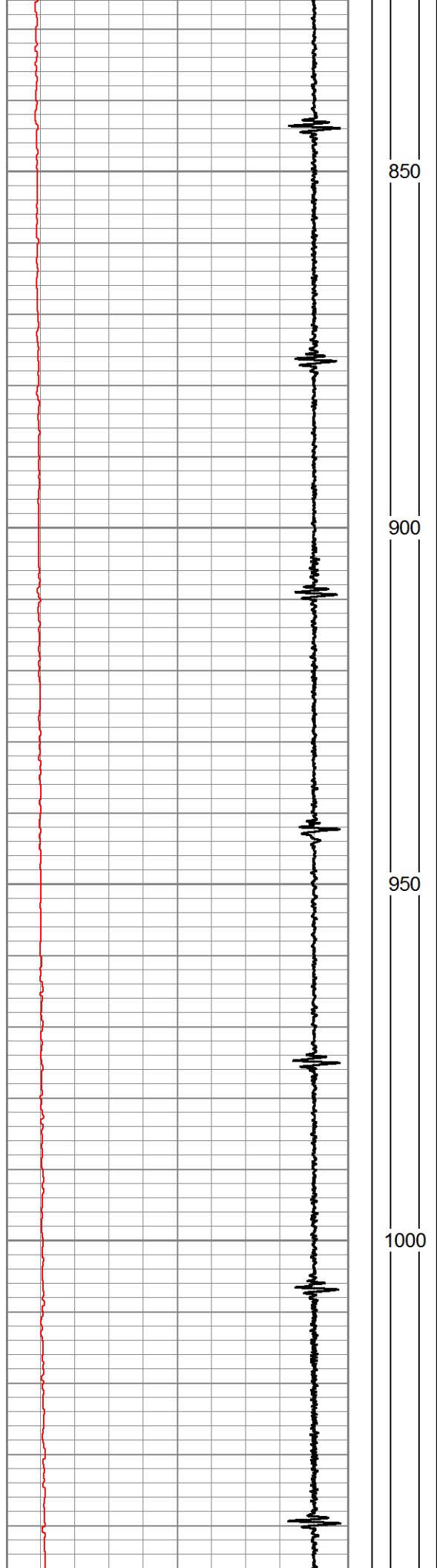
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103.2
103.7
104.3

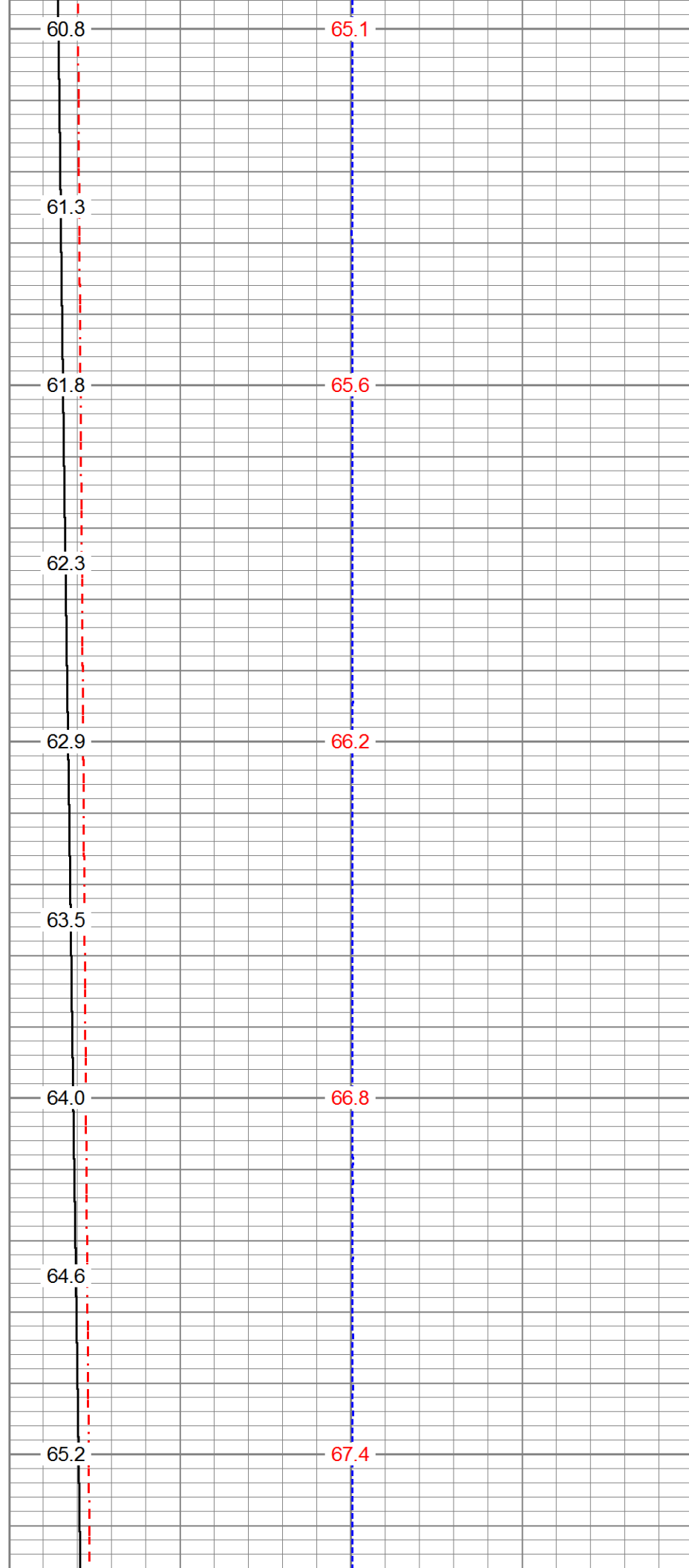
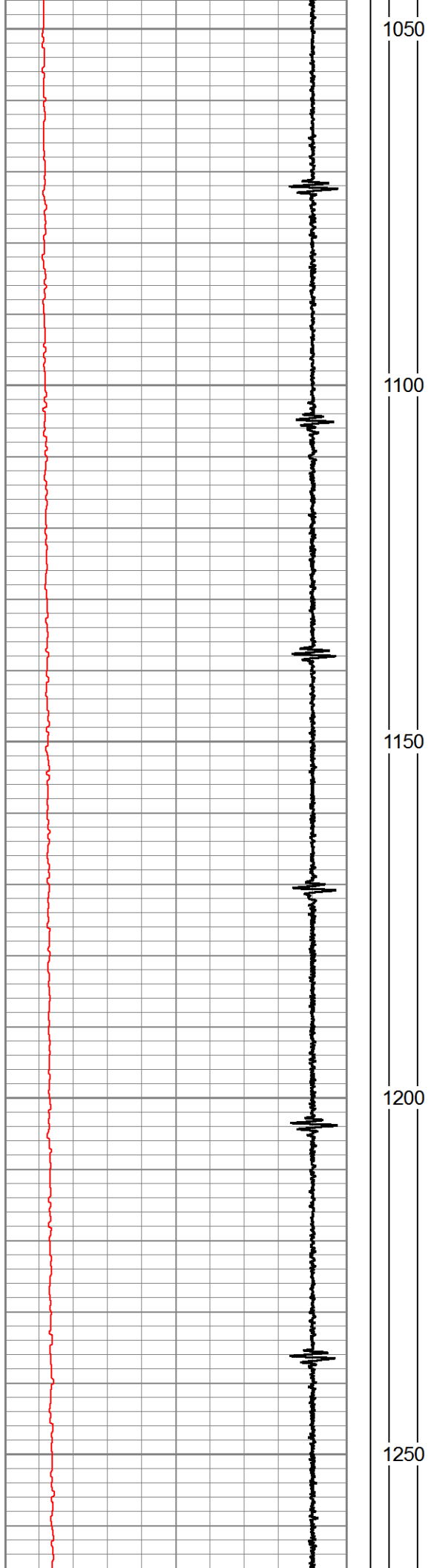


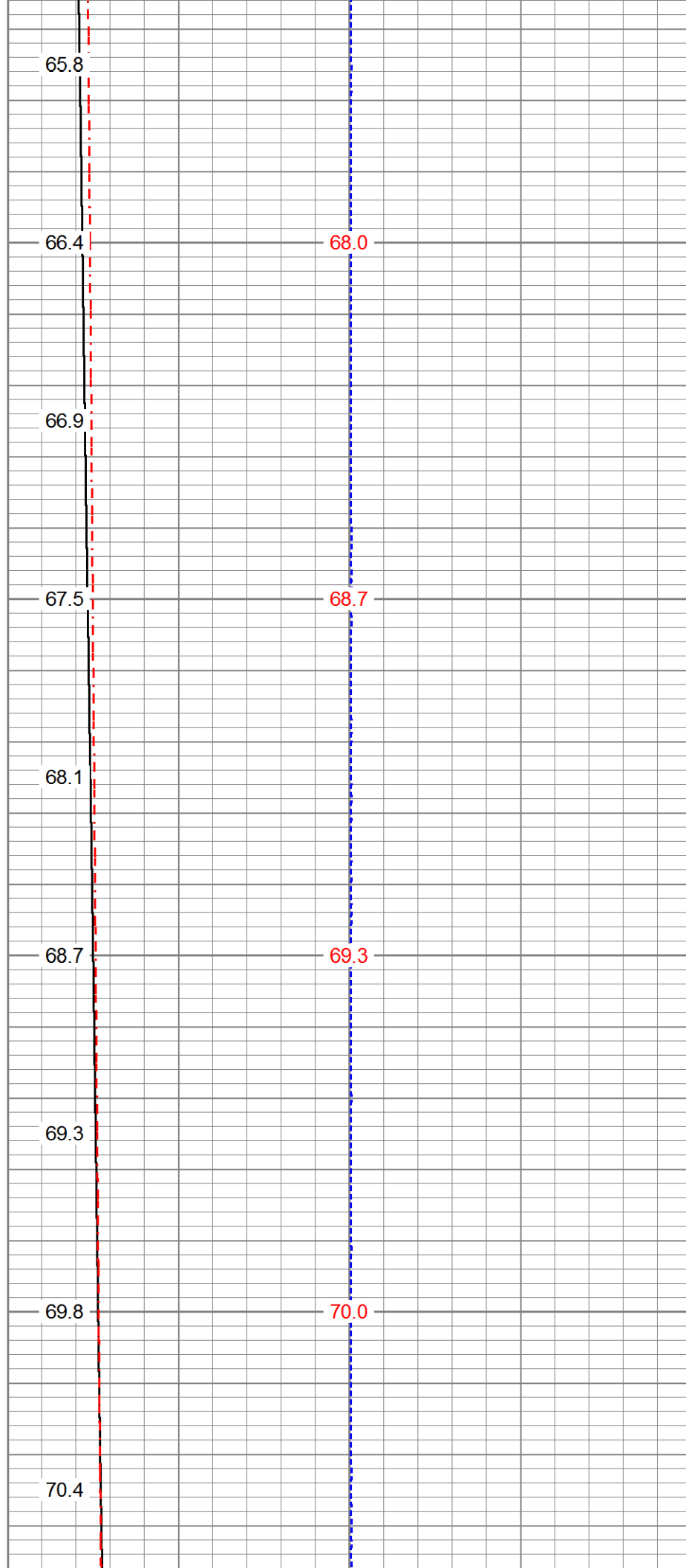
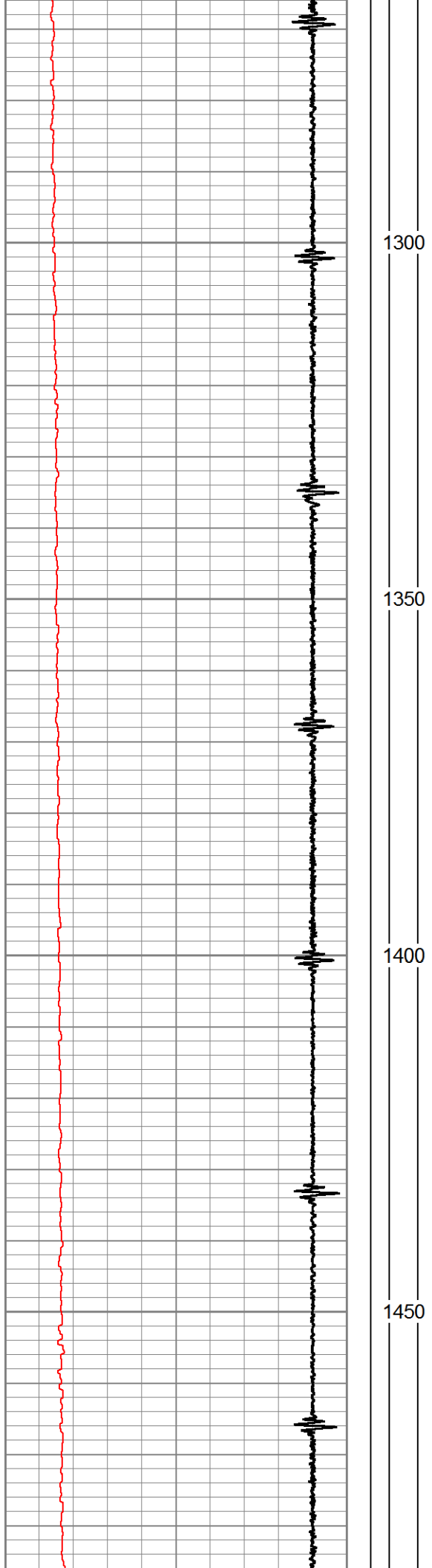


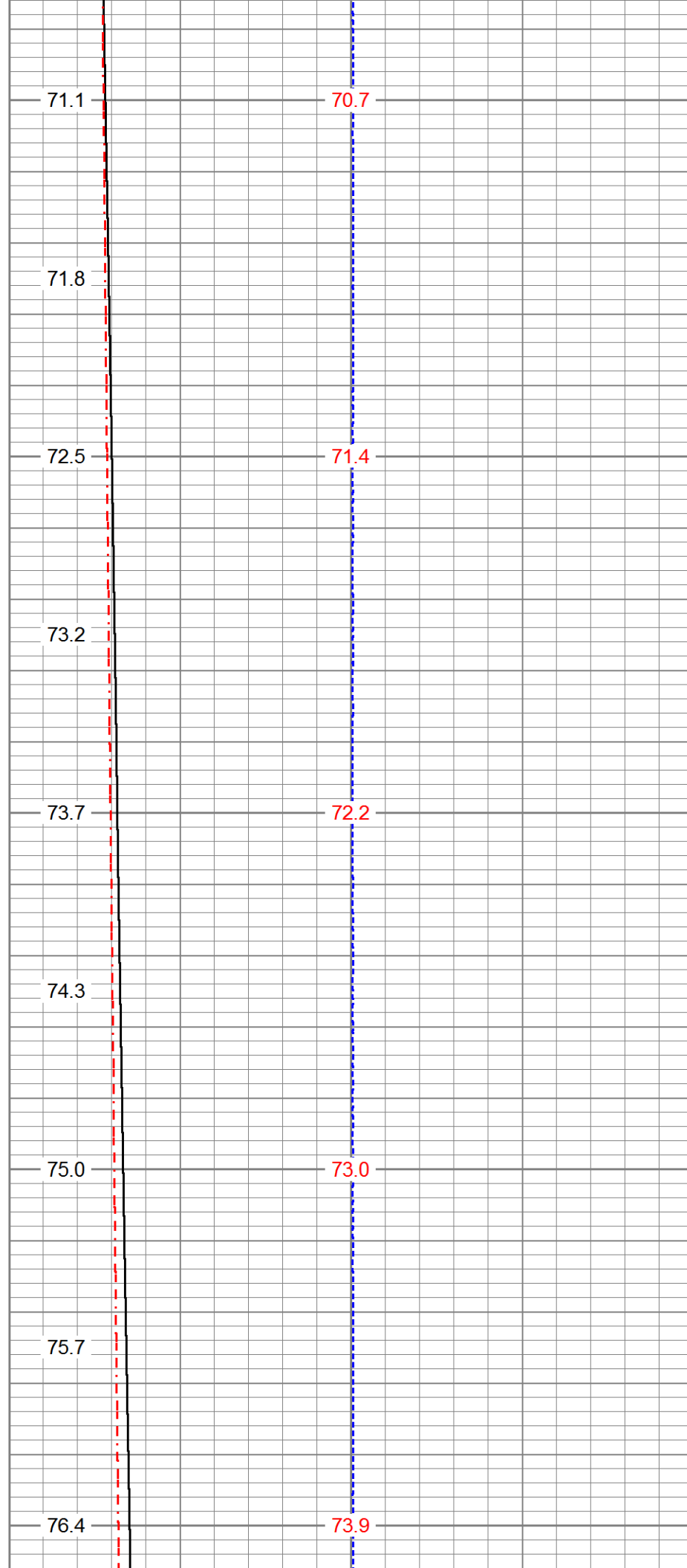
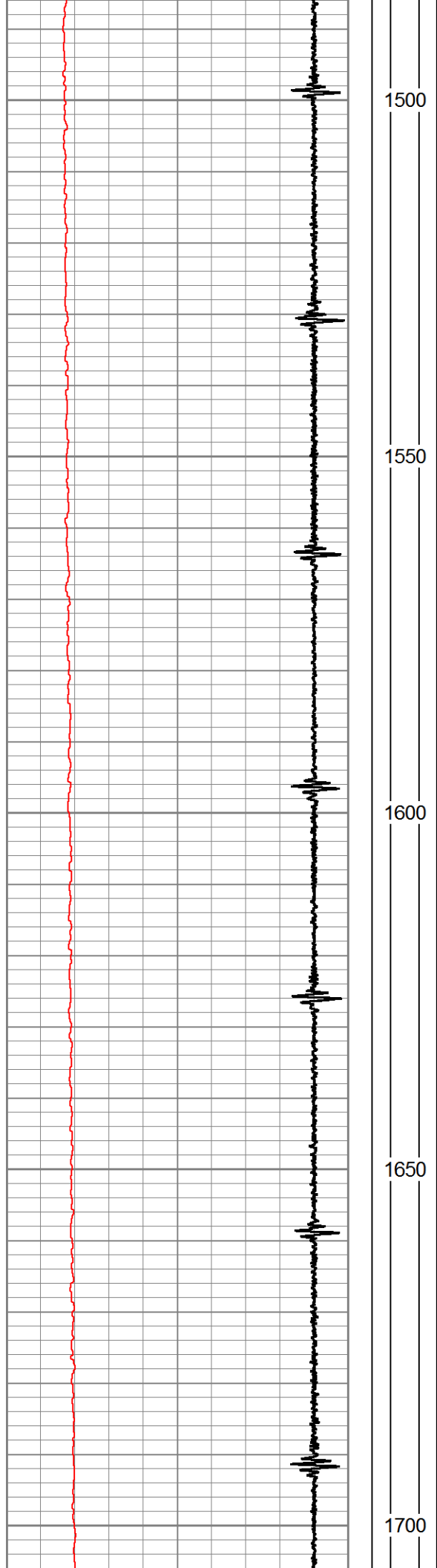
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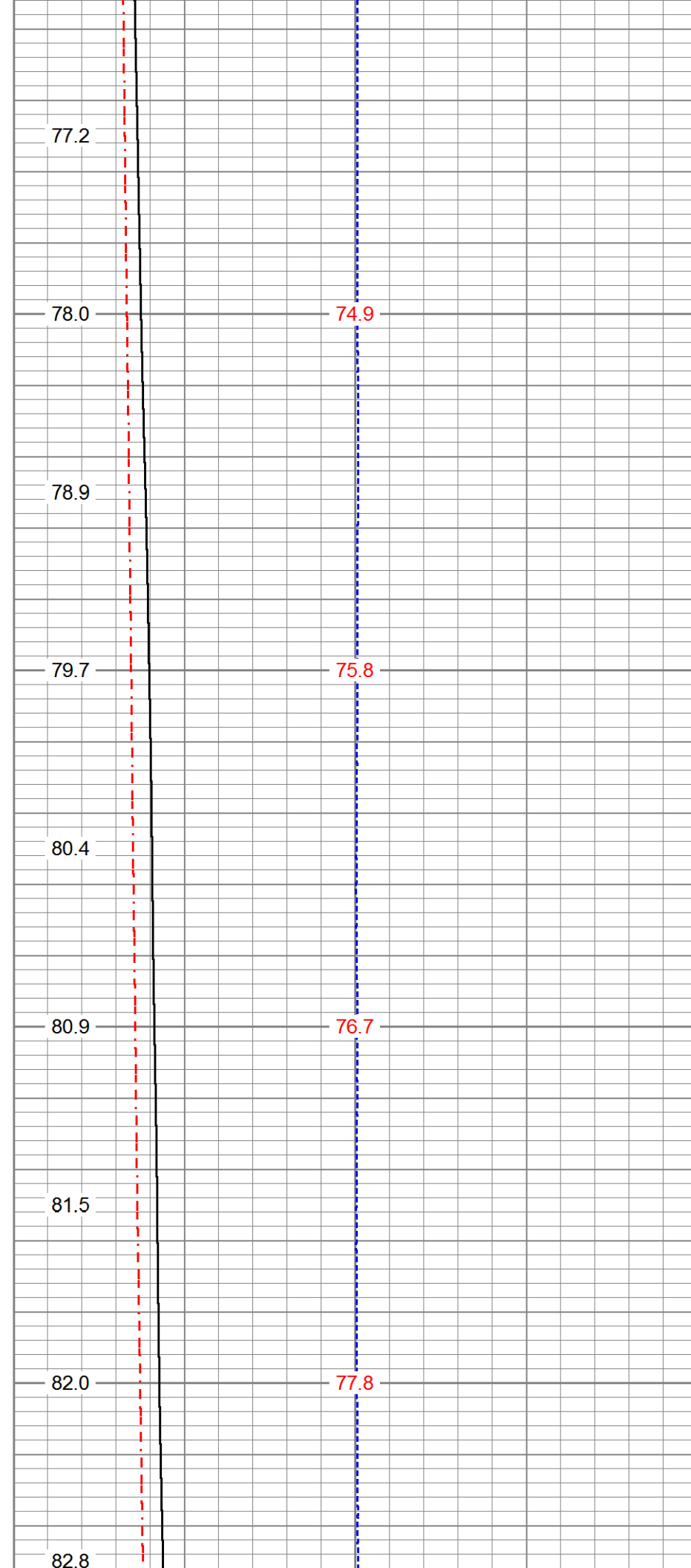
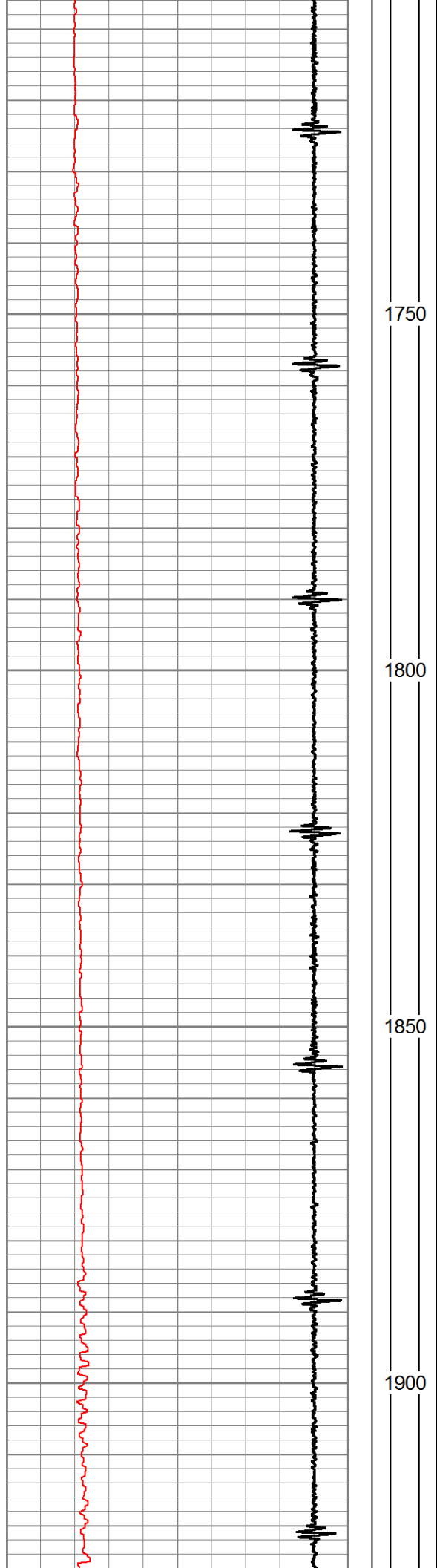


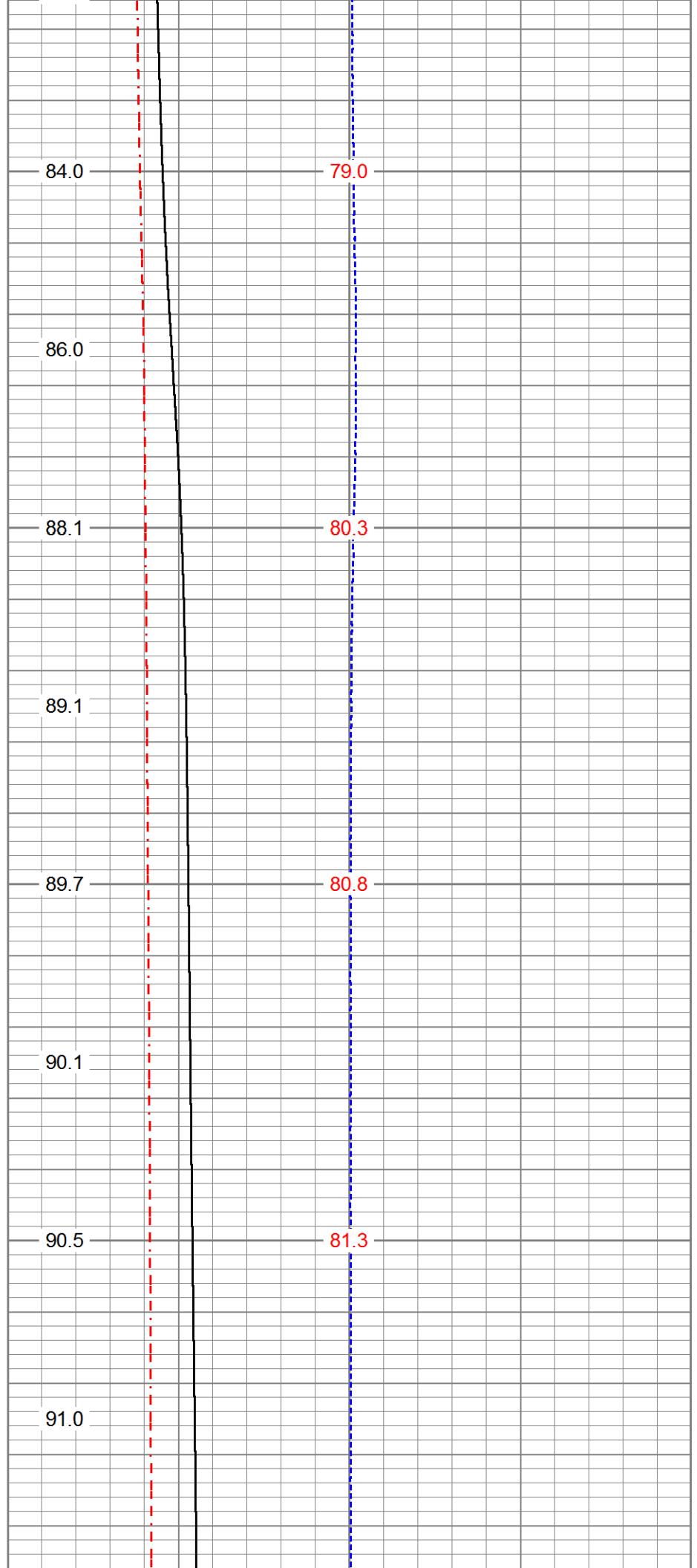
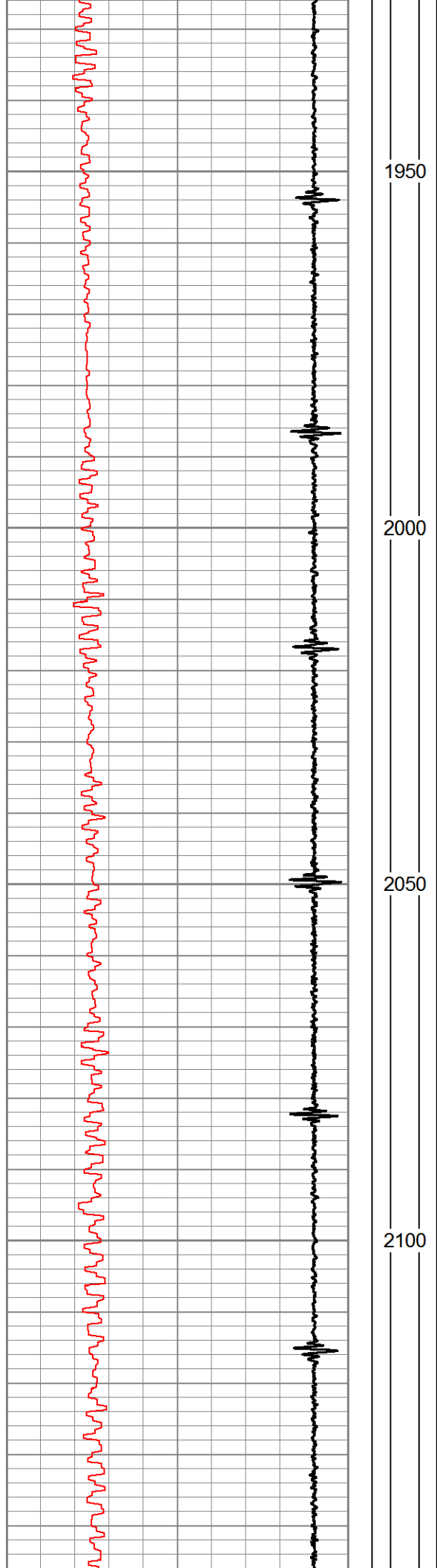


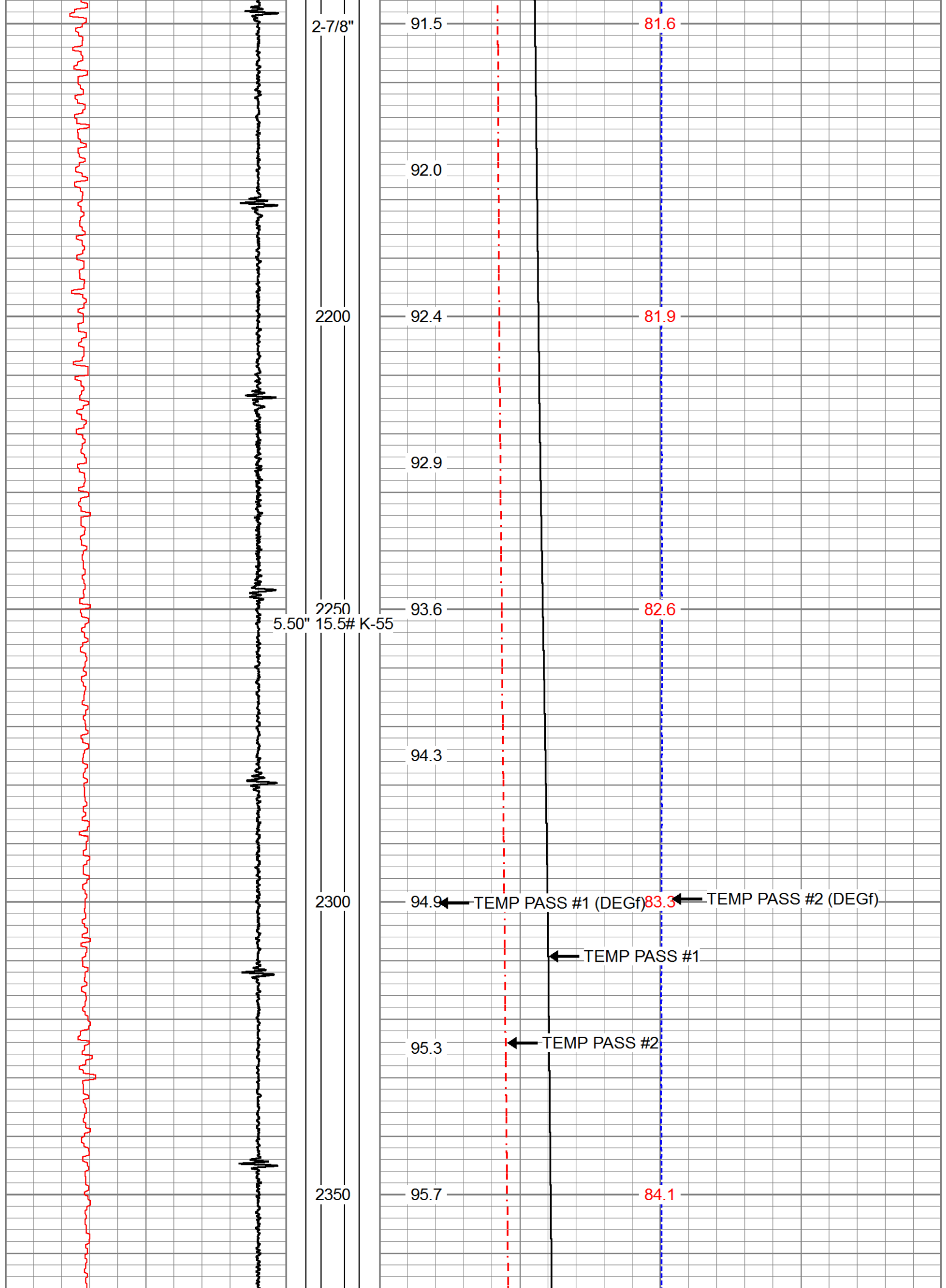


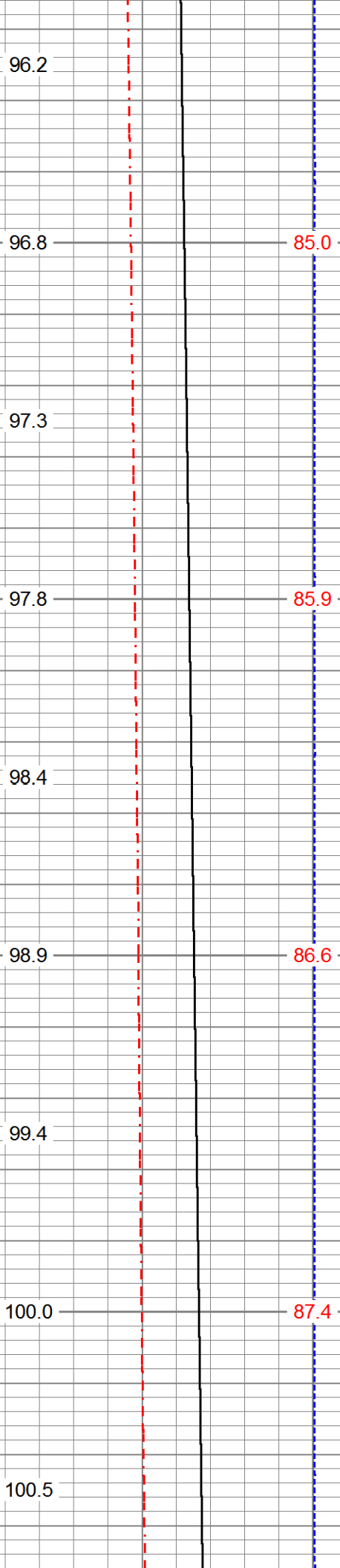
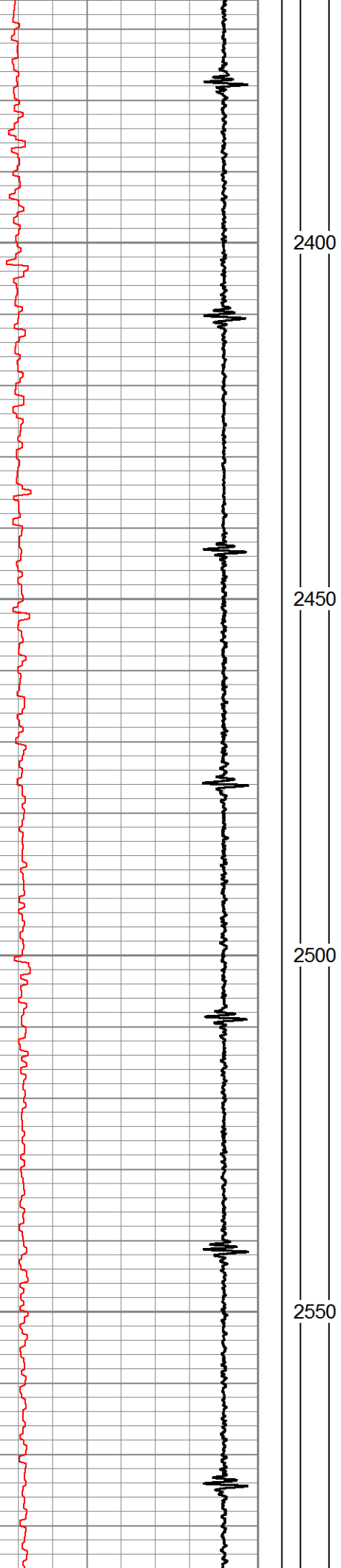


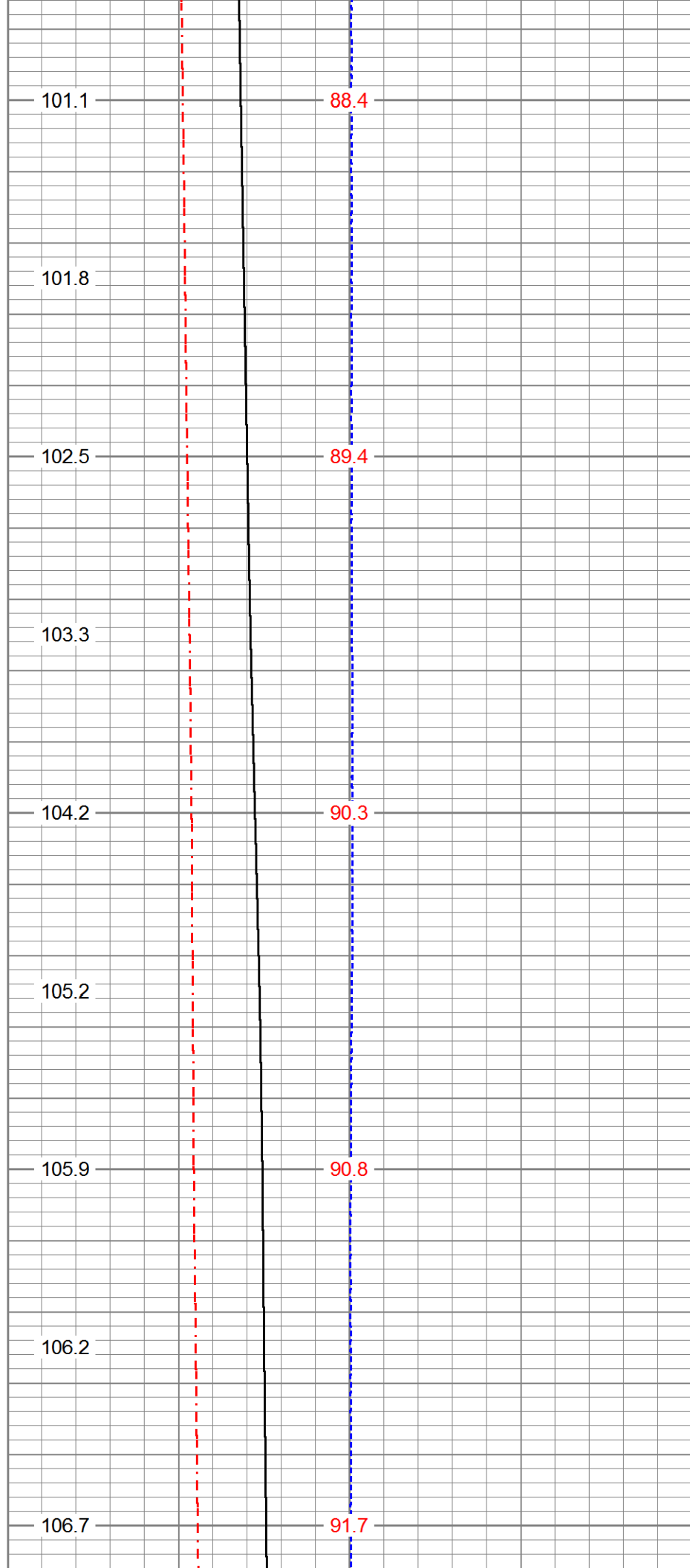
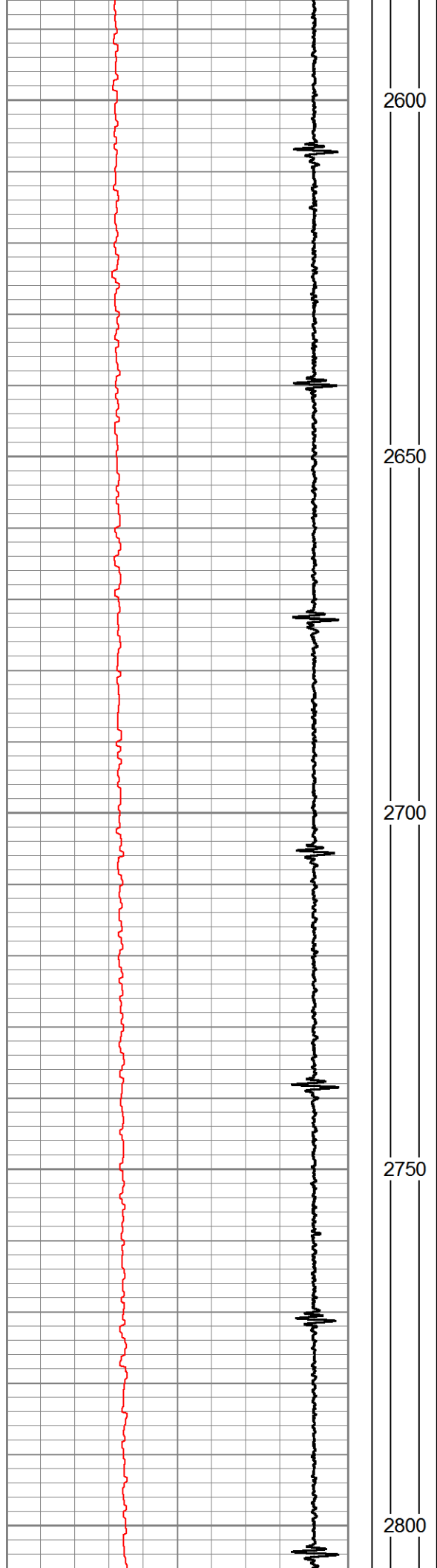


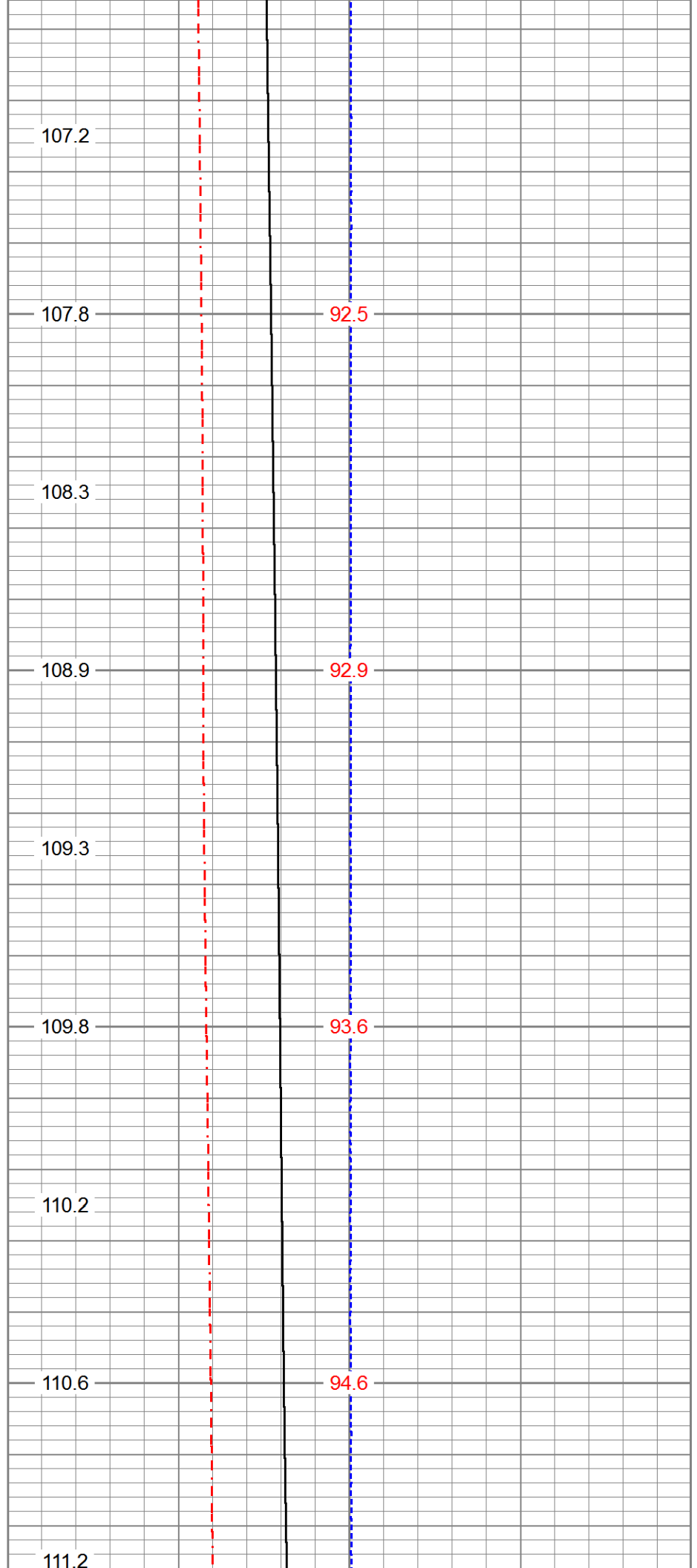
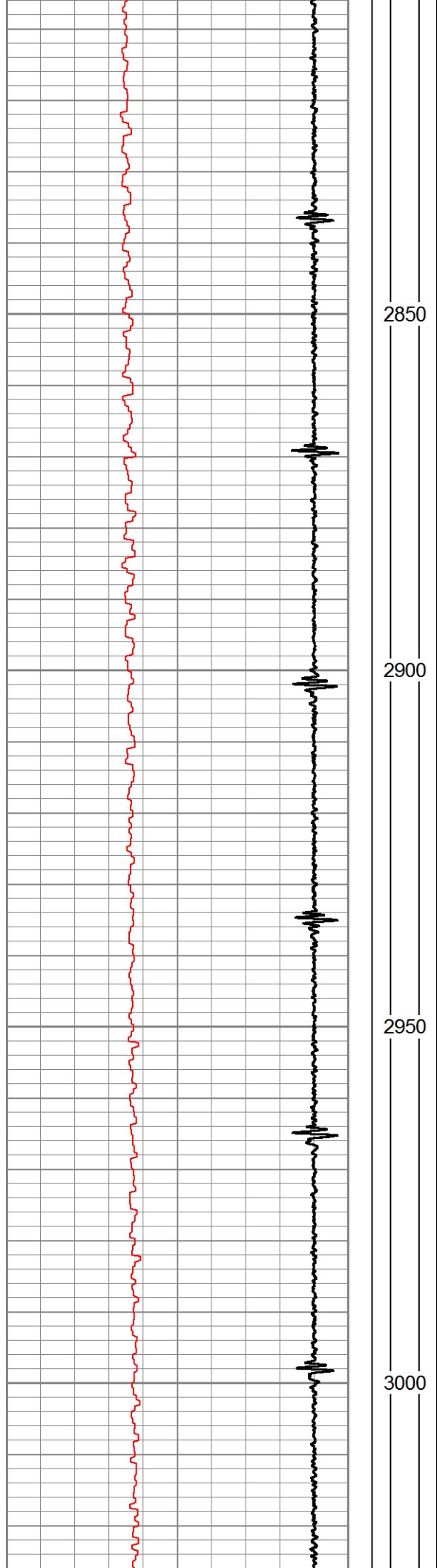


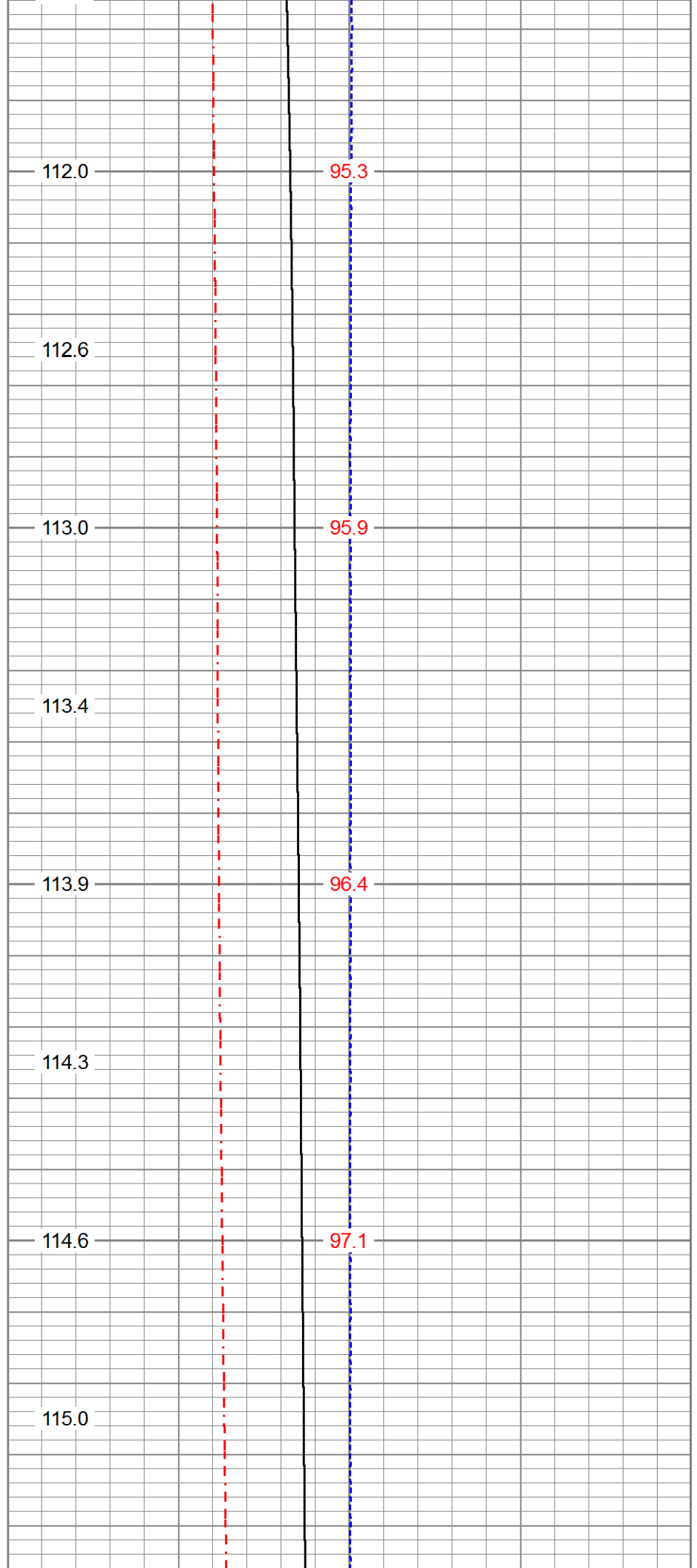
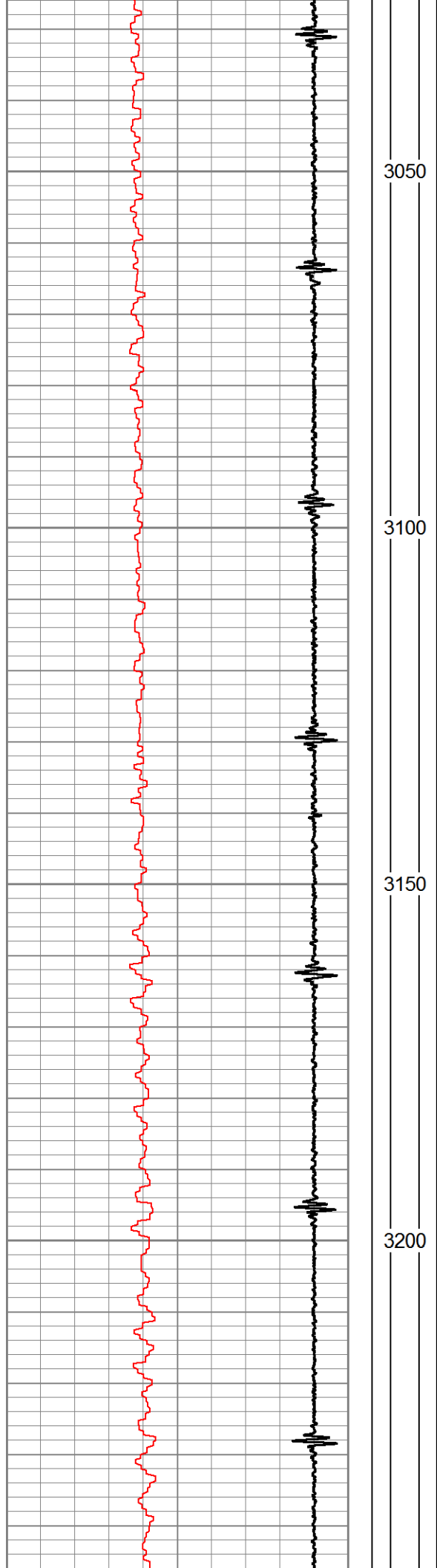


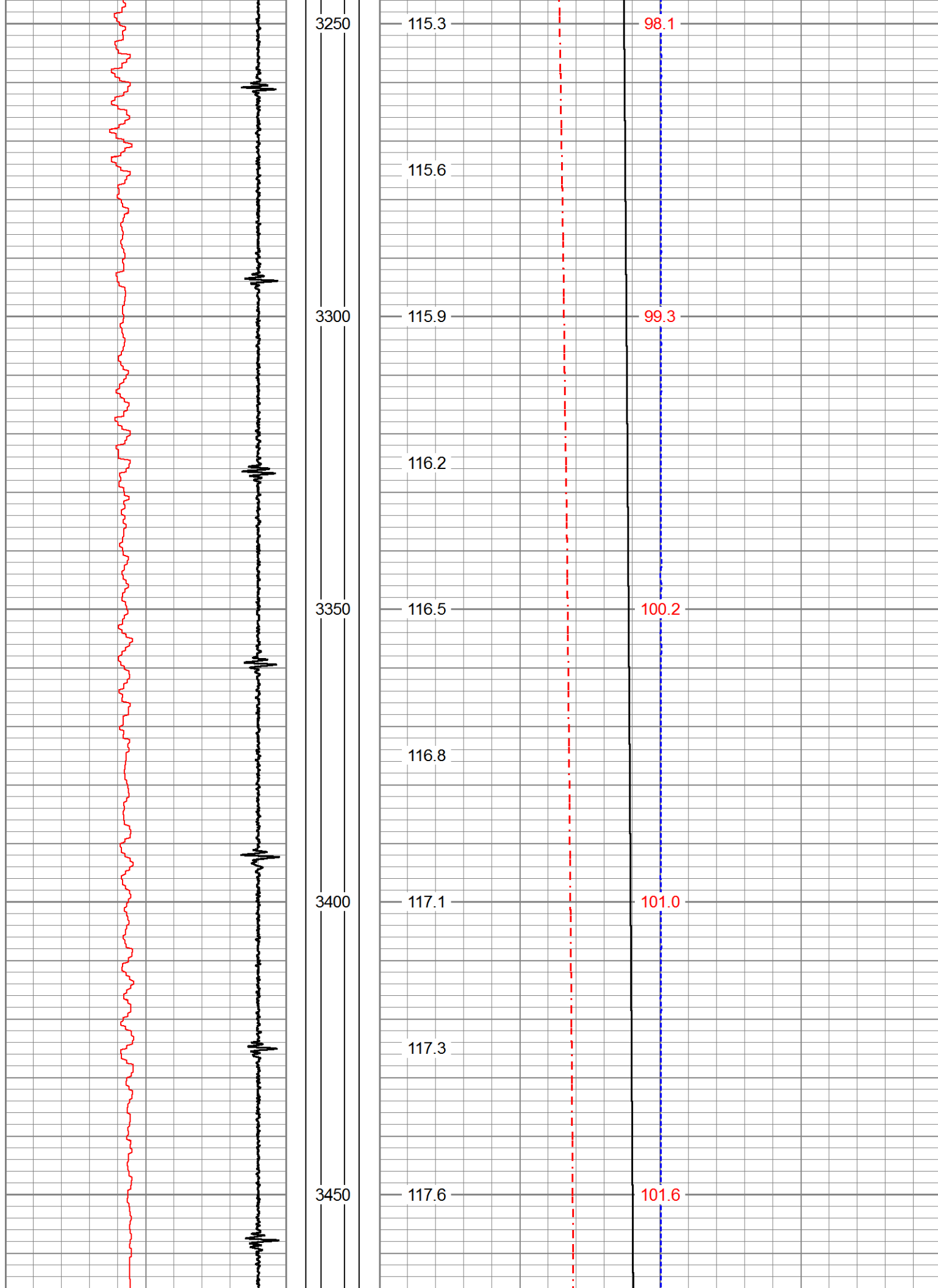


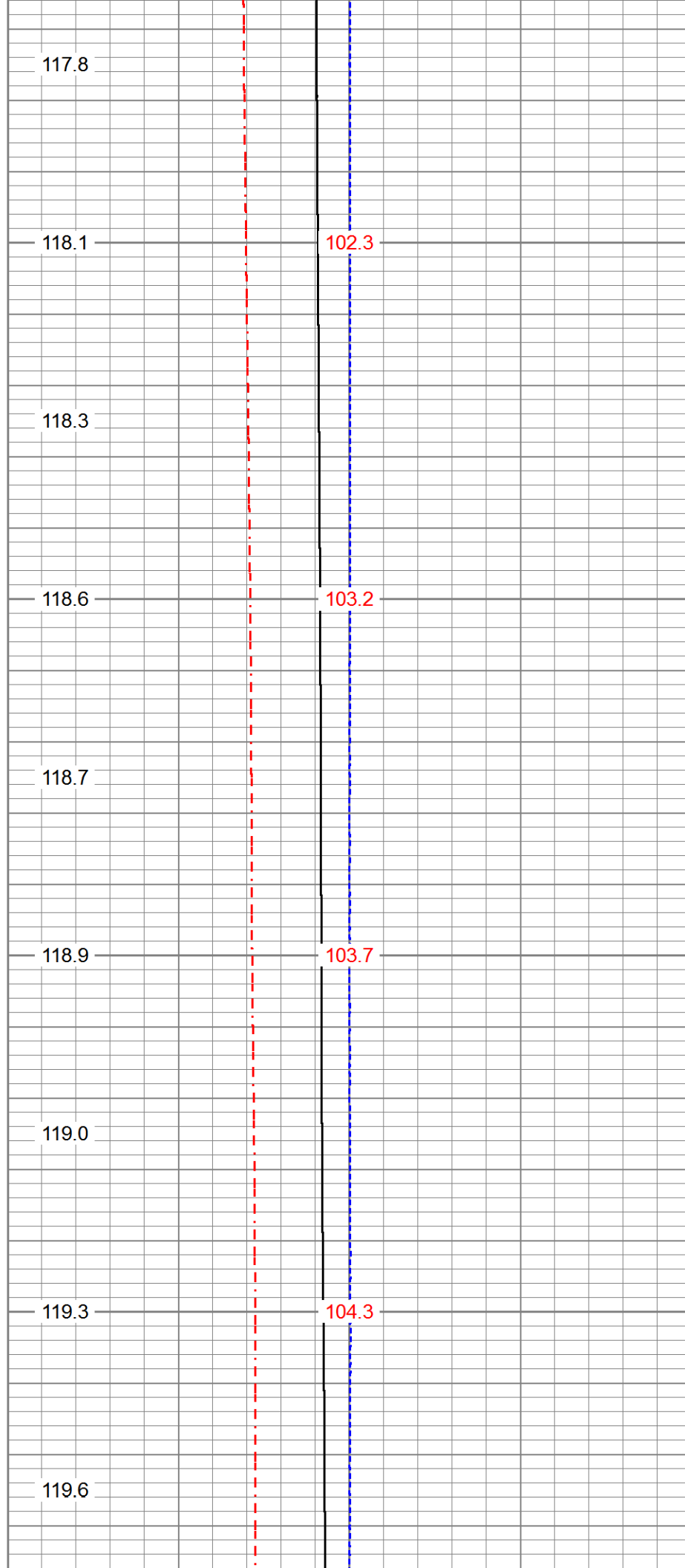
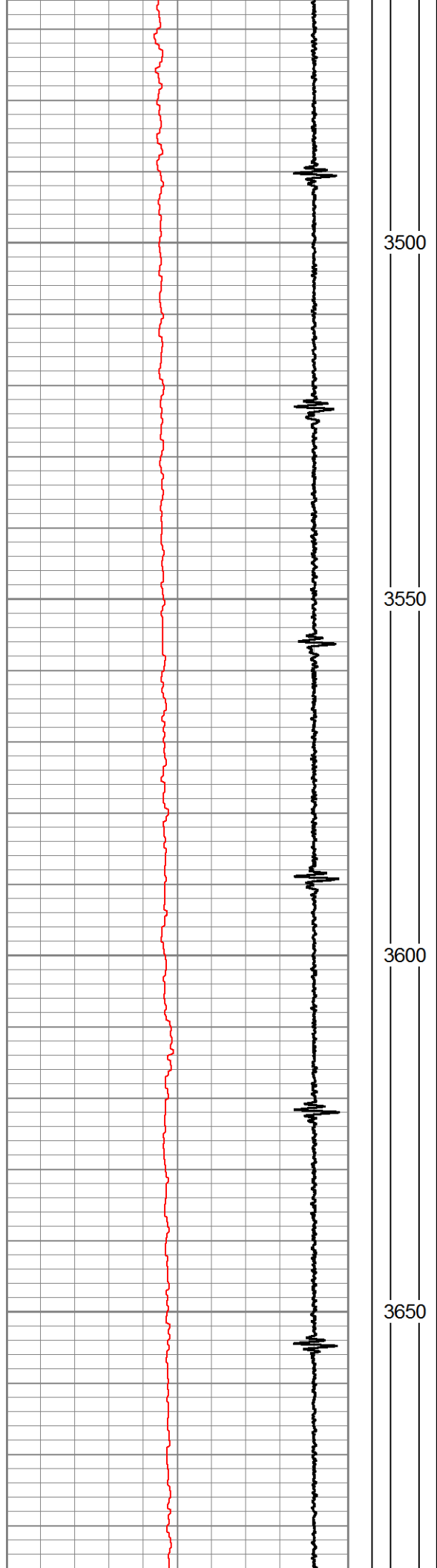


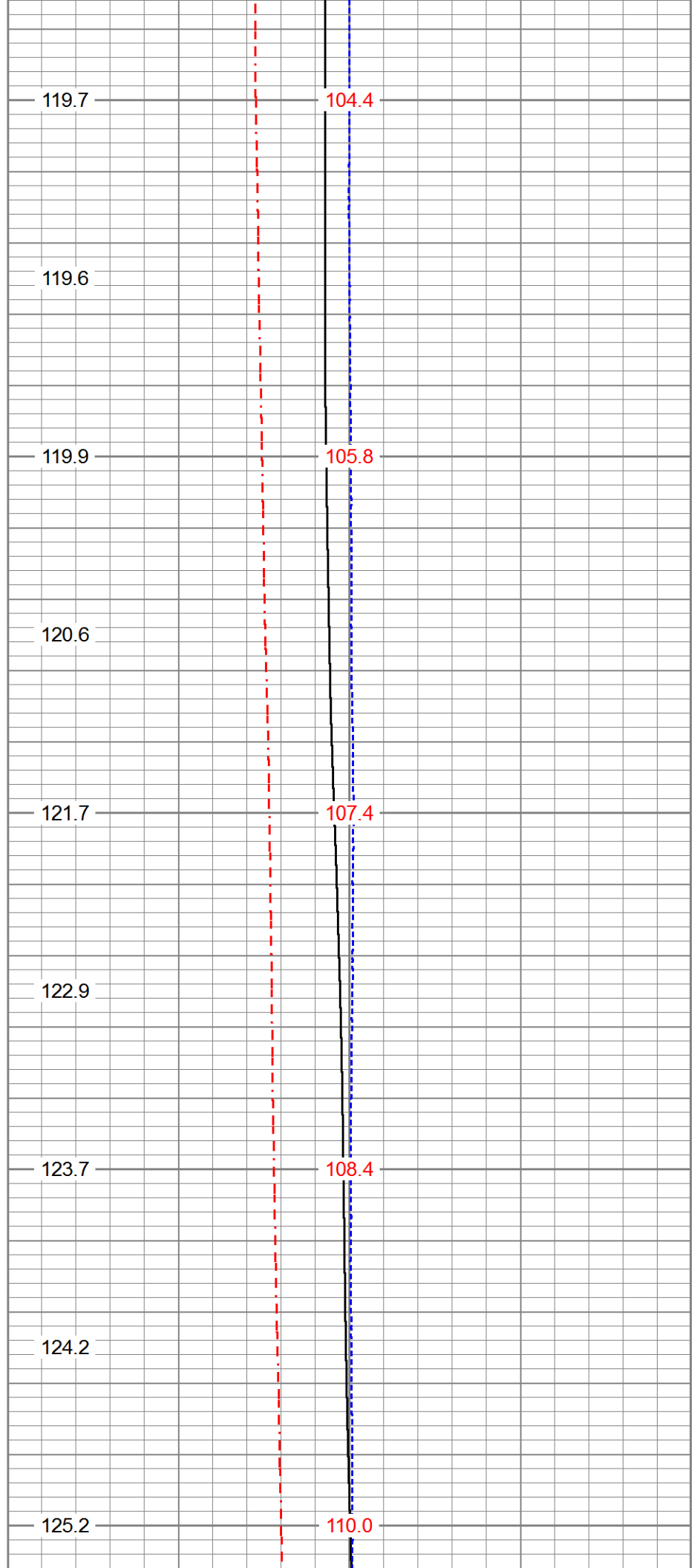
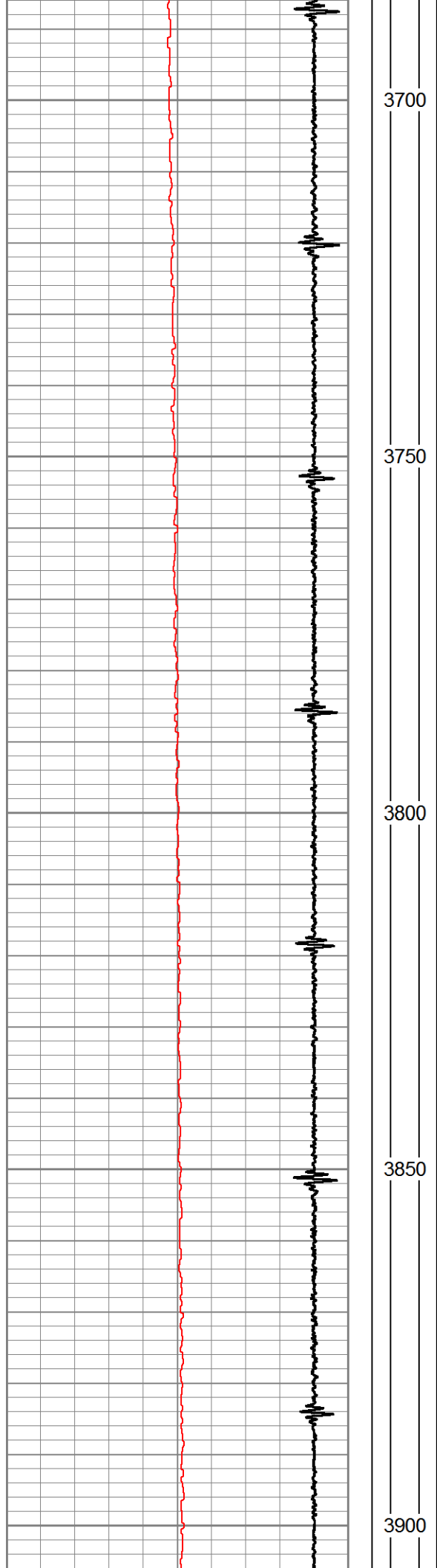


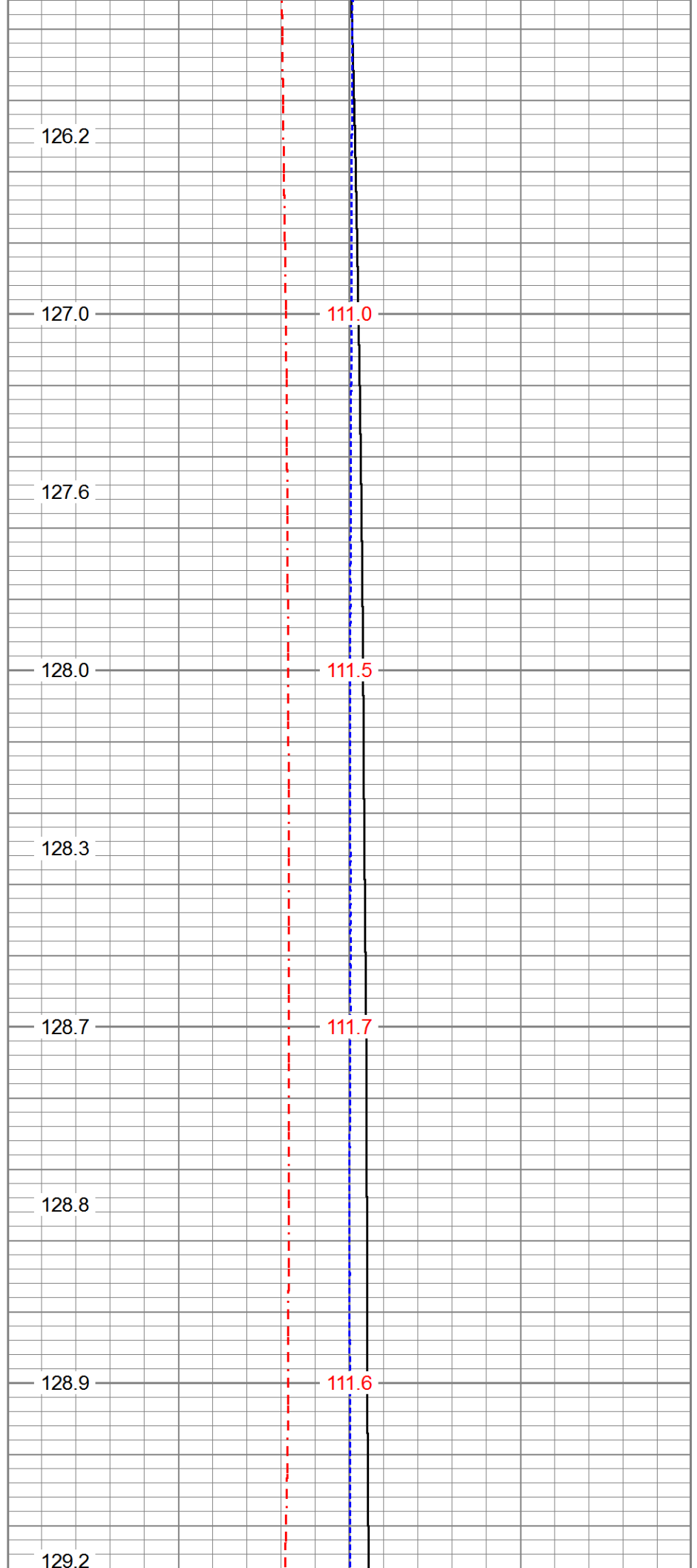
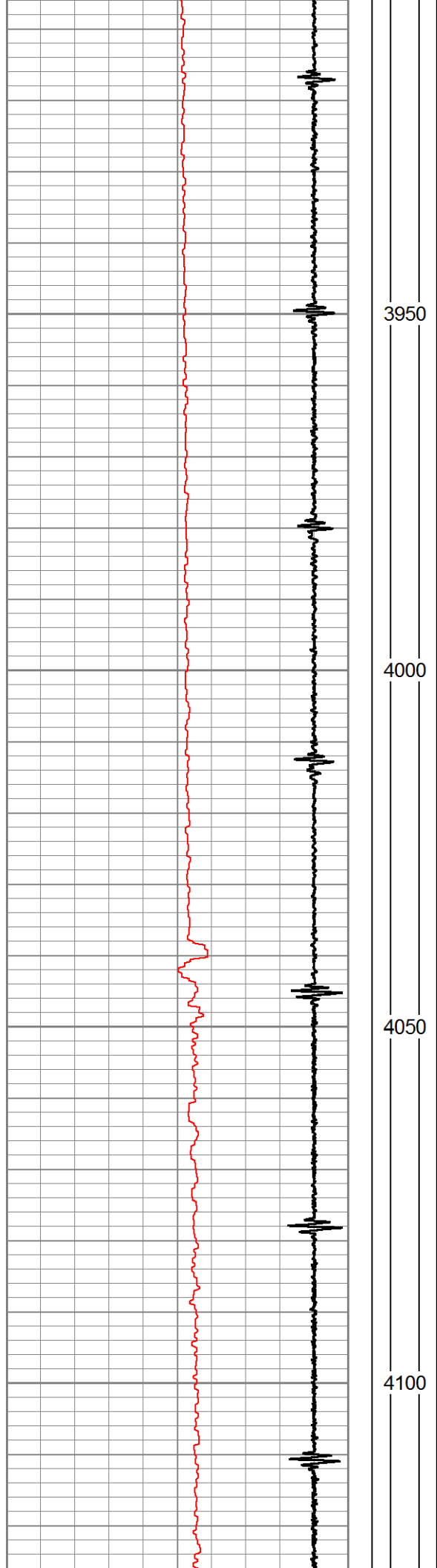


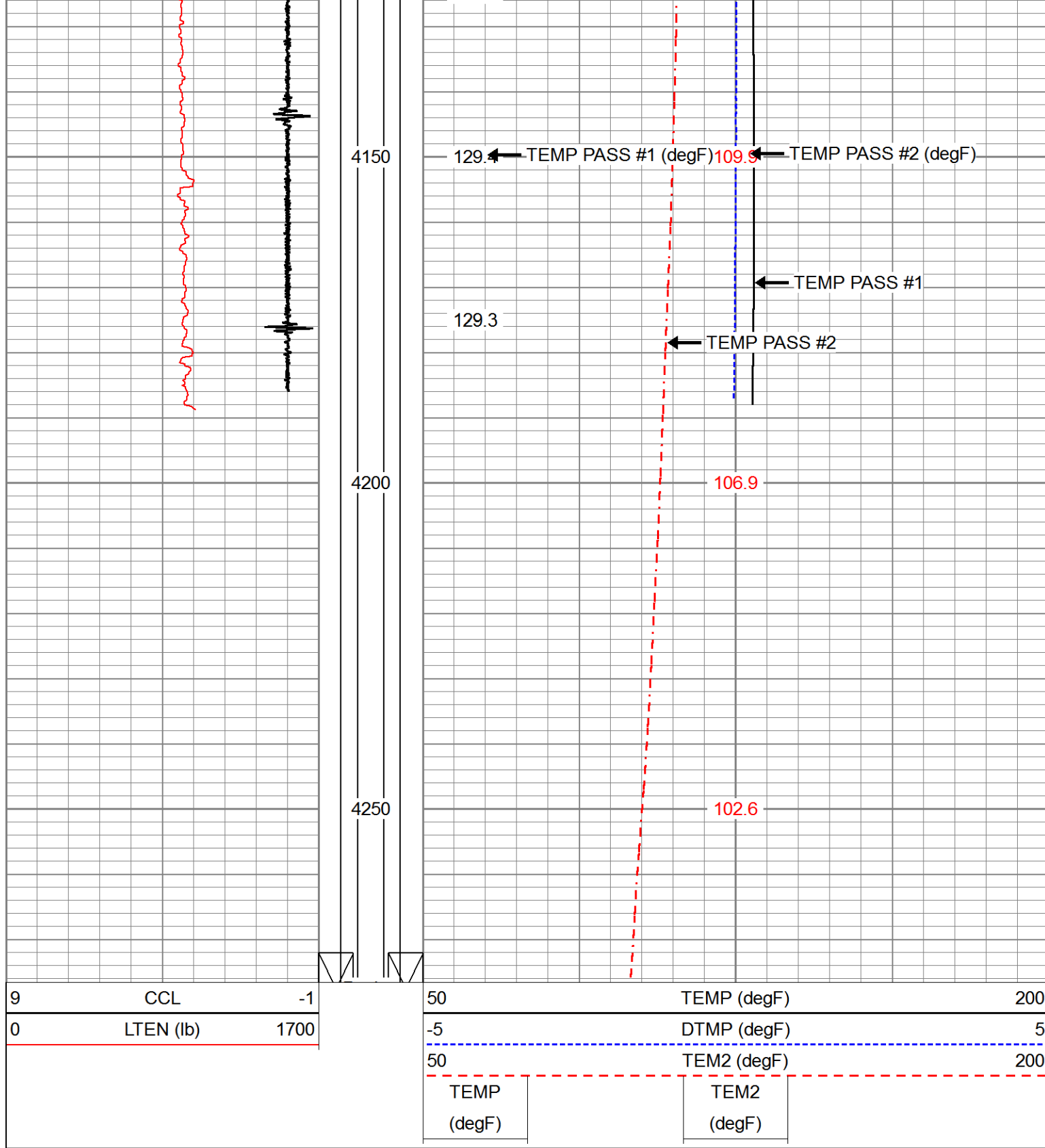




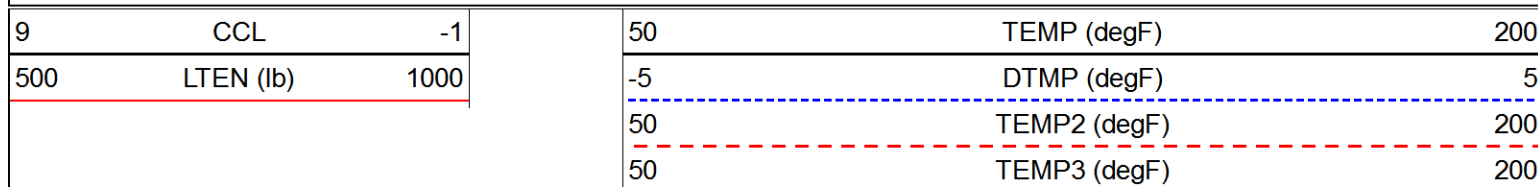


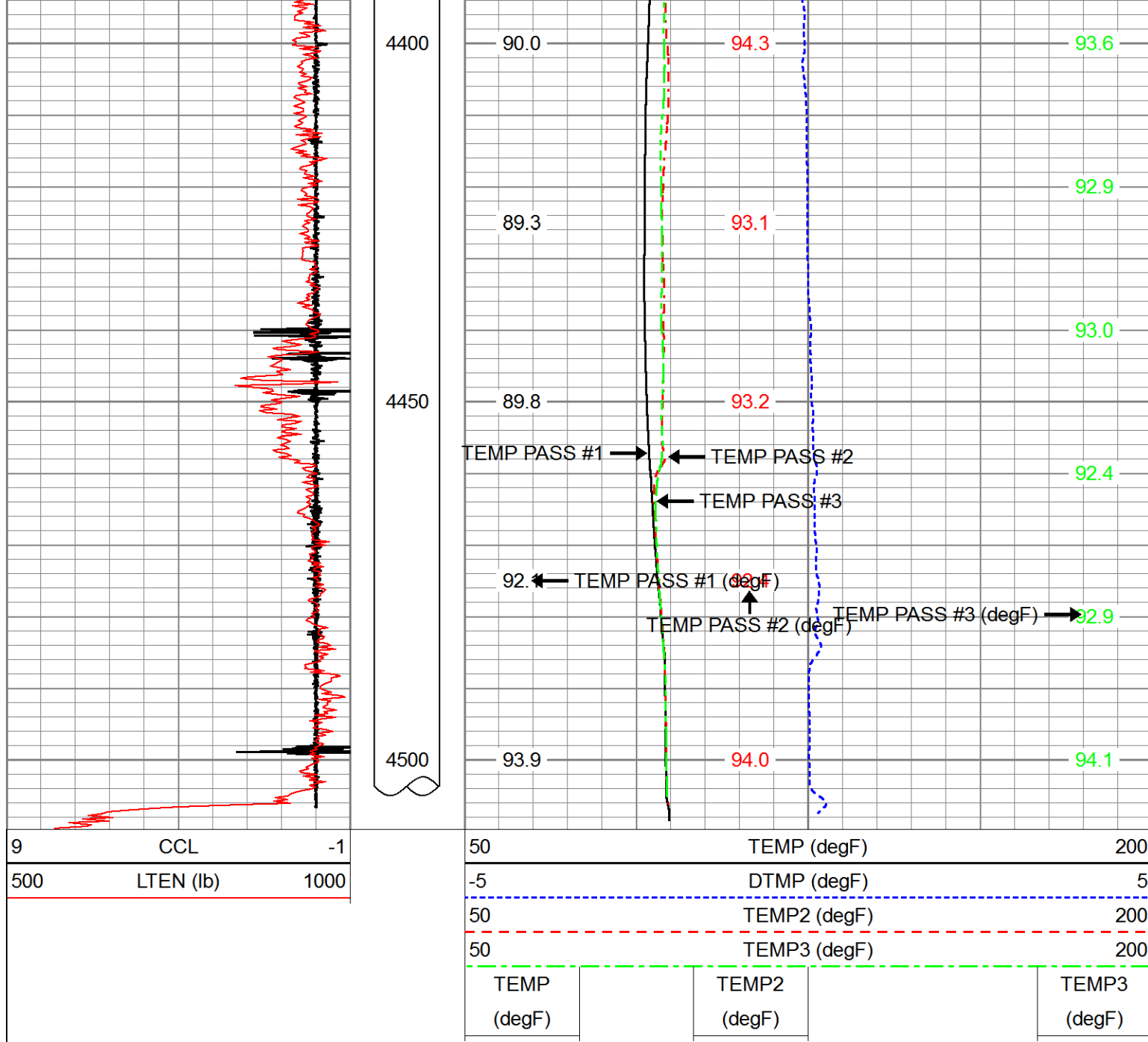






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Presentation Format temp
Dataset Creation Tue Jun 26 13:29:59 2018
Charted by Depth in Feet scaled 1:240





Calibration Report

Database File merrionsunco#1swdtemp.db
 Dataset Pathname pass2.C
 Dataset Creation Tue Jun 26 13:38:22 2018

Temperature Calibration Report

Serial Number: FW1302-005
 Tool Model: Comprobe
 Performed: Thu Aug 25 10:11:23 2016

Point #	Reading		Reference	
1	723.97	cps	70.00	degF
2	1134.76	cps	118.00	degF
3	1726.70	cps	174.00	degF
4		cps		degF
5		cps		degF
6		cps		degF
7		cps		degF
8		cps		degF

9
10

cps
cps

degF
degF

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, June 21, 2018 2:08 PM
To: Ryan Davis
Cc: Sanchez, Daniel J., EMNRD; Griswold, Jim, EMNRD; Goetze, Phillip, EMNRD; Jeff Davis; Philana Thompson; Ryan Merrion; Shacie Murray; Griswold, Jim, EMNRD; Perrin, Charlie, EMNRD
Subject: RE: Agua Moss Sunco Well Mtg.(UICI-5) C-103 Form Dated by Operator 6/14/2018
Attachments: OCD C-103 Temp Survey Approval with Conditions 6-21-2018.pdf

Ryan, et al.:

Good afternoon.

Please find attached the New Mexico Oil Conservation Division (OCD) approval with stipulated condition to your message with attached C-103 submittal below.

OCD needs to review the temperature survey and respond to the operator in advance of any operation of the well. OCD will work to expedite the results of the temperature survey and recommend that you transmit the results via Acrobat Reader™ to assist in this effort.

OCD- Santa Fe will process the form into the OCD API record and UICI-5 record.

Please contact me if you have questions. Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us

“Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?” (To see how, go to: <http://www.emnrd.state.nm.us/OCD> and see “Publications”)

From: Ryan Davis <rdavis@merrion.bz>
Sent: Tuesday, June 19, 2018 10:23 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Sanchez, Daniel J., EMNRD <daniel.sanchez@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>; Jeff Davis <jdaguamoss@hotmail.com>; Philana Thompson <pthompson@merrion.bz>; Ryan Merrion <ryan@merrion.bz>; Shacie Murray <shacie@merrion.bz>
Subject: Re: Agua Moss Sunco Well Mtg.

Carl,

I received the calendar invite for a meeting on the Sunco Facility but it appears to be in the past. Did you intend the date to be 06/21?

While you were out of the office the Agua Moss folks (Jeff Davis, Ryan Merrion, Philana Thompson, Shacie Murrery and myself) had a conference call with Daniel Sanchez, Jim Griswold and Phillip Goetze on June 13th. Based on the discussion on the phone, we submitted an NOI to the district office with a copy sent to Santa Fe as well. Attached is the NOI submitted. If you would like to discuss the NOI we would be glad to do so.

Thanks,

Ryan Davis

Operations Manager



(W) 505-215-3292

On Tue, Jun 19, 2018 at 9:54 AM, Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us> wrote:

Tentative Date and Time for Telephone Communication Call.

[Link to OCD Admin. Record \(UICI-5\)](#)

See MIT Variation from Ryan Davis (Merrion Oil)

Tentative Agenda

1. Introd.
2. Well Discussion (Discussion of Well Diagram, Problem and Trouble Shooting)
3. Ryan Davis MIT Variant Test for Disposal Well to Allow Continued Operation of Commercial Class I (NH)
Disposal Well San Juan Co.
4. Well Issues
5. Path Forward
6. Miscel.
7. End

Submit 1 Copy To Appropriate District
Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-045-28653
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other SWD Class I <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator Agua Moss, LLC		6. State Oil & Gas Lease No.
3. Address of Operator PO Box 600 Farmington, NM 87499		7. Lease Name or Unit Agreement Name Sunco Disposal
4. Well Location Unit Letter <u>E</u> : <u>1595</u> feet from the <u>North</u> line and <u>1005</u> feet from the <u>West</u> line Section <u>2</u> Township <u>29N</u> Range <u>12W</u> NMPM County <u>San Juan</u>		8. Well Number 1
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 5859' GL		9. OGRID Number 247130
		10. Pool name or Wildcat SWD MV

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☒ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Agua Moss LLC proposes to conduct a temperature survey as an additional verification of mechanical integrity on the Sunco #1. The NMOCD will be notified 24 hrs prior to executing the following procedure:

1. Rig up slickline and retrieve the tubing plug set at 4,278' KB.
2. Rig down slickline
3. Rig up wireline
4. Run a temperature survey down to the Pt. Lookout injection interval and log from 4,460' KB to surface
5. Inject a minimum of 100 bbls down the well until annulus pressure stabilizes indicating temperature stabilization
6. Run another temperature survey from 4,460' KB to surface
7. Rig down wireline
8. Using the results from the temperature surveys, identify any anomalies outside the normal temperature gradient and demonstrate that injection is contained within the Pt. Lookout formation
9. Provide these temperature survey results to the NMOCD.
10. Once test results are verified, return the well to injection

During normal disposal operations, casing pressure will be monitored to verify that the loss of annulus fluid is not occurring. A minimum casing pressure of 100 psig will also be maintained as a precautionary measure. Agua Moss also will perform monthly annulus pressure tests at 1000 psig to verify sustained annulus integrity. Disposal operations will discontinue if there is a substantial variation from the normal casing pressure trend or in the event that casing pressure falls below 100 psig.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE

Philana Thompson

TITLE Regulatory Compliance Specialist

DATE 6/14/2018

Type or print name Philana Thompson

E-mail address: pthompson@merrion.bz

PHONE: 505-486-1171

For State Use Only

APPROVED BY:

Andy Chang

TITLE Environmental Engineer

DATE

6/21/2018

Conditions of Approval (if any):

- provide temperature survey results to OCD-SF with operator's conclusion(s) and any recommendations based on survey results for OCD-SF approval, approval w/ conditions or disapproval.

District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.
30-045-28653

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

Sunco Disposal

8. Well Number
1

9. OGRID Number
247130

10. Pool name or Wildcat
SWD MV

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD Class I ☐

2. Name of Operator
Agua Moss, LLC

3. Address of Operator
PO Box 600 Farmington, NM 87499

4. Well Location

Unit Letter E: 1595 feet from the North line and 1005 feet from the West line
Section 2 Township 29N Range 12W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5859' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☒ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Agua Moss LLC proposes to conduct a temperature survey as an additional verification of mechanical integrity on the Sunco #1. The NMOCD will be notified 24 hrs prior to executing the following procedure:

1. Rig up slickline and retrieve the tubing plug set at 4,278' KB.
2. Rig down slickline
3. Rig up wireline
4. Run a temperature survey down to the Pt. Lookout injection interval and log from 4,460' KB to surface
5. Inject a minimum of 100 bbls down the well until annulus pressure stabilizes indicating temperature stabilization
6. Run another temperature survey from 4,460' KB to surface
7. Rig down wireline
8. Using the results from the temperature surveys, identify any anomalies outside the normal temperature gradient and demonstrate that injection is contained within the Pt. Lookout formation
9. Provide these temperature survey results to the NMOCD.
10. Once test results are verified, return the well to injection

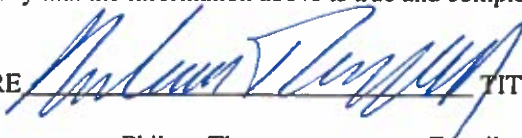
During normal disposal operations, casing pressure will be monitored to verify that the loss of annulus fluid is not occurring. A minimum casing pressure of 100 psig will also be maintained as a precautionary measure. Agua Moss also will perform monthly annulus pressure tests at 1000 psig to verify sustained annulus integrity. Disposal operations will discontinue if there is a substantial variation from the normal casing pressure trend or in the event that casing pressure falls below 100 psig.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE



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DATE 6/14/2018

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E-mail address: pthompson@merrion.bz

PHONE: 505-486-1171

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APPROVED BY:

TITLE

DATE

Conditions of Approval (if any):