NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
5816 Corporate Ave., Suite 100 Cypress, CA 90630-4731
Phone:(714) 816-6847 Fax:(714) 816-6853

No. T **116-0946**

REPORT ON OPERATIONS

WATER FLOOD PROJECT
RANGER ZONE, FAULT BLOCK I

Ms. Madelyn (Joyce) Holtzclaw
E & B Natural Resources Management Corporation (E0100)
1600 Norris Rd.
Bakersfield, CA 93308

Cypress, California
August 01, 2016

Your operations at well **"Wnf-I" 11**, A.P.I. No. **037-22603**, Sec. **19**, T. **04S**, R. **13W**, **SB** B.&M., **Wilmington** field, in **Los Angeles** County, were witnessed on **7/19/2016**, by **Cary Wicker**, a representative of the supervisor.

The operations were performed for the purpose of **inspecting the blowout prevention equipment and installation**.

DECISION: **APPROVED**

EXPIRED _____
CANCELLED _____
MAILED _____
EMAILED 11-7-16 TL

CWK/CLC

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By Callie L. Cullum
For Daniel J. Dudak, *District Deputy*

API No. 037-22603 DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES T 116-0946 ✓ 8/1/16 CJC

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator E and B Natural Resources Well "Wnf-1" 11 Sec. 19 T. 04S R. 13W
Field Wilmington County Los Angeles Spud Date

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	7-19-16	Gary Wicker	(0945 to 1000)	Dave Potter	Well Site Manager
2nd			(to)		

Contractor Excalibur Rig # 909 Contractor's Rep. & Title Gary Bullard Rig Supervisor
Casing record of well:

OPERATION: Testing (inspecting) the blowout prevention equipment and installation. Critical well? Y ☒ N ☐
DECISION: The blowout prevention equipment and its installation on the 7 " casing are approved.

Proposed Well Opns: Rework . MACP: psi
Hole size: " fr. ' to ', " to ' & " to '

REQUIRED BOPE CLASS: 112M

CASING RECORD OF BOPE ANCHOR STRING					Cement Details	Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at		Casing	Annulus

BOP STACK							TEST DATA						
API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul	Gal. to Close	Recov. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
RD	2-7/8"	Townsend	81	7	3M		1						
RD	CSO	Townsend	81	7	3M		1						

TOTAL: 2

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure psi
Total Rated Pump Output gpm Fluid Level
Distance from Well Bore 25 ft. ok

	Accum. Manufacturer	Capacity	Precharge
1		gal.	psi
2		gal.	psi

CONTROL STATIONS	Elec.	Hyd.	Pneu
Manifold at accumulator unit			
Remote at Driller's station			
Other: handpump		X	

EMERG. BACKUP SYSTEM			Press.	Wkg.
N_2 Cylinders	1	L= 51 "	2000	5 gal.
Other:	2	L= "		gal.
	3	L= "		gal.
	4	L= "		gal.
	5	L= "		gal.
	6	L= "		gal.
		TOTAL:		5 gal

HOLE FLUID MONITORING EQUIPMENT	Alarm Type Audible	Visual	Class
Calibrated Mud Pit			A
Pit Level Indicator			
Pump Stroke Counter			B
Pit Level Recorder			
Flow Sensor			C
Mud Totalizer			
Calibrated Trip Tank			
Other:			

AUXILIARY EQUIPMENT

	No.	Size (in.)	Rated Press.	Connections Weld	Flange	Thread	Test Press.
Fill-up Line							
Kill Line		2	3M			X	
Control Valve(s)	2						
Check Valve(s)							
Aux. Pump Connect.							
Choke Line							
Control Valve(s)							
Pressure Gauge							
Adjustable Choke(s)							
Bleed Line							
Upper Kelly Cock							
Lower Kelly Cock							
Standpipe Valve							
Standpipe Press.							
Pipe Safety Valve		2-7/8"	3M				
Internal Preventer							

Hole Fluid Type	Weight	Storage Pits (Type & Size)
lease water		80 bbls tank

REMARKS AND DEFICIENCIES:

OGD9 (3/98)

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
5816 Corporate Ave., Suite 100 Cypress, CA 90630 - 4731

No. P 116-0136

Old	New
849	849
FIELD CODE	
03	03
AREA CODE	
20	20
POOL CODE	

PERMIT TO CONDUCT WELL OPERATIONS

Waterflood
CRITICAL WELL
RANGER ZONE, FAULT BLOCK I

Cypress, California
June 21, 2016

Ms. Madelyn (Joyce) Holtzclaw, Agent
E & B Natural Resources Management Corporation (E0100)
1600 Norris Rd.
Bakersfield, CA 93308

EXPIRED
CANCELLED
MAILED
EMAILED 6-22-16 TL

Your proposal to **Rework (install 5" liner)** well **"Wnf-I" 11**, A.P.I. No. **037-22603**, Section **19**, T. **04S**, R. **13W**, **SB** B. & M. (Lat: **33.804858** Long: **-118.275122** Datum: **NAD 83**), **Wilmington** field, **Fault Block I** area, **Ranger** pool, **Los Angeles** County, dated **6/9/2016**, received **6/10/2016** has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment (BOPE), as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements:
   a. Class **II2M,** with hydraulic controls, on the **9-7/8"** casing. All casing annuli control valves must meet, or exceed, the same minimum pressure rating as the BOPE. The pipe safety valve must be suitable for all pipes in use, including casing.
   b. A **2M lubricator** for **wireline** operations.
2. This well is designated a CRITICAL WELL and as such, the Notice to Operators, dated May 21, 2001, specifying additional BOPE requirements for critical wells shall be in effect (attached).
3. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet. A practice drill may be required at the time of the test/inspection.
4. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
5. Prior to commencing injection, and every **5** years thereafter, a Standard Annular Pressure Test (SAPT) is conducted to demonstrate the mechanical integrity of the **9-7/8"** casing.
6. Within **30** days of commencing injection, and every **24** months thereafter, this Division shall be furnished with an injection survey that demonstrates the confinement of the injected fluid to the approved zone of injection, and the mechanical integrity of the injection tubing and packer.
7. Under no circumstances shall the injection gradient exceed **0.90** psi/ft as measured at the top perforation.

(Continued on Page 2)

Blanket Bond
UIC Project No. 84903008
cc: EDP

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

Engineer Callie L. Cullum
Office (714) 816-6847

By
For Daniel J. Dudak, *District Deputy*

CC/cc

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended. Issuance of this permit does not affect the Operator's responsibility to comply with other applicable state, federal, and local laws, regulations, and ordinances.

OG111 (revised 6/2011)

8. In all other respects, the operations are to be conducted in accordance with provisions outlined in the **Project Approval Letter**, dated **June 24, 1983**, with updates through **May 27, 2001**, approving the project.
9. No program changes are made without prior Division approval.
10. **THIS DIVISION SHALL BE NOTIFIED TO:**
    a. Inspect the installed BOPE prior to commencing **downhole** operations.
    b. Witness a SAPT of the **9-7/8"** casing prior to commencing injection and every **5** years thereafter.
    c. Witness the running of an injection survey within **30** days of commencing injection, and every **24** months thereafter.

NOTE:

1. All depths are based on well KB, which is 50.6 feet above sea level.
2. Hydrogen sulfide gas (H_2S) is known to be present in this area, adequate safety precautions shall be taken prior to and during well operations.
3. Upon completion of the proposed work, a Well Summary Report (form OG100), a History of Oil or Gas Well (form OG103), and copies of all logs, tests, and surveys shall be submitted to this office.
4. No operation shall be undertaken or continued that will contaminate or otherwise damage the environment.

Notice to Los Angeles Basin Operators and Contractors

Class II BOPE Requirements for Critical Wells

May 21, 2001

In addition to the Class II BOPE requirements set forth in Division of Oil, Gas and Geothermal Resources publication No. M07, the following are also required for critical wells in the Los Angeles Basin:

(1) Any and all control lines common to the BOPE and installed within 25 feet of the well bore must be shielded properly and insulated so the temperature rating is equal to or greater than 450 degrees Fahrenheit.

(2) Separate controls must be connected to each preventer in the BOPE stack. All control stations must be capable of providing complete opening and closure of each preventer in the BOPE stack.

(3) A minimum of one control station must be located at least 25 feet from the well bore.

(4) An emergency backup system must be installed that utilizes an independent, explosion-safe source of actuating energy. The source of energy and all controlling mechanisms associated with the backup system must be located at least 25 feet from the well bore, and in close proximity to the control station described in (3) above.

(5) An access line of 2-inch minimum outside diameter must be installed below the preventer(s). In addition to the control valve installed at the wellhead, the access line must have a minimum of one control valve located at least 10 feet outside of the cellar. The valve outside of the cellar will be the primary control valve for well work operations. The part of the access line located between the well bore and the control valve outside of the well cellar must be shielded properly and insulated so the temperature rating is equal to or greater than 450 degrees Fahrenheit.

Definition of a critical well

As defined in the California Code of Regulations, Title 14, Division 2, Chapter 4, Section 1720(a), "critical well" means a well within:

(1) 300 feet of the following:
- (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
- (B) Any airport runway.

(2) 100 feet of the following:
- (A) Any dedicated public street, highway, or nearest rail of an operating railway that is in general use;
- (B) Any navigable body of water or watercourse perennially covered by water;
- (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground, or any other area of periodic high-density population; or
- (D) Any officially recognized wildlife preserve.

Exceptions or additions to this definition may be established by the supervisor upon his or her own judgment or upon written request of an operator. This written request shall contain justification for such an exception.

The effective date of this Notice is July 31, 2001.

R. K. Baker
District Deputy

P#116-0136

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

FOR DIVISION USE ONLY			
Bond	Forms		
	OGD114	OGD121	
BB	6/11/16	6/10/16	TL

S/CC

NOTICE OF INTENTION TO REWORK / REDRILL WELL

Detailed instructions can be found at: www.conservation.ca.gov/dog/

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework ☒ / redrill ☐ (Check one) well WNF-I 11, API No. 04-037-22603,

Sec. 19, T. 4S, R. 13W, SB B.&M., Wilmington Field, Los Angeles County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)

[wellbore schematic attached]
16" conductor @ 40' cemented w/ TOC @ surface
10-3/4", 32.8#, H40 @ 596' cemented w/ 88 bbls class G TOC @ surface
7", 23#, K55 casing @ 3807' cemented w/ 78.5 bbls class G TOC @ 1390'
5", 18#, N80 liner @ 3727'-3925 slotted 40 mesh @ 3813'-3919' gravel packed w/ 20/40 sand

The total depth is: 3925 feet. The effective depth is: 3925 feet.

Present completion zone(s): Ranger (Name). Anticipated completion zone(s): Ranger (Name).

Present zone pressure: 1600 psi. Anticipated/existing new zone pressure: 1600 psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes☒ No☐

For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency? Yes☐ No☐ If yes, see next page.

The proposed work is as follows: (A complete program is preferred and may be attached.)

[program attached]

If well is to be redrilled or deepened, show proposed coordinates (from surface location) and true vertical depth at total depth: _____ feet _____ (Direction) and _____ feet _____ (Direction) Estimated true vertical depth: _____

Will the Field and/or Area change? Yes☐ No☐ If yes, specify New Field: _____ New Area: _____

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator			
E & B Natural Resources Management Corporation			
Address: 1600 Norris Road		City/State: Bakersfield, CA	Zip Code: 93308
Name of Person Filing Notice: Dan Fouts	Telephone Number: 424.202.1736	Signature: Dan Fouts	Date: 6/9/2016
Individual to contact for technical questions: Dan Fouts	Telephone Number: 424.202.1736	E-Mail Address: dfouts@ebresources.com	

This notice and an indemnity or cash bond must be filed, and approval given, before the workover begins. (See the reverse side for bonding information.) If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

INFORMATION FOR COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 (CEQA)

If an environmental document has been prepared by the lead agency, submit a copy of the ***Notice of Determination*** or ***Notice of Exemption*** with this notice. Please note that a CEQA determination by a local jurisdiction, if required, must be complete, or the Division may not issue a permit.

CRITICAL WELL DEFINITION

As defined in the California Code of Regulations, Title 14, Section 1720 (a), "Critical well" means a well within:

(1) 300 feet of the following:
  (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
  (B) Any airport runway.
(2) 100 feet of the following:
  (A) Any dedicated public street, highway or the nearest rail of an operating railway that is in general use;
  (B) Any navigable body of water or watercourse perennially covered by water;
  (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground or any other area of periodic high-density population; or
  (D) Any officially recognized wildlife preserve.

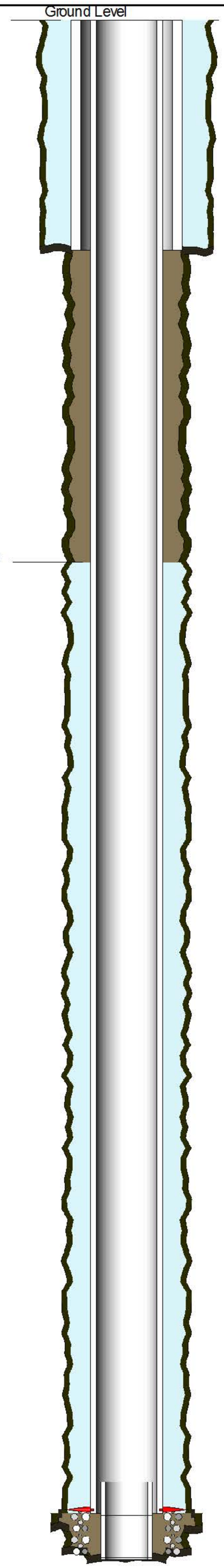
WELL OPERATIONS REQUIRING BONDING

1. Drilling, redrilling, or deepening any well.
2. Milling out or removing a casing or liner.
3. Running and cementing casing or tubing.
4. Running and cementing liners and inner liners.
5. Perforating casing in a previously unperforated interval for production, injection, testing, observation, or cementing purposes.
6. Drilling out any type of permanent plug.
7. Reentering an abandoned well having no bond.

This form may be printed from the DOGGR website at www.conservation.ca.gov/dog/

Operator: E&B Natural Resources Legal name: WNF-I 11 ST/RD No.: 0 Field: Wilmington API No.: 04-037-22603 Spud Date: 2/22/1982 Current Status: ACTIVE Status Date: 6/9/2016	Section: 19 Township: 4 Township: S Range: 13 Range: W Longitude: -118.275 Latitude: 33.805 State/Province: CALIFORNIA County: Los Angeles	Datum: KB Datum Height: 12.0ft KOP: 0ft PBTD: 3,925ft TVD BH: 3,562ft TD: 3,925ft Well bore Type: Injection	

HOLE INFO		CASING DETAILS			CEMENT DETAILS						EQUIPMENT		PERFS / SLOTS		GEO INFO
Size	Top-Btm (ft)	Size	Weight, Grade	Top-Btm (ft)	Type	Class	Vol (bbl)	Yield (ft³/sk)	Top-Btm (ft)	Schematic	Top-Btm	Desc	Top-Btm (ft)	Status, Date	Marker Top (ft)
14.750	12-596				PRIM CMT	CLASS G	88.0	1.18	12-596						
9.875	596-3904	10.750	32.8ppf, H-40	12-596											
					PRIM CMT	CLASS G	78.5		1,390-3,807						
															BFW 2,105
															USDW 2,372
															Tar 3,380
12.000	3,807-3846	7.000	23.0ppf, K-55	12-3,807									3,795-3,796	CLOSED, 3/10/1982	Ranger F 3,812
		5.000	18.0ppf, N-80	3,727-3,813									3,801-3,919	OPEN, 3/17/1982	
6.250	3,904-3925	5.000	18.0ppf, N-80	3,813-3,919											
		5.000	18.0ppf, N-80	3,919-3,925											



E&B Natural Resources
Wilmington Field, WNF-I 11, API: 04-037-22603
Install Scab Liner to Restore Well Integrity and Return to Injection

Purpose:

Restore well integrity by installing and cementing new 5" scab liner on top of existing liner

Contacts:

Dan Fouts: Engineer, 424.202.1736
Dave Potter: Rig Superintendent, 562.228.8349
Tom Stoy: Lease Superintendent, 714.677.7065
Mike Gastelum: Lease Foreman, 424.558.6198

Well Mechanical Record:

Refer to attached well diagram
10-3/4", 32.8#, H40 @ 596' w TOC @ surface
7", 23#, K55 @ 3807' w/ TOC @ 1400'
5", 18#, N80 @ 3727'-3925' slotted 3813'-3919' gravel packed w/ 20/40 sand
PBTD @ 3925'
TD @ 3925'

Geologic Marker Tops:

BFW: 2105'
USDW: 2372'
Tar: 3380'
Ranger F: 3807'
Ranger M: 3870'

Notes:

Record all reasons for down time
Anticipated reservoir pressure: 1600 psi
MASP: 1594 psi
Use lease water for kill fluid
Tripped 7" 23# scraper to TOL (tagged at 3726') on 5/20/2016
Pressure tested 7" casing to 2200 psi from 2300' to surface on 5/24/2016
1600'x 5" 15# K55 liner with 2 sets of 4 per centralizing lugs per joint and TD collars from BPS
Ported liner shoe, two floats, and fluted top from Weatherford
5" Lockset injection packer and jewelry from Weatherford

Procedure:

1. MIRU workover rig and triplex pump. Install and test class II BOPE.
2. POOH 2-7/8" TK70XT coated tubing. Stand back 2100' to re-rerun. Lay down remainder and place thread protectors on tubing.
3. Pick up 2-3/8" work string.
4. RIH and with tubing tail at 3760', dump sand from TD to 3760'.
5. Tag to verify sand depth at 3760'.
6. Pick up 5" liner as follows:
    a. Ported shoe
    b. Float collar
    c. 1 jt of 5" 15# liner

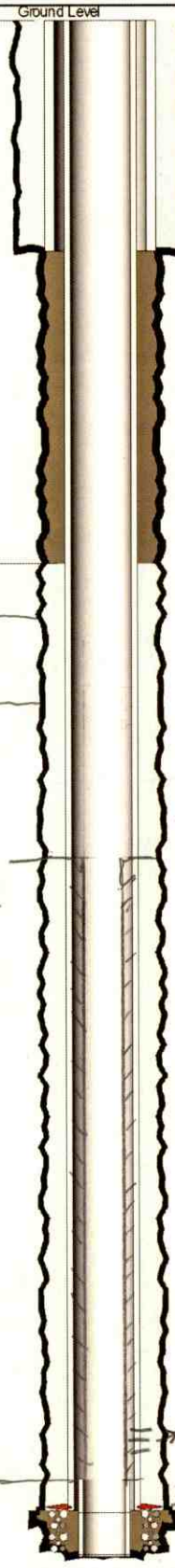
   d. Float collar
   e. Remainder of 5" 15# K55 liner with 2 sets of 4 centralizing lugs and turned down collars
   f. Fluted liner top
7. Set liner on top of existing liner at 3727'.
8. MIRU cementers with 170 cu ft (25% excess) class G cement with 30% silica flour for acid resistance. Test lines to 3000 psi.
   a. Pump 10 bbl spacer ahead.
   b. Pump 150 cu ft cement.
   c. Drop plug.
   d. Displace with 38 bbls water (or until bump plug).
   e. Bump plug.
   f. Bleed back checking floats.
   g. Release running tool.
   h. Reverse out 2 tubing volumes and POOH.
   i. Make up workstring and bit for 7" 23# and RIH as kill string.
9. Let cement set for at least 24 hours and verify surface samples are set before moving on to next step.
10. Clean out cement in 7" casing to top of new 5" liner at 2120' +/-.
11. Make up bit for 5# 15# and clean out cement i to 3700' +/-, approximately 25' above shoe.
12. With bit and BHA in hole, pressure test 5" liner and 7" casing to 1700 psi for 15 minutes.
13. Clean out remaining cement to 3760' +/- and clean out sand to PBTD.
14. Make up Weatherford test packer for 5" 15# casing and:
   a. Verify packer is working with pressure test to 1700 psi with packer set at 2100'.
   b. Pressure test to 1700 psi with packer set at 3700'.
   c. Pressure test liner lap at 3727' to 1700 psi with packer set at 3750'.
15. Lay down work string.
16. RIH injection string as follows (bottom to top):
   a. 2-3/8" bell collar at 3800' +/-
   b. 2-3/8" XN no go nipple
   c. 1 joint 2-3/8" ID/OD coated tubing
   d. 5" x 2-3/8" Weatherford Lockset packer at 3760' +/-
   e. 2-3/8" X nipple
   f. ~ 55 jts 2-3/8" ID coated tbg
   g. 2-3/8" x 2-7/8" crossover
   h. ~ 66 jts 2-7/8" TK70XT ID coated tbg to surface
17. Circulate packer fluid around annulus. Set packer. Land tubing.
18. Notify DOGGR to witness SAPT (pressure test) at least 24 hours prior. Pressure test tubing annulus to 1700 psi for 15'. Chart pressure test. Record DOGGR witness information.
19. Nipple down BOP. Install injection tree. RDMO.
20. Place well on injection at 300 BWPD.
21. Notify DOGGR to witness MIT survey at least 24 hours prior. Run wireline MIT survey within 30 days after well is returned to injection.

Operator: E&B Natural Resources Legal name: WNF-I 11 ST/RD No.: 0 Field: Wilmington API No.: 04-037-22603 Spud Date: 2/22/1982 Current Status: ACTIVE Status Date: 6/9/2016	Section: 19 Township: 4 Township: S Range: 13 Range: W Longitude: -118.275 Latitude: 33.805 State/Province: CALIFORNIA County: Los Angeles	Datum: KB Datum Height: 12.0ft KB elev 50,6' asl KOP: 0ft PBTD: 3,925ft TVD BH: 3,562ft TD: 3,925ft Well bore Type: Injection	

HOLE INFO	CASING DETAILS	CEMENT DETAILS		EQUIPMENT	PERFS / SLOTS	GEO INFO

Size	Top-Btm (ft)	Size	Weight, Grade	Top-Btm (ft)	Type	Class	Vol (bbl)	Yield (ft³/sk)	Top-Btm (ft)
14.750	12-596				PRIM CMT	CLASS G	88.0	1.18	12-596
9.875	596-3904	10.750	32.8ppf, H-40	12-596					
					PRIM CMT	CLASS G	78.5		1,390-3,807

Schematic



Proj 849-03-008
Inj into the Ranger
Holes are in the Tar

email stating well in violation 12/23/15 NO NOV #
NOV # V116-00098
letter sent 5/11/16
MASP is 1594
Per inspection on 8/6/15 rate was 1450

CBC ETOC 1530
6/20/16

mv ETOC 1631'
9/17/14

Plan
5" 15#
TOL 2120+/-

Plan
Cem liner w/150 cf
(need 136cf btw)

ok

BFW 2,105

USDW 2,372

Tar 3,380

Perf 3795' wso

holes 3675'-3700'
+ 3715'-3730'

Fixed on original

3727'

Plan
Temp BP
3760'-3925'

Size	Top-Btm (ft)	Size	Weight, Grade	Top-Btm (ft)
12.000	3,807-3846	7.000	23.0ppf, K-55	12-3,807
		5.000	18.0ppf, N-80	3,727-3,813
6.250	3,904-3925	5.000	18.0ppf, N-80	3,813-3,919
		5.000	18.0ppf, N-80	3,919-3,925

Top-Btm	Desc Top-Btm (ft)	Status, Date
	3,795-3,796	CLOSED, 3/10/1982
	3,801-3,919	OPEN, 3/17/1982

Marker Top (ft)
3807
Ranger F 3,812

Schlumberger

Company: E&B Natural Resources

Well: WNF-I 11

Field: Wilmington

County: Los Angeles State: California

County: Los Angeles
Field: Wilmington
Location: N/A
Well: WNF-I 11
Company: E&B Natural Resources

Ultrasonic Imager

Gamma Ray - CCL

7" 23# casing

Location:			
N/A		Elev.: K.B.	12.00 ft
		G.L.	0.00 ft
		D.F.	
Permanent Datum:	Ground Level	Elev.:	0.00 ft
Log Measured From:	Kelly Bushing	12.00 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	Section:	Township:	Range:
04-037-22603	19	4S	13W

Logging Date		22-May-2016	
Run Number		One	
Depth Driller		3727.00 ft	
Schlumberger Depth		3717.00 ft	
Bottom Log Interval		3717.00 ft	
Top Log Interval		34.00 ft	
Casing Fluid Type		Water	
Salinity			
Density		8.4 lbm/gal	
Fluid Level		34.00 ft	
BIT/CASING/TUBING STRING			
Bit Size		9.88 in	
From		596.00 ft	
To		3904.00 ft	
Casing/Tubing Size		7 in	
Weight		23 lbm/ft	
Grade		K55	
From		0.00 ft	
To		3807.00 ft	
Max Recorded Temperatures		108.24 degF	
Logger on Bottom	Time	23-May-2016 10:18:00	
Unit Number	Location:	2222 Bakersfield	
Recorded By		A. O'Neill / J. Lopez	
Witnessed By		Dave Potter	

Disclaimer

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11.1 Integration Summary
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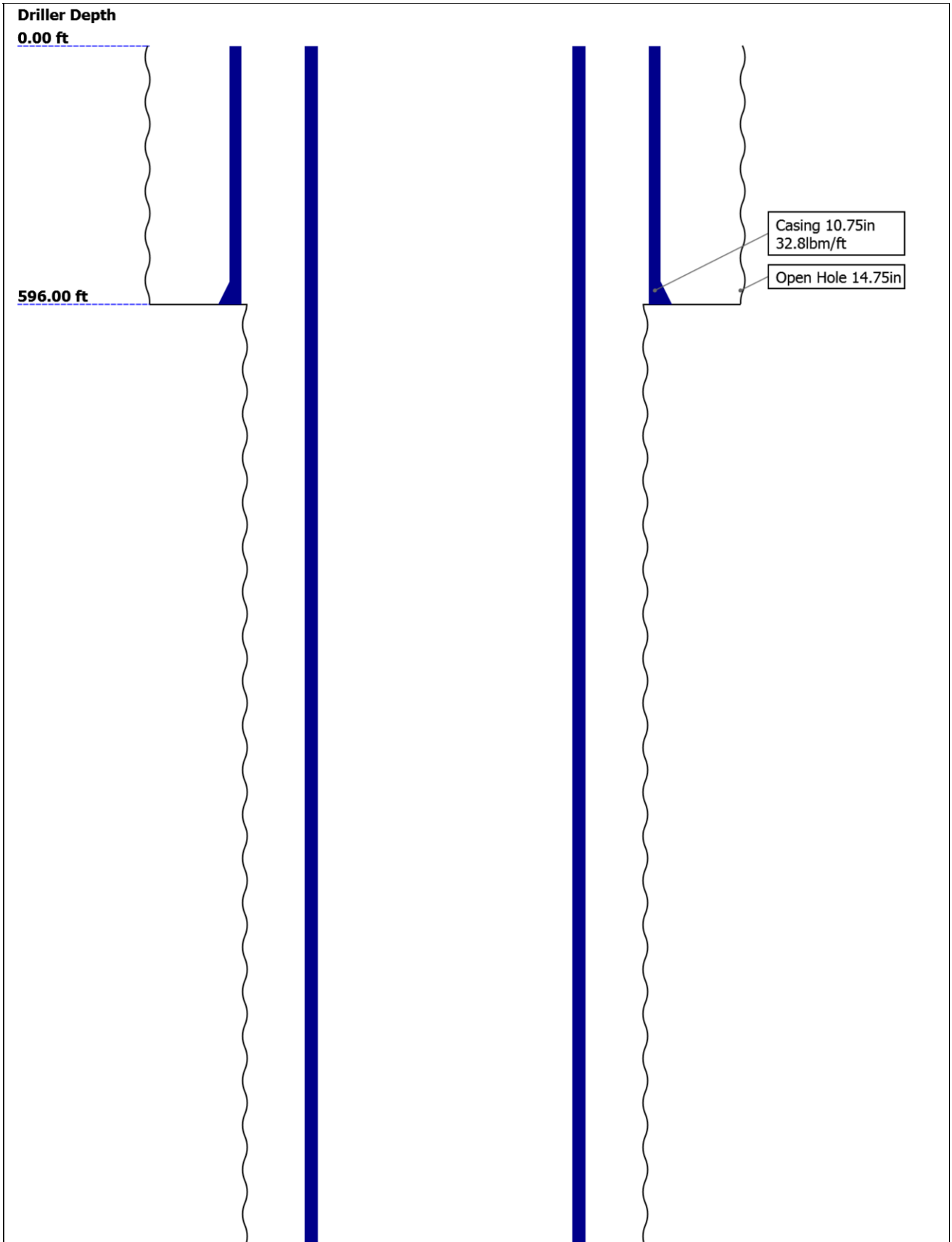
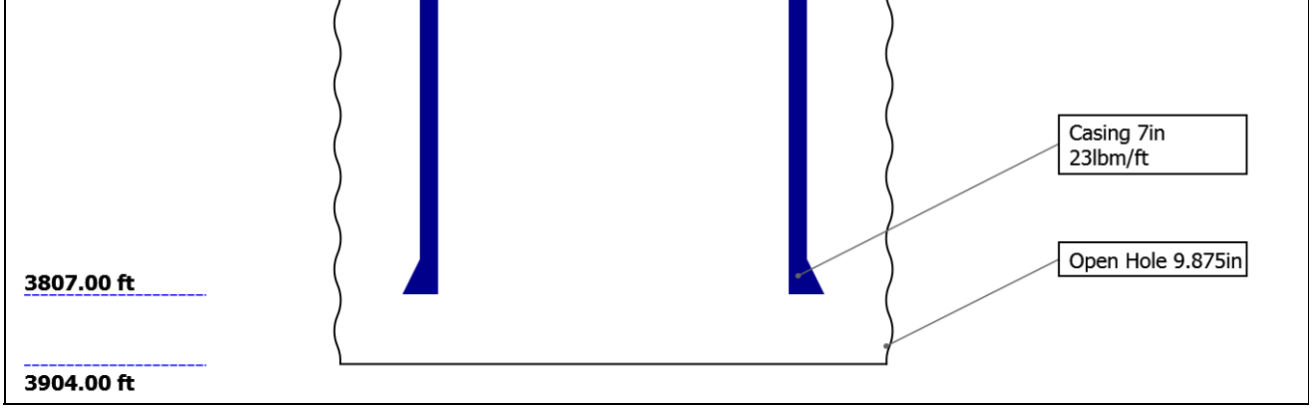
Well Sketch





Borehole Size/Casing/Tubing Record

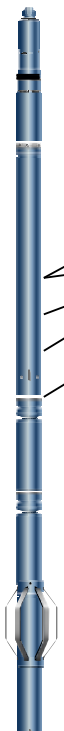
Bit						
Bit Size (in)	14.75	9.875				
Top Driller (ft)	0	596				
Top Logger (ft)	0	596				
Bottom Driller (ft)	596	3904				
Bottom Logger (ft)	596	3904				
Casing						
Size (in)	10.75	7				
Weight (lbm/ft)	32.8	23				
Inner Diameter (in)	10.176	6.366				
Grade	H40	K55				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	596	3807				
Bottom Logger (ft)	596	3807				

Remarks and Equipment Summary

One: Toolstring

Equip name	Length
LEH-QT:2789	**28.96**
LEH-QT:2789	
EDTC-B:9301	**26.04**
EDTH-B:9355	
EDTG-A:79500	
EDTC-B:9301	
AH-184[2]:2985	**19.54**
AH-184[1]:4813	**17.54**
USIT-E:1767	**15.54**
ECH-MFA:2752	
USAC-A:1767	

MP name	Offset
Blue	
CTEM	**22.55**
ACCZ	**0.00**
HV	**0.00**
Gamma Ray	**20.68**
TelStatus	**19.55**



One: Remarks

Toolstring ran as per toolsketch.

One centralizer on USAC used to centralize ultrasonic tool.

Well drilled in 1982
Ground level elevation N/A
KB elevation 12 ft above G.L.

Cement Data: 2-22-1982 Cemented 7"
23# K-55 Csg at 3807 ft w/ 78.5 bbl Glass G c

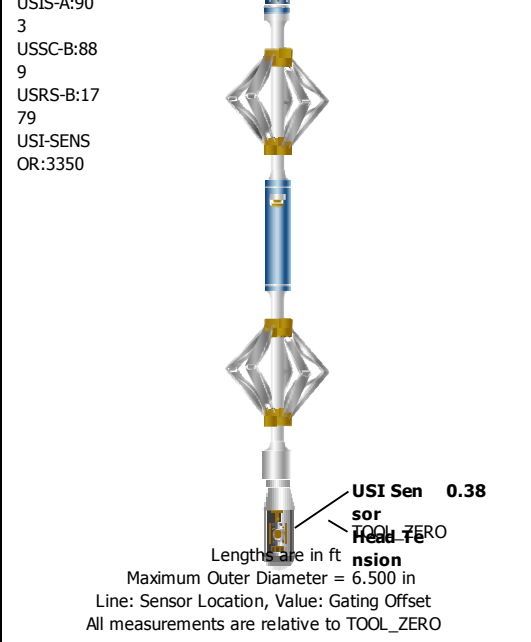
Top of liner for client is 3727 ft. Tagged at 3718 ft.

Logging Objective: Corrosion and Cement

USIT logged main pass 5 deg 6 inch logging speed 3500 fph, hi-res repeat 10 deg 1.5 inch logging speed 2400 fph

No correlation log available, wireline depths used.

Thank you for choosing Schlumberger!



Job Event Summary

Event	Time	Duration	Interval	Remark
Log[5]:Down	May-23-2016 09:28	01:48:42	40.04 - 3727.99 ft	FPM
Log[6]:Up	May-23-2016 10:18	01:09:50	3717.82 - 29.99 ft	MAIN
Log[8]:Up	May-23-2016 11:47	00:20:21	3714.57 - 2947.02 ft	HI RES REPEAT

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[6]:Up	3717.82	29.99

Fluid Velocity = "Automatic".
CFVL equals DFSL channel

Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)

Mud Impedance = "FreePipe Norm.".
Free Pipe normalization zone is : 231.08m(758.13ft) to 240.10m(787.71ft)
MUD_N_FRP = 1.01
DFD = 1.01g/cm3(8.40lbm/gal)
CZMD median computed in free pipe normalization interval = 1.56 MRayl

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)

One

Main Pass 5 IN = 100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[6]:Up	Up	29.99 ft	3717.82 ft	23-May-2016 10:18:40 AM	23-May-2016 11:28:31 AM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:E&B Natural Resources Well:WNF-I 11

One: Log[6]:Up:S005

Description: USI Composite Format: Log (LBV1_USI Composite 7inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:03

TIME_1900 - Time Marked every 60.00 (s)

USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - : UTIM Error

2 - UFLG 2 Value within [1.5 - 2.5] - : Pulse Origin Not Detected

3 - UFLG 3 Value within [2.5 - 3.5] - : WINLEN Error

4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : Casing Thickness Error

5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10.] - : Loop Processing Error

5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - . Loop Processing Error

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

Motor Revolution Speed (RSAV) USIT-E
6 c/s 8

Calibrated Gamma Ray (GR_EDTC) EDTC-B
0 gAPI 150

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Absent -4.799 -2.799 -0.800
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.7 in 2.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.7 in 2.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.7 in 2.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.7 in 2.7

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
2.7 in 3.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
2.7 in 3.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
2.7 in 3.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
2.7 in 3.7

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Ratio of Cement Measurements to Total (CEMR) USIT-E
1 0

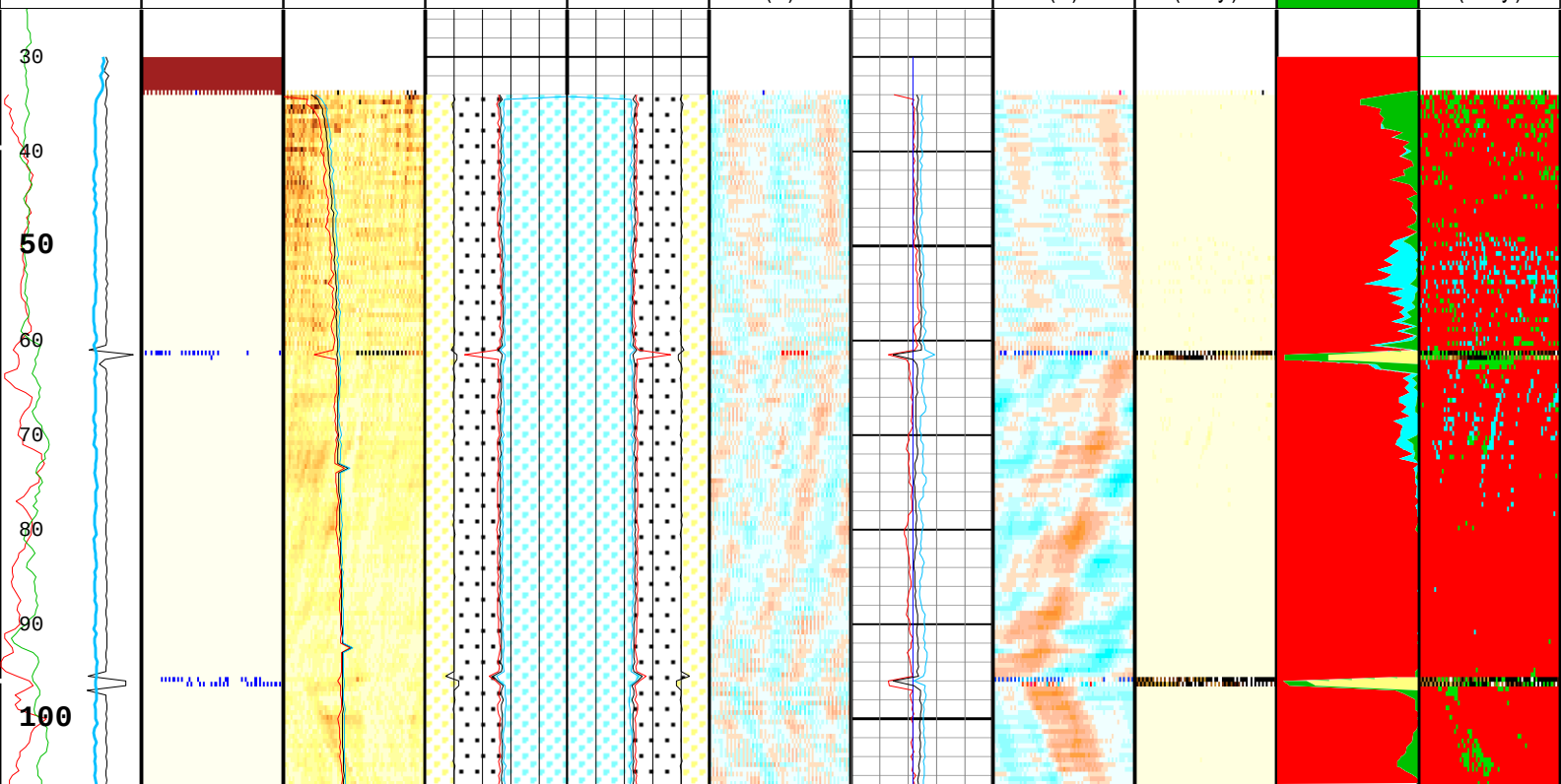
Micro-debonding Ratio (MDR) USIT-E
1 0

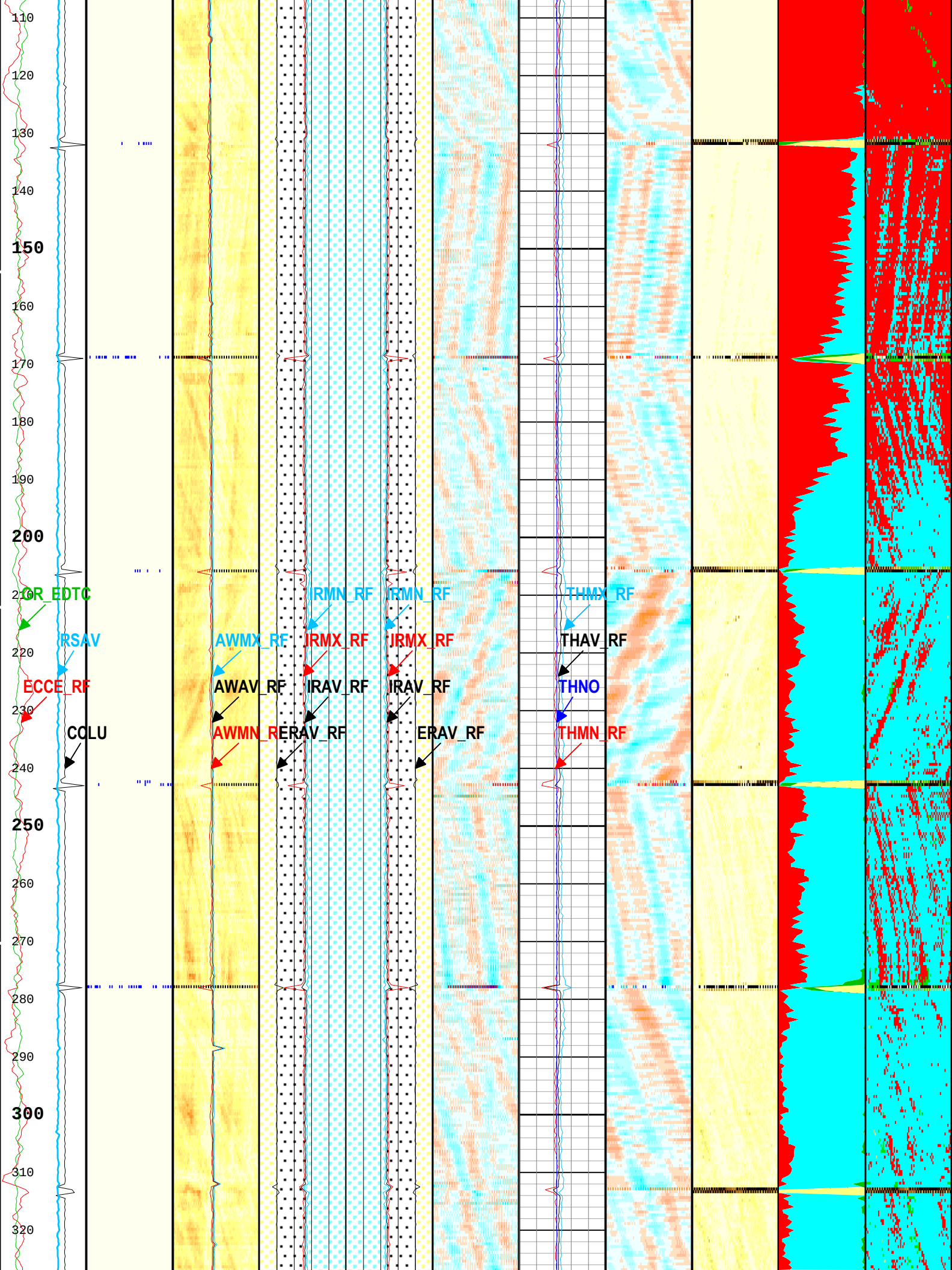
Ratio of Gas Measurements to Total (GASR) USIT-E
1 0

Bonded
Gas
Liquid
Micro-debonding

Absent 3.090 5.054 7.018
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Absent 2.599 4.563 6.527
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E (Mrayl)

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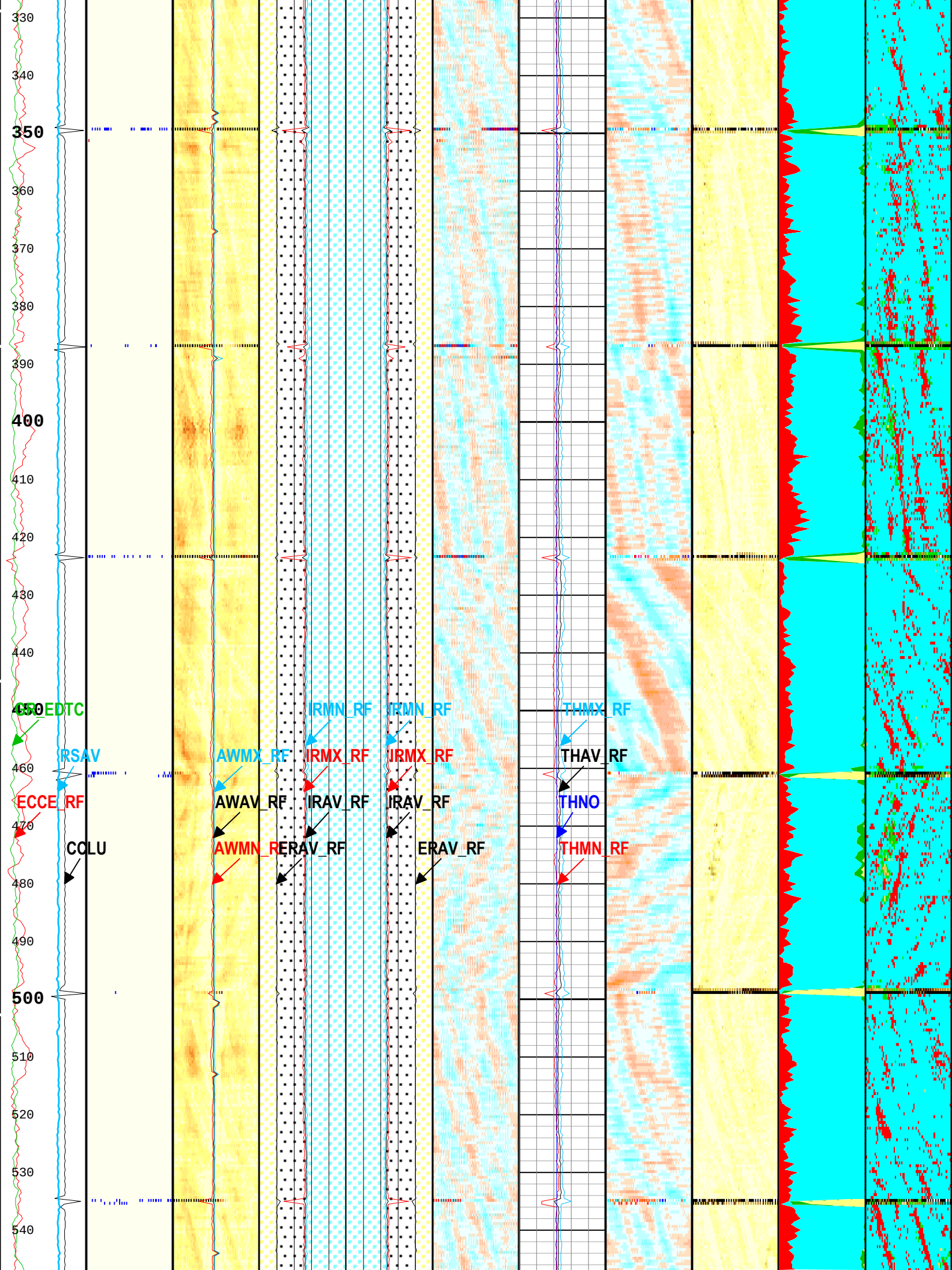
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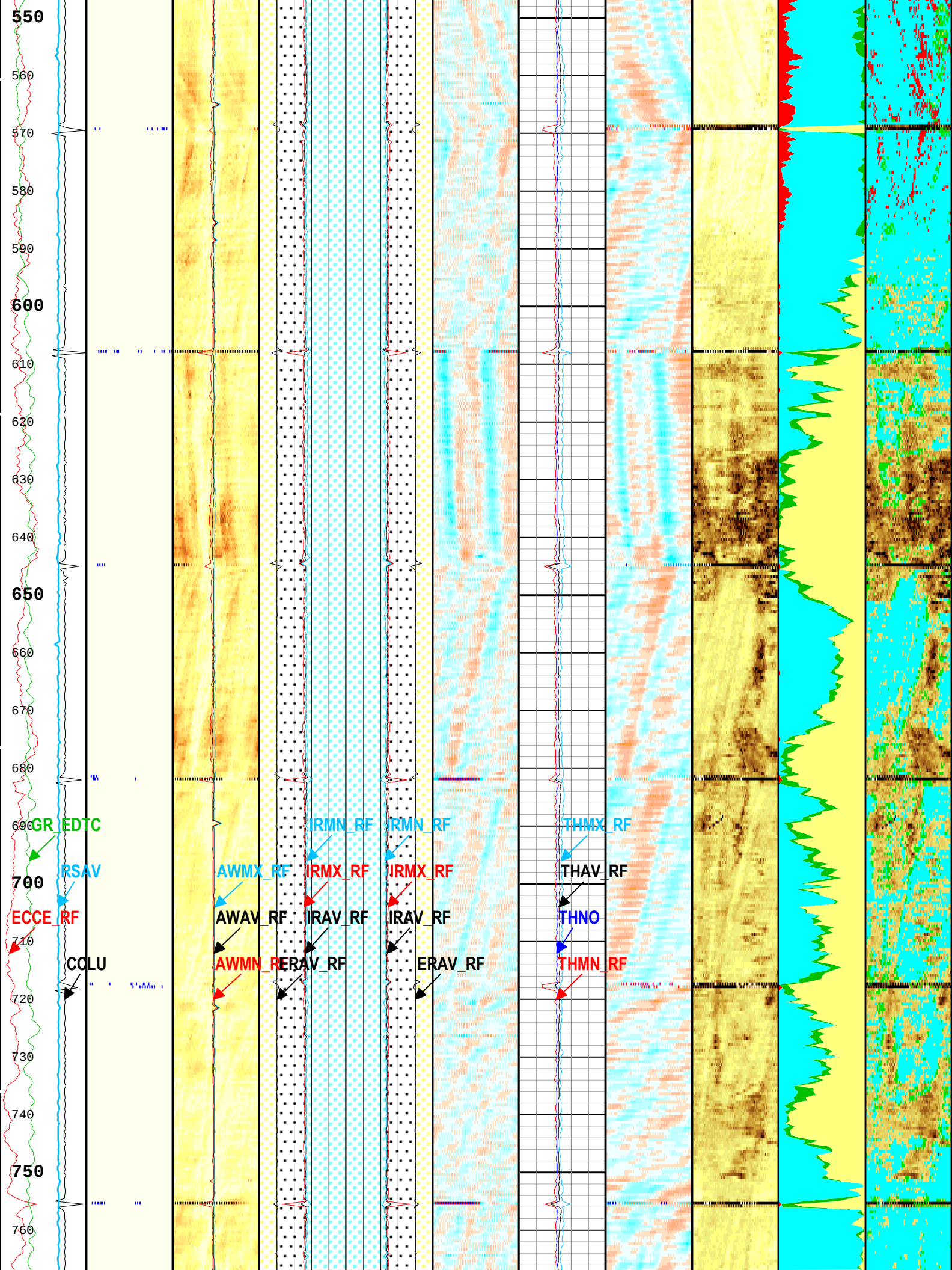
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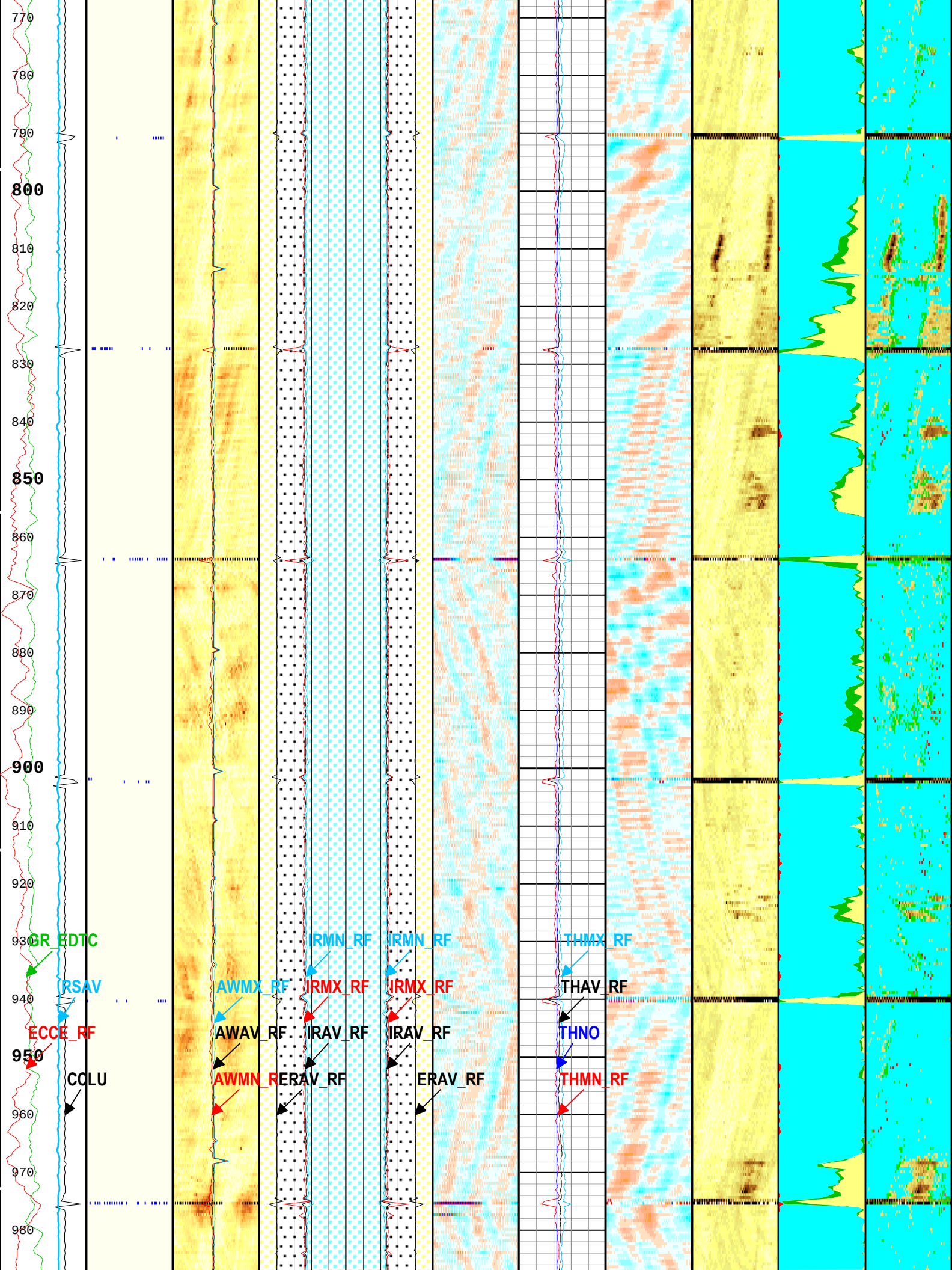
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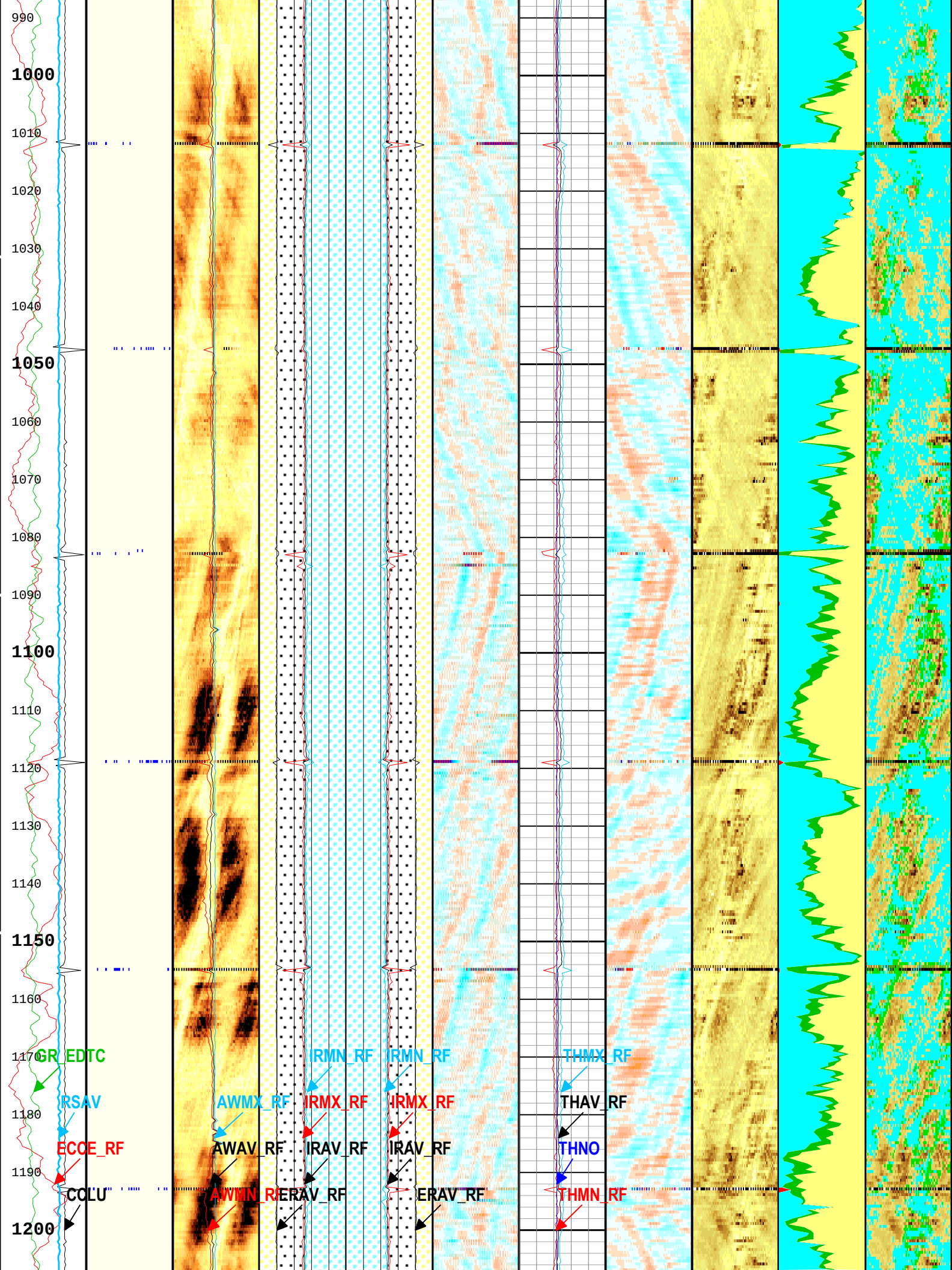
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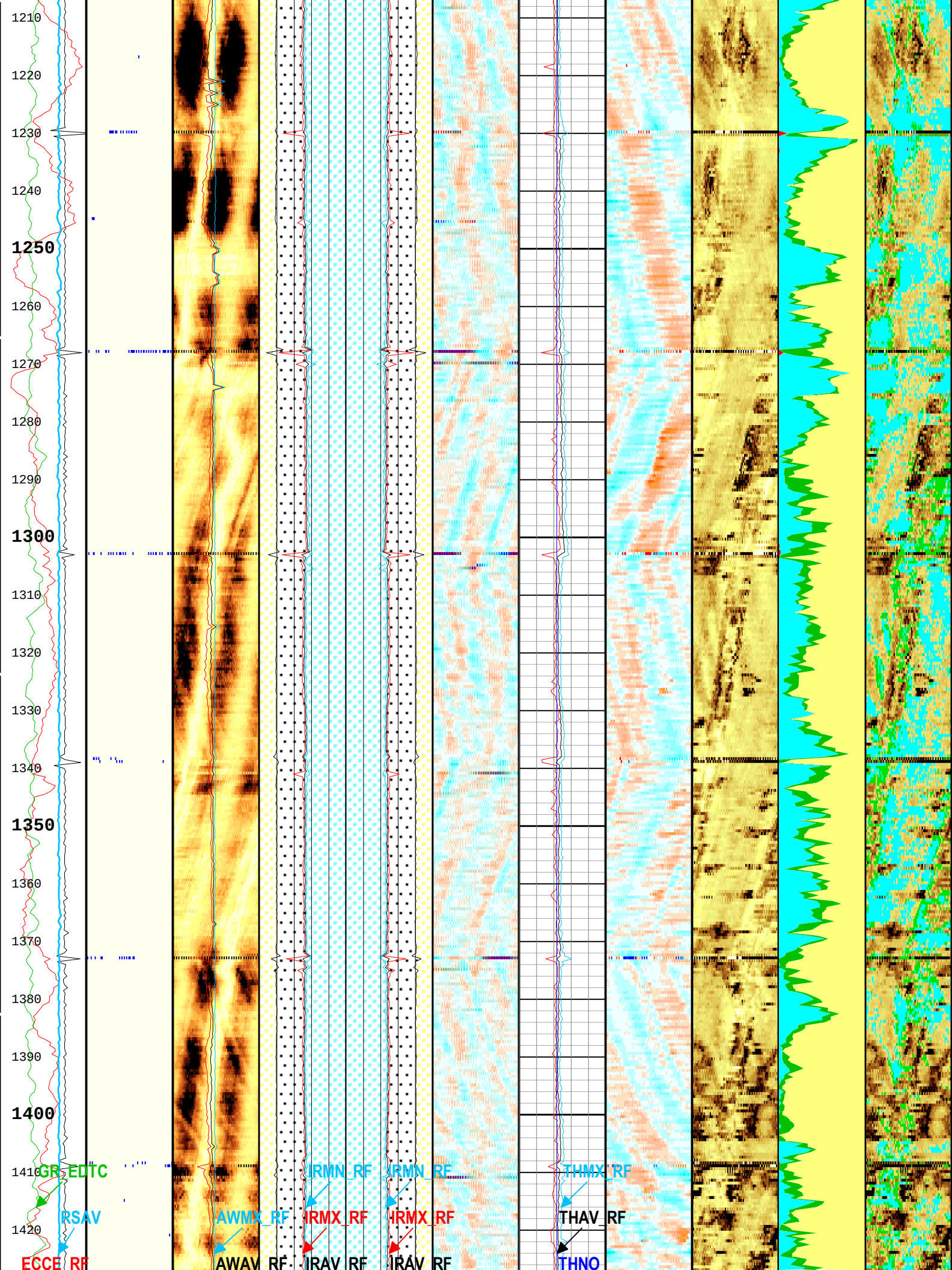
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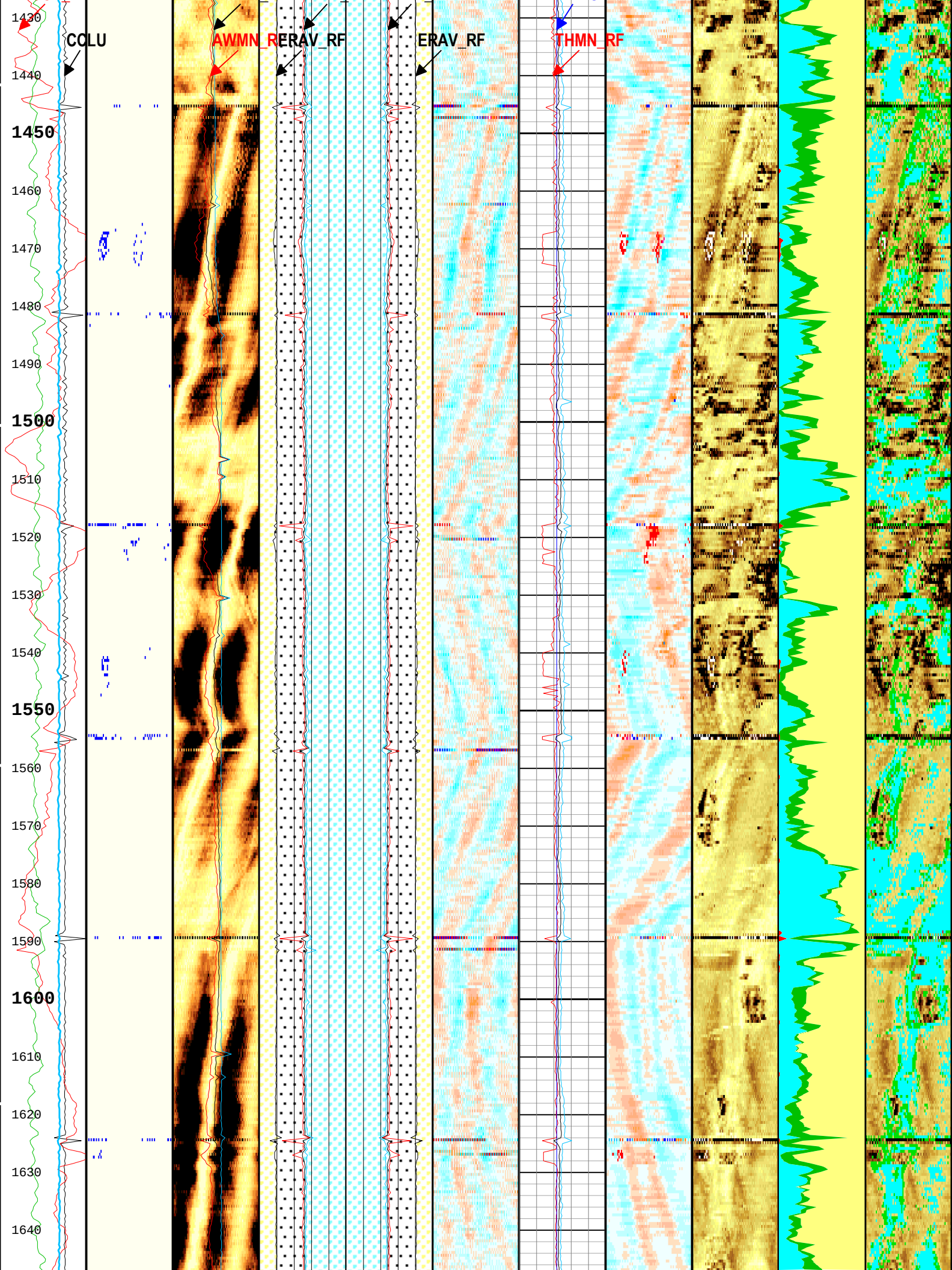
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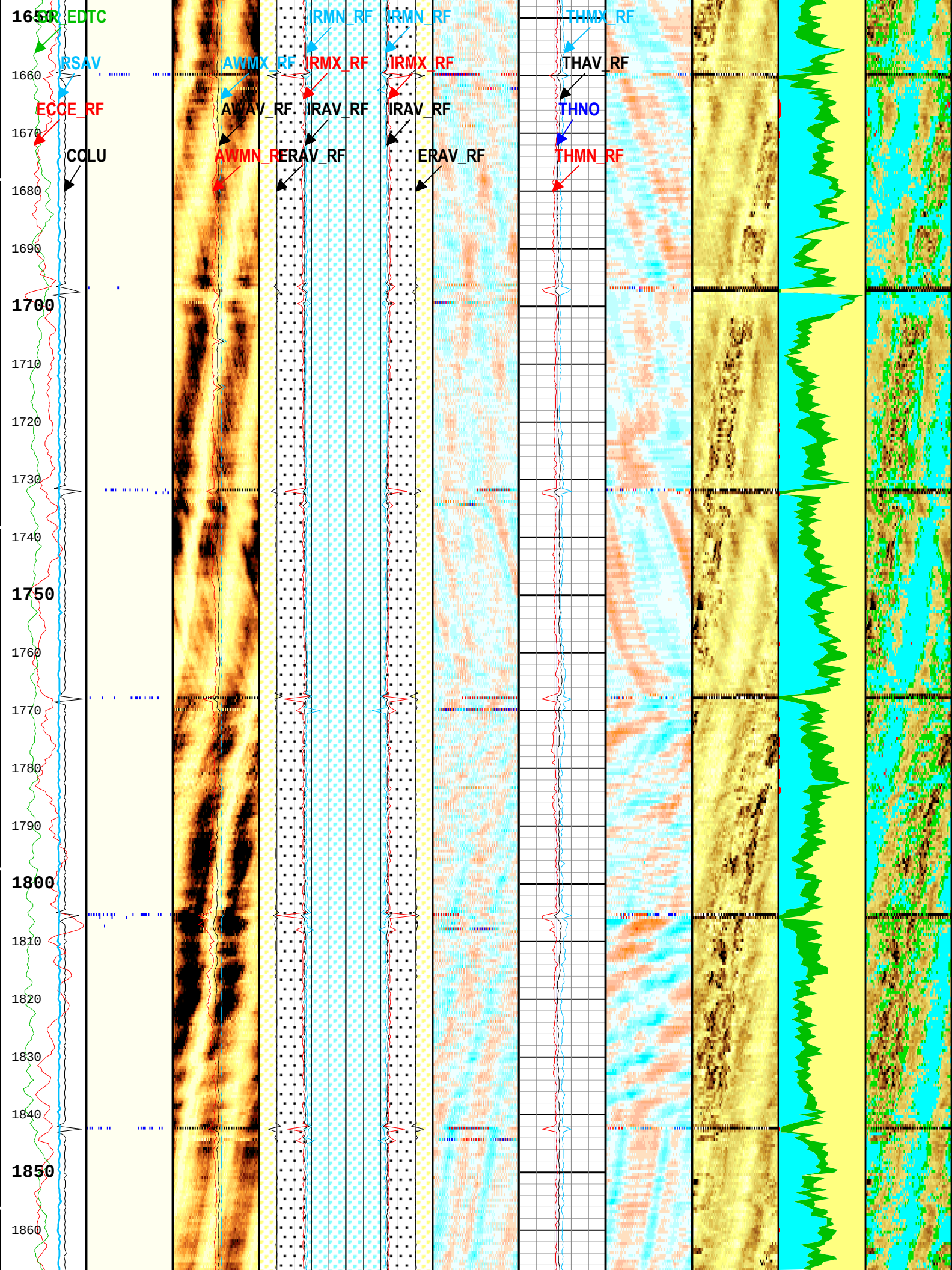
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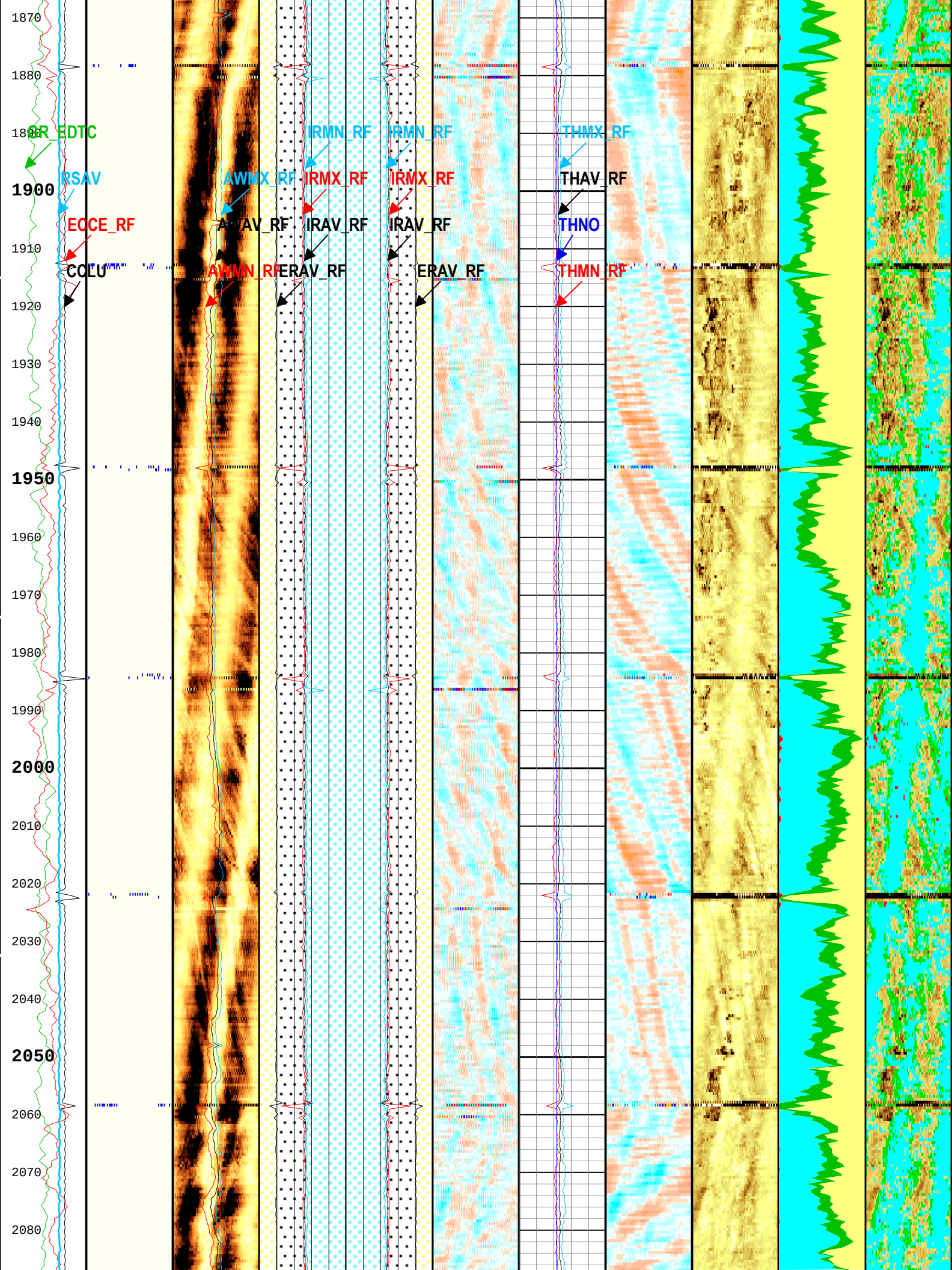
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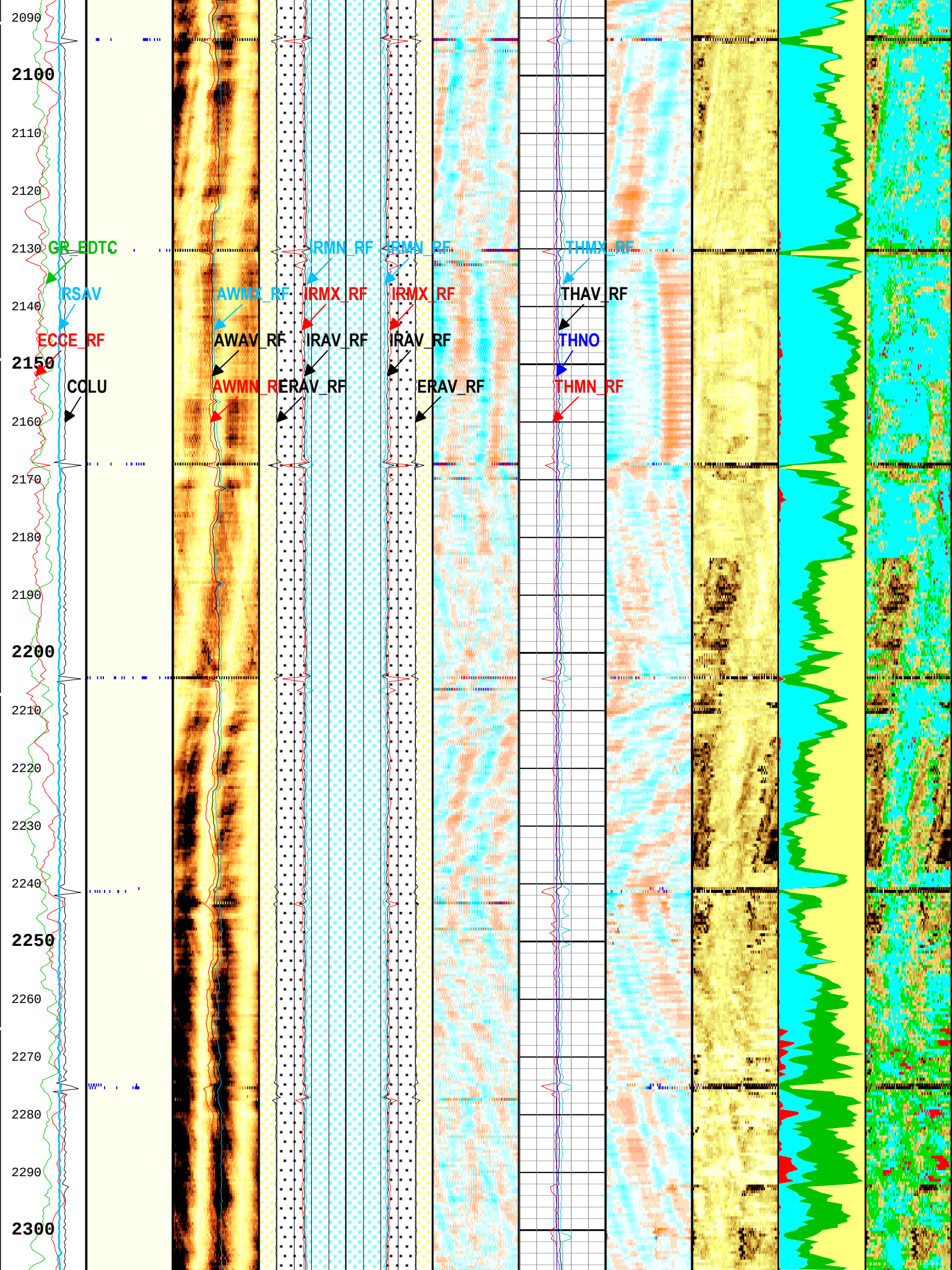
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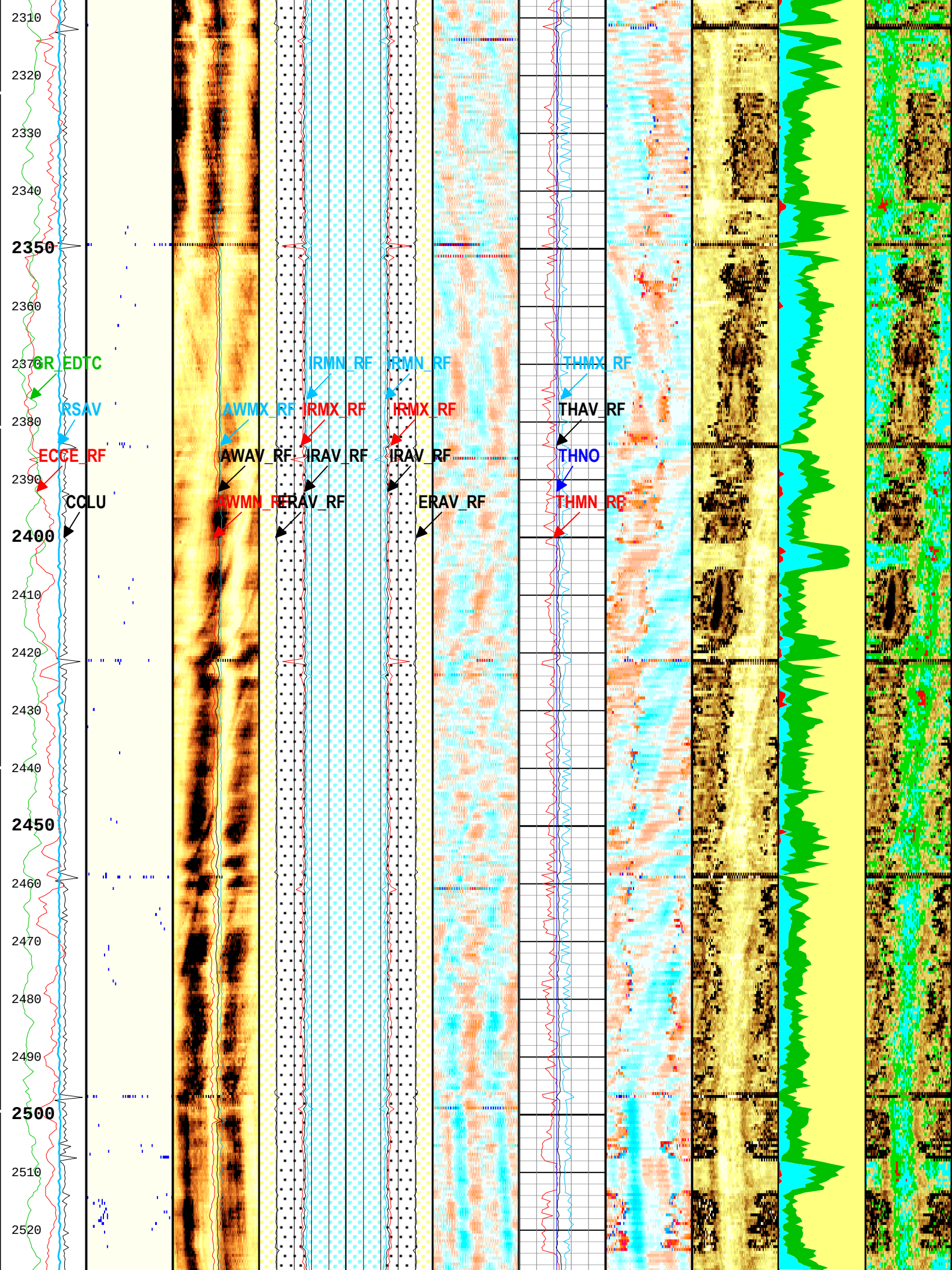
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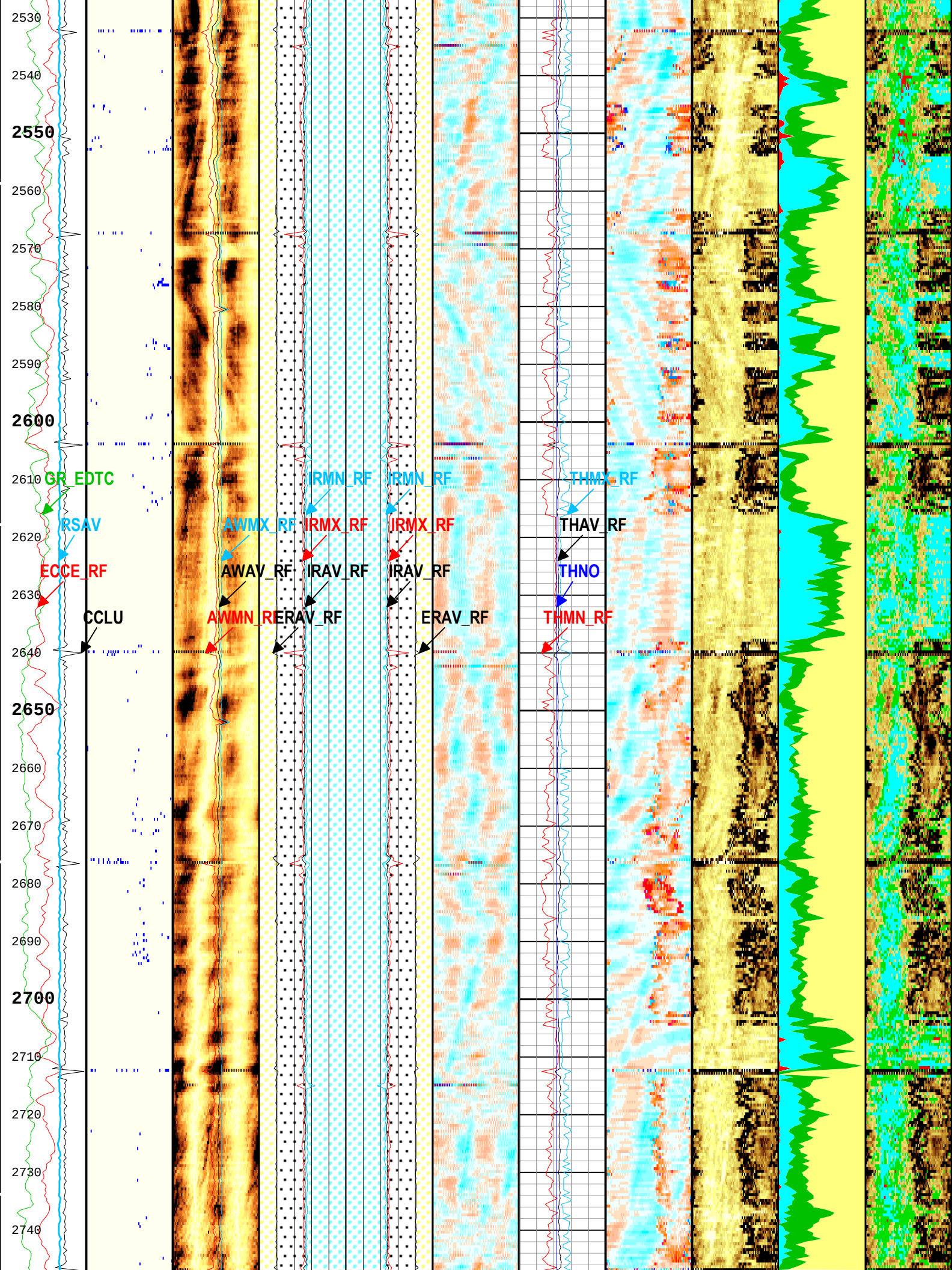
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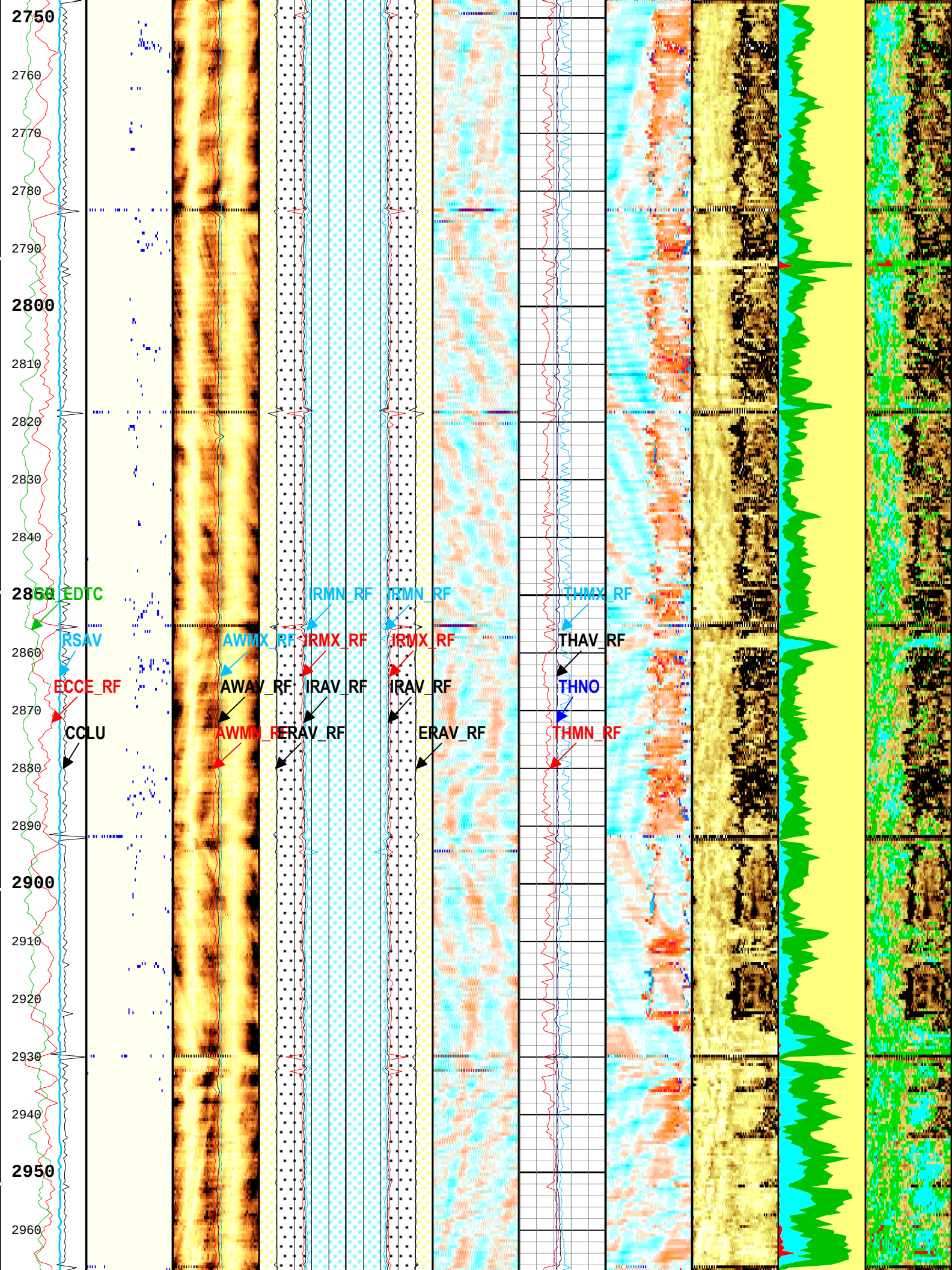
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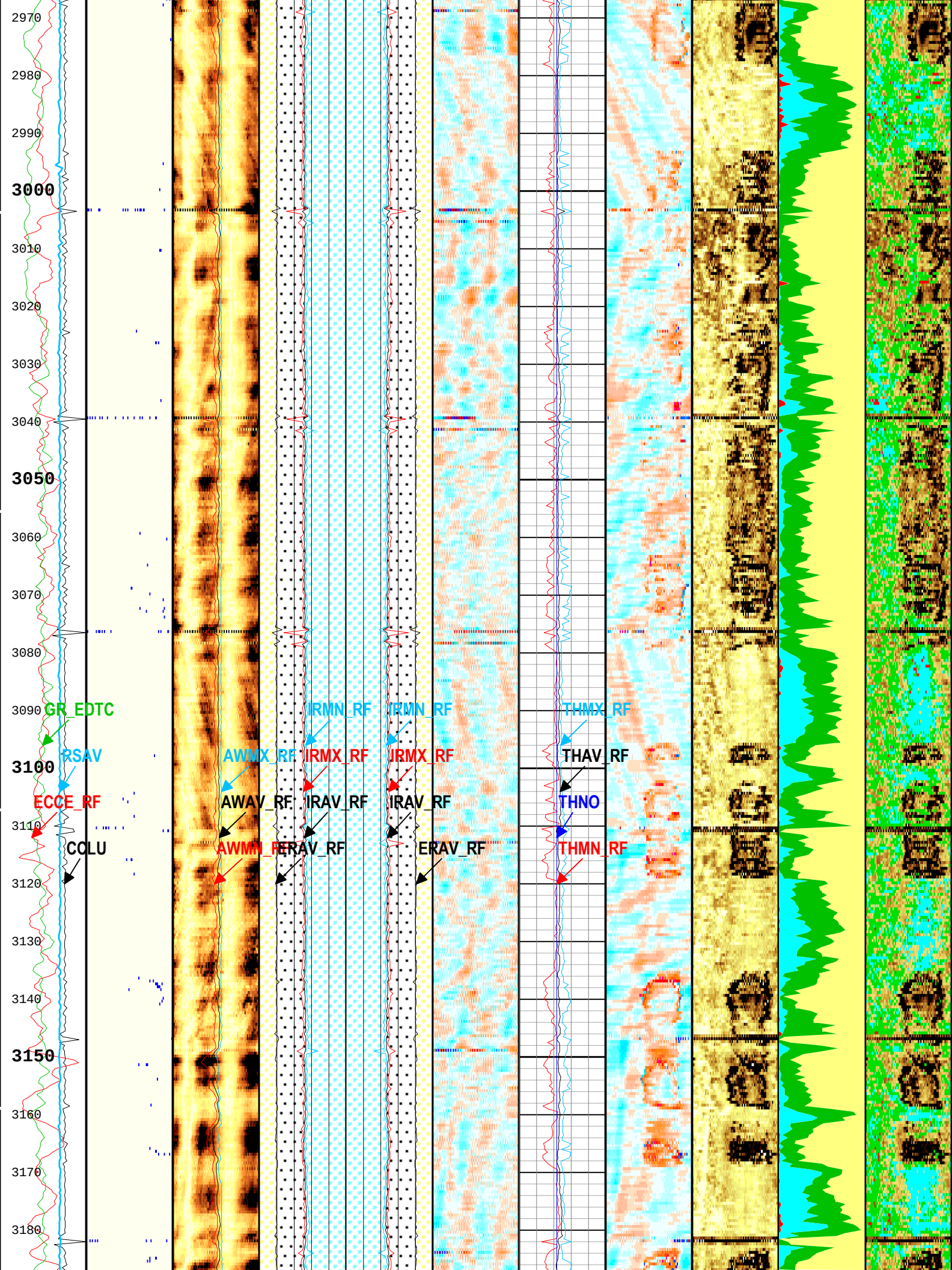
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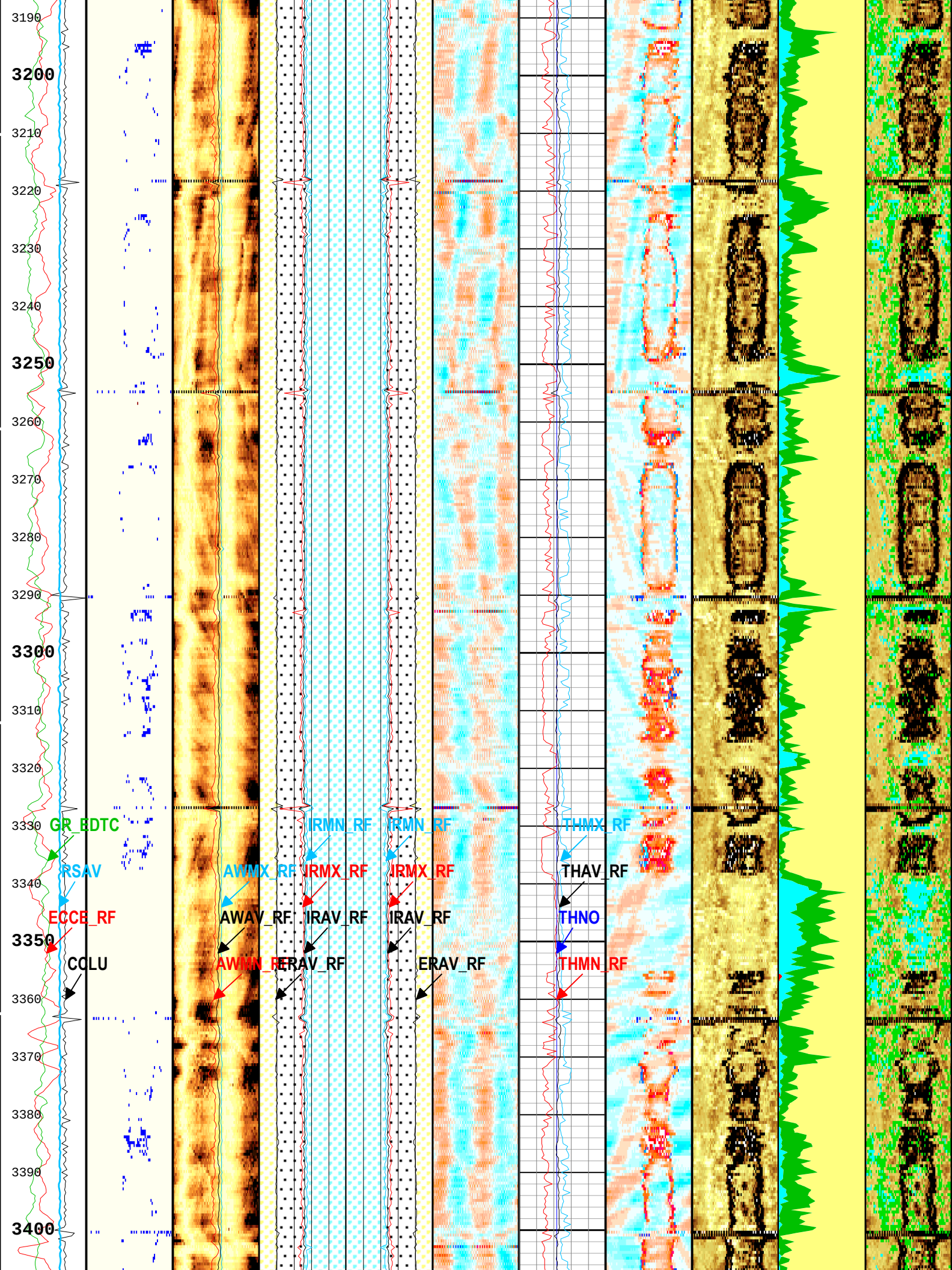
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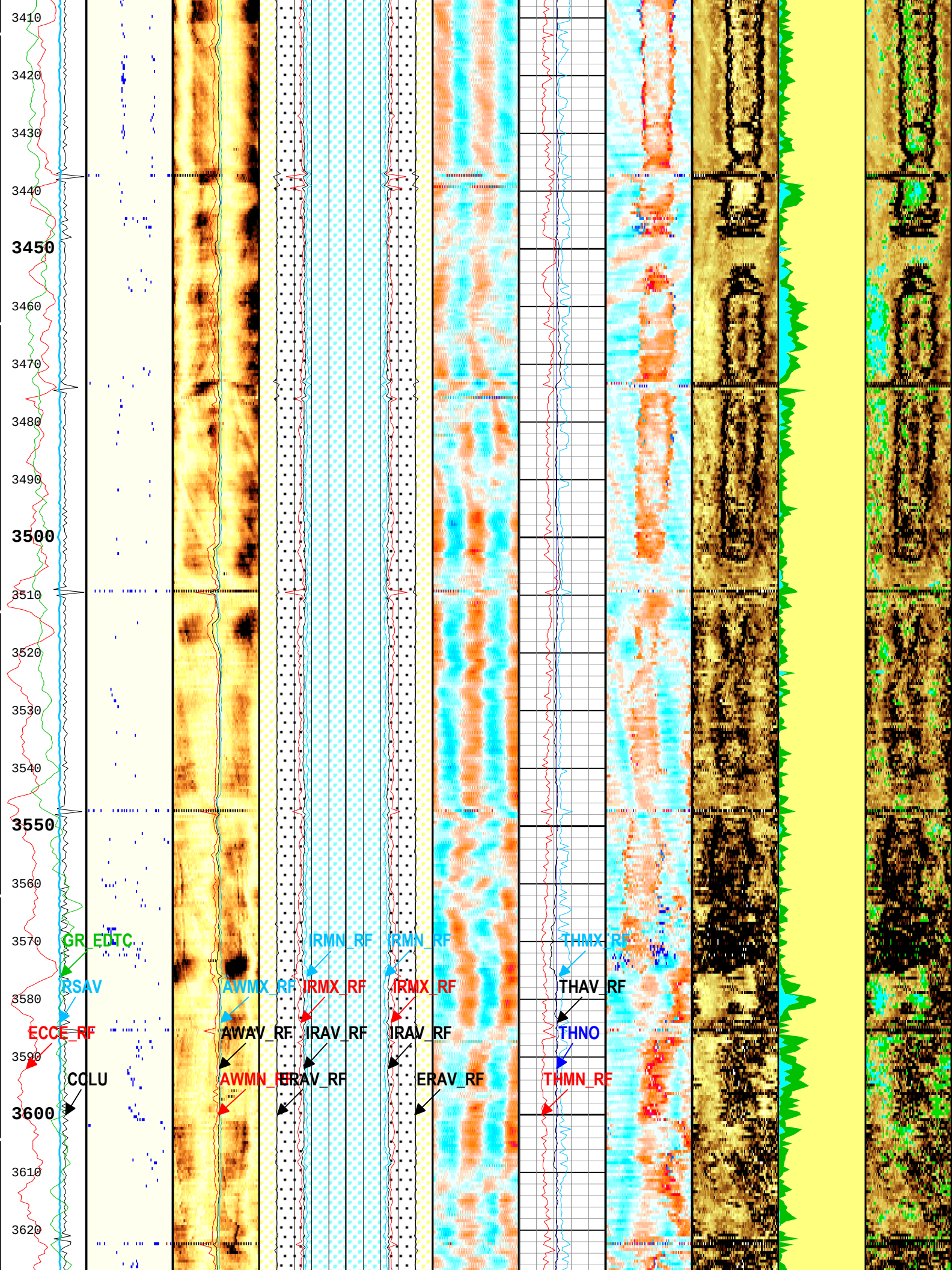
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF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3600
3610
3620
GR_EDTC
RSAV
ECCE_RF
COLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
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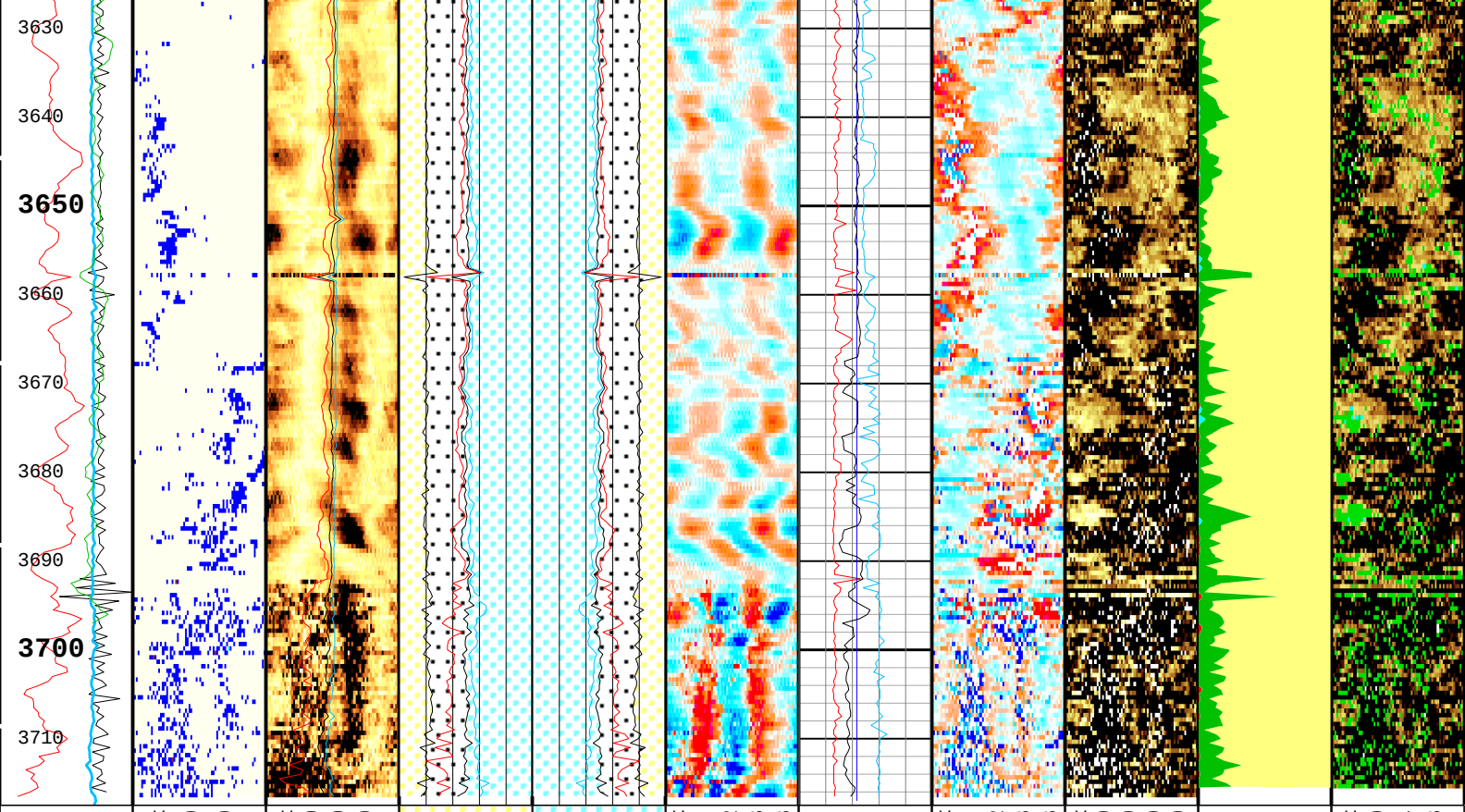
THAV_RF
THNO
THMN_RF



Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

Motor Revolution Speed (RSAV) USIT-E
6 c/s 8

Calibrated Gamma Ray (GR_EDTC) EDTC-B
0 gAPI 150

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Absent -4.799 -2.799 -0.800
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.7 in 2.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.7 in 2.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.7 in 2.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
2.7 in 3.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
2.7 in 3.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
2.7 in 3.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Ratio of Cement Measurements to Total (CEMR) USIT-E
1 0

Micro-debonding Ratio (MDR) USIT-E
1 0

Ratio of Gas Measurements to Total (GASR) USIT-E
1 0

Bonded
Gas
Liquid
Micro-debonding

Absent 3.090 5.054 7.018
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Absent 2.599 4.563 6.527
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E (Mrayl)

3.7 in 2.7 | 2.7 in 3.7

USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

- UTIM Error
- Pulse Origin Not Detected
- WINLEN Error
- Casing Thickness Error
- Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Composite 7inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:03

One

Repeat Pass 10 IN = 100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[8]:Up	Up	2947.03 ft	3714.58 ft	23-May-2016 11:47:54 AM	23-May-2016 12:08:16 PM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:E&B Natural Resources Well:WNF-I 11

One: Log[8]:Up:S005

Description: USI Composite Format: Log (LBV1_USI Composite 7inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:10

TIME_1900 - Time Marked every 60.00 (s)

USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

- UTIM Error
- Pulse Origin Not Detected
- WINLEN Error
- Casing Thickness Error
- Loop Processing Error

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

Absent 1.500 3.500

Absent -4.799 -2.799 -0.800
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged

ERAV | IRAV
ERAV-IRAV | ERAV
IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.7 in 2.7

Median of Unflagged External Radii (ERAV_RF) USIT-E
2.7 in 3.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.7 in 2.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
2.7 in 3.7

Maximum of

Maximum of

Absent -0.051 -0.012 0.028 0.068

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged

Absent -0.051 -0.012 0.028 0.068

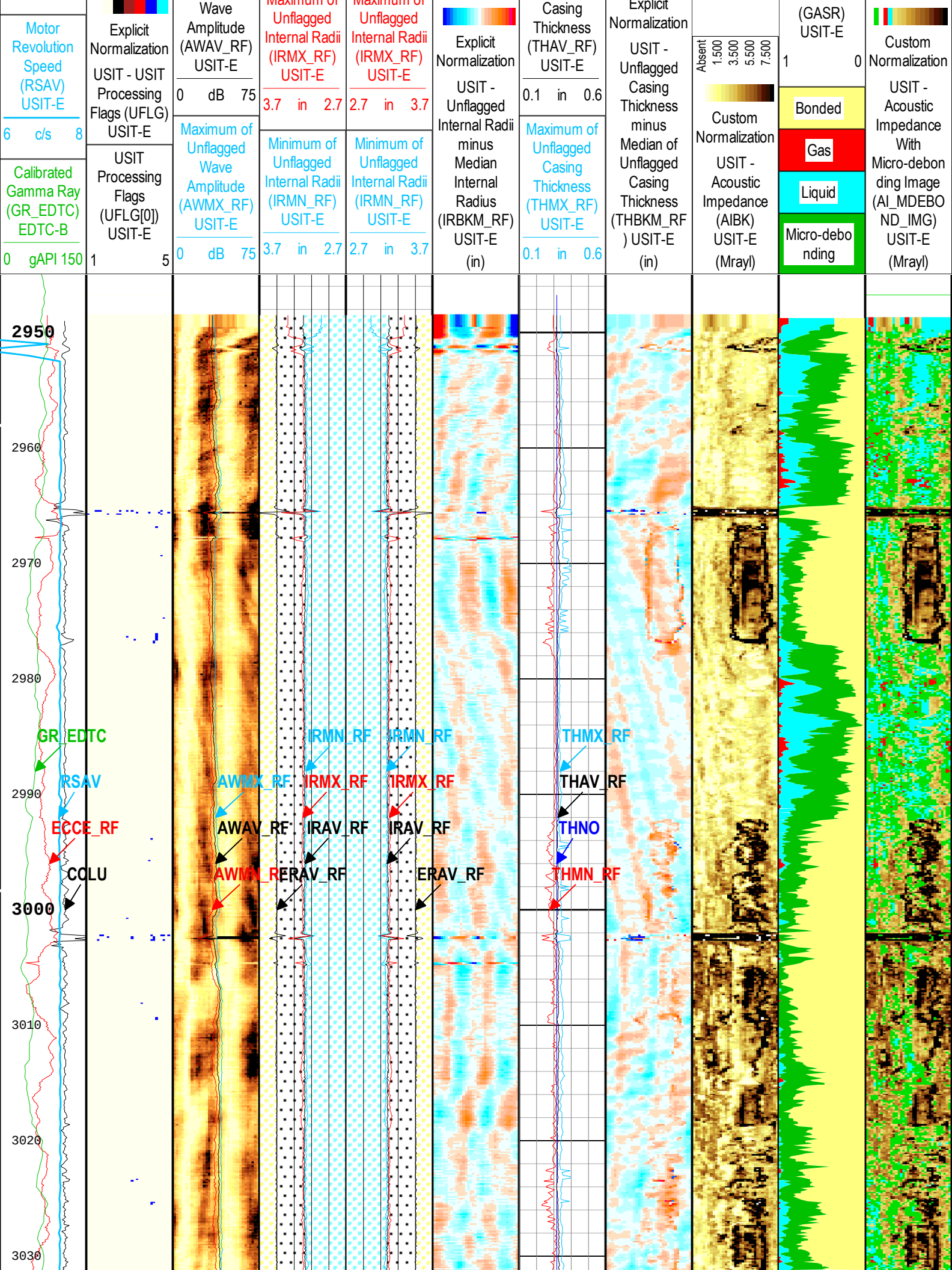
Ratio of Cement Measurements to Total (CEMR) USIT-E
1 0

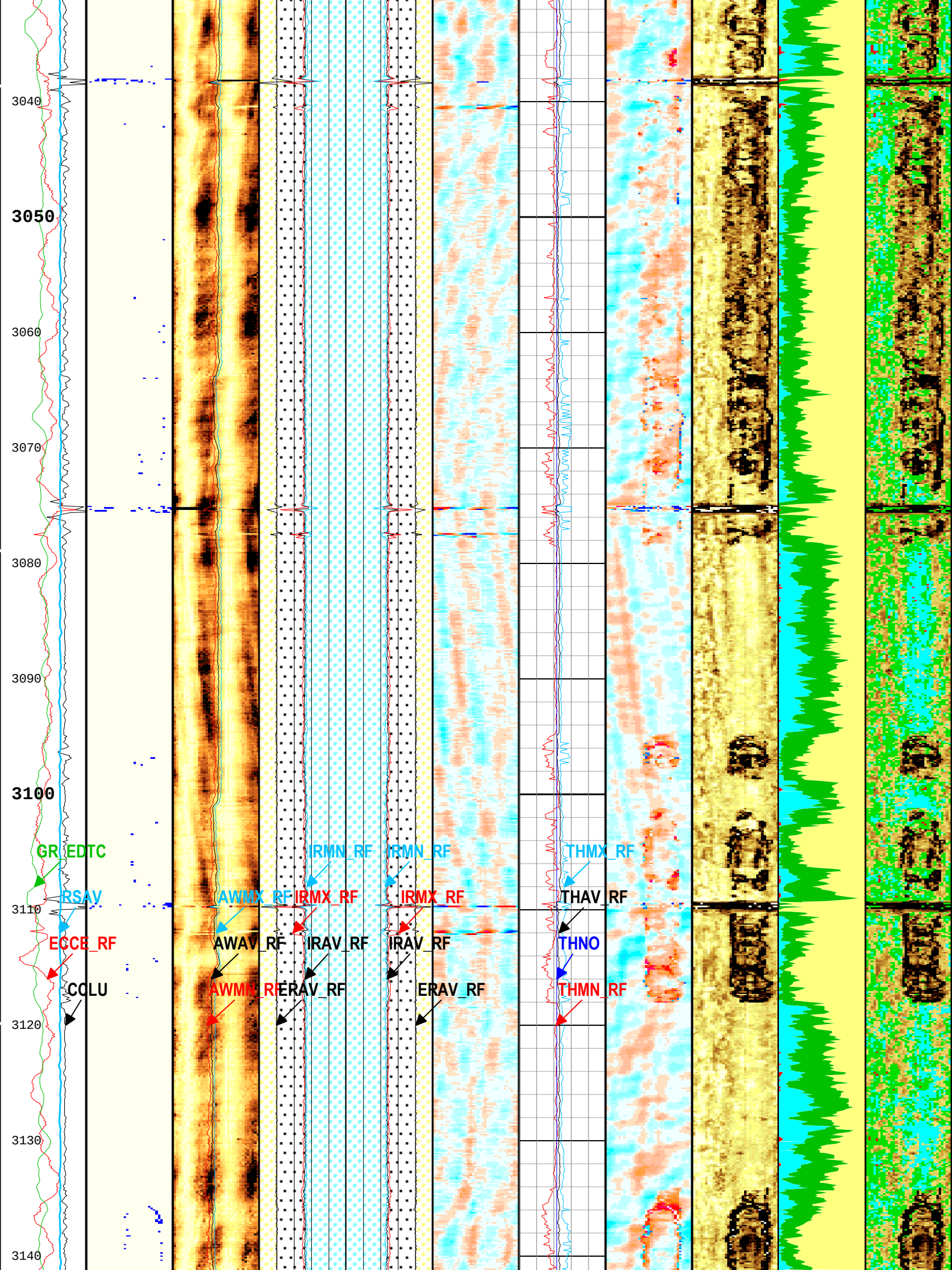
Micro-debonding Ratio (MDR) USIT-E
1 0

Ratio of Gas Measurements to Total

Absent 3.090 5.054 7.018
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Absent 2.599 4.563 6.527


Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
Calibrated Gamma Ray (GR_EDTC) EDTC-B
0 gAPI 150
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
Wave Amplitude (AWAV_RF) USIT-E
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.7 in 2.7
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.7 in 2.7
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
2.7 in 3.7
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
2.7 in 3.7
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)
Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)
Absent
1.500
3.500
5.500
7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E
(Mrayl)
(GASR) USIT-E
1 0
Bonded
Gas
Liquid
Micro-debonding
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E
(Mrayl)
2950
2960
2970
2980
2990
3000
3010
3020
3030
GR_EDTC
RSAV
ECCE_RF
COLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF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3130
3140
GR_EDTC
RSAV
ECCE_RF
COLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
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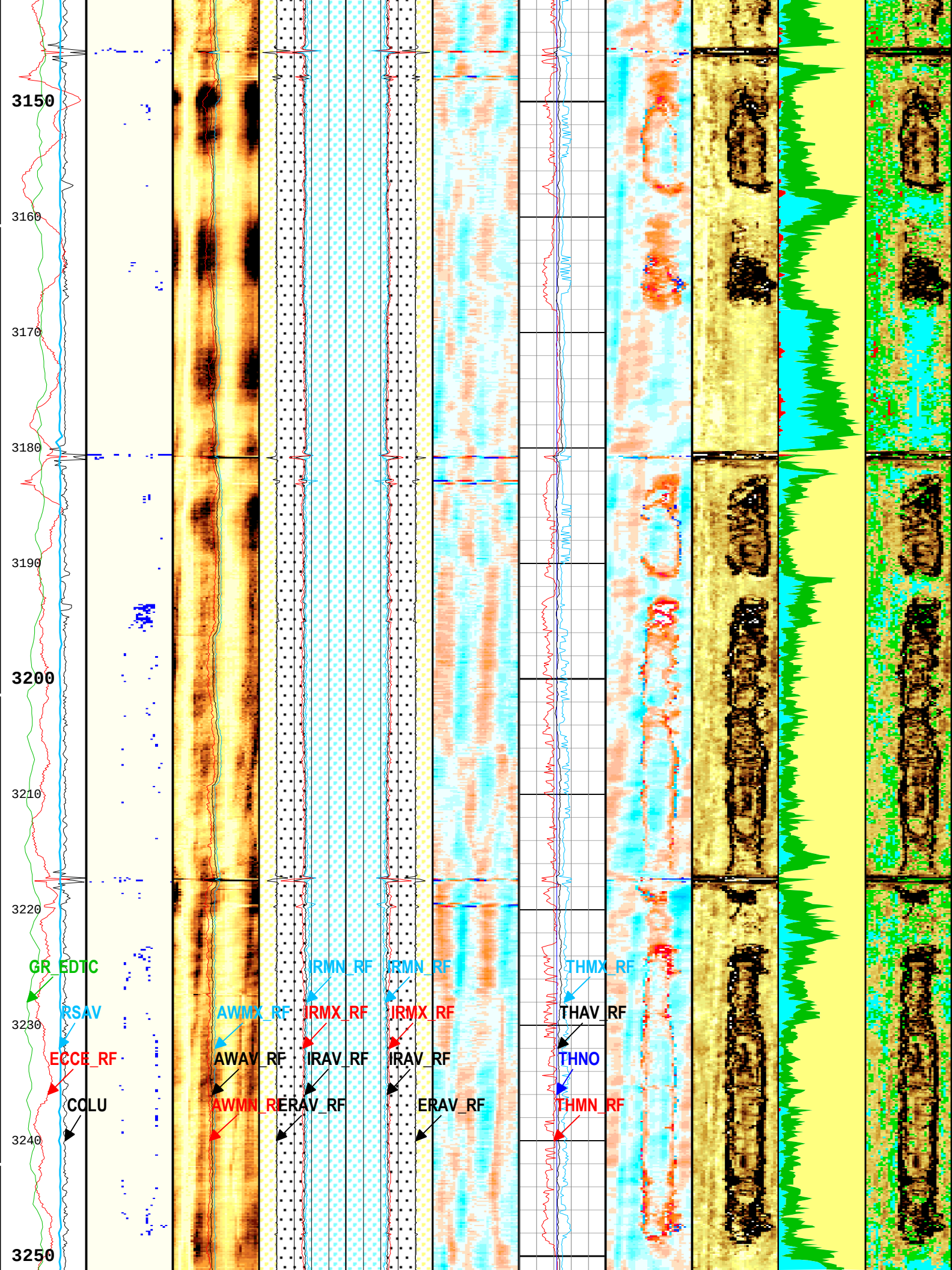
THMX_RF
THAV_RF
THNO
THMN_RF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GR_EDTC
RSAV
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COLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
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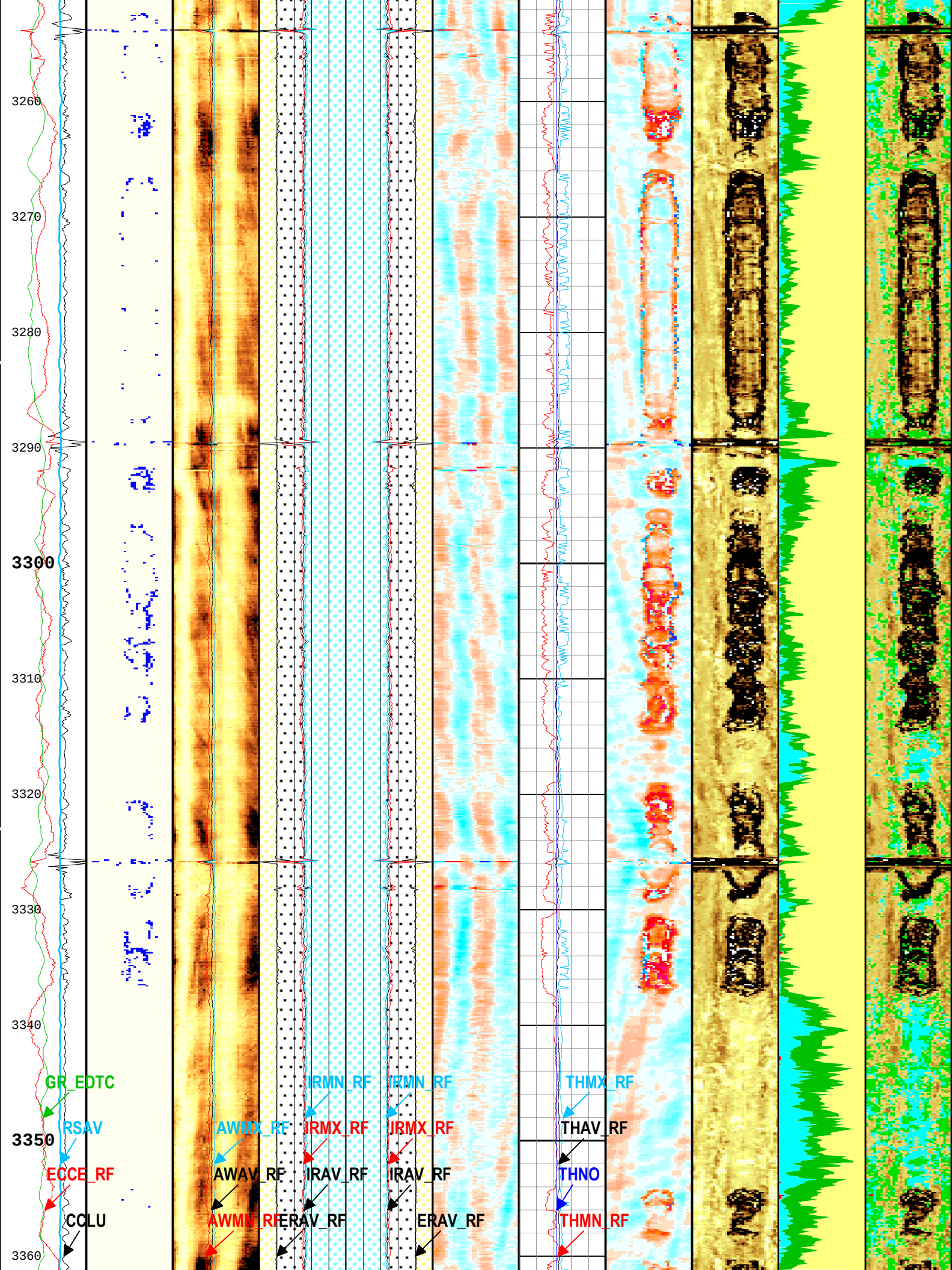
THMX_RF
THAV_RF
THNO
THMN_RF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3360
GR_EDTC
RSAV
ECCE_RF
CCLU
AWMX_RF
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IRMN_RF
IRMX_RF
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IRMX_RF
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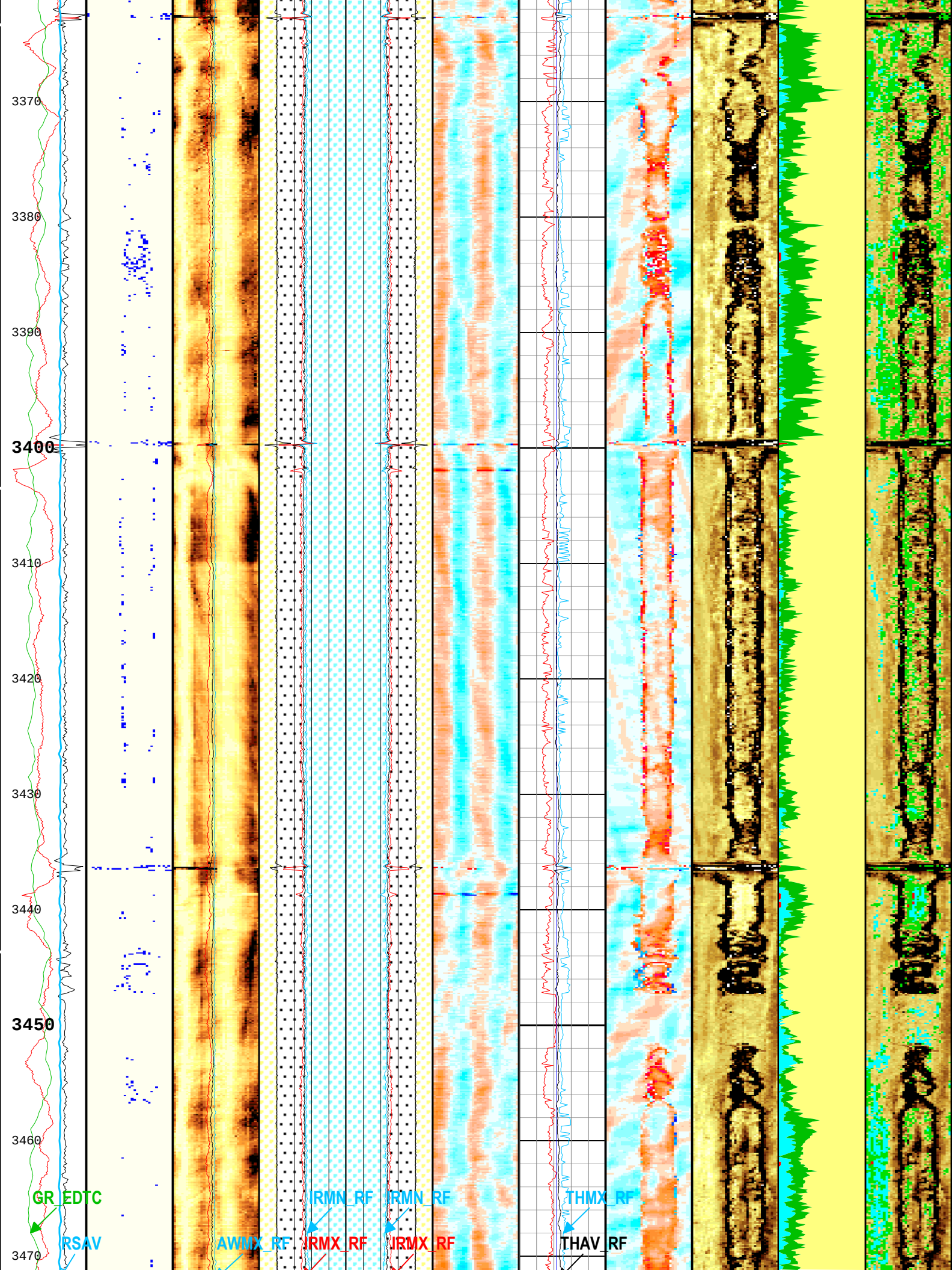
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF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GR_EDTC
RSAV
AWMX_RF
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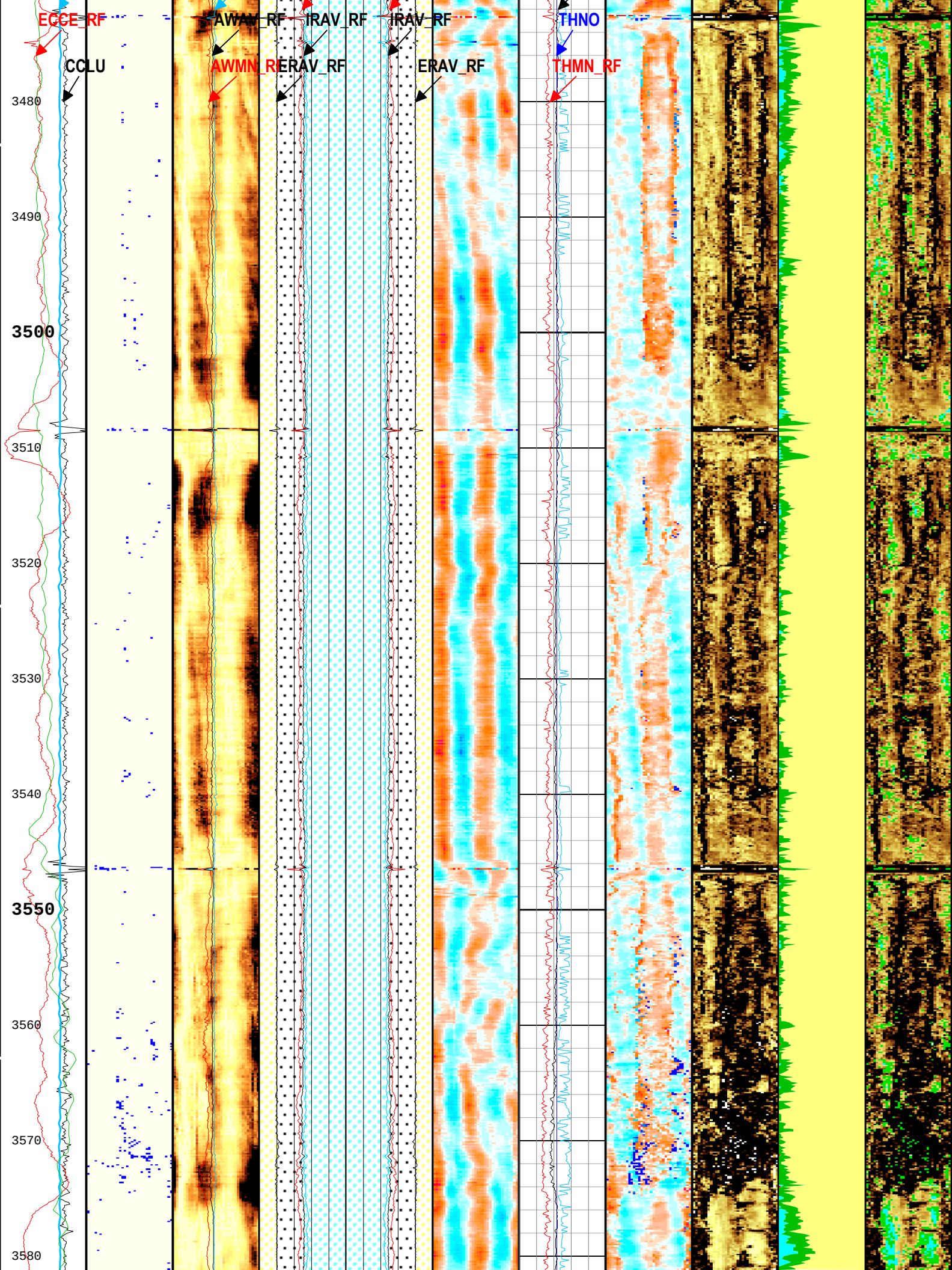
IRMX_RF
THMX_RF
THAV_RF


ECCE_RF
CCLU
AWAV_RF
AWMN_RF
IRAV_RF
ERAV_RF
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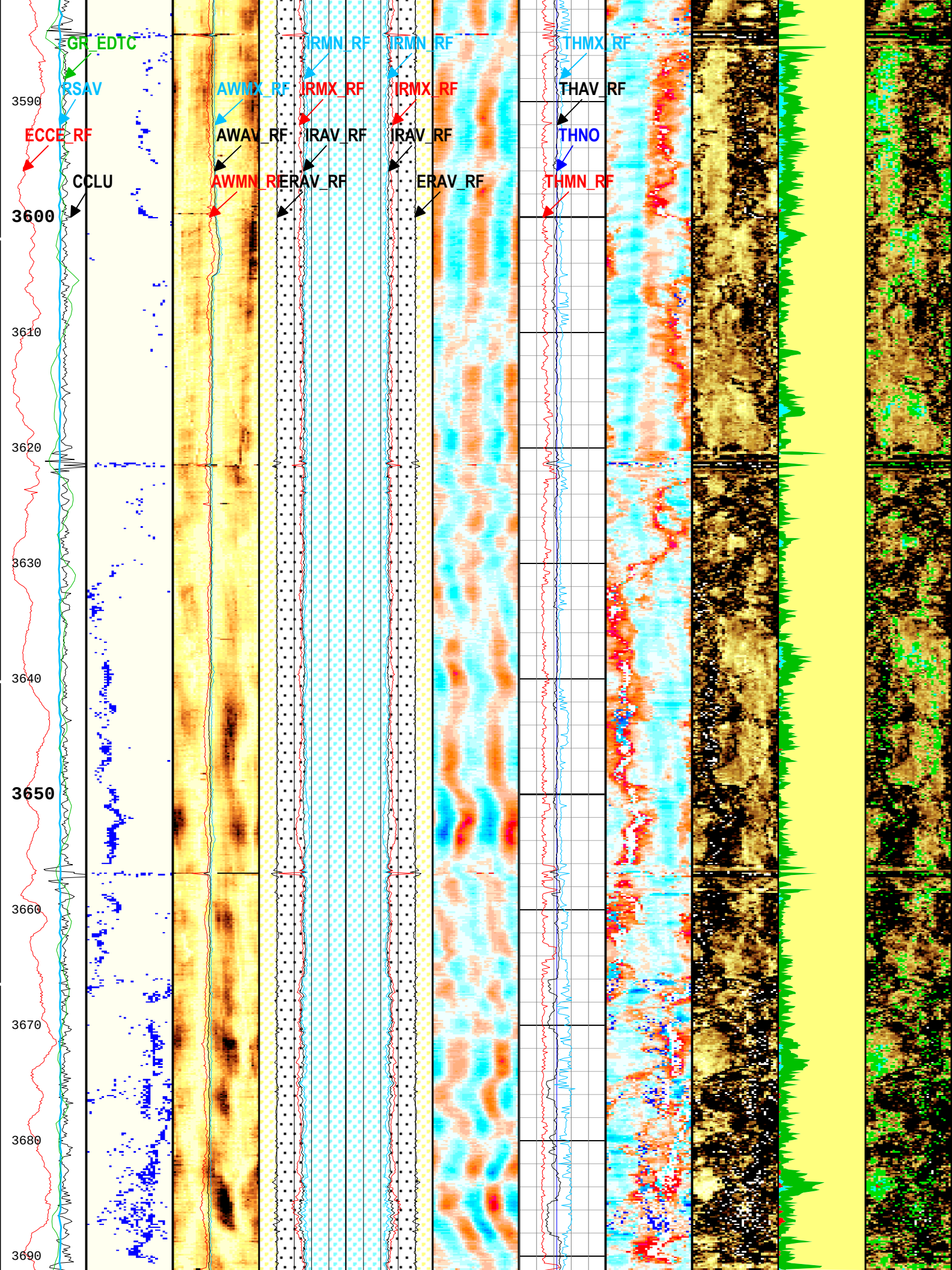
3560
3570
3580


GR_EDTC
RSAV
ECCE_RF
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AWMX_RF
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IRMX_RF
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IRMN_RF
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IRAV_RF
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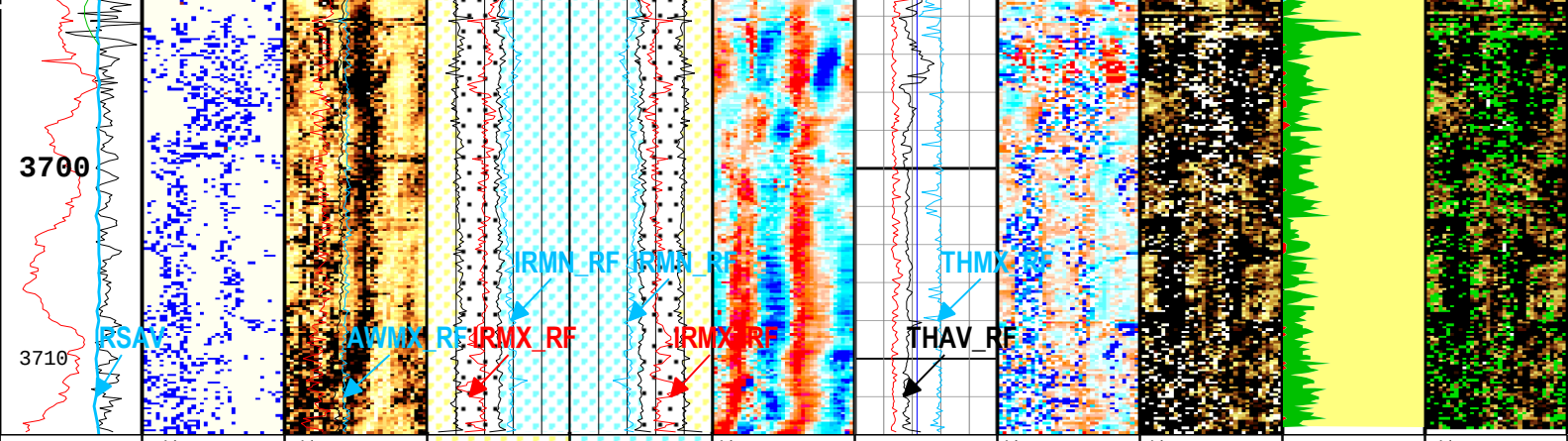


Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

Motor Revolution Speed (RSAV) USIT-E
6 c/s 8

Calibrated Gamma Ray (GR_EDTC) EDTC-B
0 gAPI 150

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Absent -4.799 -2.799 -0.800
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.7 in 2.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.7 in 2.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.7 in 2.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.7 in 2.7

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
2.7 in 3.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
2.7 in 3.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
2.7 in 3.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
2.7 in 3.7

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Ratio of Cement Measurements to Total (CEMR) USIT-E
1 0

Micro-debonding Ratio (MDR) USIT-E
1 0

Ratio of Gas Measurements to Total (GASR) USIT-E
1 0

Bonded
Gas
Liquid
Micro-debonding

Absent 3.090 5.054 7.018
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Absent 2.599 4.563 6.527
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E (Mrayl)

USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

UTIM Error
Pulse Origin Not Detected
WINLEN Error
Casing Thickness Error
Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Composite 7inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:10

One

Main Pass Corrosion 5 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[6]:Up	Up	29.99 ft	3717.82 ft	23-May-2016 10:18:40 AM	23-May-2016 11:28:31 AM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:E&B Natural Resources Well:WNF-I 11

One: Log[6]:Up:S005

Description: USI Composite Format: Log (LBV1_USI Corrosion 7inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:14

USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

UTIM Error
Pulse Origin Not Detected
WINLEN Error
Casing Thickness Error
Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

Motor Revolution Speed (RSAV) USIT-E
6 c/s 8

Calibrated Gamma Ray (GR_EDTC) EDTC-B
0 gAPI 150

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E
(dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)

ERAV | IRAV
ERAV-IRAV | ERAV
IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.7 in 2.7

Median of Unflagged External Radii (ERAV_RF) USIT-E
2.7 in 3.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.7 in 2.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
2.7 in 3.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.7 in 2.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
2.7 in 3.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.7 in 2.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
2.7 in 3.7

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

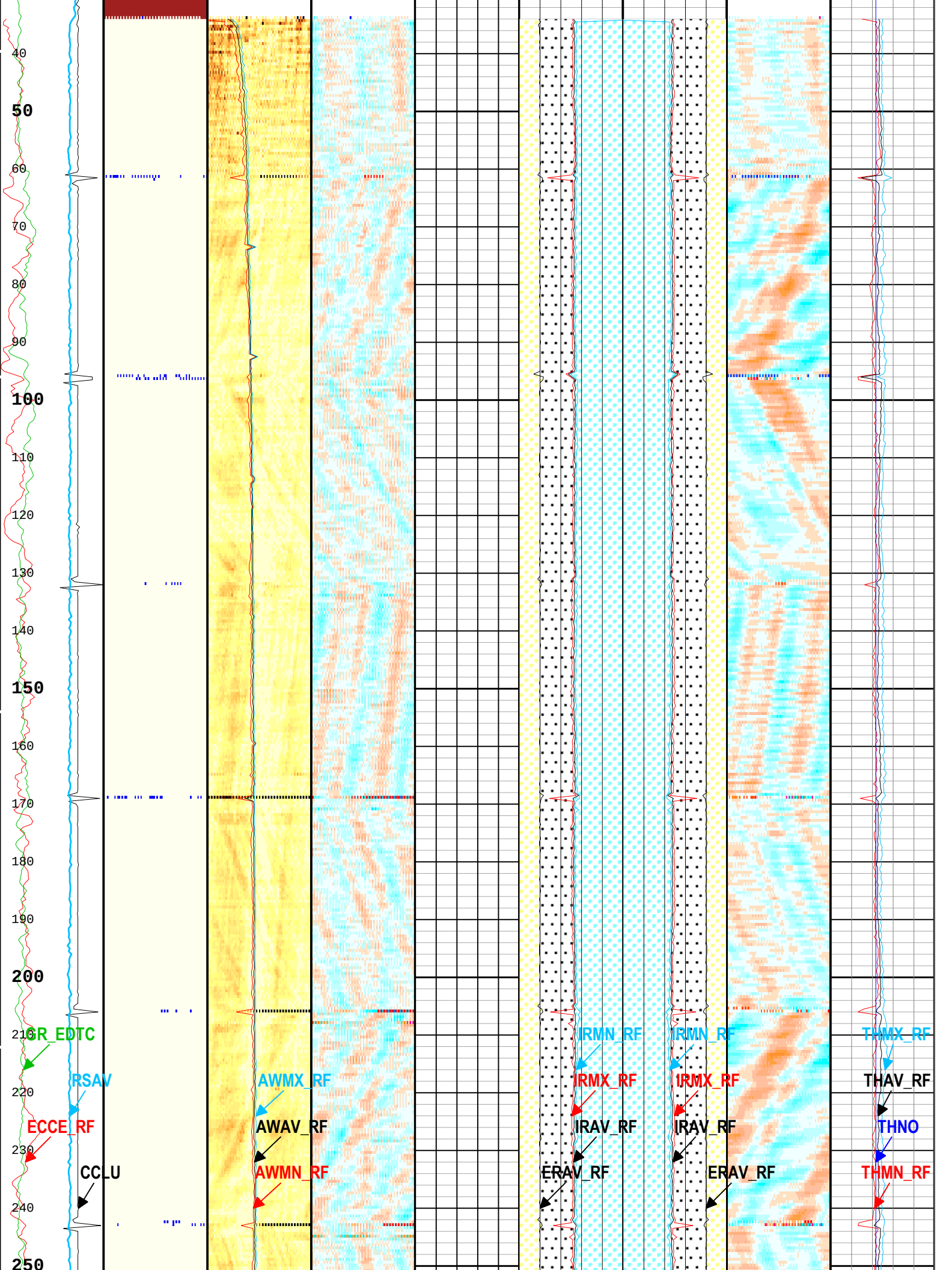
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

30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GR_EDTC
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
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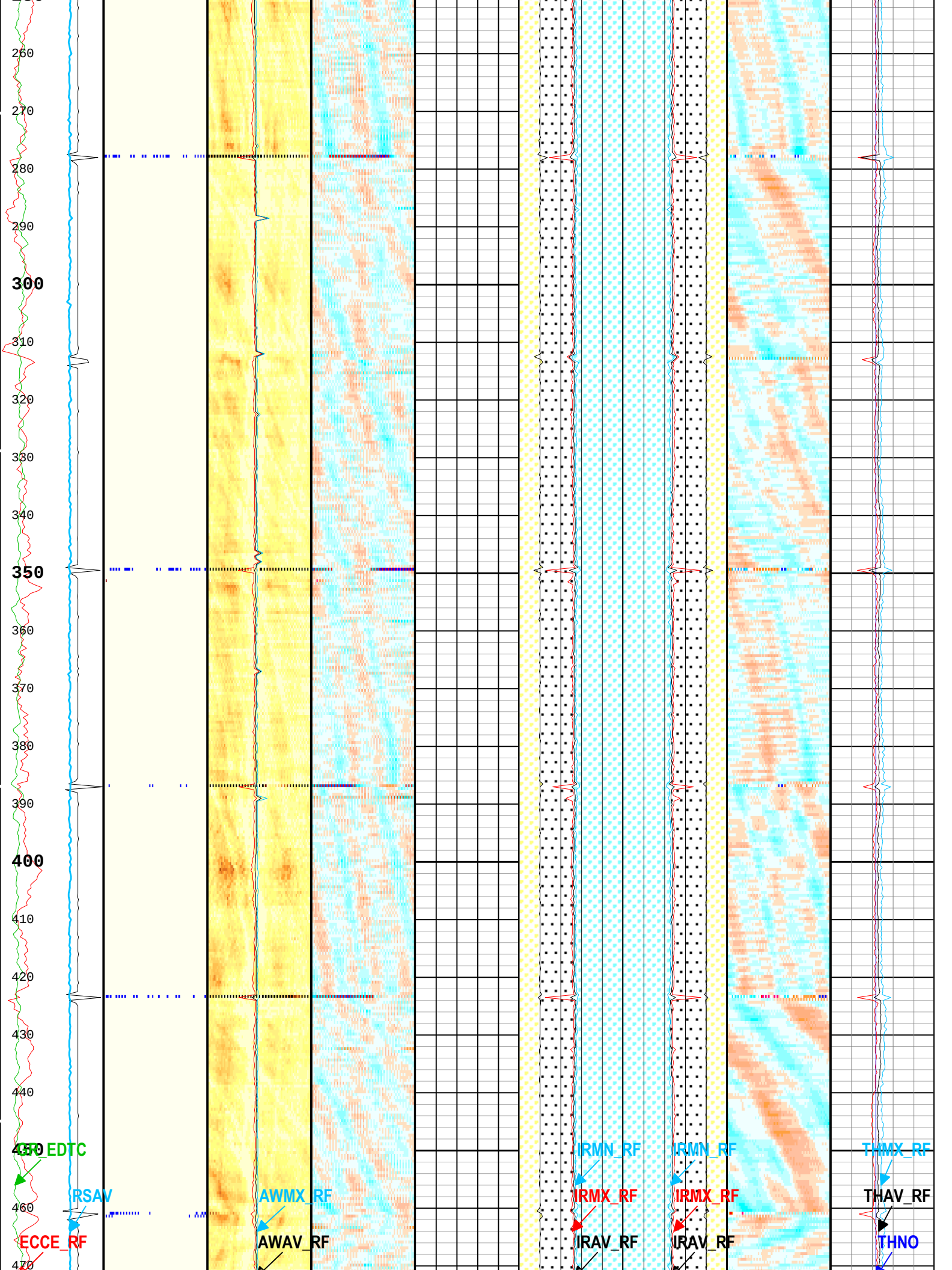
THAV_RF
THNO
THMN_RF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EDTC
RSAV
ECCE_RF
AWMX_RF
AWAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
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IRAV_RF
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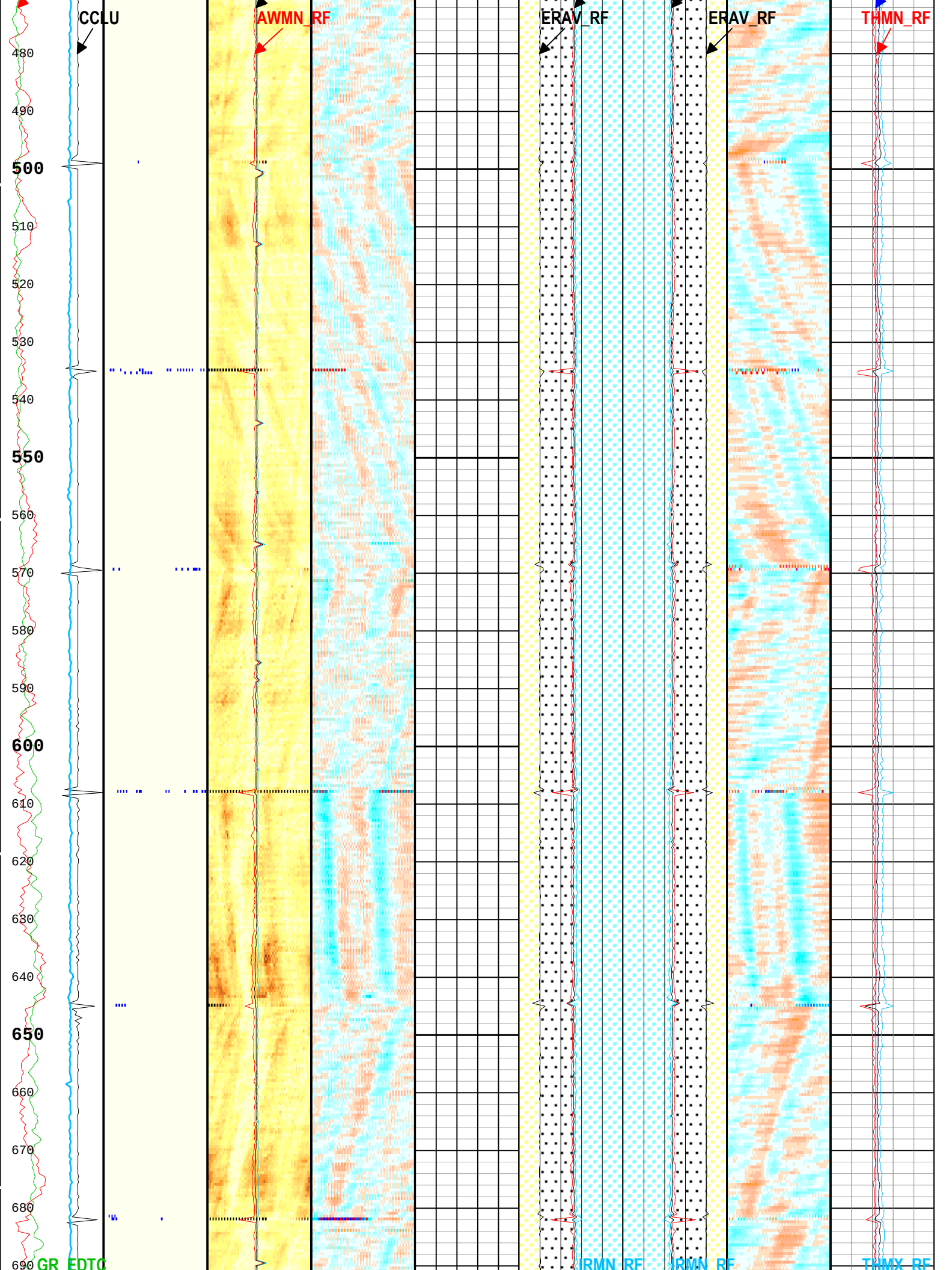
THAV_RF
THNO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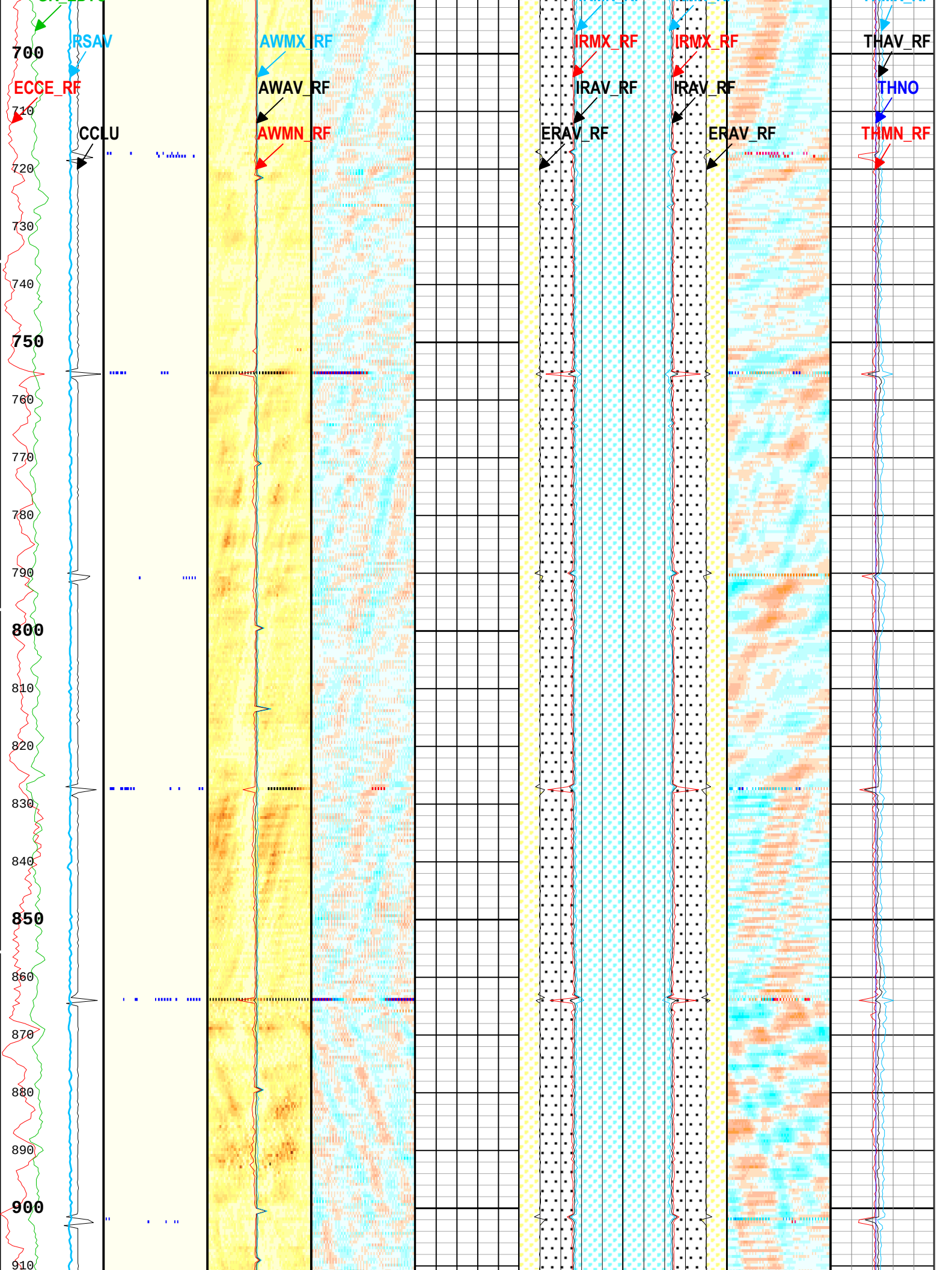
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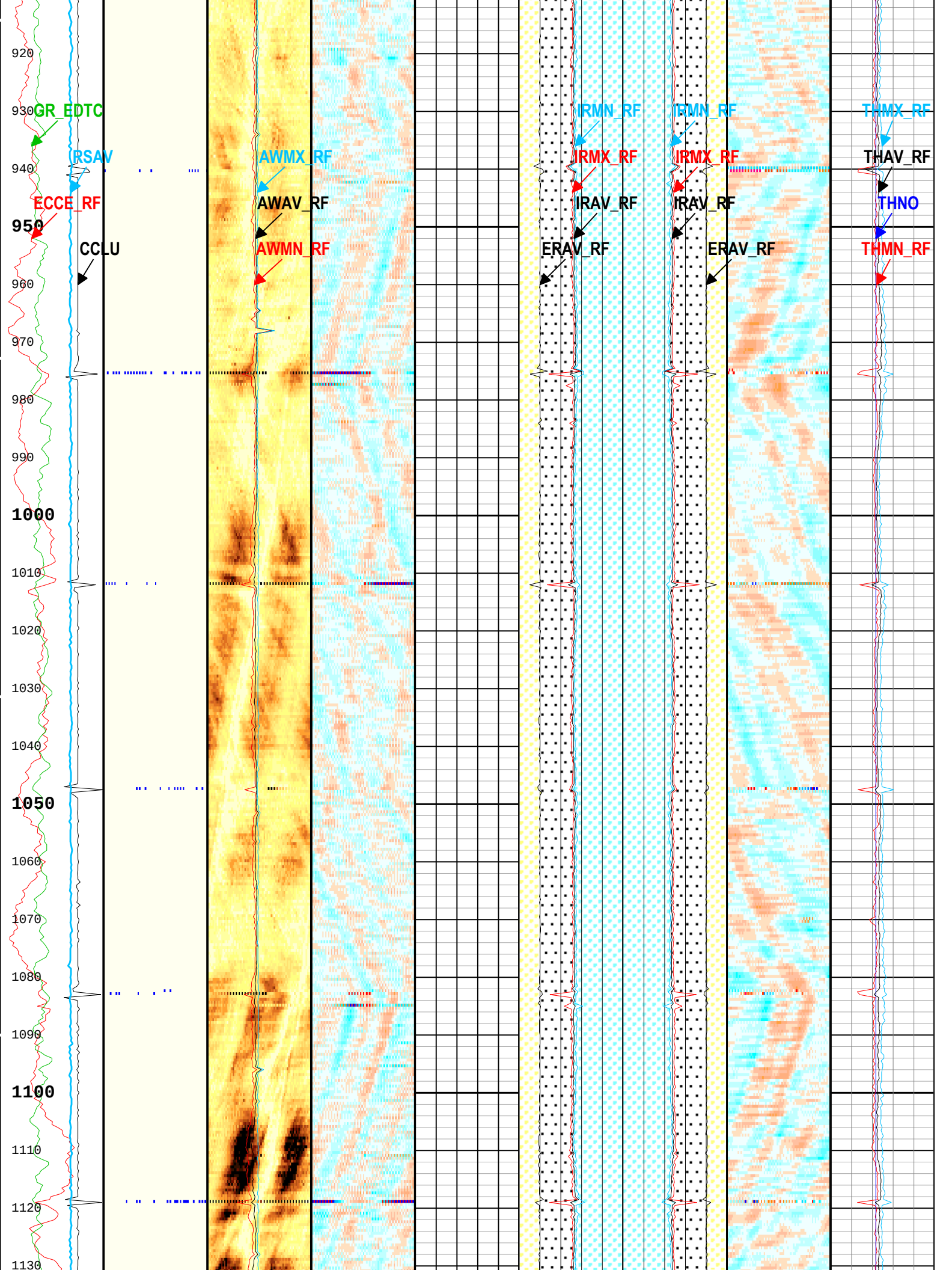
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RSAV
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AWAV_RF
AWMN_RF
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IRMX_RF
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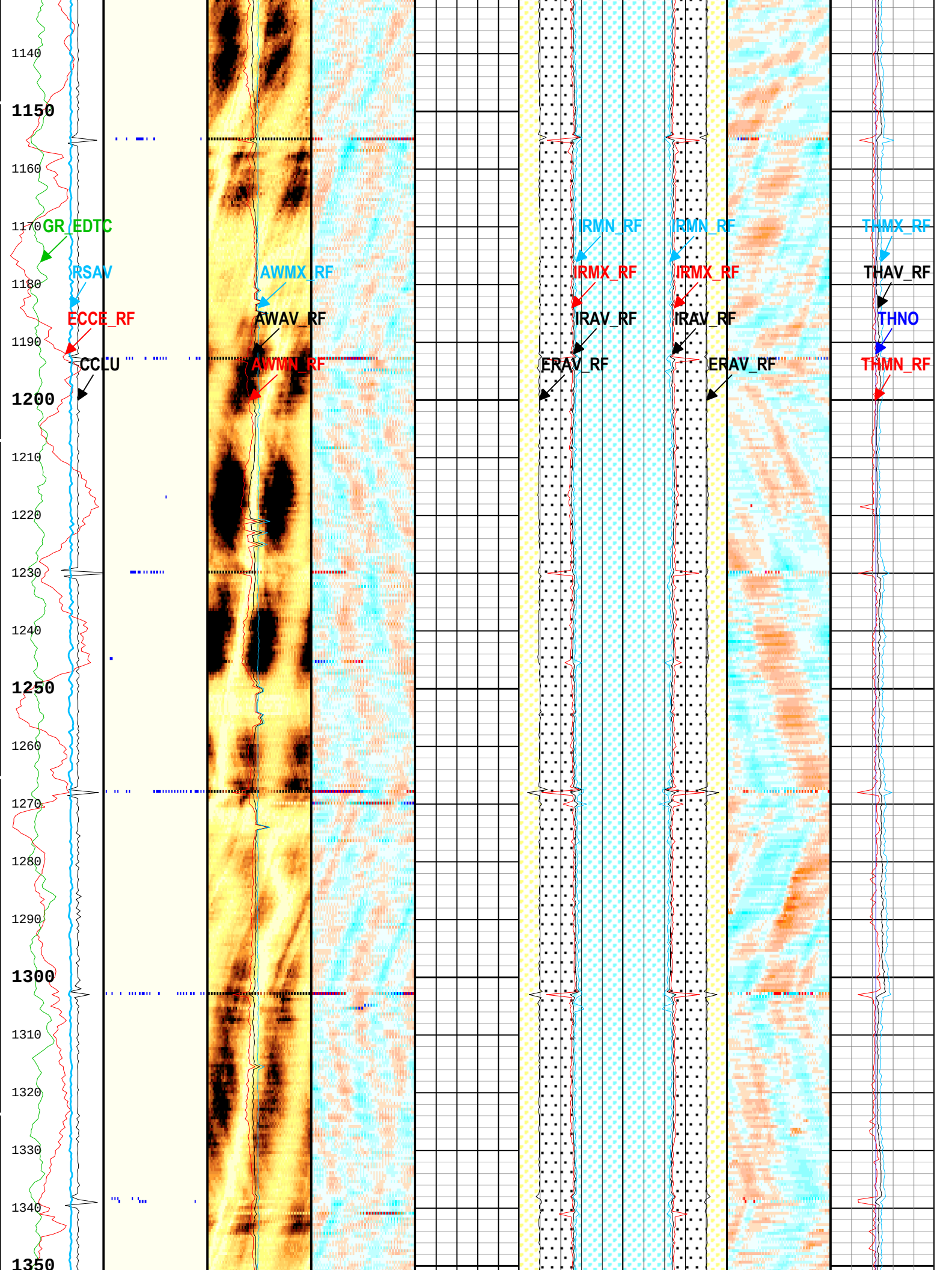
THMN_RF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RSAV
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CCLU
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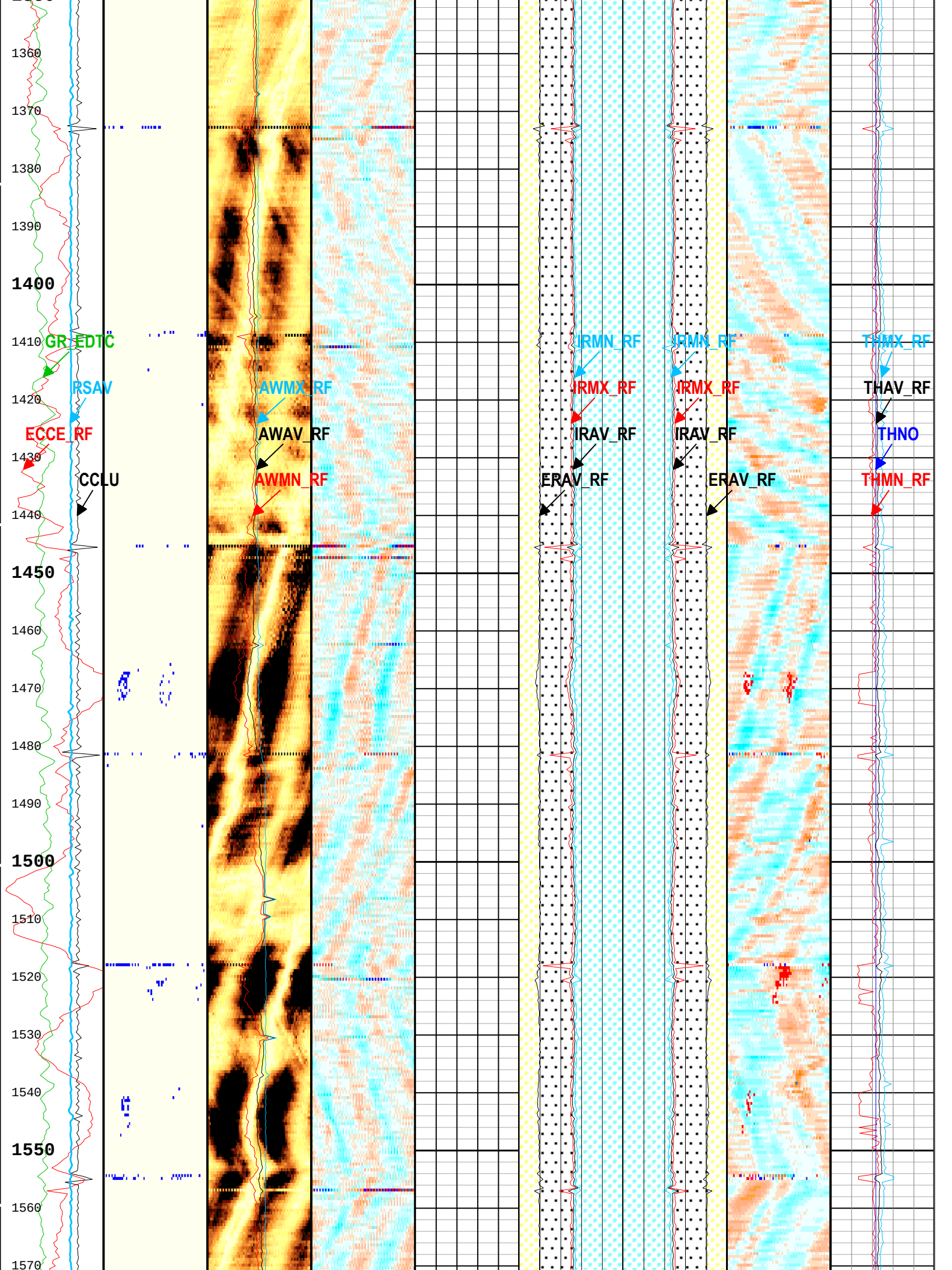
THMN_RF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GR_EDTC
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
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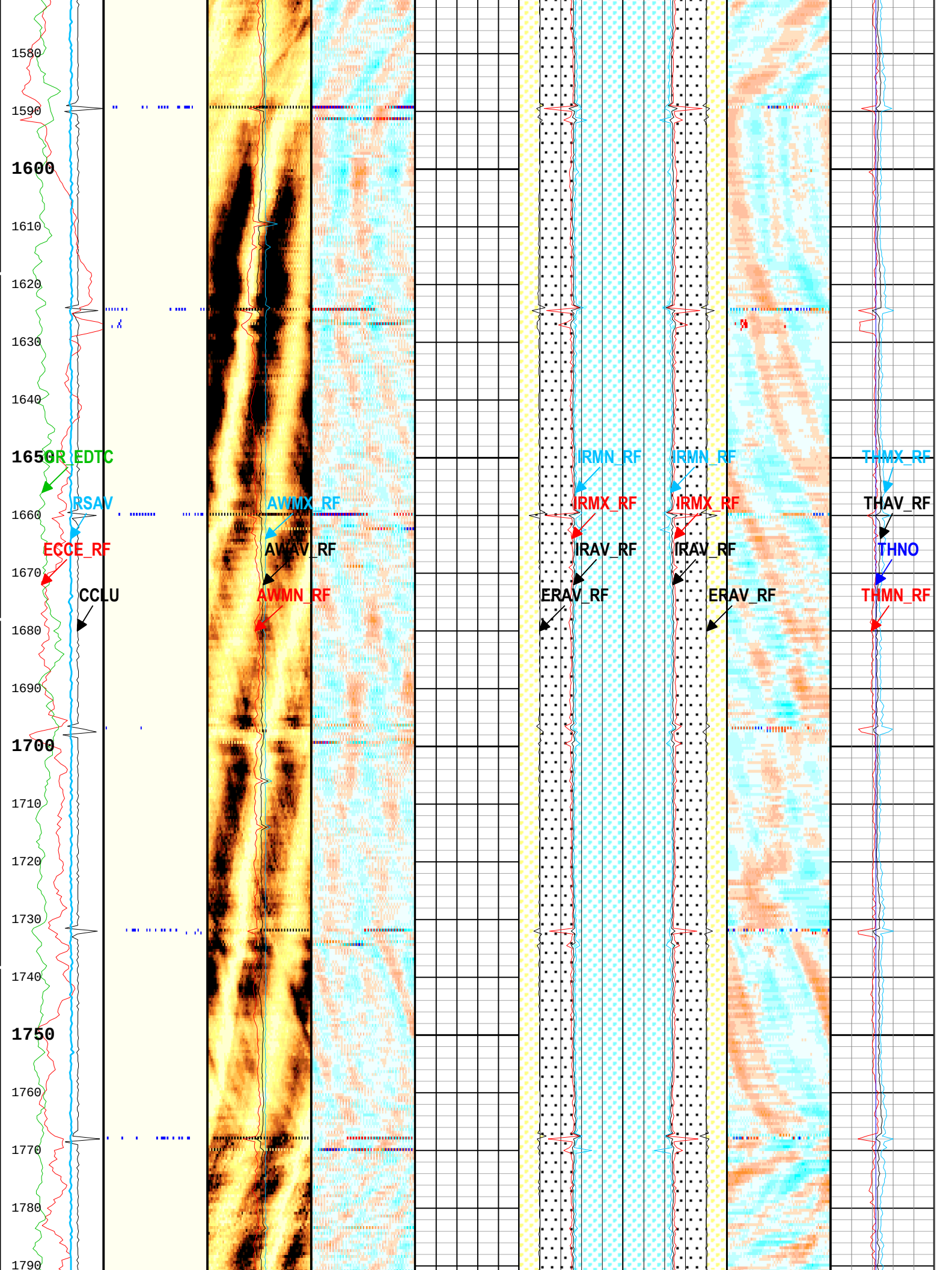
THMN_RF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GR_EDTC
RSAV
ECCE_RF
CCLU
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AWAV_RF
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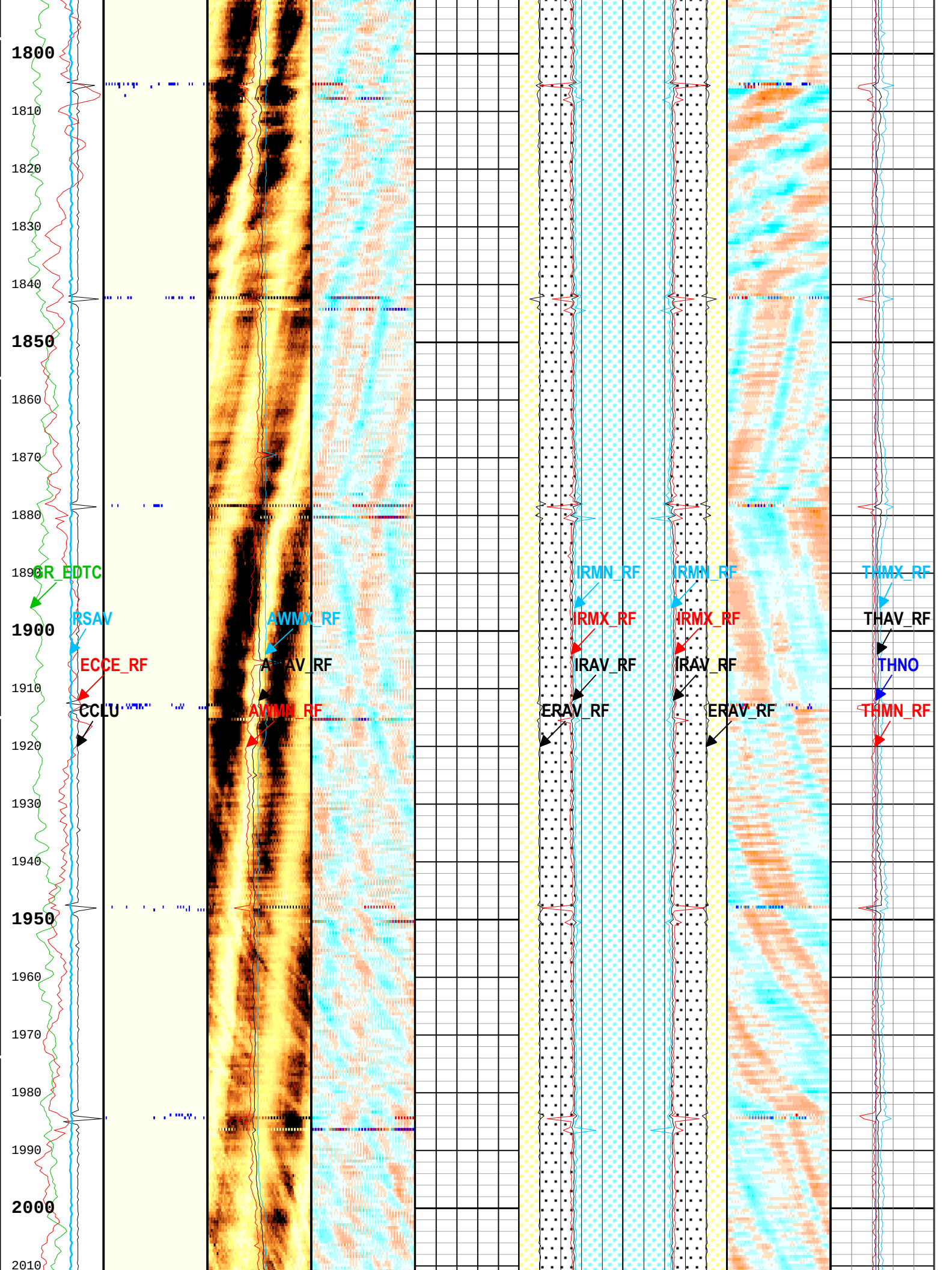
THMN_RF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2010
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RSAV
ECCE_RF
CCLU
AWMX_RF
AWMN_RF
IRMN_RF
IRMX_RF
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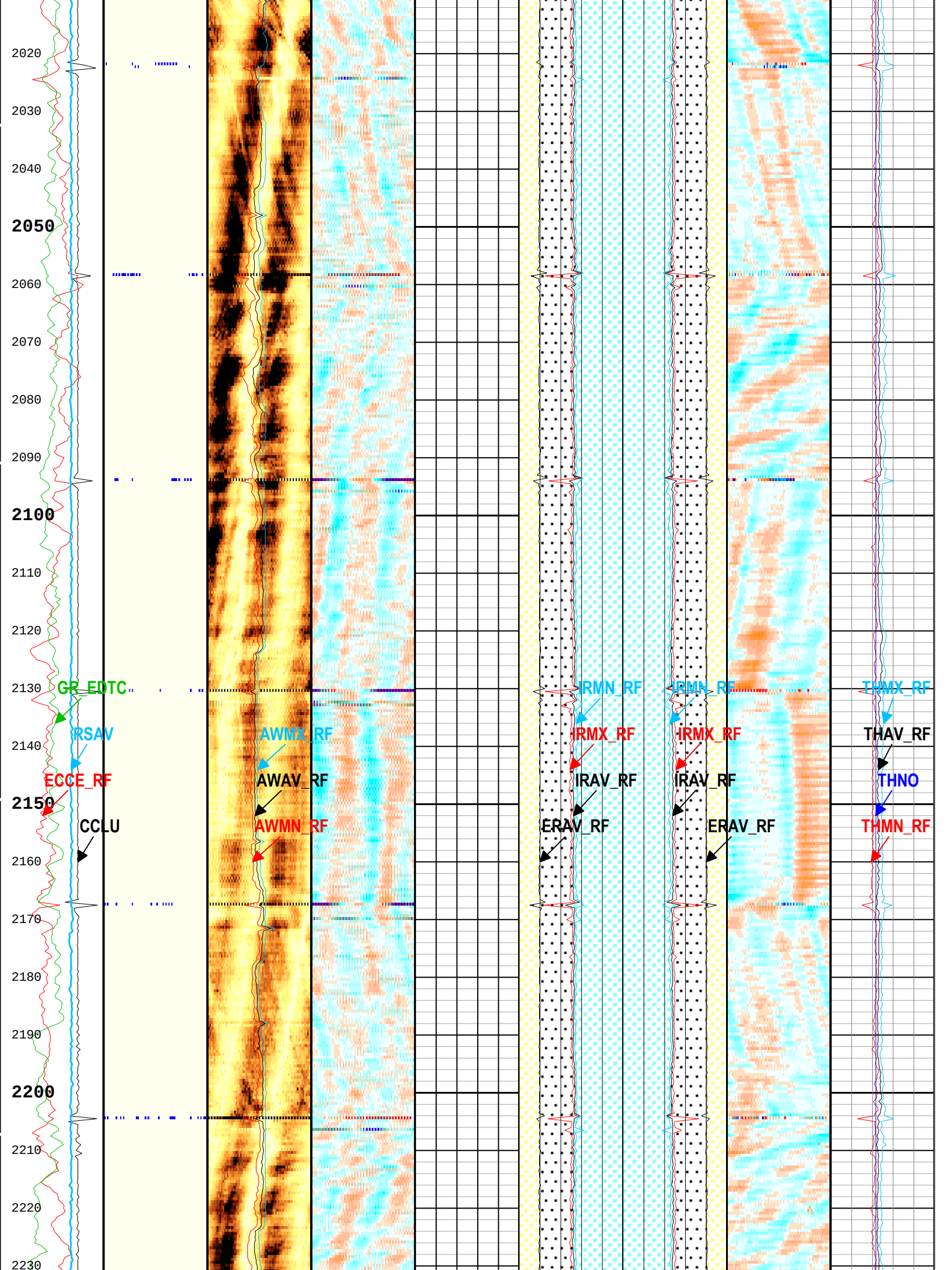
THAV_RF
THNO
THMN_RF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GR_EDTC
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
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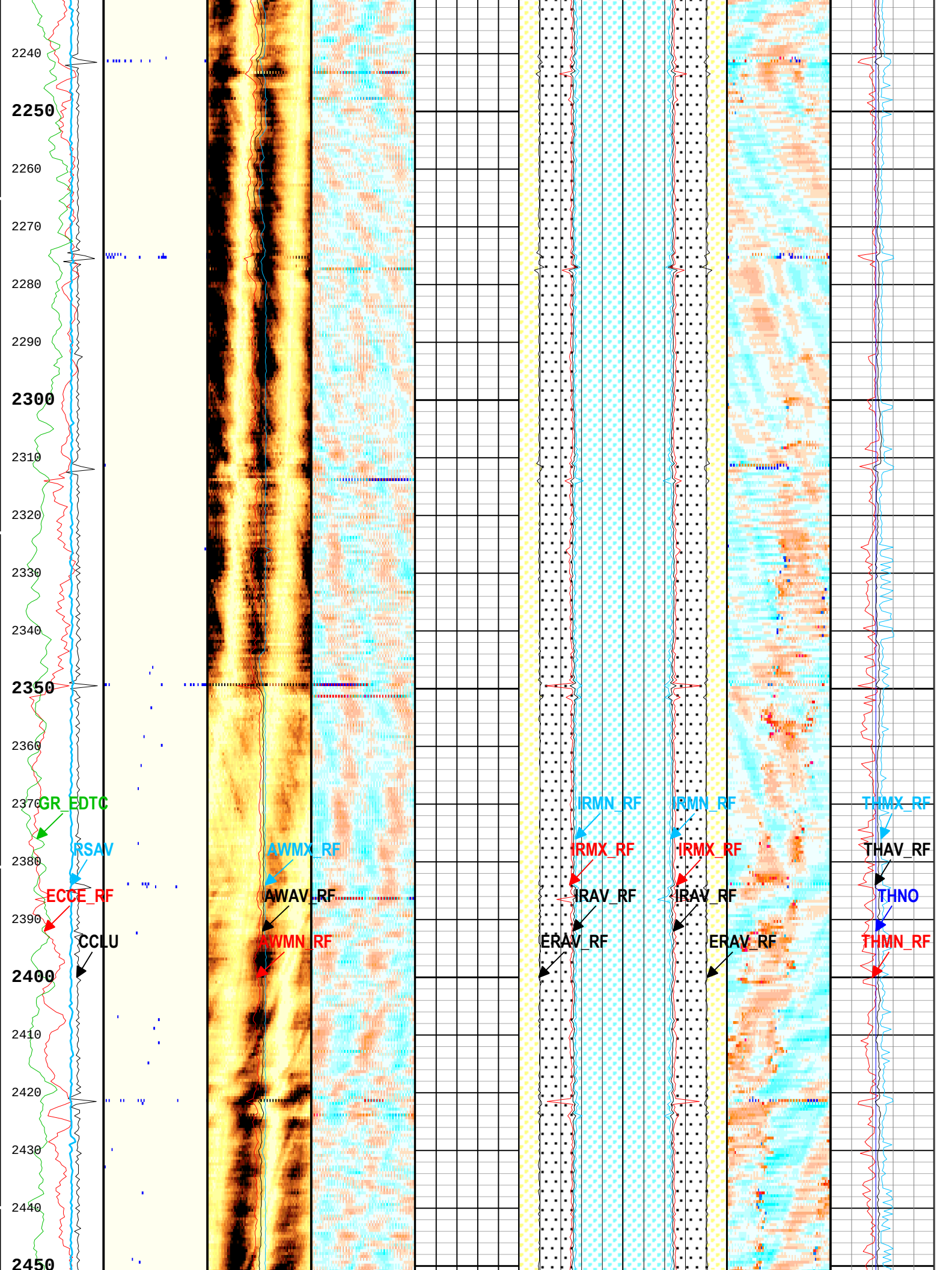
THMX_RF
THAV_RF
THNO
THMN_RF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RSAV
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CCLU
AWMX_RF
AWAV_RF
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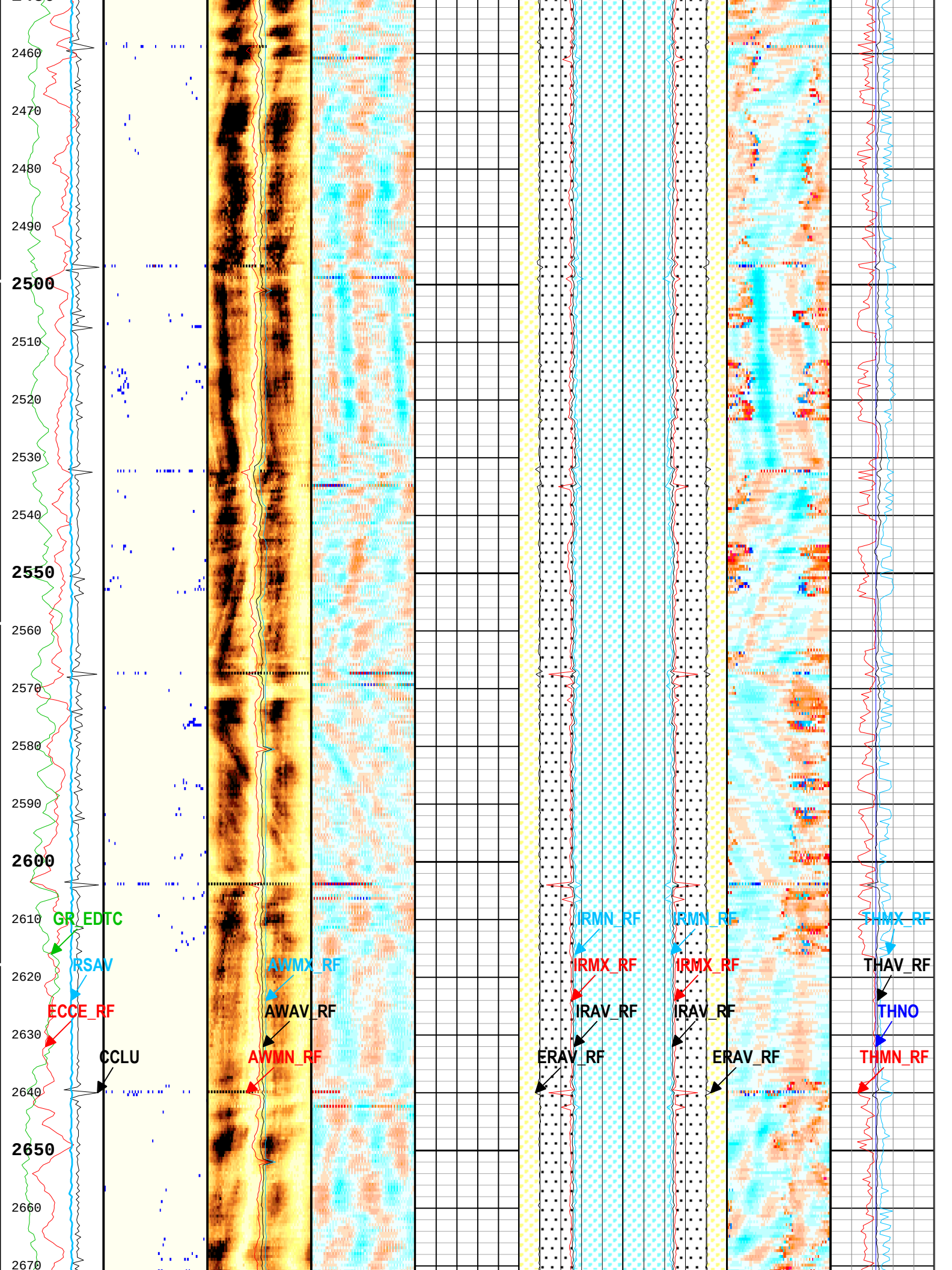
THMN_RF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GR_EDTC
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
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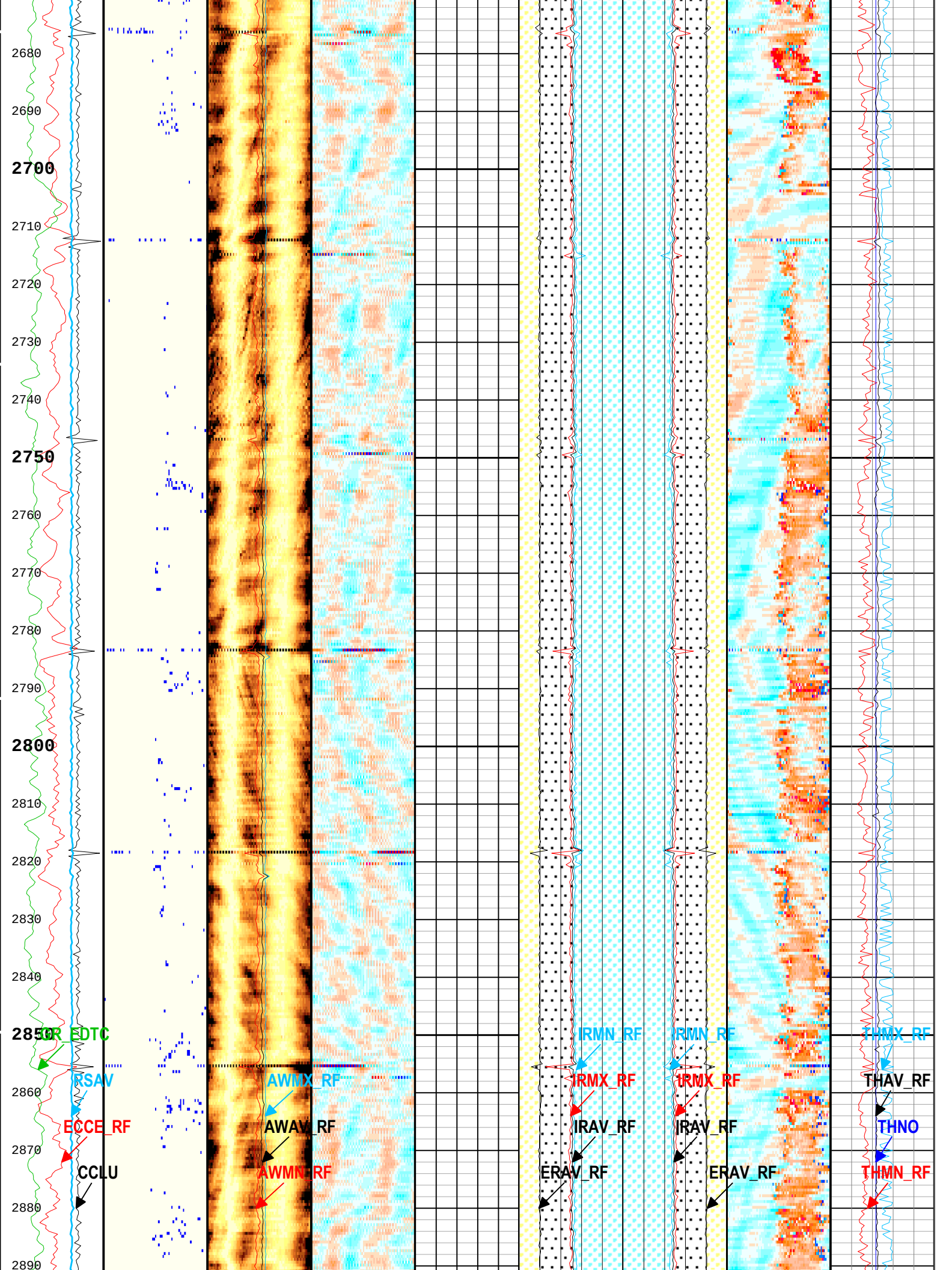
THNO
THMN_RF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RSAV
ECCE_RF
CCLU
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AWAV_RF
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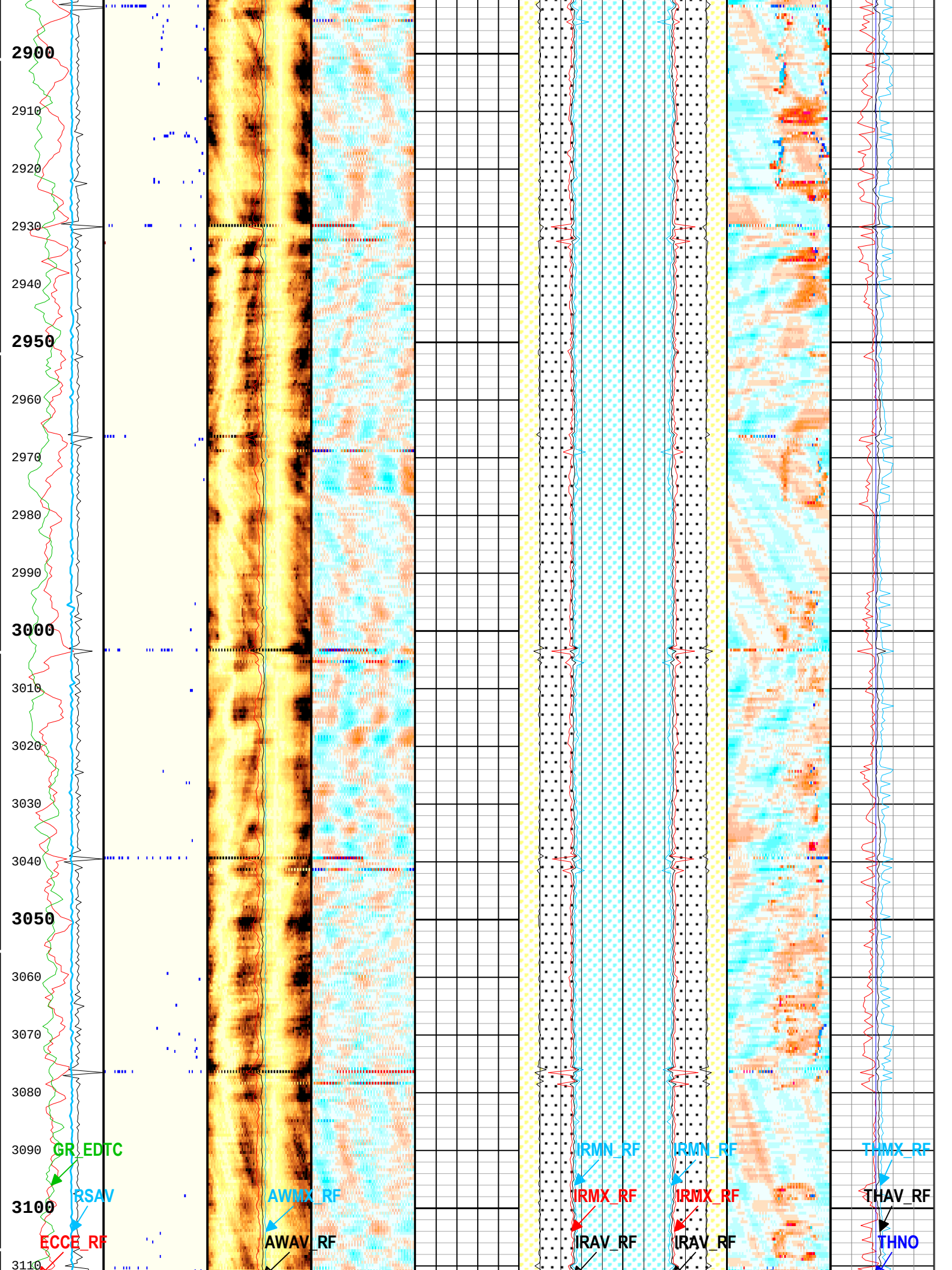
THNO
THMN_RF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GR_EDTC
RSAV
ECCE_RF
AWMX_RF
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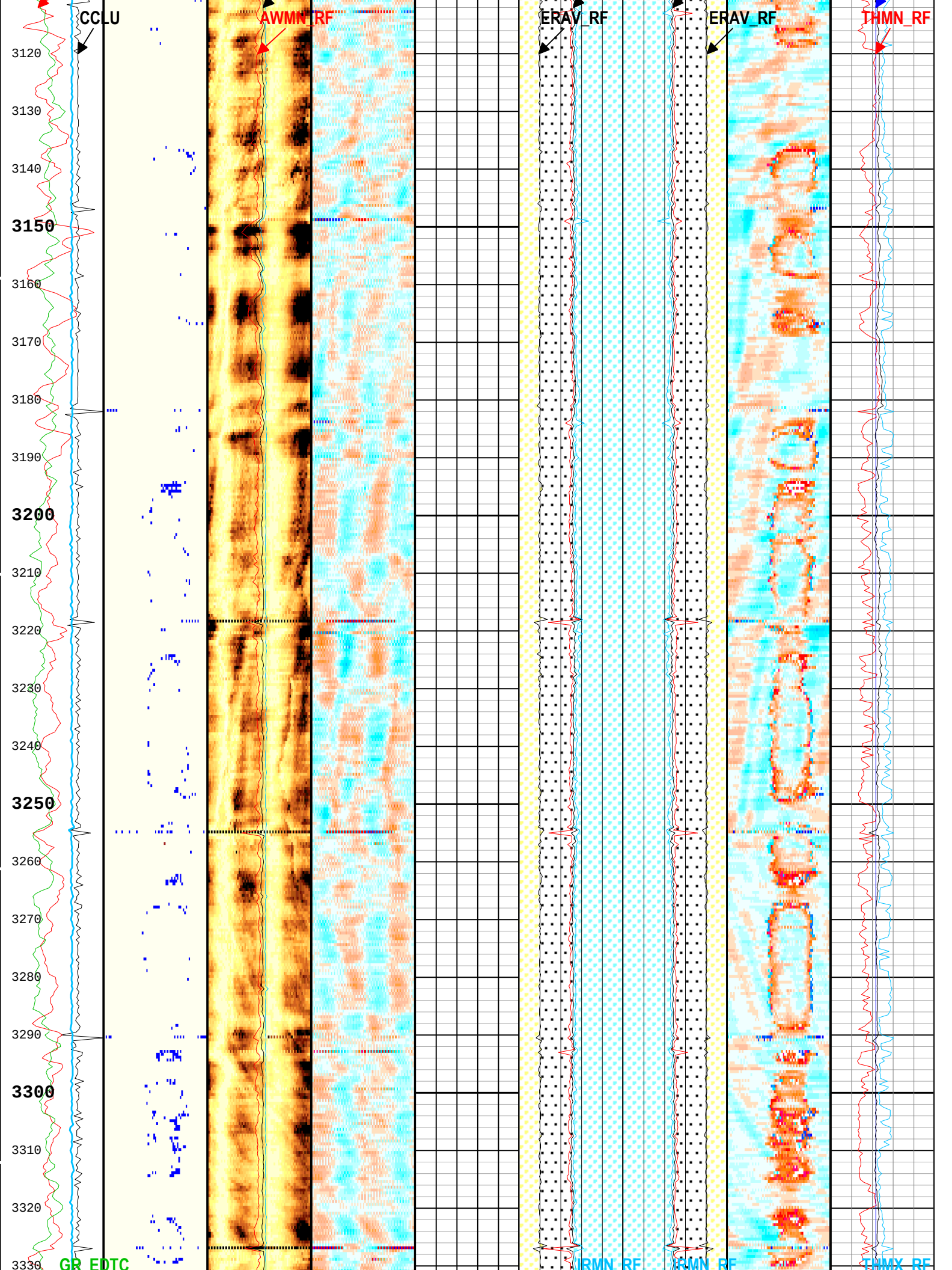
THNO


CCLU
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ERAV_RF
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GR_EDTC
IRMN_RF
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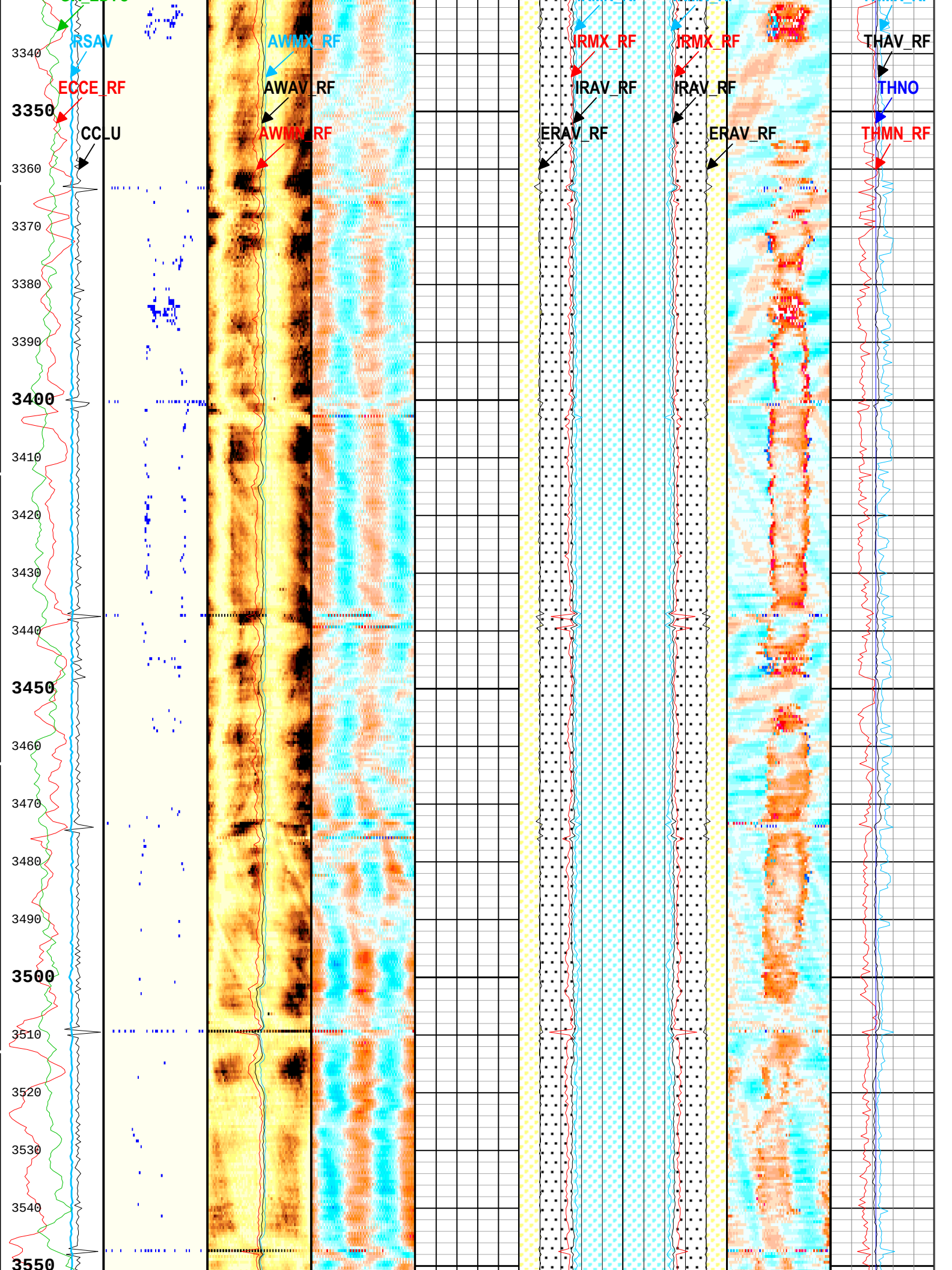
THMX_RF


RSAV
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AWMX_RF
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THMN_RF
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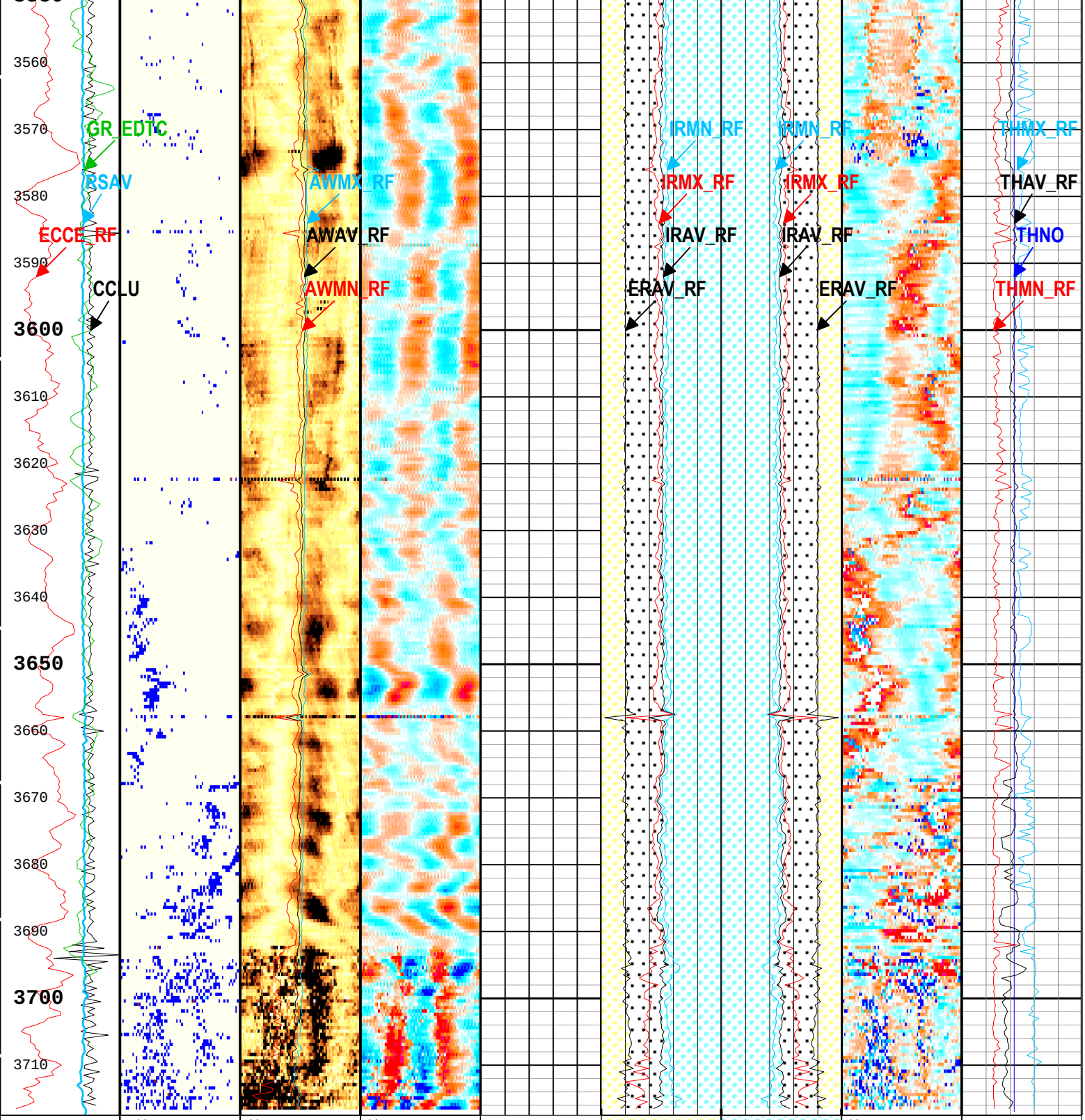


Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

Motor Revolution

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E
(dB)

Minimum of Unflagged Wave Amplitude

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)

ERAV
ERAV-IRAV
IRAV
Median of Unflagged External Radii (ERAV_RF) USIT-E
3.7 in 2.7

IRAV
ERAV
IRAV-ERAV
Median of Unflagged External Radii (ERAV_RF) USIT-E
2.7 in 3.7

Median Internal Radius of

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged

Revolution Speed (RSAV) USIT-E		
6	c/s	8

Calibrated Gamma Ray (GR_EDTC) EDTC-B		
0	gAPI	150

(AWMN_RF) USIT-E		
0	dB	75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E		
0	dB	75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E		
0	dB	75

Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E		
3.7	in	2.7

Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E		
2.7	in	3.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E		
3.7	in	2.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E		
2.7	in	3.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E		
3.7	in	2.7

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E		
2.7	in	3.7

(in)

Casing Thickness (THAV_RF) USIT-E		
0.1	in	0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E		
0.1	in	0.6

TIME_1900 - Time Marked every 60.00 (s)

USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

UTIM Error
Pulse Origin Not Detected
WINLEN Error
Casing Thickness Error
Loop Processing Error

Description: USI Composite Format: Log (LBV1_USI Corrosion 7inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:14

One

Repeat Pass Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[8]:Up	Up	2947.03 ft	3714.58 ft	23-May-2016 11:47:54 AM	23-May-2016 12:08:16 PM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:E&B Natural Resources Well:WNF-I 11

One: Log[8]:Up:S005

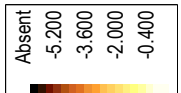
Description: USI Composite Format: Log (LBV1_USI Corrosion 7inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:18

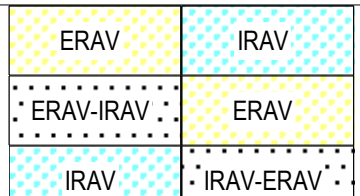
TIME_1900 - Time Marked every 60.00 (s)

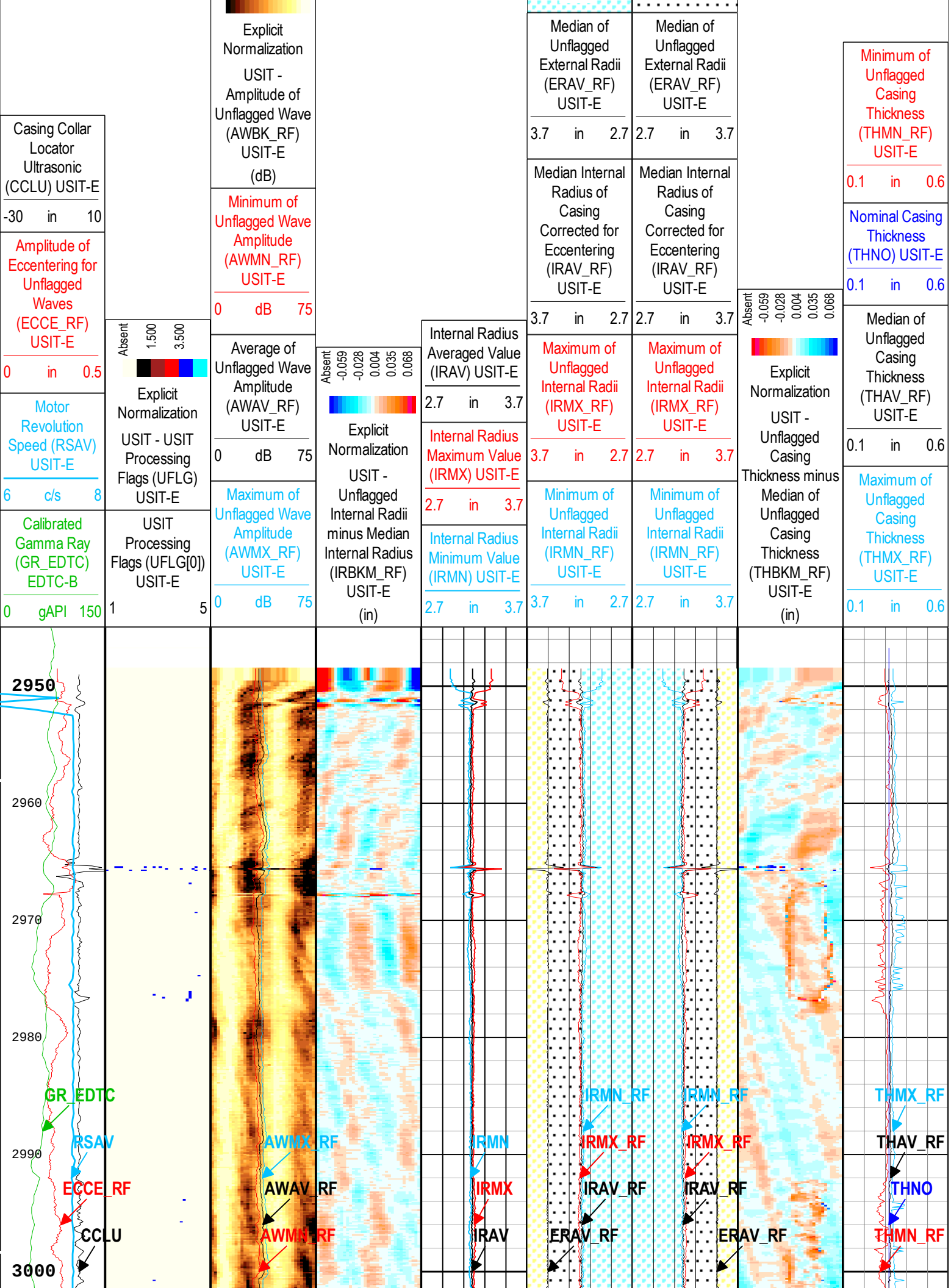
USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

UTIM Error
Pulse Origin Not Detected
WINLEN Error
Casing Thickness Error
Loop Processing Error






Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10
Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
Calibrated Gamma Ray (GR_EDTC) EDTC-B
0 gAPI 150
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E
(dB)
Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75
Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)
Internal Radius Averaged Value (IRAV) USIT-E
2.7 in 3.7
Internal Radius Maximum Value (IRMX) USIT-E
2.7 in 3.7
Internal Radius Minimum Value (IRMN) USIT-E
2.7 in 3.7
Median of Unflagged External Radii (ERAV_RF) USIT-E
3.7 in 2.7
Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.7 in 2.7
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.7 in 2.7
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.7 in 2.7
Median of Unflagged External Radii (ERAV_RF) USIT-E
2.7 in 3.7
Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
2.7 in 3.7
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
2.7 in 3.7
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
2.7 in 3.7
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6
Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6
Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
2950
2960
2970
2980
2990
3000
GR_EDTC
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
IRMX_RF
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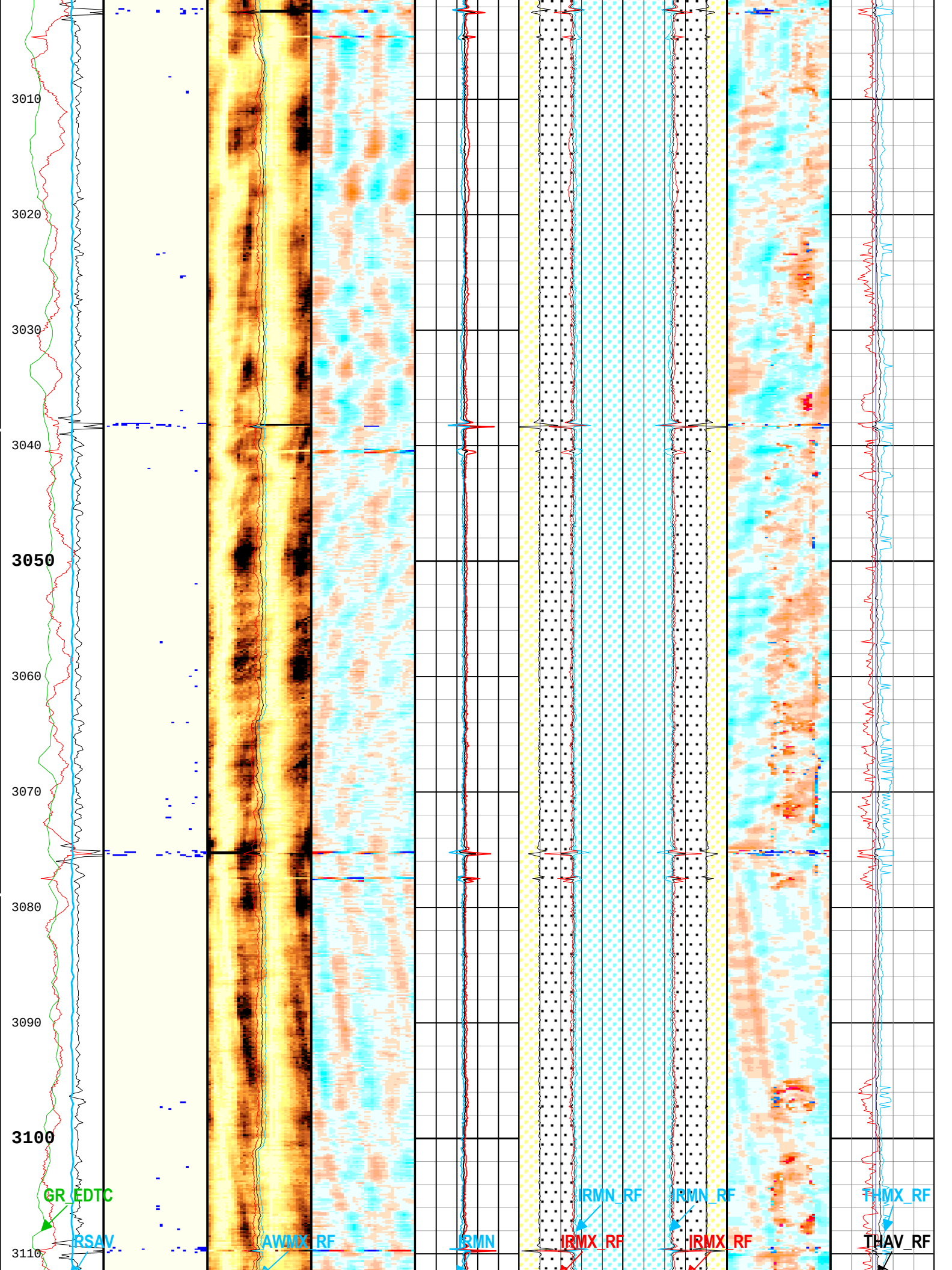
THMX_RF
THAV_RF
THNO
THMN_RF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3100
3110
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RSAV
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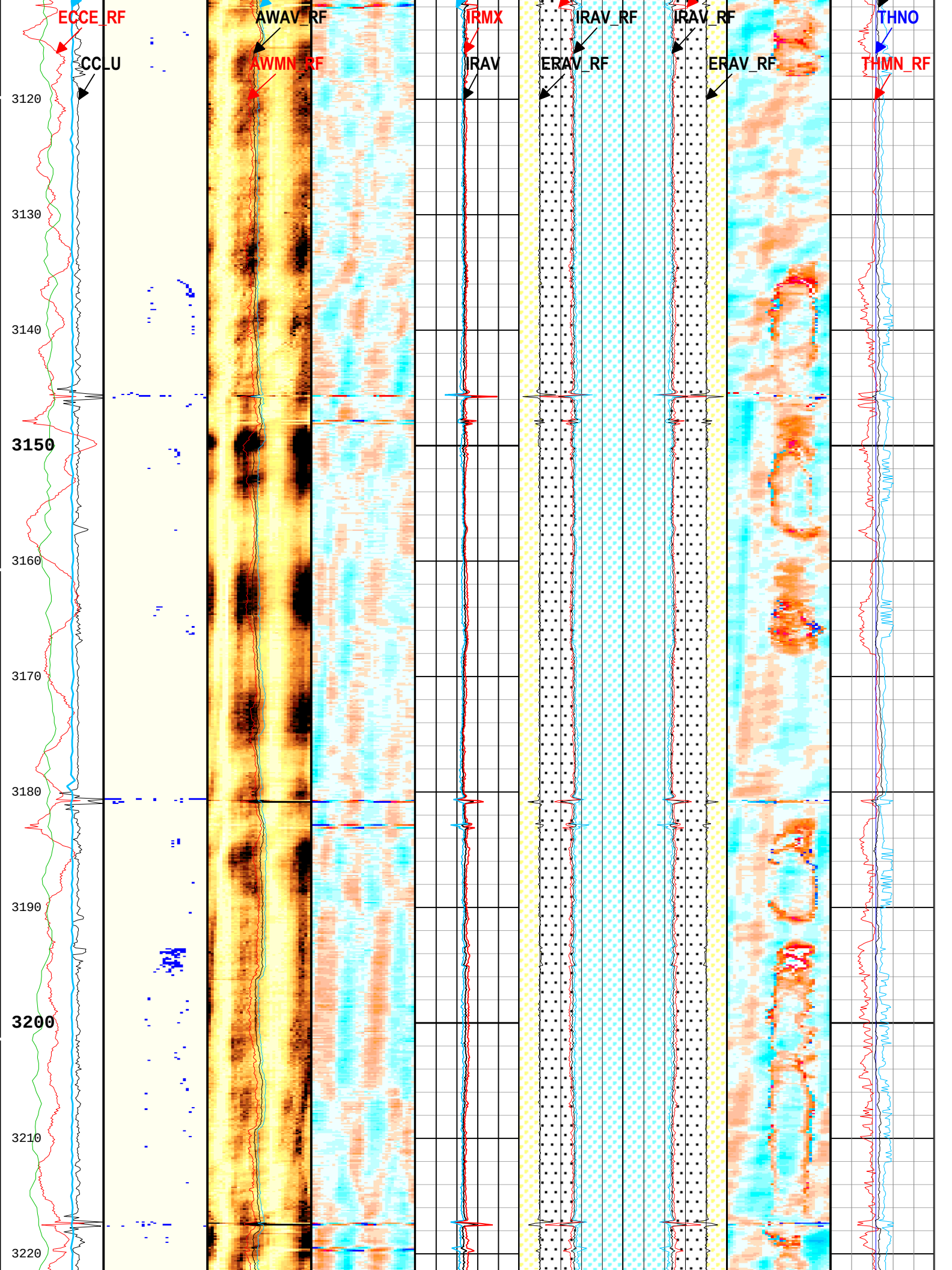
IRMN
IRMN_RF
IRMX_RF
IRMN_RF
IRMX_RF
THMX_RF
THAV_RF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CCLU
AWAV_RF
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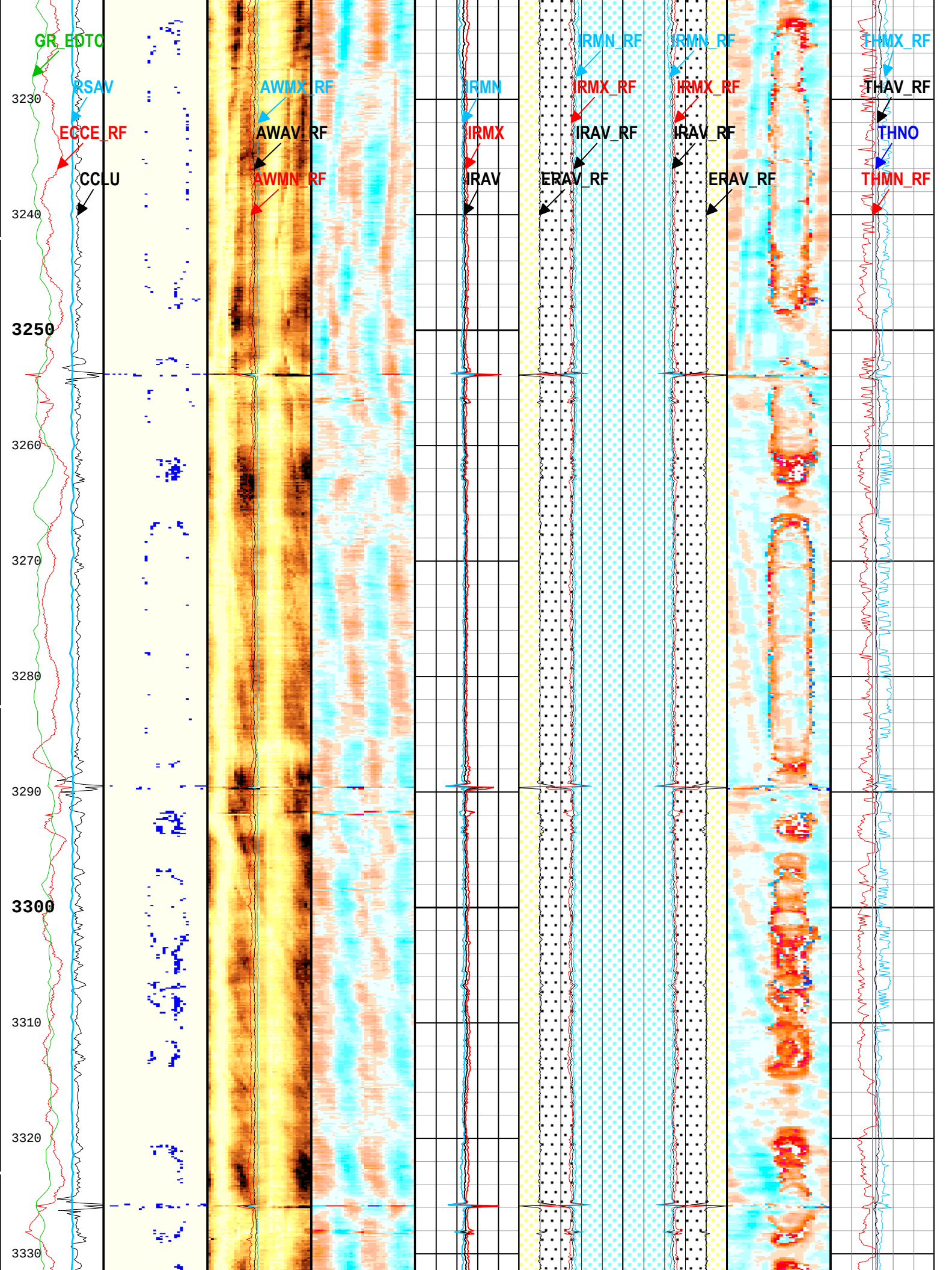
GR_EDTC
RSAV
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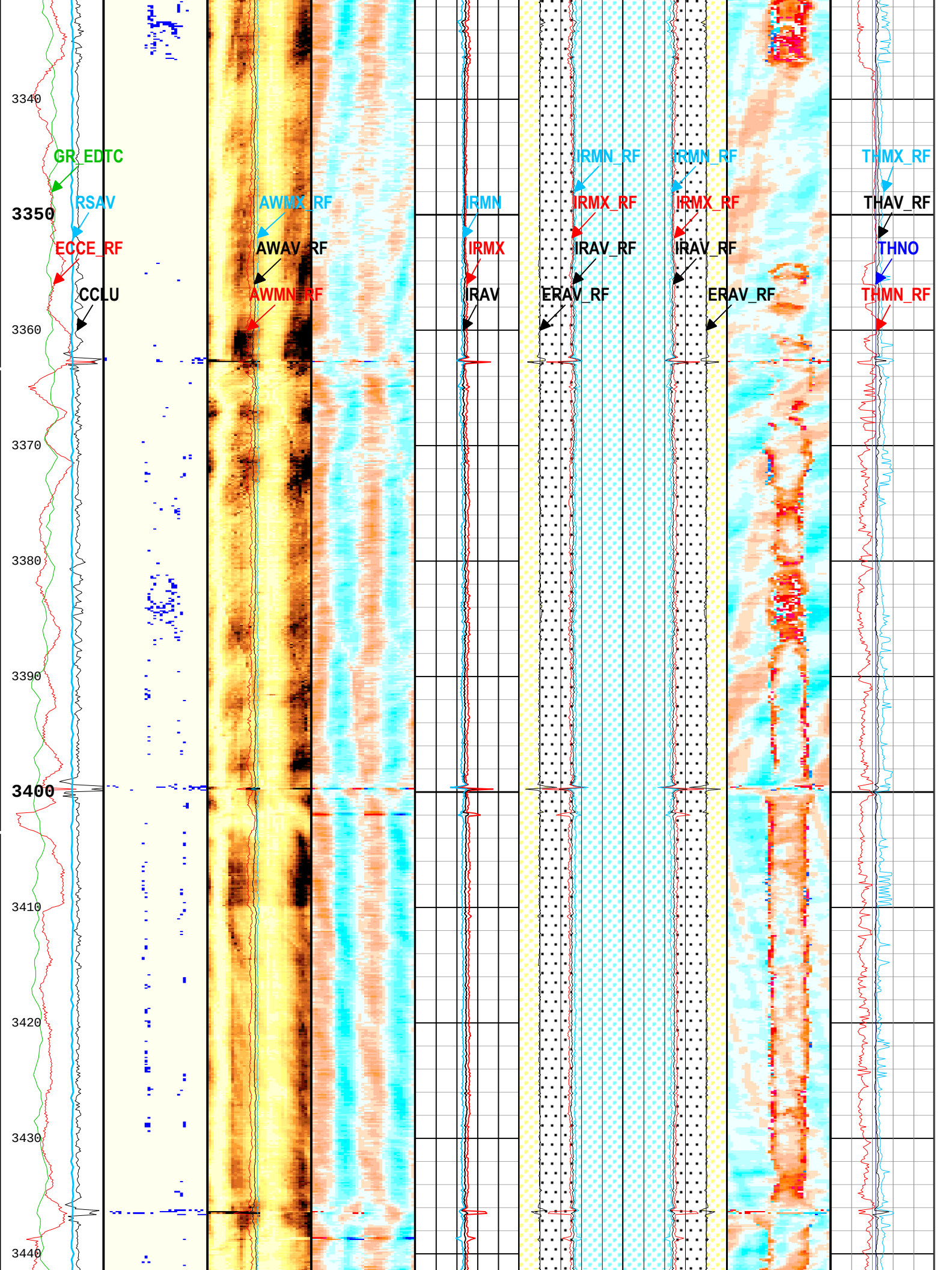
3320
3330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3350
3360
3370
3380
3390
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3410
3420
3430
3440
GR_EDTC
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
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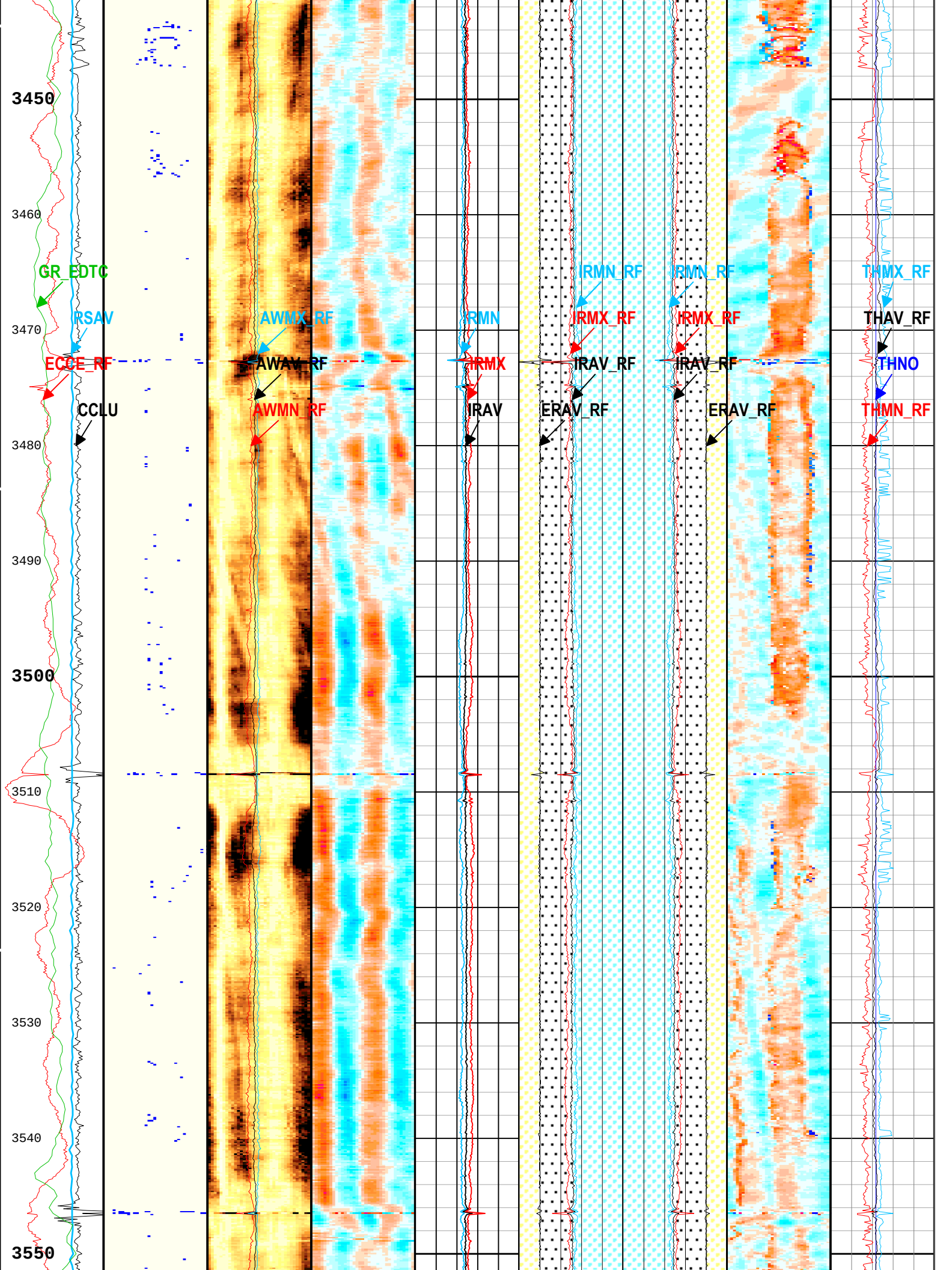
THAV_RF
THNO
THMN_RF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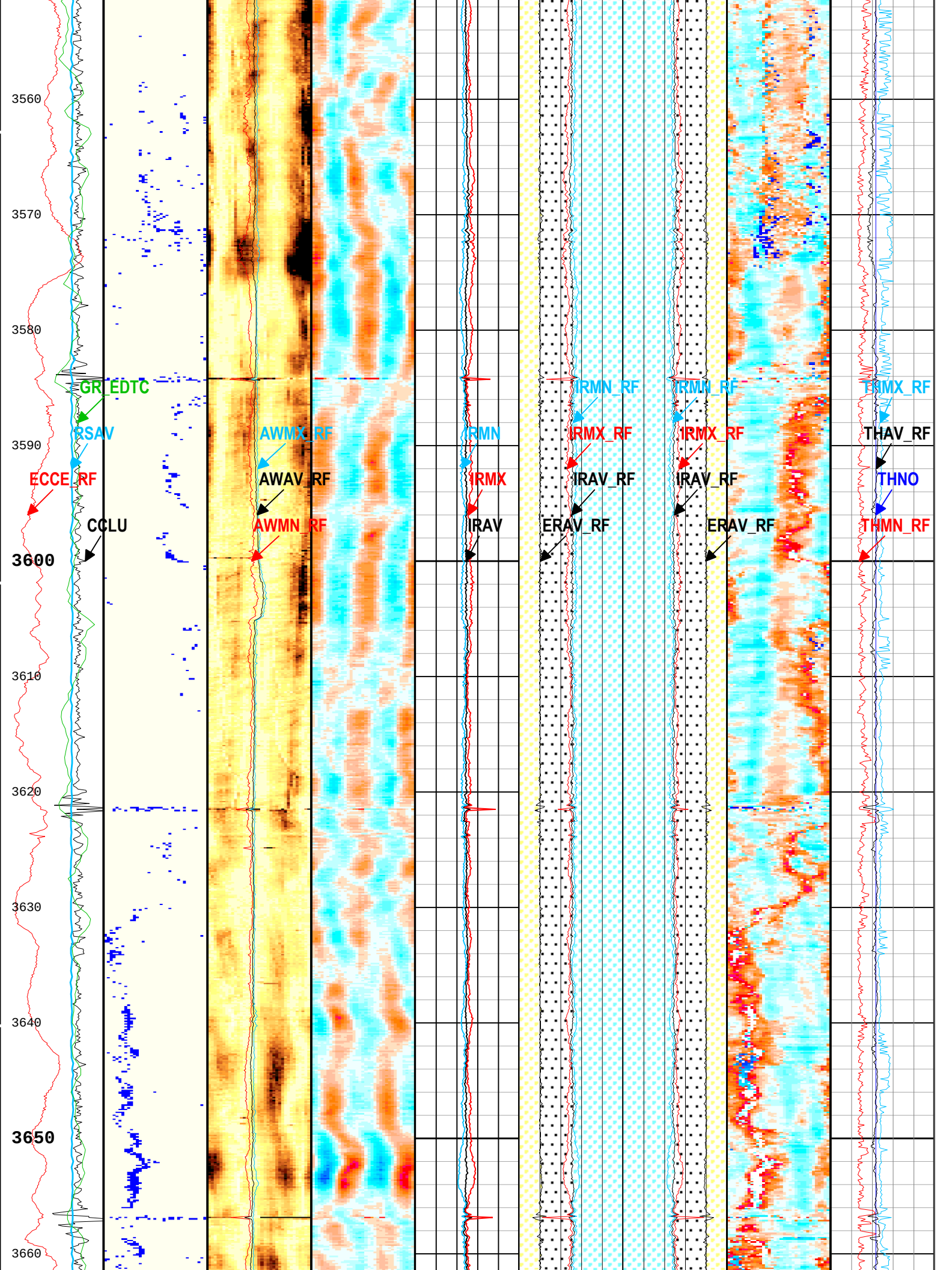
THMN_RF


3560
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RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
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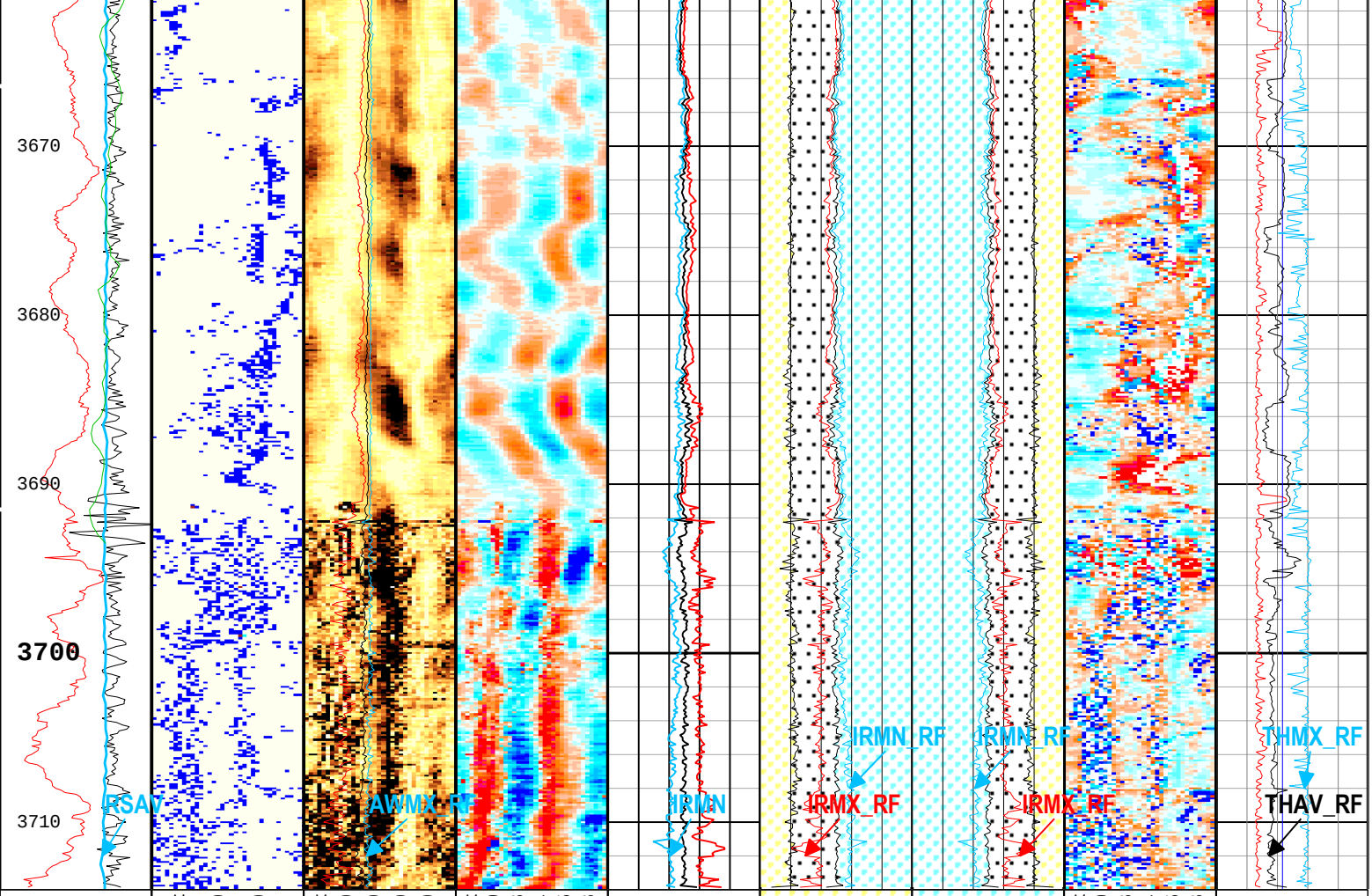
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF



Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

Motor Revolution Speed (RSAV) USIT-E
6 c/s 8

Calibrated Gamma Ray (GR_EDTC) EDTC-B
0 gAPI 150

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
2.7 in 3.7

Internal Radius Maximum Value (IRMX) USIT-E
2.7 in 3.7

Internal Radius Minimum Value (IRMN) USIT-E
2.7 in 3.7

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.7 in 2.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.7 in 2.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.7 in 2.7

Minimum of Unflagged Internal Radii (IRMN_RF)

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
2.7 in 3.7

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
2.7 in 3.7

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
2.7 in 3.7

Minimum of Unflagged Internal Radii (IRMN_RF)

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

USIT-E	USIT-E
3.7 in 2.7	2.7 in 3.7

USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - :	UTIM Error
2 - UFLG 2 Value within [1.5 - 2.5] - :	Pulse Origin Not Detected
3 - UFLG 3 Value within [2.5 - 3.5] - :	WINLEN Error
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :	Casing Thickness Error
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :	Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Corrosion 7inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 23-May-2016 12:40:18

One

USI Compressed Goodwin

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[6]:Up	Up	29.99 ft	3717.82 ft	23-May-2016 10:18:40 AM	23-May-2016 11:28:31 AM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:E&B Natural Resources Well:WNF-I 11
One: Log[6]:Up:S005

Description: USI Goodwin Format: Log (Import of USI Goodwin) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:22

TIME_1900 - Time Marked every 60.00 (s)

Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E 0 Mrayl 10	Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E 0 Mrayl 10	Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E 0 Mrayl 10	Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E 0 Mrayl 10
Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E 0 Mrayl 10	Maximum Acoustic Impedance 3 (MAX_AI3) USIT-E 0 Mrayl 10	Maximum Acoustic Impedance 5 (MAX_AI5) USIT-E 0 Mrayl 10	Maximum Acoustic Impedance 7 (MAX_AI7) USIT-E 0 Mrayl 10
Average Acoustic Impedance 1 (AV_AI1) USIT-E 0 Mrayl 10	Average Acoustic Impedance 3 (AV_AI3) USIT-E 0 Mrayl 10	Average Acoustic Impedance 5 (AV_AI5) USIT-E 0 Mrayl 10	Average Acoustic Impedance 7 (AV_AI7) USIT-E 0 Mrayl 10

Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E 0 Mrayl 10	Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E 0 Mrayl 10	Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E 0 Mrayl 10	Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E 0 Mrayl 10	Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E 0 Mrayl 10	Acoustic Impedance Minimum (AIMN) USIT-E -1 Mrayl 9
Maximum Acoustic Impedance 2	Maximum Acoustic Impedance 4	Maximum Acoustic Impedance 6	Maximum Acoustic Impedance 8	Maximum Acoustic Impedance 9	Acoustic Impedance Maximum

GR
0 gAPI 150

Motor

-1000.000 3.090 5.054 7.018

Revolution Speed (RSAV) USIT-E
6 c/s 8

Amplitude of Eccentering (ECCE) USIT-E
0 in 0.5

Maximum Acoustic Impedance 2 (MAX_AI2) USIT-E
0 Mrayl 10

Maximum Acoustic Impedance 4 (MAX_AI4) USIT-E
0 Mrayl 10

Maximum Acoustic Impedance 6 (MAX_AI6) USIT-E
0 Mrayl 10

Maximum Acoustic Impedance 8 (MAX_AI8) USIT-E
0 Mrayl 10

Maximum Acoustic Impedance 9 (MAX_AI9) USIT-E
0 Mrayl 10

Maximum (AIMX) USIT-E
-1 Mrayl 9

Average Acoustic Impedance 2 (AV_AI2) USIT-E
0 Mrayl 10

Average Acoustic Impedance 4 (AV_AI4) USIT-E
0 Mrayl 10

Average Acoustic Impedance 6 (AV_AI6) USIT-E
0 Mrayl 10

Average Acoustic Impedance 8 (AV_AI8) USIT-E
0 Mrayl 10

Average Acoustic Impedance 9 (AV_AI9) USIT-E
0 Mrayl 10

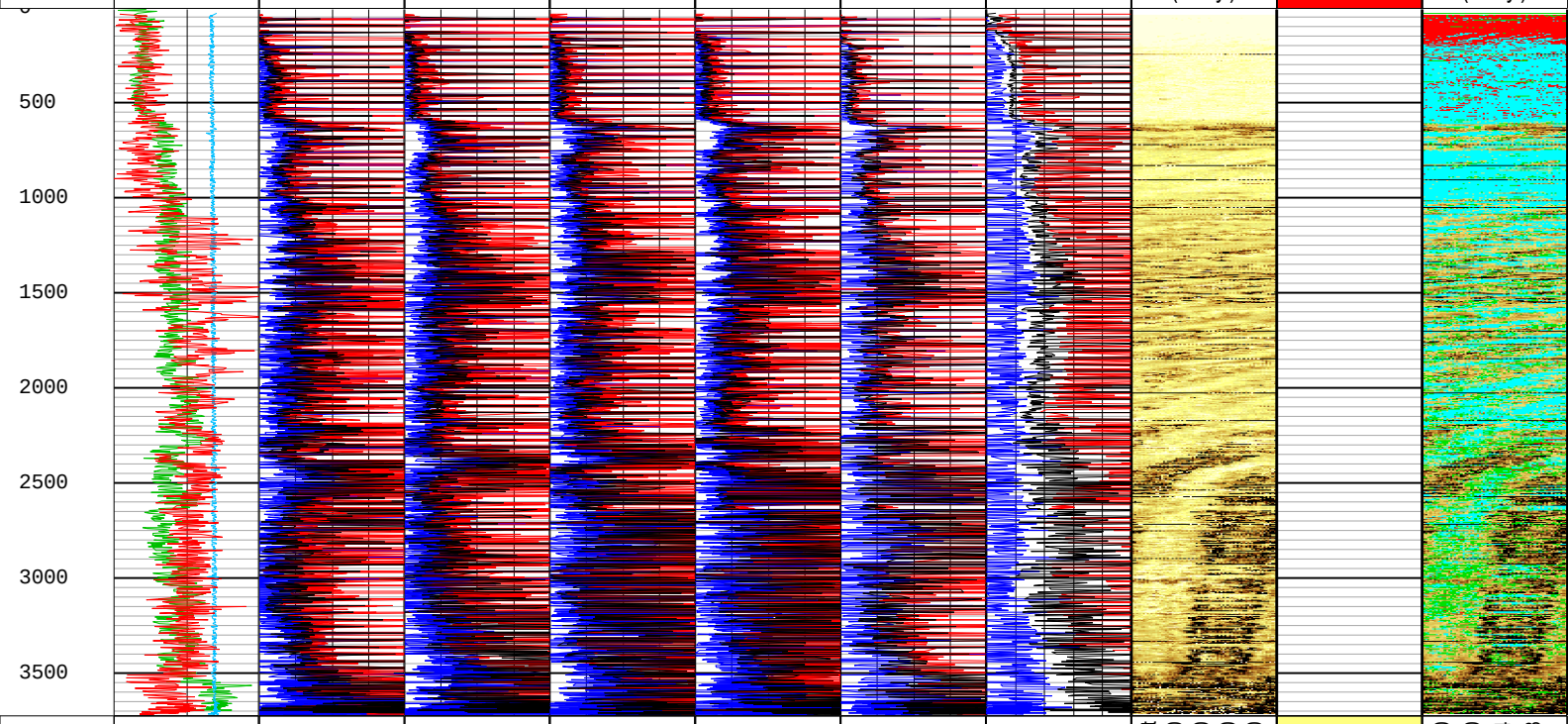
Acoustic Impedance Average (AIAV) USIT-E
-1 Mrayl 9

Absent 1.500 3.500 5.500 7.500

Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Bonded
Micro-Debonding
Liquid
Gas

Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E (Mrayl)



GR
0 gAPI 150

Motor Revolution Speed (RSAV) USIT-E
6 c/s 8

Amplitude of Eccentering (ECCE) USIT-E
0 in 0.5

Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E
0 Mrayl 10

Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E
0 Mrayl 10

Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E
0 Mrayl 10

Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E
0 Mrayl 10

Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E
0 Mrayl 10

Acoustic Impedance Minimum (AIMN) USIT-E
-1 Mrayl 9

Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E
0 Mrayl 10

Maximum Acoustic Impedance 3 (MAX_AI3) USIT-E
0 Mrayl 10

Maximum Acoustic Impedance 5 (MAX_AI5) USIT-E
0 Mrayl 10

Maximum Acoustic Impedance 7 (MAX_AI7) USIT-E
0 Mrayl 10

Maximum Acoustic Impedance 9 (MAX_AI9) USIT-E
0 Mrayl 10

Acoustic Impedance Maximum (AIMX) USIT-E
-1 Mrayl 9

Average Acoustic Impedance 1 (AV_AI1) USIT-E
0 Mrayl 10

Average Acoustic Impedance 3 (AV_AI3) USIT-E
0 Mrayl 10

Average Acoustic Impedance 5 (AV_AI5) USIT-E
0 Mrayl 10

Average Acoustic Impedance 7 (AV_AI7) USIT-E
0 Mrayl 10

Average Acoustic Impedance 9 (AV_AI9) USIT-E
0 Mrayl 10

Acoustic Impedance Average (AIAV) USIT-E
-1 Mrayl 9

Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E
0 Mrayl 10

Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E
0 Mrayl 10

Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E
0 Mrayl 10

Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E
0 Mrayl 10

Maximum

Maximum

Maximum

Maximum

Absent 1.500 3.500 5.500 7.500

Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Bonded
Micro-Debonding
Liquid
Gas

-1000.000 3.090 5.054 7.018

Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E (Mrayl)

Acoustic Impedance 2 (MAX_AI2) USIT-E	Acoustic Impedance 4 (MAX_AI4) USIT-E	Acoustic Impedance 6 (MAX_AI6) USIT-E	Acoustic Impedance 8 (MAX_AI8) USIT-E
0 Mrayl 10	0 Mrayl 10	0 Mrayl 10	0 Mrayl 10
Average Acoustic Impedance 2 (AV_AI2) USIT-E	Average Acoustic Impedance 4 (AV_AI4) USIT-E	Average Acoustic Impedance 6 (AV_AI6) USIT-E	Average Acoustic Impedance 8 (AV_AI8) USIT-E
0 Mrayl 10	0 Mrayl 10	0 Mrayl 10	0 Mrayl 10

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Goodwin Format: Log (Import of USI Goodwin) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2016 12:40:22

XYZ

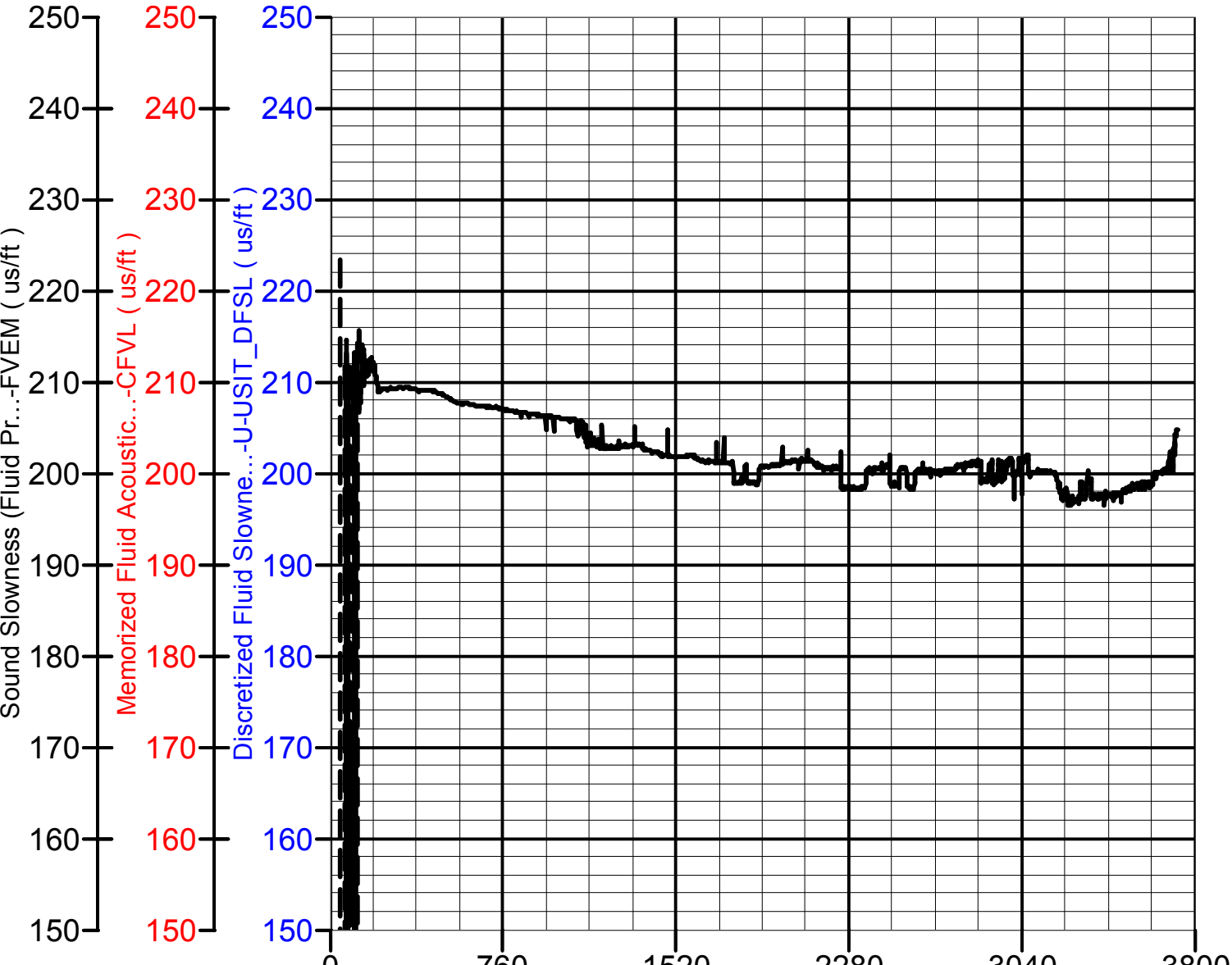
Company:E&B Natural Resources Well:WNF-I 11
One: Log[5]:Down:S005

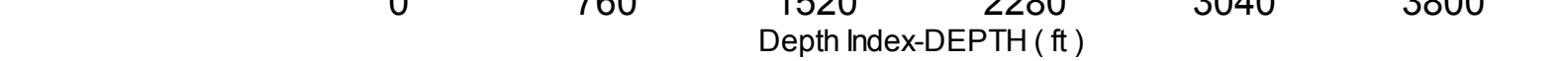
Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 40.00 to 3727.50 ft

DEPTH-U-USIT_DFSL (DFSL : Data Not Found)
DEPTH-CFVL (CFVL : Data Not Found) DEPTH-FVEM





XYZ

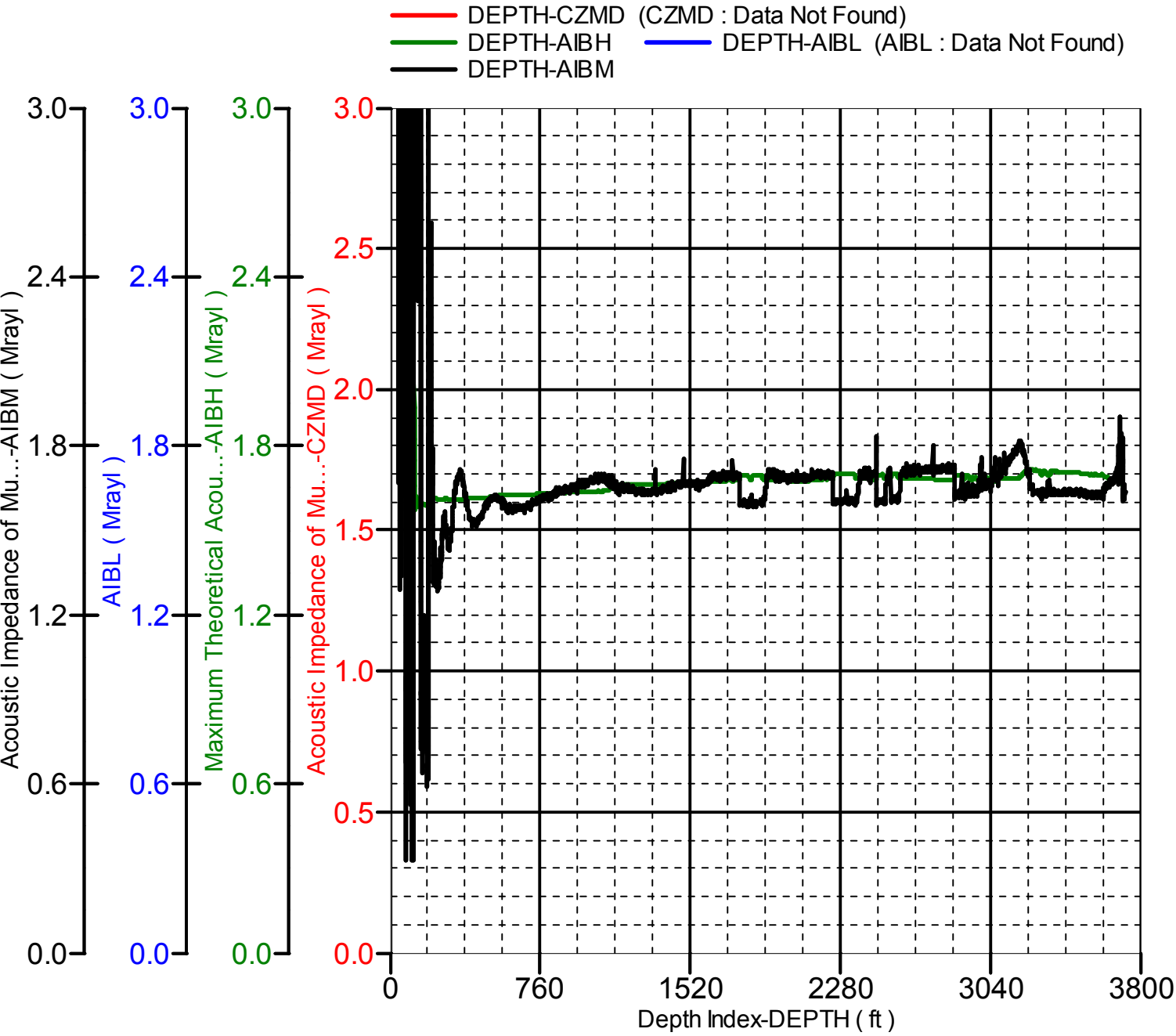
Company:E&B Natural Resources Well:WNF-I 11

One: Log[5]:Down:S005

Theoretical Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 40.00 to 3727.50 ft



Company:	E&B Natural Resources
Well:	WNF-I 11
Field:	Wilmington
County:	Los Angeles
State:	California

Schlumberger

Ultrasonic Imager

Gamma Ray - CCL

7" 23# casing

State of California • Natural Resources Agency
Edmund G. Brown Jr., *Governor*
Department of Conservation
Division of Oil, Gas, and Geothermal Resources – District 1
5816 Corporate Avenue • Suite 100
Cypress, CA 90630
(714) 816-6847 • FAX (714) 816-6853

NOTICE OF VIOLATION

May 11, 2016

Report # V116-00098

Ms. Madelyn (Joyce) Holtzclaw, Agent
E & B Natural Resources Management Corporation (E0100)
1600 Norris Rd.
Bakersfield, CA 93308

Subject: Failed Radioactive Tracer Survey (RA Survey), Well "Wnf-I" 11, API # 037-22603, Wilmington Oil Field.

Dear Ms. Holtzclaw:

California Code of Regulations (CCR) section 1724.10 (j) states that "A mechanical integrity test (MIT) must be performed on all injection wells to ensure the injected fluid is confined to the approved zone or zones..."

According to our records, the following well has failed an MIT:

Violation No.	API Number	Well Number	Test Type	Last Test Date
V116-00098	037-22603	"Wnf-I" 11	RA Survey	5/2/2016

The Division of Oil, Gas, and Geothermal Resources (Division) shall be provided acceptable test result for the subject well by June 25, 2016. In order for the Division to witness this test, this office must be notified at least 24 hours prior to conducting the testing. Failure to notify the Division prior to testing may result in a failure/inconclusive test and further enforcement action.

Failure to comply with the laws of California and the Division may result in enforcement action including, but not limited to, issuance of a civil penalty and/or order pursuant to Public Resources Code Sections 3106, 3224, 3235 and 3236.5.

If you have any questions, please contact Hafiz Ali Mohammed at (714) 816-6847 or Hafiz.Ali-Mohammed@conservation.ca.gov .

Sincerely,

Michel Vasconcellos
Senior Oil and Gas Engineer

cc: ✓ Well File
Project File

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
5816 Corporate Ave., Suite 100 Cypress, CA 90630-4731
Phone:(714) 816-6847 Fax:(714) 816-6853

No. T **116-0575**

REPORT ON OPERATIONS

WATER FLOOD PROJECT
RANGER ZONE, FAULT BLOCK I

Ms. Madelyn (Joyce) Holtzclaw
E & B Natural Resources Management Corporation (E0100)
1600 Norris Rd.
Bakersfield, CA 93308

Cypress, California
May 09, 2016

Your operations at well **"Wnf-I" 11**, A.P.I. No. **037-22603**, Sec. **19**, T. **04S**, R. **13W**, **SB** B.&M., **Wilmington** field, in **Los Angeles** County, were witnessed on **5/2/2016**, by **Eric Weigand**, a representative of the supervisor.

The operations were performed for the purpose of **demonstrating that all of the injection fluid is confined to the approved zone**.

DECISION: **NOT APPROVED**

DEFICIENCIES NOTED AND NOT CORRECTED: Fluid shown to be flowing down tubing, past the packer and exiting casing holes above top of injection zone.

EXPIRED _____
CANCELLED _____
MAILED _____
EMAILED 6-7-16 TL

EW/HAM

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By Hafiz Ateeq
For Daniel J. Dudak, *District Deputy*

OG109 (Rev. 10/2011)

State of California
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

No. T 116-0575

Mechanical Integrity Test (MIT)

Operator:	**E&B Natural Resources**			**Well Name/Number**		**Wnf-I-11**	
Sec: 11	**Tow:** 19	**Ran:** 04S	**B&M:** SB	**API No.:** 037-22603		**Field:**	**Wilmington**
County		**Los Angeles**		**Witnessed/Reviewed on:**		**5/2/2016**	

Eric Weigand ,representative of the supervisor, was present from 8:00 to 11:00

Also present were: Brandon Cesenas (PDI)

Casing Record of the Well:

CONTRACTOR:
PDI
UNCORRECTABLE DEFECIENCES:
NONE
DEFECIENCES NOTED AND TO BE CORRECTED:
Casing holes
DEFECIENCES NOTED AND CORRECTED:
NONE

The MIT was performed for the purpose of:

Note: (15)

☐ **The MIT is approved since it indicates that all of the injection fluid is confined to the formations below _____ feet at this time**

☑ **The MIT is not approved due to the following reasons:**
Fluid shown to be flowing down tbg, past the packer and exiting csg holes at 3675' - 3700' (48%) and 3715'-3730' (44%). Top perf at 3812'. Ranger inger (F at 3807').

Well:	Wnf-I-11	**Date:**	5/2/16	**Time:**	8:00 - 11:00
Observed Rate:	365 B/D	**Meter Rate:**	428 B/D	**Fluid Level:**	0
Injection Press:	870 psi	**MASP:**	1594 psi	**Pick-up Depth (ft):**	3889
Initial Annulus Pressure:	0 psi	**Pressure after bleed-off:**	0 psi		
Casing vented during test (Y/N):	Y	**Survey Company:**	PDI		

Spinner Counts

Depth	Counts	Rate	Depth	Counts	Rate	Comments

Tracer Casing and Tubing Rate Checks

Background log (ft): 3850 **to** 3550

Comments:

Interval (ft to ft)	Time (sec)	Survey Rate (BPD)
3550 to 3650	134	365
to		
to		
to		

Top Perforation Check

Top Perforation:	3812 feet	**Wait at:**	feet for seconds	**Beads (Y/N):**	
Casing Shoe at:	3807 ft	**WSO Holes at:**	ft		
Arrival Time Calculated:	secs	**Arrival Time Actual:**	secs		

Log from (ft)	Log to (ft)	Slug at (ft)	Log from (ft)	Log to (ft)	Slug at (ft)	Log from (ft)	Log to (ft)	Slug at (ft)
500	3775	3727	3790	3500	3764			
3775	3450	3745	3790	3500	3767			
3775	3450	3750	3800	3500	3780			
3775	3475	3755	3850	3500	3785			

Comments: Some tracer 'stacking out' at tbg tail, likely due to low rate. Inj tool leak on 4th logging run. Pull out of hole and run back in. Data above is following leaked slug from tool.

Packer Check

Packer at:	3656 ft	**Wait at:**	3650 feet for 120 seconds	**Beads (Y/N):**	N
Tubing Tail at:	3660 ft	**Tubing size (in):**	2-7/8"	**2nd Packer at (ft):**	**Mandrel (ft):** N

Log from (ft)	Log to (ft)	Slug at (ft)	Log from (ft)	Log to (ft)	Slug at (ft)	Log from (ft)	Log to (ft)	Slug at (ft)
3650	3725	3674						
3725	3550	3677						
3550	3750	3683						

Comments: Slug moving down below packer.

General Comments: Casing holes found at 3720'-3730' by last inj survey in Feb 2016.

This survey: 7" csg holes 3675' - 3700' taking 48% of fluid. 3715'-3730' taking 44%. 8% moving down. Ranger (F) at 3807'.

. Little Jewel Tornado 3

OH 1939 04

1946 plug + perf 3650-3850

1967 P-3920

2011

CP 312+ 100 sx

925

— BFW 1658'

— TAR/Ranger 2900'

TOL 3402'
3508
SL

7" 22#
.2232 cf/lf
405 sx

WSO 3650'

3650'
3850
3920'

— MAIN ZONE 3670'

TOL 4751
4800

1946 plug 4689' (dumped) C/O 4752'
2013 w/BIT
355 sx
40 cf

— Det 4804'
Ano

62 lf in 7"
= 13.8 cf

26 cf in
4 3/4 = 293 lf

4 3/4" .0908 cf/lf
P 4800-5165

5039
TBP

5165'

3/21 @ 3795'
collapsed casing?
4/12 tbg w/ chief
3795 outside of csg?

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
5816 Corporate Ave., Suite 100 Cypress, CA 90630-4731
Phone:(714) 816-6847 Fax:(714) 816-6853

No. T **116-0240**

REPORT ON OPERATIONS

WATER FLOOD PROJECT
RANGER ZONE, FAULT BLOCK I

Ms. Madelyn (Joyce) Holtzclaw
E & B Natural Resources Management Corporation (E0100)
1600 Norris Rd.
Bakersfield, CA 93308

Cypress, California
February 09, 2016

Your operations at well **"Wnf-I" 11**, A.P.I. No. **037-22603**, Sec. **19**, T. **04S**, R. **13W**, **SB** B.&M., **Wilmington** field, in **Los Angeles** County, were witnessed on **2/3/2016**, by **Eric Weigand**, a representative of the supervisor.

The operations were performed for the purpose of **demonstrating that all of the injection fluid is confined to the approved zone**.

DECISION: **NOT APPROVED**

DEFICIENCIES NOTED AND TO BE CORRECTED:
Hole in casing between 3720' and 3730'

EXPIRED
CANCELLED
MAILED
EMAILED 3-11-16 TL

EW/ham

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By Hafiz Ateeq.
For Daniel J. Dudak, *District Deputy*

OG109 (Rev. 10/2011)

State of California
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

No. T 116-0240

Mechanical Integrity Test (MIT)

Operator:	**E & B Natural Resources**				**Well Name/Number**			**"Wnf-I" 11**	
Sec:	**19**	**Tow:**	**04S**	**Ran:** **13W**	**B&M:** **SB**	**API No.:**	**037-22603**	**Field:**	**Wilmington**
County:	**Los Angeles**					**Witnessed/Reviewed on:**			**2/3/2016**

Eric Weigand **,representative of the supervisor, was present from** **8:30** **to** **9:30**

Also present were: **Brandon Cesenas (PDI)**

Casing Record of the Well:

CONTRACTOR:
PDI
UNCORRECTABLE DEFECIENCES:
NONE
DEFECIENCES NOTED AND TO BE CORRECTED:
Hole in casing between 3720' and 3730'
DEFECIENCES NOTED AND CORRECTED:
NONE

The MIT was performed for the purpose of: **Note: (15)**

☐ **The MIT is approved since it indicates that all of the injection fluid is confined to the formations below _____ feet at this time**

☑ **The MIT is not approved due to the following reasons:**
Detected HIC between 3720' - 3730'

Well: "Wnf-I" 11	**Date:** 2/3/26	**Time:** 08:30 - 09:30
Observed Rate: 455 B/D	**Meter Rate:** 710 B/D	**Fluid Level:** 0
Injection Press: 1460 psi	**MASP:** 1594 psi	**Pick-up Depth (ft):** 3925
Initial Annulus Pressure: 0 psi	**Pressure after bleed-off:** 0 psi	
Casing vented during test (Y/N): Y	**Survey Company:** PDI	

Spinner Counts

Depth	Counts	Rate	Depth	Counts	Rate	Comments

Tracer Casing and Tubing Rate Checks

Interval (ft to ft)	Time (sec)	Survey Rate (BPD)
3550 to 3650	110	455
to		
to		
to		

Background log (ft): 3825 to 3550

Comments:

Top Perforation Check

Top Perforation: 3812 feet	**Wait at:** 3650 feet for 400 seconds	**Beads (Y/N):** N
Casing Shoe at: 3807 ft	**WSO Holes at:** ft	
Arrival Time Calculated: secs	**Arrival Time Actual:** secs	

Log from (ft)	Log to (ft)	Slug at (ft)	Log from (ft)	Log to (ft)	Slug at (ft)	Log from (ft)	Log to (ft)	Slug at (ft)
3650	3825	3713						
3825	3650	3714						
3800	3550	Slug gone						

Comments: 100% exiting Holes in 7" casing between 3720' and 3730', at liner top, based on gamma count across the interval, and slug downward movement and exit. No migration above 3720' observed.

Packer Check

Packer at: 3656 (COE) ft	**Wait at:** 3650 feet for 400 seconds	**Beads (Y/N):** N
Tubing Tail at: 3660 ft	**Tubing size (in):** 2-7/8	**2nd Packer at (ft):**
		Mandrel (ft):

Log from (ft)	Log to (ft)	Slug at (ft)	Log from (ft)	Log to (ft)	Slug at (ft)	Log from (ft)	Log to (ft)	Slug at (ft)
3650	3825	3713						
3825	3650	3714						
3800	3550	Slug gone						

Comments: Slug moving down, packer check ok

General Comments:

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
5816 Corporate Ave., Suite 100 Cypress, CA 90630-4731
Phone:(714) 816-6847 Fax:(714) 816-6853

No. T **115-1365**

REPORT ON OPERATIONS

WATER FLOOD PROJECT

Ms. Madelyn (Joyce) Holtzclaw
E & B Natural Resources Management Corporation (E0100)
1600 Norris Rd.
Bakersfield, CA 93308

Cypress, California
December 23, 2015

Your operations at well **"Wnf-I" 11**, A.P.I. No. **037-22603**, Sec. **19**, T. **04S**, R. **13W**, **SB** B.&M., **Wilmington** field, in **Los Angeles** County, were witnessed on **12/3/2015**, by **Miguel Oviedo**, a representative of the supervisor.

The operations were performed for the purpose of **demonstrating that all of the injection fluid is confined to the approved zone**.

DECISION: **NOT APPROVED**

DEFICIENCIES NOTED AND NOT CORRECTED: Unable to determine the fluid path due to high pick-up depth above the top perforations.

HAM:dt

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By Hafiz Ateeq
For Daniel J. Dudak, *District Deputy*

HAM

State of California
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

No. T 115-1365

Mechanical Integrity Test (MIT)

Operator:	E&B Natural Resources			Well Name/Number		"Wnf-I" 11	
Sec: 20	Tow: 04S	Ran: 13W	B&M: SB	API No.: 037-22603		Field:	Wilmington
County	Los Angeles			Witnessed/Reviewed on:		12/3/2015	

Miguel Oviedo ,representative of the supervisor, was present from 13:00 to 13:55

Also present were: Brandon Cesenas, Wireline Operator w/PDI

Casing Record of the Well:

The MIT was performed for the purpose of:

15

☐ The MIT is approved since it indicates that all of the injection fluid is confined to the formations below _____ feet at this time

■ The MIT is not approved due to the following reasons:
Unable to determine the fluid path due to high pick-up depth above the top perforation.

CONTRACTOR: PDI

UNCORRECTABLE DEFICIENCIES:
SEE NOTES

DEFICIENCIES NOTED AND

Ali Mohammed, Hafiz@DOC

From: Ali Mohammed, Hafiz@DOC
Sent: Wednesday, December 23, 2015 10:10 AM
To: 'jholtzclaw@ebresources.com'
Cc: 'Dan Fouts'
Subject: RA_Survey failures

Holtzclaw,
The following wells are in violation of CCR 1748.3 (f) because the result could not confirm that the injection fluid is confined to proper zone.

API Number	Well Number	Date of RA	Reason for failure
037-22603	"Wnf-I" 11	12/3/2015	Pick up above top perforations
037-22768	"WNF-I" 33	12/3/2015	Pick up above top perforations

These wells shall be brought into compliance within 30 days from date of this notice. The Division must be provided at least 24 hour notice to witness injection survey.

Hafiz Ali Mohammed
Associate Oil and Gas Engineer
Division of Oil, Gas and Geothermal Resources
5816 Corporate Ave., Ste100
Cypress, Ca 90630
(714)816-6847

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NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
5816 Corporate Ave., Suite 100 Cypress, CA 90630-4731
Phone:(714) 816-6847 Fax:(714) 816-6853

No. T **115-1068**

REPORT ON OPERATIONS

WATER FLOOD PROJECT

Ms. Madelyn (Joyce) Holtzclaw
E & B Natural Resources Management Corporation (E0100)
1600 Norris Rd.
Bakersfield, CA 93308

Cypress, California
November 09, 2015

Your operations at well **"Wnf-I" 11**, A.P.I. No. **037-22603**, Sec. **19**, T. **04S**, R. **13W**, **SB** B.&M., **Wilmington** field, in **Los Angeles** County, were witnessed on **7/21/2015**, by **Max Chavez-Segura**, a representative of the supervisor.

The operations were performed for the purpose of **demonstrating that all of the injection fluid is confined to the approved zone**.

DECISION: **NOT APPROVED**

DEFICIENCIES NOTED AND CORRECTED: Unable to reach Top Perf @ 3813'. Pick up depth : 3800'.

EXPIRED
CANCELLED
MAILED
EMAILED 11·10·15 TL

HAM:dt

Steven Bohlen
State Oil and Gas Supervisor

By Hafiz Ateeq.
For Daniel J. Dudak, *District Deputy*

OG109 (Rev. 10/2011)

State of California
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

No. T 115-1068

MECHANICAL INTEGRITY TEST (MIT)

Operator: E & B Natural Resources Management Corp.					Well: "Wnf-I" 11
Sec. 19	T. 04S	R. 13W	B.&M. SB	API No.: 037-22603	Field: Wilmington
County: Los Angeles					Witnessed/Reviewed on: 7-21-2015

Max Chavez ,representative of the supervisor, was present from 0700 to 1230

Also present were: Aaron Glenn and Raul Ronderos (WellaCo)

Casing record of the well:

The MIT was performed for the purpose of (15)
Demonstrating that all of the injection fluid is confined to the approved zone.

☐ The MIT is approved since it indicates that all of the injection fluid is confined to the formations below _____ feet at this time.

☒ The MIT is not approved due to the following reasons: (specify)

Unable to reach Top Perf @ 3813'. Pick up depth: 3800'.

CONTRACTOR: Wella Co

UNCORRECTABLE DEFICIENCIES:

DEFICIENCIES NOTED AND CORRECTED:

Well: "Wnf-I" 11	Date: 7-21-2015	Time: 0700-1230
Observed rate: B/D	Meter rate: 800 B/D	Fluid level: 0 feet
Injection pressure: 1400 psi	MASP: 1594 psi	Pick-up depth: 3800 feet

Initial annulus pressure: 0 psi	Pressure after bleed-off: 0 psi
Casing vented during test (Y/N) Yes	Survey company: WellaCo

SPINNER COUNTS

DEPTH	COUNTS	RATE	DEPTH	COUNTS	RATE	COMMENTS:

TRACER CASING AND TUBING RATE CHECKS

Interval	Time (sec.)	Rate (B/D)	Background log: _____ to _____
			COMMENTS:

TOP PERFORATION CHECK

Top perforation depth: 3813'	Wait at: for seconds	Beads: (Y/N)
Casing shoe at: 3926'	WSO holes at:	Arrival time: *Calculated* *Actual*

LOG FROM	TO	SLUG @	LOG FROM	TO	SLUG @	COMMENTS:

PACKER CHECK

Packer at: 3648'	Wait at: for seconds		Beads: (Y/N)
Tubing tail at: 3687'	Tubing size: 2-7/8" (Rice)	2nd Packer at:	Mandrel:

LOG FROM	TO	SLUG @	LOG FROM	TO	SLUG @	COMMENTS:

COMMENTS:

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
5816 Corporate Ave., Suite 200 Cypress, CA 90630-4731
Phone:(714) 816-6847 Fax:(714) 816-6853

No. T **114-1097**

REPORT ON OPERATIONS

WATER FLOOD PROJECT

Mr. Mike McAdams
E & B Natural Resources Management Corporation (E0100)
1600 Norris Rd.
Bakersfield, CA 93308

Cypress, California
October 03, 2014

Your operations at well **"Wnf-I" 11**, A.P.I. No. **037-22603**, Sec. **19**, T. **04S**, R. **13W**, **SB** B.&M., **Wilmington** field, in **Los Angeles** County, were witnessed on **7/28/2014**, by **Todd Tyler**, a representative of the supervisor.

The operations were performed to complete a **Standard Annular Pressure Test.**

DECISION: **APPROVED**

DEFICIENCIES NOTED AND CORRECTED: **None.**

MV/kj

Steven Bohlen
State Oil and Gas Supervisor

By
Daniel J. Dudak, *District Deputy*

Natural Resources Agency
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

T 114-1097
Reviewed by: MV
10/1/14

Report on Operations

OPERATOR: E+B Resources

Your operations at well "WNF" I 11 API No. 037-22603

Sec._____, T_____, R_____, San Bernardino, B. & M.

Wilmington Field, in Los Angeles County,

were witnessed on 7/28/14. "Todd" Edward Taylor, representative

of the Supervisor, was present from 1400 to 1500.

Also present was Jim Shaffer (Foreman) & Eli Rovang (operator).

Well status: ☐ injecting at _____ psi, Annulus _____ psi, Packer at _____ft.

☐ idle ☐ shut in

Casing record of present hole: N/C

The operations were performed to complete a Standard Annular Pressure Test.

DECISION:

The test is ☒ Approved ☐ Not Approved

Comments: 7" Casing, 15 Minutes 1598 psi
packer @ 3646

Natural Resources Agency
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

T _____

Report on Operations

OPERATOR E&B Resources

Your operations at well "Wnfi" 11 API No. 037-22603

Sec ____, T ____, R ____, _____, B. & M.

Wilmington Field, in Los Angeles County,

were witnessed on 7/28/14. "Todd" Edward Tyler representative of

the supervisor, was present from 14:00 to 15:00

There was also present Jim Shaffer (Foreman), Eli Rovang (Operator)

Present condition of well: No change

The operations were performed for the purpose of pressure testing the 7" casing. The casing was

pressure tested with 1598 psig for 15 minutes. There was Ø pressure drop.

Packer Depth: 3646

DECISION:

The pressure test is ☑ Approved ☐ Not Approved

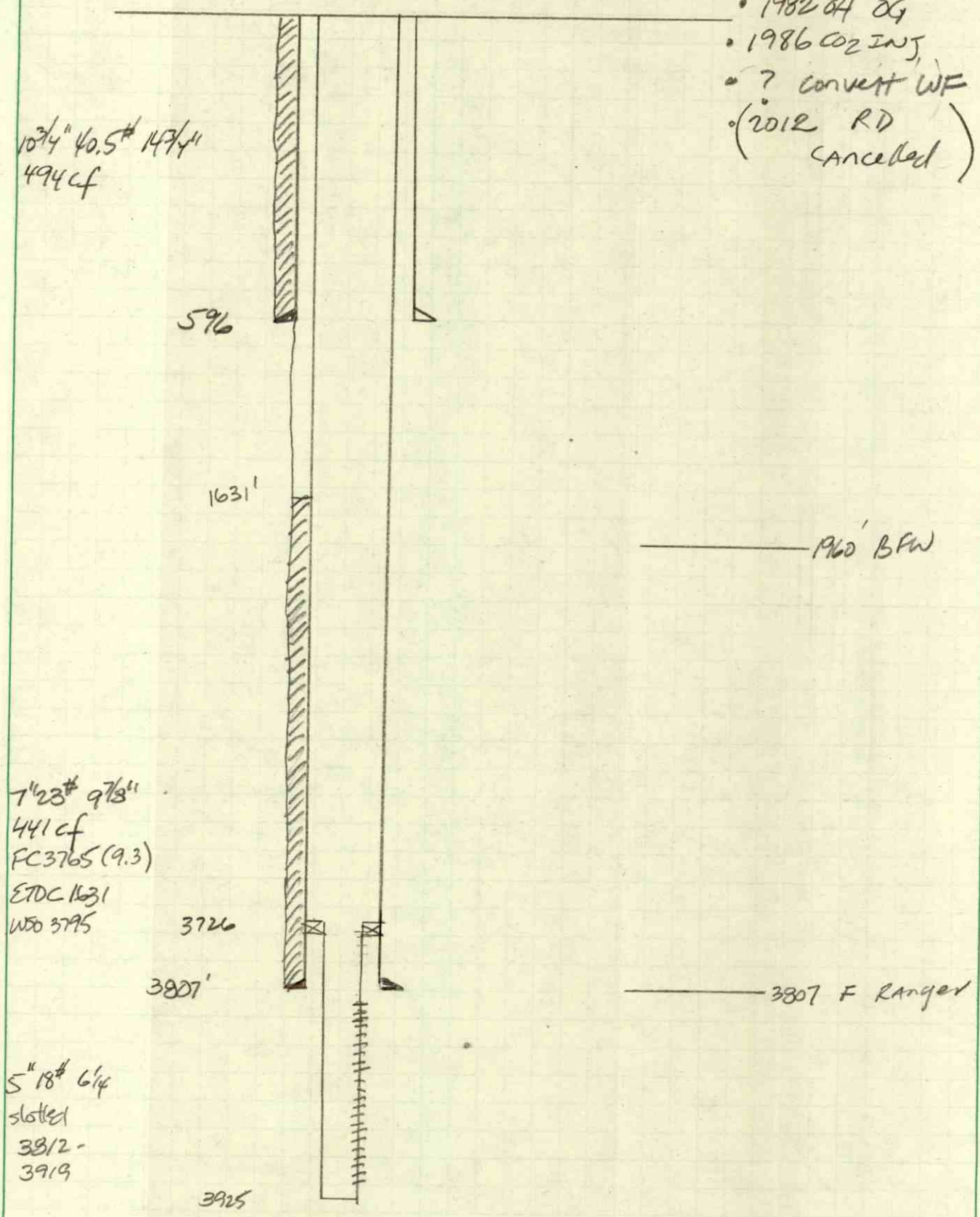
CONTRACTOR: Welaco

UNCORRECTABLE DEFICIENCIES: None

DEFICIENCIES NOTED AND TO BE CORRECTED: None

DEFICIENCIES NOTED AND CORRECTED: None

037-22603 | WNFI 11 | MV 9-17-M



DEPARTMENT OF CONSERVATION

Managing California's Working Lands

Division of Oil, Gas, & Geothermal Resources

5816 CORPORATE AVENUE • SUITE 200 • CYPRESS, CALIFORNIA 90630-4731

PHONE 714 / 816-6847 • **FAX** 714 / 816-6853 • **WEB SITE** conservation.ca.gov

May 07, 2013

Mr. Mike McAdams, Agent
E & B NATURAL RESOURCES MANAGEMENT GROUP
1600 Norris Road
Bakersfield, CA 93308

Subject: Overdue SAPT
Wilmington Field

Dear Mr. McAdams:

Pursuant to California Code of Regulations, Title 14, Section1724.10 (j)(1) each injection well must pass a pressure test of the casing-tubing annulus to determine the absence of leaks every five years.
As of May 7, 2013, the Division has not received documentation that the required annular pressure test (SAPT) has been performed for the following wells:

Well Name	API #	Last SAPT	MASP (psi)
WNF I-11	037-22603	No record on file	1594
WNF I-38	037-22752	No record on file	1645
WNF I-36	037-22769	No record on file	1642
WNF-I-8	037-22620	No record on file	897
WNF I-32	037-21729	No record on file	1528
WNF I-3	037-21768	No record on file	1572

Please notify this office to witness the required pressure test (SAPT). These tests must be done within 30 days from the date of this letter. If you have any questions please call Martin Wells at (714) 816-6847.

Sincerely,

Martin Wells
Associate Oil and Gas Engineer

Cc: Update
Well file

MW/ND

DEPARTMENT OF CONSERVATION

Managing California's Working Lands

Division of Oil, Gas, & Geothermal Resources

5816 CORPORATE AVENUE • SUITE 200 • CYPRESS, CALIFORNIA 90630

PHONE 714 / 816-6847 • **FAX** 714 / 816-6853 • **TDD** 916 / 324-2555 • **WEB SITE** conservation.ca.gov

March 23, 2012

Joe Ahlgrim, Agent
E&B Natural Resources Management Corp.
1600 Norris Road
Bakersfield, CA 93308

The Division of Oil, Gas, and Geothermal Resources is in receipt of your permit application dated **March 8, 2012**, of your intention to **plug back and re-drill** well **"Wnf-I" 11**, API# **037-22603**, Sec. **19**, T. **4**S, R. **13**W, **SB** B. & M., **Wilmington** Field in Los Angeles County. The Division is unable to issue permit approval until maps showing the top of injection zone, the location of the proposed injection well, and injection wells in the vicinity of the proposed well have been submitted and evaluated.

Please call Martin Wells at 714-816-7820 if you have any questions

Tim Kustic

State Oil & Gas Supervisor

By: Martin Wells
For: Daniel J. Dudak *Acting District Deputy*

MW:mw

OG113 7/19/2010

P# 112-0204

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

FOR DIVISION USE ONLY			
Bond	Forms		
	OGD114	OGD121	
BB	3-17-12	3-13-12	

NOTICE OF INTENTION TO REWORK / REDRILL WELL

Detailed instructions can be found at: www.conservation.ca.gov/dog/

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework ☒ / redrill ☐ well (WNF-I #11) "Wnf-1" 11, API No. 037-22603,
(Check one)

Sec. 19, T. 4S, R. 13W, SB B.&M., Wilmington Field, (LA) Los Angeles County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)
See attached program.

WF

The total depth is: 3925' feet. The effective depth is: 3920' feet.

Present completion zone(s): Ranger (Name). Anticipated completion zone(s): Ranger (Name).

Present zone pressure: 1350 psi. Anticipated/existing new zone pressure: 1350 psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes☒ No☐

For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency? Yes☐ No☒ If yes, see next page.

The proposed work is as follows: (A complete program is preferred and may be attached.)
See attached program.

BFW ≅ 1760' TVD

If well is to be redrilled or deepened, show proposed coordinates (from surface location) and true vertical depth at total depth: 1298 feet North (Direction) and 250 feet East (Direction) Estimated true vertical depth: 3565'

Will the Field and/or Area change? Yes☐ No☒ If yes, specify New Field: _____ New Area: _____

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator			
E&B Natural Resources Management Corp.			
Address: 1600 Norris Rd.		City/State: Bakersfield, CA	Zip Code: 93308
Name of Person Filing Notice: Joe Ahlgrim	Telephone Number: (661) 679-1700	Signature	Date: 3/8/12
Individual to contact for technical questions: Joe Ahlgrim	Telephone Number: (661)679-1700	E-Mail Address: jahlgrim@ebresources.com	

This notice and an indemnity or cash bond must be filed, and approval given, before the workover begins. (See the reverse side for bonding information.) If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

OG107 (1/09)

RECEIVED MAR 12 2012

INFORMATION FOR COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 (CEQA)

If an environmental document has been prepared by the lead agency, submit a copy of the ***Notice of Determination*** or ***Notice of Exemption*** with this notice. Please note that a CEQA determination by a local jurisdiction, if required, must be complete, or the Division may not issue a permit.

CRITICAL WELL DEFINITION

As defined in the California Code of Regulations, Title 14, Section 1720 (a), "Critical well" means a well within:

(1) 300 feet of the following:
  (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
  (B) Any airport runway.
(2) 100 feet of the following:
  (A) Any dedicated public street, highway or the nearest rail of an operating railway that is in general use;
  (B) Any navigable body of water or watercourse perennially covered by water;
  (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground or any other area of periodic high-density population; or
  (D) Any officially recognized wildlife preserve.

WELL OPERATIONS REQUIRING BONDING

1. Drilling, redrilling, or deepening any well.
2. Milling out or removing a casing or liner.
3. Running and cementing casing or tubing.
4. Running and cementing liners and inner liners.
5. Perforating casing in a previously unperforated interval for production, injection, testing, observation, or cementing purposes.
6. Drilling out any type of permanent plug.
7. Reentering an abandoned well having no bond.

This form may be printed from the DOGGR website at www.conservation.ca.gov/dog/

DRAFT SIDETRACK PROGRAM
E&B NATURAL RESOURCES
API#: 037-22603
PERMIT #:
"WNF-I #11"

Present Condition

TD: 3925' **ED**: 3920'

Surface: 10 ¾" 40.5# J55 0'-596' cmt'd

Casing: 7" 23# K55 0'-3806' cmt w/ 441 cf.

Liner: 5" 18# N80 hung f/3727-3925' gp'd w/ 20/40 gravel in 12" hole.

Note:

PROCEDURE:

1. MIRU Production Rig.
2. Unseat Injection packer and POOH laying down tubing.
3. PU and RIH w/ 7" casing scraper to TOL. Circulate well clean and turn over to lease water. POOH.
4. RIH oe to 3920'(ED). DOGGR to witness tag if necessary.
5. RU cementers and pump plug from TD to 3600'. WOC. Tag plug, DOGGR witness if required. If tag is below 3600', Repeat process.
6. Pressure test 7" casing to 1500 psi for 15 minutes. If casing does not pass notify Drilling Engineer. POOH laying down tubing.
7. RDMO Production Rig

8. MIRU Drilling Rig
9. PU and RIH with 6 ¼" bit and dummy whipstock milling assembly and drill out cmt plug to 3600' if necessary. Condition hole/mud for milling.
10. RIH w/ whipstock assembly and MWD for orientation and set @ 3600'. Mill window and sidetrack casing. Continue milling until the upper mill is at least 5' out of the window. Circulate and condition mud for drilling ahead.
    a. Monitor returns for casing cuttings. Install ditch magnets in the possum belly and after the shakers to catch all metal cuttings while milling. Clean the magnets at least once an hour.
    b. If milling assembly doesn't appear to pass through the window correctly, run a second assembly w/ two watermelon string mills to clean up the window.

11. Make up and RIH w/ 6 1/8" Dir BHA and directionally drill to 3925' TD.
12. Circulate and condition mud, then wipe hole to casing. POOH
13. RIH to TD and condition well for logging. RU loggers and run logs per E&B geologist.
14. RD loggers and RIH to TD and check for fill.
15. PU 400' of 5 ½" 17# J55(or better) liner with float shoe on bottom and RIH to TD.
16. RU cmtrs and cement liner in place. (Blend and procedure to be determined)
17. Release liner and POOH.
18. RDMO.

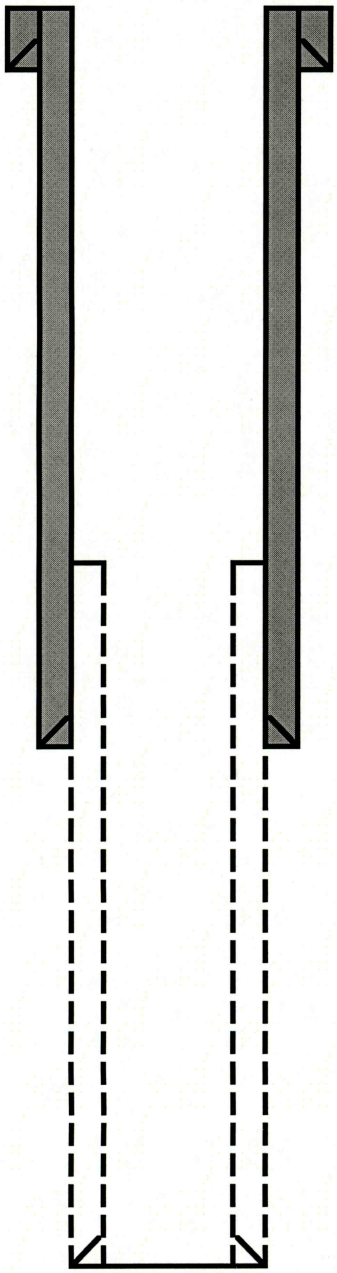
CURRENT WELBORE DIAGRAM

Field	Wilmington	**Operator**	E&B Natural Resources
County	LA	**Spud Date**	2/22/1982
Lease	WNF-I	**Completed**	3/17/1982
Well No.	#11		
Location	19-4S-13W-SB		
API No.	037-22603		

Elevation: 12 KB
38' GL

Hole Size:
14 3/4" f/0' - 596'
9-7/8" f/596' - 3807'
12" f/ 3806'-3925'

Junk:
None



Casing:
10 3/4" 40.5# cmt'd @596' w/494 sx. to Surface w/ top job

7", 23# Cmt'd @3806' w/ 441 cf
Calculated top of cmt @ 2140'
WSO @None

5",18# WWS f/3726'-3925'
Perf. 3812'-3919' .0012 WWS
g.p.'d w/ 55 sx 20-40 gravel.

Cement details:
Cmt'd 7" csg with 214sx "G" cmt mixed 1:1:2, 2% CaCL2, followed by 85 sx neat G cmt w/ 2% CaCL2. Total of 441 CF dspld w/ 838 cf of mud.

Comments:
Well was directionally drilled BH is 1298' North and 220 East from Surface Location. TVD = 3652'

Prepared by: Joe Ahlgrim 1/13/2012

TD @ 3925'
ED @ 3920'

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

FOR DIVISION USE ONLY			
Bond	Forms		
	OGD114	OGD121	

NOTICE OF INTENTION TO REWORK / REDRILL WELL

Detailed instructions can be found at: www.conservation.ca.gov/dog/

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework ☒ / redrill ☐ (Check one) well (WNF-I #11) "Wnf-1" 11, API No. 037-22603,

Sec. 19, T. 4S, R. 13W, SB B.&M., Wilmington Field, LA County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)
See attached program.

The total depth is: 3925' feet. The effective depth is: 3920' feet.

Present completion zone(s): Ranger (Name). Anticipated completion zone(s): Ranger (Name).

Present zone pressure: 1350 psi. Anticipated/existing new zone pressure: 1350 psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes☒ No☐

For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency? Yes☐ No☒ If yes, see next page.

The proposed work is as follows: (A complete program is preferred and may be attached.)
See attached program.

If well is to be redrilled or deepened, show proposed coordinates (from surface location) and true vertical depth at total depth: 1298 feet North (Direction) and 250 feet East (Direction) Estimated true vertical depth: 3565'

Will the Field and/or Area change? Yes☐ No☒ If yes, specify New Field: _____ New Area: _____

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator			
E&B Natural Resources Management Corp.			
Address: 1600 Norris Rd.		City/State: Bakersfield, CA	Zip Code: 93308
Name of Person Filing Notice: Joe Ahlgrim	Telephone Number: (661) 679-1700 1730	Signature:	Date: 3/8/12
Individual to contact for technical questions: Joe Ahlgrim	Telephone Number: (661)679-1700	E-Mail Address: jahlgrim@ebresources.com	

This notice and an indemnity or cash bond must be filed, and approval given, before the workover begins. (See the reverse side for bonding information.) If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

INFORMATION FOR COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 (CEQA)

If an environmental document has been prepared by the lead agency, submit a copy of the ***Notice of Determination*** or ***Notice of Exemption*** with this notice. Please note that a CEQA determination by a local jurisdiction, if required, must be complete, or the Division may not issue a permit.

CRITICAL WELL DEFINITION

As defined in the California Code of Regulations, Title 14, Section 1720 (a), "Critical well" means a well within:

(1) 300 feet of the following:
  (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
  (B) Any airport runway.
(2) 100 feet of the following:
  (A) Any dedicated public street, highway or the nearest rail of an operating railway that is in general use;
  (B) Any navigable body of water or watercourse perennially covered by water;
  (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground or any other area of periodic high-density population; or
  (D) Any officially recognized wildlife preserve.

WELL OPERATIONS REQUIRING BONDING

1. Drilling, redrilling, or deepening any well.
2. Milling out or removing a casing or liner.
3. Running and cementing casing or tubing.
4. Running and cementing liners and inner liners.
5. Perforating casing in a previously unperforated interval for production, injection, testing, observation, or cementing purposes.
6. Drilling out any type of permanent plug.
7. Reentering an abandoned well having no bond.

This form may be printed from the DOGGR website at www.conservation.ca.gov/dog/

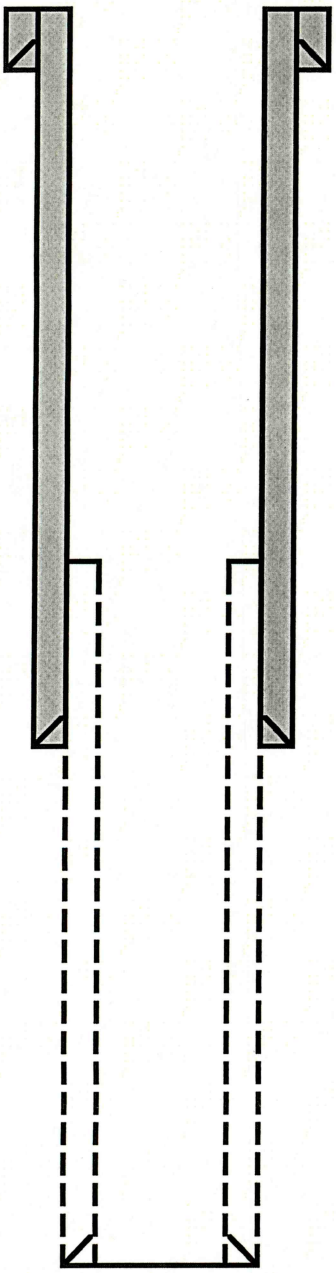
CURRENT WELBORE DIAGRAM

Field	Wilmington	**Operator**	E&B Natural Resources
County	LA	**Spud Date**	2/22/1982
Lease	WNF-I	**Completed**	3/17/1982
Well No.	#11		
Location	19-4S-13W-SB		
API No.	037-22603		

Elevation: 12 KB
38' GL

Hole Size:
14 3/4" f/0' - 596'
9-7/8" f/596' - 3807'
12" f/ 3806'-3925'

Junk:
None



Casing:
10 3/4" 40.5# cmt'd @596' w/494 sx. to Surface w/ top job

7", 23# Cmt'd @3806' w/ 441 cf
Calculated top of cmt @ 2140'
WSO @None

5",18# WWS f/3726'-3925'
Perf. 3812'-3919' .0012 WWS
g.p.'d w/ 55 sx 20-40 gravel.

Cement details:
Cmt'd 7" csg with 214sx "G" cmt mixed 1:1:2, 2% CaCL2, followed by 85 sx neat G cmt w/ 2% CaCL2. Total of 441 CF dspld w/ 838 cf of mud.

Comments:
Well was directionally drilled BH is 1298' North and 220 East from Surface Location. TVD = 3652'

Prepared by: Joe Ahlgrim 1/13/2012

TD @ 3925'
ED @ 3920'

DRAFT SIDETRACK PROGRAM
E&B NATURAL RESOURCES
API#: 037-22603
PERMIT #:
"WNF-I #11"

Present Condition

TD: 3925' **ED**: 3920'

Surface: 10 ¾" 40.5# J55 0'-596' cmt'd

Casing: 7" 23# K55 0'-3806' cmt w/ 441 cf.

Liner: 5" 18# N80 hung f/3727-3925' gp'd w/ 20/40 gravel in 12" hole.

Note:

PROCEDURE:

1. MIRU Production Rig.
2. Unseat Injection packer and POOH laying down tubing.
3. PU and RIH w/ 7" casing scraper to TOL. Circulate well clean and turn over to lease water. POOH.
4. RIH oe to 3920'(ED). DOGGR to witness tag if necessary.
5. RU cementers and pump plug from TD to 3600'. WOC. Tag plug, DOGGR witness if required. If tag is below 3600', Repeat process.
6. Pressure test 7" casing to 1500 psi for 15 minutes. If casing does not pass notify Drilling Engineer. POOH laying down tubing.
7. RDMO Production Rig

8. MIRU Drilling Rig
9. PU and RIH with 6 ¼" bit and dummy whipstock milling assembly and drill out cmt plug to 3600' if necessary. Condition hole/mud for milling.
10. RIH w/ whipstock assembly and MWD for orientation and set @ 3600'. Mill window and sidetrack casing. Continue milling until the upper mill is at least 5' out of the window. Circulate and condition mud for drilling ahead.
    a. Monitor returns for casing cuttings. Install ditch magnets in the possum belly and after the shakers to catch all metal cuttings while milling. Clean the magnets at least once an hour.
    b. If milling assembly doesn't appear to pass through the window correctly, run a second assembly w/ two watermelon string mills to clean up the window.

11. Make up and RIH w/ 6 1/8" Dir BHA and directionally drill to 3925' TD.
12. Circulate and condition mud, then wipe hole to casing. POOH
13. RIH to TD and condition well for logging. RU loggers and run logs per E&B geologist.
14. RD loggers and RIH to TD and check for fill.
15. PU 400' of 5 ½" 17# J55(or better) liner with float shoe on bottom and RIH to TD.
16. RU cmtrs and cement liner in place. (Blend and procedure to be determined)
17. Release liner and POOH.
18. RDMO.

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES

REPORT OF PROPERTY AND WELL TRANSFER

Field or county Wilmington		District - Cypress (D1)
Former owner Four Teams Oil Production & Exploration Company, Inc.	Opcode: F1535	Date August 12, 2010

Name and location of well(s)

SEE ATTACHMENT

Description of the land upon which the well(s) is (are) located

See Attachment

Date of transfer, sale, assignment, conveyance, or exchange 8/1/2010	New Owner E & B Natural Resources Management Corp.	Operator code E0100	Type of Organization Corporation
	Address 1600 Norris Road Bakersfield, CA 93308		Telephone No. (661) 679-1700

Reported by OG30A received 8/11/2010 signed by both parties

Confirmed by. Same as above

New operator new status (status abbreviation) PA	Request Designation of Agent Jeffrey Blesener
Old operator new status (status abbreviation) PA	Remarks See Operator File

Deputy Supervisor Kenneth Carlson	Signature Chris McCullough, Associate Engineer

OPERATOR STATUS ABBREVIATIONS

PA - Producing Active	**FORM AND RECORD CHECK LIST**					
NPA - No Potential Active	**Form or record**	**Initials**	**Date**	**Form or record**	**Initials**	**Date**
PI - Potential Inactive	Form OGD121			Map and Book		
NPI - No Potential Inactive	Well records			Lease Files		
Ab - Abandoned or No More Wells	New well cards			Well Stat		

OGD156 (Modified 1/00)

E & B Natural Resources Mgmt. Corp.

WELL TRANSFER NOTICE

On 12-21-98

XL OPERATING COMPANY

transferred

all wells in the Wilmington field

(See OGD156 dated December 21, 1998 for complete list)

to

FOUR TEAMS OIL PROD. & EXPL., INC.

WELL TRANSFER NOTICE

Effec February 7, 1997

XTRA ENERGY CORPORATION

TRANSFERRED

all wells Wilmington

(See Operator File for Complete List)

TO

XL OPERATING COMPANY

SEE OGD156 DATED 02-7-97

File

FLO-LOG INC.

14101 Orange Avenue • Paramount, CA 90723 • (213) 408-1500

DIVISION OF OIL AND GAS

245 West Broadway, Suite 475

Long Beach, CA 90802

June 14, 1989

Attn; Ken Carlson

Re.: Mechanical Integrity Test on XTRA Energy's Injector WNF 11

Enclosed is a revised copy of the Injection Profile run for XTRA Energy on their well #11. Please recall that we found the liner hanger to be leaking but did not state where this water was going.

This new copy points out last year's finding that the water moves down between the two strings, and this year's indication that the same is going on this year (note the comment about the temperature response). It is difficult to check the shoe with tracer when the tracer is shot above the hanger because there are now two tracer slugs to watch; one inside the liner moving down, and the other beteween the strings moving down at roughly the same velocity.

We hope you find this revised copy more to your satisfaction. If you have furthur questions, feel free to call me. We appreciate your interest.

Respectfully;

Mitchell Findlay

Mitchell Findlay

en.

FLO-LOG

PRODUCTION LOGGING SURVEY DATA SHEET

COMPANY: EXTRA ENERGY
DATE: 10-6-88
WELL NO.: WNF #11
FIELD: NORTH WILMINGTON FIELD
COUNTY: LA.
STATE: CAL
REPRESENTATIVE: STEVE
SURVEY CREW: CLARK, GILLESPIE
TYPE OF SURVEY: TEMP & RA
PURPOSE OF SURVEY: YEARLY

CASING AND TUBING RECORD

SIZE	WEIGHT	FROM	TO
7"	23#	0	3809
5"	18#	3726	3925

Effective Depth
Perforations: 3812-3830, 3834-3852, 3876-3875, 3879-3897, 3901-3919
W.S.O.: C.P.:
Tubing Size: 2 7/8 Depth: 3687 (3692)
Packer(s): 3652 (3662 FLO LOG)
Mandrel(s):
Measurement Datum: 12' KB
Reference Point: MAT

WELL STATUS: WATER INJ

Meter Rate: 190 BWPD Oil Rate: b/d
Flow Loss: 180 BWPD Oil Gravity: °
Obs. Rate: BWPD Gas Rate: Mcf/d
Reported Tbg Press.: psi Obs.: 1075 PSI
Reported Csg Press.: psi Obs.: OPEN
Pickup: 3914 Fill: 11
Bottom Temp.: 120.1°F Fluid Level: —

SPINNER STATS

Depth	Counts	Rate	Depth	Counts	Rate

Reset Depth (from): +7 (to):
Depth Corrected to: LINER TOP @ 3726

Logging Unit: 719 Line Size: 3/16 Line Length: 15,000
Tools Used: HEAD, SB, SB, INJ, GR, CCL, TEMP
Tool Numbers:
Tool Diameter: 1 3/8

Time Arrived on Location: 7:30 AM Off Location: 9:45 AM Total Hours:

Time of Run	Run No.	Type of Survey	Survey Calib.	Line Speed	Direction	Logged Interval (from)	(to)
8:15 AM	1	TEMP/CCL	10 IN	90	DOWN	3400	3914
8:25 AM	2	R/A SURVEY					

REMARKS:

LOG
DATA SHEET

WELL NO. WNF 11

PAGE NO.

NG _____ INJECTOR TO DETECTOR, DETECTOR TO DETECTOR _____ TOOL DIAMETER 1 3/8

E SIZE	CONSTANT	PIPE SIZE	CONSTANT	PIPE SIZE	CONSTANT
5"	1538				
PIPE WT. 18#	WITH TOOL	PIPE WT.	WITH TOOL	PIPE WT.	WITH TOOL

SHOT NO.	DEPTH	RUN NO.	PEAK DEPTH	TIME MIN. 8 SEC.	=	TOTAL SEC.	△ DISTANCE	/	△ TIME (SEC)	RATE (B/D)
1	3900	1 ↑	3894		=	:09			1	
		2 ↑	3894	1:36	=	96	Ø		188	
		3 ↑	3894	3:16	=	196	Ø		1100	Ø FLOW
2	3880	1 ↑	3873		=	:32			1	
		2 ↑	3873	1:48	=	108	Ø		176	
		3 ↑		3:28	=	208	Ø		1100	Ø FLOW
3	3860	1 ↑	3853		=	18			1	
		2 ↑	3853	1:58	=	118	Ø		170	
		3 ↑	3853	3:36	=	216	Ø		198	Ø FLOW
4	3840	1 ↑	3833		=	10			1	
		2 ↑	3834	1:55	=	115	1		105	15 B/D
		3 ↑	3835	3:25	=	205	1		190	15 B/D
5	3820	1 ↑	3813		=	30			1	
		2 ↑	3816	2:05	=	125	3		195	50 B/D
		3 ↑	3819	3:35	=	215	3		190	50 B/D
	3820 - 3500		BKG		=				1	
					=				1	
6	3810		TOPPLER / SHOE CHECK @ 100% / 2 INCH							
		1 ↑	3803		=	31			1	
		2 ↑	3809	2:25	=	145	6		114	80 B/D
		3 ↑	3819	5:20	=	320	5		175	45 B/D
		4 ↑	3824	12:20	=	740	10		420	35 B/D
7	3740	1 ↑	3736		=	12			1	
		2 ↑	3741	2:18	=	138	5		126	60 B/D
		3 ↑	3745	3:48	=	228	4		190	20 B/D

-LOG
DATA SHEET

WELL NO. _____

PAGE NO. _____

NG _____ INJECTOR TO DETECTOR, DETECTOR TO DETECTOR _____ TOOL DIAMETER _____

E SIZE _____ CONSTANT _____	PIPE SIZE _____ CONSTANT _____	PIPE SIZE _____ CONSTANT _____
PIPE WT. _____ WITH TOOL _____	PIPE WT. _____ WITH TOOL _____	PIPE WT. _____ WITH TOOL _____

SHOT NO.	DEPTH	RUN NO.	PEAK DEPTH	TIME MIN. 8 SEC.	=	TOTAL SEC.	△ DISTANCE	/	△ TIME (SEC)	RATE (B/D)
8	3600/3650	B	100%	TB6	+	PKR CHECK		/		
					=		50'	/	141	180 B/D
			100%	0:56	=			/		
9	3710	1↑	3711		=	:28		/		
		2↑	3719		=	50	8	/	132	1235 B/D
		3↑	3720		=	77	1	/	127	125 B/D
		4↑	3722	2:00	=	120		/		
		5↑			=			/		
					=			/		
10	100/150			2:22	=		143	/	150	1758 B/D
					=			/		
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RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

No. T 194-0049

REPORT ON OPERATIONS

WATERFLOOD PROJECT

Long Beach, California
January 6, 1994

Steve Lang, Agent
XTRA ENERGY CORPORATION
P. O. Box 9
LONG BEACH CA 90801-0009

Your operations at well **"WNF-I" 11**, A.P.I. No. **037-22603**, Sec. **19**, T. 4S, R. 13W, **S.B.** B. & M., **Wilmington** Field, **Los Angeles** County, were witnessed on **12-29-93**. **C. McCullough**, representative of the supervisor, was present from **1100** to **1130**. There was also present **Jim Cassiano, Wireline Technician.**

Present condition of well: **10 3/4" cem 593'; 7" cem 3807', perf 3795' WSO; 5" ld 3727'-3925', perf 3812'-3919'. TD 3925'.**

The operations were performed for the purpose of demonstrating that all of the injection fluid is confined to the formations below **3795'**.

DECISION: APPROVED.

DEFICIENCIES: None.

CONTRACTOR: Flo Log.

FL:df

cc: Update

William F. Guerard, Jr.
State Oil and Gas Supervisor

By
For R. K. Baker, *Deputy Supervisor*

OG109

OK TM 1/94

State of California
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

194-0049

No. T _____

INJECTION (M.I.T.) SURVEY

Operator: Xtra Energy Corporation Well Designation: "WNF-I" 11

Sec. 19, T. 4S, R. 13W, SB B.&M. A.P.I. No.: 037-22603 Field: Wilmington

County: Los Angeles Witnessed on (date): 12/29/93 . C. McCullough,

representative of the Supervisor, was present from 1100 to 1130.

Also present: Jim Cassiano, Wireline Technician

Casing record of well: 10 3/4" cem 593'; 7" cem 3807', perf 3795' WSO; 5" ld 3727'-3925', perf 3812'-3919'. TD 3925'.

The injection survey was performed for the purpose of (P) 3795'.

☒ The injection survey is approved since it indicates that all of the injection fluid is confined to the formations below 3795' feet at this time.

☐ The injection survey is not approved due to the following reasons: (specify)

Note:

OGD6 (DWRR/11/88/5M)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 187-285

DIVISION OF OIL AND GAS

Report on Operations

WATERFLOOD PROJECT

Agnes T. List, Agent-XTRA ENERGY CORP.
c/o C T CORPORATION SYSTEM
800 South Figueroa Street, Suite 1000
Los Angeles, CA 90017

Long Beach, Calif.
May 20, 1987

Your operations at well "WNF-I" 11, API No. 037-22603, Sec. 19, T. 4S, R. 13W, S.B. B.& M. Wilmington Field, in Los Angeles County, were witnessed on 4-7-87. G. Chakmakian, Engineer, representative of the supervisor, was present from 1500 to 1630. There were also present D. Woosley, Drilling Foreman

Present condition of well: 10-3/4" cem 593'; 7" cem 3807', perf 3795' WSO; 5" ld 3727'-3925', perf 3812'-3919'. TD 3925'.

The operations were performed for the purpose of demonstrating that all of the injection fluid is confined to the formations below 3795'.

DECISION: APPROVED.

NOTE: DEFICIENCIES CORRECTED
NONE

DEFICIENCIES TO BE CORRECTED
NONE

UNCORRECTABLE DEFICIENCIES
NONE

CONTRACTOR: Prime Perforating

GC:mh

cc: Update

M. G. MEFFERD
State Oil and Gas Supervisor
R. C. Manuel
Deputy Supervisor
for V. F. Gaede

OG109 (9/83/GSR1/15M)

DIVISION OF OIL AND GAS

RA WATER SHUTOFF TEST

OK MK 4-30-87

No. T 87-285

Operator Xtra Energy Corporation

Well designation "WNF-I" 11 Sec. 19, T. 4S, R. 13W, SB B.&M.

Field Wilmington, County LA was tested for water shutoff on 4/7/87. (Name) G. Chakmakian, representative of the supervisor, was present from 1500 to 1630. Also present were D. Woosley D.F.

Casing record of well: 10 3/4" cem 593'; 7" cem 3807', perf 3795' WSO; 5" ld 3727'-3925', perf 3812'-3919'. TD 3925.

The operations were performed for the purpose of (P) 3795'.

☐ The _____" shutoff at _____' is approved.

☐ The seal between the _____" and _____" casings is approved.

☒ The operations are approved as indicating that all of the injection fluid is confined to the formations below 3795' at this time.

Hole size: _____" fr. _____' to _____'; _____" to _____'; & _____" to _____'

Casing				Cemented			Top of Fill		Sqd. Away	Final Press	Test psi/min. Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			

Depth or interval tested _____

The hole was open to _____' for test.

FORMATION TEST:

Packer(s) _____' & _____' Tail _____' Bean size _____" Cushion _____

IHP _____ IFP _____ FFP _____ FHP _____

Blow _____

Open for test _____ Hr. _____ min. Fluid entry _____

BAILING TEST:

The hole fluid was bailed to _____', at _____ on _____ 19__.

The hole fluid was found at _____', at _____ on _____ 19__.

(time)

PRODUCTION TEST:

Gauge/meter reading _____ on _____ 19__, at _____ pump depth _____' Engr. _____

Gauge/meter reading _____ on _____ 19__, at _____ Engr. _____

Fluid level _____' surveyed on _____ 19__, reviewed (witnessed) by _____

Total fluid produced, Bbls. _____ Net oil _____ Water _____

Rate: _____ B/D oil, _____ B/D water, _____% water cut

INJECTION SURVEY:

RA/~~Spinner~~/~~Temperature~~ survey run at 450 B/D & 1510 psi on 4/7/ 1987, fluid confined below 3795' (Packer depth 3652')

Pick-up 3910' csg open

OGD8 (10/86/DWRR/5M)

DIVISION OF OIL AND GAS
CHECK LIST - RECORDS RECEIVED AND WELL STATUS

Company XTRA ENERGY CORP. Well No. "WNF-F" 11

API No. 037-22603 Sec. 19, T. 4S, R. 13W, S.B. B.&M.

County LOS ANGELES Field WILMINGTON

RECORDS RECEIVED	DATE
Well Summary (Form OG100)	
History (Form OG103)	4-2-87 2
Core Record (Form OG101)	
Directional Survey	
Sidewall Samples	
Other	
Date final records received	
Electric logs:	

STATUS		STATUS	
Producing - Oil		Water Disposal	
Idle - Oil		Waterflood	✓
Abandoned - Oil		Steamflood	
Drilling - Idle		Fire Flood	
Abandoned - Dry Hole		Air Injection	
Producing - Gas		Gas Injection	
Idle - Gas		CO_2 Injection	✓
Abandoned - Gas		LPG Injection	
Gas-Open to Oil Zone		Observation	
Waterflood Source			

DATE 3-20-87 "E" well Yes ☐ No ☐

RECOMPLETED 3-20-87

REMARKS

ENGINEER'S CHECK LIST

1. Summary, History, & Core record (dupl.) ✓
2. Electric Log
3. Operator's Name ✓
4. Signature
5. Well Designation ✓
6. Location
7. Elevation
8. Notices ✓
9. "T" Reports ✓ ~~80~~
10. Casing Record
11. Plugs
12. Surface Inspection
13. Production ✓
14. E Well on Prod. Dir. Sur.

CLERICAL CHECK LIST

1. Location change (F-OGD165)
2. Elevation change (F-OGD165)
3. Form OGD121
4. Form OG159 (Final Letter)
5. Form OGD150b (Release of Bond)
6. Duplicate logs to archives
7. Notice of Records due (F-OGD170)
8. EDP (F-OGD42A-1, 2)

CO_2 INJECTION

RECORDS NOT APPROVED
Reason:

RECORDS APPROVED Michael J. Kraton

RELEASE BOND
Date Eligible
(Use date last needed records were received.)

MAP AND MAP BOOK Map 128 Rm 4/20/87

LONG BEACH OFFICE - USE REVERSE SIDE

OGD2 (12/82/DWRR/5M)

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator XTRA ENERGY CORPORATION Field WILMINGTON County LOS ANGELES
Well "WNF-I" - 11, Sec. 19, T 4S, R 13 W, SB B. & M.
A.P.I. No. 037-22603 Name KRISTIN L. HUDSON (Person submitting report) Title PETROLEUM ENGINEER (President, Secretary or Agent)
Date 3/20/, 1987

Signature

PO BOX 40262, HOUSTON, TEXAS (TX) 77240-0262 (Address) (713) 896-2576 (Telephone Number)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

DATE

1/23/86 W-11 - MIRU. Pulled rods & pump. Laid down. Installed BOP. Pulled tbg. Made feeler runt to 3885'. Picked up & ran 7" positive scraper. Set at drift to top of lnr. Pulled tbg leaving 20 jts for kill string. 9-1/2 hrs.

1/24/86 W-11 - Continued pulling tbg. RIH w/ 2-3/8" tail & 2-7/8" tbg to 3885'. Circulated to T.D. Pulled & laid down all but 20 jts tbg. 9 hrs.

1/25/86 W-11. Continued pulling tbg & laying down. Picked up pkr & coated tbg. Set pkr. Displaced 115 bbls steril wtr. Tested backside O.K. Tbg tested in at 5000 psi. 10 hrs.

1/26/86 W-11 - Rigged out. Pumped in H.A.S. 2-1/2 hrs. SUNDE - 31 hrs.

3/31/86 Drove to loc. Spotted rig & set mast up. Bled well down. Stripped out inj lines & pulled head loose. Unset Guib. 7" pkr & landed BOP. P.O.O.H. & laid pkr down. Ran kill string & closed well in till a.m. NOTE: Tested pkr to 4000 psi @ Guiberson's Shop. No leaks.

4/01/86 Bled well down & P.O.O.H. w/kill string. Made up tail jt & Guiberson 7" 23# UNI Pkr VI w/XL-% tool above pkr. Rigged up Hydro test. Solid tested tail & pkr @ 5000 psi. Ran in & spidered & tested all tbg @ 5000 psi. Found bad collar leak on #42 from the top. Rigged tester down. Stripped off BOP. Landed head & changed well over w/ 120 bbls of fresh wtr mixed w/ 35 gal of inhibitor. Set pkr & tested casing to 1300 psi. O.K. NOTE: Center of pkr @ 3645.76 & bottom of bell clr @ 3682.11. Made up inj lines & put well on inj. Shut rig down till a.m.

4/02/86 Drove to location. Loaded out mud pump & equip & BOP. Took down guy lines & marsh anchors. Laid rig down & cleaned up loc. Moved off.

5/21/86 Drove to location. Spotted rig & set mast up. Put out guy lines. Bled csg down. Tried to bleed tbg down 500 psi. Bled tbg for 4 hours. Solid oil on returns. Well finally stopped flowing. Stripped off inj lines & pulled head loose. Unset Guiberson 7" pkr & landed BOP. Pulled & laid down 114 jts of 2-7/8" tbg. Laid pkr & tail jt down. Closed well in till a.m.

All tag atested good @ 5000 psi.

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator XTRA ENERGY CORPORATION Field WILMINGTON County LOS ANGELES
Well "WNF-I" - 11, Sec. 19, T 45, R 13 W, SB B. & M.
A.P.I. No. 037-22603 Name KRISTIN L. HUDSON (Person submitting report) Title PETROLEUM ENGINEER (President, Secretary or Agent)
Date 3/20/, 1987

Signature

PO BOX 40262, HOUSTON, TEXAS (TX) 77240-0262 (Address) (713) 896-2576 (Telephone Number)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

DATE

5/22/86 Made up 2-7/8" tail jt & 7" 23# Guiberson packer w/ XL-% tool. Bled well down. Made up sinker bar on sand line. Ran in & tag bottom @ 3921' = 4' of fill. P.O.O.H. Rigged up Hydro test. Picked up tail & pkr. Measured & picked up 116 jts of 2-7/8" tbg. Tested all tbg @ 5000 psi. Rigged tester down. Stripped off BOP & landed head. Shut well in till a.m.

5/23/86 Rigged up mud pump. Changed well over w/ 120 bbls of fresh wtr mixed w/ 30 gal of inhibitor. Pulled head loose & set pkr. Pulled 25,000# over tbg wt & landed head w/ 13,000# compression down. Tested csg to 1300 psi for 30 min. Held O.K. Made up inj lines & master valve. Loaded out mud pump & equip. Laid rig down. Cleaned up loc & moved off.

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 186-531

DIVISION OF OIL AND GAS

Report on Operations

WATERFLOOD PROJECT

Parker B. Kemp, Agent
XTRA ENERGY CORPORATION
P.O. Box 9
Long Beach, CA 90801

Long Beach, Calif.
April 30, 1986

Your operations at well "WNF-I" 11, API No. 037-22603, Sec. 19, T. 4S, R. 13W, S.B. B.& M. Wilmington Field, in Los Angeles County, were witnessed on 3-19-86. M. Saw, Engineer, representative of the supervisor, was present from 1400 to 1430. There were also present T. Quick, Engineer, Xtra Energy Corporation

Present condition of well: 10-3/4" cem 593'; 7" cem 3807', perf 3795' WSO'; 5" ld 3727'-3925', perf 3812'-3919'. TD 3925'.

The operations were performed for the purpose of demonstrating that all of the injection fluid is confined to the formations below 3795'.

DECISION: APPROVED.

NOTE: DEFICIENCIES TO BE CORRECTED
NONE

DEFICIENCIES CORRECTED
NONE

CONTRACTOR: Prime Inc.

MS:mh

cc: Update

M. G. MEFFERD
State Oil and Gas Supervisor

By R. C. Maine
Deputy Supervisor
for V. F. Gaede

OG109 (3/83/GSR1/15M)

DIVISION OF OIL AND GAS

WATER SHUTOFF TEST

No. T 86-531 11/1/86

Operator Xtra Energy Corp.

Well designation "WNF-I" 11 Sec. 19, T. 4S, R. 13W, SB B.&M.

Field Wilmington, County Los Angeles was tested for ~~water~~ R/A ~~shutoff~~ Survey on 3/19/86. (Name) M. Saw, representative of the supervisor, was present from 1400 to 1430. Also present were T. Quick, Engineer.

Casing record of well: 10 3/4" cem 593'; 7" cem 3807', perf 3795' WSO; 5" lb 3727'-3925', perf 3812'-3919'. TD 3925'.

The operations were performed for the purpose of (P) 3795.

☐ The _____" shutoff at _____' is approved.

☐ The seal between the _____" and _____" casings is approved.

☒ The operations are approved as indicating that all of the injection fluid is confined to the formations below 3795' at this time.

Hole size: _____" fr. _____' to _____'; _____" to _____'; & _____" to _____'

Casing				Cemented			Top of Fill		Sqd. Away	Final Press	Test psi/min. Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			

Depth or interval tested _____

The hole was open to _____' for test.

FORMATION TEST:

Packer(s) _____' & _____' Tail _____' Bean size _____" Cushion _____

IHP _____ IFP _____ FFP _____ FHP _____

Blow _____

Open for test _____ Hr. _____ min. Fluid entry _____

BAILING TEST:

The hole fluid was bailed to _____', at _____ on _____ 19__.

The hole fluid was found at _____', at _____ on _____ 19__.

(time)

PRODUCTION TEST:

Gauge/meter reading _____ on _____ 19__, at _____ pump depth _____' Engr. _____

Gauge/meter reading _____ on _____ 19__, at _____ Engr. _____

Fluid level _____' surveyed on _____ 19__, reviewed (witnessed) by _____

Total fluid produced, Bbls. _____ Net oil _____ Water _____

Rate: _____ B/D oil, _____ B/D water, _____ % water cut

INJECTION SURVEY:

RA/Spinner/Temperature survey run at 80 B/D & 1610 psi on 3/19 1986, fluid confined below 3795' (Packer depth 3714')

csg valve opened, csg shoe & packer checked OK.

OGD8 (10/85/DWRR/5M)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

No. P 186-61

849
(field code)
03
(area code)
20
(new pool code)
20
(old pool code)

PERMIT TO CONDUCT WELL OPERATIONS

WATERFLOOD PROJECT

John D. Carmichael, Agent
XTRA ENERGY CORPORATION
P.O. Box "9"
Long Beach, CA 90801

Long Beach, California
January 27, 1986

Your _____ proposal to convert to injection well "WNF-I" 11, A.P.I. No. 037-22603, Section 19, T. 4S, R. 13W, S.B. B. & M., Wilmington field, Fault Block I area, Ranger pool, Los Angeles County, dated 1-16-86, received 1-17-86 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment with hydraulic controls, equivalent to this division's Class II2M requirements, or better, shall be installed and maintained in operating condition.
2. Well killing fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. This division shall be consulted and a Supplementary Notice may be required before making any changes in the proposed program.
4. This well shall conform to the provisions set forth in our letter of June 24, 1983 approving the project.
5. A pressure test is conducted to demonstrate the mechanical integrity of the 7" casing.
6. THIS DIVISION SHALL BE NOTIFIED TO:
   a. Inspect the installed blowout prevention equipment prior to commencing downhole operations.
   b. Witness a pressure test of the 7" casing prior to injection.
   c. Witness the running of an injection survey.

MJK:mh

cc: Update
EDP

BLANKET BOND

Engineer Michael J. Kratovil

Phone (213) 590-5311

M. G. MEFFERD, State Oil and Gas Supervisor

By R. C. Tanner
for V. F. Gaede, *Deputy Supervisor*

A copy of this permit and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.

OG111 (6/85/DWRR/5M)

OG 107 (8/79)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Rework

NOTE: CHANGE 121's REMOVE 3606 DESIG.

S

This notice and indemnity or cash bond shall be filed, and approval given, bef
have not commenced within one year of receipt of the notice, this notice

WATERFLOOD

FOR DIVISION USE ONLY		
BOND	FORMS	
	OGD 114	OGD 121
BP	1-21-86	1-21-86

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework well "WNF-T" 11 (Well designation), API No. 037-22603

Sec. 19, T. 4S, R. 13W, SB B. & M., Wilmington Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth 3925'

2. Complete casing record, including plugs and perforations

10 3/4,	40 1/2#,	J-55,	596'
7",	23#,	K-55,	3807'
5",	18#,	N-80,	3726' - 3925'

perf'd 3812' - 3919' at intervals

3. Present producing zone name Ranger; Zone in which well is to be recompleted Ranger

4. Present zone pressure 1500+; New zone pressure ---

5. Last produced Now producing (Date) 6 (Oil, B/D) 1 (Water, B/D) --- (Gas, Mcf/D)

(or)

Last injected _____ (Date) _____ (Water, B/D) _____ (Gas, Mcf/D) _____ (Surface pressure, psig)

The proposed work is as follows:

Remove and convert to "WAG" injection:

1) Pull production equipment
2) Scrape casing and C.O. to 3920'
3) Test and land injection tubing at 3705+ with packer set at 3675' ± 50'
4) Test and displace annulus with treated water
5) Soak with aromatics and place on water injection

It is understood that if changes in this plan become necessary, we are to notify you immediately.

Address 2501 Cherry Avenue, Suite 270 (Street)

Signal Hill (City) CA (State) 90806 (Zip)

Telephone Number (213) 424-8549

Xtra Energy Corporation (Name of Operator)

By Parker B. Kemp (Print Name)

Parker B. Kemp (Signature) 1-16-86 (Date)

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

Long Beach, California

October 17, 1983

John D. Carmichael, Agent
XTRA ENERGY CORPORATION
2501 Cherry Avenue, Suite 270
Signal Hill, CA 90806

Your request, dated September 15, 1983, proposing to change the designation of well(s) in Sec. see below, T. 4S, R. 13W, S.B. B. & M., Wilmington field, Los Angeles County, District No. 1, has been received.

The proposed change in designation, in accordance with Section 3203, Public Resources Code, is authorized as follows:

Sec. 19-4S-13W

OLD	NEW DESIGN.	API 037-
8	"WNF-I" 8	22620
10	"WNF-I" 10	22611
18	"WNF-I" 18	22853
19	"WNF-I" 19	22846
20	"WNF-I" 20	22652
23	"WNF-I" 23	22672
26	"WNF-I" 26	22666-01
27	"WNF-I" 27	22673
28	"WNF-I" 28	22674
29	"WNF-I" 29	22648
43	"WNF-I" 43	22682
Sec. 20-4S-13W		
42	"WNF-I" 42	22689
44	"WNF-I" 44	22820

OLD	NEW	API 037-
"American Can" 1	"WNF-I" 12	21433
" 2	"WNF-I" 15	21644
" 3	"WNF-I" 3	21768
"Dasco Unit" 1	"WNF-I" 1	21671
I-14	"WNF-I" 11	22603
"Purex Unit" 1	"WNF-I" 9	21669
" 2	"WNF-I" 5	21753
" 3	"WNF-I" 4	21754
"Sanitation Unit" 1	"WNF-I" 21	21445
Sec. 20-4S-13W		
31 "WNF-I" 31	22767	36 "WNF-I" 36 22769
33 "WNF-I" 33	22768	37 "WNF-I" 37 22796
34 "WNF-I" 34	22787	38 "WNF-I" 38 22752
35 "WNF-I" 35	22795	39 "WNF-I" 39 22754

M. G. MEFFERD, State Oil and Gas Supervisor

By Richard C. Wanner Jr.
FOR V. F. GAEDE, *Deputy Supervisor*

EDP
Update
Conservation Committee
Long Beach Dept. of Oil Properties

OGD 157 (3-79-DWRR-1M)

Sec. 20-4S-13W

OLD	NEW	API 037-
"Shell Unit" 1	"WNF-I" 32	21729
"Shell Unit" 2	"WNF-I" 40	21769

Sec. 29-4S-13W

"Lomita Unit" 1	"WNF-I" 67	22487
49	"WNF-I"49	22886
50	"WNF-I" 50	22884
51	"WNF-I" 51	22885
53	"WNF-I" 53	22874
54	"WNF-I" 54	22871
56	"WNF-I" 56	22865
57	"WNF-I" 57	22815

DIVISION OF OIL AND GAS

CHECK LIST - RECORDS RECEIVED AND WELL STATUS

Company Xtra Energy Well No. I-14

API No. 037-22603 Sec. 19, T. 4S, R. 13W, S.B. B.&M.

County L.A. Field Wilmington

RECORDS RECEIVED	DATE	
Well Summary (Form OG100)	10/22/82	(2)
History (Form OG103)	10/22/82	(2)
Core Record (Form OG101)		
Directional Survey	10/22/82	(2)
Sidewall Samples		
Other		
Date final records received		
Electric logs:		
Dual Ind.	10/22/82	(2)
Ind. Elect.	10/22/82	(2)
Dual Ind.	10/22/82	(2)

STATUS		STATUS	
Producing - Oil	X	Water Disposal	
Idle - Oil		Water Flood	
Abandoned - Oil		Steam Flood	
Drilling - Idle		Fire Flood	
Abandoned - Dry Hole		Air Injection	
Producing - Gas		Gas Injection	
Idle - Gas		CO_2 Injection	
Abandoned - Gas		LPG Injection	
Gas-Open to Oil Zone		Observation	
Water Flood Source			

DATE 3-17-82

RECOMPLETED

REMARKS

ENGINEER'S CHECK LIST

1. Summary, History, & Core record (dupl.) ✓
2. Electric Log —
3. Operator's Name ✓
4. Signature —
5. Well Designation ✓
6. Location ✓
7. Elevation —
8. Notices —
9. "T" Reports ✓
10. Casing Record —
11. Plugs —
12. Surface Inspection —
13. Production —
14. E Well on Prod. Dir. Sur. ✓

CLERICAL CHECK LIST

1. Location change ____ (F-OGD165)
2. Elevation change ____ (F-OGD165)
3. Form OGD121
4. Form OG159 (Final Letter)
5. Form OGD150b (Release of Bond)
6. Duplicate logs to archives
7. Notice of Records due (F-OGD170)

UPDATE CENTER 11/30/82

BB

RECORDS NOT APPROVED

Reason:

RECORDS APPROVED W E Brannon 11-12-82

RELEASE BOND

Date Eligible

(Use date last needed records were received.)

MAP AND MAP BOOK 128

11/12/82

LONG BEACH OFFICE - USE REVERSE SIDE

OGD2 (12/80/DWRR/5M)

orm OG100 (7/78)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

F

API No. 037-22603

WELL SUMMARY REPORT

Operator	Well				
XTRA ENERGY CORPORATION	I-14 (No. 11)				
Field	**County**	**Sec.**	**T.**	**R.**	**B.&M.**
WILMINGTON	LOS ANGELES	19	4S	13W	S.B.

Location (Give surface location from property or section corner, street center line and/or California coordinates)
69' NORTH AND 83' EAST FROM THE SOUTH WEST CORNER OF THE PROPERTY WHICH IS THE NORTH-EAST CORNER OF THE INTERSECTION OF MAIN ST. AND THE AT&SF ROW.

Elevation of ground above sea level 38'

Commenced drilling (date) 2-23-82

Completed drilling (date) 3-17-82

Commenced producing (date)

☐ Flowing ☒ Pumping
☐ Gas lift

Name of producing zone(s) RANGER

Total depth

(1st hole)	(2nd)	(3rd)
3925'	3925'	

Present effective depth 3920'

Junk

Depth measurements taken from top of: ☐ Derrick Floor ☐ Rotary Table ☒ Kelly Bushing

Which is feet above ground

GEOLOGICAL MARKERS	DEPTH
"F" MARKER	3807'

Formation and age at total depth

	Clean Oil (bbl per day)	Gravity Clean Oil	Percent Water including emulsion	Gas (Mcf per day)	Tubing Pressure	Casing Pressure
Initial Production	12	14.6	25	-	60 psi	60 psi
Production After 30 days	10	14.3	33	-	60 psi	60 psi

CASING RECORD (Present Hole)

Size of Casing (API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New or Second Hand	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)
10-3/4"	SURF	596'	40.5	J-55	NEW	14-3/4"	494 CF	
7"	SURF	3807'	23	K-55	NEW	9-7/8"	441 CF	
5"	3726'	3925	18	N-80	NEW	6-1/4" TO 12"		

PERFORATED CASING (Size, top, bottom, perforated intervals, size and spacing of perforation and method.) (SEE ATTACHED LINER DETAIL)
5" JOHNSON "PIPELESS" STAINLESS STEEL WIRE WRAPPED SCREEN WITH 0.012" SLOTS. GRAVEL PACKED WITH 55 SX of 20 - 40 MESH GRAVEL.

Was the well directionally drilled? ☒ Yes ☐ No **If yes, show coordinates at total depth** 1298' NORTH AND 2201' EAST @ 3925' MD - 3562' TVD.

Electrical log depths 40' TO 594' AND 588' TO 3898'

Other surveys

In compliance with Sec. 3215, Division 3 of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Name	Title	
JOHN D. CARMICHAEL	SENIOR VICE PRESIDENT	
Address	**City**	**Zip Code**
17 WALTON STREET	SIGNAL HILL, CALIFORNIA	90806
Telephone Number	**Signature**	**Date**
(213) 424-8549	John D. Carmichael	OCTOBER 15, 1982

SUBMIT IN DUPLICATE

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator Xtra Energy Corporation Field Wilmington County Los Angeles
Well 11, Sec. 19, T 4S, R 13W, S.B B. & M.
A.P.I. No. 037-22603 Name John D. Carmichael (Person submitting report) Title Senior Vice President (President, Secretary or Agent)
Date October 15, 19 82

Signature John D. Carmichael

717 Walton Street Signal Hill, CA 90806 (213) 424-8549
(Address) (Telephone Number)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

Date	
2-22	MIM fr American Can #2. RU - Labor only.
2-24	Fin RU @ 9 A.M., spud in @ 9 A.M. 2-23-82, drld 14-3/4" hole to 182'. Rotary drive went out in dwwrks, P/U into conductor. Repair rig, RIH, now drlg @ 246'. Mud wt 74#/CF, WL 7.5 cc, vis 52", solids 10%.
2-25	Cont'd drlg, SS @ 269', 422' & 593', made wiper trip, POH w/MSS, D-A RU, ran IES, & GR log fr 592' to 40', RIH C & C mud for csg, POH, prep to run 10-3/4" csg. Total lost time for rig reprs 2-24-82 was 11 hrs. Mud wt 76#/CF, WL 8.1 cc, vis 55", solids 10%.
2-26	RIH w/15 jts 10-3/4", 32.75#, H-40 ST&C csg, 596' total, RIH w/stab in stinger, C & C mud, cmt csg w/50 CF wtr, 205 sx "G" cmt mxd 1:1:2 + 2% $CaCl_2$, 82 sx "G" CMT MIXED 1:0:0 + 2% CaC12 followed by 22 CF of wtr, CIP @ 8:10 A.M., POH, MU 60' of 1" pipe, did top job of 50 sx neat cmt, circ out 5 sx excess, total of 419 sx lmt used. LD 1" pipe, cut off 10-3/4" csg, weld on csg hd, M/U BOP. No mud rpt.
2-27	Instld BOP, RIH & tstd BOP w/1000#, approved by DOG, top of cmt @ 580', C/O cmt, D/O shoe @ 593', drld to 1000', POH, Now M/U Dynadril. Mud wt 70#/CF, WL 9.1 cc, vis 40", solids 9%.
2-28	RIH w/Dynadril, drld & surveyed to 1287', RT for build angle drlg assy, drld & surveyed to 1441', Now POH @ 6 A.M. SS @ 1441' 12° N 2 E, hole is 9' hi & 13' left. Mud wt 70#/CF, vis 40", PV 13, YP 9, WL 7.9 cc.
3-1	Fin POH, LD stab, RIH w/Dynadril, oriented tool drld fr 1466' to 1642'. RT for angle bldg drlg assy, drld & surveyed to 2075' @ 6 A.M. Mud wt 71#/CF, vis 43", PV 17, YP 11, WL 6.8 cc, 10% wolids, 0.5% snd. SS @ 2108' 30° 15' N 13° E, hole is 8' low and on line for direction.
3-2	Cont'd drlg 9-7/8" hole fr 2075' to 2168', C & C mud, RTC drlg assy for stiff hook-up, reamed fr 1770' to 1810', cont'd drlg & surveying to 2486', made wiper trip to 2050', drld ahead to 2579', C & C mud, now POH to run Dynadril. Mud wt 71#/CF, vis 38", PV 12, YP 7, WL 6.8 cc, 9% solids, 0.5% snd, SS @ 2554' 34° 30' N 15° E, hole is 9' lo & 23' rt.

3-3 Fin POH, RIH w/Dynadril to 2579', circ & orient tool, drld & surveyed to 2684', C & C mud, POH on odd break, RIH w/stiff hook up, remaed fr 2579' to 2684', now drlg. Stiff hook up consists of bit, stabilizer, 30' x 7" Monel, stab, 30' x 7" DC, stab, 90' x 7" DC, stab, x-over, 1 jt DP & bmpr sub. Total of 213'. Mud wt 73#/CF, vis 43", PV 15, YP 10, WL 6.4 cc, 10% solids, 0.5% snd, SS @ 2628', 32° 45' N 11° E, hole is 25' rt & 2' lo.

3-4 Cont'd drlg w/stiff hook up fr 2684' to 3185', made wiper run fr 2585' to 3185', now drlg 9-7/8" hole @ 3216' using stiff hook up. Hole is trying to build angle. SS @ 3146' = 34° 30' N 8° E, hole is 6' hi & 20' rt. Mud wt 72#/CF, vis 38", PV 12, YP 7, WL 6.9 cc, cake 1/32", 9% solids.

3-5 Cont'd drlg 9-7/8" hole to 3386', unable to keep hole fr bldg angle, POH, RIH w/9-7/8" bit, stabilizer, 5' x 7" lead DC, stab, 30' x 7" DC, stab, 90' x 7" DC, stab, x-over, 1 jt DP & Bmpr sub. Cont'd drlg 9-7/8" hole, now @ 3550', SS @ 3465', 36° N 9° E, hole is 30' hi & 16' rt. Mud wt 74#/CF, vis 44", PV 19, fYP 13, WL 6.8 cc, 1/32" cake, 0.75% snd, 11% solids.

3-6 Cont'd drlg & surveying fr 3550' to 3793', POH, meas, now M/U 6-1/4" drlg assy. SS @ 3742', 36° N 9° E, hole is 50' hi & 18' rt . Mud wt 74#/CF, vis 42", WL 6.1 cc, vake 1/32", 11% solids.

3-7 RIH w/6-1/4" drlg assy, drld & surveyed fr 3793' to 3910', made wiper run, C & C mud, spotted Drispac pill, POH w/Eastman MSS, D-A RU & ran IES log fr 3910' to 593', M/U 9-7/8" drlg assy, now RIH to lower shoulder to 3808'. Mud wt 74#/CF, vis 41", WL 6.2 cc, 1/32" cake, 1/2% snd, 11% solids.

3-8 Cont'd RIH w/9-7/8" drlg assy, tagged shoulder @ 3793', lwrd shoulder to 3807', C & C mud, POH, LD 4-1/2" DP, Ran 105 jts 7" - 23#, K-55 Buttress, R-3 csg, B & W basket shoe, 1 jt, B & W Filtral collar, 3820.98' overall w/shoe @ 3807', FC @ 3765', pmpd 50 CF wtr followed by 214 sx "G" cmt mxd 1:1:2 perlite & gel, 2% $CaCl_2$, 85 sx "G" cmt neat w/2% $CaCl_2$, dsplsd w/838 CF mud, did not bmp plg, CIP @ 8:40 P.M. by B-J cmtrs, rmvd BOP, instld csg slips w/10,000# over wt of csg, now welding tbg head. Mud wt 72#/CF, vis 39", WL 5.2 cc, 1/32" cake, 0.25% snd, 9% solids.

3-9 Fin wldg tbg hd, instld & tsts BOP, chngd rams to 3-1/2", P/U 3-1/2" Kelly, MU drlg assy, P/U & meas, 3-1/2" DP in hole, brk circ @ 2000', fnd plg w/6-1/4" bit @ 3752', brk goose neck on swivel, now chng out swivel. Mud wt 72#/CF, vis 39", WL 5.2 cc, 9% solids, 0.25% snd.

3-10 Fin chng out swivel, D/O cmt to 3802', circ mud, POH, found mistake in figures, 2 jts off, Meas in hole, D/O cmt to 3802', C & C mud, POH, RIH w/Lyons shoot & tstr, shot 4 - 1/2" holes @ 3795', set pkr @ 3727', tail @ 3758', tool op @ 5:52 PM, li blo 5 min then dead for bal of 1 hr tst, POH, rec 5 linear ft of drlg fluid in 3-1/2" DP, Charts witnessed & approved by DOG, RIH w/6-1/4" bit, D/O shoe @ 3807', reamed to btm @ 3910', drld 3', plgd bit, RT to unplug bit, drld to 3925' @ 6 A.M. Mud wt 73#/CF, vis 42", WL 7.9 cc, 2/32" mud cake, 10% solids, 1/2% snd.

3-11 Circ hole clean, change over to polymer mud, POH, RIH w/LOR underreamer to 3807', open 6-1/4" hole to 13" fr 3807' to 3846', P/U to shoe of 7" @ 3807', had to work underreamer into csg, POH, left 3 arms and cones plus nose off of tool in hole, RIH w/junk mill, fnd junk @ 3844', unable to wrk junk to btm, trip for new mill. Mud wt 69#/CF, vis 40", WL 11 cc, 1% solids, 121,000 ppmcl.

3-12 Cont'd milling on junk w/5-7/8" mill fr 3846' to 3850', trip for new mill, down 4 hrs reprng swivel, cont'd milling on junk 3-1/4 hrs, no progress, POH w/mill, RIH w/OE DP to 3848', pmpd 30 CF wtr, 50 sx "G" cmt w/2% $CaCl_2$, dsplsd cmt to equalization, CIP @ 3:30 A.M. by B-J. Est cmt top @ 3712', POH, now GIH w/6-1/4" bits. Mud wt 70#/CF, vis 39", WL 14.0 cc, 1.5% solids.

3-13 Cont'd RIH w/6-1/4" bit to 3596', WOC until 11 AM, fnd soft cmt @ 3799', WOC until 1:30 PM, 10 hrs total, D/O cmt to 3807', plg no good, C/O to 3846', circ clean, POH, RIH w/12" LOR underreamer, opn 6-1/4" hole to 12" fr 3807' to 3846', circ clean, POH, RIH w/3-1/2" OE DP to 3844', pmpd 30 CF $CaCl_2$ wtr, ahead 67 CF "G" cmt w/0.75% densifier, 2% $CaCl_2$, dsplsd w/5 CF wtr & 162 CF mud, CIP @ 10:40 P.M. cmt job by B-J cmtrs, POH, RIH w/6-1/4" bit, 7" csg scrpr, 6 4-3/4 " DC, WOC until 6 A.M, fnd soft cmt @ 3630'. Polymer mud wt 72#/CF, 38" vis, 11.5 cc WL, 127,000 ppm Cl, 2.5% solids.

3-14 D/O cmt fr 3630' to 3807', C & C mud, POH, P/U Dynadril, had bad port valve, WO new tool, reprd cat head on rig, RIH w/Dynadril, orient too, drld very hard cmt fr 3807' to 3854'. Now POH for drlg assy. Mud wt 71#/CF, vis 38", WL 10.2 cc, 124,000 ppm Cl, 2.5% solids.

3-15 RIH w/6-1/8" bit, drld fr 3854' to 3925', survey @ 3918', RT for LOR underreamer, opn hole fr 3807' to 3845', started torqueing up, POH, underreamer had been rng on iron, RIH w/No. 3 underreamer, opn hole fr 3847' to 3885', now opng hole. Polymer mud wt 72#/CF, vis 40", WL 14 cc, solids 2.8%.

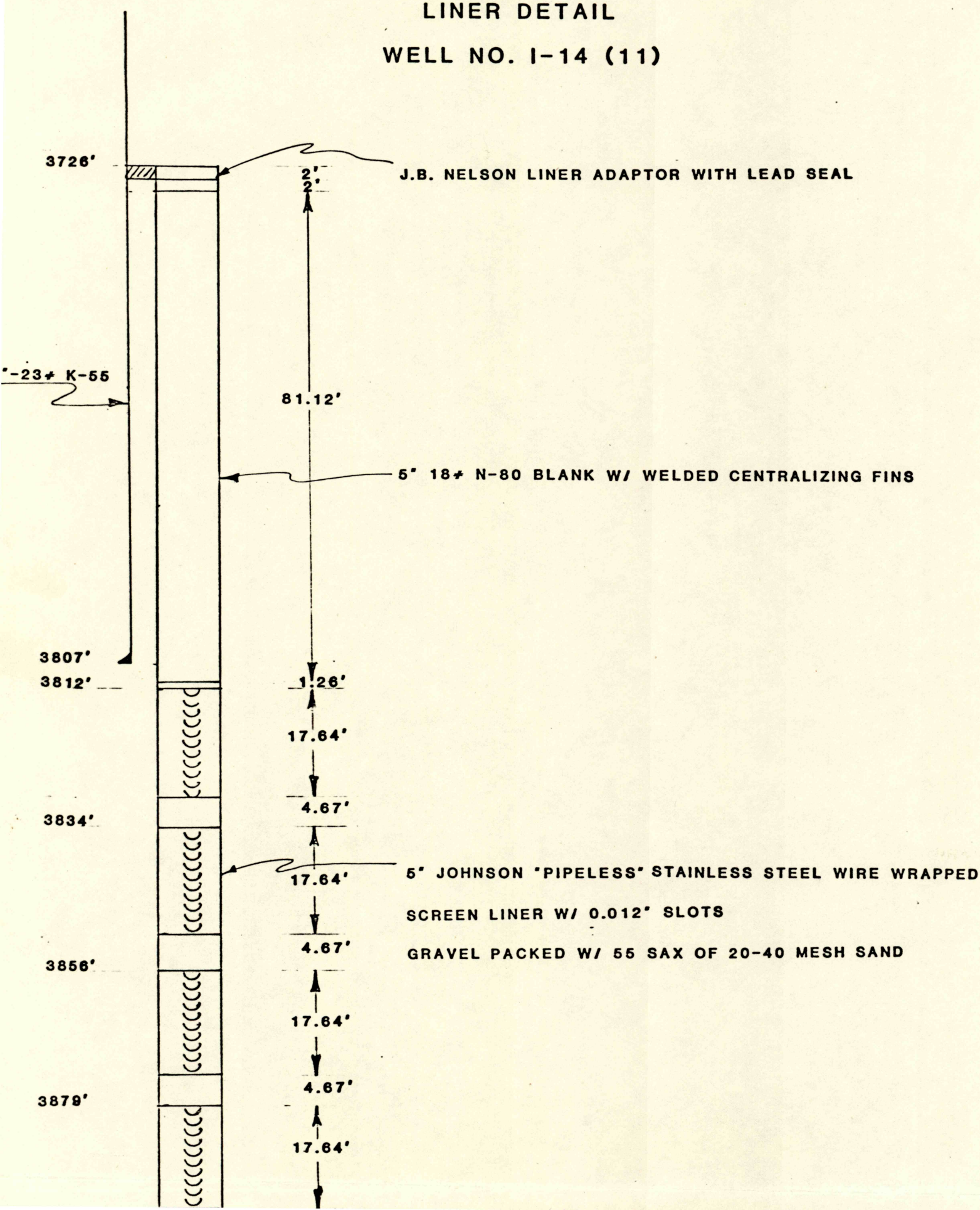
3-16 Cont'd opng 6-1/4" hole to 12" fr 3885' to 3892', rng on fill, RT for 6-1/4" bit, C/O fill fr 3892' to 3925', Circ cln, RT for LOR underreamer, opn hole fr 3892' to 3925', P/U, gauge hole fr 3807' to 3845', wrkd by junk fr 3845' to 3847', gauged hole fr 3847' to 3925', circ clean, P/U to 3845', wrkd junk loose, lwrd to btm, C & C mud, POH, D-A ran Caliper log fr 3925' to 3807', M/U 5" Johnson SS, pipeless, wire wrapped screen lnr, 197.39' overall. Now GIH. polymer mud wt 71#/CF, vis 38", WL 12.8 cc, 2.1% solids.

3-17 Liner detail as follows: Bull nose shoe - 5.00', lnr screen - 20.17', spacer sub - 2.12', lnr scrn 20.16', spacer sub - 2.15', lnr scrn 20.15', spacer sub 2.12', lnr screen - 20.15', spacer sub 2.12', lnr screen - 20.16', blank jt 8 rnd pin to SFJ box - 42.33', Blank jt SFJ pin & box - 38.79', J. B. Nelson hanger adaptor - 1.97'. Total overall length - 197.39', shoe @ 3925', top @ 3727', B-J gvl pkd lnr w/55 sx 20 - 40 mesh snd, Calc sx, POH, RIH w/lead seal pk off, set seal @ 3728', circ hole w/lease wtr, POH, LD 3-1/2" DP, rmvd BOP, B/U tbg head, P/U 2-7/8" tbg, landed tbg in head, RR @ 3 A.M. now RD to move to Well No. 10.

XTRA ENERGY CORP.

LINER DETAIL

WELL NO. I-14 (11)



RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 182-318

DIVISION OF OIL AND GAS

Report on Operations

SEC. 3606 WELL

John D. Carmichael, Agent
XTRA ENERGY CORPORATION
717 Walton Street
Signal Hill, CA 90806

Long Beach Calif.
May 13, 1982

Your operations at well I-14, API No. 037-22603, Sec. 19, T. 4S, R. 13W, S.B. B.& M. Wilmington Field, in Los Angeles County, were witnessed on 2-26-82. E. Santiago, Engineer, representative of the supervisor, was present from 1300 to 1600. There were also present D. Eatmon, Drilling Foreman.

Present condition of well: 10-3/4" cem 593'. TD 593'.

The operations were performed for the purpose of Testing the blowout prevention equipment and installation.

DECISION: APPROVED.

NOTE: DEFICIENCIES TO BE CORRECTED
NONE

DEFICIENCIES CORRECTED
NONE

CONTRACTOR: California Production Service, Inc.

ES:da

cc: Update

Blanket Bond

M. G. MEFFERD
State Oil and Gas Supervisor

By [signature]
Deputy Supervisor

for J. L. HARDOIN

OG109(12-80-15M)

DIVISION OF OIL AND GAS
BLOWOUT PREVENTION EQUIPMENT MEMO

TM 3-26-82

T 82-318

Operator XTRA ENERGY CORPORATION Well I-14 Field WILMINGTON County L.A.

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	2/26/82	E. SANTIAGO	1300 to 1600	DWAYNE EATMON	D.F.
2nd			to		

Casing record of well: 10 3/4 CEM 593'. TD 593'.

OPERATION: Testing (inspecting) the blowout prevention equipment and installation.
DECISION: The blowout prevention equipment and installation are approved.

REQUIRED BOPE CLASS: III B 3M

Proposed Well Opns: DRILL MPSP: _____ psi
Hole size: 14 3/4 " fr. 0 ' to 593 ', _____ " to _____ ' & _____ " to _____ '

CASING RECORD (BOPE ANCHOR STRING ONLY)					Cement Details	Top of Cement	
Size	Weight(s)	Grade (s)	Shoe at	CP at	419 SX CLASS G	Casing	Annulus
10 3/4	32	H 40	593			TOP OFF W/50 SX	

BOP STACK							a	b	a/b	TEST DATA			
API Symb.	Ram Sz.	Mfr.	Model or Type	Size In.	Press. Rtg.	Date Last Overhaul	Gal. to Close	Rec.Time Min.	Calc.GPM Output	psi Drop to Close	Secs.to Close	Test Date	Test Press.
A	—	HYDRIL	GK	10	3000	—						2/26	1000
Rd	4 1/2	SHAFFER	E	10	3000	—						2/26	1000
Rd	CSO	SHAFFER	E	10	3000	—			Rpt. by	DWAYNE EATMON		2/26	1000

ACTUATING SYSTEM

Accum.Unit(s) Wkg.Press. 3000 psi
Total Rated Pump Output _____ gpm
Distance From Well Bore 50 ft.

	Mfr.	Accum. Cap.	Precharge
1	SHAFFER	80 gal.	1000 psi
2		gal.	psi

CONTROL STATIONS	Elec.	Hyd.
X Manif. at accum.unit		X
X Remote at Drlr's stn.		X
Other:		

EMERG. BACKUP SYST.	Press.	Wkg.Fl.
X N2 Cyl No:4 Tpe:G	1 1600	gal
Other:	2 1800	gal
	3 2300	gal
	4 2200	gal
	5	gal
	6	gal

AUXILIARY EQUIPMENT

		No.	Sz. (in)	Rated Press.	Connections Weld	Flan.	Thrd.	
1	Fill-Up Line	X	X	X	X	X	X	X
X	Kill Line	X	2"	3000		X		1000
X	Control Valve(s)	1	X	3000		X	X	1000
X	Check Valve(s)	1	X	3000		X		1000
1	Auxil. Pump Connec.	X	X					1000
X	Choke Line	X	3	3000		X		1000
X	Control Valve(s)	5	X	3000		X	X	1000
X	Pressure Gauge	X	X	X			X	X
X	Adjustable Choke(s)	3	2	3000			X	1000
X	Bleed Line	X	2	X			X	X
X	Upper Kelly Cock	X	X	X	X	X	X	1000
X	Lower Kelly Cock	X	4 1/2	3000	X	X	X	1000
X	Standpipe Valve	X	X	X	X	X	X	1000
X	Standpipe Pressure Ga.	X	X	X	X	X	X	X
X	Pipe Safety Valve	X	4 1/2	3000	X	X	X	1000
X	Internal Preventer	X	4 1/2	3000	X	X	X	1000

HOLE FLUID MONITORING EQUIPMENT

	Alarm Aud.	Alarm Vis.	Class
X Calibrated Mud Pit			A
X Pit Level Indicator		X	B
Pump Stroke Counter			B
Pit Level Recorder			C
Flow Sensor			C
Mud Totalizer			C
Calibrated Trip Tank			
Other:			

REMARKS:

Hole Fluid Type	Weight	Storage-Pits
CLAY-BASE	10	226

OGD 9 (10/80/3M)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 182-317

DIVISION OF OIL AND GAS

Report on Operations

SEC. 3606 WELL

John D. Carmichael, Agent
XTRA ENERGY CORPORATION
717 Walton Street
Signal Hill, CA 90806

Long Beach Calif.
May 13, 1982

Your operations at well I-14, API No. 037-22603, Sec. 19, T. 4S, R. 13W, S.B. B.& M. Wilmington Field, in Los Angeles County, were witnessed on 3-9-82. R. Navia, Engineer, representative of the supervisor, was present from 2100 to 2200. There were also present H. Murphy-Drilling Foreman.

Present condition of well: 10-3/4" cem 593'; 7" cem 3807' perf 3795' WSO. TD 3910' (Drilling).

The operations were performed for the purpose of Testing the 7" shut-off at 3795' with a formation tester.

DECISION: APPROVED.

NOTE: DEFICIENCIES TO BE CORRECTED
NONE

DEFICIENCIES CORRECTED
NONE

CONTRACTOR: California Production Service

RN:da

cc: Update

Blanket Bond

M. G. MEFFERD
State Oil and Gas Supervisor

By V J Dade
Deputy Supervisor

for J. L. HARDOIN

OG109(12-80-15M)

Form OGD8 (8/80)

DIVISION OF OIL AND GAS

Formation WATER SHUTOFF TEST

No. T 82-317

TM 3-26-82

Operator Xtra Energy Corp

Well designation I-14 Sec. 19, T. 4S, R. 13, SB B.&M.

Field Wilmington, County LA was tested for water shutoff on 3/9/82 (Name) R. Navik, representative of the supervisor, was present from 2100 to 2200. Also present were Henry Murphy, DF

Casing record of well: 10 3/4" cem 593; 7" cem 3807 v. TD 3910 (drilling) perf 3795 WSO.

The operations were performed for the purpose of (D) 7" 3795' (D-1)

[X] The 7" shutoff at 3795' is approved.

[ ] The seal between the ____" and ____" casings is approved.

[ ] The operations are approved as indicating that all of the injection fluid is confined to the formations below ____' at this time.

Hole size: 9 7/8" fr. 593' to 3807'; 6 1/4" to 3910';& ____" to ____'

Casing				Cemented			Top of Fill		Sqd. Away	Final Press	Test psi/min. Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			
7	K-55	0	3807	3/7/82	Bumped plug	214 Sx	2197±	3802'			

Depth or interval tested 3795' (4 1/2" holes

The hole was open to 3802' for test.

FORMATION TEST:

Packer(s) 3727' & ____' Tail 3758' Bean size 3/4" Cushion None

IHP 1648 IFP 2 FFP 2 FHP 1646

Blow Light blow for 5, dead for remainder

Open for test 1 Hr. ____ min. Fluid entry 5' (drilling mud) 73 pcf

BAILING TEST:

The hole fluid was bailed to ____', at ____ on ____ 19__.

The hole fluid was found at ____', at ____ on ____ 19__.

(time)

PRODUCTION TEST:

Gauge/meter reading ____ on ____ 19__, at ____ pump depth ____' Engr. ____

Gauge/meter reading ____ on ____ 19__, at ____ Engr. ____

Fluid level ____' surveyed on ____ 19__, reviewed (witnessed) by ____

Total fluid produced, Bbls. ____ Net oil ____ Water ____

Rate: ____ B/D oil, ____ B/D water, ____% water cut

INJECTION SURVEY:

RA/Spinner/Temperature survey run at ____ B/D & ____ psi on ____ 19__, fluid confined below ____' (Packer depth ____')

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 182-316

DIVISION OF OIL AND GAS

Report on Operations

SEC. 3606 WELL

John D. Carmichael, Agent
XTRA ENERGY CORPORATION
717 Walton Street
Signal Hill, CA 90806

Long Beach Calif.
May 13, 1982

Your operations at well I-14, API No. 037-22603, Sec. 19, T. 4S, R. 13W, S.B. B.& M. Wilmington Field, in Los Angeles County, were witnessed on 3-13-82. R. Navia, Engineer, representative of the supervisor, was present from 2000 to 2030. There were also present H. Murphy, Drilling Foreman.

Present condition of well: 10-3/4" cem 593'; 7" cem 3807'. TD 3910'. Plugged w/cem 3847'-3807'.

The operations were performed for the purpose of Testing the location and hardness of a cement plug placed from 3847' to 3807' in the process of plugging back.

DECISION: APPROVED.

NOTE: DEFICIENCIES TO BE CORRECTED
NONE

DEFICIENCIES CORRECTED
NONE

CONTRACTOR: California Production Service

RN:da

cc: Update

Blanket Bond

M. G. MEFFERD
State Oil and Gas Supervisor

By V J Daade
Deputy Supervisor

J. L. HARDOIN

OG109(12-80-15M)

DIVISION OF OIL AND GAS
Cementing/Plugging Memo

Bm 4-2-82

182-316

Operator Xtra Energy Well No. I-14
API No. 037-22603 Sec. 19, T. 4S, R. 13W, SB B&M
Field Wilmington, County LA. On 3/13/82,
Mr. R. Navia, representative of the supervisor was present from 2000 to 2030.
There were also present H. Murphy, DF

Casing record of well:
10 3/4" cem 593; 7" cem 3807. TD 3910'. Plugged w/cem 3847'-3807'.

The operations were performed for the purpose of (a) 3847'-3807'

☐ The plugging/cementing operations as witnessed and reported are approved.
☑ The location and hardness of the cement plug @ 3807' is approved.

Hole size:____" fr.____' to____', ____" to____' & ____" to____'

Casing				Cemented			Top of Fill		Squeezed Away	Final Press.	Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			

Casing/tubing recovered:____" shot/cut at____', ____', ____' pulled fr.____';
____" shot/cut at____', ____', ____' pulled fr.____'.
Junk (in hole): top @ 3850' (hole opener)
Hole fluid (bailed to) at____'. Witnessed by____

Mudding	Date	Bbls.	Displaced	Poured	Fill	Engr.

Cement Plugs		Placing	Placing Witnessed		Top Witnessed			
Date	Sx./cf	MO & Depth	Time	Engr.	Depth	Wt/Sample	Date & Time	Engr.
3/12/82	169 cf	1bg @3847	2040	Rpt by H. Murphy	3807	8000#	3/13/82 2000	R. Navia

Note: Hole opener stuck @ top @ 3850', hole plugged w/ cem fr. 3847'-3630', then cleaned out to 3807'

OGD10 (2-77-GSR1-6M)

FORM OG111(10/81/DWRR/5M)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

No. P 182-233

848
(field code)
03
(area code)
00
(new pool code)
--
(old pool code)

REPORT ON PROPOSED OPERATIONS

Mr. John D. Carmichael, Agent
Xtra Energy Corporation
717 Walton Street
Signal Hill, 90806

Long Beach, California
March 23, 1982

Your supplementary proposal to Drill well I-14 WNF-I //,
A.P.I. No. 037-22603, Section 19, T. 4S, R. 13W, S.B. B. & M.,
Wilmington field, Fault Block I, onhore area, Ranger pool,
Los Angeles County, dated 3-12-82, received 3-16-82 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:
In all other respects the well shall be drilled in accordance with the provisions set forth in our report No. P 182-132, dated 2-25-82.

RM:da

cc: Update

Blanket Bond

M. G. MEFFERD, State Oil and Gas Supervisor

By V J Daade
for J. L. HARDOIN, Deputy Supervisor

A copy of this report and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.

Form OG123 (11/80/DWRR/5M)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

O & G
supplementary to drill

SUPPLEMENTARY NOTICE

FOR DIVISION USE ONLY			
BOND	FORMS		EDP WELL FILE
	OGD114	OGD121	
Blanket	3-18-82	3-18-82	

DIVISION OF OIL AND GAS

Long Beach Calif.

A notice to you dated February 10, 19 82 stating the intention to

Drill (Drill, rework, abandon), I-14 (Well name and number), API No. 037-22603

Sec. 19, T. 45, R. 13W, SB B. & M., Wilmington Field,

Los Angeles County, should be amended because of changed conditions.

The present condition of the well is as follows:

Total depth 3925'

Complete casing record including plugs and perforations

10-3/4", 40.5#, J-55, ST&C cemented @ 593'
7 ", 23 #, K-55, Buttress cemented @ 3807'

13" underreamed hole from 3807' to 3847'
6-1/4" hole from 3847' to 3925'

We now propose to sidetrack the junk and complete in the same interval.
(See attached Supplementary Program)

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address 717 Walton Street (Street)
Signal Hill, CA 90806 (City) (State) (Zip)
Telephone Number (213) 424-8549

XTRA Energy Corporation (Name of Operator)
Type of Organization Corporation (Corporation, Partnership, Individual, etc.)
By John D. Carmichael (Name) 3-12-82 (Date)
Signature John D. Carmichael

I-14

SUPPLEMENTARY PROGRAM

FOR PLUGGING AND SIDETRACKING

WELL CONDITION:

CASING:

10-3/4", 40.5#, J-55, ST&C cemented @ 593'
7 ", 23 #, K-55, Buttress cemented @ 3807'

13" underreamed hole from 3807' to 3847'
6-1/4" hole from 3847' to 3925'

JUNK:

Nose of 6-1/4" LOR underreamer, three arms and cones pushed to 3850.

1. Equalize cement plug consisting of 75 sacks class "G" cement mixed with 2% $CaCl_2$, bottom to be at 3850', top at $\pm$ 3700'.

2. Drill out cement to 3807'. Side track hole on the low side using Eastman directional services.

3. Drill 6-1/4" hole to 3925' taking single shot surveys every 60'.

4. Open 6-1/4" hole to 12" from the 7" shoe, 3807' to 3925'. Run Dresser-Atlas caliper log.

5. Make up and run 5" wire wrapped screen liner as directed.

6. Gravel pack the 5" x 13" annulus with $\pm$ 90 cubic feet of 20-40 mesh gravel.

7. Install 5" x 7" drive on liner seal.

8. Displace polymer mud with salt water.

9. Run 20 joints of 2-7/8" EUE tubing, install wellhead and close well in.

10. Move out rotary equipment.

JDC:sc
3-12-82

FORM OG111(10/81/DWRR/5M)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

No. P 182-132

848
(field code)
03
(area code)
00
(new pool code)
--
(old pool code)

REPORT ON PROPOSED OPERATIONS

SEC. 3606 WELL

John D. Carmichael, Agent
XTRA ENERGY CORPORATION
717 Walton Street
Signal Hill, CA 90806

Long Beach, California
February 25, 1982

Your _____ proposal to Drill well I-14 WNF-I 11,
A.P.I. No. 037-22603, Section 19, T. 4S, R. 13W, S.B. B. & M.,
Wilmington field, F.B. I Onshore area, Ranger pool,
Los Angeles County, dated 2-10-82, received 2-16-82 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment, with hydraulic controls equivalent to this division's Class III-B-3M requirements, or better, shall be installed and maintained in operating condition.,
2. Drilling fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. All oil, gas or fresh water sands behind the 7" casing shall be protected by either lifting cement or by multiple stage cementing.
4. This division shall be consulted and a supplementary notice may be required before making and changes in the proposed program.
5. The provisions of Sec. 3606 relating to derricks and subsurface spacing shall be followed.
6. A directional survey shall be made and filed with this division.
7. THIS DIVISION SHALL BE NOTIFIED:
   a. To witness a test of the installed blowout prevention equipment prior to drilling out cement in the shoe of the 10-3/4" casing.
   b. To witness a test of the effectiveness of the 7" shut-off above the Ranger zone.

RM:da

cc: Update
EDP

Blanket Bond

M. G. MEFFERD, State Oil and Gas Supervisor

By for J. L. HARDOIN, Deputy Supervisor

A copy of this report and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.

Form OG105 (8/80)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

OGG
Sec. 3606

C.E.Q.A. INFORMATION			
EXEMPT [X] CLASS____	NEG. DEC. [ ] S.C.H. NO.____	E.I.R. [ ] S.C.H. NO.____	DOCUMENT NOT REQUIRED BY LOCAL JURISDICTION [ ]
See Reverse Side			

FOR DIVISION USE ONLY					
MAP	MAP BOOK	CARDS	BOND	FORMS 114	FORMS 121
128		2-18-82 CP	Blanket	2-18-82 CP	2-18-82 CP

3/19/82

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to commence drilling well I-14, API No. 037-22603 (Assigned by Division),

Sec. 19, T. 4S, R. 13W, S.B. B. & M., Wilmington Field, Los Angeles County.

Legal description of mineral-right lease, consisting of 103 acres, is as follows: (Attach map or plat to scale)

See Attachment

Do mineral and surface leases coincide? Yes____ No X. If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of well 69 feet North (Direction) along ~~section~~/property line and 83 feet East (Direction) at right angles to said line from the Southwest corner of ~~section~~/property (Cross out one) which is xxxx or the North East corner of Main Street and the AT & SF right-of-way.

Is this a critical well according to the definition on the reverse side of this form? Yes [X] No [ ]

If well is to be directionally drilled, show proposed coordinates (from surface location) at total depth: 1186 feet North (Direction) and 177 feet East (Direction)

Elevation of ground above sea level 38 feet.

All depth measurements taken from top of Rotary Table (Derrick Floor, Rotary Table, or Kelly Bushing) that is 12 feet above ground.

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES API	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS	CALCULATED FILL BEHIND CASING (Linear Feet)
10-3/4"	32.75	H-40	Surf	600'	600'	600'
7 "	23#	K-55	Surf	3793'	3793'	1800'
5 "	15#	Wire Wrapped pipeless Johnson Screen w/ 0.012" slots				

(A complete drilling program is preferred and may be submitted in lieu of the above program.)

Intended zone(s) of completion Ranger 3793' - 1200 psi (Name, depth, and expected pressure) Estimated total depth 3845'

It is understood that if changes in this plan become necessary we are to notify you immediately.

Name of Operator	Type of Organization (Corporation, Partnership, Individual, etc.)	
XTRA ENERGY CORPORATION	Corporation	
Address	**City**	**Zip Code**
717 Walton Street	Signal Hill, CA	90806
Telephone Number / **Name of Person Filing Notice**	**Signature**	**Date**
(213)424-8549 / John D. Carmichael	John D. Carmichael	2-10-82

This notice and indemnity or cash bond shall be filed, and approval given, before drilling begins. If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

XTRA ENERGY CORPORATION

PROGRAM FOR DRILLING

WELL No. I-14

Reference Point: KB which is 12' above G. E.

Location: Lambert Coordinates N-4,041,389 E-4,204,658

Elevation: 38' GE + 12' KB = 50'

Proposed Casing Program:

10-3/4"	32.75#	to be cemented at	600'
7 "	23 #	to be cemented at	3793'
5 "	17	to be cemented at	3723'

Perfs: 3795' to 3838' Wire wrapped pipeless Johnson Screen liner with 0.012" slots.

Proposed Casing Program:

0' to 600'	15" hole
600' to 3793'	9-7/8" hole
3793' to 3845'	6-1/8" hole to be underreamed to 12".

Proposed Total Depth: 3845'

Directional Program

Deflect hole at 1000' and increase inclination at 3°/100' in a N8.5 E direction to 32° at 2060' (T.V.D. - 2005'). Maintain 32° inclination to total depth of 3845'. Start dropping angle 1°/100' to total depth of 4338'. Target is a 100' diameter circle with its center 1186' North and 177' East of the surface site. A total displacement of 1199'.

Mud Program

1. For drilling from surface to 600', use a safe fresh water clay base mud.

2. For drilling from 600' to 3845', use a fresh water clay base mud with the following properties.

a.	Weight	72 - 74
b	Fluid loss	5cc
c.	P.V.	8 - 14
d.	YP	4 - 6
e.	Funnel vis	38 - 42"
f.	Solids	10%

3. For underreaming 6-1/4" hole to 12", use a polymer mud with the following properties.

a.	Weight	72#/CF
b.	P.V.	12 - 18
c.	YP	20 - 36
d.	Funnel vis	34 - 38"
e.	Solids	Minimum
f.	KCl (KCl)	4%

BOP Requirements

1. Bag type - Hydraulic 10" - 3000. 3000 psi WOG.

2. Ram type - double, hydraulic, 10" - 3000, 3000 psi WOG.

3. Accumulator - 80 gallon with dual controls.

Program

Install 16" conductor pipe to ± 40'.

2. Move in and rig up rotary equipment.

3. Drill 12-1/4" hole to 600'. Run drop type multishot magnetic survey.

4. Run 10-3/4", 32.75#, H-40 casing to 600'. Casing to be fitted with guide shoe and centralizers on 1st, 2nd and 3rd joints. Cement 10-3/4" casing to surface with 205 sacks of API class "G" cement mixed 1:1 with peralites, 2% Gel plus 2% $CaCl_2$, followed by 82 sacks 1:0:2 (class G, peralites, Gel) plus 2% $CaCl_2$ followed by 82 sacks mixed 1:0:0 with 2% $CaCl_2$.

5. Install wellhead and BOP. Representative of D.O.G. to witness pressure test of B.O.P. stall wellhead and BOP.

6. Run 9-7/8" bit and clean out to 600'. Drill 9-7/8" hole to 3793'. Reduce hole size to 6-1/4" and drill to 4338'. Run drop type multishot magnetic survey.

7. Run Induction electric log from total depth to the shoe of the 10-3/4" casing. Use 30 ohm scale. Four field prints are required including one with 5" scale.

8. Run 7", 23#, K-55 casing to 3793'. Casing to be fitted with B & W Basket Shoe and B & W fill up collar 1 joint above shoe. Centralizers to be installed on 1st, 2nd, 4th and 6th joints above shoe. Cement 7" casing with 214 sx "G" cement mixed 1:1 perlite, 2% gel and 2% $CLCl_2$. Top to reach ± 2000'. Land casing.

9. After 24 hours, clean out cement to 3788' (± 5' above shoe). Run combination jet perforator and casing tester. Shoot 4 holes as directed and test water shut off. Results of WSO test to be witnessed by representative of California Division of Oil and Gas.

10. Run 6-1/8" bit, drill out shoe at 3793' and clean out to 3845'.

11 Change over to Polymer completion fluid.

12. Underream 6-1/8" hole to 12" from the 7" casing shoe to total depth.

13. Make up and run 5" liner as directed.

14. Gravel pack 5" x 12" annulus with 35 CF of 20 - 40 mesh gravel.

15. Displace Polymer mud in hole with salt water and close in.

16. Move out rotary equipment.

JDC:sc
1-29-82