AUSTRALIA PACIFIC LNG PTY LTD

SPRINGVALE 1
WELL ABANDONMENT REPORT

PL 43 - QUEENSLAND

Originator:
Jenna Halcro-Dirks, Technical Assistant ☒

Reviewed:
Trevor Marks, Senior Drilling Engineer ☒

Reviewed:
Brian Thomas, Operations Geologist ☒

Approved:
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Australia Pacific LNG Pty Ltd
ABN 68 001 646 331

Level 1, 144 Montague Road
WEST END QLD 4101

March, 2014

WELL CARD

General Data	
Well Name:	Springvale 1
Well Type:	Appraisal
Field:	Springvale
Tenure:	PL 43
Location	
Latitude:	25° 19' 00.00" S
Longitude:	148° 17' 47.00" E
GDA94 Zone 55 Easting:	630 489 E
GDA94 Zone 55 Northing:	1 280 064 N
Elevation	
Ground Level (mAMSL):	574.34
Drill Floor (mAMSL):	578.64
Total Depth	
Driller:	1100.40 mRT
Logger:	690.50 mRT
Workover Rig	
Drilling Rig:	TDC Rig 4
Date Spudded:	2/12/2013
Date TD Reached:	N/A
Date Rig Released:	15/12/2013
Well Completion Report Lodgement Date	
June 1983 / Company Report Number: 12169	

Well Details				
	Cellar	Surface	Production	
Hole				
Size	N/A	12 1/4"	7 7/8"	
Depth from Rotary Table	N/A	152.40 mRT	1100.40 mRT	
Drilling Fluid		Water-based gel spud mud	Water-based KCL/ polymer mud	
Drill Bits - Size/Type		Refer to Well Completion Report	Refer to Well Completion Report	
Casing				
Size/Weight/ Grade	N/A	9 5/8"/36 ppf/K-55	5 1/2"/14 ppf/K-55	
Depth - Bottom of Shoe (mRT)	N/A	147.80	938.00	
Cement				
Interval		Surface Casing: 152.40 mRT - surface	Production Casing: 1100.40 mRT - surface	
Surface			Refer to Well Completion Report	
Production			Refer to Well Completion Report	

Cement Plugs
Cement Type - Cement Volume - Interval
Plug 1: Pumped 9.2bbl of 15.6ppg Portland GP cement - 699-583 mRT
Plug 2: Pumped 9.2bbl of 15.6ppg Portland GP cement - 583-468 mRT
Plug 3: Pumped 8.4bbl of 15.6ppg Portland GP cement - 468-386 mRT
Plug 4: Pumped 12.4bbl of 15.6ppg Portland GP cement - 385-254 mRT
Plug 5: Pumped 4.4bbl of 15.6ppg Portland GP cement - 254-190 mRT
Plug 6: Pumped 3.1bbl of 15.6ppg Portland GP cement - 190-164 mRT
Plug 7: Pumped 10.8bbl of 15.6ppg Portland GP cement - 164-50 mRT
Plug 8: Pumped 7bbl of 15.6ppg Portland GP cement - 50-12 mRT
Plug 9: Pumped 0.6bbl of 15.6ppg Portland GP cement - 12-2 mRT

DRILLING & COMPLETIONS SUMMARY

Springvale 1 was drilled vertically in the PL 43 permit to ascertain the hydrocarbon potential of the Springvale Structure. Springvale 1 is located approximately 65kms northwest of Injune in southeast Queensland. Refer to the Area Map in Appendix.

No net pays were calculated for this well.

From 2/12/2013 – 15/12/2013 a plug & abandonment operation was conducted. For details of the P&A operation, refer to Appendix 2 (Daily Workover & Completion Reports). For drilling details, DST results, wireline logs & formation tops, refer to the well completion report.

GEOLOGICAL SAMPLES

Wireline Logs	Date	Log Type	Interval	Contractor
Logging Run 1	7/12/2013	IBC-CBL-GR-CCL	10.82 - 690.50 mRT	Schlumberger

Full Hole Coring	Date	Interval (mGL)	Size/Cut (m)	Recovered (m)
N/A				

Sidewall Coring	Date	Interval (mGL)	Size/Cut (m)	Recovered (m)
N/A				

Mudlogging	Date	Interval (mGL)	Size/Cut (m)	Recovered (m)
N/A				

Cutting Samples	Date	Interval (mGL)	Size/Cut (m)	Recovered (m)
N/A				

WELL TESTS

Drill Stem Testing

Date	Interval (mRT)	Formation (CM)	Gas Flow Rate	Fluid Recovery	Pressures (psia)			
					Initial Flow	Initial Shut In	Final Flow	Final Shut In
Refer to Well Completion Report								

Flow Test Results

	Date	Gas Flow Rates (mmscfd)	Water Flow Rates (bwpd)	Pressure (psia)	Depth (mRT)
Initial	N/A				
Final	N/A				

Modular Formation Dynamics Tester (MDT)

Date	Interval (mRT)	Formation	Final Pump Rate (bbl/d)	Final Shut In Pressure (psia)
N/A				

SURVEYS

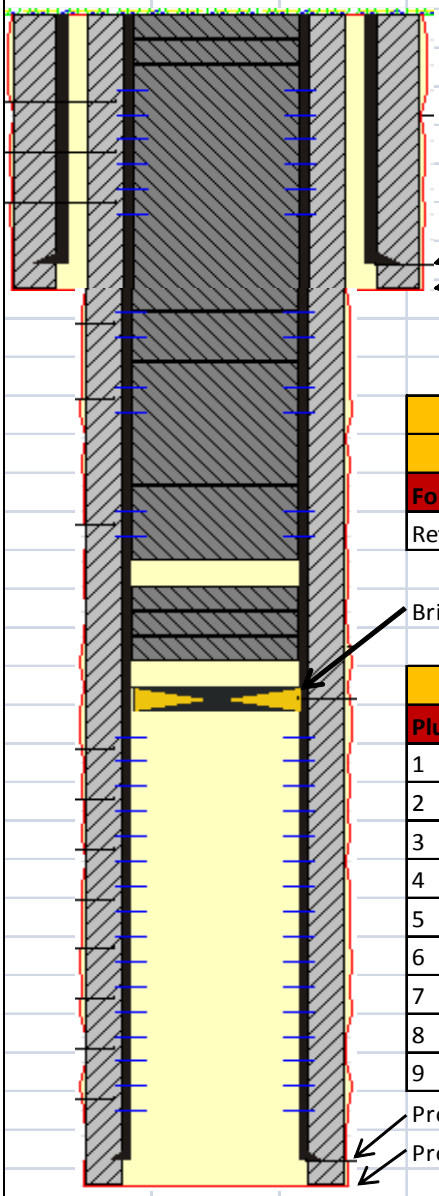
Well Location Survey

Date	Longitude	Latitude	Ground Level (mAMSL)	Easting	Northing
N/A					

Deviation Survey

Refer to Well Completion Report

Current Schematic



Surface Casing: 9 5/8" @ 147.80 mRT

Surface Hole: 12 1/4" to 152.40 mRT

Perforation Details	
Perforated	
Formation	Interval (mRT)
Refer to Well Completion Report	

Bridge Plug: 699.60 mRT

Cement Plugs		
Plug No.	Interval (mRT)	
1	699.0	583.0
2	583.0	468.0
3	468.0	386.0
4	385.0	254.0
5	254.0	190.0
6	190.0	164.0
7	164.0	50.0
8	50.0	12.0
9	12.0	4.5

Production Casing: 5 1/2" @ 938 mRT

Production Hole: 7 7/8" to 1100.40 mRT

Driller's Depth: 1100.40 mRT

Formation Tops Summary

Formation tops were picked by Geoscientists from Wireline Logs & ROP Curve data.

Formations	mRT
Evergreen Fm	4.60
Precipice Sst	18.30
Precipice BSF	35.27
Rewan Fm	128.30
Bandanna Fm	217.10
Black Alley Shale	349.50
Mantuan Fm	455.75
Peawaddy Fm	510.00
Catherine Sst	533.67
Ingelara Fm	566.74
Aldebaran Sst	621.60
Mid Aldebaran UNC	645.00
Sirius MST	741.00
Reids Dome Beds	773.80

GEOLOGICAL SUMMARY

The Bowen Basin comprises several structurally defined sub-basins, the most prominent of which is the Taroom separated by the Comet Ridge from the Denison Trough, an elongate (300 km x 50 km) feature oriented north-south in the western margin of the basin.

The Denison Trough is delineated on the west by the Springsure Shelf, Nebine Ridge and a series of north-south trending normal faults that were active during the early phases of Bowen Basin development, and on the east by the Comet Ridge (or 'Comet Platform') structural high. The Denison Trough contains Early Permian to Late Triassic sediments which overlie 'economic' basement of Devonian-Carboniferous metasediments and, in places, Early Permian volcanic rocks.

Ziolkowski & Taylor (1985), Murray (1990) and Fielding et al. (1990a, b) recognised the complex tectonic and depositional history of the Denison Trough comprised three distinct phases.
Phase 1: Formation of a series of north-south oriented grabens and half-grabens in the Early Permian in response to back-arc extension on pre-existing regional basement grain;
Phase 2: Passive thermal subsidence ('sag') and onset of widespread regional blanket sedimentation in the Denison Trough during late Early Permian to early Late Permian times; and
Phase 3: Development of anticlines from the early Late Permian to the late Middle Triassic in response to east-west compression and reactivation and reversal of normal faults.

Whilst there is uncertainty about the age of the oldest rocks, the Bowen Basin succession is continuous from the Early Permian to the Middle Triassic. Basin-fill subdivisions based on biostratigraphic and lithostratigraphic work since the mid-1970s (e.g., Rigby 1976; Price et al. 1985; Draper et al. 1990; McLoughlin 1990; Filatoff & Price 1991; Green et al. 1997b; and Price 1997) have been further refined by sequence stratigraphic studies during the 1990s (e.g., Briggs 1991; Wilkinson 1991; Ziolkowski et al. 1992; Baker et al. 1993; Stanmore 1994a, b; Tye & Asser 2001; and Doyle & Lonergan 2002a).

The Early Permian Reids Dome beds sequences comprise alluvial and lacustrine deposits with interbedded basaltic and felsic igneous rocks (Fielding et al. 1996). The maximum Reids Dome beds thickness intersected to date in the Denison Trough is 2771 m, at Westgrove 3.

The upper Reids Dome beds, Cattle Creek Group and Aldebaran Sandstone were deposited in the epeiric seaway environments that prevailed during the second (thermal sag) phase of Bowen Basin history accompanied by a succession of marine transgressions in the northern Denison Trough, and include primarily offshore marine shelfal to coastal plain sediments. Alluvial deposits in the southern Denison Trough are coeval with marine sediments in the north, as marine transgressions did not extend to the southern trough. Several sequence boundaries have been identified by various interpreters within the Aldebaran Sandstone. In late Early Permian (lower Aldebaran Sandstone) times, the northern Denison Trough was a low-relief alluvial floodplain — or shallow marine embayment, depending on minor variations of relative base level (Doyle & Lonergan 2002a) — and was in communication with the Taroom Trough. A sequence boundary in the mid-Aldebaran reflects a period of minor compression, reactivation and reversal of faults, and onset of inversion of Denison half-grabens. The virtual cessation of sediment input thereafter was accompanied by erosion of the uppermost portions of the lower Aldebaran Sandstone.

Regional sag resumed in the early Late Permian (Phase 2), and the alluvial and nearshore marine sediments of the upper Aldebaran Sandstone were deposited. Despite periodic fluctuations of base level, these conditions prevailed until completion of deposition of the progradational Freitag Formation sediments. During Ingelara, Peawaddy, Catherine and Mantuan times, there were significant fluctuations of base level, with depositional environments ranging from alluvial to fluvio-deltaic to shallow marine. With the exception ofthe quartzose sediments of the Middle Triassic Clematis Group (Kassan & Fielding 1991, 1996), volcanic detritus in the form of felsic airfall tuffs is the dominant petrographic feature of the post-Catherine formations — that is, from onset of evolution of the Bowen Basin into a retroarc foreland basin (Fielding et al. 1996).

The marine sediments of the Black Alley Shale were deposited in association with a basin wide transgression caused by foreland thrust loading along the eastern margin of the Bowen Basin (Fielding et al. 2000). Post-Black Alley depositional environments would remain completely non-marine. The alluvial sandstones, siltstones and coals of the Bandanna Formation represent a period of basin-filling. The alluvial Rewan Group sediments were deposited in Early Triassic times after a near-cessation of sedimentation and erosion of the upper Bandanna Formation near the end of the Permian.

A major episode of inversion in late Triassic times resulted from a renewal of compressional tectonics, with reactivation and reversal of half-graben bounding faults and consequent uplift and erosion of the Rewan Group. The alluvial and lacustrine sediments of the Clematis Sandstone, Snake Creek Mudstone and Moolayember Formation were then deposited. The Moolayember Formation represents the final period of Bowen Basin sedimentation. Plate convergence and the associated 'Hunter-Bowen Orogeny' resulted in the uplift, erosion and peneplenation of the Bowen succession, which was overlain by the Jurassic-Cretaceous Surat Basin (Fielding et al. 1996).

References: BAKER, J.C., FIELDING, C.R., DE CARITAT, P. and WILKINSON, M.M., 1993, Permian evolution of sandstone composition in a complex back-arc extensional to foreland basin: The Bowen Basin, eastern Australia. Journal of Sedimentary Petrology, 63 (5), 881–93.

BRIGGS, D.J.C., 1991, Correlation charts for the Permian of the Sydney-Bowen Basin and New England Orogen. *In* Proceedings of the 25th Symposium on Advances in the Study of the Sydney Basin, University of Newcastle, 30–7.

DOYLE, J. and LONERGAN, M., 2002a, ATP 337P and ATP 533P, Denison Trough, Queensland: Aldebaran Sandstone study, northern Denison Trough. Report for Oil Company of Australia Ltd (unpublished).

DRAPER, J.J., PALMIERI, V., PRICE, P.L., BRIGGS, D.J.C. and PARFREY, S.M., 1990, A biostratigraphic framework for the Bowen Basin. *In* Bowen Basin Symposium 1990, Proceedings, Geological Society of Australia (Queensland Division), 26–35.

FIELDING, C.R., KASSAN, J. and DRAPER, J.J., 1996, Geology of the Bowen and Surat basins, eastern Queensland. Australasian Sedimentologists Group Field Guide Series, 8, 1–126.

FILATOFF, J. and PRICE, P.L., 1991, A northern Denison Trough (Springsure) palynostratigraphic reference section. APG Consultants Report 606/01.

GREEN, P.M., HOFFMANN, K.L., BRAIN, T.J. and GRAY, A.R.G., 1997a, Project aims and activities, exploration history and geological investigations in the Bowen and overlying Surat basins, Queensland. *In* Green, P.M., ed., The Surat and Bowen Basins, South-east Queensland. Queensland Minerals and Energy Review Series, Queensland Department of Mines and Energy, 1–12.

GREEN, P.M., CARMICHAEL, D.C., BRAIN, T.J., MURRAY, C.G., McKELLAR, J.L., BEESTON, J.W. and GRAY, A.R.G., 1997b, Lithostratigraphic units in the Bowen and Surat basins, Queensland. *In* Green, P.M., ed., The Surat and Bowen Basins, South-east Queensland. Queensland Minerals and Energy Review Series, Queensland Department of Mines and Energy, 41–108.

McLOUGHLIN, S., 1990, Palaeobotany and palaeoenvironments of Permian strata, Bowen Basin, Queensland. Ph.D. thesis, University of Queensland (unpublished).

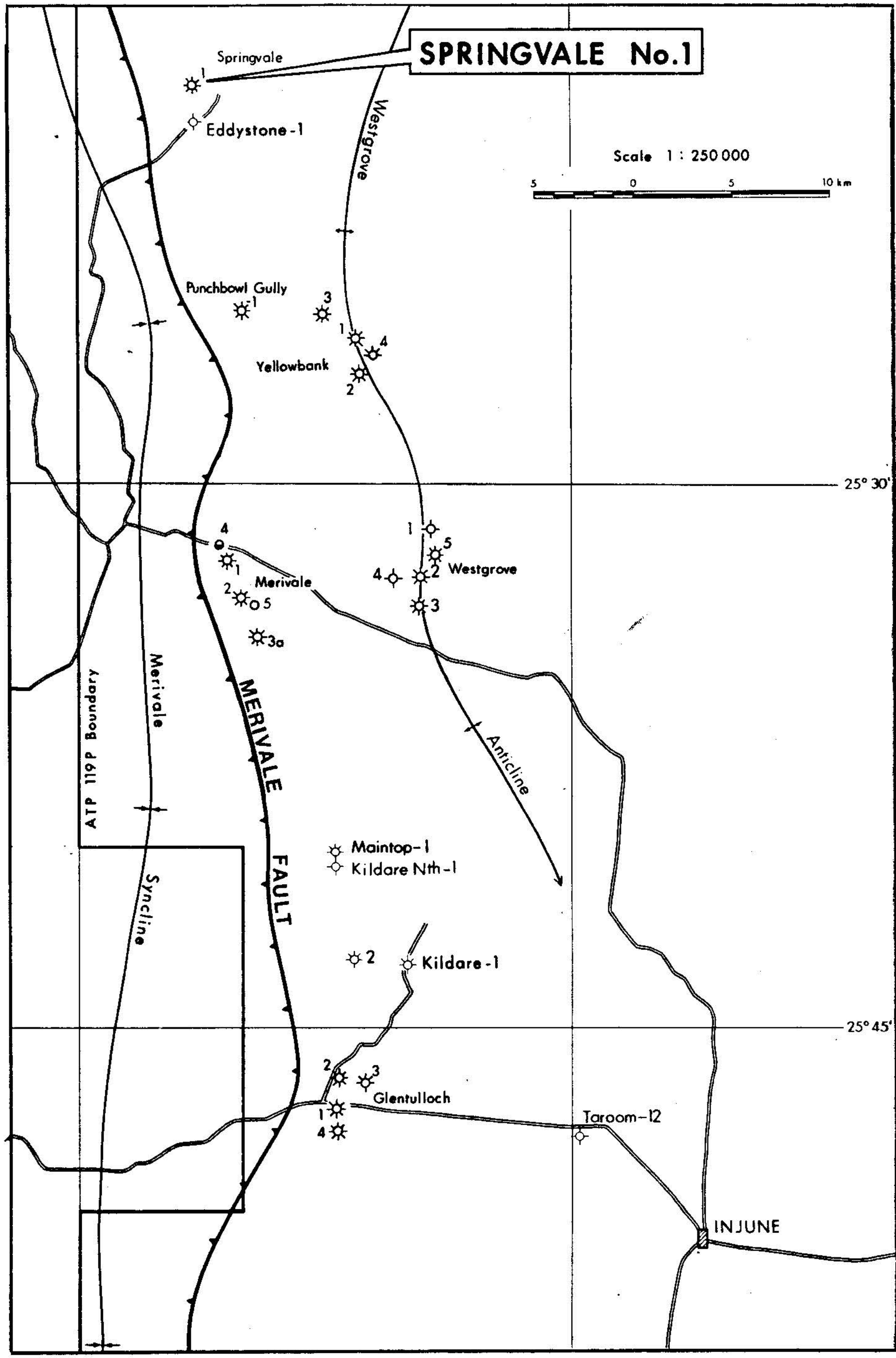
RIGBY, J.J., 1976, Palaeobotany of the Bowen and Surat basins. Appendix 3 *in* Jensen, A.R. et al., eds., A Guide to the Geology of the Bowen and Surat Basins in Queensland, 25th International Geological Conference, Excursion Guide 3C, 47–9.

STANMORE, P.J., 1994a, Interpreted Permian palaeogeography of the Denison Trough, central Queensland. Report for Santos Petroleum Operations Ltd and Oil Company of Australia Ltd (unpublished).

TYE, S. and ASSER, G., 2001, PLs 43 and 44, Denison Trough, Queensland: Geological review of the Reids Dome beds, Westgrove half-graben area. Report for Oil Company of Australia Ltd (unpublished).

Weir, J.
PL 43, Springvale 1, P&A Programme, report prepared for Origin Energy

APPENDIX 1 – LOCATION MAP



LOCATION MAP

FIGURE 2
26844 - 7

APPENDIX 2 – DAILY COMPLETION & WORKOVER REPORTS

Daily Completion and Workover

SPRINGVALE 1

Report # 1, Report Date: 2/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	48,170.34	48,170.34

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	29	Long dusty road with gulleys and rock climbs	103.0	183.0

Operations @ Morning Report

Cont moving remaining equipment to location.

Last 24hr Summary

- Finish ops on Westgrove 2.
- Rig out equipment.
- Wait on rig move trucks.
- Move equipment from Westgrove 2 to Springvale 1.
- Wait on daylight. Unable to cont moving after dark.

24hr Forecast

Move remaining equipment, spot and rig up. Kill well and rig up slickline to close sliding sleeve and set plug.

HSE Summary

0 incidents, 2 hazards

General Remarks

00:00 - 06:00 - Wait on daylight to cont rig move.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
07:00	09:00	2.00	DEMOB	MOVE	P	Rig out remaining equipment and prep for rig move.
09:00	12:30	3.50	MIRU	MOVE	T	Wait on TDC trucks to arrive. 2 trucks on location (5 ordered) and 3 hours late. Were supposed to mobilize from TDC yard @ 06:00 Hrs.
12:30	13:30	1.00	MIRU	MOVE	P	Spot trailers, pin up to air pack and mud tank then prepare to mobilize
13:30	15:30	2.00	MIRU	MOVE	P	Move rig, air packs and mud tank to new location, spot rig then spot air pack and mud tank.
15:30	17:00	1.50	MIRU	MOVE	P	2 trucks returned top old location pinned up to support equipment trailers. Note: Float truck for hauling forklift arrived on location @ 16:30 Hrs.
17:00	19:00	2.00	MIRU	MOVE	P	Move forklift, and 2 loads support equipment to Springvale 1. Rig move shut down due to no moving on council roads and through landowners yard at night..
19:00	00:00	5.00	MIRU	MOVE	T	Spot remaining equipment. Crew rigged up as much equipment as they could then conducted general rig maintenance and cleaning. NOTE: Should be "Zero" charge to Origin as 60 km move should've been completed in one day. There weren't enough rig move trucks mobilized to location.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water			400.0	0.0

Report Printed: 17/03/2014

Daily Completion and Workover

SPRINGVALE 1

Report # 1, Report Date: 2/12/2013

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill				

Safety Meetings / Operational Checks

Time	Description	Type	Comment
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
18:00	PTW 11582 Hot Work	Permit to Work	Loader ops

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	**Zone**	**Type**	**Stim Treat Company**

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 2, Report Date: 3/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	45,302.34	93,472.68

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	29	Long dusty road with gulleys and rock climbs	0.0	0.0

Operations @ Morning Report

Nipple down wellhead and nipple up BOPS

Last 24hr Summary

- Wait on daylight.
- Site induction and hazard hunt
- Move remaining equipment from Westgrove 2
- Finish rigging in all equipment.
- Function test e-kills
- Program review and create JSA for mixing KCL water.
- Mix 130 bbls 2% KCL water
- Kill well
- R/U slickline, run gauge ring and attempt to close sliding sleeve.

24hr Forecast

Rig to pull tbg, unset PIP packer and POOH with existing completion. Wait on wireline.

HSE Summary

1 incidents, 9 hazards

General Remarks

0:00 Pre tour meeting. 0:15 RIH and attempt to close sliding sleeve, will not close in 5 runs. 2:30 Review w/ Engineer and set PX plug and prong in SSD. 3:00 P/test tubing 200/1000 psi 5 mins each. R/d slickline 4:00 N/d wellhead 5:00 P/test blind rams 200/2000 psi 10 mins each. N/u BOPs.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	MIRU	MOVE	P	Pre tour meeting with incoming crew, open relevant work permits and conduct crew handover.
00:15	06:00	5.75	MIRU	MOVE	T	Conduct general rig maintenance and cleaning while waiting on trucks
06:00	10:30	4.50	MIRU	MOVE	P	Trucks mobilized to old location and completed moving all remaining support equipment to Springvale 1
10:30	11:30	1.00	MIRU	MOVE	T	Water truck bogged at creek crossing leaving location. Recovered bogged water truck as per TDC SOP #H0014.
11:30	14:30	3.00	MIRU	MOVE	P	Continue rigging up Haz-chem, hot work, hard lines,f lare line. Secure to anchor blocks. Test ESD and alarm.
14:30	15:30	1.00	SURPRD	RPCOMP	P	Rig Accepted @ 14:30 Hrs. Reveiw program and hazards for well.
15:30	16:00	0.50	SURPRD	RPCOMP	P	Tie in hard lines to well head
16:00	17:15	1.25	SURPRD	RPCOMP	P	Pressure test hard lines and manifold 200/2000 psi 5 mins each.
17:15	18:00	0.75	SURPRD	RPCOMP	P	Mix 130 bbls 2% KCL

Daily Completion and Workover

SPRINGVALE 1

Report # 2, Report Date: 3/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
18:00	18:30	0.50	SURPRD	RPCOMP	P	Bleed of well SITP- 103psi SICP- 183psi. Casing came down to 30 psi flowing on 48/64" choke. Tubing came down to 0 psi. Casing shut in and pressured up to 100psi in 2 minutes.
18:30	19:00	0.50	SURPRD	RPCOMP	P	TBM and rig down slickline pole from wellhead
19:00	19:30	0.50	SURPRD	RPCOMP	P	Conduct TBM, rig up to reverse circulate
19:30	20:30	1.00	SURPRD	RPCOMP	P	Reverse circulate 100bbl at initial circulating pressure 100psi. Wet gas to surface then slugging foamy fluid, followed by clean fluid to surface. Shut in well after 100bbl. Check annulus and tubing both on vacuum. Monitor well pressure both sides on vacuum. Mix up another 100 bbl of 2% KCL.
20:30	21:00	0.50	SURPRD	RPCOMP	P	TBM and R/U slickline unit. M/U 1.5" tool string to 0.108" plough steel with 8" of stem, 20" spang jars and 1.850" gauge ring.
21:00	21:45	0.75	SURPRD	RPCOMP	P	TBM and P/Test slickline lubricator 200/1000 psi for 5 min each
21:45	22:45	1.00	SURPRD	RPCOMP	P	RIH inside crossover to 2-3/8" tubing, through SSD and tag XN at 824.5M (zero at tubing hanger) POOH gauge ring.
22:45	23:30	0.75	SURPRD	RPCOMP	P	M/U 1.5" nominal B-shifting tool run#1 with steel shear pin to toolstring with additional 3ft of stem below jars. Pass through SSD and pick up to tag at 743.5M (zero at tubing hanger) Jar up repeatedly (30 times) until passed through sleve. Confirm again able to run in and pull up through SSD. POOH and check tool (steel pin had sheared indicating sleve not yet closed)
23:30	00:00	0.50	SURPRD	RPCOMP	P	Re-pin shifting tool with steel pin run#2 and repeat 30 jars up on SSD at 743.5M (zero at hanger). POOH and confirm pin had sheared prior to closing sleve.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	0.0	0.0	160.0	120.0
KCl 2%	100.0	0.0		

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill				

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
04:40	PTW 11583 Hot Work	Permit to Work	Gernie ops
04:40	PTW 11591 Hot work	Permit to Work	Gernie ops
10:25	PTW 11584 Working at height	Permit to Work	Fuel dips
12:00	PTW 11585 Pressure system	Permit to Work	Fuel dips R/u floor
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
12:00	PTW 11586 Hot Work	Permit to Work	Loader and gernie
12:13	PTW 11587 Pressure system	Permit to Work	P/test BOPs
19:30	PTW 11588 Working at height	Permit to Work	Working at heights
20:30	PTW 11589 Hot Work Pressure Systems	Permit to Work	Slickline runs and camera

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 3, Report Date: 4/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	61,991.94	155,464.62

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	29	Long dusty road with gulleys and rock climbs	0.0	0.0

Operations @ Morning Report

Wait on SLB logging unit for plug and USIT log

Last 24hr Summary

- RIH and attempt to close sliding sleeve, will not close in 5 runs
- Review w/ Engineer and set PX plug and prong in SSD
- P/test tubing 200/1000 psi 5 mins each
- N/d wellhead N/u BOPs and P/test
- Unseat tubing hanger and unset packer and allow to equalize
- POOH 2-7/8" tubing
- Land hanger, change out pipe rams, P/test pipe rams and unseat tubing hanger
- POOH 2-3/8" tubing, SSD, tubing, packer, tubing, XN, tubing, WRG
- Land hanger, change out pipe rams, P/test pipe rams and unseat tubing hanger
- RIH with 20 joints of 2-7/8" kill string and land hanger
- Secure well and wait on SLB logging unit
- Conduct general rig maintenance

24hr Forecast

Wait on SLB logging unit for bridge plug and USIT corrosion log

HSE Summary

0 incidents, 10 hazards, 1 safe obs

General Remarks

0:00 Pre tour meeting. 0:15 Wait on SLB logging unit. Conduct general rig maintenance.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	RPCOMP	P	Conduct pre tour meeting with incoming crew. Review program and hazards. Issue permits and review SOPs.
00:15	00:30	0.25	SURPRD	RPCOMP	P	Re-pin shifting tool run #3 with steel pin and repeat 3 jars up (pin sheared early due to heavier jarring) on SSD at 743.5 m (zero at hanger). POOH and confirm pin had sheared prior to closing sleeve.
00:30	01:30	1.00	SURPRD	RPCOMP	P	Re-pin shifting tool run #4 with steel pin and repeat 20 jars up on SSD at 743.5 m (zero at hanger). POOH and confirm pin had sheared prior to closing sleeve.
01:30	02:30	1.00	SURPRD	RPCOMP	P	Re-pin shifting tool run #5 with steel pin and repeat 20 jars up on SSD at 743.5 m (zero at hanger). POOH and confirm pin had sheared prior to closing sleeve.

Daily Completion and Workover

SPRINGVALE 1

Report # 3, Report Date: 4/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
02:30	03:00	0.50	SURPRD	RPCOMP	P	Review w/ Engineer decision to set plug in X-profile of sliding sleeve due to sleeve not closing. Pin X-lock mandrel with PXN plug body and new V-packing to X-line running tool. RIH and tag X profile in SSD at 743.0 m (zeroed at hanger). Set plug into X-profile and check set with 500 lb. Shear off with 2 jars and POOH and break out running tool.
03:00	03:30	0.50	SURPRD	RPCOMP	P	RIH with PX prong with new seals on SB running tool. Tag PX plug body at 743.0 m (zero at hanger). Set PX-prong in plug and POOH.
03:30	05:00	1.50	SURPRD	RPCOMP	P	Reinstall tree cap and P/test tubing to 200/1000 psi 5 mins each. Repair 2 chiksans and repeat for good test. Bleed off pressure. R/d slickline unit.
05:00	05:30	0.50	SURPRD	RPCOMP	P	Connect hydraulic hoses to BOPs and charge koomie unit. Stump P/test blind rams 200/2000 psi 10 mins each.
05:30	07:30	2.00	SURPRD	RPCOMP	P	N/d wellhead. NOTE: Bolts siezed and A section stuck on extended neck tbg hanger.
07:30	08:15	0.75	SURPRD	RPCOMP	P	N/U BOPS connect hyd lines and charge koomey.
08:15	11:00	2.75	SURPRD	RPCOMP	P	R/U workfloor and pipe handling equipment and mud can. Install blooie line and muffler then secure to anchor blocks.
11:00	12:00	1.00	SURPRD	RPCOMP	P	Pressure test 2-7/8" pipe rams and annular (pipe - 200/2000 annular 200/1000). Conduct koomey draw down test.
12:00	12:15	0.25	SURPRD	RPCOMP	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief.
12:15	12:45	0.50	SURPRD	RPCOMP	P	R/U pipe handler and spot racks.
12:45	13:30	0.75	SURPRD	RPCOMP	P	Disengage lock screws to 70 mm (59 mm engaged). NOTE: Old style and very tight.
13:30	14:30	1.00	SURPRD	RPCOMP	P	P/U on tbg string. Hanger moved @ 21 klbs. Cont P/U to 23 klbs (2 klbs over string weight). Attempt to unset packer using pipe wrenches. Unable to rotate. Install power tongs then rotate 4 turns to the right and packer jumped. String weight now 21 klbs. Let packer equalize for 10 min. P/U another 6 inches to deflate element. Let element relax for 10 min.
14:30	17:45	3.25	SURPRD	RPCOMP	P	POOH wet w/ 76 jts, 2-7/8" tbg. Mud can in use.
17:45	18:00	0.25	SURPRD	RPCOMP	P	M/U tbg and land tbg hanger. Engage lock screws to 59 mm. Confirmed by WSR.
18:00	19:15	1.25	SURPRD	RPCOMP	P	Bleed off Koomey, then remove 2-7/8" pipe rams and install 2-3/8" pipe rams. P-test to 200/2000 psi.
19:15	19:30	0.25	SURPRD	RPCOMP	P	Dis-engage lock screws to 70 mm then pull and remove tbg hanger.
19:30	20:45	1.25	SURPRD	RPCOMP	P	L/D remaining 2-3/8" production bha as follows: Swedge to 2-3/8", 1 joint, SSD with plug and prong, 1 joint, packer, 7 joints, XN nipple, 1 joint, EUE collar
20:45	21:15	0.50	SURPRD	WELLPR	P	Land hanger, engage lock screws and install 2-7/8" pipe rams. P-test to 200/2000 psi, 10 min each.
21:15	21:30	0.25	SURPRD	WELLPR	P	Disengage lock screws and pull tbg hanger.
21:30	22:45	1.25	SURPRD	WELLPR	P	RIH w/ 20 jts, 2-7/8" tbg kill string.
22:45	23:00	0.25	SURPRD	WELLPR	P	Land hanger with BPV installed, engage lock screws and secure well. Wait on Schlumberger.
23:00	00:00	1.00	SURPRD	WELLPR	P	Wait on SLB logging unit. Conduct general rig maintenance.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	0.0	0.0	160.0	50.0
KCl 2%	50.0	14.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill				

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
02:40	PTW 11590 Pressure system	Permit to Work	P/t rams and plug in tubing
02:50	PTW 11591 Hot work	Permit to Work	Loader and gernie
06:00	PTW 11592 Working at height	Permit to Work	R/u BOP. R/u work floor
12:00	PTW 11593 Hot work	Permit to Work	Loader and gernie
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
12:10	PTW 11594 Pressure system	Permit to Work	P/test BOPs
12:15	PTW 11595 Working at height	Permit to Work	Fuel dips

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Daily Completion and Workover

SPRINGVALE 1

Report # 3, Report Date: 4/12/2013

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 4, Report Date: 5/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	46,134.34	201,598.96

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	29	Long dusty road with gulleys and rock climbs	0.0	0.0

Operations @ Morning Report

Wait on SLB logging unit for plug and USIT log

Last 24hr Summary

SBWC - Wait on SLB logging unit. Conduct general rig maintenance.

24hr Forecast

Wait on SLB logging unit for bridge plug and USIT corrosion log

HSE Summary

0 incidents, 7 hazards

General Remarks

0:00 Pre tour meeting. 0:15 Wait on SLB logging unit. Conduct general rig maintenance.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	WELLPR	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief.
00:15	08:00	7.75	SURPRD	WELLPR	P	Wait on SLB logging unit. Conduct general rig maintenance.
08:00	08:15	0.25	SURPRD	WELLPR	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief.
08:15	14:00	5.75	SURPRD	WELLPR	P	Wait on SLB logging unit. Conduct general rig maintenance.
14:00	14:30	0.50	SURPRD	WELLPR	P	Pre-tour meeting and site induction with incoming crew. Open work permits. Crew handover and end of tour debrief.
14:30	00:00	9.50	SURPRD	WELLPR	P	Wait on SLB logging unit. Conduct general rig maintenance.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	0.0	0.0	0.0	40.0
KCl 2%	0.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill				

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
02:20	PTW 11596 Working at height	Permit to Work	Fuel dips
08:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
08:00	PTW 11597 Hot work	Permit to Work	Loader and gernie

Daily Completion and Workover

SPRINGVALE 1

Report # 4, Report Date: 5/12/2013

Safety Meetings / Operational Checks

Time	Description	Type	Comment
14:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
14:00	PTW 11598 Hot work	Permit to Work	Loader and gernie

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 5, Report Date: 6/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	51,240.34	252,839.30

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	29	Long dusty road with gulleys and rock climbs	0.0	0.0

Operations @ Morning Report

Rig up to RIH GR-CCL log

Last 24hr Summary

- SBWC - Wait on SLB logging unit.
- Conduct general rig maintenance.
- Spot SLB wireline unit and support vehicle
- Spot Elmar pressure control skid
- N/u SLB lubricator
- N/u Emlar BOP to annular
- Review SLB crew out of hours
- SLB Rest period until 6:30
- Conduct general rig maintenance.

24hr Forecast

Wait on SLB crew rest, run GR-CCL log, set bridge plug and conduct USIT corrosion log.

HSE Summary

0 incidents, 5 hazards

General Remarks

0:00 Pre tour meeting. 0:15 Wait on SLB crew rest period. Conduct general rig maintenance.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	WELLPR	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief.
00:15	12:00	11.75	SURPRD	WELLPR	P	Wait on SLB logging unit. Conduct general rig maintenance.
12:00	12:45	0.75	SURPRD	WELLPR	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Complete Yellowbank inductions.
12:45	17:30	4.75	SURPRD	WELLPR	P	Wait on SLB logging unit. Conduct general rig maintenance.
17:30	17:45	0.25	SURPRD	WELLPR	P	Conduct TBM and JSA for rigging up SLB wireline unit.
17:45	18:00	0.25	SURPRD	WELLPR	P	Spot SLB wireline open hole logging unit and support truck with grease injection.
18:00	18:15	0.25	SURPRD	WELLPR	P	Spot Elmar grease injection, BOP skid and SLB air compressor.
18:15	19:15	1.00	SURPRD	WELLPR	P	M/u Elmar lubricator sections on pipe stands.
19:15	20:00	0.75	SURPRD	WELLPR	P	P/u BOPs with adaptor flange using front end loader and attach to blocks. P/u BOPs with blocks and M/u to 7-1/16" annular studded connection.
20:00	20:30	0.50	SURPRD	WELLPR	P	Stop for crew dinner (dinner didint arrive at 6 pm due to late arrival of TCE truck driver).

Daily Completion and Workover

SPRINGVALE 1

Report # 5, Report Date: 6/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
20:30	20:45	0.25	SURPRD	WELLPR	P	Review hours worked with SLB Engineer. Started in yard at 7 am. SLB crew out of hours, return 30 minute drive to camp for rest period.
20:45	21:00	0.25	SURPRD	WELLPR	P	N/u adaptor flange to annular.
21:00	00:00	3.00	SURPRD	WELLPR	P	Wait on SLB crew rest period until 6:30. Crew wash down a few items.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	0.0	0.0	160.0	0.0
KCl 2%	20.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill				

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
00:10	PTW 11599 Hot work	Permit to Work	Welding, loader and gernie
12:00	PTW 13451 Pressure system	Permit to Work	Supply water to carrier
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
12:00	PTW 11600 Hot work	Permit to Work	Loader and gernie

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 6, Report Date: 7/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	47,445.90	300,285.20

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	29	Long dusty road with gulleys and rock climbs	0.0	0.0

Operations @ Morning Report

RIH SLB USIT corrosion log

Last 24hr Summary

- Wait on SLB crew rest period
- N/u wireline BOPs and lubricator/grease injection and P/test 1000 psi
- RIH and conduct GR-CCL correlation log
- M/u bridge plug and source replacement adaptor to setting tool, from SLB Roma
- Conduct 3/4 hr troubleshooting to faulty rig transmission
- RIH and set bridge plug at 700.0 mRT
- POOH and change over to USIT connectors.
- N/d lubricator and wireline BOPs
- P/test casing 200 psi 10 mins, solid test OK.
- N/u lubricator and M/u USIT logging tool

24hr Forecast

Conduct USIT corrosion log. R/d SLB and R/u Vause. Perforate casing and injectivity test.

HSE Summary

1 incidents, 6 hazards

General Remarks

0:00 Pre tour meeting. 0:15 POOH with setting tool. 0:45 Rig asige Elmar lubricator and lay out toolstring. 1:00 Change toolstring over to USIT/CBL connectors. 2:00 N/d and change out lubricator for USIT. 2:30 Filll hole w/ 20 bbls and P/test casing 200 psi 10 mins, solid test OK. 2:45 N/d wireline BOPs and N/u lubricator with USIT tool.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	WELLPR	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.
00:15	06:30	6.25	SURPRD	WELLPR	P	Wait on SLB crew rest period
06:30	06:45	0.25	SURPRD	WELLPR	P	Conduct TBM with SLB and crew
06:45	08:00	1.25	SURPRD	WELLPR	P	N/u lubricator to BOPs with toolstring inside.
08:00	08:45	0.75	SURPRD	WELLPR	P	P/test lubricator against clsoed blind rams from above to 200/1000 psi 5 mins each.
08:45	11:45	3.00	SURPRD	WELLPR	P	RIH GR-CCL and tag HUD at 889.70mRT. NOTE: No fill. Log to surface.
11:45	12:00	0.25	SURPRD	WELLPR	P	L/d lubricator and GR-CCL toosltring.
12:00	12:30	0.50	SURPRD	WELLPR	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief.

Daily Completion and Workover

SPRINGVALE 1

Report # 6, Report Date: 7/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
12:30	13:00	0.50	SURPRD	WELLPR	P	M/u bridge plug and setting tool to CCL. Problem with adaptor not functioning between CCL and setting tool.
13:00	20:00	7.00	SURPRD	WELLPR	T	SLB mobilise to Roma to source new CCL adaptor to setting tool.
20:00	20:15	0.25	SURPRD	WELLPR	P	Conduct TBM with SLB and rig crew.
20:15	21:00	0.75	SURPRD	WELLPR	P	M/u Bridge Plug to setting tool and CCL toolstring. P/u lubrciator to stab onto BOPs.
21:00	21:45	0.75	SURPRD	WELLPR	T	Transmission wont go into gear to drive the drawworks. Suspected damaged bearing(s) in drive train (from engine and automatic transmission into 90 degree gearbox and uni joint) to drawworks main input shaft. Review with TDC Mechanic, advised RM to rev engine harder while trying to engage gears. NOTE: Although rig does engage gears at high revs, drive train may require further rig repair, or could be due to sandline clutch being partially engaged.
21:45	22:00	0.25	SURPRD	WELLPR	P	M/u setting sleeve with 4.57" OD on SLB toolstring and pick up into lubricator and stab onto BOPs
22:00	22:45	0.75	SURPRD	WELLPR	P	RIH and hang up at top of casing with bridge plug. Attempt to go past casing a few times then POOH and inspect end of bridge plug, small bullnose smaller than 1" ledge on top of casing. Slight impression from top edge of casing (5.018" ID casing and 7 1/16" ID BOPs) in end of bridge plug. Have another attempt at RIH and pass though casing OK.
22:45	00:00	1.25	SURPRD	WELLPR	P	RIH to 705 mRT. Log up from 705 mRT to 655 mRT and correlate on depth. Set centre of bridge plug at 700.0 m (CCL at 696.54 mRT) and set bridge plug.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	0.0	0.0	0.0	0.0
KCl 2%	0.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill				

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
00:10	PTW 13455 Hot work	Permit to Work	Loader and gernie
06:30	Toolbox meeting	Pre-Job Safety Meeting	SLB R/u wireline
06:45	PTW 13456 Cold Explosive Pressure	Permit to Work	P/test, wireline log, explosive operation
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
12:00	PTW 13458 Working at height	Permit to Work	Fuel dips
12:00	PTW 13457 Hot work	Permit to Work	Loader and gernie
12:00	PTW 13459 Pressure system	Permit to Work	Supply water to carrier
21:15	Perforating safety checklist	Pre-Job Safety Meeting	Setting bridge plug radio silence

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
7/12/2013	GR-CCL	0.00	1,100.00	Yes

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)
Bridge Plug - Temporary	7/12/2013 23:45	5.01	699.60	700.30

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 7, Report Date: 8/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	115,773.34	416,058.54

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	29	Long dusty road with gulleys and rock climbs	0.0	0.0

Operations @ Morning Report

Wait on cement plug from 700 to 365 m.

Last 24hr Summary

- RIH and set bridge plug @ 700 mRT.
- Remove bridge plug setting string and make up USIT logging tools.
- RIH to 695 mRT with USIT/CBL tools and conduct log to surface.
- Rig down Schlumberger
- E-mail field log to engineer and wait on approved program.
- P/test casing 1000 psi, solid test OK
- RIH and tag bridge plug at 700 mRT. Spaceout at 699 mRT.
- R/u halliburton and P/test hard lines.

24hr Forecast

Pump cement plug and POOH. Wait on cement. Wireline perforate casing and injectivity test. RIH and pump cement squeeze. Wait on cement.

HSE Summary

0 incidents, 9 hazards

General Remarks

0:00 pre tour meeting. 0:15 Review new program addendum and cement program with incoming crew. 0:30 P/test casing to 1000 psi 10 mins solid test OK. Continue to R/d 2 sections of blooie line. 1:00 RIH with 2-7/8" open ended work string. 3:00 Tag BP at 700.0 mRT tubing tally. Spaceout 1 m off bottom at 699 mRT. 3:20 Smoko. 3:35 Spot halliburton cement truck and bulk unit. 4:30 R/u hard lines to tubing and mix chemicals.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	WELLPR	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.
00:15	00:45	0.50	SURPRD	WELLPR	P	POOH with bridge plug setting tool. .
00:45	01:00	0.25	SURPRD	WELLPR	P	Break Elmar lubricator p/u and lay out toolstring.
01:00	02:00	1.00	SURPRD	WELLPR	P	Break out bridge plug tool string and make up USIT/CBL connectors.
02:00	02:30	0.50	SURPRD	WELLPR	P	L/D lubricator and remove bottom sectiion.
02:30	03:00	0.50	SURPRD	WELLPR	P	Filll hole w/ 20 bbls and P/test casing 200 psi 10 mins, solid test OK.
03:00	06:15	3.25	SURPRD	WELLPR	P	N/d wireline BOPs and N/u lubricator with USIT/CBL tool.
06:15	06:45	0.50	SURPRD	WELLPR	P	RIH with USIT logging tool to 695 mRT. Charge grease injector then pressure up to 200 psi on annulus.
06:45	12:00	5.25	SURPRD	WELLPR	P	Conduct USIT log from 695 mRT to 19 mRT while hold 200 psi pressure on the csg.
12:00	12:15	0.25	SURPRD	WELLPR	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.

Daily Completion and Workover

SPRINGVALE 1

Report # 7, Report Date: 8/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
12:15	12:30	0.25	SURPRD	WELLPR	P	Bleed off csg. shut down grease injection. RIH with USIT tolls to 70 meters.
12:30	12:45	0.25	SURPRD	WELLPR	P	Charge grease injector then pressure up to 200 psi on annulus.
12:45	14:00	1.25	SURPRD	WELLPR	P	Conduct repeat USIT confirmation pass from 70 mRT to 19 mRT while holding 200 psi pressure on the csg.
14:00	16:30	2.50	SURPRD	WELLPR	P	R/D Schlumberger, load equipment and move to the side of location. Crew sent to camp for rest.
16:30	17:00	0.50	SURPRD	WELLPR	P	Spot Vause wireline unit while rigging down SLB. N/u adaptor flange and R/u sheave wheels.
17:00	21:00	4.00	SURPRD	WELLPR	P	Wait on log review, MOC and program from engineer.
21:00	21:15	0.25	SURPRD	WELLPR	P	N/d Vause adaptor flange and R/d sheave wheels
21:15	23:15	2.00	SURPRD	WELLPR	P	R/u pipe handler and pipe racks. Drift strap and tally 75 joints of 2-7/8" work string.
23:15	00:00	0.75	SURPRD	WELLPR	P	R/d end of blooie line for access to Halliburton cement unit and bulk trailer.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	0.0	0.0	310.0	310.0
KCl 2%	25.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill				

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
00:10	PTW 13460 Pressure system	Permit to Work	P/test bridge plug
00:10	PTW 13461 Hot work	Permit to Work	Loader and gernie
06:00	PTW 13462 Pressure system Cold work	Permit to Work	SLB Wireline logging
12:00	PTW 13464 Working at height	Permit to Work	Fuel dips
12:00	PTW 13465 Pressure system	Permit to Work	Supply water to carrier
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
12:00	PTW 13463 Hot work	Permit to Work	Loader and gernie
16:30	PTW 13466 Pressure system Explosives	Permit to Work	Vause perforate on wireline

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
8/12/2013	USIT/CBL	17.00	695.00	Yes

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	**Zone**	**Type**	**Stim Treat Company**

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 8, Report Date: 9/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	51,590.34	467,648.88

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	35	Long dusty road with gulleys and rock climbs	0.0	0.0

Operations @ Morning Report

R/u Halliburton to pump cement plug

Last 24hr Summary

- P/test casing 1000 psi OK
- RIH and tag bridge plug at 700 mRT
- R/u halliburton and pump 3 x balanced plugs from 700 to 365 mRT
- R/u Vause and RIH to perforate 355 to 358 mRT
- Injectivity test nil, pressure bled down from 306 psi to 266 psi in 15 mins
- RIH and tag top of cement at 386.44 mRT. Place EOT at 385.31 mRT
- R/u Halliburton and pump 12.4 bbl cement plug from 385 to 230 mRT
- Hold squeeze pressure of 400 psi for 30 mins.
- R/u Vause and RIH to perforate 210 - 213 mRT
- Injectivity test nil, pressure bled down from 175 psi to 155 psi in 1 min, to 115 psi in 5 mins, to 55 psi in 15 mins
- Conduct weekly safety meetings
- RIH and tag top of cement

24hr Forecast

Pump cement plug from 230 m. Perforate casing and pump cement plugs to surface.

HSE Summary

0 incidents, 8 hazards

General Remarks

0:00 Pre tour meeting. 0:15 N/u adaptor flange and P/test lubricator. TBM and RIH to perforate 210 - 213 mRT. NOTE: excessive movement of large gun in 5.5" casing. R/d Vause. 3:30 Fill hole and conduct injectivity test at 175 psi bled down to 155 psi in 1 min, 115 psi in 5 mins. 4:00 Conduct weekly safety meeting. 4:30 RIH and tag top of cement with 2-7/8" work string.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	PLUG	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.
00:15	00:30	0.25	SURPRD	PLUG	P	Review new program addendum and cement program with incoming crew.
00:30	01:00	0.50	SURPRD	PLUG	P	P/test casing to 1000 psi 10 mins solid test OK. Continue to R/d 2 sections of blooie line.
01:00	03:00	2.00	SURPRD	PLUG	P	Load 75 jts tbg on racks then clean threads and strap tbg. RIH with 2-7/8" open ended work string.
03:00	03:15	0.25	SURPRD	PLUG	P	Tag BP at 700.0 mRT tubing tally. L/d 1 jt then install 3 pups to put EOT @ 699 mRT.
03:15	03:30	0.25	SURPRD	PLUG	P	Smoko.

Daily Completion and Workover

SPRINGVALE 1

Report # 8, Report Date: 9/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
03:30	03:45	0.25	SURPRD	PLUG	P	Spot halliburton cement truck and bulk unit.
03:45	04:45	1.00	SURPRD	PLUG	P	R/U equipment then N/U hard lines to tubing. Take on water and mix chemicals.
04:45	05:15	0.50	SURPRD	PLUG	P	PJSM with all workers. Review cement plug program and Halliburton procedures. Open work permit.
05:15	07:00	1.75	SURPRD	PLUG	P	Fill lines and pressure test to 3000 psi, Pump 5 bbl water spacer followed by 9.2 bbls 15.6 ppg cement. Pump 9 bbls fresh water to balance plug. R/D Hallibrton.
07:00	07:30	0.50	SURPRD	PLUG	P	POOH with 3 pup jts and 12 jts tbg, Install 2 pups to place EOT @ 583 mRT.
07:30	07:45	0.25	SURPRD	PLUG	P	Tie in mud pump and reverse circulate 20 bbls to ensure returns clean. NOTE: Less than 1 bbl cement returned to pit.
07:45	08:30	0.75	SURPRD	PLUG	P	Tie in Halliburton line to tbg. Fill lines and pressure test to 3000 psi, Pump 5 bbl water spacer followed by 9.2 bbls 15.6 ppg cement. Pump 8 bbls fresh water to balance plug. R/D Halliburton.
08:30	08:45	0.25	SURPRD	PLUG	P	POOH with 2 pup jts and 12 jts tbg, Install 2 pups to place EOT @ 468 mRT.
08:45	09:00	0.25	SURPRD	PLUG	P	Tie in mud pump and reverse circulate 13 bbls to ensure returns clean. NOTE: Less than 1 bbl cement returned to pit.
09:00	09:30	0.50	SURPRD	PLUG	P	Tie in Halliburton line to tbg. Fill lines and pressure test to 3000 psi, Pump 5 bbl water spacer followed by 8.4 bbls 15.6 ppg cement. Pump 5.8 bbls fresh water to balance plug. R/D Halliburton.
09:30	10:00	0.50	SURPRD	PLUG	P	POOH with 2 pups and 14 jts tbg to place EOT @ 331.10 mRT
10:00	10:15	0.25	SURPRD	PLUG	P	Tie in mud pump and reverse circulate 13 bbls to ensure returns clean. NOTE: Approximately 1 bbl cement returned to pit.
10:15	11:15	1.00	SURPRD	PLUG	P	Disconnect lines and POOH with remaning 35 jts, 2-7/8" tbg.
11:15	12:00	0.75	SURPRD	PLUG	P	N/D circ head and N/U Vause adaptor flange.
12:00	12:30	0.50	SURPRD	PLUG	P	PJSM with all workers. Review Vause perforating procedures and open explosives work permit.
12:30	13:00	0.50	SURPRD	PLUG	P	Check location comms, then arm 4-1/2" x 3 meter gun. Install gun into lubricator then pick up and M/U to adaptor flange.
13:00	13:15	0.25	SURPRD	PLUG	P	Pressure test lubricator against the blind rams to 1000 psi for 5 min. NOTE: Slight bleed off through rams from the top but no visible leaks on surface.
13:15	14:15	1.00	SURPRD	PLUG	P	RIH with gun. Correlate on depth using Schlumberger GR-CCL dated 07-12-13. Perforate from 355 mRT to 358 mRT. POOH L/D gun and ensure all shots fired.
14:15	14:45	0.50	SURPRD	PLUG	P	Connect flare line to surface csg vent then fill hole with 4 bbls water. Attempt to establish feed rate. Pressured up to 306 psi and bled off to 266 psi in 15 min. Record draw down on crystal gauge. Bleed off csg.
14:45	15:15	0.50	SURPRD	PLUG	P	R/D Vause, N/D adaptor flange and N/U circ head.
15:15	15:30	0.25	SURPRD	PLUG	P	Smoko
15:30	16:00	0.50	SURPRD	PLUG	P	Spot pipe racks and load 41 jts, 2-7/8" tbg (previously run in hole).
16:00	17:30	1.50	SURPRD	PLUG	P	RIH w/ 41 jts tbg and tag cement top @ 386.44 mRT. Lay down on jt and install 6.77 meters pups. EOT @ 385.31 mRT
17:30	19:15	1.75	SURPRD	PLUG	P	Review program with Engineer and wait on MOC and program addendum.
19:15	19:30	0.25	SURPRD	PLUG	P	TBM with Halliburton and mix chemicals. Attempt to circulate fresh water, packed off to 200 psi with no circulation, suspect packed off in annulus. Lay down 8 ft pup joint.
19:30	20:30	1.00	SURPRD	PLUG	P	Circulate 5 bbl spacer and P/test 3000 psi 5 mins. Pump 12.4 bbl of 15.6 ppg cement. Displace with 2.2 bbls fresh water (1 bbl underdisplaced) to balance plug.
20:30	21:45	1.25	SURPRD	PLUG	P	POOH back to jt #23 (217 mRT) and reverse flush 10 bbls until lines are clean. Note: less than 1 bbl cement in returns. POOH back to surface.
21:45	22:45	1.00	SURPRD	PLUG	P	Fill hole and pressure up casing to 400 psi against top of wet cement and blind rams for 30 mins. Stable pressure at 400 psi, no bleed off, chart record with Crystal gauge. Bleed off pressure.
22:45	23:30	0.75	SURPRD	PLUG	P	TBM and R/u Vause wireline. N/u adaptor flange to wellhead.
23:30	00:00	0.50	SURPRD	PLUG	P	Conduct weekly safety meeting with crew while Vause Running in hole

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	146.8	146.8	160.0	0.0
KCl 2%	0.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill				

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
00:10	PTW 13468 Working at height	Permit to Work	Fuel dips
00:10	PTW 13465 Pressure system	Permit to Work	P/test halliburton

Daily Completion and Workover

SPRINGVALE 1

Report # 8, Report Date: 9/12/2013

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:10	PTW 13469 Pressure system	Permit to Work	P/test halliburton hard lines
00:10	PTW 13467 Hot work	Permit to Work	Loader and gernie
05:30	PTW 13470 Pressure system	Permit to Work	Halliburton cement
12:00	PTW 13471 Pressure system	Permit to Work	Supply air and water
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
12:00	PTW 13453 Working at heights	Permit to Work	Fuel dips
12:00	PTW 13472 Hot work	Permit to Work	Loader and gernie
17:00	PTW 13474 Pressure system	Permit to Work	Halliburton cement
22:50	PTW 13475 Pressure Explosives	Permit to Work	Vause perforating
23:30	Weekly safety meeting day crew	Weekly safety meeting	Review weekly hazards, incidents, observations, TDC and Origin

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status
9/12/2013		355.00	358.00	Squeezed

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp
Cement Plug 700 - 470	9/12/2013 07:45	Halliburton Energy Services
Cement Plug 385 - 230	9/12/2013 19:30	Halliburton Energy Services
Cement squeeze 355 - 358 perfs	9/12/2013 21:30	Halliburton Energy Services

Daily Completion and Workover

SPRINGVALE 1

Report # 9, Report Date: 10/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	47,818.34	515,467.22

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	37	Long dusty road with gulleys and rock climbs	0.0	0.0

Operations @ Morning Report

Wait on Management of Change.

Last 24hr Summary

- RIH and perforate 210 - 213 mRT
- Conduct injectivity test 175 psi
- Wait on Haillubrton crew rest period.
- RIH and tag cement at 253.94 mRT
- Spaceout end of tubing at 252.92 mRT
- Wait on MOC and cement program
- R/u halliburton unable to circulate
- Pull 20klb over string weight
- Review w/ supt and engineer
- Wait on MOC

24hr Forecast

Wait on MOC and cut tubing. Circulate cement plug to 175 m and squeeze. Perforate 161 mRT and injectiviy test. Pump cement plug to 154 m and squeeze. Perforate 141 m and injectivity test.

HSE Summary

0 incidents, 8 hazards

General Remarks

0:00 Pre tour meeting. 0:15 Wait on MOC. Source wireline tools from Roma.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	PLUG	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.
00:15	01:00	0.75	SURPRD	PLUG	P	N/u Vause adaptor flange and P/test to 1000 psi 5 mins.
01:00	01:15	0.25	SURPRD	PLUG	P	TBM and conduct perforating safety checklist. Enforce radio silence.
01:15	03:30	2.25	SURPRD	PLUG	P	M/u 3 m of 4-1/2" 12 spf guns and RIH to perforate 210 - 213 mRT. NOTE: excessive movement of large gun in 5.5" casing. POOH all shots fired and R/d Vause.
03:30	04:15	0.75	SURPRD	PLUG	P	Fill hole and conduct injectivity test at 175 psi, pressure bled down to 155 psi in 1 min, 115 psi in 5 mins, 55 psi in 15 mins.
04:15	04:45	0.50	SURPRD	PLUG	P	Conduct weekly safety meeting. Review last week's minutes, incidents and hazards. Also discuss up coming rig and camp move.

Daily Completion and Workover

SPRINGVALE 1

Report # 9, Report Date: 10/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
04:45	05:45	1.00	SURPRD	PLUG	P	RIH w/ 27 jts 2-7/8" tbg and tag cement top @ 253.94 mRT w/ 2klb. L/D 1 jt and add 3 pup joints. (7.3 meters) of pups EOT @ 252.92 mRT. Note: BOP drill conducted with 20 joints in the hole.
05:45	19:30	13.75	SURPRD	PLUG	P	Wait on MOC and cement program. nOTE: While waitng , build up test conducted on surface csg. SIP-63 psi, Bleed off and monitor. Surface csg venting gas down the flare line. Shut in and monitor build up. 23 psi in 15 min.
19:30	20:30	1.00	SURPRD	PLUG	P	Travel to location with program and conduct TBM with Halliburton and crew.
20:30	21:00	0.50	SURPRD	PLUG	P	R/u halliburton and begin circulation. Pressure up to 500 psi no circulation. R/d hard lines.
21:00	22:30	1.50	SURPRD	PLUG	T	Pick up 10klb over string weight and work string for 20 mins. Review with Day WSR and TDC and pick up to 20klb over string weight. Work string for 1 hr and chain down at 20 klb over, no movement. Review with Engineer and Field Supt. Note: 4300 lb wet string weight in hole.
22:30	00:00	1.50	SURPRD	PLUG	X	Cont to wait on MOC for cutting tbg. Source and deliver E-line tools from Roma

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	0.0	0.0	0.0	160.0
KCl 2%	0.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill	10/12/2013	11/12/2013	0	1

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
00:10	PTW 13476 Hot work	Permit to Work	Loader and gernie
00:10	PTW 13477 Pressure system	Permit to Work	P/test well
03:00	Weekly safety meeting night crew	Weekly safety meeting	Review weekly hazards, incidents, observations, TDC and Origin
04:45	BOP drill well secured 45 seconds	BOP Drill	BOP drill running in hole
04:45	Muster drill crew mustered 45 seconds	Muster Drill	Crew muster after BOP drill
10:50	PTW 13478 Working at heights	Permit to Work	Fill fuel truck
12:00	PTW 13481 Pressure systems	Permit to Work	Supply water to rig
12:00	PTW 13480 Working at heights	Permit to Work	Fuel dips
12:00	PTW 13479 Hot work	Permit to Work	Loader and gernie
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
21:30	PTW 13482 Pressure systems	Permit to Work	Halliburton cementing

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status
10/12/2013		210.00	213.00	Squeezed

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 10, Report Date: 11/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	47,459.34	562,926.56

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Heavy Rain	33	Wet roads unable to access lease	0.0	0.0

Operations @ Morning Report

Wait on rain wet roads to clear up

Last 24hr Summary

- Wait on MOC for cutting tubing.
- R/U Vause and RIH with CCL and 2.3 gauge ring. Tag cement inside tbg @ 238 mRT.
- RIH with tbg cutter and and cut tbg @ 230 mRT.
- R/D Vause.P.U tbg 1 meter to ensure cut.
- R/U Halliburton pump balanced cement plug from 230mRt to 175 mRT.
- POOH slowly to above cement, back wash and POOH w/ remaining tbg.
- Pressure up on csg to 135 psi. It dropped to 129 psi after 15 min and stabilized.

24hr Forecast

Inspect roads and begin operations. Wireline perforate 164m. Injectivity and squeeze cement. Tag cement and perforate 143m.

HSE Summary

0 incidents, 7 hazards

General Remarks

0:00 SBWC - shut down heavy rain no access to lease roads. 6:00 Inspect roads for re-entry onto location.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737
MICHAEL BAGLEY, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	PLUG	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.
00:15	11:15	11.00	SURPRD	PLUG	X	Cont to wait on MOC for cutting tbg. Source and deliver E-line tools from Roma
11:15	12:00	0.75	SURPRD	PLUG	X	Wait on E-line tools to arrive from Roma
12:00	12:15	0.25	SURPRD	PLUG	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.
12:15	13:00	0.75	SURPRD	PLUG	X	PJSM with all workers then pull 2klbs over string weight on tbg. R/U Vause to top of 2-7/8" tbg.
13:00	14:00	1.00	SURPRD	PLUG	X	P/U lubricator and 2.3" gauge ring then connect to adaptor. P-test lubricator to 500 psi.
14:00	14:30	0.50	SURPRD	PLUG	X	RIH w/ CCL- gauge ring and tag cement inside tbg @ 238.2 mRT. POOH with gauge ring and L/D.
14:30	15:00	0.50	SURPRD	PLUG	X	Check location for radio silence then arm cutter and RIH. Cut end of tubing at 230 mRT. POOH and confirm explosive cutter fired. NOTE: Unable to cut tbg @ 225 due to collar at that depth.
15:00	15:30	0.50	SURPRD	PLUG	X	R/d Vause wireline
15:30	15:45	0.25	SURPRD	PLUG	P	R/u Halliburton cement unit to tubing.

Daily Completion and Workover

SPRINGVALE 1

Report # 10, Report Date: 11/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
15:45	16:45	1.00	SURPRD	PLUG	P	Pump 5 bbls fresh water and P/test lines to 3000 psi for 5 mins. Mix and pump 4.4 bbl of 15.6 ppg cement and displace with 2.2 bbl (1 bbl underdisplaced) to place top of cement at 175 mRT. POOH above cement top, reverse circulate tubing clean and POOH back to surface.
16:45	17:00	0.25	SURPRD	PLUG	P	Pressure up on cement plug to 135 psi for 15 mins. Pressure bled off to 129 psi in 15 min then stabilized.
17:00	00:00	7.00	SURPRD	PLUG	T	SBWC - shut down for heavy rain. Location and access road black soil.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	21.2	21.2	0.0	0.0
KCl 2%	0.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill	10/12/2013	11/12/2013	1	0

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
00:10	PTW 13483 Hot work	Permit to Work	Loader and gernie
12:00	PTW 13486 Pressure systems	Permit to Work	Supply water to rig
12:00	PTW 13485 Working at height	Permit to Work	Fuel dips
12:00	PTW 13484 Hot work	Permit to Work	Loader and gernie
12:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
12:00	PTW 13487 Explosives	Permit to Work	Vause tubing cut
14:40	PTW 13488 Pressure systems	Permit to Work	Halliburton cementing

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp
Cement Plug 230 - 175	11/12/2013 16:00	Halliburton Energy Services
Cement squeeze 210 - 213 perfs	11/12/2013 16:45	Halliburton Energy Services

Daily Completion and Workover

SPRINGVALE 1

Report # 11, Report Date: 12/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	44,248.34	607,174.90

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Moderate Rain	27	Wet roads unable to access lease	0.0	0.0

Operations @ Morning Report
Wait on rain wet roads to clear up

Last 24hr Summary
Wait on rain wet roads to clear up

24hr Forecast
Inspect roads and begin operations. Wireline perforate 164m. Injectivity and squeeze cement. Tag cement and perforate 143m.

HSE Summary
0 incidents, 0 hazards

General Remarks
0:00 SBWC - shut down heavy rain no access to lease roads. 6:00 Inspect roads for re-entry onto location.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:00	24.00	SURPRD	PLUG	T	SBWC - shut down for heavy rain. Location and access road black soil.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	0.0	0.0	0.0	0.0
KCl 2%	0.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill	10/12/2013	11/12/2013	2	-1

Safety Meetings / Operational Checks

Time	Description	Type	Comment

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp
Cement Plug 190 - 150	12/12/2013 19:45	Halliburton Energy Services
Cement squeeze 164 - 167 perfs	12/12/2013 21:00	Halliburton Energy Services

Daily Completion and Workover

SPRINGVALE 1

Report # 12, Report Date: 13/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	115,917.94	723,092.84

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	27	Good	0.0	0.0

Operations @ Morning Report

Cement from 150 m to surface.

Last 24hr Summary

- SBWC - Wait on roads to dry up
- PTM and PJSM with Vause
- RIH and perforate 164 - 167 mRT
- Injectivity test at 135 psi, bled down to 124 psi in 15 mins
- RIH and tag top of cement at 190.48 mRT
- Spaceout EOT at 189.48 mRT
- R/u Halliburton and P/test
- Pump 5 bbl spacer of fresh water, 3.1 bbl of 5.6 ppg cement and 1.4 bbl water (1 bbl underdisplaced)
- POOH to above cement top and reverse flush. POOH remaining tubing
- Apply squeeze pressure 135 psi for 30 mins
- Continue to wait on cement 6 hrs
- RIH and tag top of cement at 168.8 mRT
- POOH work string and N/u Vause adaptor flange
- RIH and perforate 143 - 146 mRT
- Injectivity test perforations 120 psi

24hr Forecast

Circulate cement from 150 m to surface

HSE Summary

0 incidents, 9 hazards

General Remarks

0:00 Pre tour meeting. 0:15 Continue to wait on cement. 1:15 RIH 2-7/8" work string. 2:00 Tag cement and POOH work string. 2:30 Move pipe racks, N/d Circ head and N/u Vause adaptor flange. 3:30 P/test adaptor flange to 1000 psi 5 mins. 3:45 RIH with 3.0 m of 3-3/8" guns and correlate on depth. 4:15 Perforate 143 - 146 mRT and POOH. 4:30 R/d Vause

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	13:00	13.00	SURPRD	PLUG	T	SBWC - shut down waiting on access roads and location to dry. NOTE: Roads and location inspected @ 07:00 Hrs and still too wet too start ops.
13:00	14:00	1.00	SURPRD	PLUG	T	Inspect roads and location. Able to resume ops.
14:00	15:00	1.00	SURPRD	PLUG	P	Rig Rate: Mobilize rig crew and wire liners to location.
15:00	15:30	0.50	SURPRD	PLUG	P	Conduct SSI and PTM with incoming crew. Conduct PJSM with Vause and review procedures ad hazards. Open relevant work permits.
15:30	15:45	0.25	SURPRD	PLUG	P	Record surface csg pressure of 82 psi. Bleed off and monitor build up. It built to 56 psi in 15 min and stabilized.

Daily Completion and Workover

SPRINGVALE 1

Report # 12, Report Date: 13/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
15:45	16:15	0.50	SURPRD	PLUG	P	N/D circ head and N/U Vause adaptor flange. Hang sheaves then prepare lubricator and 3-3/8" x 3 meter gun.
16:15	16:30	0.25	SURPRD	PLUG	P	Check location for radio silence then arm gun. P/U lubricator and connect to adaptor flange. Pessure test to 500 psi.
16:30	17:30	1.00	SURPRD	PLUG	P	RIH with gun, correlate on depth to Sclumberger GR-CCL log. Perforate 164 mRT to 167 mRT. POOH and L/D gun. All shots fired. R/D Vause.
17:30	18:00	0.50	SURPRD	PLUG	P	Line up to pump down csg valve and return up surface casing. Fill hole w/ 1 bbls water and pressure up to 135 psi. Monitor bleed off. It bled down to 124 psi in 15 min.
18:00	18:45	0.75	SURPRD	PLUG	P	RIH w/ 20 jts, 2-7/8" tbg and tag cement top @ 190.48 mRT. P/U 1 meter and R/U Halliburton hard lines to tubing.
18:45	19:00	0.25	SURPRD	PLUG	P	Conduct TBM with Halliburton.
19:00	19:15	0.25	SURPRD	PLUG	P	R/u hard lines to take returns to flare pit. Change tong over to break out.
19:15	19:45	0.50	SURPRD	PLUG	P	Pump 5 bl spacer of fresh water. P/test Halliburton lines to 3000 psi 5 mins. Mix and pump 3.1 bbl of 15.6 ppg cement. Displace with 1.4 bbl water (underdisplaced by 1 bbl)
19:45	20:30	0.75	SURPRD	PLUG	P	R/d Halliburton and clean cement unit. POOH back to jt #13 at 122.7 mRT and reverse circulate 10 bbls to clean tubing. Note: less than 0.5 bbl cement in returns. POOH remaining tubing.
20:30	21:00	0.50	SURPRD	PLUG	P	Fill hole with water and apply squeeze pressure of 135 psi for 30 mins.
21:00	00:00	3.00	SURPRD	PLUG	P	Wait on cement 6 hours until 02:00. Note: crew not doing any preventative maintenance or upcoming job prep.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	21.0	21.0	0.0	0.0
KCl 2%	0.0	0.0	0.0	0.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill	10/12/2013	11/12/2013	3	-2

Safety Meetings / Operational Checks

Time	Description	Type	Comment
14:00	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
14:10	PTW 13489 Explosive	Permit to Work	Vause perforating
15:30	PTW 13491 Pressure systems	Permit to Work	Halliburton cementing

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status
13/12/2013		164.00	167.00	Squeezed

Date	Zone	Type	Stim Treat Company

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

Daily Completion and Workover

SPRINGVALE 1

Report # 13, Report Date: 14/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	91,797.64	814,890.48

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Fine	32	Good	0.0	0.0

Operations @ Morning Report

Rig down for rig move to Roma laydown yard.

Last 24hr Summary

- WOC
- RIH and tag cement top @ 168 mRT
- R/U Vause and Perforate 143 mRt -146 mRT
- Conduct injectivity test. Start pressure 120psi, end pressure 80 psi over 15 min.
- Wait on MOC
- Mobilize perf guns from Vause Roma
- R/U Vause and Perforate 125 mRT to 128 mRT
- Conduct injectivity test. Start pressure 120psi, end pressure 26 psi over 15 min.
- RH and perforate 73 mRt to 76 mRT.
- Conduct injectivity test. Begin pumping @ 2 bpm until pressure reached 120 psi.. Slow pump rate to 0.5 bpm and pump 22 bbls water @ 100 psi with no returns from the surface csg. Monitor bleed off for 10 min. 0 psi.
- RIH and tag cement at 164.5 mRT. Spaceout end of tubing at 163.9 mRT
- R/u Halliburton, pump 5 bbl spacer and P/test 3000 psi. Mix and pump 10.8 bbl of 15.6 ppg cement. Displace lines with 0.3 bbl
- Unseat tubing hanger and POOH work string
- Apply squeeze pressure 125 psi for 1 hour. Total 0.2 bbls squeezed.
- Wait on cement 6 hours.
- RIH and tag cement at 50.9 mRT. Spaceout end of tubing at 49.4 mRT
- R/u Halliburton, pump 5 bbl spacer and P/test 3000 psi. Mix and pump 7 bbl of 15.6 ppg cement to surface. Displace lines with 0.2 bbl
- Unseat tubing hanger and POOH work string
- Top up hole with 15.6 ppg cement from 15 m to GL.
- Clean surface lines and surface equipment.

24hr Forecast

Rig move to Injune, wasdown and rig move to Roma laydown yard. Crew rest and begin rig move to Combabula 46 and camp move to Combabula 140.

HSE Summary

0 incidents, 8 hazards

General Remarks

0:00 Pre tour meeting. 2:30 RIH and tag cement 3.3 m in on jt #6 at 50.9 mRT. Spaceout with EOT at 49.3 mRT, land hanger engaged to 60 mm, and N/u Halliburton hard lines to tubing. 3:00 TBM with Halliburton. Pump 5 bbl spacer and 7 bbl of 15.6 ppg cement taking returns to flare pit. 3:30 Unseat tubing hanger, POOH and cleanout surface lines. Top up hole to GL with 0.6 bbl of 15.6 ppg cement 5:15 Clean surface equipment.

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:15	0.25	SURPRD	PLUG	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.

Daily Completion and Workover

SPRINGVALE 1

Report # 13, Report Date: 14/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:15	01:30	1.25	SURPRD	PLUG	P	Continue to wait on cement. Crew N/d blooie line and pack up blocks.
01:30	02:30	1.00	SURPRD	PLUG	P	RIH w/ 5 jts, 2-7/8" tbg and tag cement top @ 168 mRT. POOH w/ 18 jts, 2-7/8" tbg.
02:30	03:30	1.00	SURPRD	PLUG	P	Move pipe racks, N/d Circ head and N/u Vause adaptor flange.
03:30	03:45	0.25	SURPRD	PLUG	P	P/test adaptor flange to 1000 psi 5 mins.
03:45	04:30	0.75	SURPRD	PLUG	P	RIH with 3.0 m of 3-3/8" guns and correlate on depth. Perforate 143 - 146 mRT and POOH. L/D gun and confirm all shots fired. R/D Vause
04:30	05:30	1.00	SURPRD	PLUG	P	Line up to pump down csg valve and return up surface csg vent. Pressure up to 120 psi and monitor bleed off over 15 min. It bled down to 80 psi. Bleed off remaining pressure.
05:30	06:30	1.00	SURPRD	PLUG	T	Wait on MOC.
06:30	07:15	0.75	SURPRD	PLUG	P	Read and record surface csg shut in pressure (56 psi). Bleed off to zero through flare line then close valve and momnitor build up over 15 minutes. Pressure built up to 0.4 psi. Re-do build up test and confirm build up pressure. Gas test conducted and results were 14%LEL and 4 ppm CO2.
07:15	10:30	3.25	SURPRD	PLUG	T	Mobilize perf guns from Roma base. Guns arrived on location, then charges installed.
10:30	12:00	1.50	SURPRD	PLUG	P	Wait on Vause rest hours. ETA 13:30 Hrs. Crew packing up un-needed equipment and washing muddy vehicles.
12:00	12:15	0.25	SURPRD	PLUG	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.
12:15	13:30	1.25	SURPRD	PLUG	P	Wait on Vause rest hours. ETA 13:30 Hrs. Crew packing up un-needed equipment and washing muddy vehicles.
13:30	14:00	0.50	SURPRD	PLUG	P	PJSM with all wrokers. Review Vause procedures and hazards. Open explosives work permit.
14:00	15:00	1.00	SURPRD	PLUG	P	R/U Vause then arm gun. P/U lubricator and connect to adaptor flange. P-test to 500 psi. RIH correlate on depth using Schlumberger GR-CCL. Perforate from 125 mRT to 128 mRT. POOH and L/D guns. Ensure all shots fired. R/D Vause wireline.
15:00	15:30	0.50	SURPRD	PLUG	P	Line up to csg valve and pressure up on well to 120 psi. It bled off to 80 psi in 1 minute. Cont bumping pressure from 80 psi to 120 psi for 5 min. We squeezed 0.4 bbls water through the perfs. Monitor bleed off for 10 min. The remaining pressure was 26 psi. Discuss with engineer and decision amde to perforate higher.
15:30	17:00	1.50	SURPRD	PLUG	P	Install charges in 2nd gun then hold PJSM. Confirm radio silence the then arm gun. RIH correlate on depth and perforate from 73 mRT to 76 mRT. POOH, L/D gun and confirm all shots fired. R/D Vause.
17:00	18:00	1.00	SURPRD	PLUG	P	Line up to csg valve and begin pumping @ 2 bpm. The csg gradually pressured up to 120 psi (10 bbls pumped) Shut down pump. Very quick bleed down. Engage pump @ 0.5 bpm and monitor pressure We pumped 22 bbls water and pressure gradually incresed to 100 psi with no returns from the surface csg. Monitor bleed off for 10 min. -0.2 psi. Discuss injection test with engineer.
18:00	18:30	0.50	SURPRD	PLUG	P	RIH and tag top of cement 3.6 m in on joint #18 at 164.5 mRT.
18:30	19:00	0.50	SURPRD	PLUG	P	Lay down jt #18 and makeup tubing hanger with landing joint. Land hanger with EOT at 163.9 mRT (0.6 m off bottom). Engage lock screws to 60 mm engaged.
19:00	19:30	0.50	SURPRD	PLUG	P	N/u Halliburton hard lines to tubing. R/u to take returns from B-section to flare line.
19:30	20:00	0.50	SURPRD	PLUG	P	Review cement program with Halliburton. Conduct TBM with crew.
20:00	21:00	1.00	SURPRD	PLUG	P	Pump 5 bbl spacer of fresh water (NOTE: no fluid to surface, hole wasn't full after 5 bbls.) Mix and pump 10.8 bbls of 15.6 ppg cement. Note: Fluid to surface after 1 bbl of cement (6 bbls to fill hole after injection testing). Displace lines with 0.3 bbl of water. Disconnect Halliburton and flush hard lines.
21:00	21:30	0.50	SURPRD	PLUG	P	Unseat tubing hanger and POOH. NOTE: 20k lb overpull required for first 3 metres. Break out tubing hanger. Continue to POOH and 20klb overpull cleared up after 6 metres total distance. POOH back to surface easily.
21:30	22:30	1.00	SURPRD	PLUG	P	Fill hole with 1.2 bbl fresh water. Squeeze cement with 120 psi for 1 hour. Note: Pressure would bleed down from 125 psi to 75 psi, so bumped pressure with 1 stroke of mud pump each time. Total of 9 strokes (0.2 bbl) pumped maintaining 125 psi for 1 hour. Pressure bled down to 50 psi over 15 mins. NOTE: Shut in surface csg vent after squeezing
22:30	00:00	1.50	SURPRD	PLUG	P	Pack up equipment onto trailers while waiting on cement until 3:00.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
FRESH WATER	41.0	16.3	160.0	160.0
KCl 2%	0.0	0.0	0.0	0.0

Daily Completion and Workover

SPRINGVALE 1

Report # 13, Report Date: 14/12/2013

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill	10/12/2013	11/12/2013	4	-3

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:05	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
00:10	PTW 13493 Hot work	Permit to Work	Loader and gernie
00:10	PTW 13495 Pressure systems	Permit to Work	Supply water to rig
00:10	PTW 13494 Working at height	Permit to Work	Fuel dips
03:00	PTW 13496 Explosive	Permit to Work	Vause perforating
19:45	PTW 13492 Pressure systems	Permit to Work	Supply water to rig

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status
14/12/2013		73.00	76.00	Squeezed
14/12/2013		125.00	128.00	Squeezed
14/12/2013		143.00	146.00	Squeezed

Date	**Zone**	**Type**	**Stim Treat Company**

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp
Cement Plug 150 - 28 m	14/12/2013 20:00	Halliburton Energy Services
Cement squeeze 73 - 76 m perfs	14/12/2013 21:30	Halliburton Energy Services
Cement squeeze 143 - 146 m perfs	14/12/2013 21:30	Halliburton Energy Services
Cement squeeze 125 - 128 m perfs	14/12/2013 21:30	Halliburton Energy Services

Daily Completion and Workover

SPRINGVALE 1

Report # 14, Report Date: 15/12/2013

State	District	Basin	Lease	Well Configuration Type
QUEENSLAND			PL 44	VERTICAL

Ground Elevation (m)	Original KB/RT Elevation (m)	KB-Ground Distance (m)	KB-Casing Flange Distance (m)	KB-Tubing Hanger Distance (m)
0.00	4.47	4.47	4.47	3.77

Primary Job Type	Like Kind Area
ABANDONMENT P&A	

Objective

1) Isolate the tubing with slickline.
2) Pull the existing completion.
3) Set a composite bridge plug on e-line to isolate producing zones.
4) Run a USIT log on e-line.
5) If casing integrity is good, remediate as follows:
   a) Perforate production casing and establish a circulation/injection rate.
   b) Circulate/squeeze cement.
   c) Drill out cement.
   d) Confirm zonal isolation with CBL.
   e) Drill out the bridge plug.
   f) Re-perforate the Aldeberan formation.
   g) Run the new completion.
   If severe casing corrosion or leak point(s) exist, proceed as follows:
   a) Decision to be made on how to achieve zonal isolation and whether to remediate or P&A.
   b) Execute the above decision.
6) Rig down move out.

Contractor	Rig No
TDC	4

Daily Operations

AFE No.	AFE + Sup Amount	Daily Cost	Cumulative Cost
	740,700.00	116,489.34	931,379.82

Weather	T (°C)	Road Condition	Tubing Pressure (psi)	Casing Pressure (psi)
Clear	31	Good	0.0	0.0

Operations @ Morning Report

Rig Released. See Combabula 46 report.

Last 24hr Summary

- WOC
- RIH and tag cement top @ 50.90 mRT.
- R/U Halliburton and pump 15.6 ppg x 7 bbl cement top up plug.
- POOH with tbg.
- Top up production csg to surface with 15.6 ppg cement
- R/D workfloor and N/D Bops.
- Check surface csg shut in pressure after 9.75 hour shut in. 0 psi.
- N/U Wellhead.
- Lay derrick over then rig release @ 11:30 Hrs.

24hr Forecast

Move rig to Roma, crews shut down waiting on camp move in AM.

HSE Summary

0 incidents, 3 hazards

General Remarks

N/A

Supervisor	Title	Mobile
MIKE PETERS, DAY DRLG SUPV	DAY DRLG SUPV	0438 120 737
DEAN COOPER, NIGHT DRLG SUPV	NIGHT DRLG SUPV	0438 120 737

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
00:00	00:30	0.50	SURPRD	PLUG	P	Pre-tour meeting, and open work permits. Crew handover and end of tour debrief. Issue permits.
00:30	01:00	0.50	SURPRD	PLUG	P	RIH and tag cement 3.3 m in on jt #6 at 50.9 mRT. Spaceout with EOT at 49.3 mRT, land hanger and engage lockscrews to 60 mm.
01:00	01:30	0.50	SURPRD	PLUG	P	TBM with Halliburton. N/u Halliburton hard lines to tubing. Pump 5 bbl spacer and 7 bbl of 15.6 ppg cement taking returns to flare pit.
01:30	03:15	1.75	SURPRD	PLUG	P	Disengage lock screws then unseat tubing hanger, POOH and L/D 6 jts tbg. Clean out surface lines, tongs and rig floor. Top up hole to GL with 0.6 bbl of 15.6 ppg cement
03:15	05:15	2.00	SURPRD	PLUG	P	Flush cement equipment then clean rig floor slips and power tongs.R/D Halliburton
05:15	07:30	2.25	SURPRD	PLUG	P	R/D pipe handler and blooie line. R/D pipe handling equipment and workfloor. Remove rig floor from carrier for extended move.
07:30	08:45	1.25	SURPRD	PLUG	P	Bleed off Koomey, disconnect hyd lines and N/D BOPS. NOTE: BOPs and valves checked to ensure free of cement.

Daily Completion and Workover

SPRINGVALE 1

Report # 14, Report Date: 15/12/2013

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Time P-T-X	Operation
08:45	09:00	0.25	SURPRD	PLUG	P	Tie in crystal gauge to surface csg vent. After 9.75 hr shut in there was no pressure build up on the surface csg. Confirmed sealed.
09:00	10:30	1.50	SURPRD	PLUG	P	N/U master valve to wellhead and stack all remaining production piping beside flowline riser.
10:30	11:30	1.00	SURPRD	PLUG	P	Lay derrick over and secure well. Rig Released @ 11:30 Hrs.

Report Fluids Summary

Fluid	To well (bbl)	From well (bbl)	To lease (bbl)	From lease (bbl)
Fresh Water	12.7	12.2	0.0	0.0
KCl 2%	0.0	0.0	0.0	0.0
Produced Water			0.0	480.0

Last BOP Drill

Type	Last Date	Next Date	Days Since Last Check (days)	Days Until Next Check (days)
BOP Drill	10/12/2013	12/12/2013	4	-3

Safety Meetings / Operational Checks

Time	Description	Type	Comment
00:01	PTW 14254 Pressre Systems	Permit to Work	Supply water to rig
00:01	PTW 14253 Working At Heights	Permit to Work	Fuel Dips / R/D Wrokfloor
00:01	Pre tour meeting with incoming crew	Pre-Tour Meeting	Review program, SOP and issue permits
00:01	PTW 14255 Cement Job	Permit to Work	Plugs to surface
00:01	PTW 14252 Hot Work	Permit to Work	Loader and gernie
03:00	Halliburton cement plug	Pre-Job Safety Meeting	Review job procedures and hazards

Logs

Date	Type	Depth Top (mKB)	Depth Bottom (mKB)	Cased?
				No

Perforations

Date	Zone	Top (mKB)	Btm (mKB)	Current Status

Date	**Zone**	**Type**	**Stim Treat Company**

Stg No.	Stage Type	Top (mKB)	Btm (mKB)	V clean (bbl)

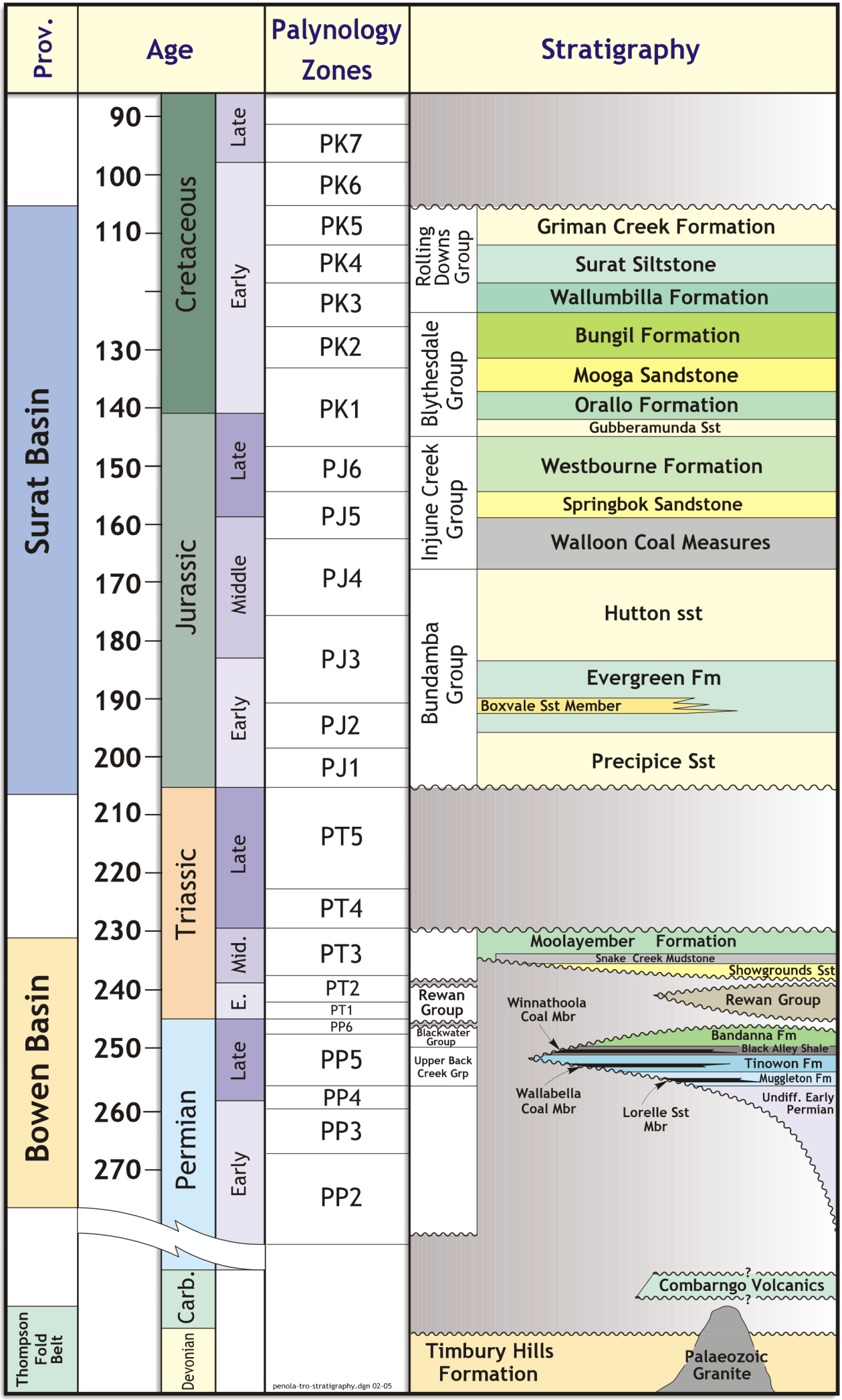
Other In Hole

Description	Run Date	OD (in)	Top (mKB)	Btm (mKB)

Cement

Description	Start Date	Cement Comp

APPENDIX 3 – BOWEN BASIN STRATIGRAPHY


Prov.
Age
Palynology Zones
Stratigraphy
Surat Basin
Bowen Basin
Thompson Fold Belt
90
100
110
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
Cretaceous
Jurassic
Triassic
Permian
Carb.
Devonian
Late
Early
Middle
Mid.
E.
PK7
PK6
PK5
PK4
PK3
PK2
PK1
PJ6
PJ5
PJ4
PJ3
PJ2
PJ1
PT5
PT4
PT3
PT2
PT1
PP6
PP5
PP4
PP3
PP2
Rolling Downs Group
Griman Creek Formation
Surat Siltstone
Wallumbilla Formation
Blythesdale Group
Bungil Formation
Mooga Sandstone
Orallo Formation
Gubberamunda Sst
Injune Creek Group
Westbourne Formation
Springbok Sandstone
Walloon Coal Measures
Bundamba Group
Hutton sst
Evergreen Fm
Boxvale Sst Member
Precipice Sst
Moolayember Formation
Snake Creek Mudstone
Showgrounds Sst
Rewan Group
Winnathoola Coal Mbr
Rewan Group
Blackwater Group
Upper Back Creek Grp
Bandanna Fm
Black Alley Shale
Tinowon Fm
Muggleton Fm
Wallabella Coal Mbr
Lorelle Sst Mbr
Undiff. Early Permian
Combarngo Volcanics
?
?
Timbury Hills Formation
Palaeozoic Granite
penola-tro-stratigraphy.dgn 02-05

APPENDIX 4 – CEMENTING SERVICE REPORTS

Origin Energy

Level 1, 144 Montague Road
West End QLD 4101

Springvale 1
TDC4
Plug Squeeze Cement Program

Prepared for Joe Weir/Lachlan McKay
11th December, 2013
Revision: 2

Submitted by Hui San Yap
Halliburton Australia Pty. Ltd.
Level 17, 444 Queen St, Brisbane QLD, 4000
Ph: +61 7 3015 6114
Email: HuiSan.Yap@Halliburton.com

HALLIBURTON

11th December, 2013

TO: Origin Energy
ATT: Joe Weir/Lachlan McKay
RE: Springvale 1 – Plug Squeeze Cement Program Rev.2

Dear Joe/Lachlan,

Please find attached the Plug Squeeze Cement Program for Springvale 1.

Wellbore Geometry

- 9 5/8" Surface Casing to 148m
- 5 1/2" Production Casing (5.012" ID) to 938m
- Top of Bridge Plug inside production casing at 700m

Following previous Plug Squeeze Cement Program Rev.1 dated 10th December, the top of cement plug was tagged at 254m, with top of tubing left in hole at 225m.

Plug Squeeze #2: from 225m to 175m

- Rig to establish injectivity through perforation at 210-213m
- Place Cement Plug from 225m to 175m (i.e. 35m above top of perforations, it is planned to leave at least 25m of cement inside casing which is also 10m or 1 bbls above top perforations after squeeze)
- Attempt to squeeze away cement as required
- 15.6 ppg SqueezeCem™ slurry, with dispersant CFR-3 and fluid loss additive Halad-413
- Minimum volume to batch mix on cement unit is 4 bbls
- WOC and tag top of cement

Plug Squeeze #3: from 175m to 150m

- Rig to establish injectivity through perforation at 164-167m
- Place Cement Plug from 175 to 150m (i.e. 7m above top of perforations)
- Attempt to squeeze away cement as required
- **If more than 2 bbls of cement is squeezed away, batch-mix another 4 bbls to repeat operations**
- 15.6 ppg SqueezeCem™ slurry, with dispersant CFR-3 and fluid loss additive Halad-413
- Minimum volume to batch mix on cement unit is 4 bbls
- WOC and tag top of cement

Cement workstring is 2 7/8" 6.5ppf tubing (2.441" ID)

Our services for the requested work will be coordinated through Halliburton Roma. Point of contact is Todd Bradshaw or Doug Stansbie on 07 4622 4588. Should you require any additional information regarding slurry design please do not hesitate to contact the Brisbane office on 07 3811 6017.

Regards,

Hui San Yap
Technical Professional
Cementing

cc:	William Farrelly	Halliburton Brisbane
	Stuart Campbell	Halliburton Brisbane
	Bill Nixon	Halliburton Roma
	Anton Trinchini	Halliburton Roma

Revision History

Rev. 0	*Initial Program*
Rev. 1	*Additional Squeeze Plugs 2 and 3, and Surface Cement Plug*
Rev. 2	*Revised Squeeze Plugs 2 and 3. Cementing plan going forward will depend on results from these two squeezes*

Table of Contents

1.0 Plug Cementing Work Methods

1. **Cement Volume:**
Pumping insufficient volume is one of the biggest causes of plug failures. In open hole it is quite typical to pump up to 50% excess to account for washouts. Kick-Off plugs should be taken 200ft back above the planned sidetrack depth to ensure good cement at this point. For plugs in cased hole an additional 10bbls excess should be pumped to account for contamination by mud/spacer.

2. **Firm Base:**
In order to prevent the plug slumping downhole it should be set on a firm base. This base can be provided through the use of a fluid base such as a Viscous Reactive Pill (VRP) or a mechanical base such as a Cement Support Tool (CST), EZ-SV or Fas-Drill Packer.

3. **Mud Removal & Displacement:**
Wash over the plug interval when RIH with the workstring. Rotate (+/-15rpm) and reciprocate down over the entire interval at maximum pump rate, dependent on well conditions. Minimise any shutdowns, to keep the mud in a fluidized condition.

4. **Redirect Flow:**
Use a side-port diverter tool on the bottom of the cementing stinger to change the flow direction from downwards to outwards thus minimizing any intermixing and optimizing hole cleaning. If none available, one can be made by cutting off the tool joint and blanking off the end of the bottom tubing joint on the stinger. Cut 8 x 1in diameter holes radially in the bottom eight feet of this joint.

5. **Slim Stinger:**
A reduced OD stinger will help minimise stripping the plug when POOH. We recommend that 2-7/8in tubing is used for holes of 6in or smaller and 3-1/2in tubing for holes of 12-1/4in or smaller. Sufficient stinger should be available to allow for 1.5 x plug length.

6. **Plug Length:**
Increasing the length of the plug increases the risk of cementing-in the stinger due to the extra time taken to pull slowly out of the plug. It is normal practice to limit plugs to 500ft in length in order to minimise this risk. If longer plugs are set the appropriate risks should be assessed and taken account of in the job design.

7. **Spacer System:**
To provide fluid separation and hole cleaning, sufficient volume of a suitable spacer should be pumped ahead to provide 500ft-1,000ft of annular fill or a 10min contact time. The spacer volume behind should be based on the volume to balance.

8. **Pump Rates:**
Pump spacer, cement and displacement at maximum possible rates, slowing rate down to 1-2bpm at 5-10 bbls before end of calculated displacement.

9. **Displacement Volumes:**
Drill pipe and stinger should be drifted for accurate displacement. A latch-down indicator sub (ball catcher) can be used to help achieve accurate displacement.

10. Under Displacement:

Under-displacement by a small volume, allowing the cement to U-tube into position, can help ensure the plug balances out and the pipe does not pull wet. Typically under displacement of 5-10bbls is adequate, however this is dependent on hole size and cement volumes.

11. Pulling Out:

After plug is in place POOH slowly (30-50ft/min) and break connections carefully to avoid stripping plug. Avoid any delays as usually the slurry is designed with a short pump time to improve strength development.

12. Circulate String Clean:

Do not circulate directly on top of plug; wait until a minimum of 500ft above. Break circulation slowly so as to minimise disturbance of plug. Never reverse circulate when setting an open hole plug. If available pump a wiper ball after every cement plug.

13. Waiting on Cement:

Prior to testing a plug (tagging or pressure testing), time should be allowed for it to develop sufficient compressive strength. This should be at least the time for the plug to reach 500psi or 3,000psi for a kick-off plug.

2.0 Plug Squeeze #2: from 225m to 175m

Plug Details - 5 1/2in casing

JOB PARAMETERS			
Plug bottom MD:	225m	BHST temperature:	35°C
Plug bottom TVD:	225m	BHCT temperature:	28°C
Plug top MD:	175m	Drilling mud type:	Freshwater
Plug length:	50m	Drilling mud density:	8.33ppg
Plug length with DP in:	55m		

WELLBORE

Workstring

0-225m	2 7/8in 6.85ppf tubing

Annulus

0-225m	5 1/2in 14ppf casing (5.012in ID)

SPACERS

Spacer - Freshwater at 8.34ppg

Freshwater	42.00 gal/bbl	5.0bbl ahead and 1.8bbl behind to balance (93m annular fill / 1min contact time) Estimated Pv: 1cP

Contact times are based on the displacement rate.

CEMENT SLURRY - SqueezeCem™

Composition		Properties	
Standard Cement SL		Surface density:	15.60 ppg
CFR-3	0.30 %BWOC	Surface yield:	1.18 ft³/sk
Halad-413	0.70 %BWOC	Total mixing fluid:	5.29 gal/sk
Freshwater	5.20 gal/sk	Thickening time (70 Bc):	3:00+
NF-6	0.25 gal/10bblMF	Free water vert at 27°C:	0.0 %
		Fluid loss at 27°C:	<50 cc/30min
		Comp strength at 35°C	500 psi in 6 hrs
		Comp strength at 35°C	1,700 psi in 12 hrs
		Comp strength at 35°C	3,100 psi in 24 hrs
		Lab report no:	296263-1

Note that %BWOC are based on a 94 lb sack

VOLUME CALCULATIONS

Cement

5 1/2in casing volume	50 m x 0.0801 bbl/m	4.0 bbl
		Slurry volume =4.0 bbl
Quantity of cement	4.0 bbl x 5.6146 / 1.18 ft³/sk	19 sacks
Quantity of mix fluid	19 sacks x 5.29 gal/sk	2.4 bbl

Displacement

2 7/8in tubing volume	77 m x 0.0190 bbl/m	1.5 bbl
		Total displacement volume =1.5 bbl

The final job calculations are to be completed on location by cementer, based on actual well parameters. All calculations from slurry volumes to additive dosages & requirements must be verified by the independent calculations of the drilling rep.

PUMPING SCHEDULE & TIMES

	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1 x bottoms up:	12.1	6.0	2
Pump spacers ahead:	5.0	4.0	1
Mix & pump cement:	4.0	4.0	1
Pump spacers behind:	1.8	4.0	0
Pump displacement:	1.5	4.0	0
Pull workstring 27 m above TOC:	77m	9.1m/min	8
Drop wiper ball:	N/A	N/A	5
Circulate workstring clean:	3.0	4.0	1

Total job time (including circulation):	***48 min***	***0hr 48min***
Minimum cement thickening time (with 1hr safety factor):	***75 min***	***1hr 15min***

MINIMUM MATERIAL REQUIREMENTS

Spacer - Freshwater

Freshwater	6.8 bbl

Cement

Standard Cement SL	19 sacks
CFR-3	5 lbs
Halad-413	13 lbs
Freshwater	2.4 bbl
NF-6	1 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

3.0 Plug Squeeze #2: Job Procedure

JOB PROCEDURE

1. **Rig to establish circulation and injection rate.**
2. Pre-job safety meeting and review JSA's.
3. Rig up surface lines for Cement Unit.
4. RIH with 2 7/8" 6.5ppf tubing (ID 2.441") to 225m.
5. Set Cement Unit pressure kick-outs at **3000 psi**.
6. Pump **1.0 – 2.0 bbls** of freshwater for pressure testing.
7. Pressure test surface lines to **3000 psi**.
8. Pump **5.0 bbls** of Freshwater Spacer ahead.
9. Mix and pump **4.0 bbls** (19 sacks) of SqueezeCem™ single slurry at **15.60 ppg**.

Density	=	*15.60 ppg*
Yield	=	*1.18 ft^3/sk*
Water Requirement	=	*5.29 gal/sk*

   NOTE: CFR-3 and Halad-413 to be mixed in the mix water

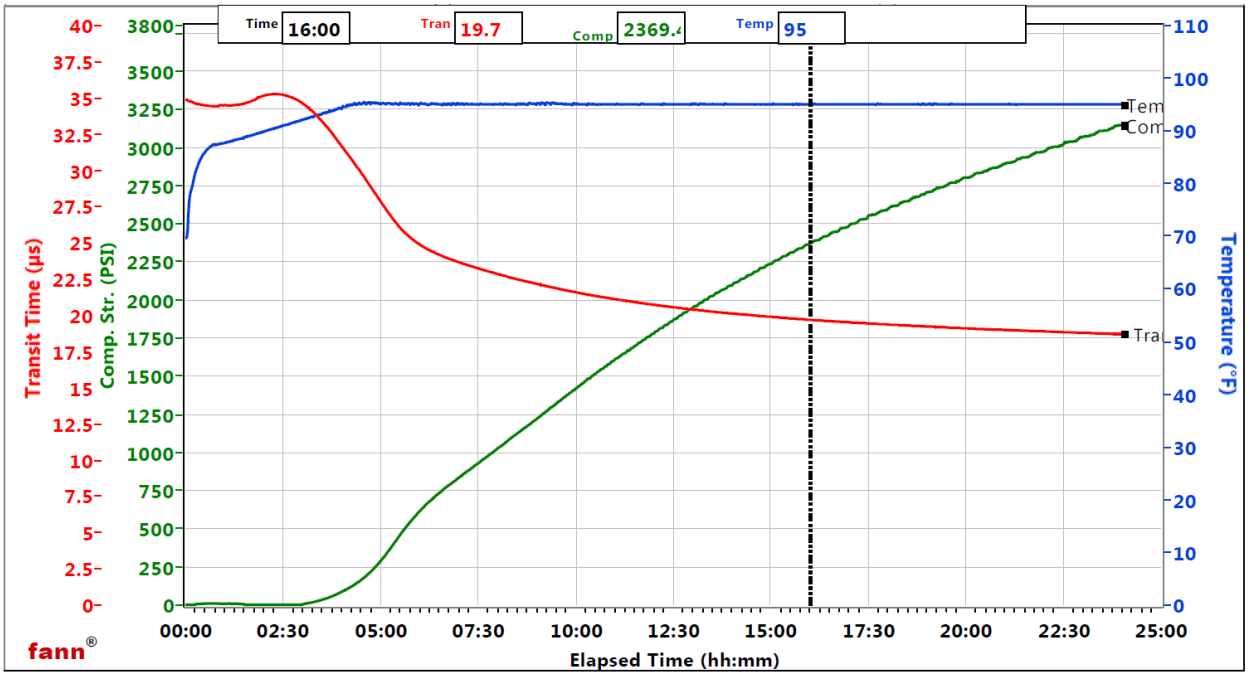
10. Displace with a total of **2.3 bbls*** of Displacement fluid (Under-displaced by **1.0 bbl** to prevent U-Tubing) to balance position.

    ***Actual Displacement Volumes are to be calculated based on Tubing Tally.**

11. Pull back carefully to 3 joints/27m above top of plug to minimize disturbing the plug. Circulate workstring clean.
12. Shut in annular. Attempt to squeeze away cement as per Origin procedures.

    NOTE: Do not squeeze more than 2 bbls. Leave 2 bbls of cement inside casing, i.e. at least 10m above top perforation.

13. WOC. The surface cement sample should give good indication when the cement is set downhole. Based on compressive strength test WOC is 6 ± 3 hours (safety factor to account for contamination).
14. Displace surface lines with freshwater.
15. End job and rig down.


Time 16:00
Tran 19.7
Comp 2369.4
Temp 95
Transit Time (µs)
Comp. Str. (PSI)
Temperature (°F)
Elapsed Time (hh:mm)
00:00
02:30
05:00
07:30
10:00
12:30
15:00
17:30
20:00
22:30
25:00
fann®

4.0 Plug Squeeze #3: from 175m to 150m

Plug Details - 5 1/2in casing

JOB PARAMETERS			
Plug bottom MD:	175m	BHST temperature:	33°C
Plug bottom TVD:	175m	BHCT temperature:	27°C
Plug top MD:	150m	Drilling mud type:	Freshwater
Plug length:	25m	Drilling mud density:	8.33ppg
Plug length with DP in:	27m		

WELLBORE

Workstring

0-175m	2 7/8in 6.85ppf tubing

Annulus

0-175m	5 1/2in 14ppf casing (5.012in ID)

SPACERS

Spacer - Freshwater at 8.34ppg

Freshwater	42.00 gal/bbl	5.0bbl ahead and 1.8bbl behind to balance (93m annular fill / 1min contact time) Estimated Pv: 1cP

Contact times are based on the displacement rate.

CEMENT SLURRY - SqueezeCem™

Composition		Properties	
Standard Cement SL		Surface density:	15.60 ppg
CFR-3	0.30 %BWOC	Surface yield:	1.18 ft³/sk
Halad-413	0.70 %BWOC	Total mixing fluid:	5.29 gal/sk
Freshwater	5.20 gal/sk	Thickening time (70 Bc):	3:00+
NF-6	0.25 gal/10bblMF	Free water vert at 27°C:	0.0 %
		Fluid loss at 27°C:	<50 cc/30min
		Comp strength at 35°C	500 psi in 6 hrs
		Comp strength at 35°C	1,700 psi in 12 hrs
		Comp strength at 35°C	3,100 psi in 24 hrs
		Lab report no:	296263-1

Note that %BWOC are based on a 94 lb sack

VOLUME CALCULATIONS

Cement

5 1/2in casing volume	25 m x 0.0801 bbl/m	2.0 bbl
Additional 2 bbls cement (min. volume to mix is 4 bbls)		2.0 bbl
		Slurry volume =4.0 bbl
Quantity of cement	4.0 bbl x 5.6146 / 1.18 ft³/sk	19 sacks
Quantity of mix fluid	19 sacks x 5.29 gal/sk	2.4 bbl

Displacement

2 7/8in tubing volume	54 m x 0.0190 bbl/m	1.0 bbl
		Total displacement volume =1.0 bbl

The final job calculations are to be completed on location by cementer, based on actual well parameters. All calculations from slurry volumes to additive dosages & requirements must be verified by the independent calculations of the drilling rep.

PUMPING SCHEDULE & TIMES

	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1 x bottoms up:	9.4	6.0	2
Pump spacers ahead:	5.0	4.0	1
Mix & pump cement:	2.0	4.0	1
Pump spacers behind:	1.8	4.0	0
Pump displacement:	1.0	4.0	0
Pull workstring 27 m above TOC:	52m	9.1m/min	6
Drop wiper ball:	N/A	N/A	5
Circulate workstring clean:	2.0	4.0	1

Total job time (including circulation):	***46 min***	***0hr 46min***
Minimum cement thickening time (with 1hr safety factor):	***73 min***	***1hr 13min***

MINIMUM MATERIAL REQUIREMENTS

Spacer - Freshwater

Freshwater	6.8 bbl

Cement

Standard Cement SL	19 sacks
CFR-3	5 lbs
Halad-413	13 lbs
Freshwater	2.4 bbl
NF-6	1 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

5.0 Plug Squeeze #3: Job Procedure

JOB PROCEDURE

Please note that squeeze volumes will be determined from injectivity test. If more than 2 bbls of cement slurry is squeezed away, batch mix another 4 bbls to repeat operations.

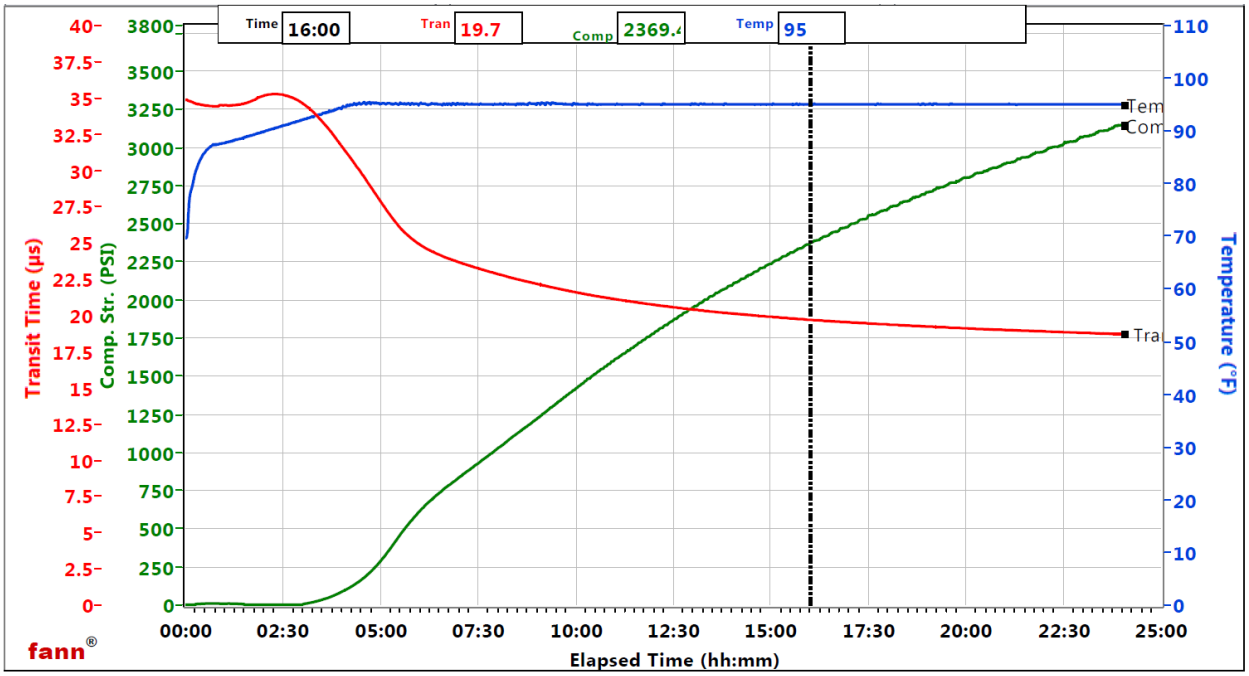
1. **Rig to establish circulation and injection rate.**
2. Pre-job safety meeting and review JSA's.
3. Rig up surface lines for Cement Unit.
4. RIH with 2 7/8" 6.5ppf tubing (ID 2.441") to 175m.
5. Set Cement Unit pressure kick-outs at **3000 psi**.
6. Pump **1.0 – 2.0 bbls** of freshwater for pressure testing.
7. Pressure test surface lines to **3000 psi**.
8. Pump **5.0 bbls** of Freshwater Spacer ahead.
9. Mix **4.0 bbls** (19 sacks) of SqueezeCem™ single slurry at **15.60 ppg**.

Density	=	*15.60 ppg*
Yield	=	*1.18 ft^3/sk*
Water Requirement	=	*5.29 gal/sk*

   NOTE: CFR-3 and Halad-413 to be mixed in the mix water
10. Pump **2.0 bbls** of SqueezeCem™ single slurry at **15.60 ppg**.
11. Displace with a total of **1.8 bbls*** of Displacement fluid (Under-displaced by **1.0 bbl** to prevent U-Tubing) to balance position.

    ***Actual Displacement Volumes are to be calculated based on Tubing Tally.**
12. Pull back carefully to 3 joints/27m above top of plug to minimize disturbing the plug. Circulate workstring clean.
13. Shut in annular. Attempt to squeeze away cement as per Origin procedures.

    NOTE: If more than 2 bbls of cement slurry is squeezed away, batch mix another 4 bbls to repeat operations.
14. WOC. The surface cement sample should give good indication when the cement is set downhole. Based on compressive strength test WOC is 6 ± 3 hours (safety factor to account for contamination).
15. Displace surface lines with freshwater.
16. End job and rig down.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Temp 95
Transit Time (µs)
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Temperature (°F)
Elapsed Time (hh:mm)
00:00
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20:00
22:30
25:00
fann®

Origin Energy

POST JOB REPORTS
CEMENTING/PUMPING

Well Name : Springvale 1

Rig: TDC 4

CEMENT PLUG BACK / SQUEEZE 7530

Prepared for Mike Peters

15/12/2013

Prepared by Alex McGlashan

HALLIBURTON

The Future is Working Together.

HALLIBURTON

CUSTOMER	SALES ORDER No.	DATE
Origin Energy	900719680	15/12/2013

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Springvale 1	Springvale	Australia	Alex McGlashan	Mike Peters	Gas Dev
JOB TYPE	**BOD NUMBER**	**JOB PURPOSE CODE**		**BDA**	**RIG**
P&A Plugs/Squeeze	0	CEMENT PLUG BACK / SQUEEZE 7530		Brisbane	TDC 4

KEY PERFORMANCE INDICATORS

TYPE OF JOB (Cementing or Non-Cementing): *Select the job type (Cementing or Non-Cementing)*	Cementing
TOTAL OPERATING TIME (hrs) *Rig up/ Pumping/ Rig Down*	16.0 hrs
HSE INCIDENT, ACCIDENT, INJURY: *This should be recordable incidents only*	NO
WAS THE JOB DELIVERED CORRECTLY AS PERJOB DESIGN *This will be dictated by the customer*	YES
TOTAL TIME PUMPING (hrs) *Total number of hours pumping fluid on this job*	4.0 hrs
NON -PRODUCTIVE RIG TIME: *As a result of Halliburton cementing PSL*	0.0 hrs
NUMBER OF JSA'S PERFORMED:	24
NUMBER OF UNPLANNED SHUTDOWNS (After starting to pump)	0
TYPE OF RIG(CLASSIFICATION) JOB WAS PERFORMED ON:	LAND
REASON FOR UNPLANNED SHUTDOWNS (After starting to pump) *Add details in job logs*	
REASON FOR NON-PRODUCTIVE RIG TIME (Cementing PSL responsibility): *Add details in job logs*	
DENSITY RECORDED WITH PRESSURISED MUD BALANCE?	YES / 15.6 ppg

WAS THIS A PRIMARY CEMENT JOB (YES / NO) *Primary cement job = Casing job, Liner Job, tie back*	NO
DID WE RUN WIPER PLUGS?	None
WAS THIS A PLUG OR SQUEEZE JOB?	Plug Job
WAS THIS A PRIMARY OR REMEDIAL JOB? Remedial = Repeated attempts or corrections of initial cement job	Primary
MIXING DENSITY OF JOB STAYED IN DESIGNED RANGE *Density defined as +/- 0.2ppg. Calculation: Total bbls cement mixed at designed density divided by total bbls of cement multipled by 100*	100%
WAS AUTOMATED DENSITY CONTROL USED	YES
JOB WAS PUMPED AT DESIGNED PUMP RATE *Pump rate ranged defined as +/- bpm. Calculation : total bbls of fluid pumped at the designed rate divided by total bbls of fluid pumped multipled by 100*	100%
NUMBER OF REMEDIAL SQUEEZE JOBS REQUIRED - HES *Number of remedial squeeze jobs required after primary job performed by HES*	0
NUMBER OF REMEDIAL AQUEEZE JOBS REQUIRED - COMPETITION *Number of remedial squeeze jobs required after primary job performed by competition*	0
NUMBER OF REMEDIAL PLUG JOBS REQUIRED - HES *Number of remedial plug jobs required after primary plug pumped by HES*	0
DID CEMENT RETURN TO SURFACE?	NA / 0 bbls into displacement / 0 bbls returned to surface

CUSTOMER SATISFACTION SURVEY

Dear Customer,

We hope that you were satisfied with the service delivery of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

CATEGORY	CUSTOMER SATISFACTION RATING (Please circle yes or no)	
Survey Conducted Date	The date the survey was conducted	15/12/13
Survey Interviewer	The survey interviewer is the person who initiated the survey.	Mike Peters
Customer Participation	Did the customer partipcipate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	Mike Peters
HSE	Was our HSE performance satisfactory? Circle Y or N	MP
Equipment	Were you satisfied with our Equipment? Circle Y or N	MP
Personnel	Were you satisfied with our people? Circle Y or N	MP
Customer Comment		

Customer and Halliburton Representative agree on the data input into the cementing report

CUSTOMER SIGNATURE

HALLIBURTON SIGNATURE

ENTERED BY MLM DATE 17-12-13

HALLIBURTON

CUSTOMER	SALES ORDER No.	DATE
Origin Energy	900719680	15/12/2013

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Springvale 1	Springvale	Australia	Alex McGlashan	Mike Peters	Gas Dev
JOB TYPE	**BOD NUMBER**	**JOB PURPOSE CODE**		**BDA**	**RIG**
P&A Plugs/Squeeze	0	CEMENT PLUG BACK / SQUEEZE 7530		Brisbane	TDC 4

PERSONELL

PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE	hrs
#N/A	Alex McGlashan	96	#N/A	Steve Pitz	96	#N/A	William Forgan-Smith	96		

EQUIPMENT

SAP#	PUMPING / MIXING	HOURS	SAP#	BULK SUPPLY / TANKS	HOURS
#N/A	CEMENT UNIT ELITE #12132363	96	10047249	BULKER #10047249 (218-QEY)	96
SAP#	**VEHICLES / TRAILERS**	**HOURS**	**SAP#**	**OTHER EQUIPMENT**	**HOURS**
#N/A	KENWORTH T659 TRUCK #12240453 (SB88GR)	96			
12028328	DOLLY #12028328 (SY-18-DI)	96			
#N/A	LANDCRUISER UTE #1220271 (S818-AWF)	96			

WELL PROFILE

NEW CASING	OPEN HOLE + EXCESS OR CALIPER DATA	PREVIOUS CASINGS
		5.5in, 14ppf, 0m to 938m 9.625in, 36ppf, 0m to 148m

FOR PLUG AND LINER JOBS PLEASE INDICATE WORKSTRING 2.875in ppf Drill Pipe with No Stinger

CEMENT DESIGN

Plug		SLURRY ID	296461-2
DENSITY	15.6 ppg	WATER	5.26 gal/sk
YIELD	1.18 cuft/sk	MIX FLUID	5.5 bbl
WATER SOURCE	Water Truck		
CEMENT TYPE	Standard Cement at 94lb/sk		
Total Cement Used	44 sks		
Estimated TOC	585 m		

Additive	Concentration	Total Used
CFR-3	0.3 %BWOC	12lbs
NF-6	0.25 gal/10bbl	1gals

Squeeze Slurry		SLURRY ID	296263-1
DENSITY	15.6 ppg	WATER	5.29 gal/sk
YIELD	1.18 cuft/sk	MIX FLUID	6.1 bbl
WATER SOURCE	Water Truck		
CEMENT TYPE	Standard Cement at 94lb/sk		
Total Cement Used	48 sks		
Estimated TOC	210 m		

Additive	Concentration	Total Used
CFR-3	0.3 %BWOC	14lbs
Halad 413	0.7 %BWOC	32lbs
NF-6	0.25 gal/10bbl	1gals

Squeeze Slurry		SLURRY ID	296263-1
DENSITY	15.6 ppg	WATER	5.29 gal/sk
YIELD	1.18 cuft/sk	MIX FLUID	6.5 bbl
WATER SOURCE	Water Truck		
CEMENT TYPE	Standard Cement at 94lb/sk		
Total Cement Used	51.3sks		
Estimated TOC	38m		

Additive	Concentration	Total Used
CFR-3	0.3 %BWOC	15lbs
Halad 413	0.7 %BWOC	34lbs
NF-6	0.25 gal/10bbl	1gals

Plug		SLURRY ID	296461-2
DENSITY	15.6 ppg	WATER	5.26 gal/sk
YIELD	1.18 cuft/sk	MIX FLUID	5.5 bbl
WATER SOURCE	Day Tank		
CEMENT TYPE	Standard Cement at 94lb/sk		
Total Cement Used	44 sks		
Estimated TOC	470 m		

Additive	Concentration	Total Used
CFR-3	0.3 %BWOC	12lbs
NF-6	0.25 gal/10bbl	1gals

Squeeze Slurry		SLURRY ID	296263-1
DENSITY	15.6 ppg	WATER	5.29 gal/sk
YIELD	1.18 cuft/sk	MIX FLUID	2.6 bbl
WATER SOURCE	Water Truck		
CEMENT TYPE	Standard Cement at 94lb/sk		
Total Cement Used	30sks		
Estimated TOC	175m		

Additive	Concentration	Total Used
CFR-3	0.3 %BWOC	8lbs
Halad 413	0.7 %BWOC	20lbs
NF-6	0.25 gal/10bbl	1gals

Plug		SLURRY ID	296461-2
DENSITY	15.6 ppg	WATER	5.26 gal/sk
YIELD	1.18 cuft/sk	MIX FLUID	7.1 bbl
WATER SOURCE	Water Truck		
CEMENT TYPE	Standard Cement at 94lb/sk		
Total Cement Used	57sks		
Estimated TOC	0m		

Additive	Concentration	Total Used
CFR-3	0.3 %BWOC	16lbs
NF-6	0.25 gal/10bbl	1gals

Plug		SLURRY ID	296461-2
DENSITY	15.6 ppg	WATER	5.26 gal/sk
YIELD	1.18 cuft/sk	MIX FLUID	5 bbl
WATER SOURCE	Water Truck		
CEMENT TYPE	Standard Cement at 94lb/sk		
Total Cement Used	40 sks		
Estimated TOC	365 m		

Additive	Concentration	Total Used
CFR-3	0.3 %BWOC	11lbs
NF-6	0.25 gal/10bbl	1gals

Squeeze Slurry		SLURRY ID	296263-1
DENSITY	15.6 ppg	WATER	5.29 gal/sk
YIELD	1.18 cuft/sk	MIX FLUID	1 bbl
WATER SOURCE	Water Truck		
CEMENT TYPE	Standard Cement at 94lb/sk		
Total Cement Used	7.6sks		
Estimated TOC	150m		

Additive	Concentration	Total Used
CFR-3	0.3 %BWOC	3lbs
Halad 413	0.7 %BWOC	5lbs
NF-6	0.25 gal/10bbl	1gals

0		SLURRY ID	0

Conflict Exists
ENTERED
MLM 17-12-13
BY DATE
525774762

JOB LOGS

DATE	TIME	VOLUME	PRESSURE (psi)		RATE	JOB DESCRIPTION
DAY-MTH-YR	HRS:MIN	(BBLS)	HIGH	LOW	BPM	
09-Dec-13	10.00					Pre Mob Huddle
	10.30					Leave For Rig
	16.00					Arrive At Rig

HALLIBURTON

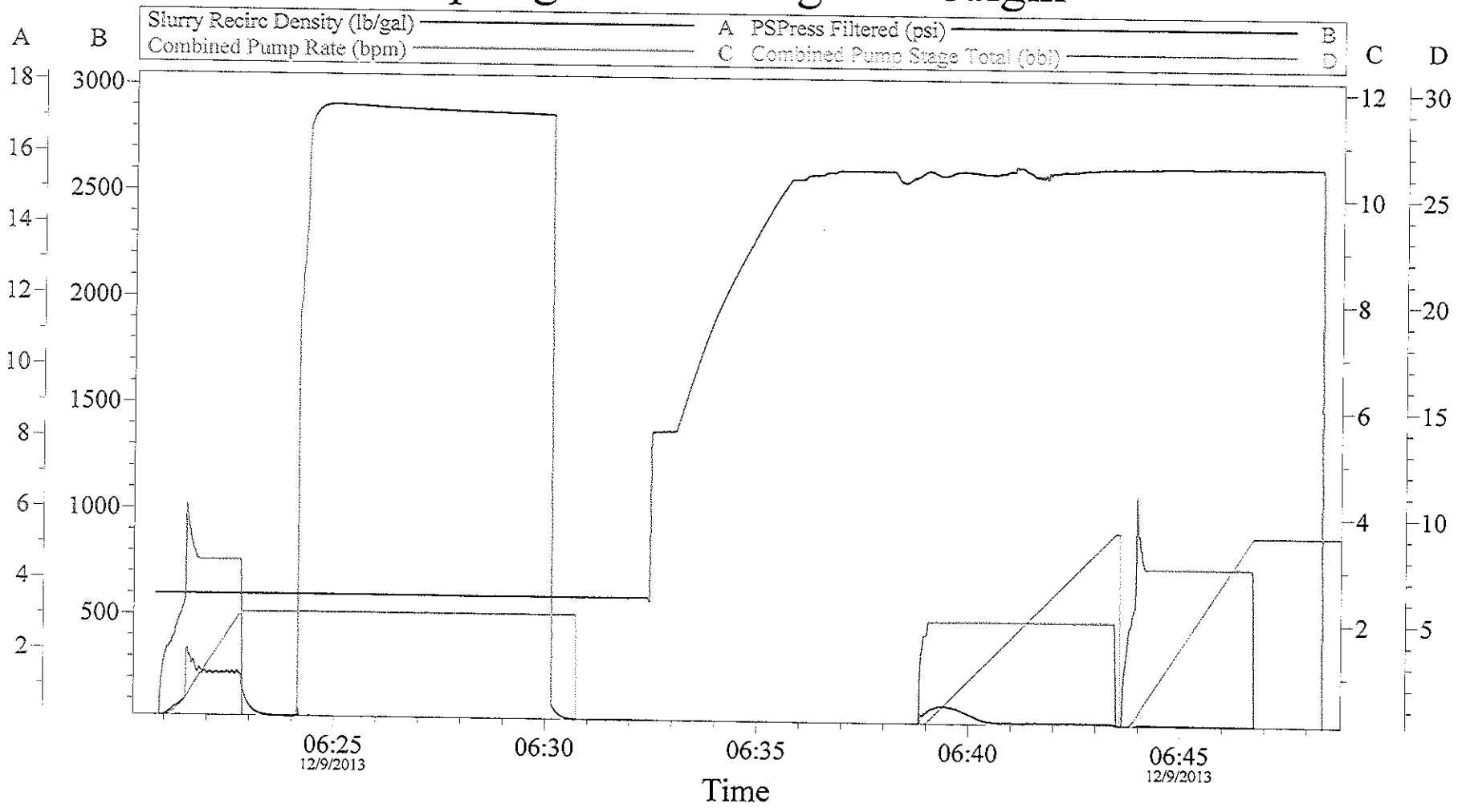
CUSTOMER	SALES ORDER No.	DATE
Origin Energy	900719680	15/12/2013

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Springvale 1	Springvale	Australia	Alex McGlashan	Mike Peters	Gas Dev
JOB TYPE	BOD NUMBER	JOB PURPOSE CODE		BDA	RIG
P&A Plugs/Squeeze	0	CEMENT PLUG BACK / SQUEEZE 7530		Brisbane	TDC 4

	16:30					Head Back To Camp To Rest
10-Dec-13	2:20					Call Out To Rig
	3:30					Arrive At Rig
	4:00					Spot Gear
	4:45					Rig Up
	5:05					Run Up
	5:25					Mix Up Chemical
	6:19	5				Pump Fresh Water Spacer
	6:29		3000			Pressure Test Surface Lines
	6:36					Mix Up 15.6 ppg Slurry
	6:41	9.2				Pump Plug #1
	6:47	9				Displace Cement Slurry
	7:55	5				Pump Fresh Water Spacer
	8.03					Mix Up 15.6 ppg Slurry
	8:10	9.2				Pump Plug #2
	8:15	7				Displace Cement Slurry
	9.09	5				Pump Fresh Water Spacer
	9:15					Mix Up 15.6 ppg Slurry
	9:21	8.4				Pump Plug #3
	9:26	5				Displace Cement Slurry
	10:30					Head Back To Camp To Rest
	19.00					Leave For Rig
	19:45					Arrive At Rig
	20:10	5				Pump Fresh Water Spacer
	20:23					Mix Up 15.6 ppg Slurry
	20:29	12.4				Pump Squeeze #1
	20:36	1.9				Displace Cement Slurry
	21:30					Head Back To Camp To Rest
11-Dec-13	13:30					Leave For Rig
	14:20					Arrive At Rig
	15:10	5				Pump Fresh Water Spacer
	15:28					Mix Up 15.6 ppg Slurry
	15:34	2.9				Pump Squeeze #2
	15:37	1.1				Displace Cement Slurry
	16:00					Head Back To Camp To Rest
12-Dec-13						Shutdown Due To Precipatation
13-Dec-13	15:00					Leave For Rig
	15:50					Arrive At Rig
	19:20	5				Pump Fresh Water Spacer
	19:32					Mix Up 15.6 ppg Slurry
	19:38	1.6				Pump Squeeze #3
	19:40	0.8				Displace Cement Slurry
14-Dec-13	16:30					Call Out To Rig
	17:20					Arrive At Rig
	20:19	5				Pump Fresh Water Spacer
	20:31					Mix Up 15.6 ppg Slurry
	20:37					Pump Squeeze #4
	20:43	0.25				Displace Cement Slurry
15-Dec-13	2:30					Call Out To Rig
	3:15					Arrive At Rig
	3:50	5				Pump Fresh Water Spacer
	4:00					Mix Up 15.6 ppg Slurry
	4:07					Pump Plug #4
	4:12					Rig Down/Wash Up
	8.00					Head Back To Roma

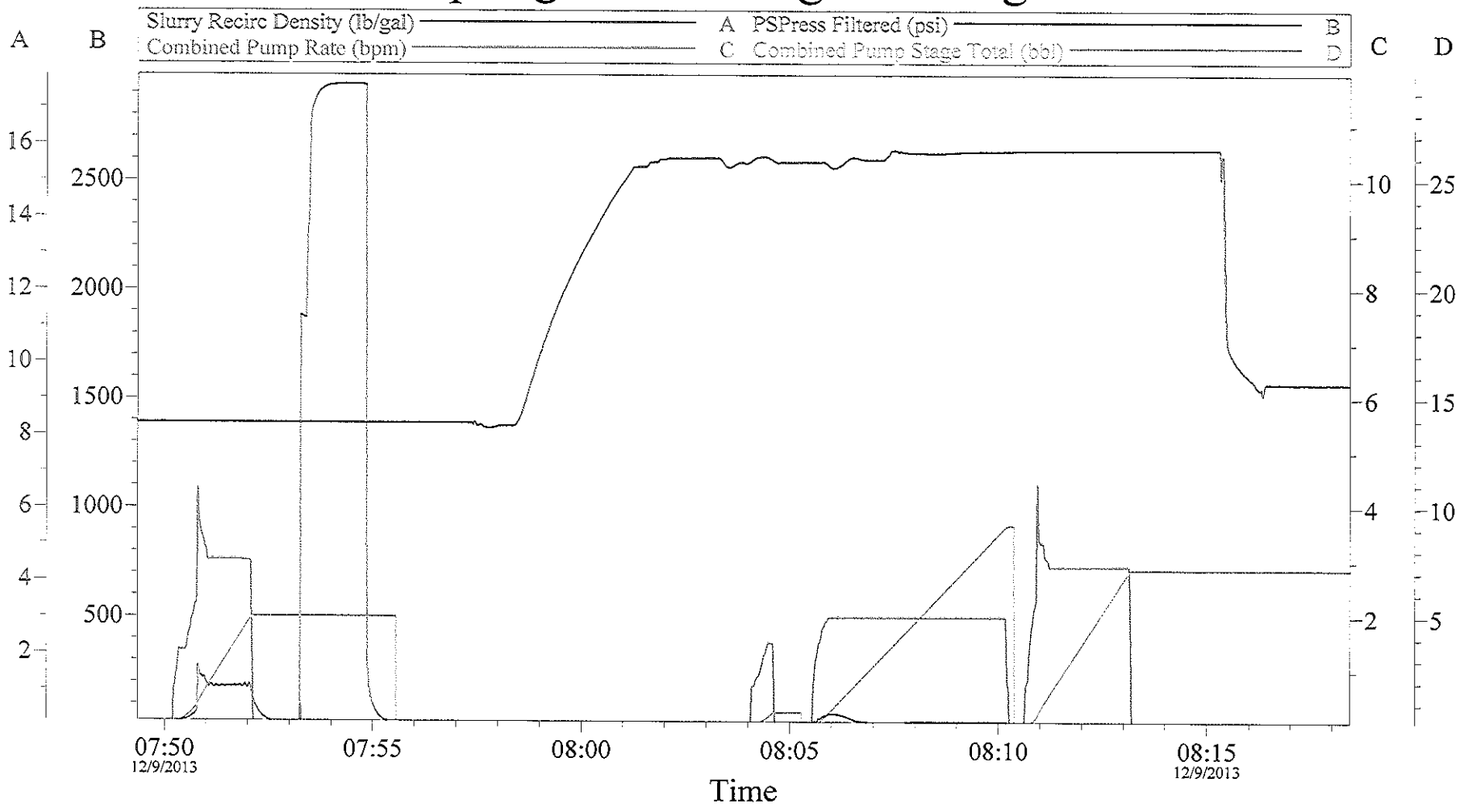
Springvale 1 - Plug #1 - Origin



Customer: Halliburton	Job Date: 12/09/13	Ticket #: 06:20:48
Well Desc: Technology #RTD Stg GOLD	UWI:	Control ver 4.20, Display ver 4.20

TG Version G3.4.1
13-Dec-13 06:01

Springvale 1 - Plug #2 - Origin



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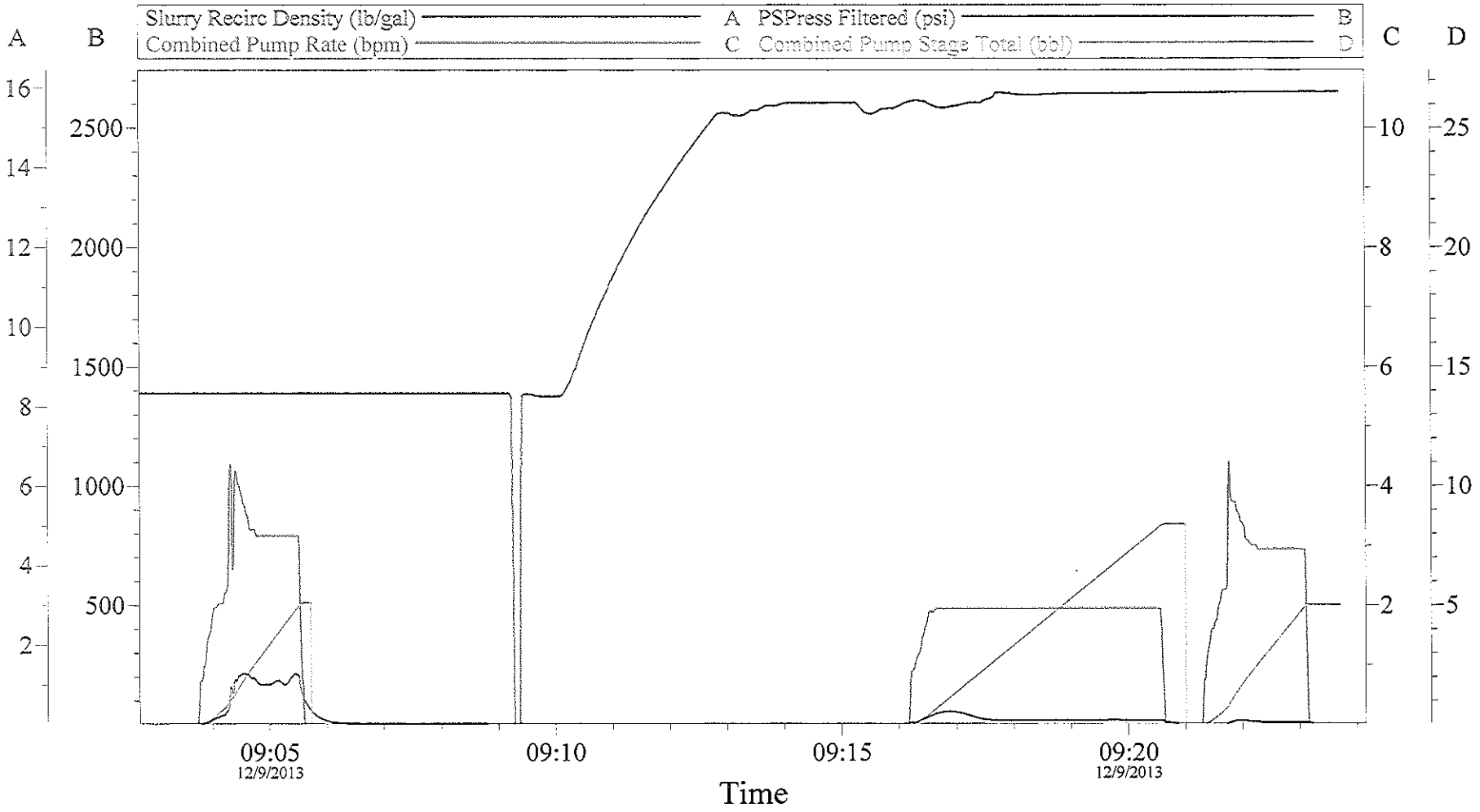
TG Version G3.4.1
13-Dec-13 06:04

Springvale 1 - Plug #3 - Origin



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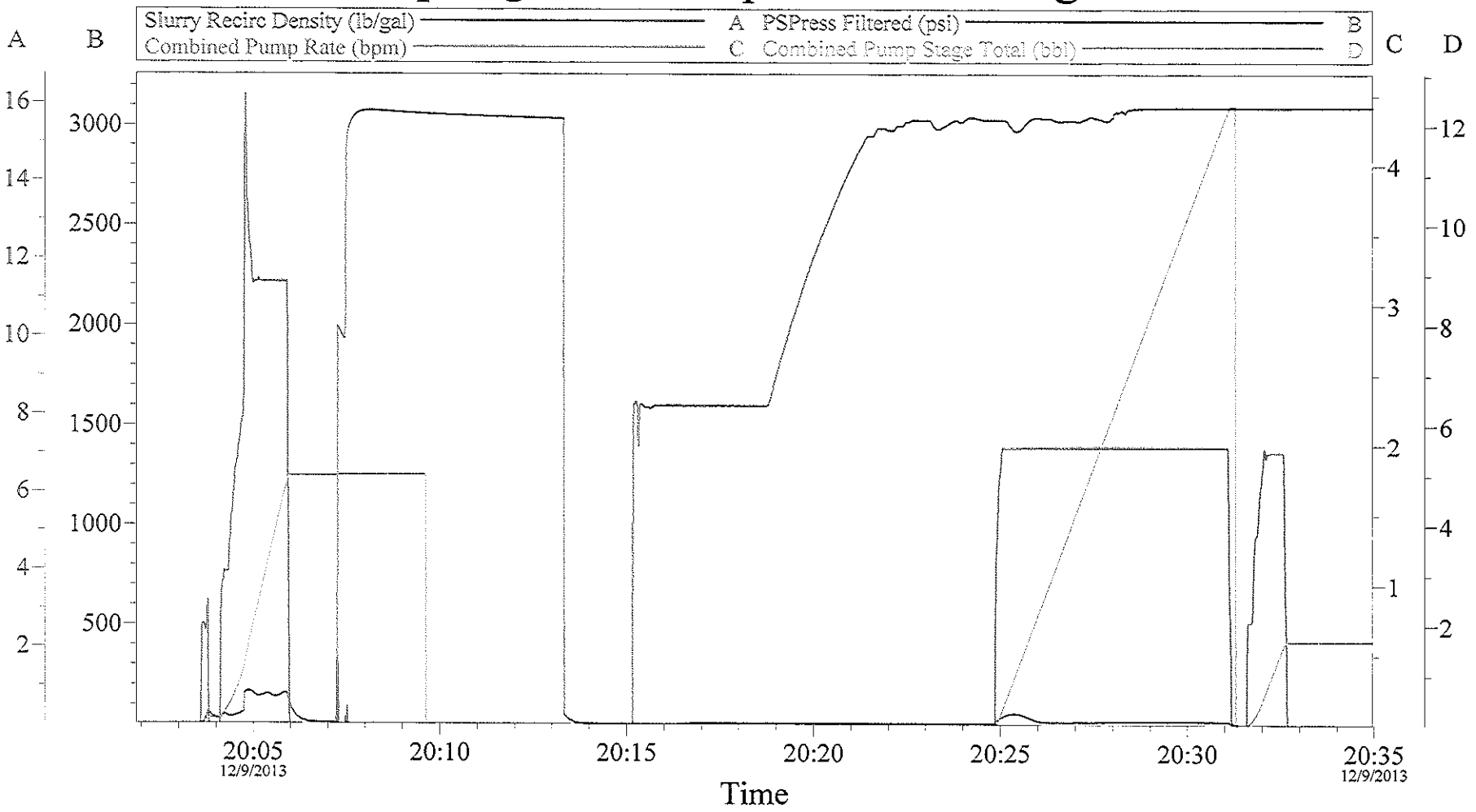
TG Version G3.4.1
13-Dec-13 06:05

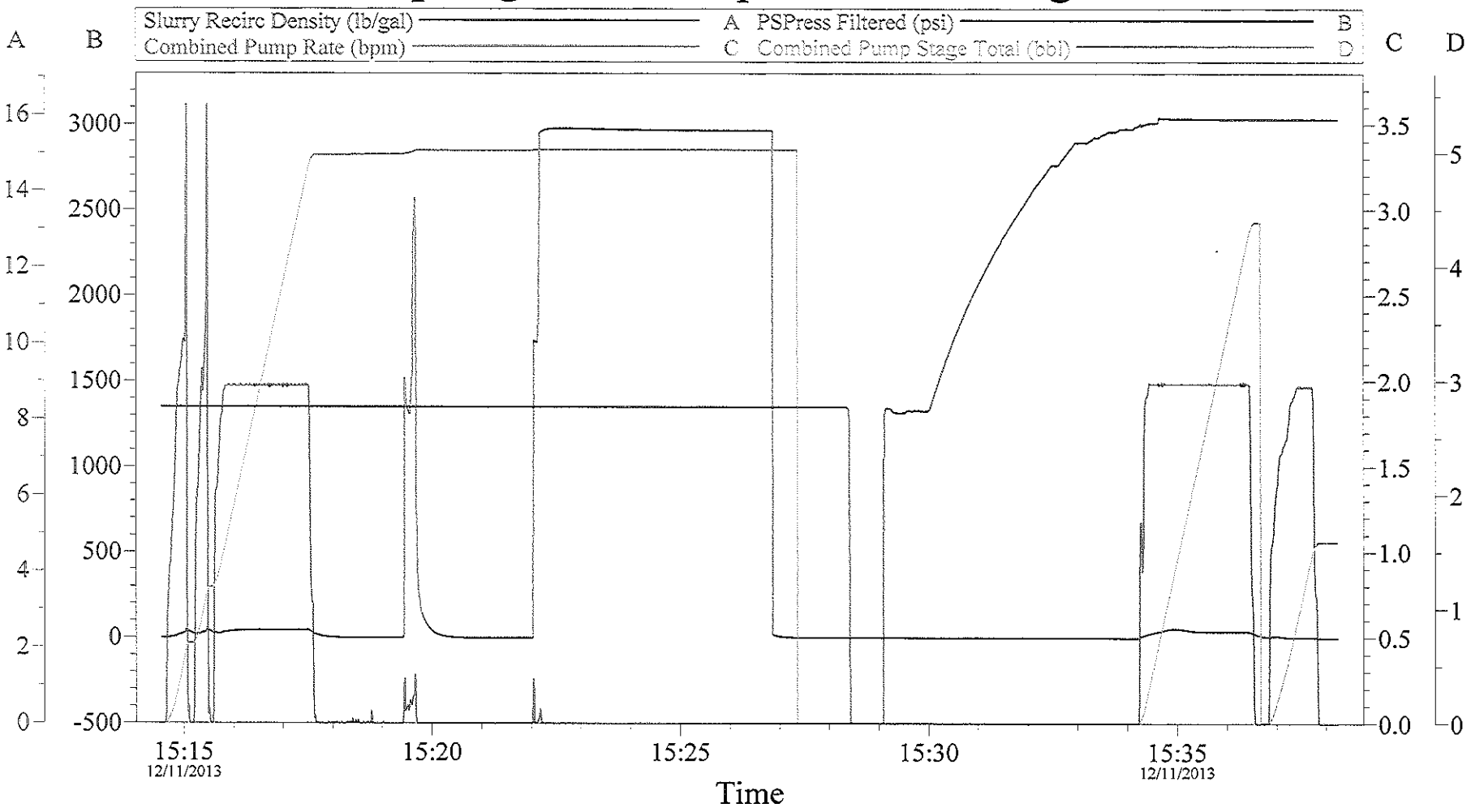
Springvale 1 - Squeeze #1 - Origin



Customer: Halliburton	Job Date: 12/09/13	Ticket #: 20:03:28
Well Desc: Technology #RTD Stg GOLD	UWI:	Control ver 4.20, Display ver 4.20

TG Version G3.4.1
13-Dec-13 07:33

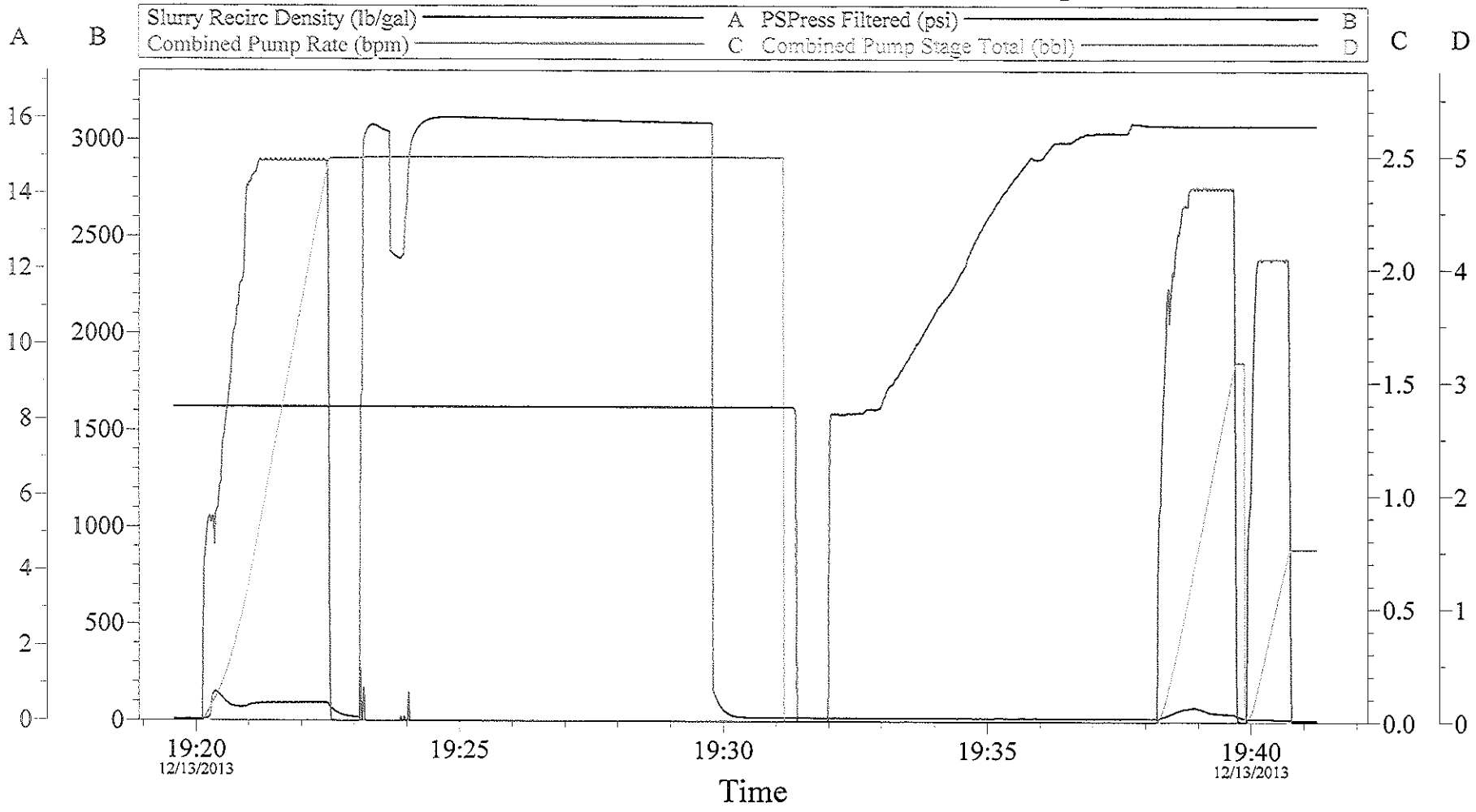
Springvale 1 - Squeeze #2 - Origin



Customer: Halliburton	Job Date: 12/11/13	Ticket #: 15:14:33
Well Desc: Technology #RTD Stg GOLD	UWI:	Control ver 4.20, Display ver 4.20

TG Version G3.4.1
15-Dec-13 06:13

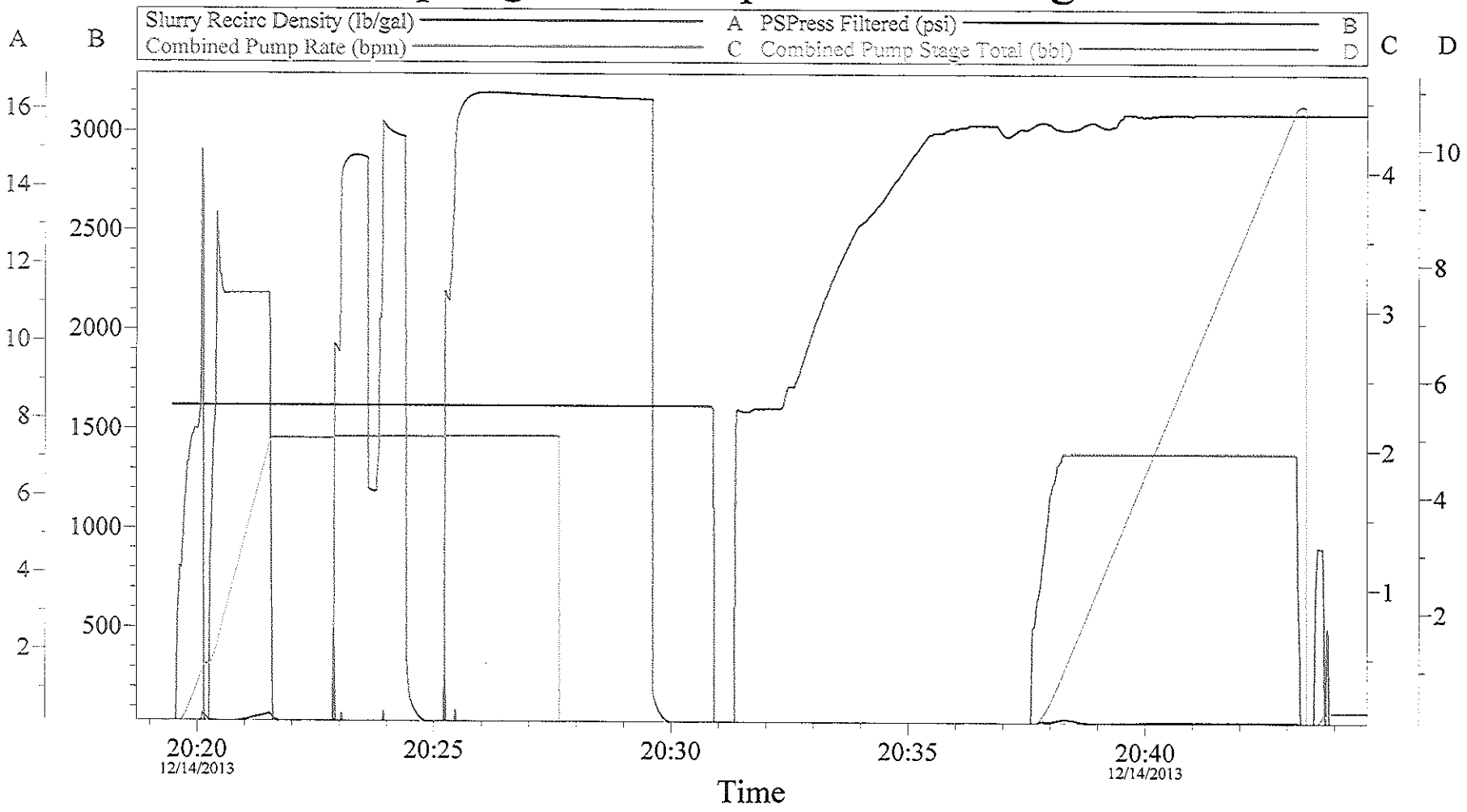
Springvale 1 - Squeeze #3 - Origin



Customer: Halliburton	Job Date: 12/13/13	Ticket #: 19:19:35
Well Desc: Technology #RTD Stg GOLD	UWI:	Control ver 4.20, Display ver 4.20

TG Version G3.4.1
15-Dec-13 06:16

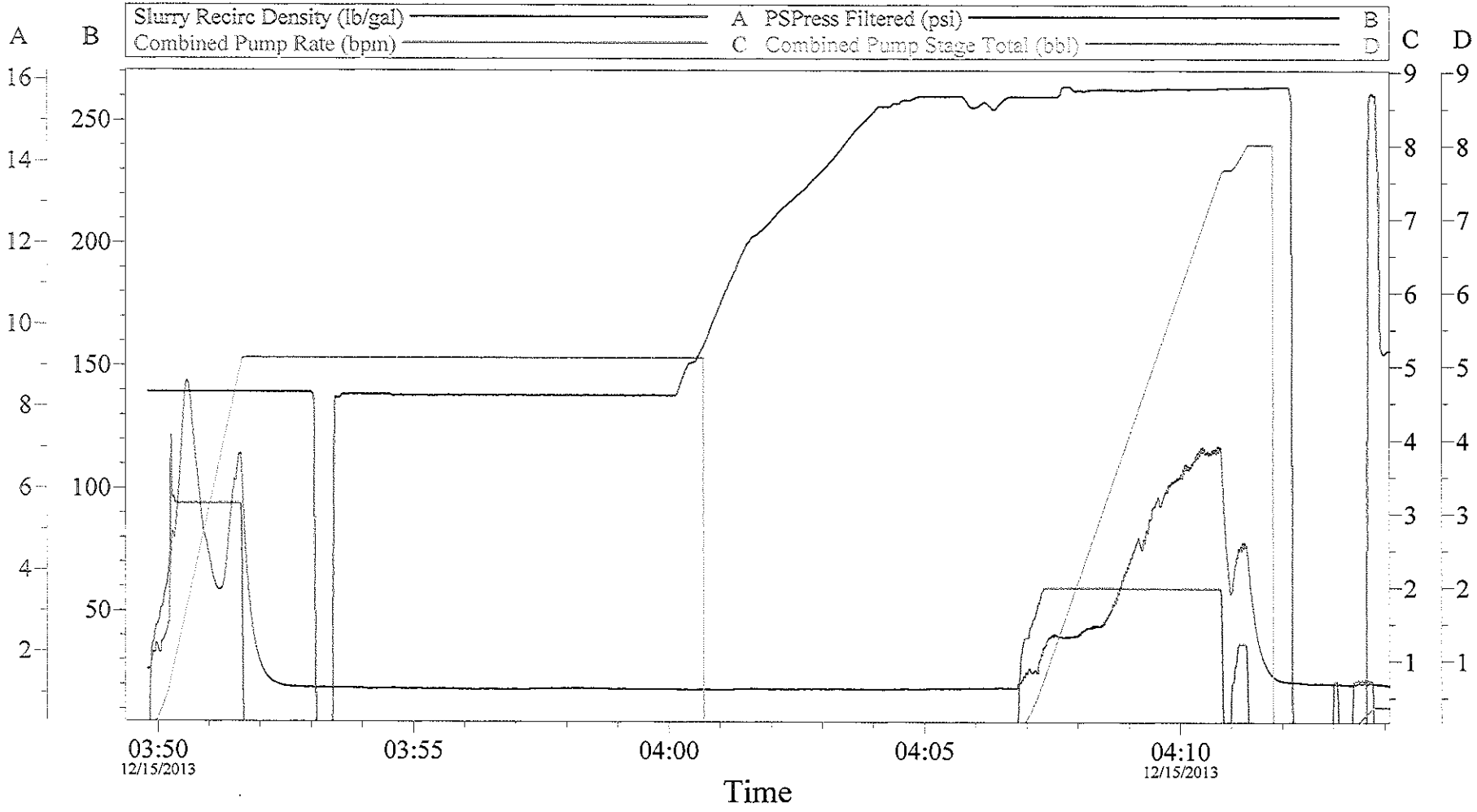
Springvale 1 - Squeeze #4 - Origin



Customer: Halliburton	Job Date: 12/14/13	Ticket #: 20:19:28
Well Desc: Technology #RTD Stg GOLD	UWI:	Control ver 4.20, Display ver 4.20

TG Version G3.4.1
15-Dec-13 06:18

Springvale 1 - Plug #4 - Origin



Customer: Halliburton	Job Date: 12/15/13	Ticket #: 03:49:48	TG Version G3.4.1
Well Desc: Technology #RTD Stg GOLD	UWI:	Control ver 4.20, Display ver 4.20	15-Dec-13 06:23

APPENDIX 5 – WIRELINE LOGS

Isolation Scanner Log

IBC-CBL-GR-CCL

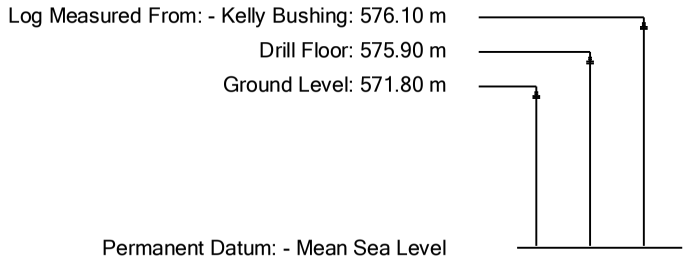
1:200, 1:500 Scale

Schlumberger

Company:	Origin Energy Ltd.
Well:	Springvale 1
Field:	Springvale
Rig Name:	TDC-4
State:	Queensland
Country:	Australia

Latitude:	25° 19' 2" S	UWID:	
Longitude:	148° 17' 47.5" E	Rig Name:	TDC-4
		Rig Type:	Land

FL:	Springvale
FL1:	SP 620 L 82-E210
FL2:	



Acquisition Dates:	07-Dec-2013 -- 08-Dec-2013	Other Services:
Log Interval:	10.82(m) -- 890.50(m)	Bridge Plug
Index Types:	Measured Depth	
Index Scales:	1:500, 1:200	
Depth Source:	Wireline Depth	
Depth Sensor:	IDW	
Print Type:	Field	

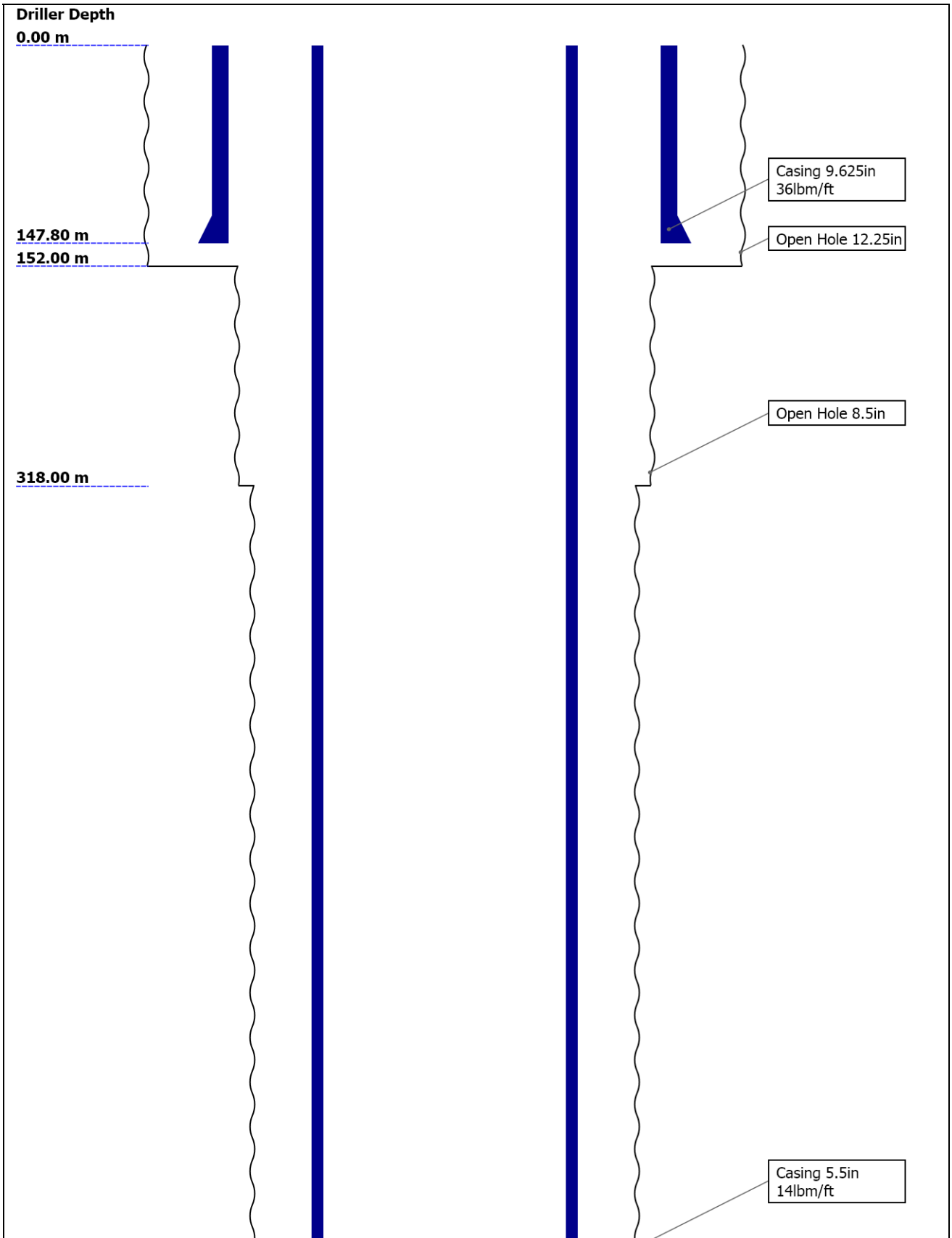
Country: Australia State: Queensland Rig Name: TDC-4 Field: Springvale Well: Springvale 1 Company: Origin Energy Ltd.

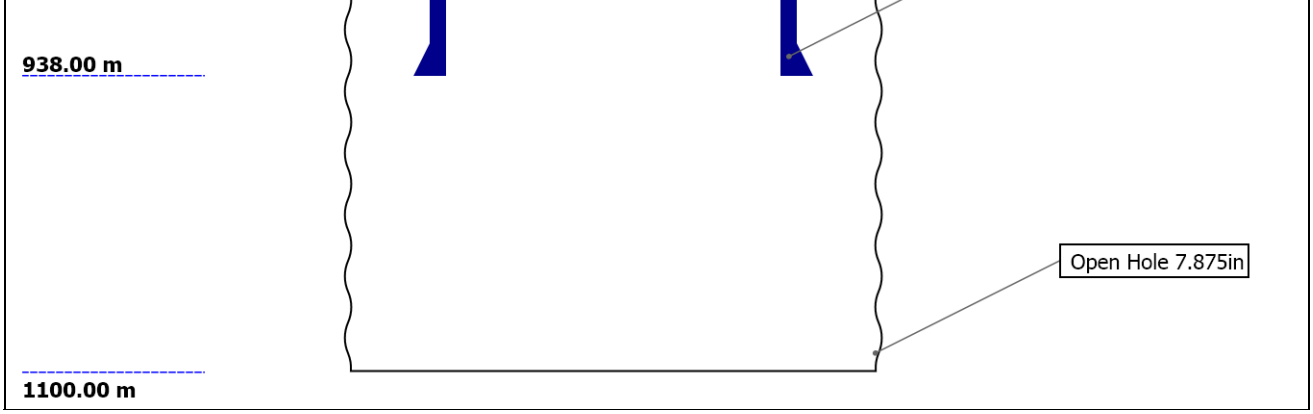
Disclaimer

Contents

10.4 Parameter Listing
11. Plug Plug Setting: Correlation Pass
11.1 Integration Summary
11.2 Composite Summary
11.3 Log (Perfo Depth Log)
11.4 Parameter Listing
12. IBC-CBL Main Pass: CBL with VDL
16. Calibration Report
17. Tail

Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	12.25	8.5	7.875			
Top Driller (m)	0	152	318			
Top Logger (m)	0	152	318			
Bottom Driller (m)	152	318	1100			
Bottom Logger (m)	152	318	1100			
Casing						
Size (in)	9.625	5.5				
Weight (lbm/ft)	36	14				
Inner Diameter (in)	8.921	5.012				
Grade	K55	K55				
Top Driller (m)	0	0				
Top Logger (m)	0	0				
Bottom Driller (m)	147.8	938				
Bottom Logger (m)	147.8	938				

Operational Run Summary

Parameter (unit)	GR-CCL	Plug	IBC-CBL			
Date Log Started	07-Dec-2013	07-Dec-2013	08-Dec-2013			
Time Log Started	07:32:16	11:37:07	05:29:23			
Date Log Finished	07-Dec-2013	08-Dec-2013	08-Dec-2013			
Time Log Finished	10:05:47	00:35:12	13:49:05			
Top Log Interval (m)	10.00	696.54	16.00			
Bottom Log Interval (m)	889.00	700.00	695.00			
Total Depth (m)	703.00	703.00	703.00			
Max Hole Deviation (deg)	0.00	0.00	0.00			
Azimuth of Max Deviation (deg)	0.00	0.00	0.00			
Bit Size (in)	7.875	7.875	7.875			
Logging Unit Number	R5885	R5885	R5885			
Logging Unit Location	AURM	AURM	AURM			
Recorded By	D. Krishnamurthy/A. Apoteker	D.Krishnamurthy	A.Apoteker/D.Krishnamurthy			

Witnessed By	Mike Peters	Dean Cooper	Mike Peters			
Service Order Number	CCHA-00059	CCHA-00059	CCHA-00059			

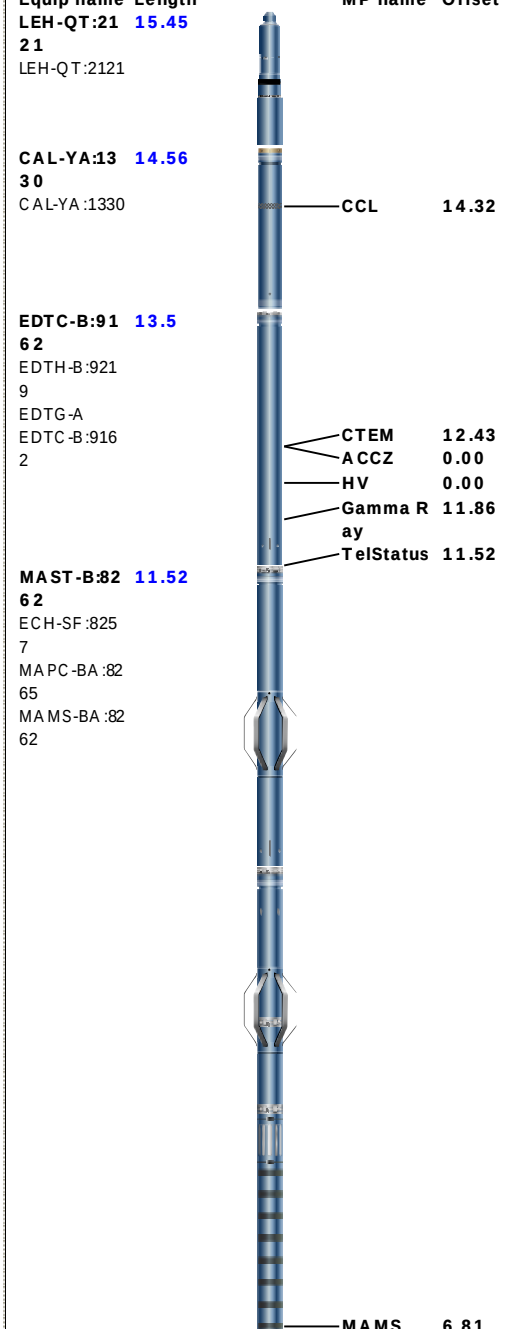
Remarks and Equipment Summary

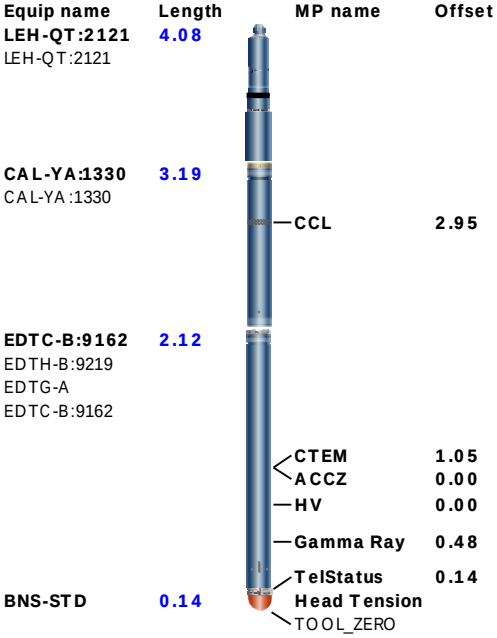
GR-CCL: Remarks	Plug: Remarks	IBC-CBL: Remarks
Toolstring ran as per toolsketch	Objective: To set bridge plug above perforation zone to isolate the perforations.	Log Objective: To perform Isolation Scanner Log
GR-CCL logged to PBTD at 889.89m	Toolstring ran as per toolsketch	Toolstring ran as per toolsketch.
GR Peaks at 635m, 825m, 784m, 565m, 490m and 645m used for correlation with OH log.	Plug set with middle of plug element at 700mKB at the request of OCR	PBTD at 700m not tagged to avoid damage to rotating sub.
	CCL to Plug element = 3.46m	Corrosion and Cement Evaluation Pass conducted between 695m and surface.
	CCL Stop depth = 696.54m	Log conducted with resolution of 5 deg and 1.5" at 420ft/hr.
		Casing was pressurised to 200psi from surface to conduct a pressure pass.
		Well Fluid information obtained from Client representative.
		Well fluid is salt based water, has 2% KCL and has a density of 8.26ppg at 42 deg C.
		DCS to process data and deliver to client.

GR-CCL: Toolstring

Plug: Toolstring

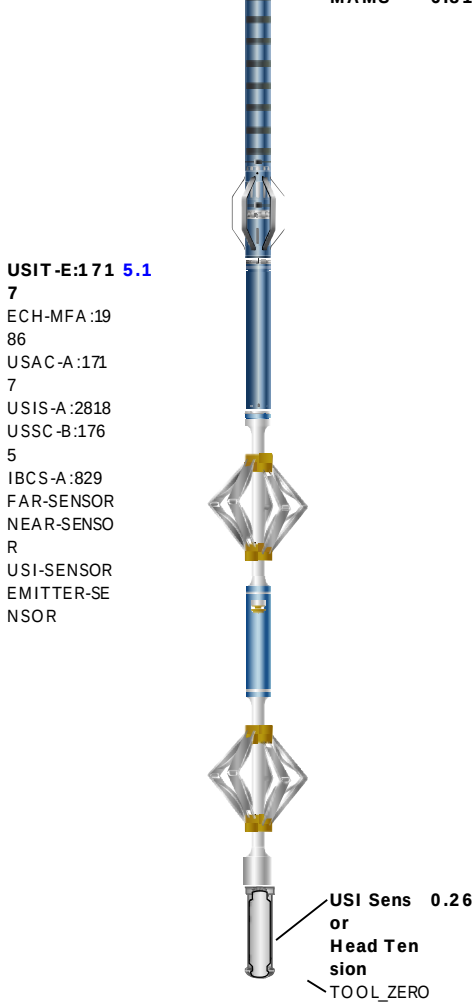
IBC-CBL: Toolstring





Lengths are in m
Maximum Outer Diameter = 3.625 in

Lengths are in m
Maximum Outer Diameter = 3.625 in



Lengths are in m
Maximum Outer Diameter = 6.250 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

Depth Control Parameters	GR-CCL	Plug	IBC-CBL
Conveyance Type	Wireline	Wireline	Wireline
Log Sequence	Subsequent Trip in hole	Subsequent run in hole procedures followed.	Subsequent run in hole
Reference Log Date	23-Jan-1983	23-Jan-1983	23-Jan-1983
Reference Log Name	BHC G Springvale 1	BHC G Springvale 1	BHC G Springvale 1
Reference Log Run Number	1	1	1
Rig Type	Land	Land	Land
Depth Remark Parameters	**GR-CCL**	**Plug**	**IBC-CBL**
Depth Remark 1	All Schlumberger depth control procedures and guidelines followed.	All Schlumberger depth control procedures and guidelines followed.	All Schlumberger depth control procedures and guidelines followed.
Depth Remark 2	IDW used as primary depth control device.	IDW used as primary depth control device.	IDW used as primary depth control device.
Depth Remark 3	Z-Chart used as secondary depth control device.	Z-Chart used as secondary depth control device.	Z-Chart used as secondary depth control device.
Depth Remark 4	Log correlated to BHC G Springvale 1 log by Schlumberger dated 23-Jan -1983	Log correlated to BHC G Springvale 1 log by Schlumberger dated 23-Jan -1983	Log correlated to BHC G SPringvale 1 log by Schlumberger dated 23-Jan-1983
Depth Remark 5	Subsequent Trip in hole procedure followed.		Subsequent run in hole procedure followed.
Depth Measuring Device	**GR-CCL**	**Plug**	**IBC-CBL**
Type	IDW-B	IDWC-C	IDWC-C
Serial Number	2001AURM	2001AURM	2001AURM
Calibration Date	29-Nov-2013	29-Nov-2013	29-Nov-2013
Calibrator Serial Number	30	30	30
Calibration Cable Type	IDWC-C	7-46ZV-XS	7-46 ZV-XS

Wheel Correction 1	-6	-6	-6
Wheel Correction 2	-5	-5	-5
Tension Device	GR-CCL	Plug	IBC-CBL
Type	CMTD-B/A	CMTD-B/A	CMTD-B/A
Serial Number	8309	8309	8309
Calibration Date	19-Nov-2013	19-Nov-2013	19-Nov-2013
Calibrator Serial Number	1322	1322	1322
Calibration Points	10	10	10
Calibration RMS	26	26	26
Calibration Peak Error	58	58	58
Logging Cable	GR-CCL	Plug	IBC-CBL
Type	7-46ZV-XS	7-46ZV-XS	7-46ZV-XS
Serial Number	F709205	F709205	F709205
Logging Cable Length (m)	6025.00	6025.00	6025.00

GR-CCL

Correlation Log - GR-CCL

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
GR-CCL	Log[4]:Up	Up	10.82 m	890.50 m	07-Dec-2013 9:05:37 AM	07-Dec-2013 10:05:02 AM	0.20 m	

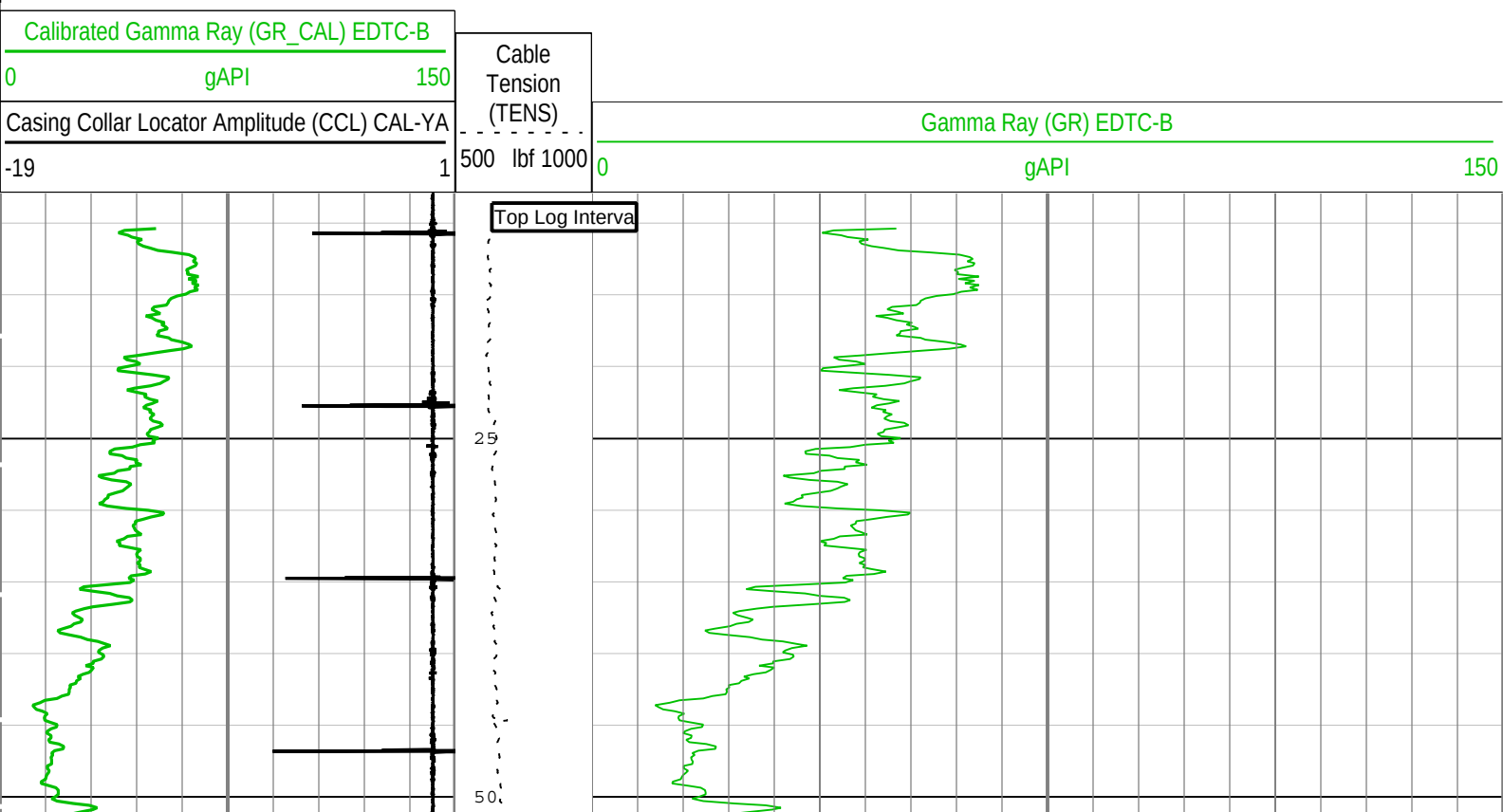
All depths are referenced to toolstring zero

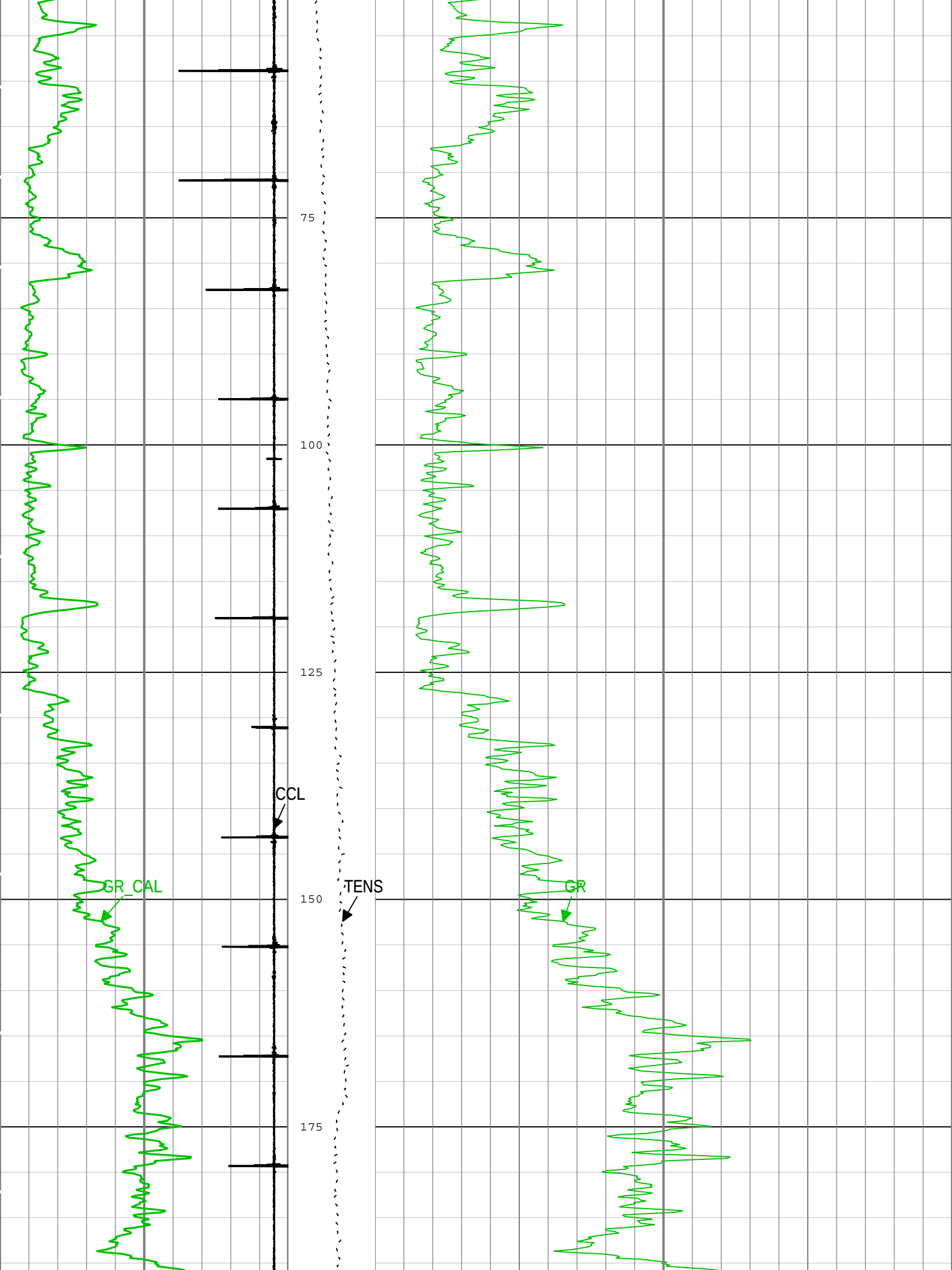
Log

GR-CCL: Log[4]:Up

Description: DEPTH Domain Log for EDTCB GR channels Format: Log (EDTCB GR) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth
Creation Date: 08-Dec-2013 13:54:32

TIME_1900 - Time Marked every 60.00 (s)

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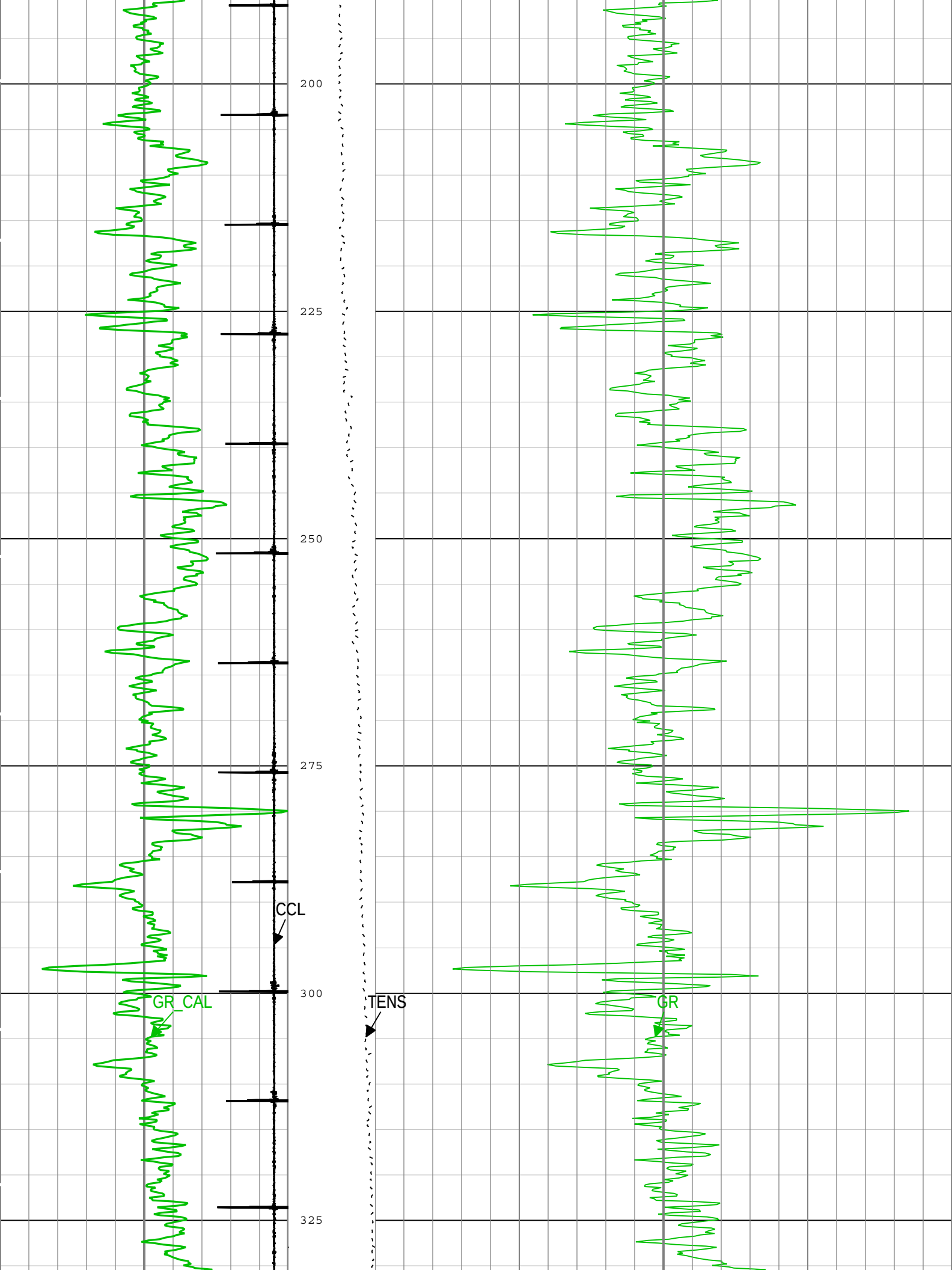
100
125
150
175
CCL
GR_CAL
TENS
GR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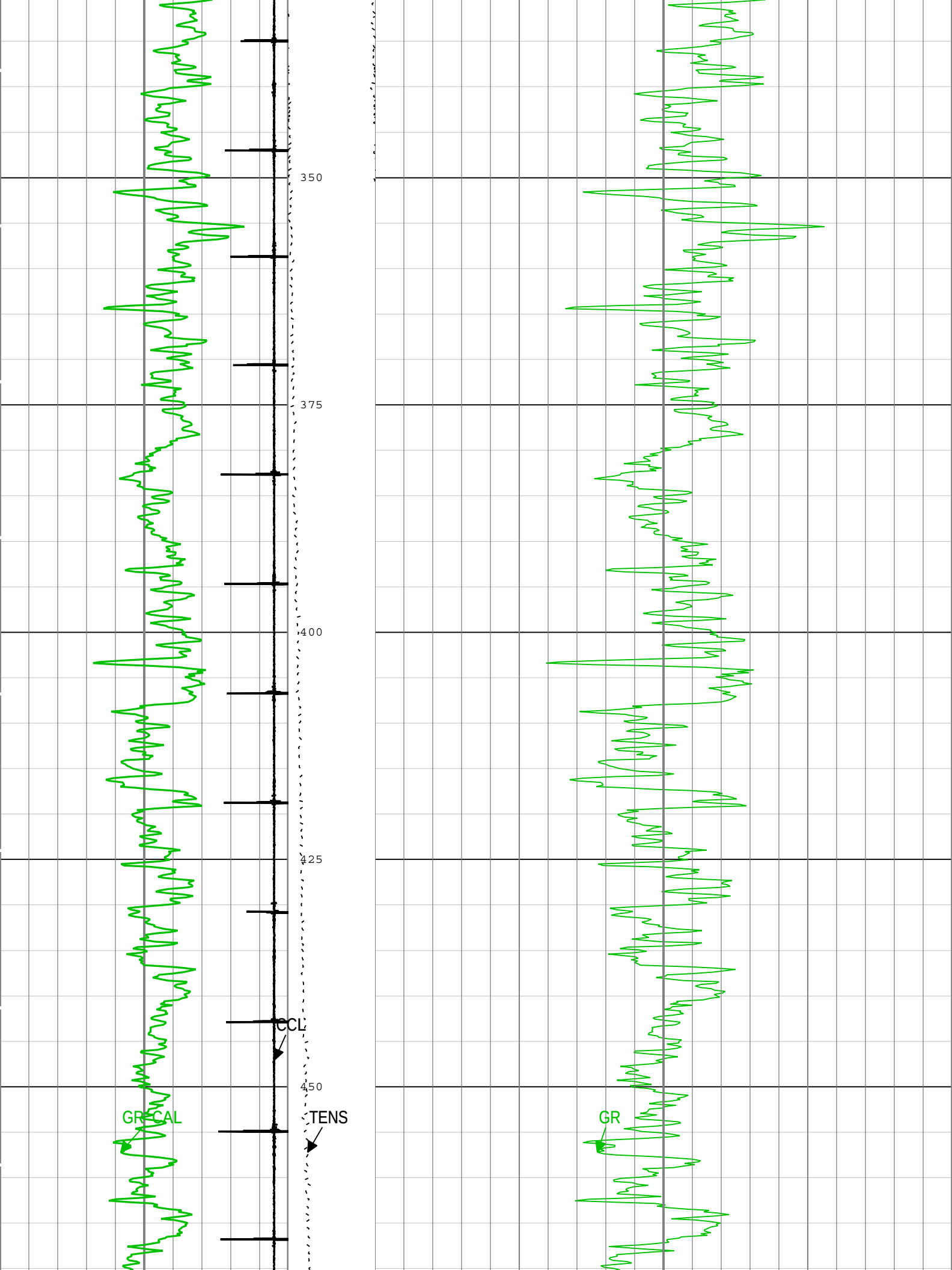
225
250
275
CCL
300
GR_CAL
TENS
GR
325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375
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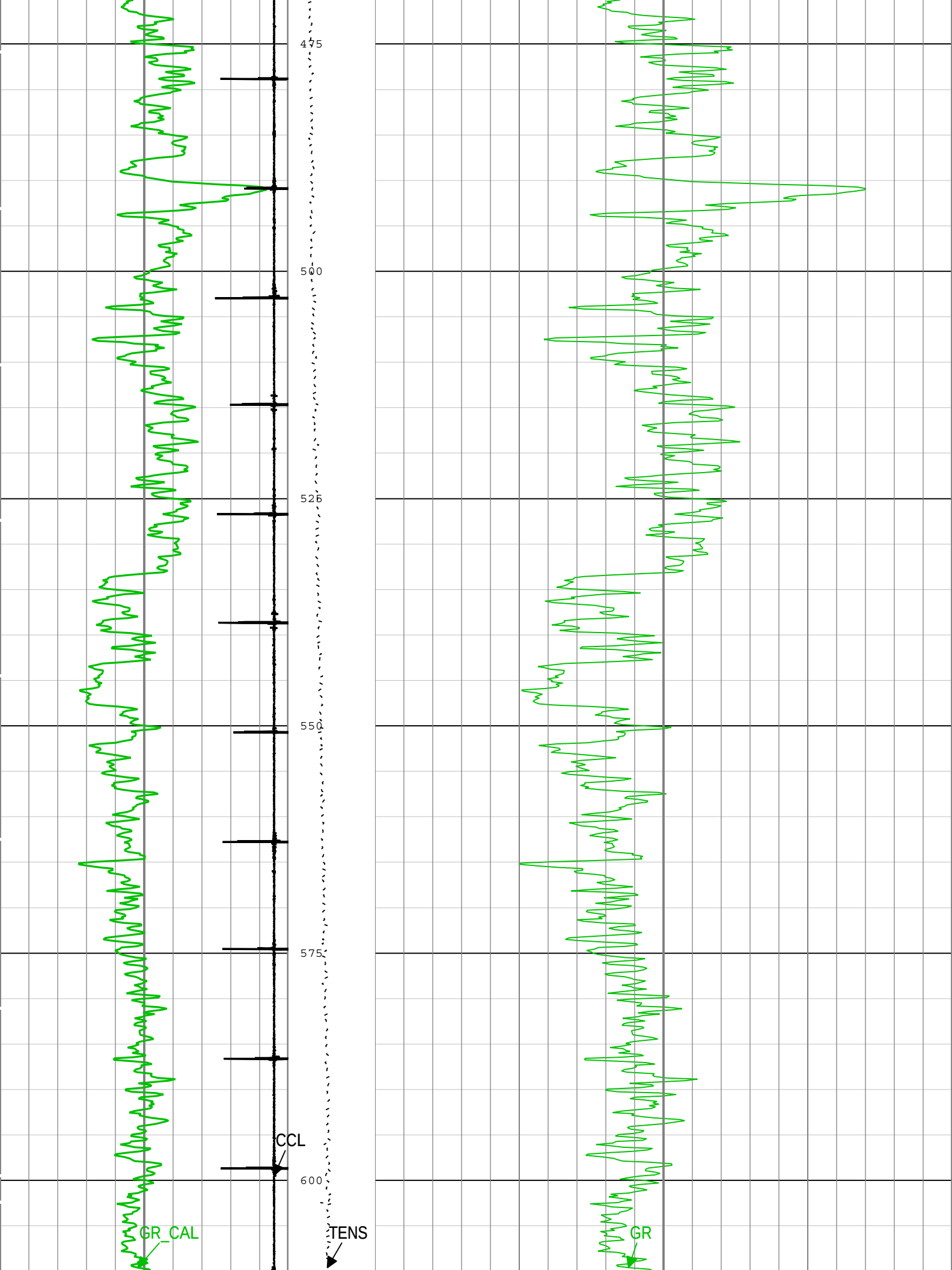
425
CCL
450
GR_CAL
TENS
GR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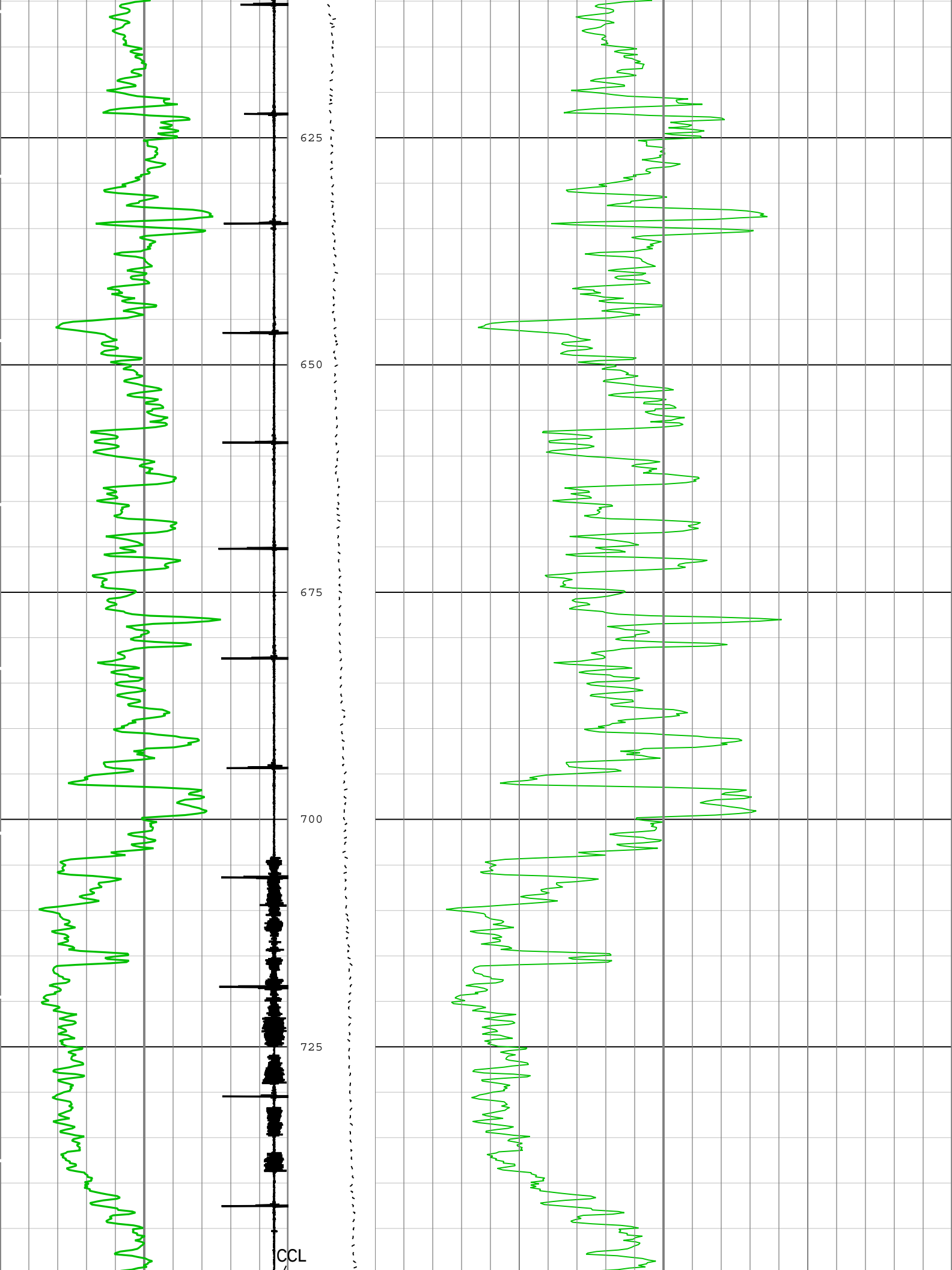
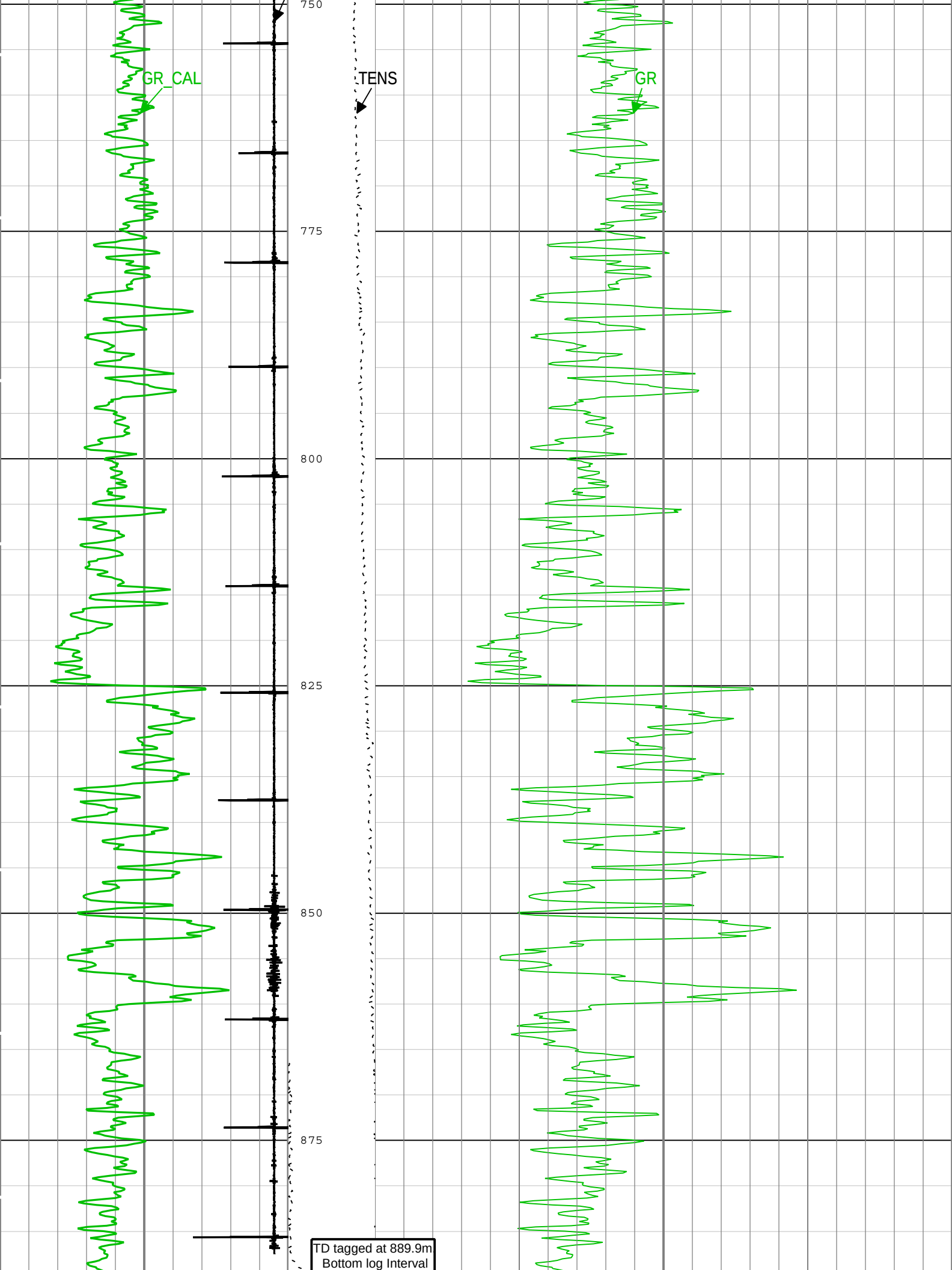
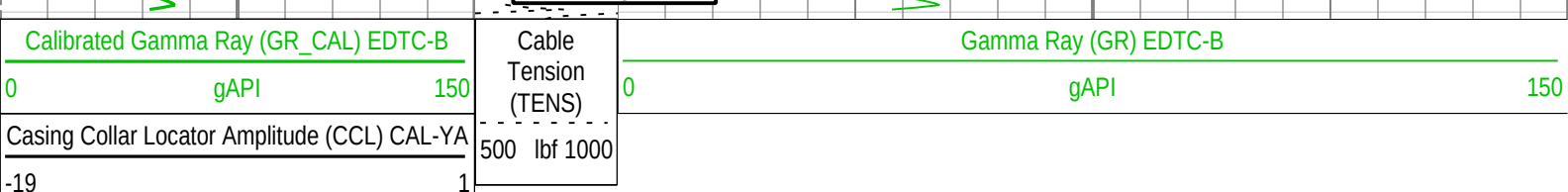
500
525
550
575
600
CCL
GR_CAL
TENS
GR


625
650
675
700
725
CCL


GR_CAL
TENS
GR
750
775
800
825
850
875
TD tagged at 889.9m
Bottom log Interval



Description: DEPTH Domain Log for EDTCB GR channels Format: Log (EDTCB GR) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth
Creation Date: 08-Dec-2013 13:54:32

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	938	m
CCL_MULTIPLIER	Casing Collar Locator Multiplier	CAL-YA	1	
CDEN	Cement Density	EDTC-B	2	g/cm3
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	

Depth Zone Parameters

Parameter	Value	Start (m)	Stop (m)
BS	12.25	7.9	152
BS	8.5	152	318
BS	7.875	318	890.47

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	0	ft/h

Plug

Plug Setting: Shooting Pass

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit

Pass Summary

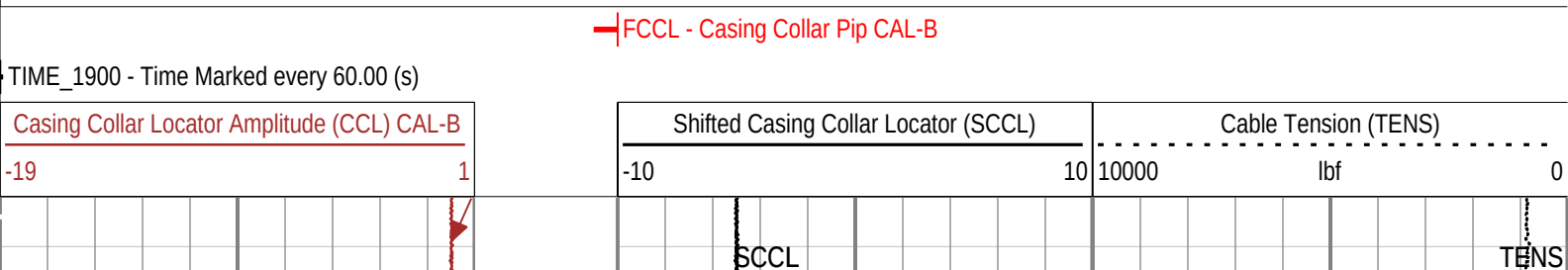
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
Plug	Log[5]:Up	Up	601.72 m	699.96 m	08-Dec-2013 12:09:26 AM	08-Dec-2013 12:25:06 AM	0.00 m	

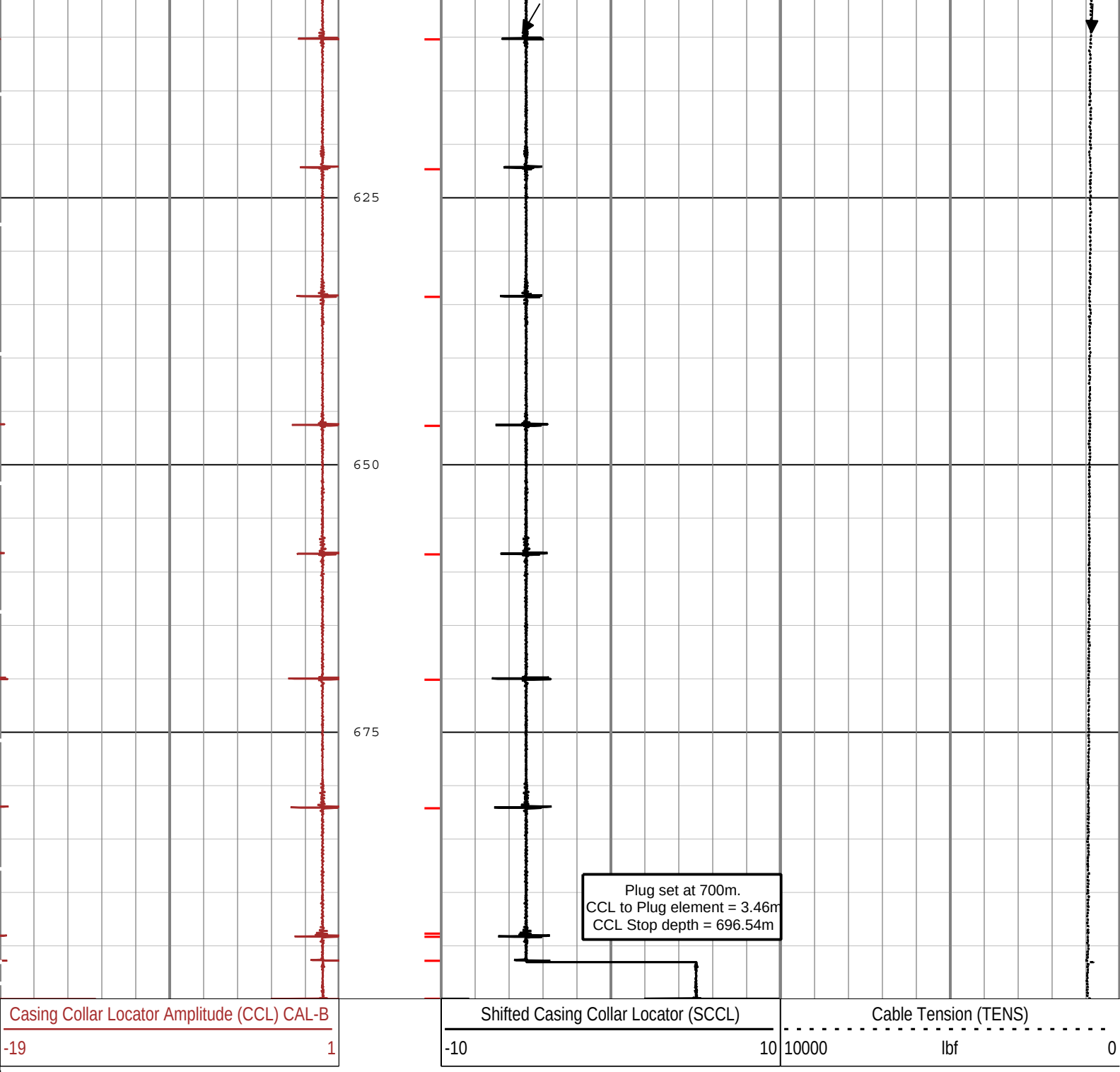
All depths are referenced to toolstring zero

Log

Plug: Log[5]:Up

Description: Perfo Depth Log Format Format: Log (Perfo Depth Log) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:54:33





Description: Perfo Depth Log Format Format: Log (Perfo Depth Log) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:54:33

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
CCL_MULTIPLIER	Casing Collar Locator Multiplier	CAL-B	1	

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
GAIN_SCOF	Gain for Shifted Casing Collar Locator (CCL) offset	PerfoSharedEns	Time Zoned	

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (m)	Stop Depth (m)
GAIN_SCOF	1	08-Dec-2013 00:09:26	08-Dec-2013 00:14:16	699.96	696.52

GAIN_SCOF	-1	08-Dec-2013 00:14:16	08-Dec-2013 00:25:06	696.52	601.72

All depth are at tool zero.

Plug

Plug Setting: Correlation Pass

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit

Pass Summary

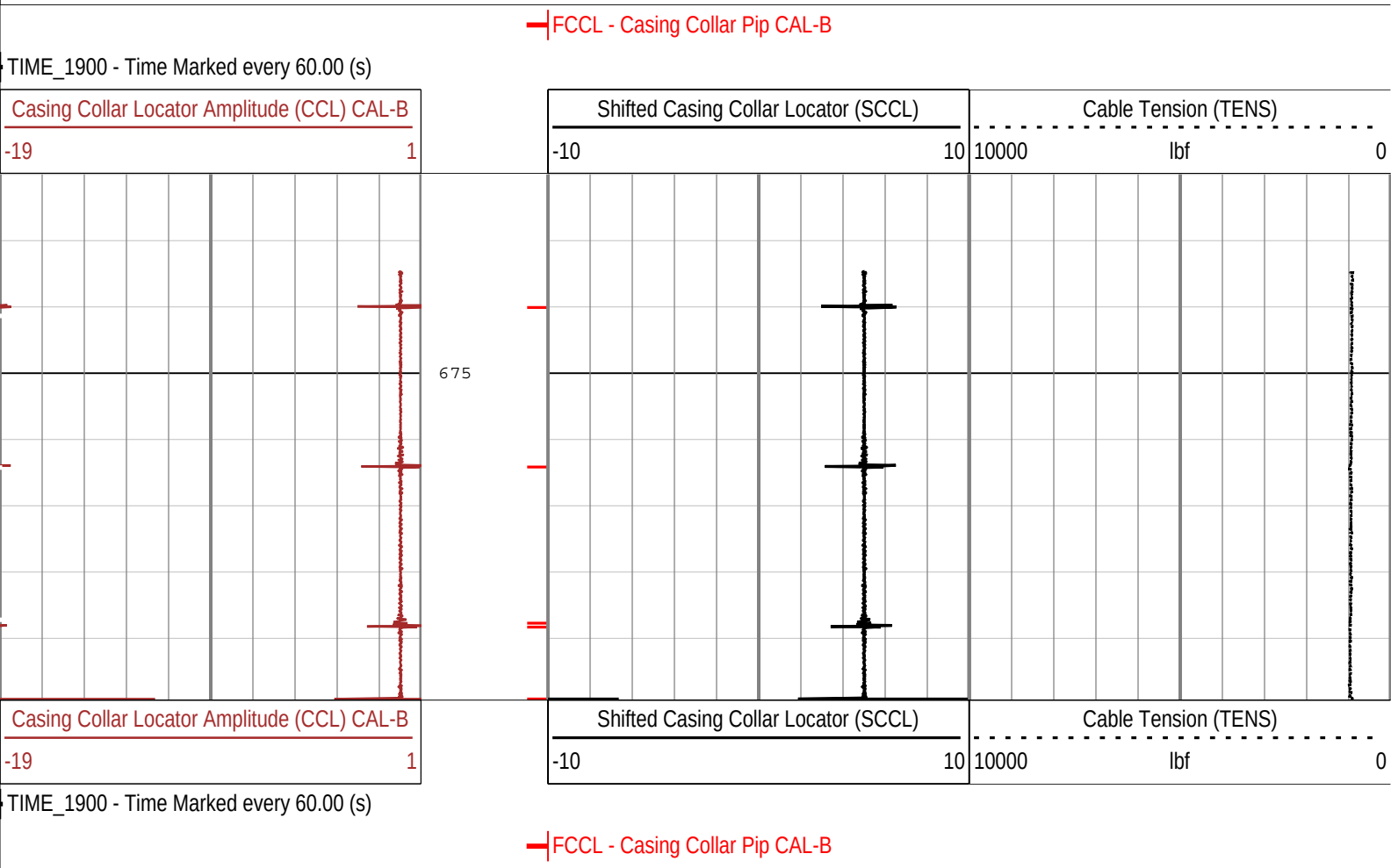
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
Plug	Log[4]:Up	Up	667.29 m	699.58 m	08-Dec-2013 12:04:18 AM	08-Dec-2013 12:08:29 AM	0.00 m	

All depths are referenced to toolstring zero

Log

Plug: Log[4]:Up

Description: Perfo Depth Log Format Format: Log (Perfo Depth Log) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:54:34



Description: Perfo Depth Log Format Format: Log (Perfo Depth Log) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:54:34

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
CCL_MULTIPLIER	Casing Collar Locator Multiplier	CAL-B	1	

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
GAIN_SCOF	Gain for Shifted Casing Collar Locator (CCL) offset	PerfoSharedEns	1	

IBC-CBL

Main Pass: CBL with VDL

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
IBC-CBL	Log[4]:Up	Up	16.44 m	695.38 m	08-Dec-2013 6:33:03 AM	08-Dec-2013 11:48:27 AM	0.32 m	

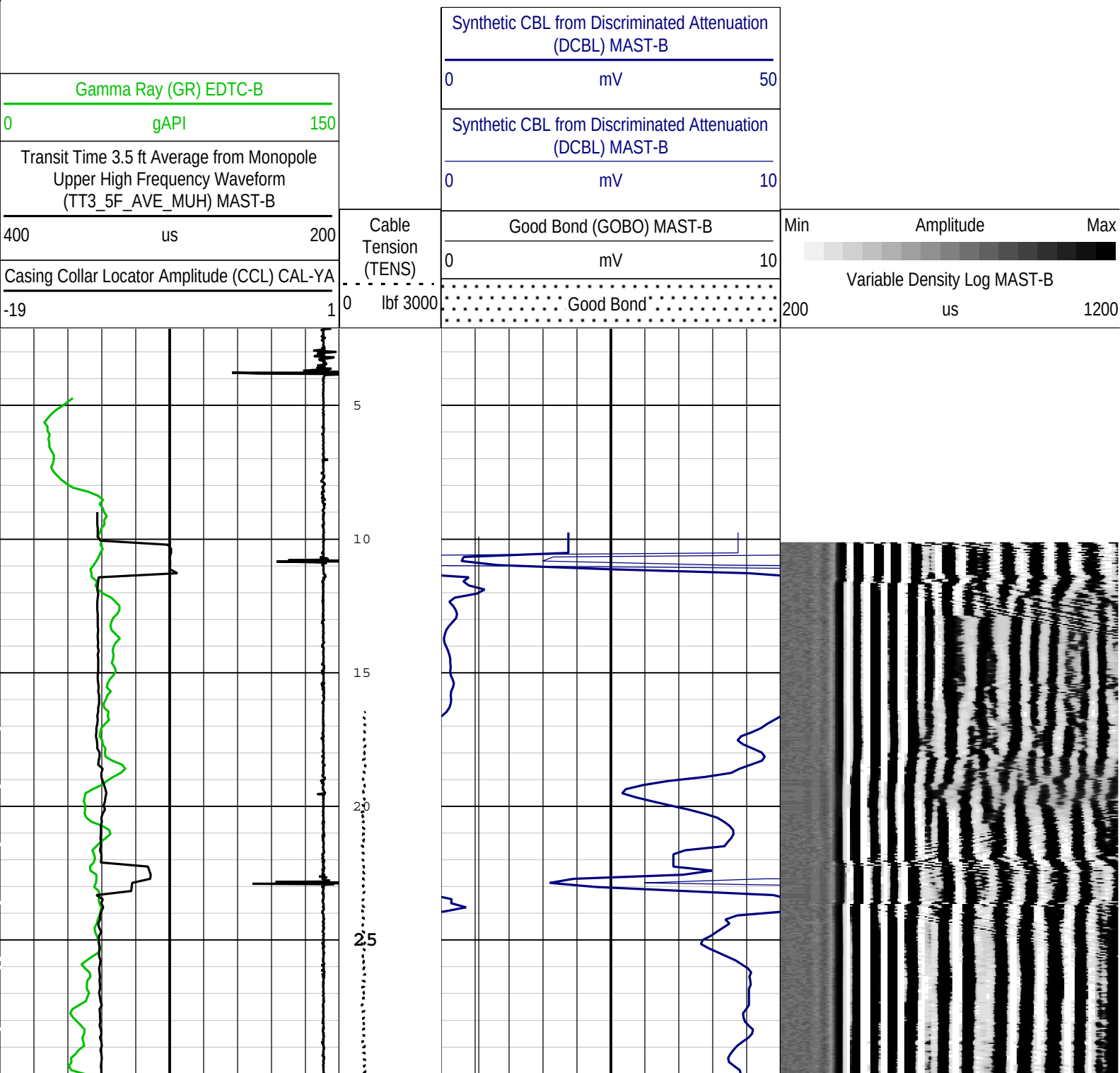
All depths are referenced to toolstring zero

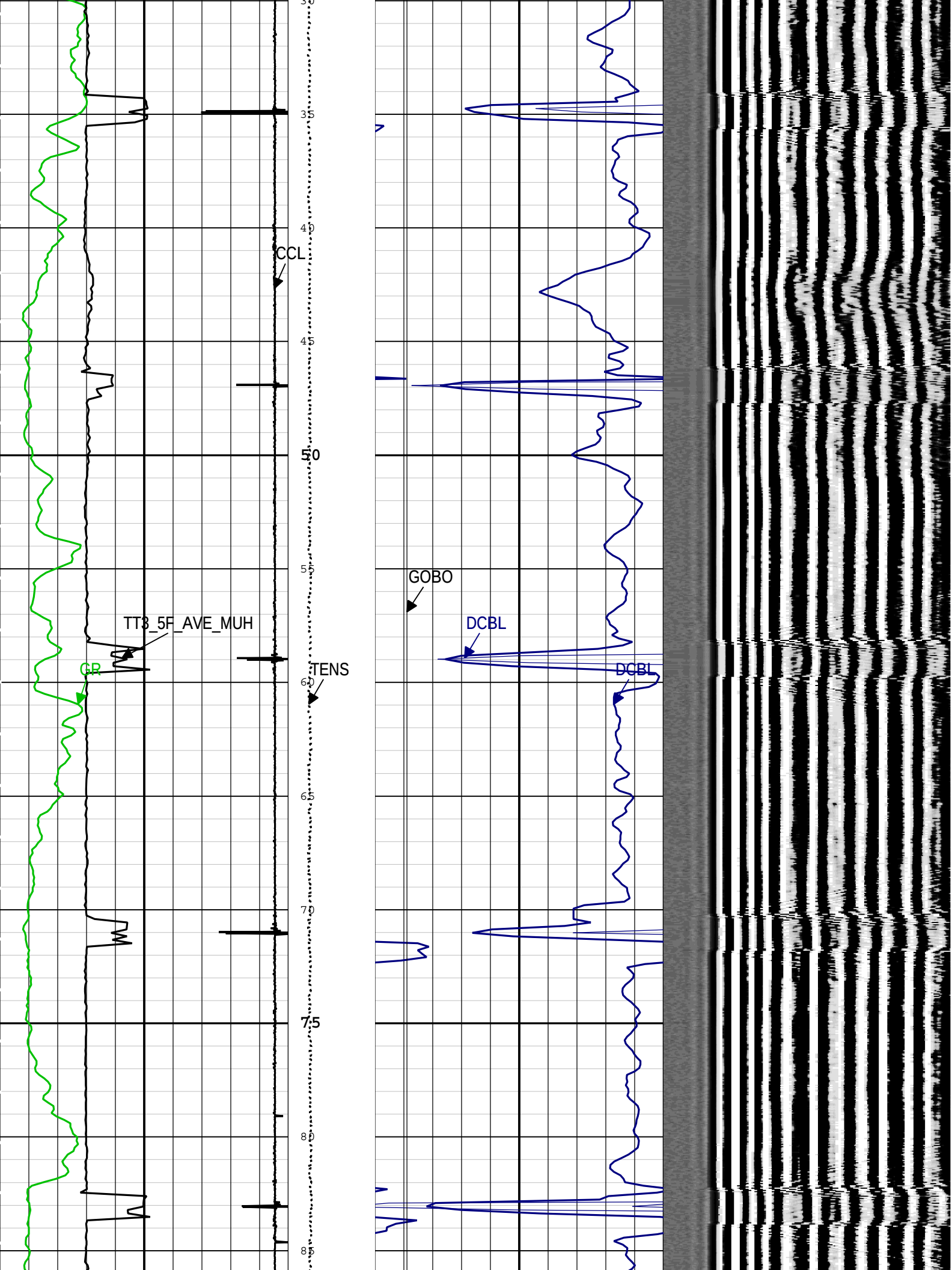
Log

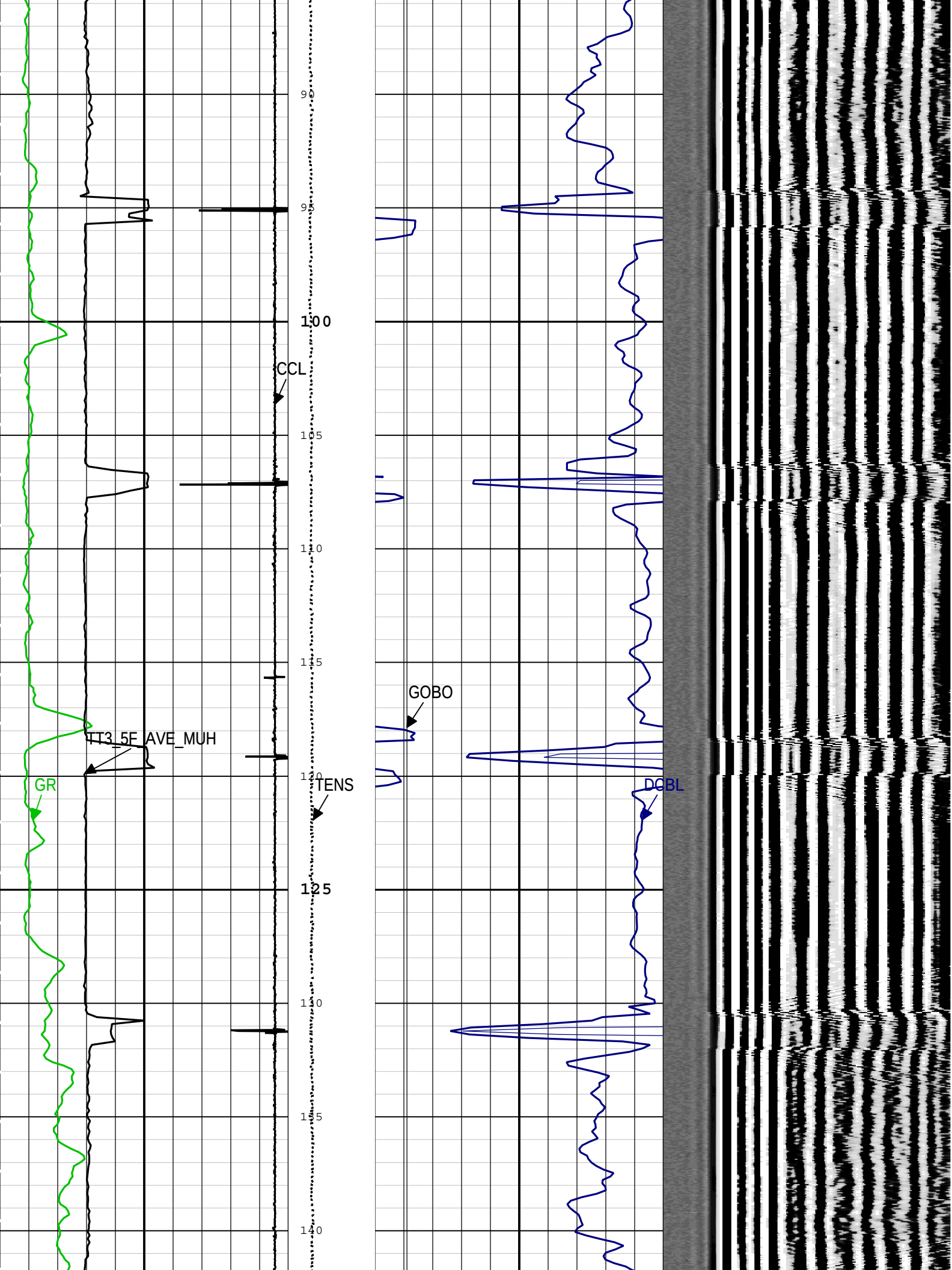
IBC-CBL: Log[4]:Up

Description: MAST_CE_DCBL_3545 Format: Log (MAST_CE_DCBL_3545) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:54:39

TIME_1900 - Time Marked every 60.00 (s)




CCL
GOBO
TT3_5F_AVE_MUH
DCBL
GR
TENS
DCBL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95
100
105
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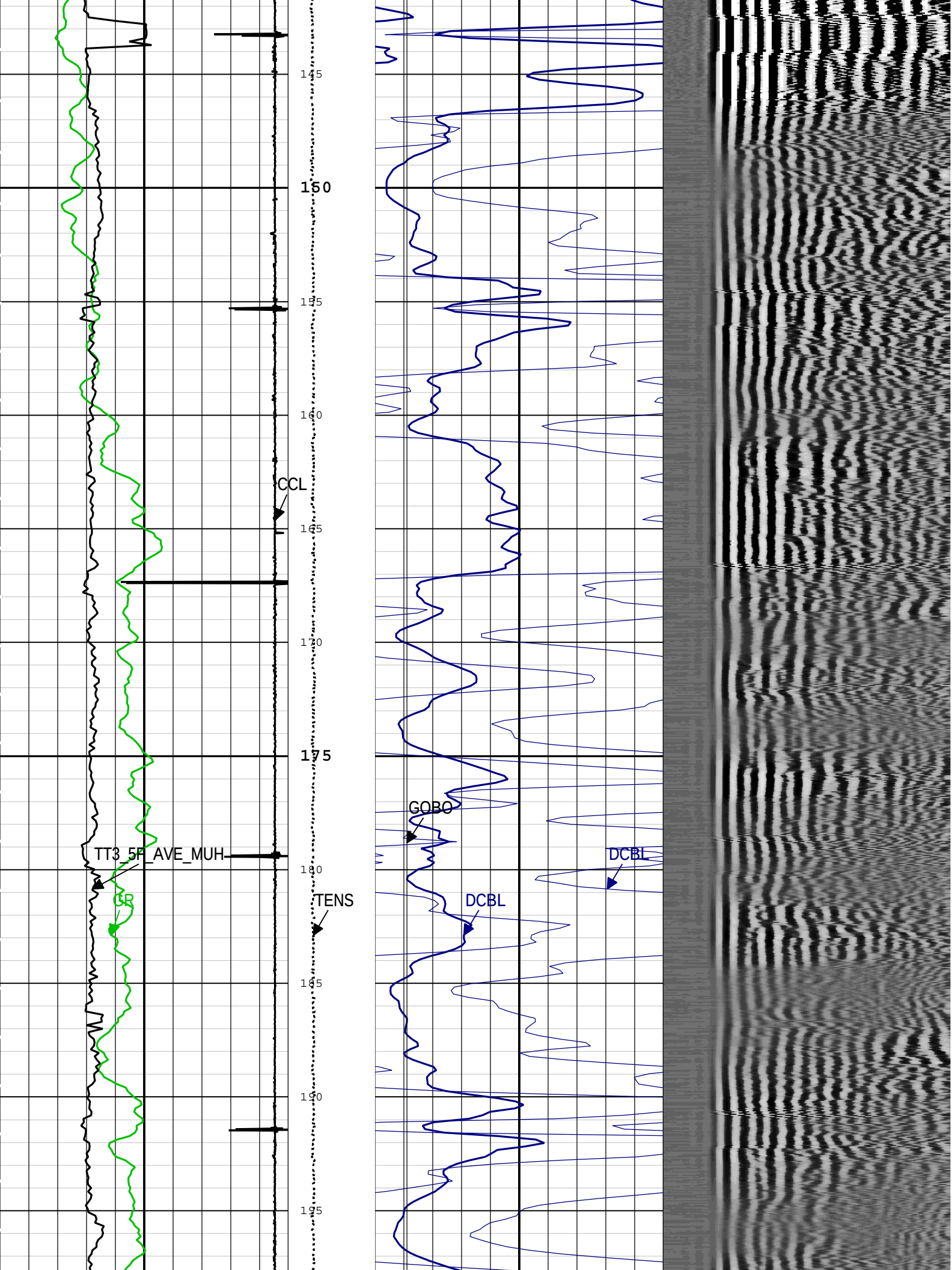
115
120
125
130
135
140
CCL
GOBO
TT3_5F_AVE_MUH
GR
TENS
DCBL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DCBL
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GR
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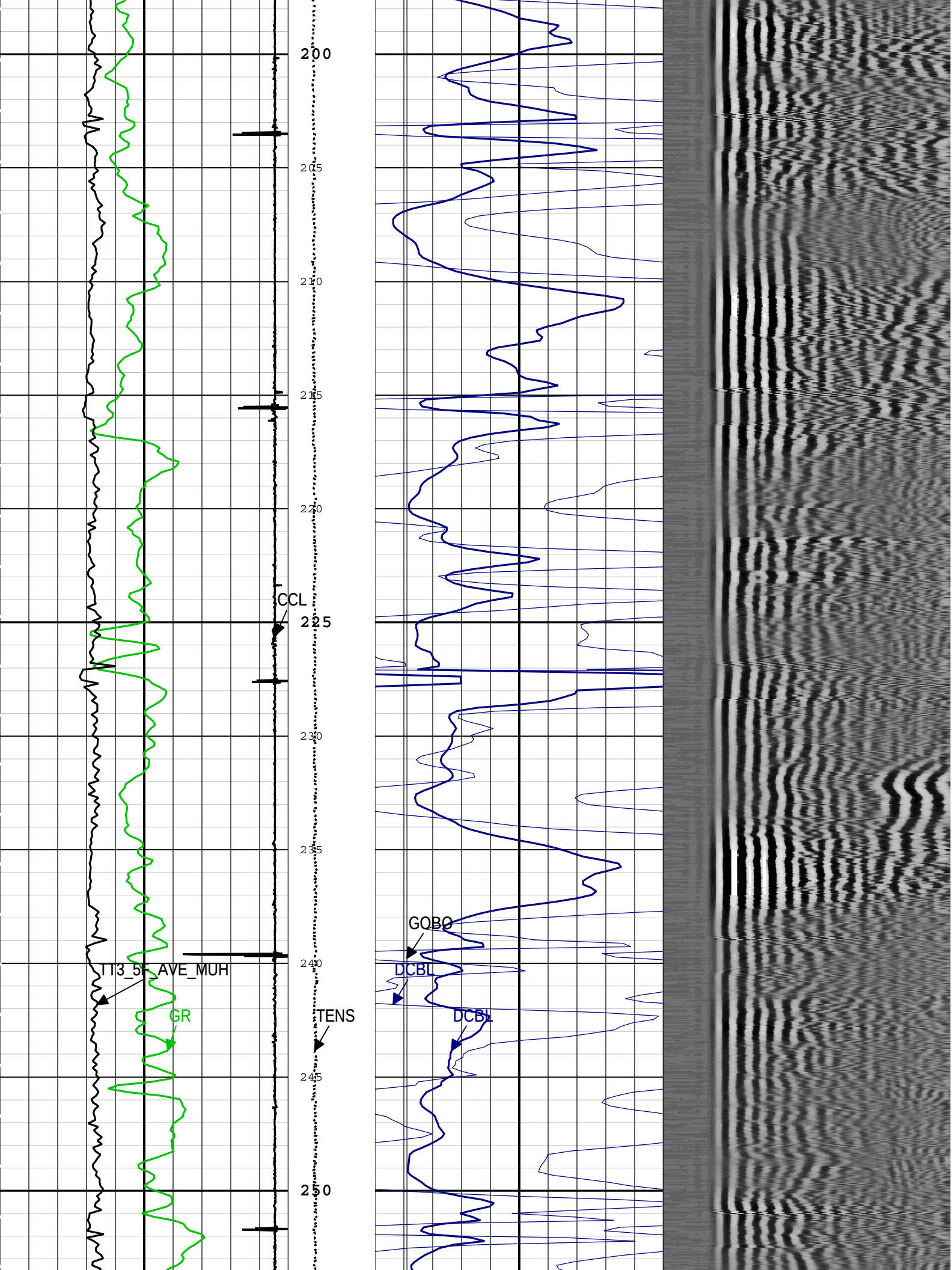
185
190
195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215
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CCL
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230
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GOBO
240
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DCBL
GR
TENS
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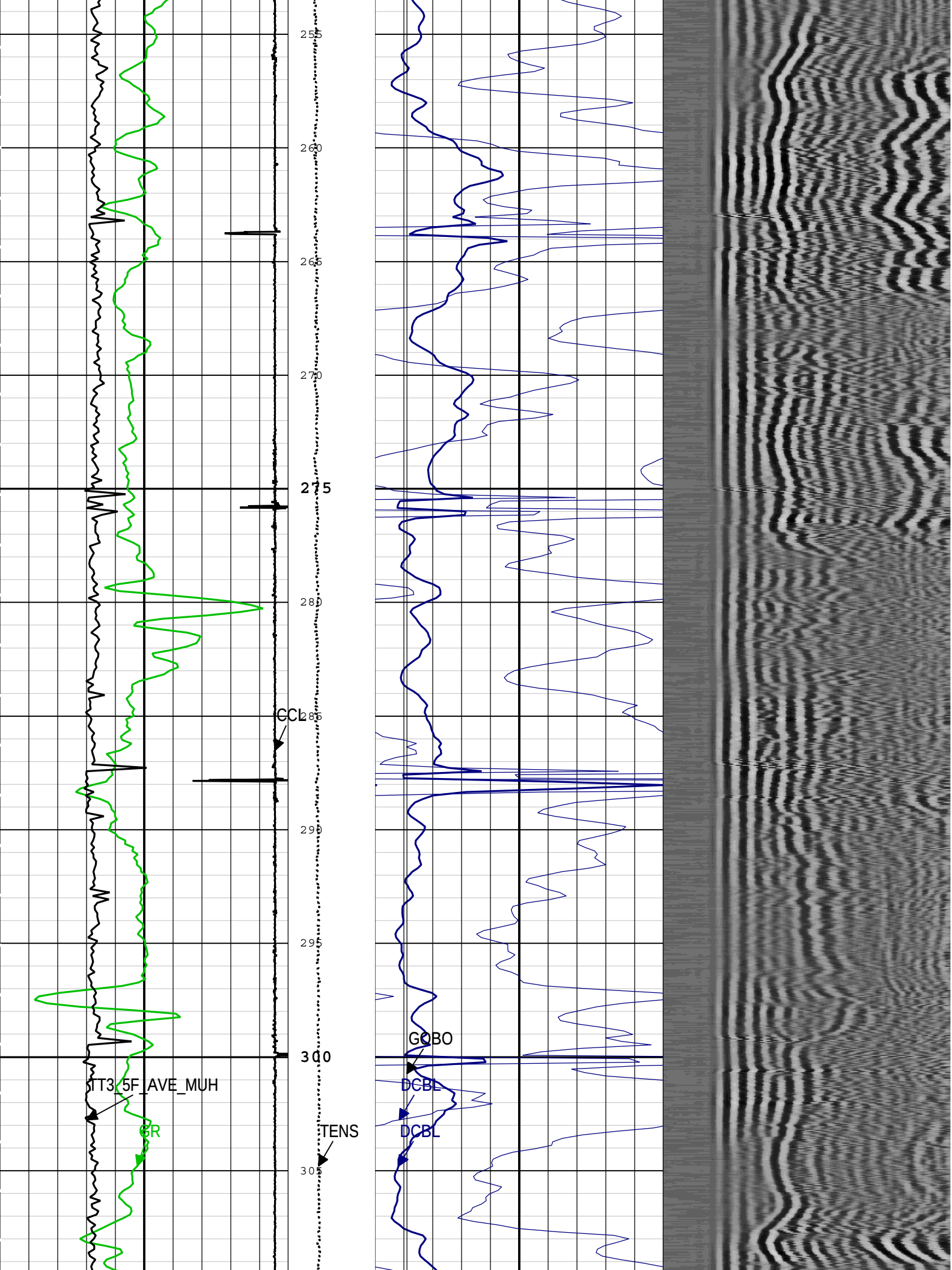
245
250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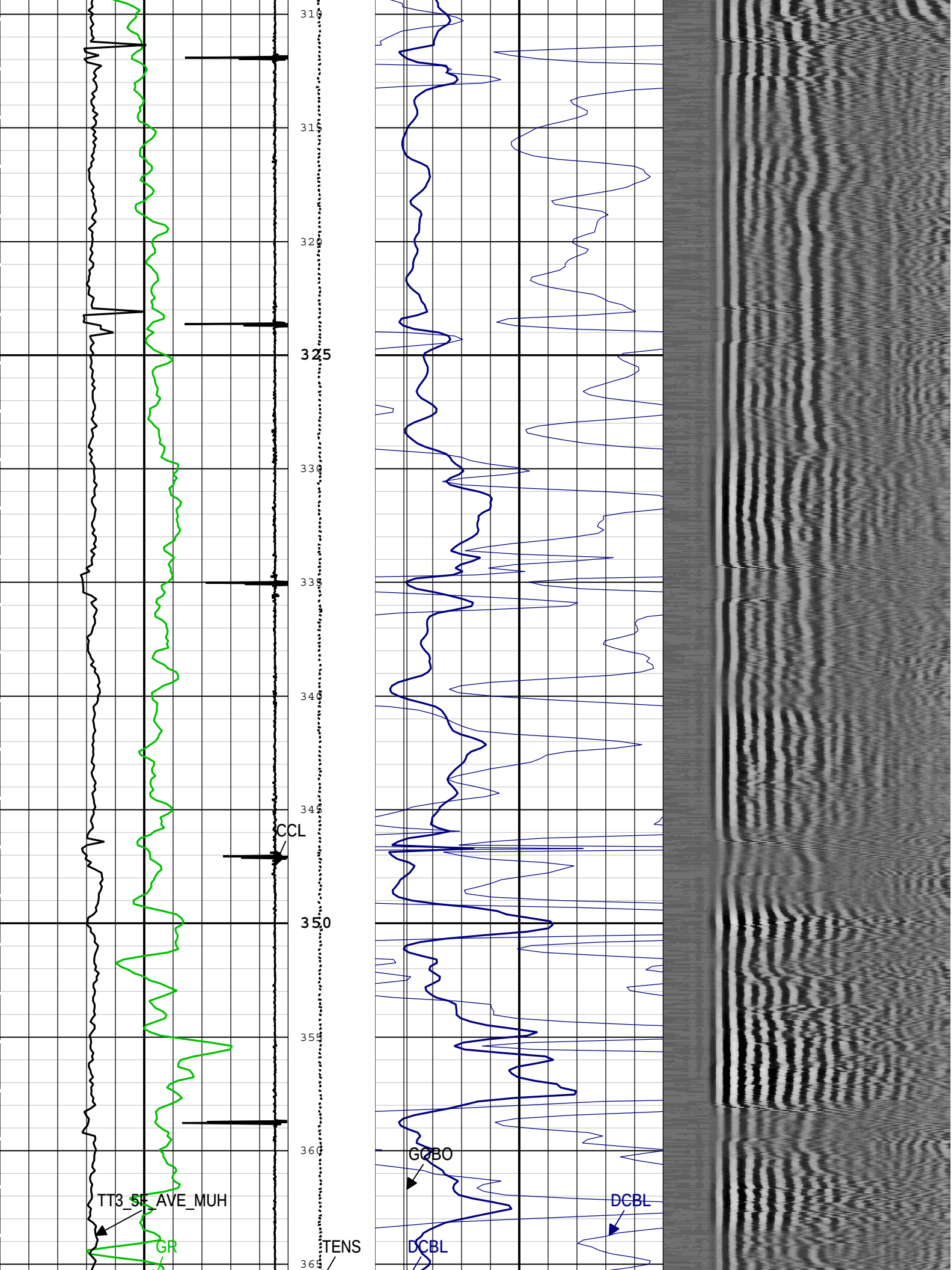
GR
TENS
GOBO
DCBL
DCBL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360
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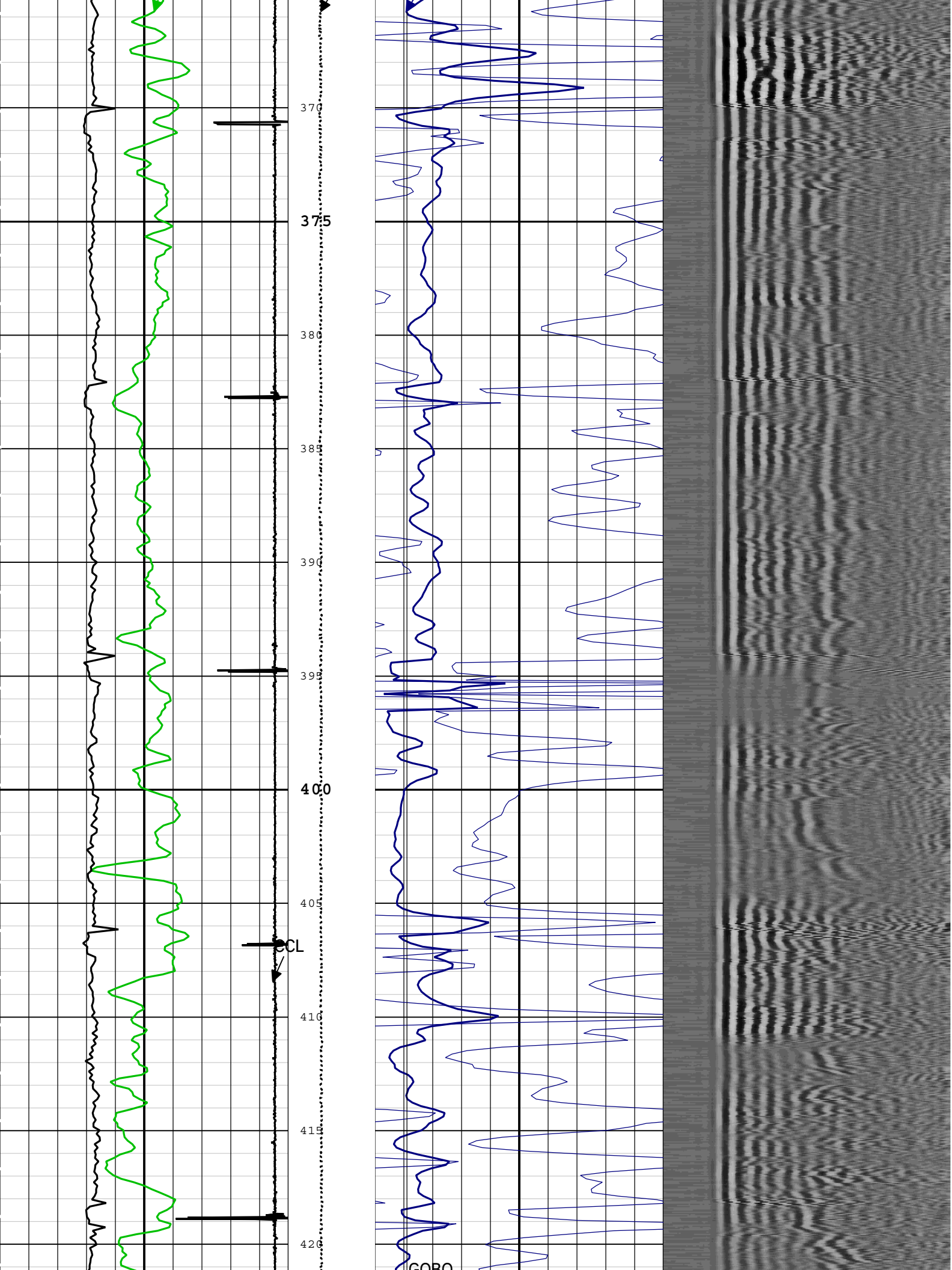
CCL
GOBO
DCBL
DCBL
TT3_5F_AVE_MUH
GR
TENS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380
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390
395
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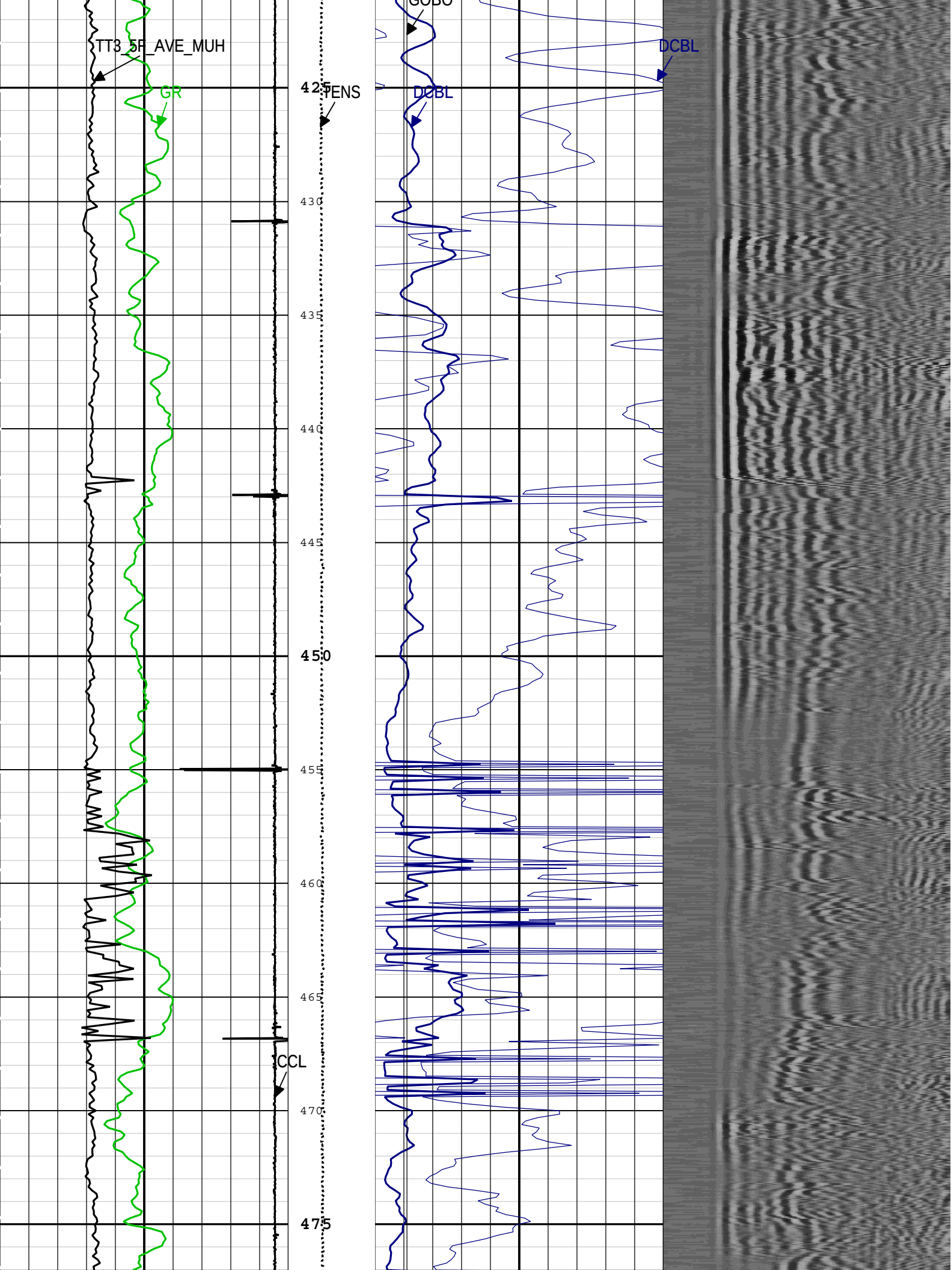
405
CCL
410
415
420
GORO


TT3_5F_AVE_MUH
GR
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TENS
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CCL
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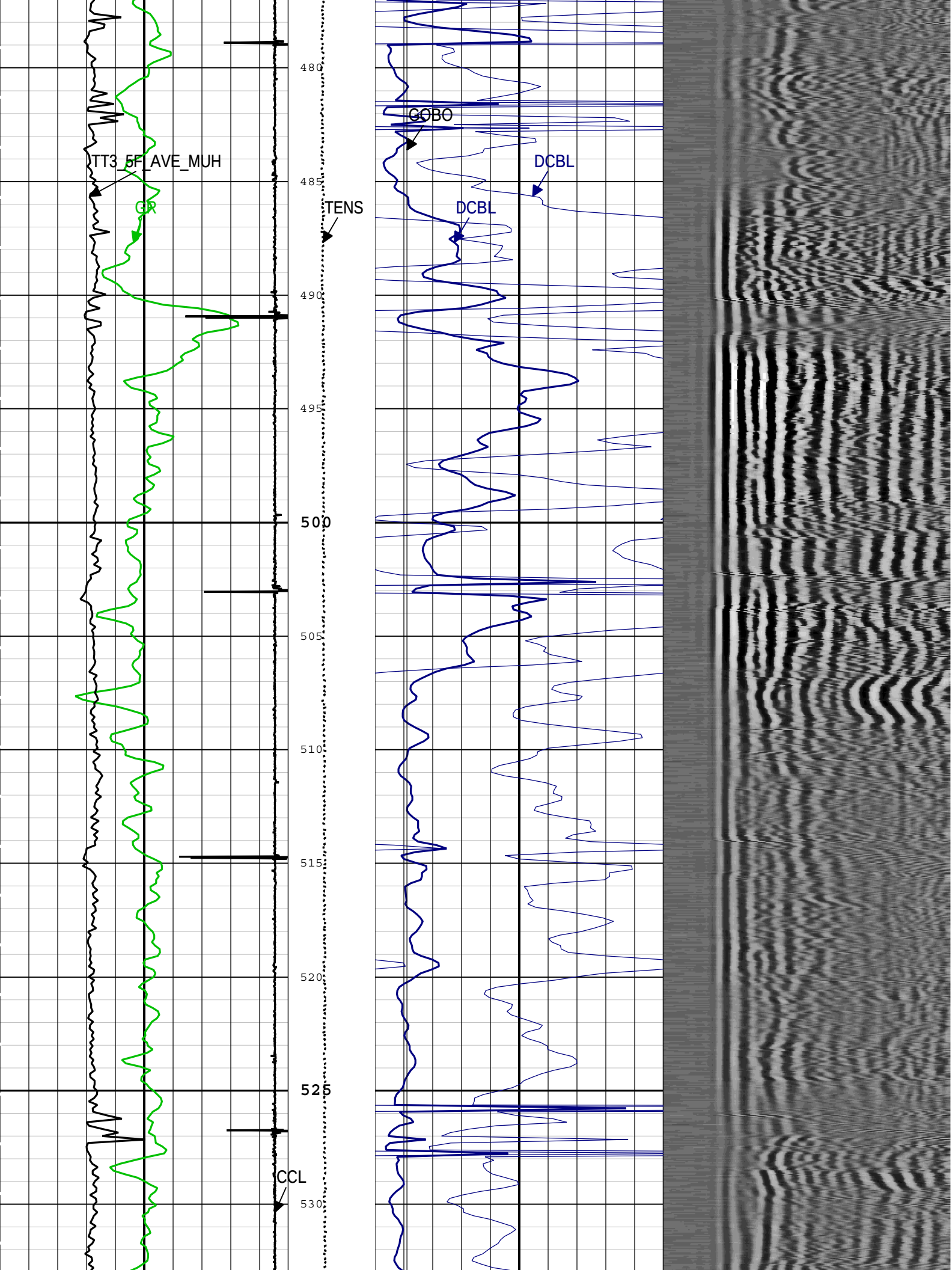
475
GOBO
DCBL
DCBL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485
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495
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505
510
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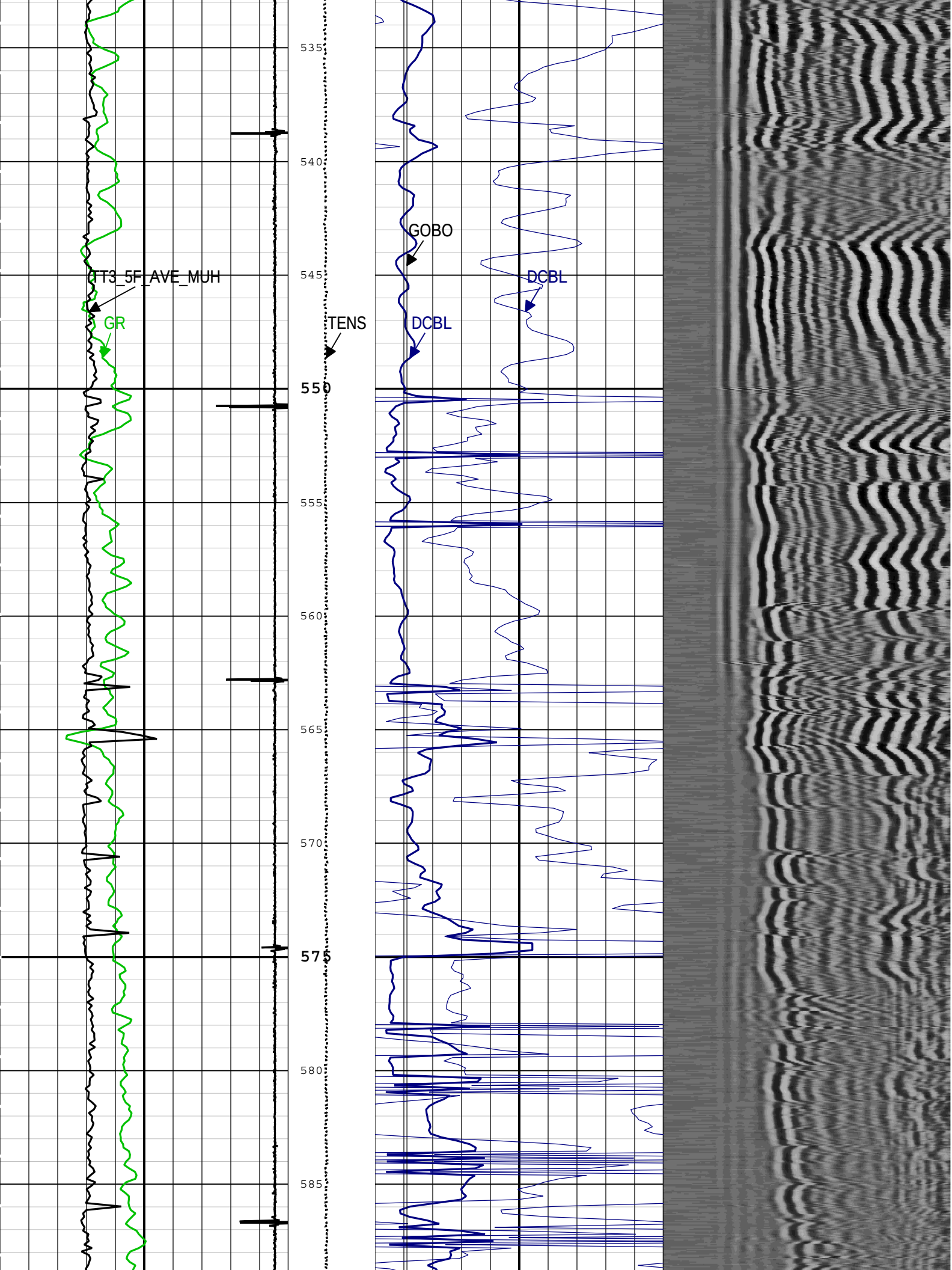
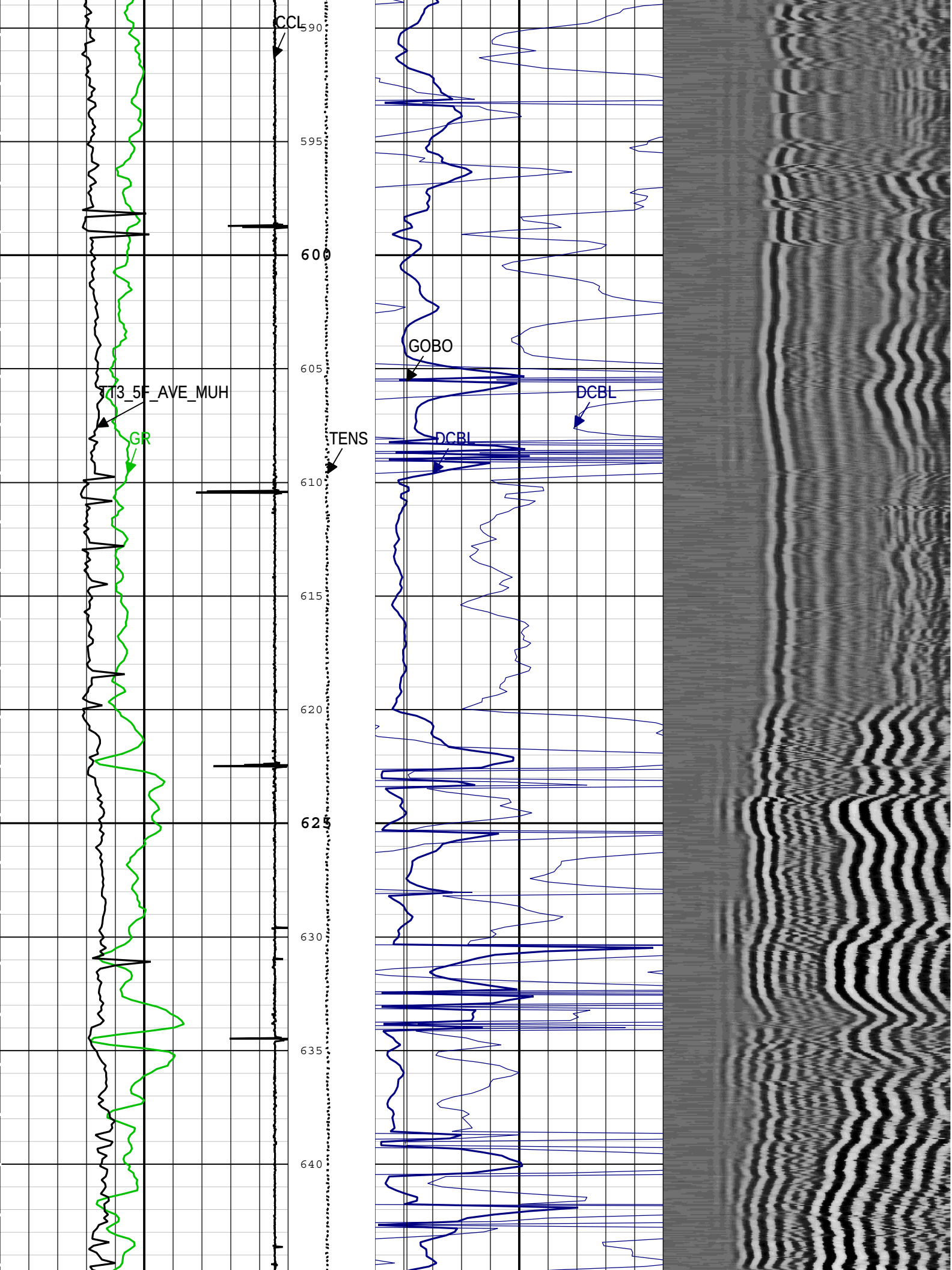
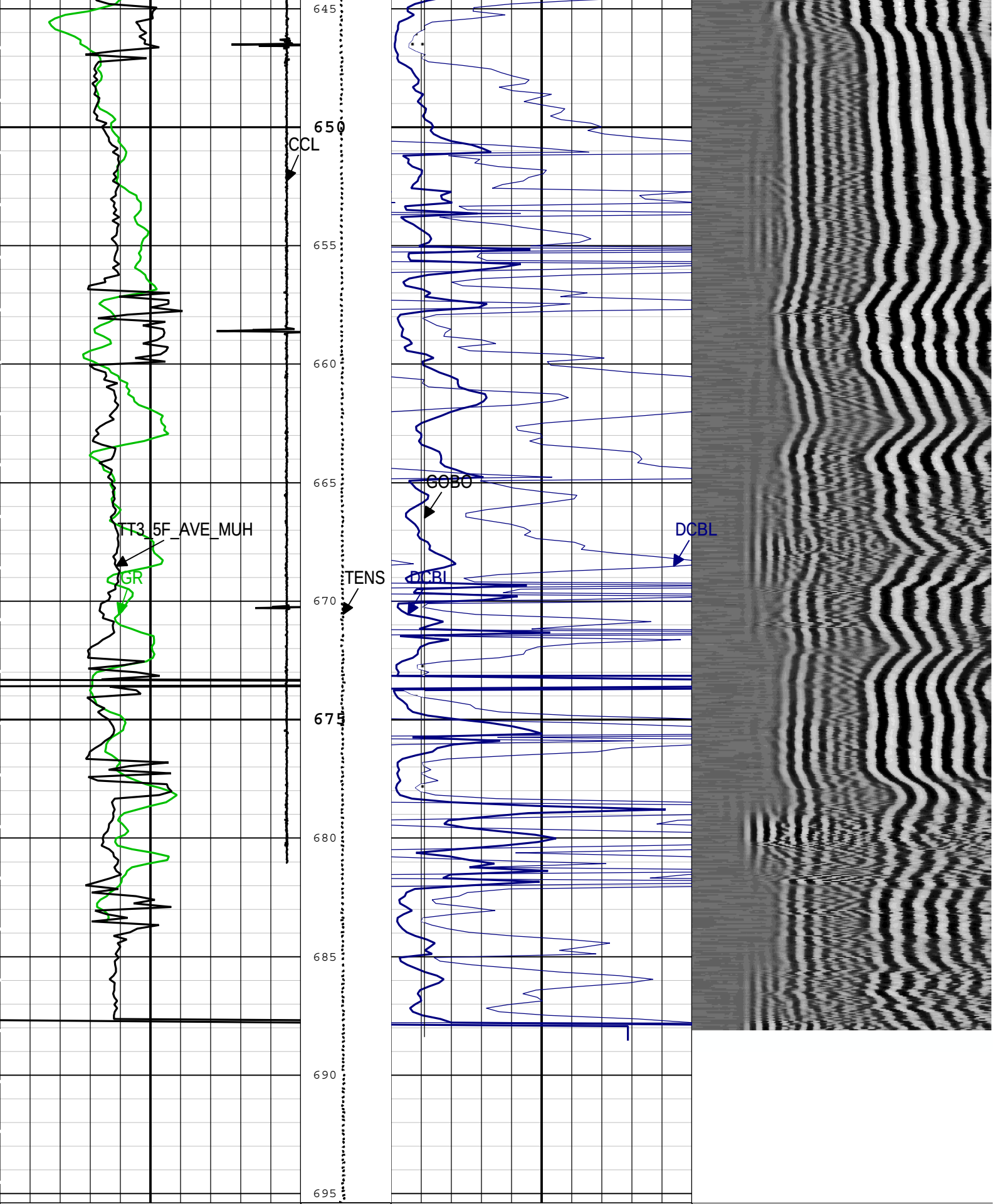
520
525
530
TT3_5F_AVE_MUH
GR
TENS
CCL
GOBO
DCBL
DCBL


535
540
545
550
555
560
565
570
575
580
585
TT3_5F_AVE_MUH
GR
TENS
GOBO
DCBL
DCBL


CCL
590
595
600
GOBO
605
TT3_5F_AVE_MUH
DCBL
GR
TENS
DCBL
610
615
620
625
630
635
640



Gamma Ray (GR) EDTC-B

0 gAPI 150

Transit Time 3.5 ft Average from Monopole Upper High Frequency Waveform (TT3_5F_AVE_MUH) MAST-B

Cable Tension (TENS)

0 lbf 3000

Synthetic CBL from Discriminated Attenuation (DCBL) MAST-B

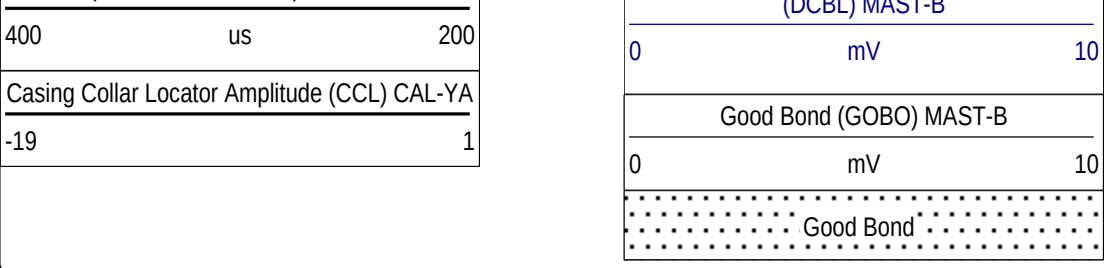
0 mV 50

Synthetic CBL from Discriminated Attenuation

Min Amplitude Max

Variable Density Log MAST-B

200 us 1200



TIME_1900 - Time Marked every 60.00 (s)

Description: MAST_CE_DCBL_3545 Format: Log (MAST_CE_DCBL_3545) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:54:39

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	938	m
CBRA	CBL LQC Reference Amplitude in Free Pipe	MAST-B	Depth Zoned	mV
CCL_MULTIPLIER	Casing Collar Locator Multiplier	CAL-YA	1	
CDEN.1	Cement Density	EDTC-B	2	g/cm3
CDEN.2	Cement Density	USIT-E	0	g/cm3
CMTY	Cement Type	USIT-E	Regular Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	Depth Zoned	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DCBLCTL	Discriminated Cement Bond Log Processing Control Flag	MAST-B	On	
DFD	Drilling Fluid Density	Borehole	8.26	lbm/gal
DTF	Delta-T Fluid	Borehole	189	us/ft
FMDCTL_MLH	First Motion Detection Processing Control Flag for Monopole Lower Transmitter High Frequency Firing	MAST-B	On	
FMDCTL_MUH	First Motion Detection Processing Control Flag for Monopole Upper Transmitter High Frequency Firing	MAST-B	On	
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
GOBO	Good Bond	MAST-B	Depth Zoned	mV
IBC_FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	5_UFSL_N_ZMUD	
IMAR	Image Rotation	USIT-E	Off	
MATT	Maximum Attenuation	MAST-B	Depth Zoned	dB/m
MODALCTL_MUH	Modal Decomposition Processing Control Flag for Monopole Upper Transmitter High Frequency Firing	MAST-B	On	
OCDI	Outer Casing Diameter	USIT-E	0	in
OCSH	Outer Casing Shoe	USIT-E	0	m
OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
RCTH	Reference Calibrator Thickness	USIT-E	0.217	in
SSCCTL_MLH	Sensor Sensitivity Correction Processing Control Flag for Monopole Lower Transmitter High Frequency Firing	MAST-B	On	
SSCCTL_MUH	Sensor Sensitivity Correction Processing Control Flag for Monopole Upper Transmitter High Frequency Firing	MAST-B	On	
TCUB	T^3 Processing Level	USIT-E	Loop	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFAO	SIT Flexural Attenuation Offset	USIT-E	5	dB/m
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	2950	m/s
UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	

UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
VDLCTL_MUH	Variable Density Log Processing Control Flag for Monopole Upper High Frequency Waveforms	MAST-B	On	
VDLSELCTL	Variable Density Log Selection Processing Control Flag	MAST-B	On	
WLEN	T^3 Processing Length	USIT-E	14.62	us
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl

Depth Zone Parameters

Parameter	Value	Start (m)	Stop (m)
BS	12.25	2.13	152
BS	8.5	152	318
BS	7.875	318	695.38
CBRA	70	2.13	695.38
CBRA	0	695.38	695.38
CTHILGR	0.352	2.13	147.8
CTHILGR	0.244	2.13	695.38
GOBO	1.1	2.13	695.38
GOBO	0	695.38	695.38
MATT	55.66	2.13	695.38
MATT	0	695.38	695.38

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
ACQ_DOMAIN	Custom Acquisition Domain Name	MAST-B	[UMHF, LMHF]	
CBOOTSTA_MAPC	MAMS Controller Boot Status	MAST-B	1	
CFWREV_MAPC	MAPC Firmware Revision of Controller Electronics	MAST-B	1840	
COMPCTL	Data Compression Control	MAST-B	[MZIPA, MZIPA]	
DHMODALCTL	Downhole/Surface Modal Computation Control	MAST-B	[OFF, OFF]	
DIGDEL	Waveform Digitizing Delay	MAST-B	[0, 0]	us
DIGDT	Sonic Waveform Digitizing Slowness	MAST-B	[0, 0]	us/ft
DIGTIME	Digitizing Time	MAST-B	[1200, 1200]	us
DIIN_WF_CHN	Dipole Inline Component Waveform Data Channel Name	MAST-B	[,]	
DIIN_WFN_CHN	Dipole Inline Component Waveform Normalization Data Channel Name	MAST-B	[,]	
DIOF_WF_CHN	Dipole Offline Component Waveform Data Channel Name	MAST-B	[,]	
DIOF_WFN_CHN	Dipole Offline Component Waveform Normalization Data Channel Name	MAST-B	[,]	
GNINT	Automatic Gain Selection Time Interval	MAST-B	[1200, 1200]	us
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	563	ft/h
MAX_TOOL_SPEED	Maximum service speed allowed for, or attained by, a logging tool.	MAST-B	Time Zoned	ft/h
MONO_WF_CHN	Monopole Component Waveform Data Channel Name	MAST-B	[RSWMUH_M, RSWMLH_M]	
MONO_WFN_CHN	Monopole Component Waveform Normalization Data Channel Name	MAST-B	[RSWMUHN_M, RSWMLHN_M]	
MSMT_LIST	Measurement List	MAST-B	[MUH, MLH]	
NUMMSMT	Number of active measurements	MAST-B	2	
PROD_CLASS	MAST Product Class Selection	MAST-B	CBL	
R10FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #10	MAST-B	1057	
R11FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #11	MAST-B	1057	
R12FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #12	MAST-B	1057	
R13FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #13	MAST-B	1057	
R1FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #1	MAST-B	1057	
R2FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #2	MAST-B	1057	

R3FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #3	MAST-B	1057	
R4FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #4	MAST-B	1057	
R5FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #5	MAST-B	1057	
R6FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #6	MAST-B	1057	
R7FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #7	MAST-B	1057	
R8FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #8	MAST-B	1057	
R9FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #9	MAST-B	1057	
RBOOTSTA_MAPC	MAMS Receiver Boot Status	MAST-B	1	
RXSEL	Receiver Station Select	MAST-B	[[Off, Off], [Off, Off], [Off, Off], [Off, Off], [On, On], [On, On], [On, On], [On, On], [On, On], [Off, Off], [Off, Off], [Off, Off], [Off, Off]]	
SAMINT	Sonic Waveform Sampling Interval	MAST-B	[10, 10]	
SERVICE_LIST	Service Selection List	MAST-B	[DCBLVDL]	
SNSR_WF_CHN	Sensor Waveforms Data Channel Name	MAST-B	[RSWMUH, RSWMLH]	
SNSR_WFN_CHN	Sensor Waveforms Normalization Factor Channel Name	MAST-B	[SWMUHN, SWMLHN]	
SNSRSEL	Sensor Element Select	MAST-B	[[On, On], [On, On], [On, On], [On, On], [On, On], [On, On], [On, On], [On, On]]	
TX_AMP	Transmitter Amplitude Factor	MAST-B	[FULL, FULL]	
TXSEL	Transmitter Drive Selection	MAST-B	[UM, LM]	
UFWB	Far Receiver Window Begin Time	USIT-E	139	us
UFWE	Far Receiver Window End Time	USIT-E	179	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	500000	Hz
UNWB	Near Receiver Window Begin Time	USIT-E	108	us
UNWE	Near Receiver Window End Time	USIT-E	148	us
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 600 KHz	
USI_UWKM	USIT Working Mode	USIT-E	5 deg at 1.5 in HF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	696	m
UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	1.5 in	
WF_CR_CHN	Waveform Compression Rate Channel Name	MAST-B	[WCRMUH, WCRMLH]	
WF_DEPTH_CHN	Waveform Depth Channel Name	MAST-B	[WDMUH, WDMLH]	
WF_QI_CHN	Waveform Quality Indicator Channel Name	MAST-B	[WQMUH, WQMLH]	
WFSEL	Transmitter Drive Waveform Selection	MAST-B	[mp_hf_d, mp_hf_d]	
WINB	Window Begin Time	USIT-E	35.13	us
WINE	Window End Time	USIT-E	75.13	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (m)	Stop Depth (m)
MAX_TOOL_SPEED	2100	08-Dec-2013 06:33:03	08-Dec-2013 07:06:12	695.38	624.17
MAX_TOOL_SPEED	2240	08-Dec-2013 07:06:12	08-Dec-2013 07:12:14	624.17	611.22
MAX_TOOL_SPEED	2100	08-Dec-2013 07:12:14	08-Dec-2013 07:14:15	611.22	606.91
MAX_TOOL_SPEED	2229	08-Dec-2013 07:14:15	08-Dec-2013 07:24:19	606.91	585.25
MAX_TOOL_SPEED	2115	08-Dec-2013 07:24:19	08-Dec-2013 08:15:39	585.25	473.26
MAX_TOOL_SPEED	2228	08-Dec-2013 08:15:39	08-Dec-2013 08:23:42	473.26	455.72
MAX_TOOL_SPEED	2104	08-Dec-2013 08:23:42	08-Dec-2013 08:45:51	455.72	408.58
MAX_TOOL_SPEED	2231	08-Dec-2013 08:45:51	08-Dec-2013 08:50:52	408.58	397.92
MAX_TOOL_SPEED	2100	08-Dec-2013 08:50:52	08-Dec-2013 10:45:37	397.92	149.28
MAX_TOOL_SPEED	1993	08-Dec-2013 10:45:37	08-Dec-2013 11:42:00	149.28	25.72
MAX_TOOL_SPEED	2100	08-Dec-2013 11:42:00	08-Dec-2013 11:46:02	25.72	21.34

MAX_TOOL_SPEED	1980	08-Dec-2013 11:46:02	08-Dec-2013 11:48:27	21.34	16.44

All depth are at tool zero.

IBC-CBL

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
IBC-CBL	Log[4]:Up	Up	16.44 m	695.38 m	08-Dec-2013 6:33:03 AM	08-Dec-2013 11:48:27 AM	0.32 m	
IBC-CBL	Repeat[5]:Up	Up	99.04 m	210.38 m	08-Dec-2013 12:01:55 PM	08-Dec-2013 1:02:19 PM	0.32 m	true

All depths are referenced to toolstring zero

Log

IBC-CBL: Repeat[5]:Up

Description: MAST_CE_DCBL_3545 Format: Log (MAST_CE_DCBL_3545 RA) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth
Creation Date: 08-Dec-2013 13:54:45

TIME_1900 - Time Marked every 60.00 (s)

Main To Repeat

Repeat To Main

Casing Collar Locator Amplitude (CCL) CAL-YA

-19 1

Main To Repeat

Repeat To Main

Transit Time 3.5 ft Average from Monopole Upper High Frequency Waveform (TT3_5F_AVE_MUH) MAST-B

400 us 200

Main To Repeat

Repeat To Main

Detection Minimum Slowness from Monopole Lower Transmitter High Frequency Firing (DT_MIN_MLH) MAST-B

40 us/ft 140

Main To Repeat

Repeat To Main

Cable Speed (CS)

0 ft/h 2000

Main To Repeat

Repeat To Main

Gamma Ray (GR) EDTC-B

0 gAPI 150

Main To Repeat

Main To Repeat

Repeat To Main

Synthetic CBL from Discriminated Attenuation (DCBL) MAST-B

Repeat To Main

Fixed Detection Length for from Monopole Lower Transmitter High Frequency Firing (FDET_LEN_MLH) MAST-B

40 us 240

Main To Repeat

Repeat To Main

Fixed Detection Start from Monopole Lower Transmitter High Frequency Firing (FDET_STRT_MLH) MAST-B

100 us 300

Main To Repeat

Repeat To Main

Cable Tension (TENS)

0 lbf 3000

(DCBL) MAST-B

0 mV 50

Main To Repeat

Repeat To Main

Synthetic CBL from Discriminated Attenuation (DCBL) MAST-B

0 mV 10

Main To Repeat

Repeat To Main

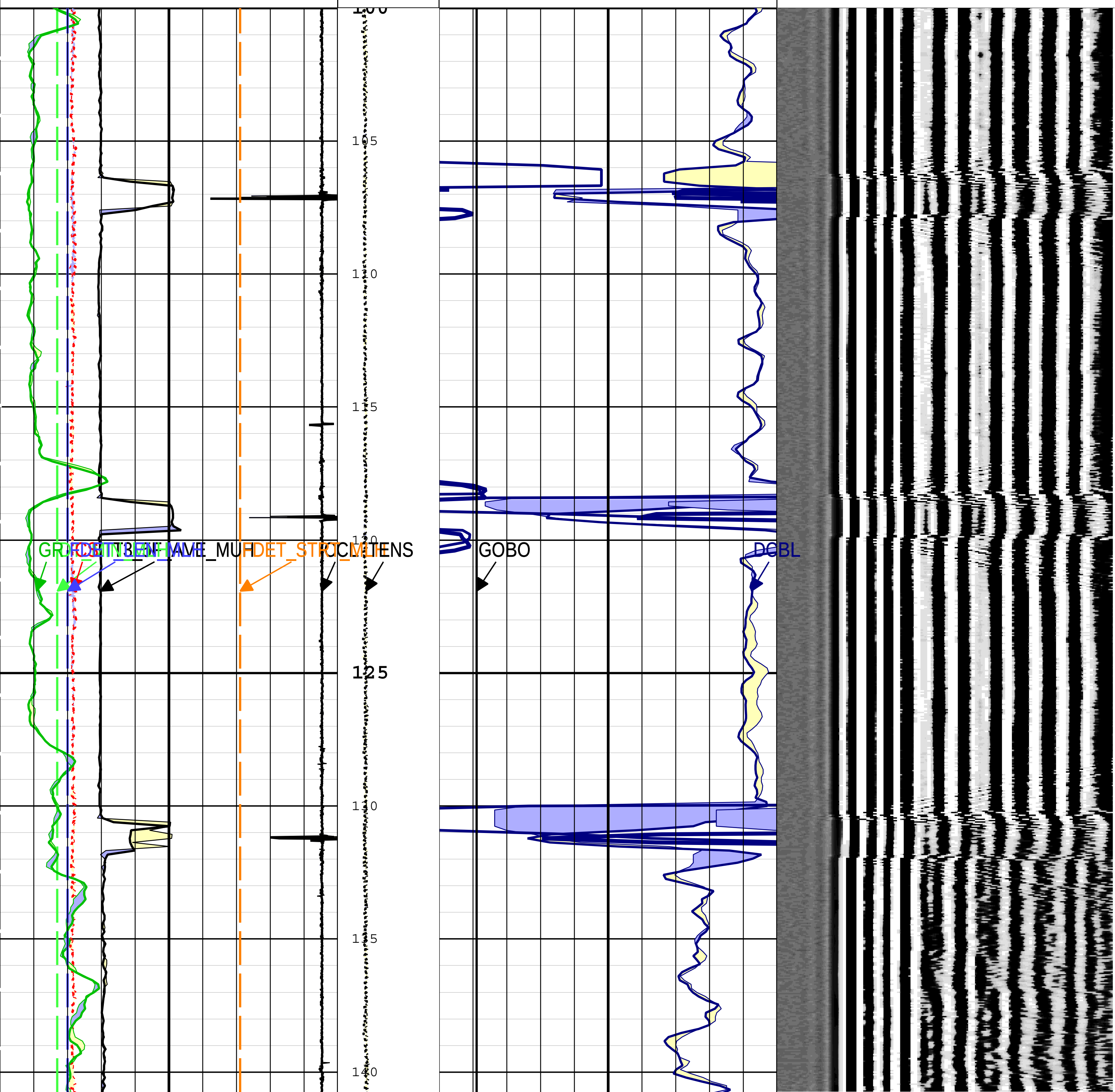
Good Bond (GOBO) MAST-B

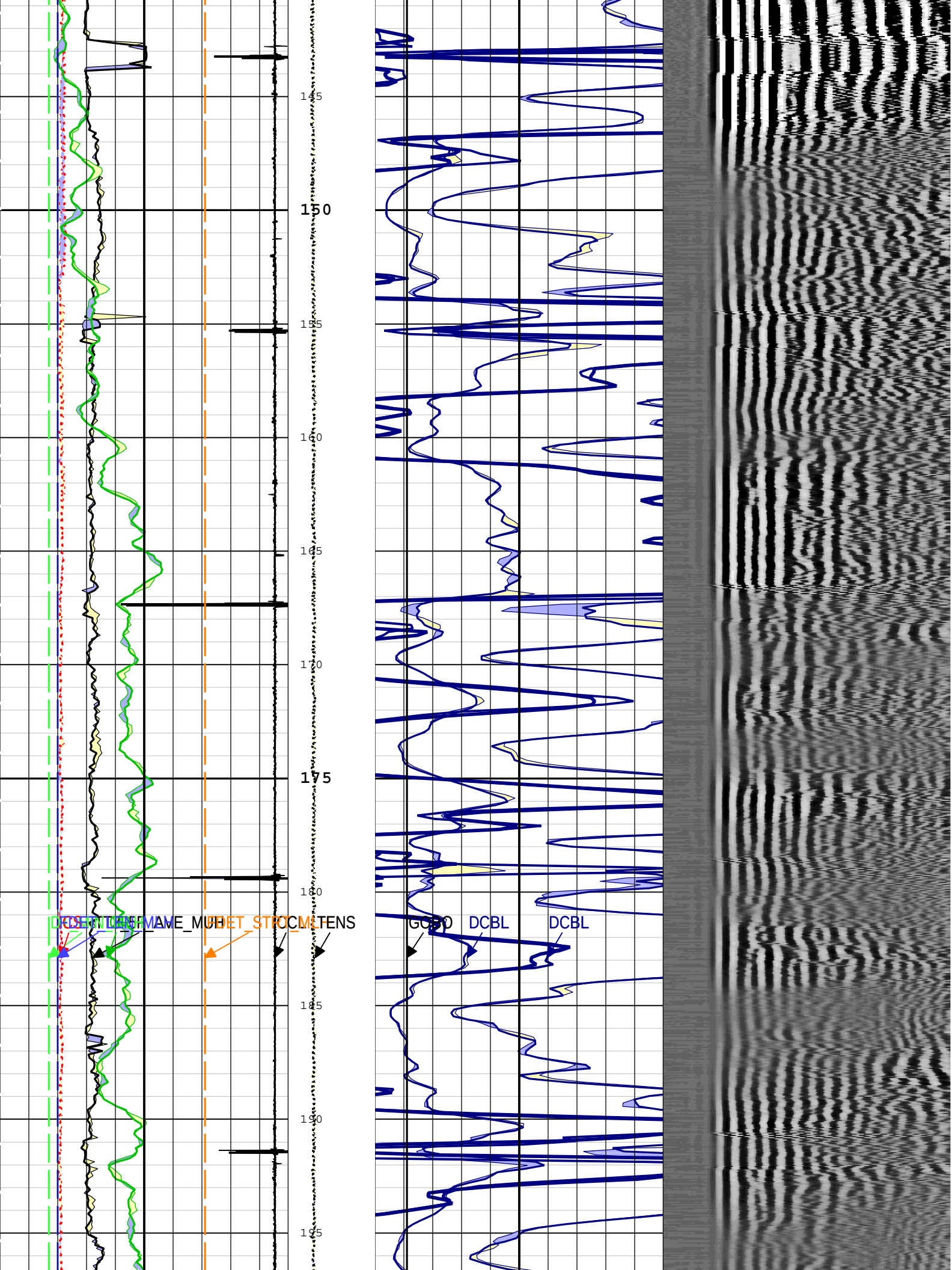
0 mV 10

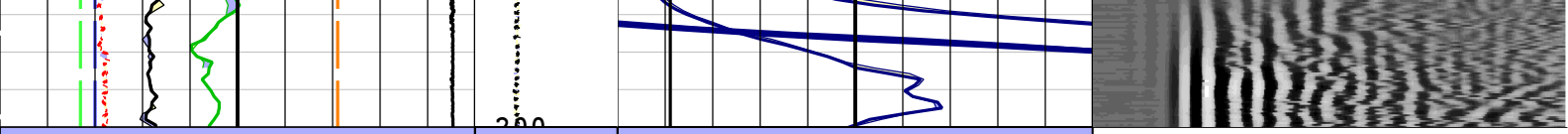
Min Amplitude Max

Variable Density Log MAST-B

200 us 1200




150
175
TENS
GCBO
DCBL
DCBL



Main To Repeat

Repeat To Main

Casing Collar Locator Amplitude (CCL) CAL-YA

-19 1

Main To Repeat

Repeat To Main

Transit Time 3.5 ft Average from Monopole Upper High Frequency Waveform (TT3_5F_AVE_MUH) MAST-B

400 us 200

Main To Repeat

Repeat To Main

Detection Minimum Slowness from Monopole Lower Transmitter High Frequency Firing (DT_MIN_MLH) MAST-B

40 us/ft 140

Main To Repeat

Repeat To Main

Cable Speed (CS)

0 ft/h 2000

Main To Repeat

Repeat To Main

Gamma Ray (GR) EDTC-B

0 gAPI 150

Main To Repeat

Repeat To Main

Fixed Detection Length for from Monopole Lower Transmitter High Frequency Firing (FDET_LEN_MLH) MAST-B

40 us 240

Main To Repeat

Repeat To Main

Fixed Detection Start from Monopole Lower Transmitter High Frequency Firing (FDET_STRT_MLH) MAST-B

100 us 300

Main To Repeat

Repeat To Main

Cable Tension (TENS)

0 lbf 3000

Main To Repeat

Repeat To Main

Synthetic CBL from Discriminated Attenuation (DCBL) MAST-B

0 mV 50

Main To Repeat

Repeat To Main

Synthetic CBL from Discriminated Attenuation (DCBL) MAST-B

0 mV 10

Main To Repeat

Repeat To Main

Good Bond (GOBO) MAST-B

0 mV 10

Min Amplitude Max

Variable Density Log MAST-B

200 us 1200

TIME_1900 - Time Marked every 60.00 (s)

Description: MAST_CE_DCBL_3545 Format: Log (MAST_CE_DCBL_3545 RA) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth
Creation Date: 08-Dec-2013 13:54:45

IBC-CBL

Main Pass: IBC SLG Composite

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
IBC-CBL	Log[4]:Up	Up	16.44 m	695.38 m	08-Dec-2013 6:33:03 AM	08-Dec-2013 11:48:27 AM	0.32 m	

All depths are referenced to toolstring zero

Log

IBC-CBL: Log[4]:Up

Description: USI IBC SLG Composite Format: Log (USI IBC SLG Composite) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:54:52

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

Cable Drag

Tool_Tot. Drag

Azimuth of Eccentering (AZEC) USIT-E
0 deg 360

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-20 in 20

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

Gamma Ray (GR) EDTC-B
0 gAPI 150

Motor Revolution Speed (RSAV) USIT-E
Absent 1.500 3.500

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - AWBK USIT-E (dB)

External Radii Average (ERAV) USIT-E
3 in 1.9

External Radii Average (ERAV) USIT-E
1.9 in 3

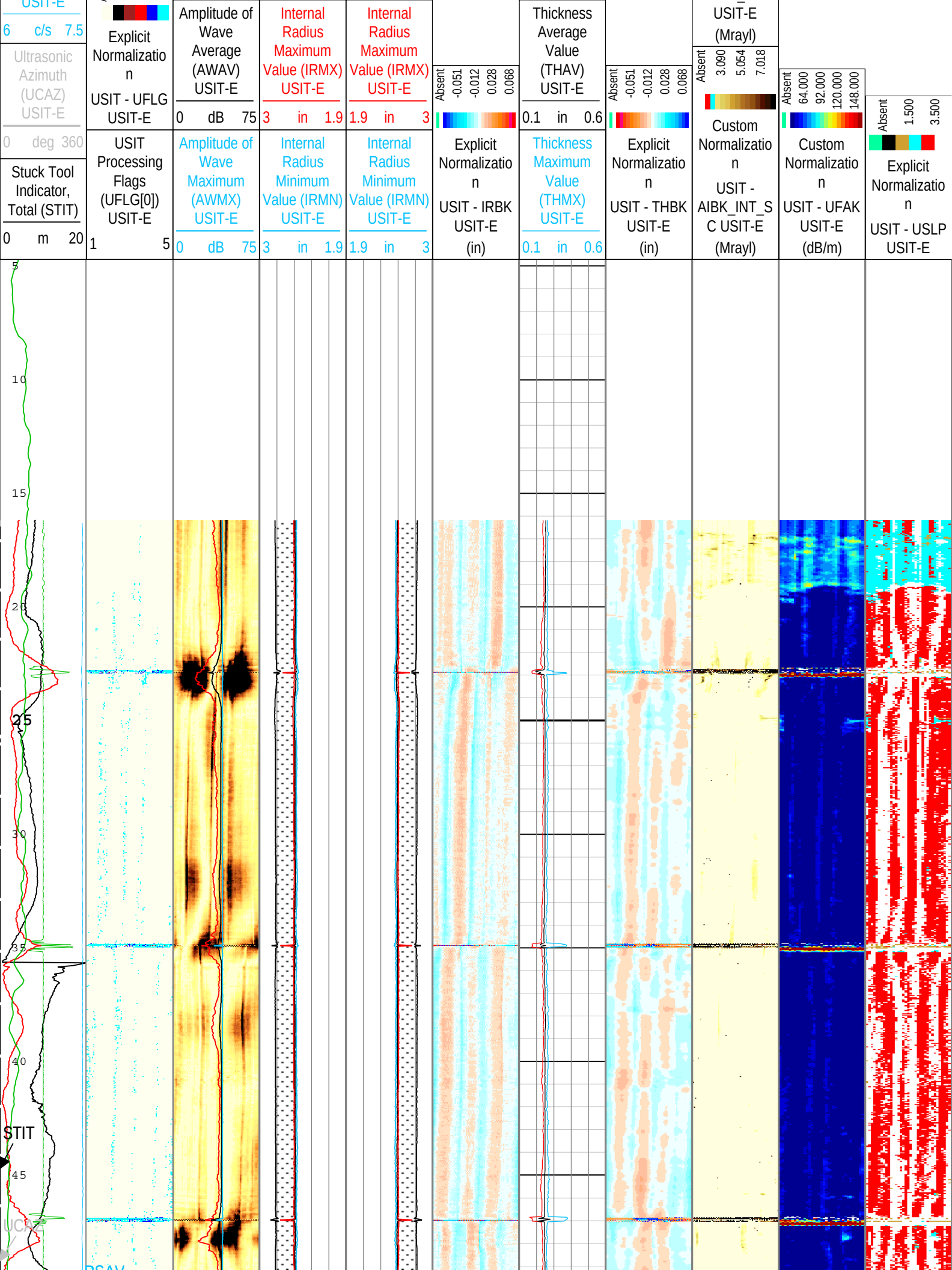
Amplitude of Wave Minimum (AWMN) USIT-E
0 dB 75

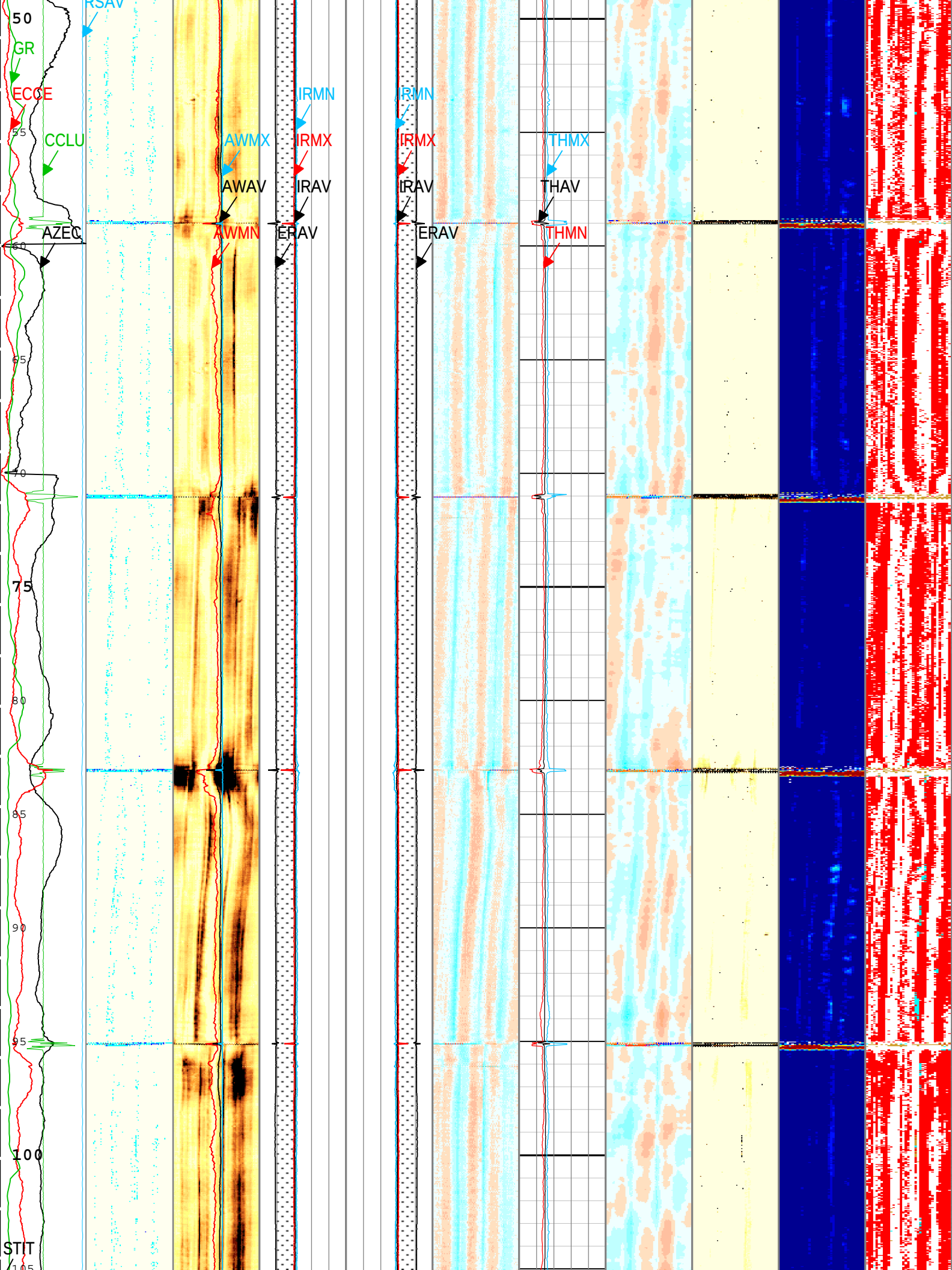
Internal Radius Averaged Value (IRAV) USIT-E
3 in 1.9

Internal Radius Averaged Value (IRAV) USIT-E
1.9 in 3

Thickness Minimum Value (THMN) USIT-E
0.1 in 0.6

Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT - AIBK_SC


USIT-E
6 c/s 7.5
Ultrasonic Azimuth (UCAZ) USIT-E
0 deg 360
Stuck Tool Indicator, Total (STIT)
0 m 20
Explicit Normalization
USIT - UFLG USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
Amplitude of Wave Average (AWAV) USIT-E
0 dB 75
Amplitude of Wave Maximum (AWMX) USIT-E
0 dB 75
Internal Radius Maximum Value (IRMX) USIT-E
3 in 1.9
Internal Radius Minimum Value (IRMN) USIT-E
3 in 1.9
Internal Radius Maximum Value (IRMX) USIT-E
1.9 in 3
Internal Radius Minimum Value (IRMN) USIT-E
1.9 in 3
Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - IRBK USIT-E (in)
Thickness Average Value (THAV) USIT-E
0.1 in 0.6
Thickness Maximum Value (THMX) USIT-E
0.1 in 0.6
Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - THBK USIT-E (in)
USIT-E (Mrayl)
Absent 3.090 5.054 7.018
Custom Normalization
USIT - AIBK_INT_SC USIT-E (Mrayl)
Absent 64.000 92.000 120.000 148.000
Custom Normalization
USIT - UFAK USIT-E (dB/m)
Absent 1.500 3.500
Explicit Normalization
USIT - USLP USIT-E
5
10
15
20
25
30
35
40
45
STIT
UCAZ
RSAV


RSAV
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AZEC
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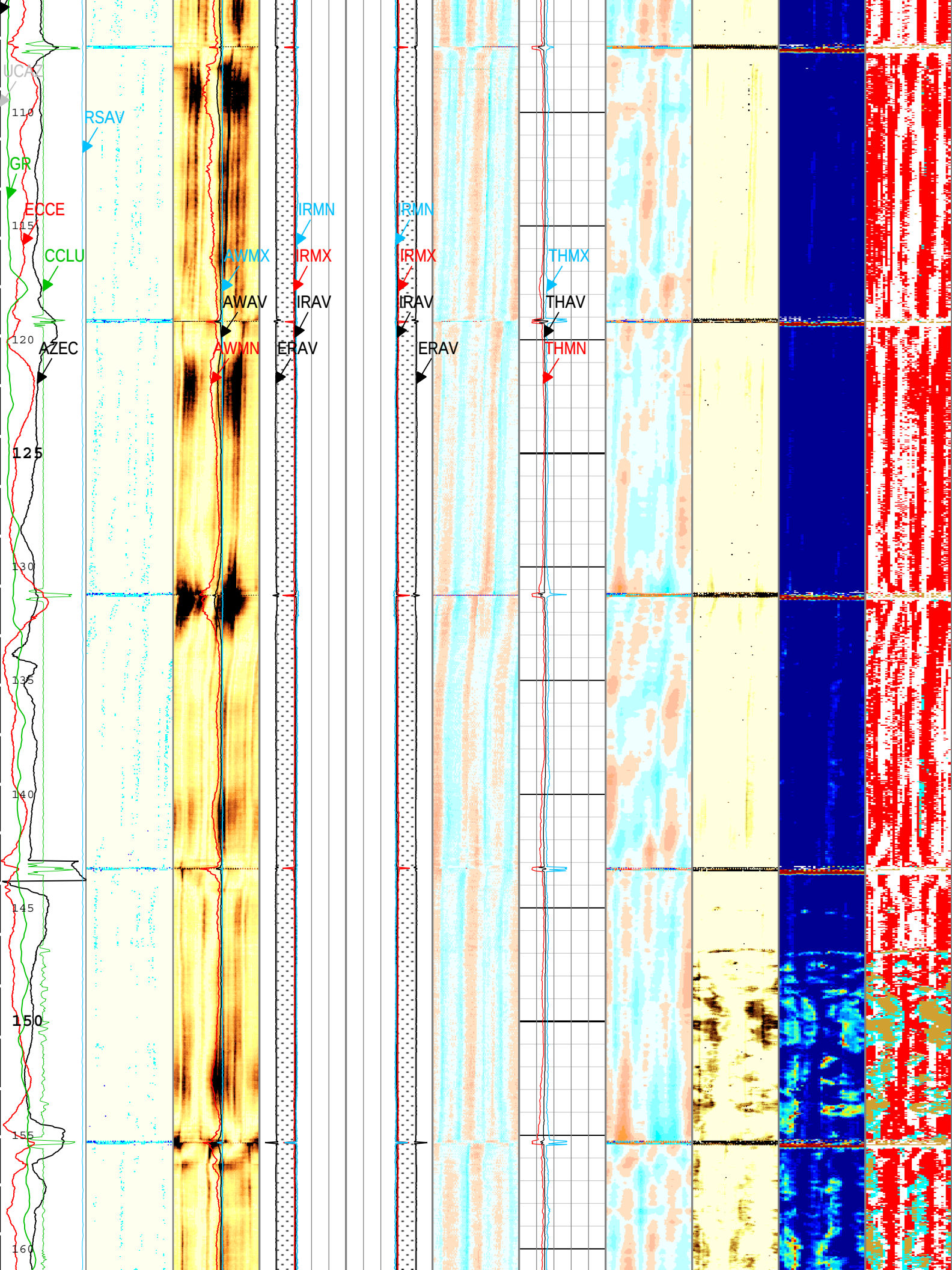
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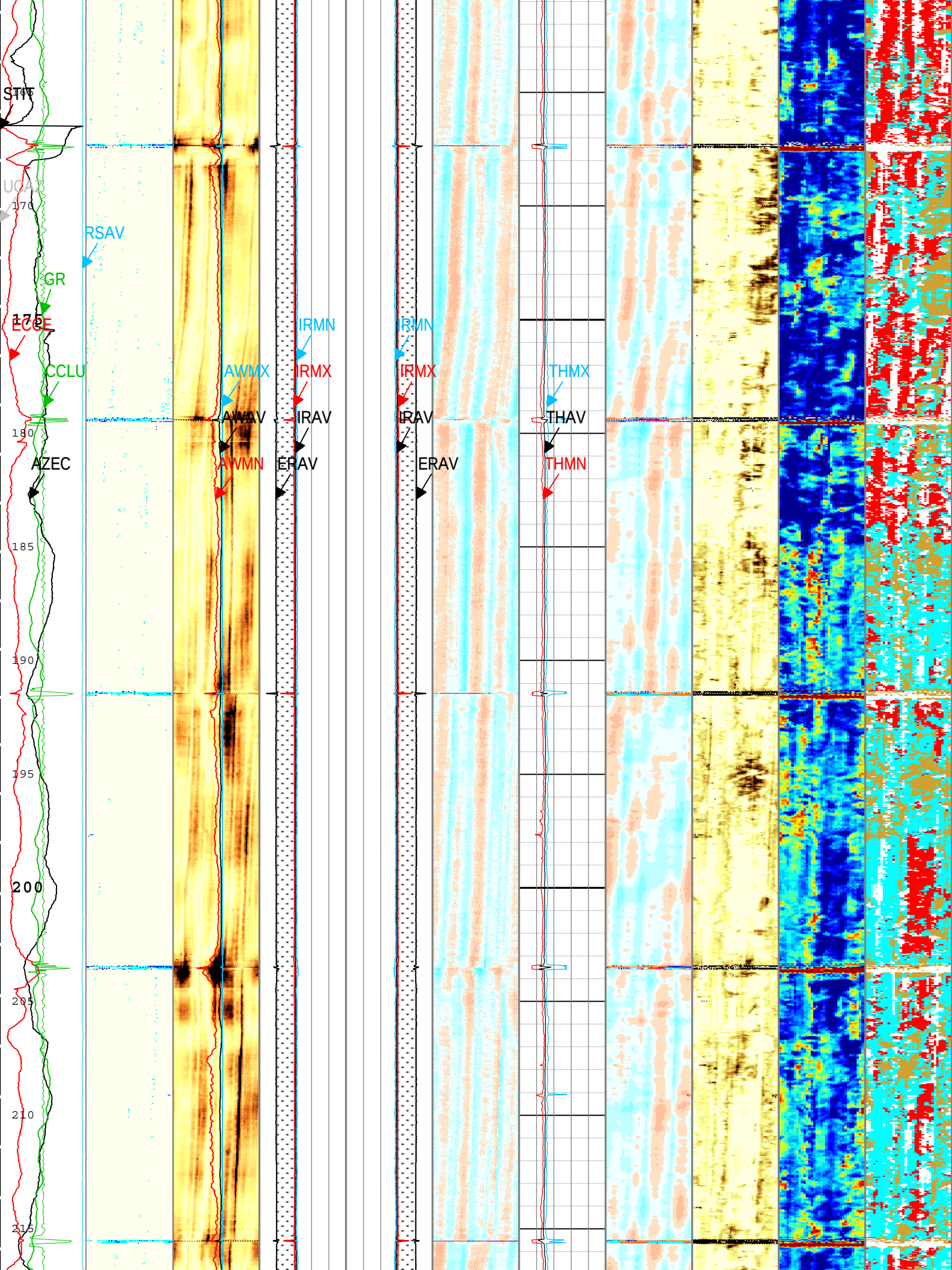
THMN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THAV
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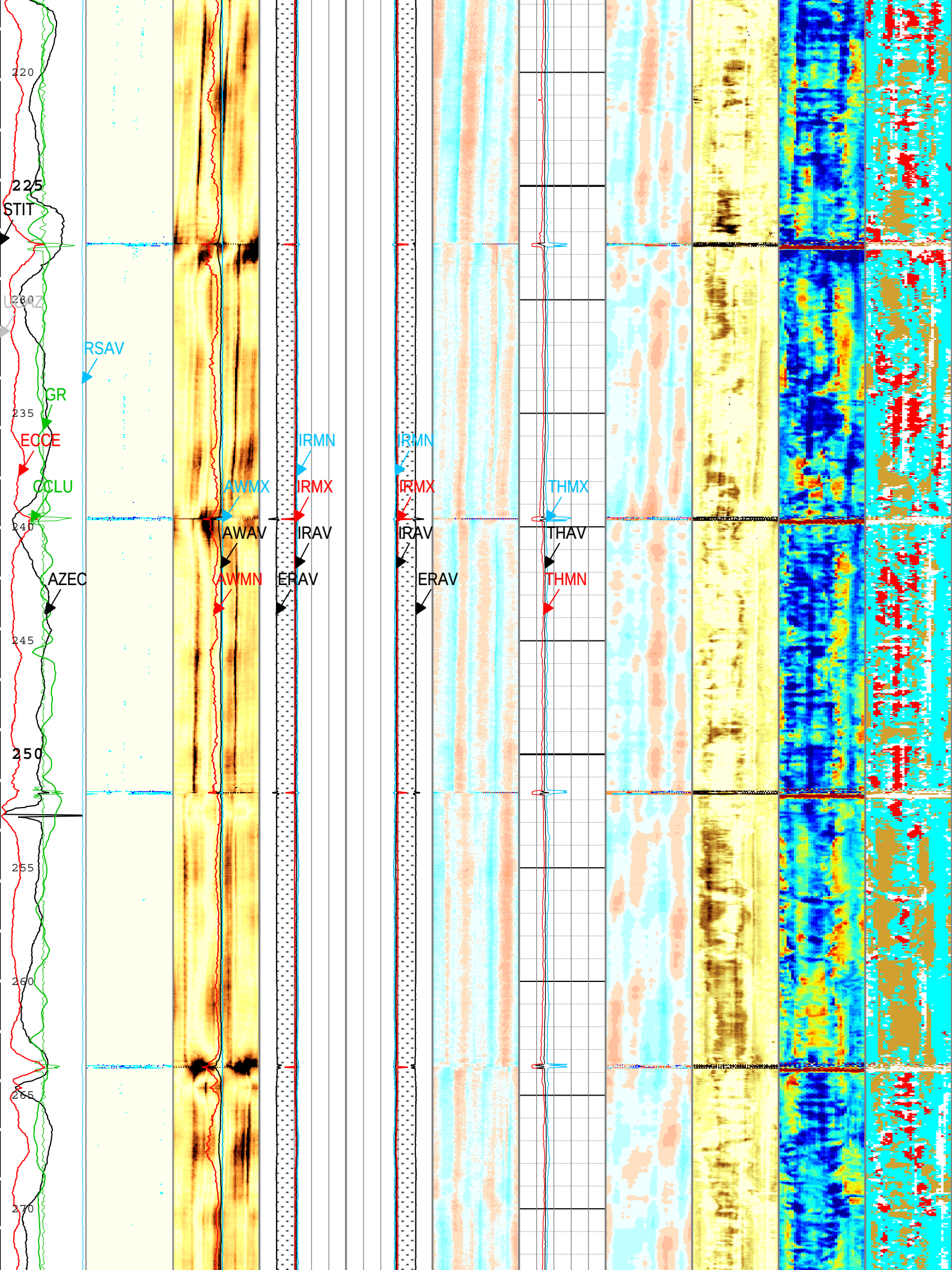
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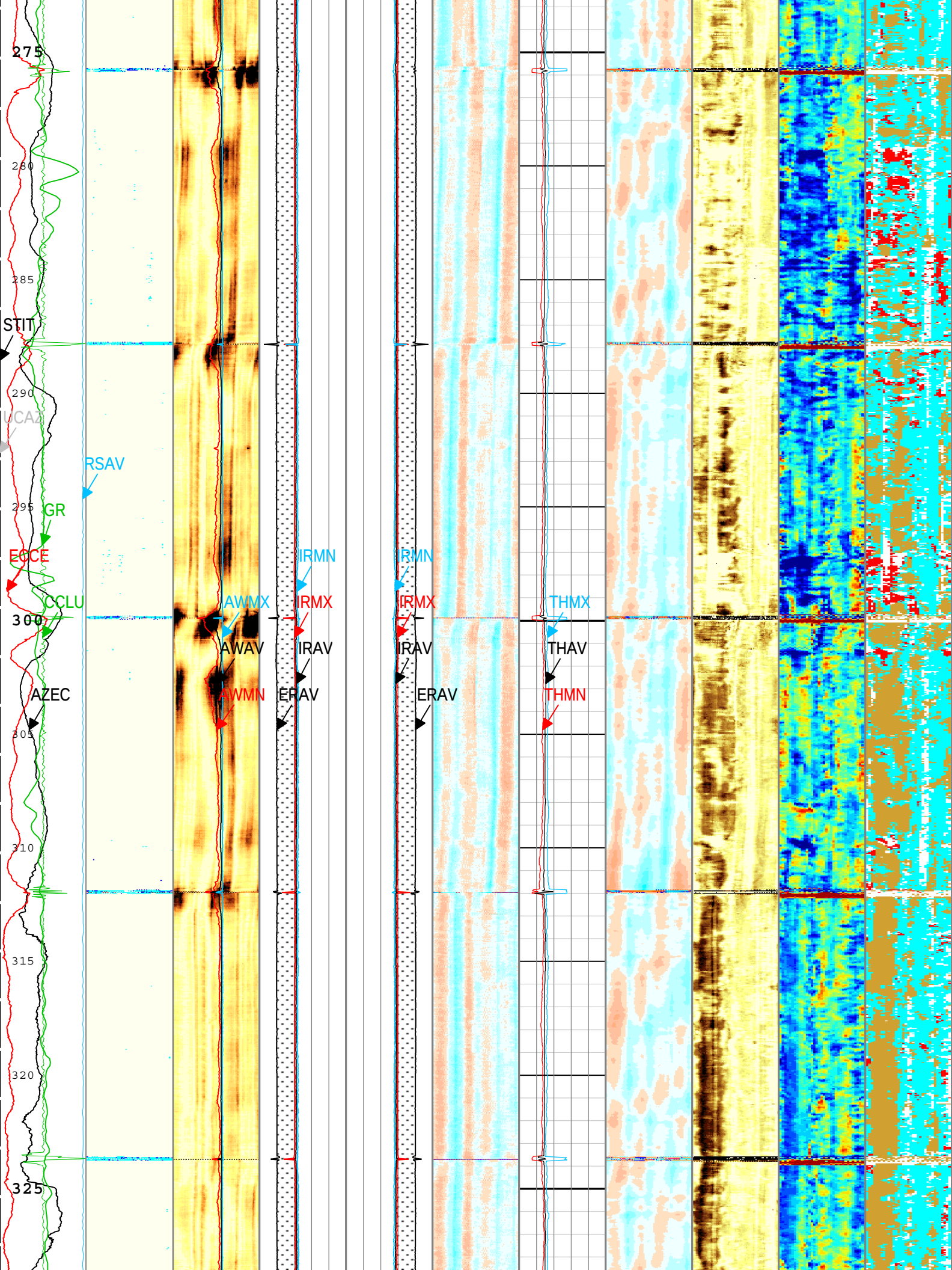
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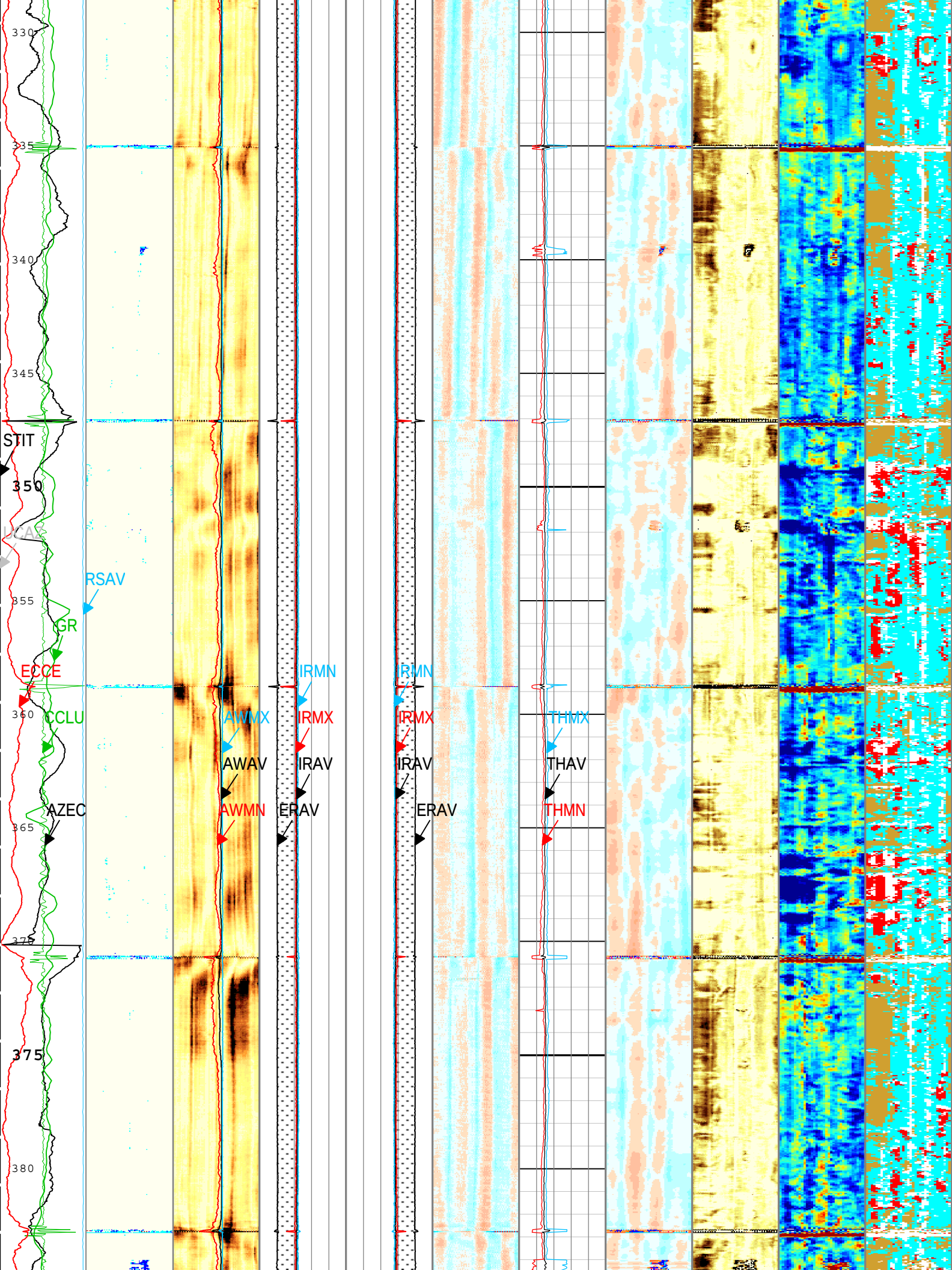
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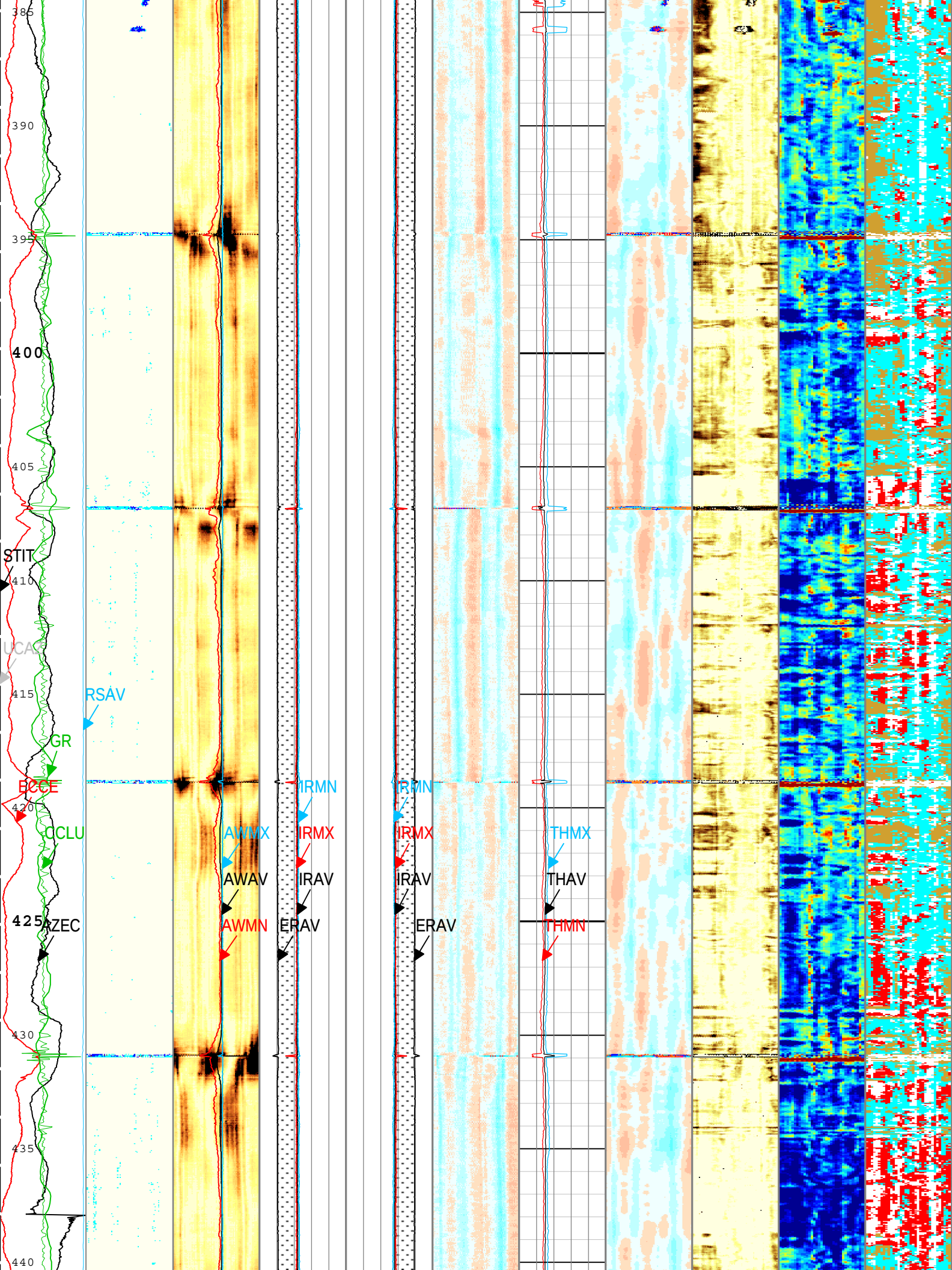
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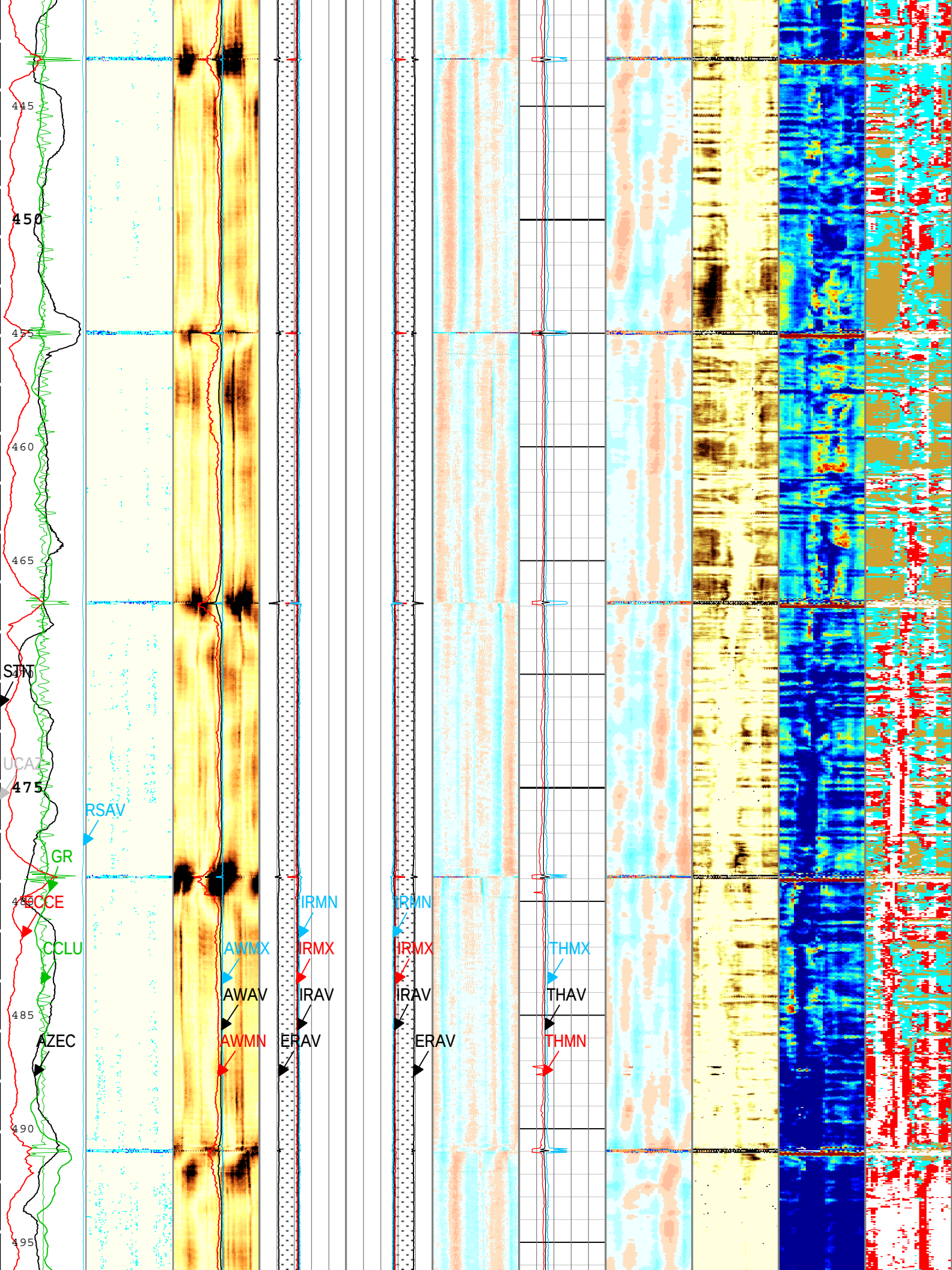
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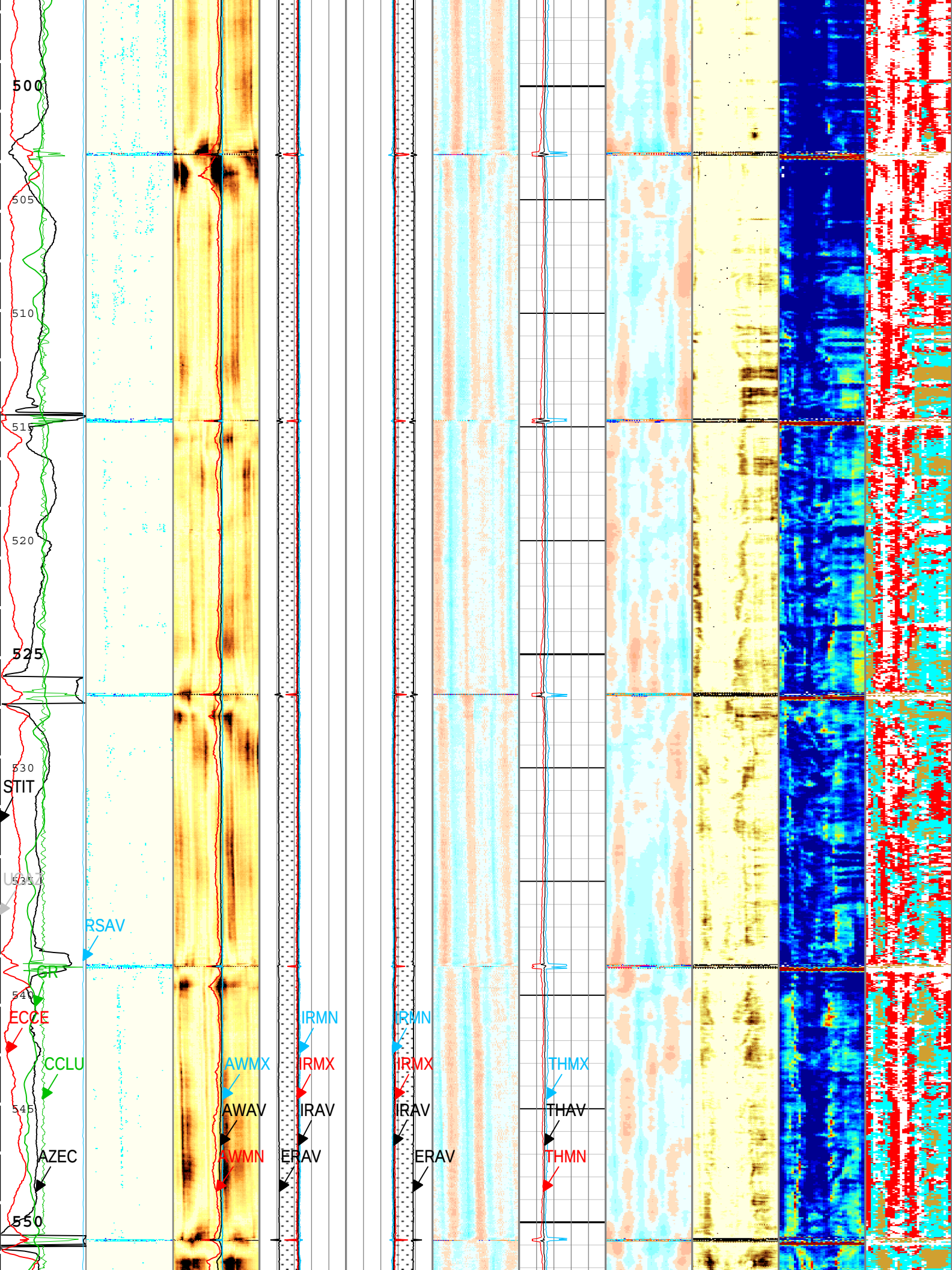
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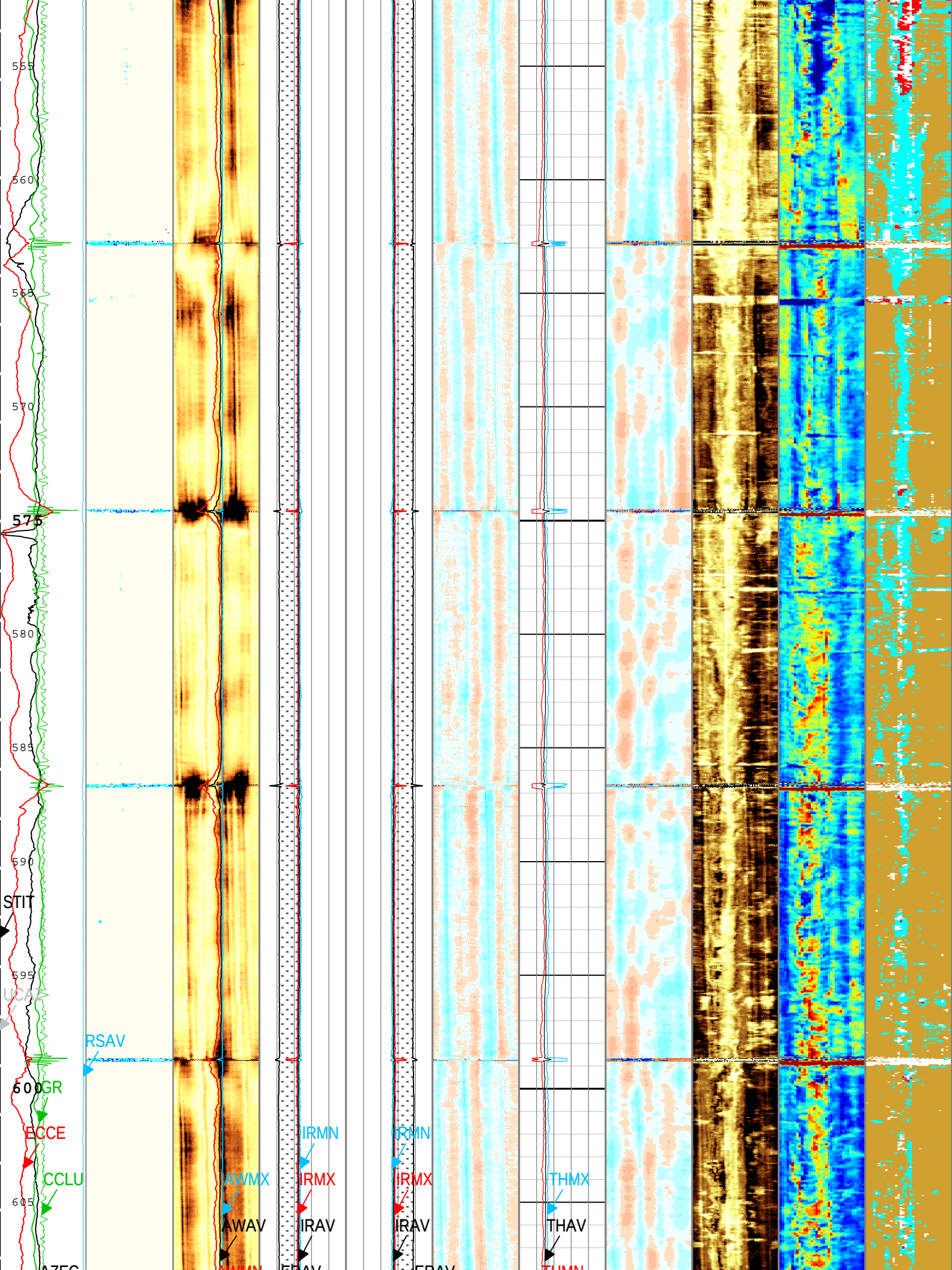
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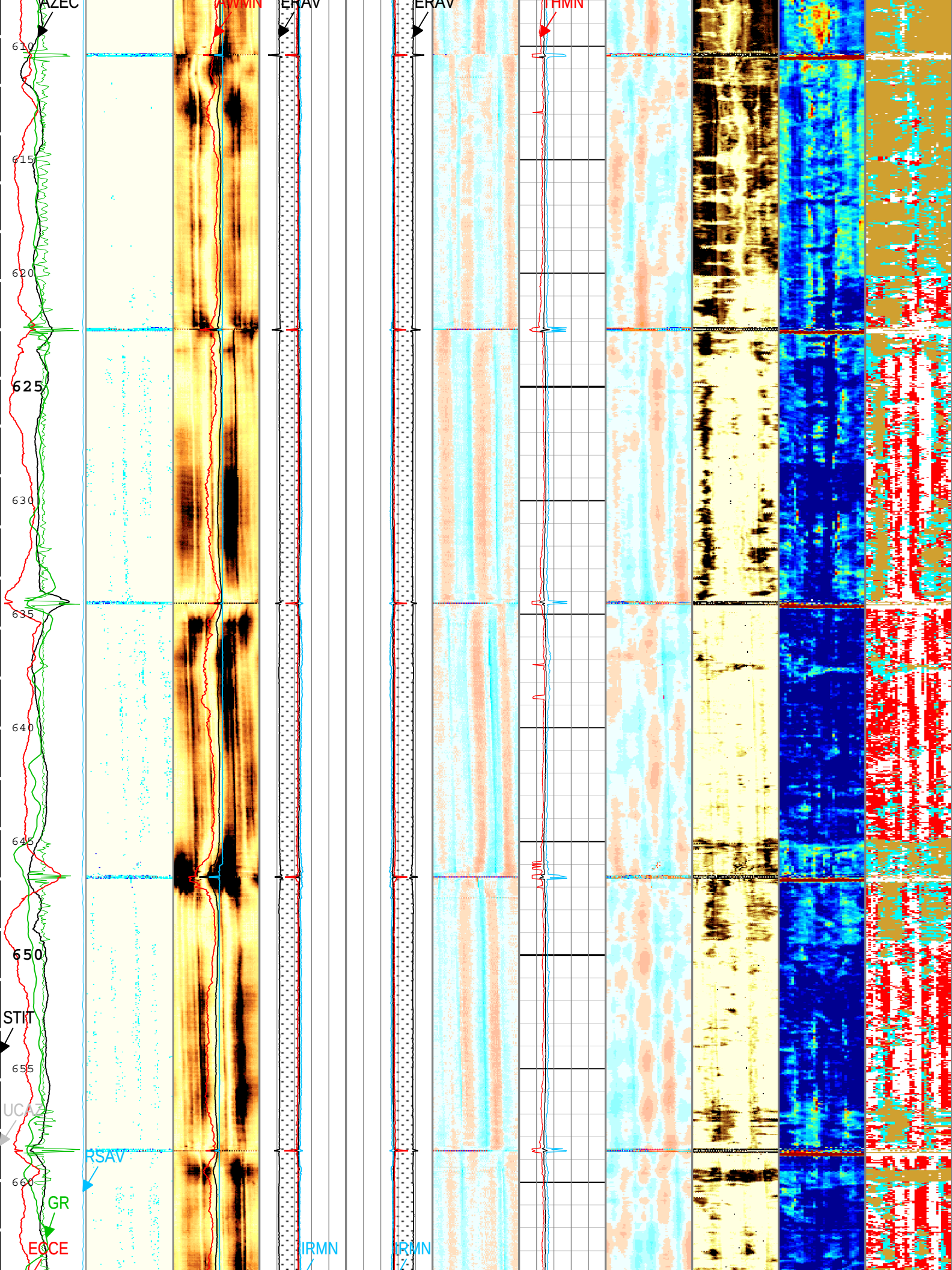
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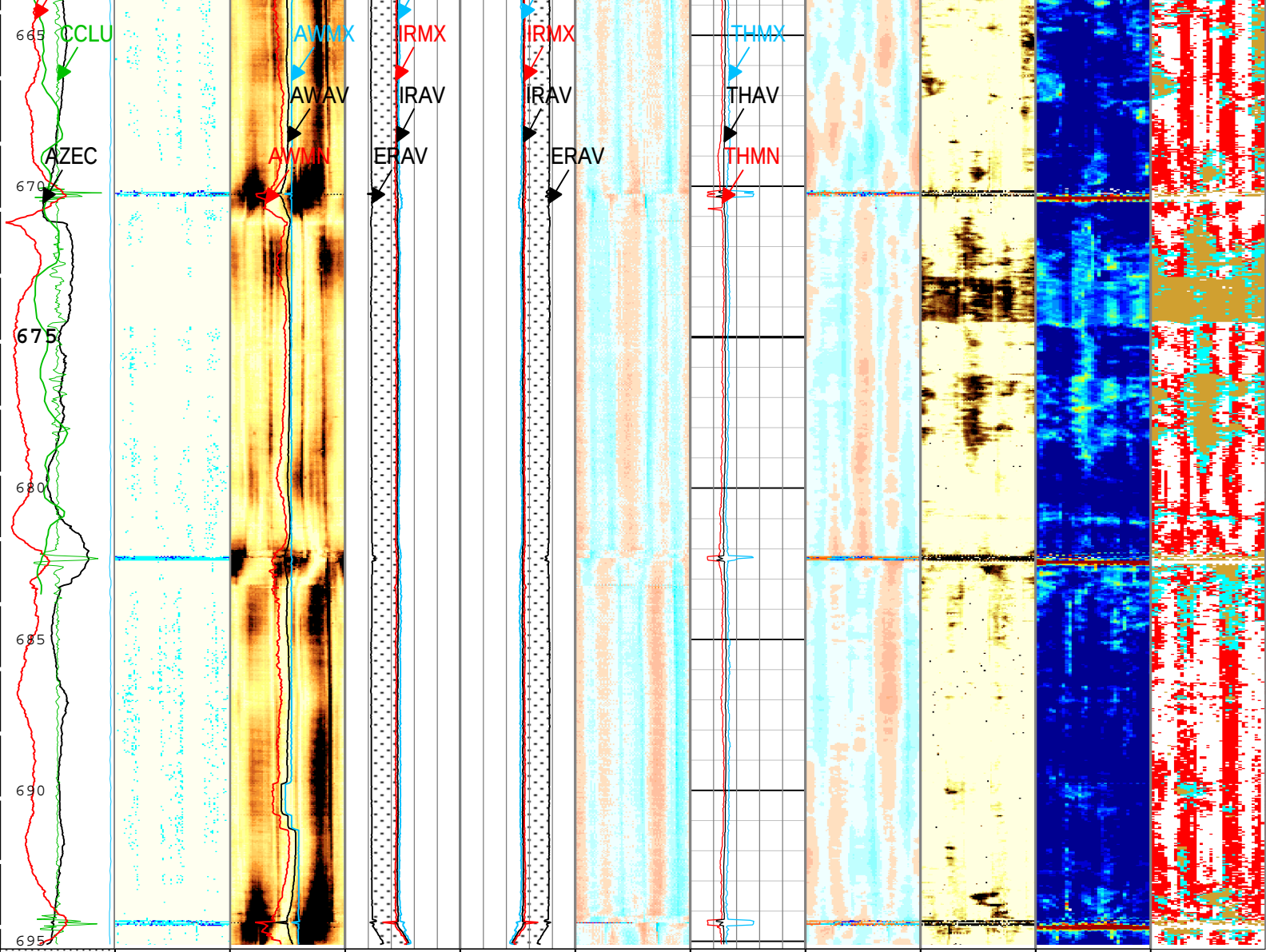


Cable Drag

Tool_Tot. Drag

Azimuth of Eccentering (AZEC) USIT-E

0 deg 360

Casing Collar Locator Ultrasonic (CCLU) USIT-E

-20 in 20

Amplitude of Eccentering (ECCE) USIT-E

0 in 0.5

Gamma Ray (GR) EDTC-B

0 gAPI 150

Absent 1.500 3.500

Explicit Normalization

USIT - UFLG USIT-E

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

1 5

Absent -5.200 -3.600 -2.000 -0.400

Explicit Normalization

USIT - AWBK USIT-E (dB)

Amplitude of Wave Minimum (AWMN) USIT-E

0 dB 75

Amplitude of Wave Average (AWAV) USIT-E

0 dB 75

Amplitude of Wave Maximum (AWMX)

External Radii Average (ERAV) USIT-E

3 in 1.9

Internal Radius Averaged Value (IRAV) USIT-E

3 in 1.9

Internal Radius Maximum Value (IRMX) USIT-E

3 in 1.9

Internal Radius Minimum Value (IRMN) USIT-E

3 in 1.9

External Radii Average (ERAV) USIT-E

1.9 in 3

Internal Radius Averaged Value (IRAV) USIT-E

1.9 in 3

Internal Radius Maximum Value (IRMX) USIT-E

1.9 in 3

Internal Radius Minimum Value (IRMN) USIT-E

1.9 in 3

Absent -0.051 -0.012 0.028 0.068

Explicit Normalization

USIT - IRBK USIT-E (in)

Thickness Minimum Value (THMN) USIT-E

0.1 in 0.6

Thickness Average Value (THAV) USIT-E

0.1 in 0.6

Thickness Maximum Value (THMX) USIT-E

0.1 in 0.6

Absent -0.051 -0.012 0.028 0.068

Explicit Normalization

USIT - THBK USIT-E (in)

Absent 1.500 3.500 5.500 7.500

Custom Normalization

USIT - AIBK_SC USIT-E (Mrayl)

Absent 3.090 5.054 7.018

Custom Normalization

USIT - AIBK_INT_SC USIT-E (Mrayl)

Absent 64.000 92.000 120.000 148.000

Custom Normalization

USIT - UFAK USIT-E (dB/m)

Absent 1.500 3.500

Explicit Normalization

USIT - USLP USIT-E

USIT-E

0 dB 75

Motor Revolution Speed (RSAV) USIT-E

6 c/s 7.5

Ultrasonic Azimuth (UCAZ) USIT-E

0 deg 360

Stuck Tool Indicator, Total (STIT)

0 m 20

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 IBC SLG Composite Format: Log (USI IBC SLG Composite) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:54:52

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	938	m
CDEN.1	Cement Density	USIT-E	0	g/cm3
CDEN.2	Cement Density	EDTC-B	2	g/cm3
CMTY	Cement Type	USIT-E	Regular Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	Depth Zoned	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.26	lbm/gal
DTMD	Borehole Fluid Slowness	Borehole	211.09	us/ft
FDII	FPM Data Interpolation Interval	USIT-E	0	m
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
IBC_FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	5_UFSL_N_ZMUD	
IMAR	Image Rotation	USIT-E	Off	
OCDI	Outer Casing Diameter	USIT-E	0	in
OCSH	Outer Casing Shoe	USIT-E	0	m
OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
RCTH	Reference Calibrator Thickness	USIT-E	0.217	in
TCUB	T^3 Processing Level	USIT-E	Loop	
TD	Total Measured Depth	Borehole	703	m
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl

UFAO	SIT Flexural Attenuation Offset	USIT-E	5	dB/m
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	2950	m/s
UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
WLEN	T^3 Processing Length	USIT-E	14.62	us
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	1.44	Mrayl

Depth Zone Parameters

Parameter	Value	Start (m)	Stop (m)
BS	12.25	4.72	152
BS	8.5	152	318
BS	7.875	318	695.25
CTHILGR	0.352	4.72	147.8
CTHILGR	0.244	4.72	695.25

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
DDT5	USIC Downhole Decimation for T5 only (SPOOF)	USIT-E	0_NONE	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	5 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	563	ft/h
TMUC	Type of Mud	USIT-E	BRI	
UFWB	Far Receiver Window Begin Time	USIT-E	139	us
UFWE	Far Receiver Window End Time	USIT-E	179	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	500000	Hz
UNWB	Near Receiver Window Begin Time	USIT-E	108	us
UNWE	Near Receiver Window End Time	USIT-E	148	us
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 600 KHz	
USI_UWKM	USIT Working Mode	USIT-E	5 deg at 1.5 in HF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	696	m
UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	1.5 in	
WINB	Window Begin Time	USIT-E	35.13	us
WINE	Window End Time	USIT-E	75.13	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (m)	Stop Depth (m)
EMXV	100	08-Dec-2013 06:33:03	08-Dec-2013 06:35:22	695.38	691.58
EMXV	60	08-Dec-2013 06:35:22	08-Dec-2013 06:35:36	691.58	691.09
EMXV	40	08-Dec-2013 06:35:36	08-Dec-2013 06:36:06	691.09	690.04
EMXV	60	08-Dec-2013 06:36:06	08-Dec-2013 06:56:09	690.04	646.31
EMXV	80	08-Dec-2013 06:56:09	08-Dec-2013 11:48:27	646.31	16.44

All depth are at tool zero.

IBC-CBL

Main Pass: IBC - CBL- VDL

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit

Pass Summary

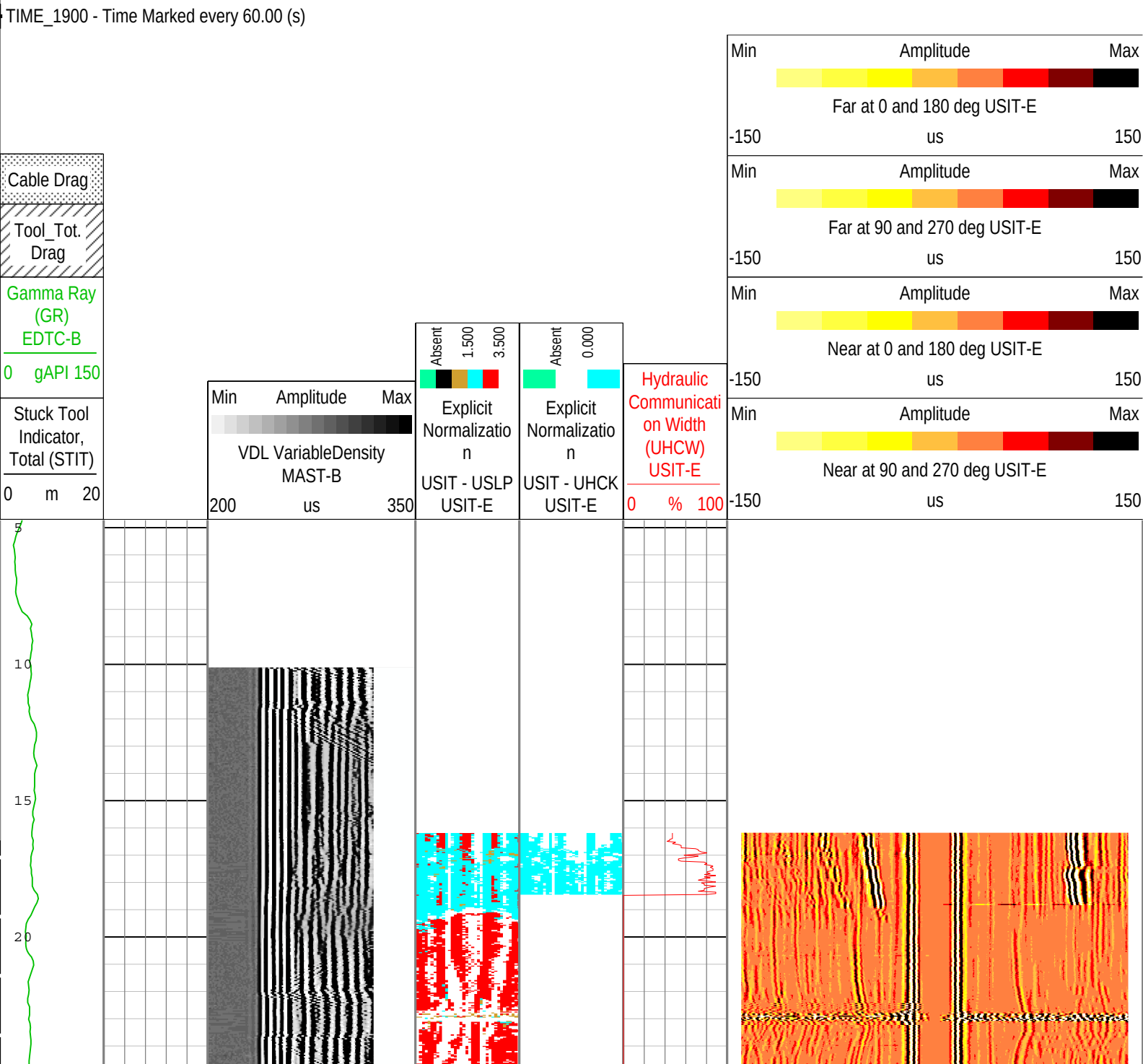
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
IBC-CBL	Log[4]:Up	Up	16.44 m	695.38 m	08-Dec-2013 6:33:03 AM	08-Dec-2013 11:48:27 AM	0.32 m	

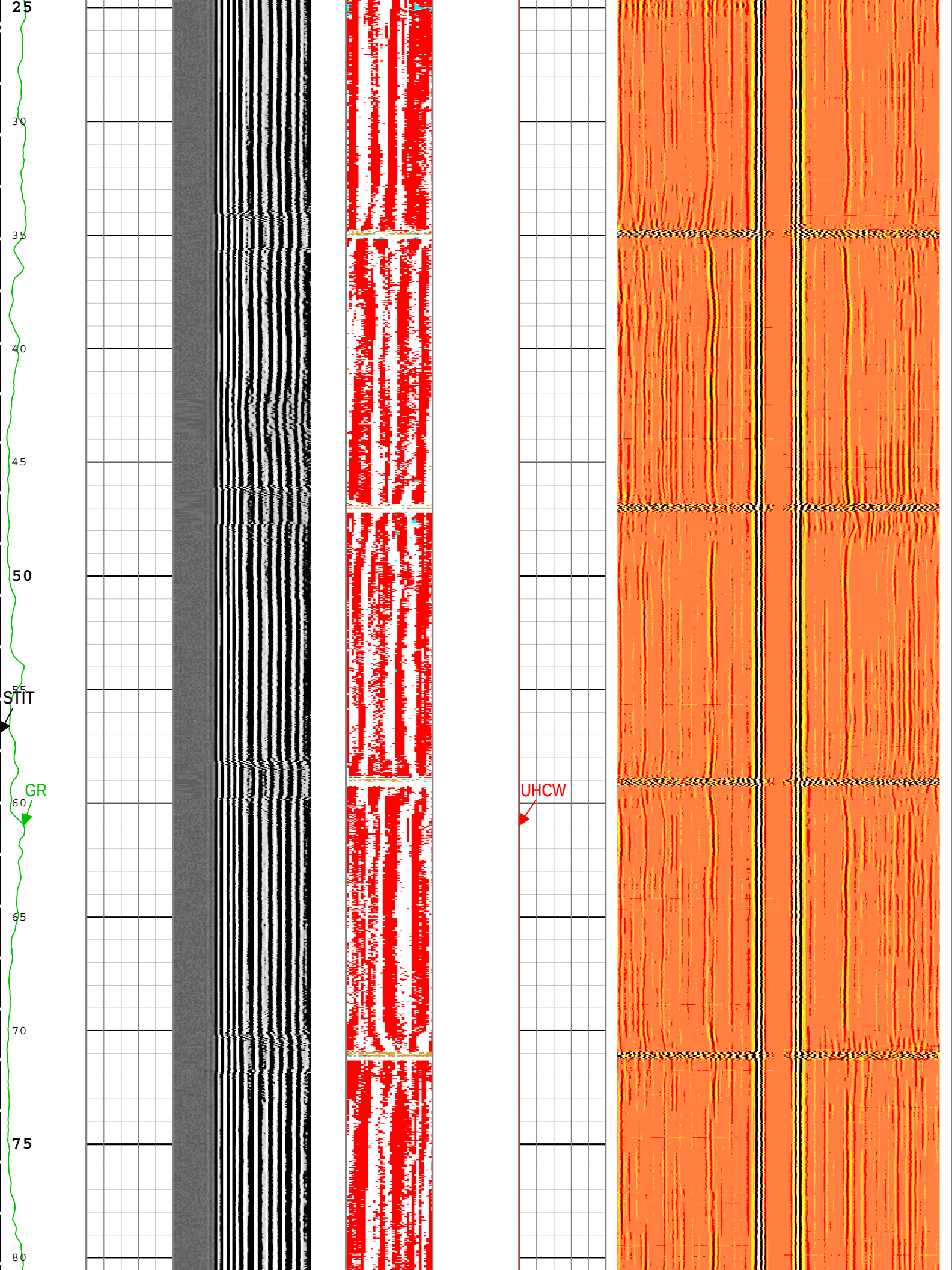
All depths are referenced to toolstring zero

Log

IBC-CBL: Log[4]:Up

Description: USI IBC CBL VDL Format: Log (USI IBC CBL VDL) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:55:11

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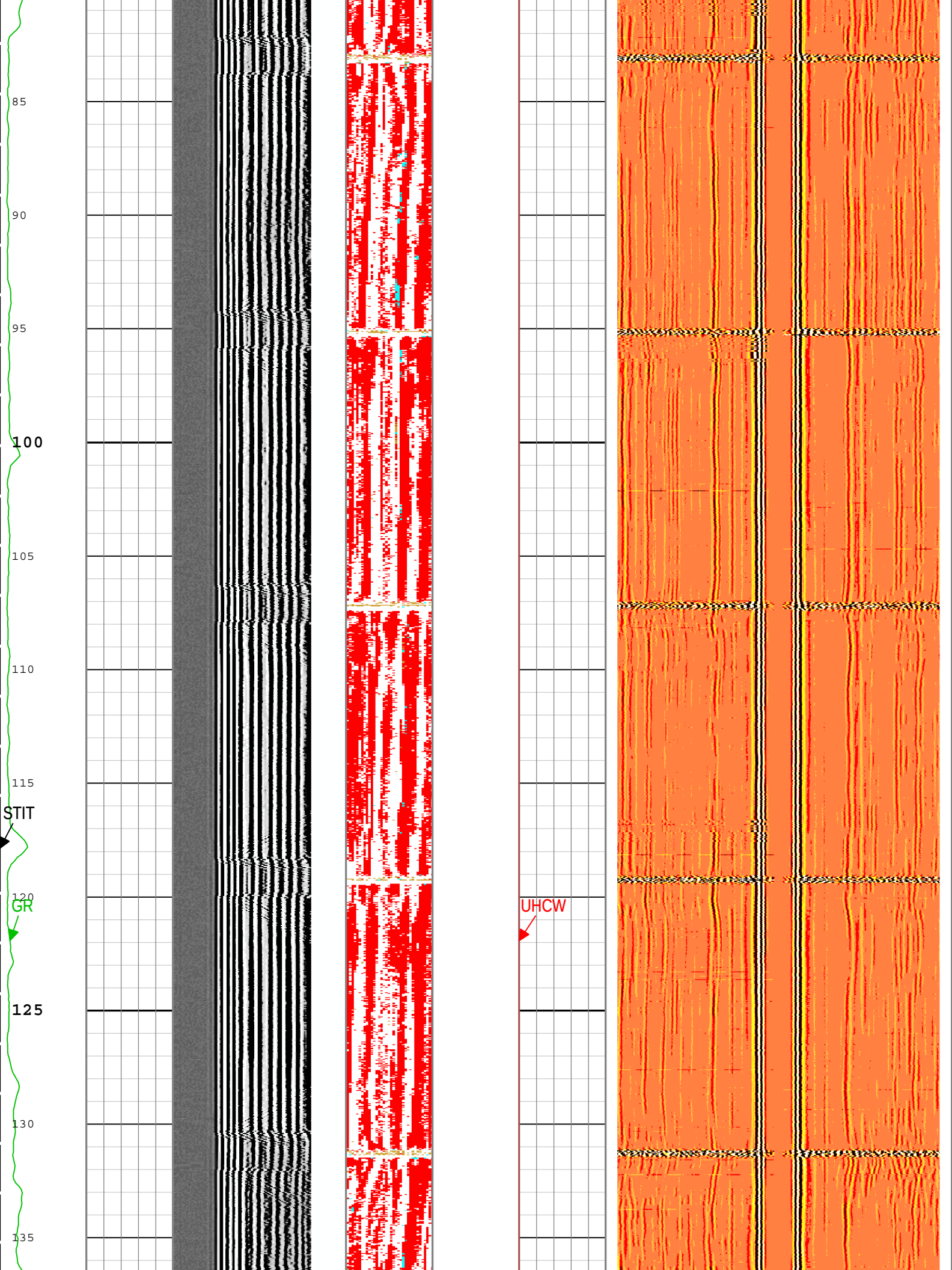
GR
UHCW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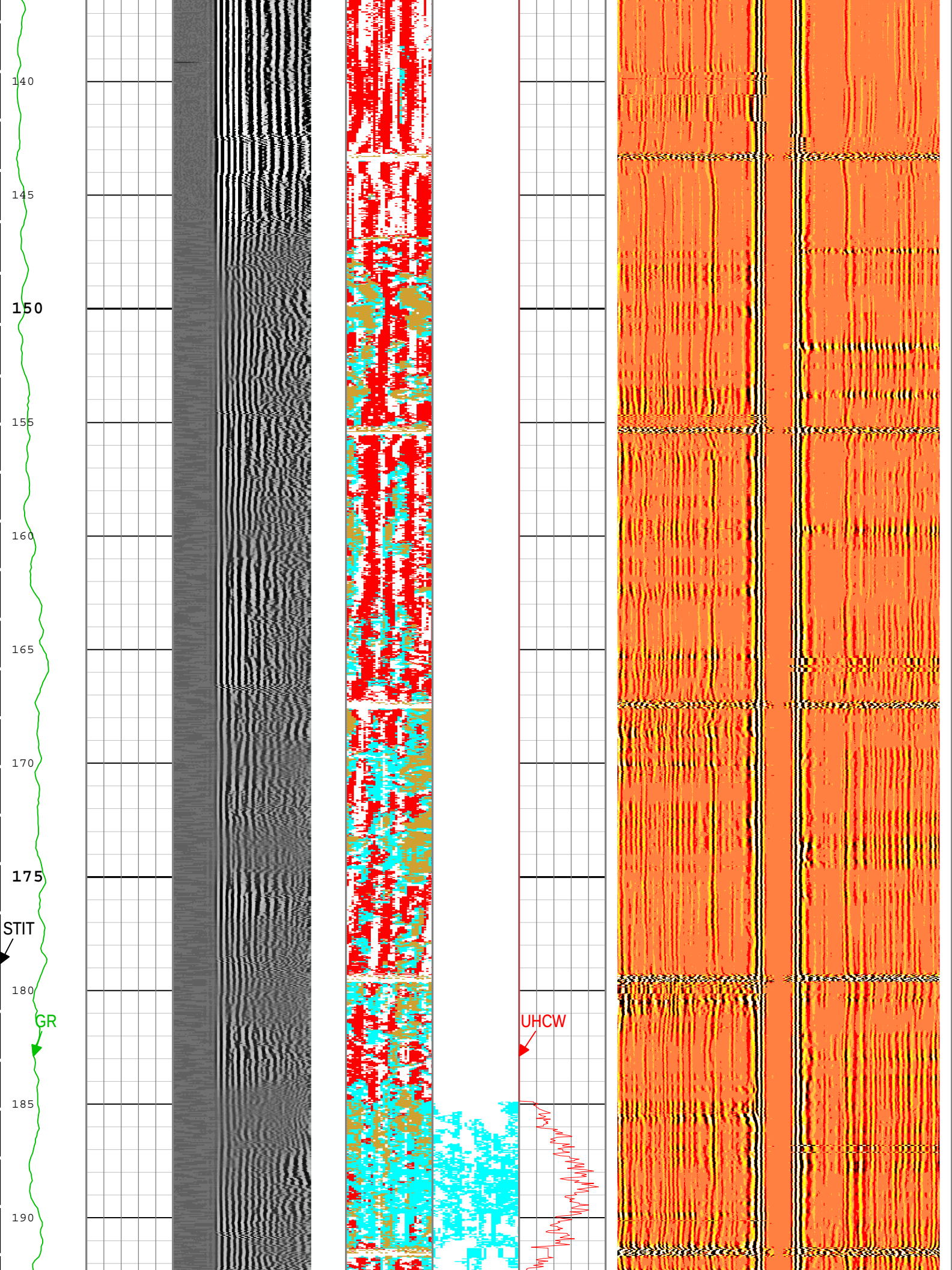
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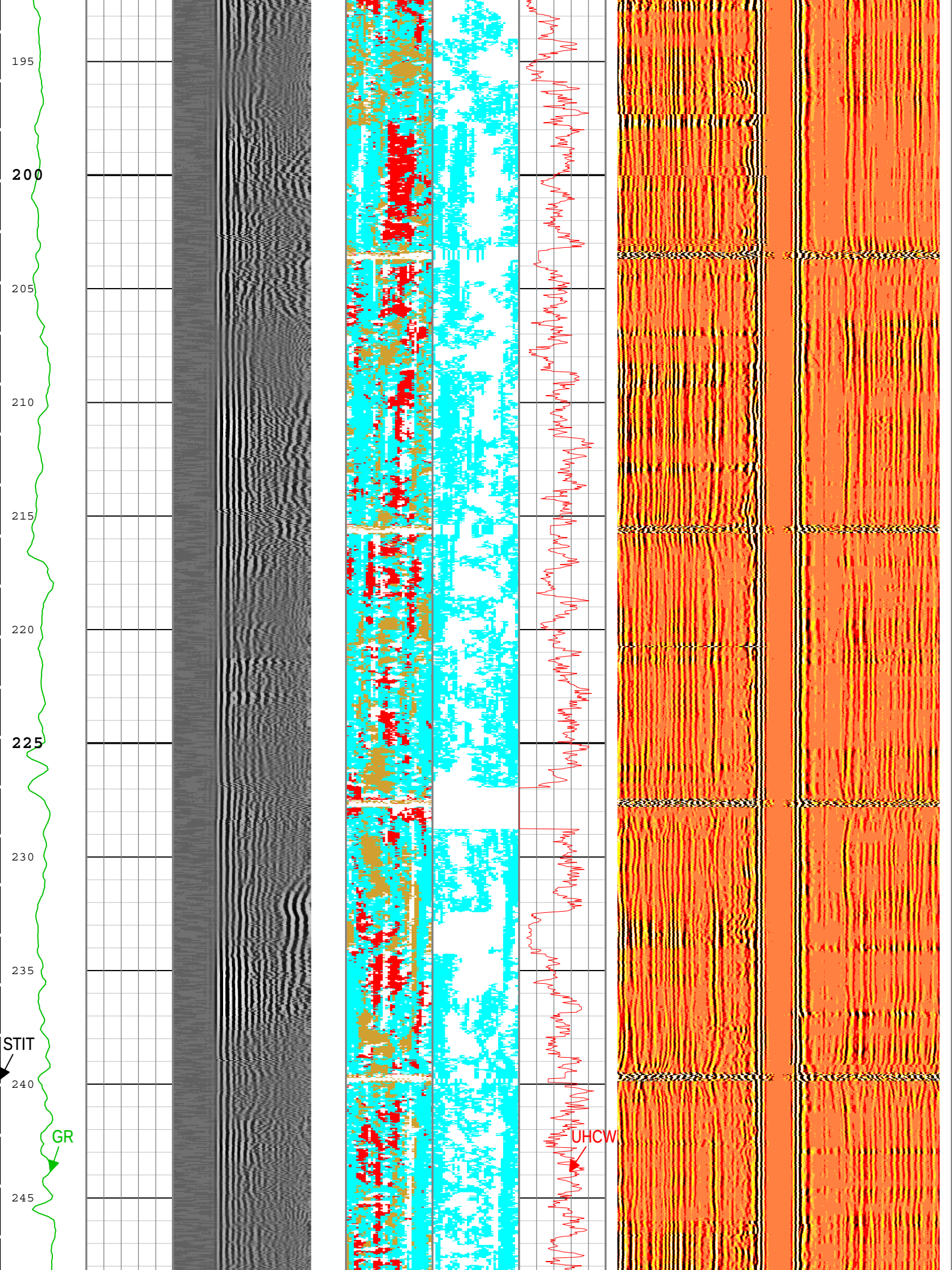
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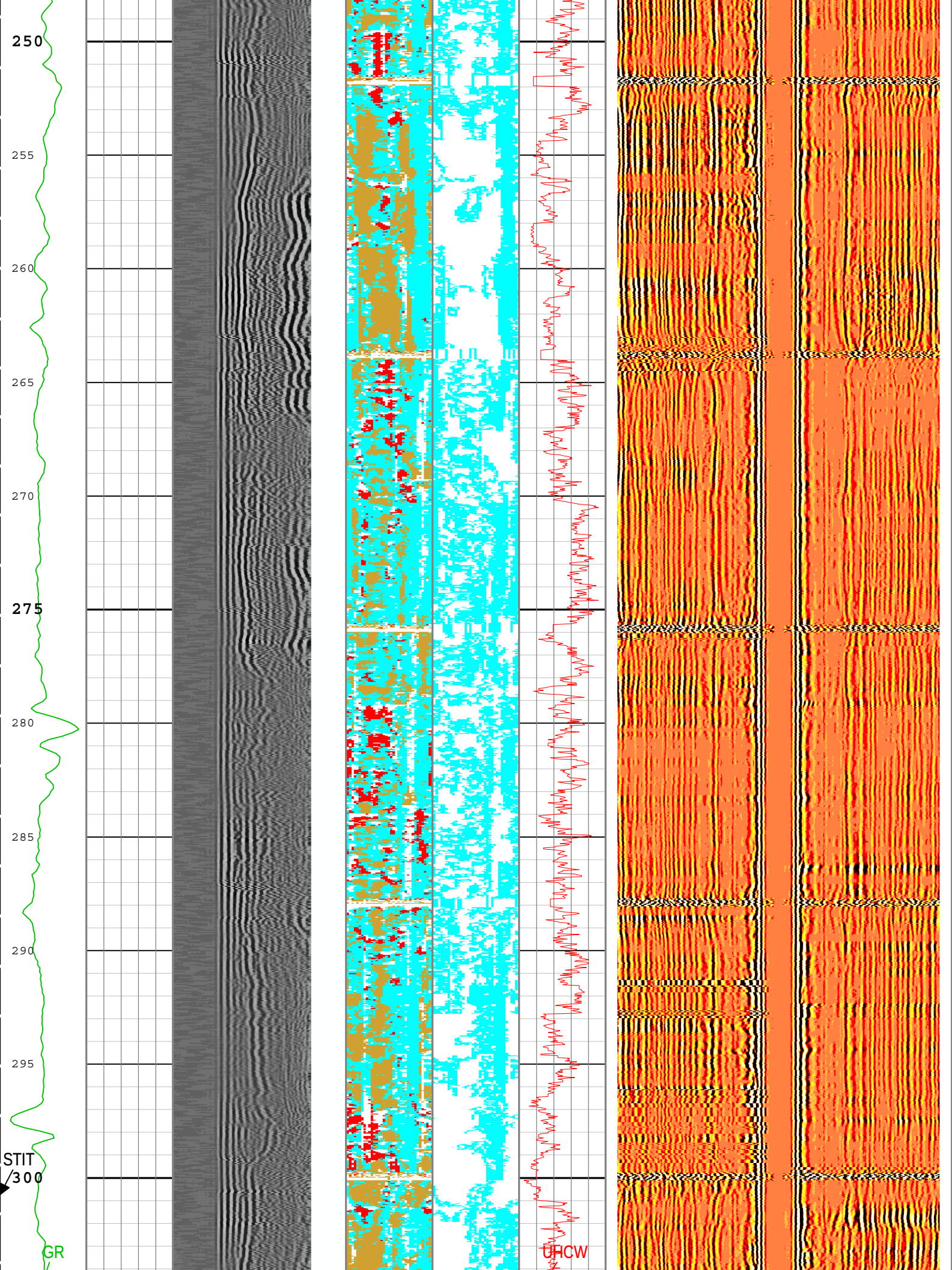
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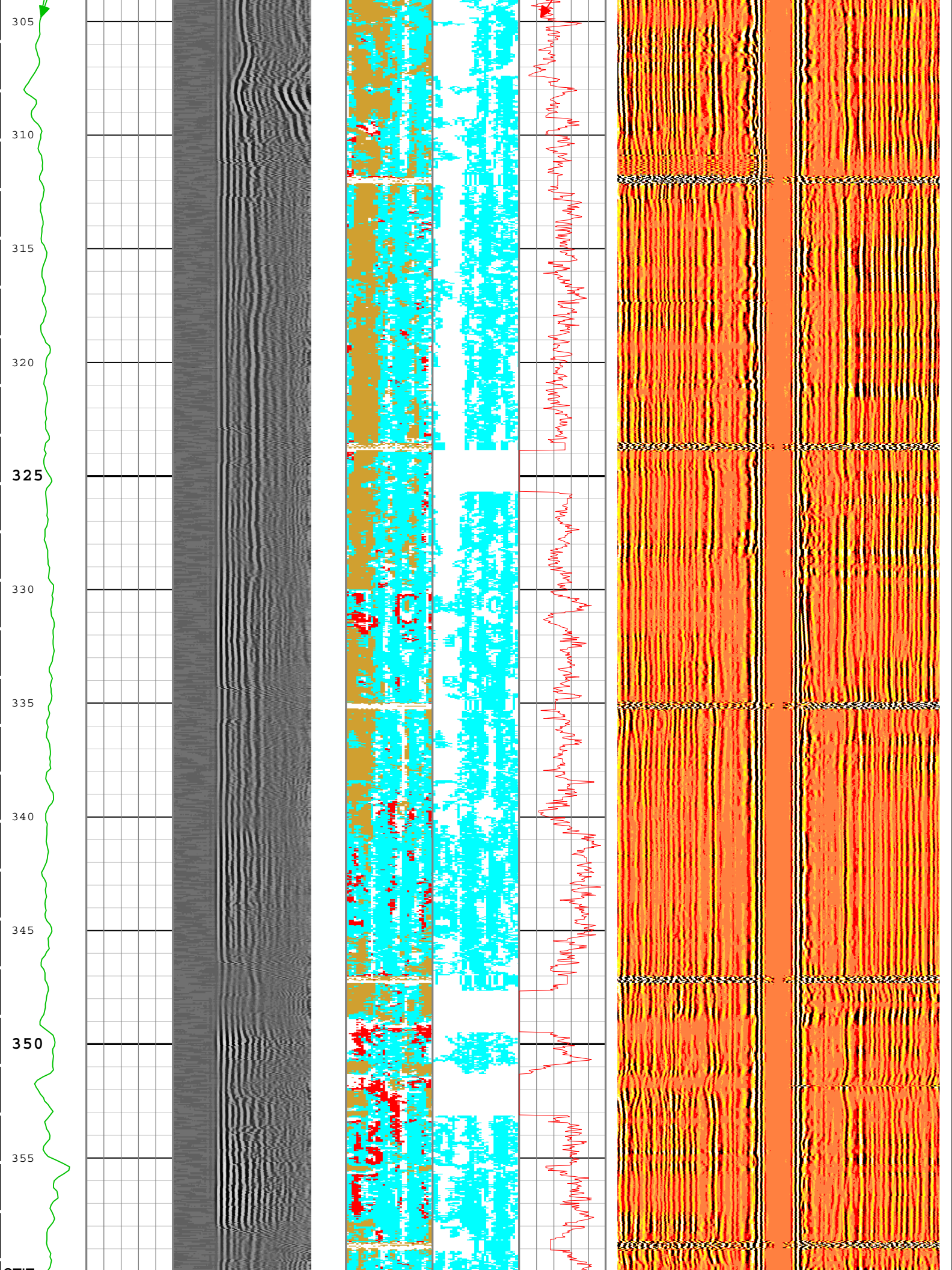
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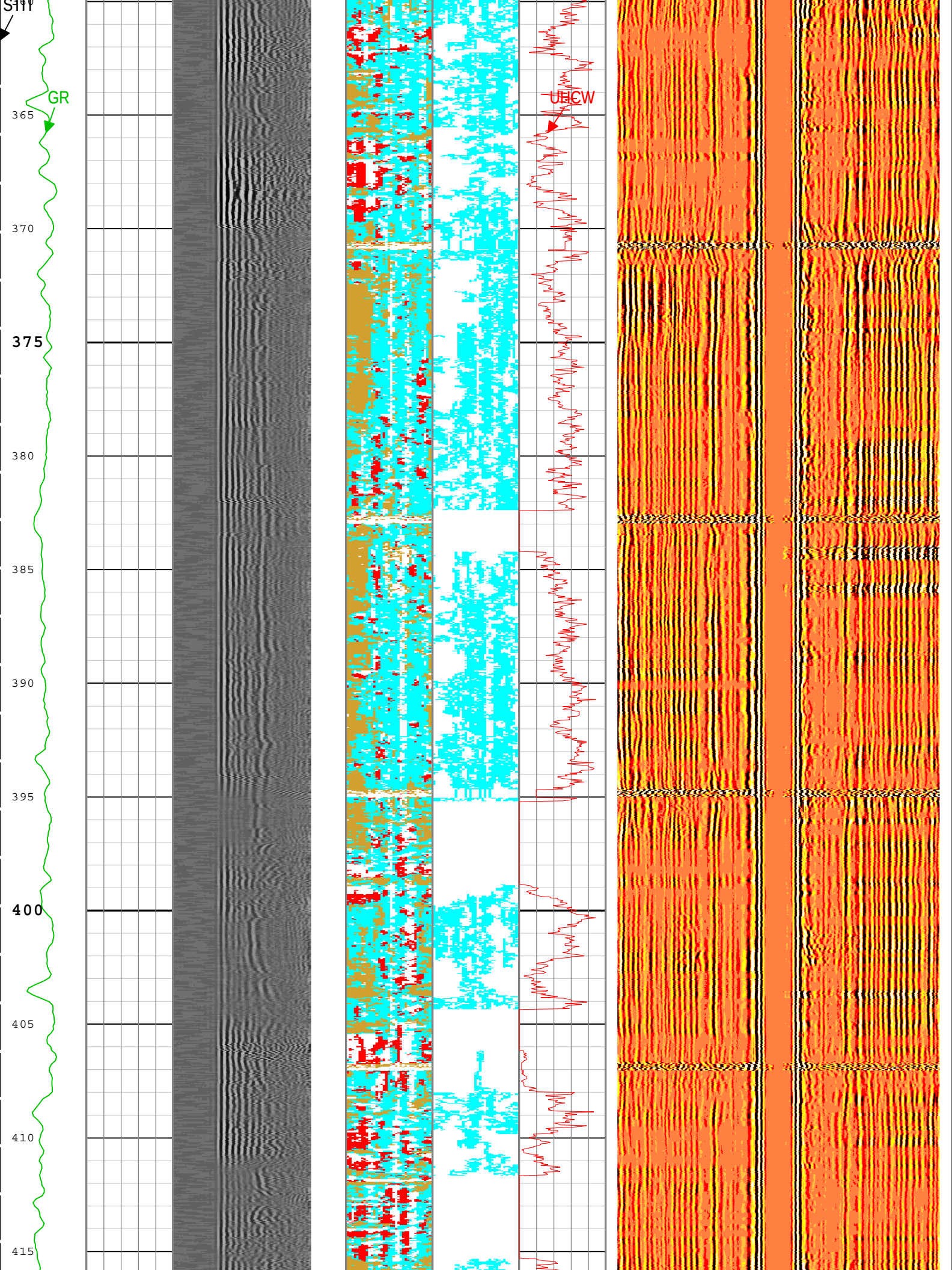
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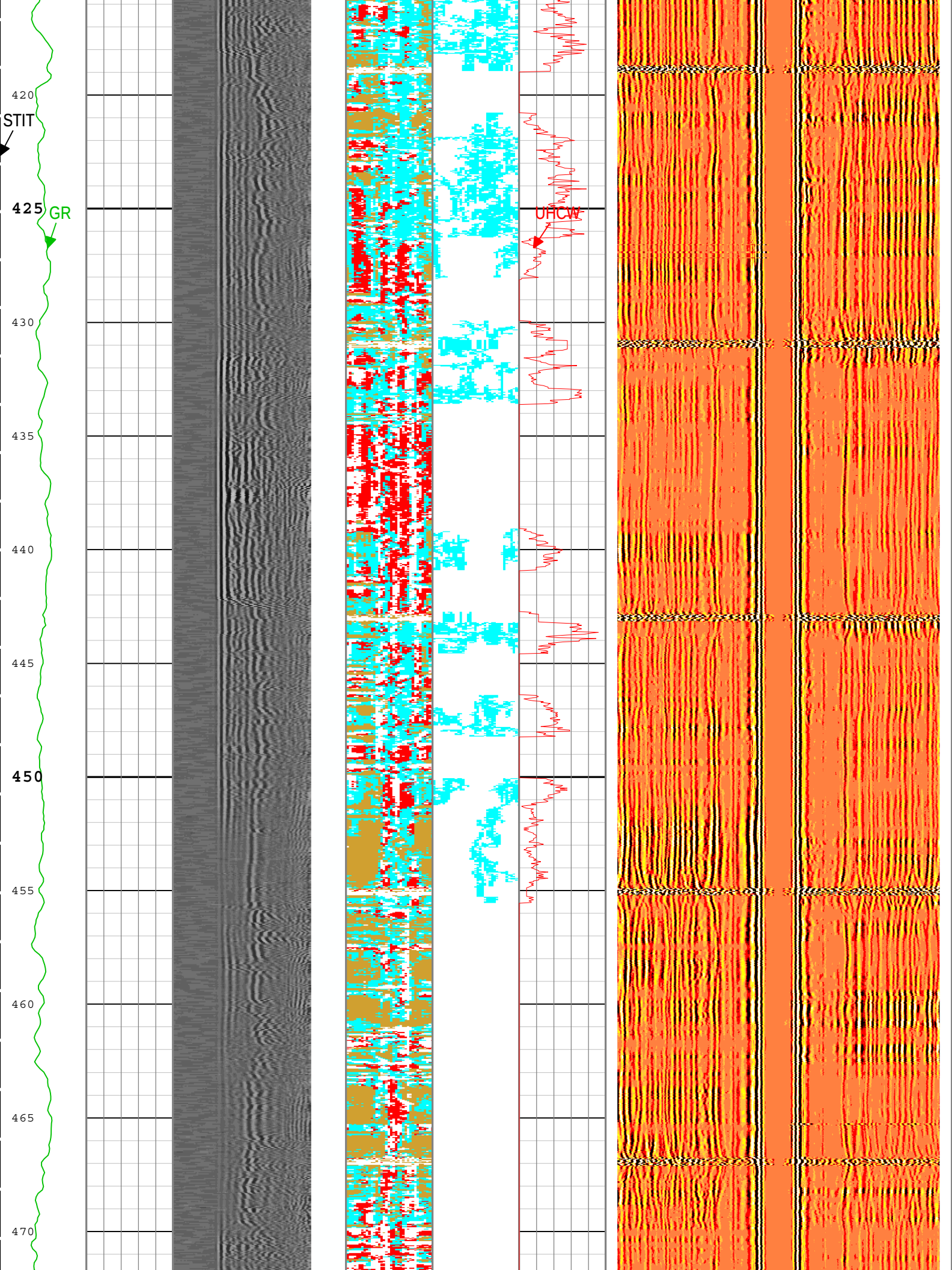
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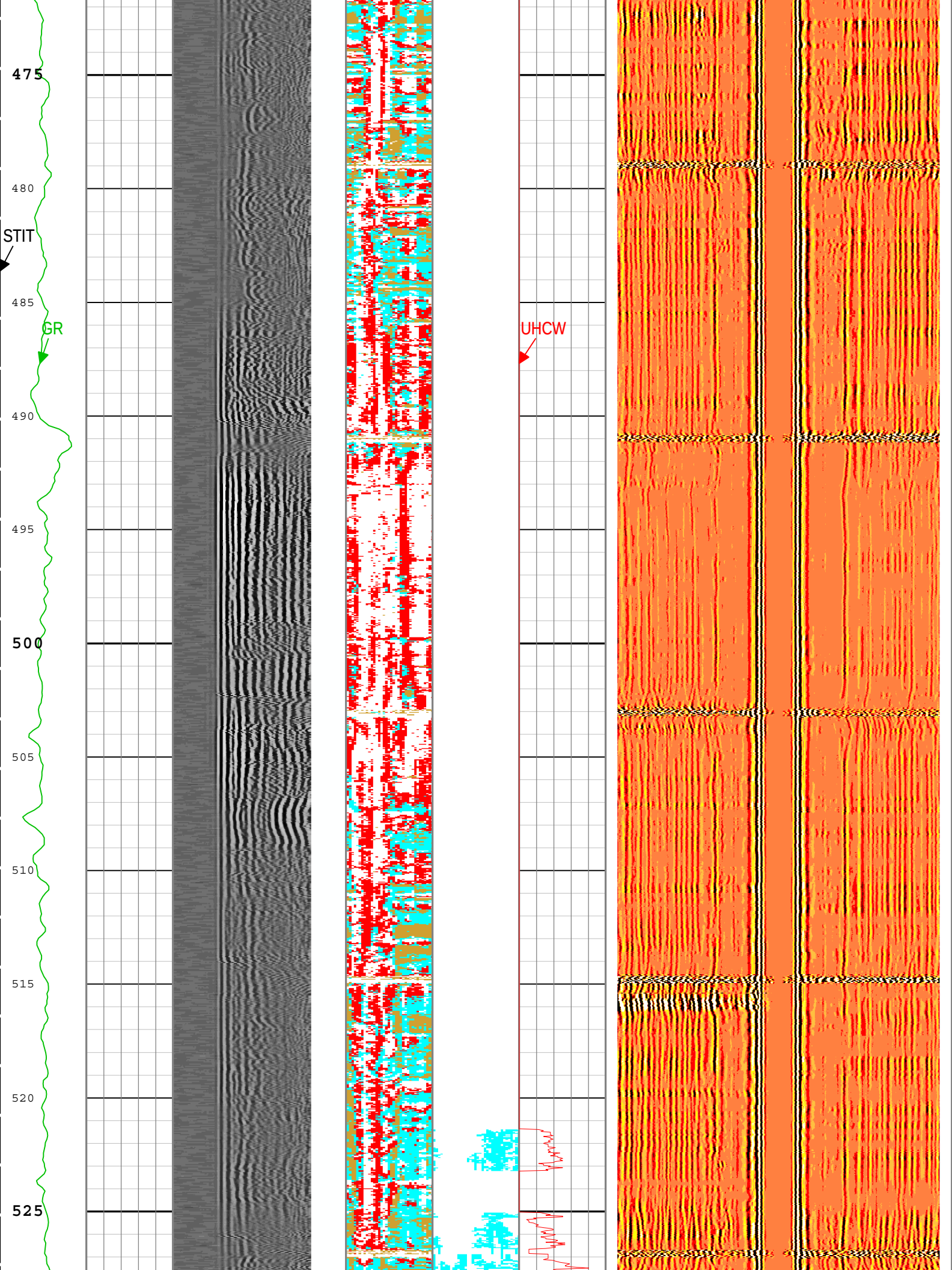
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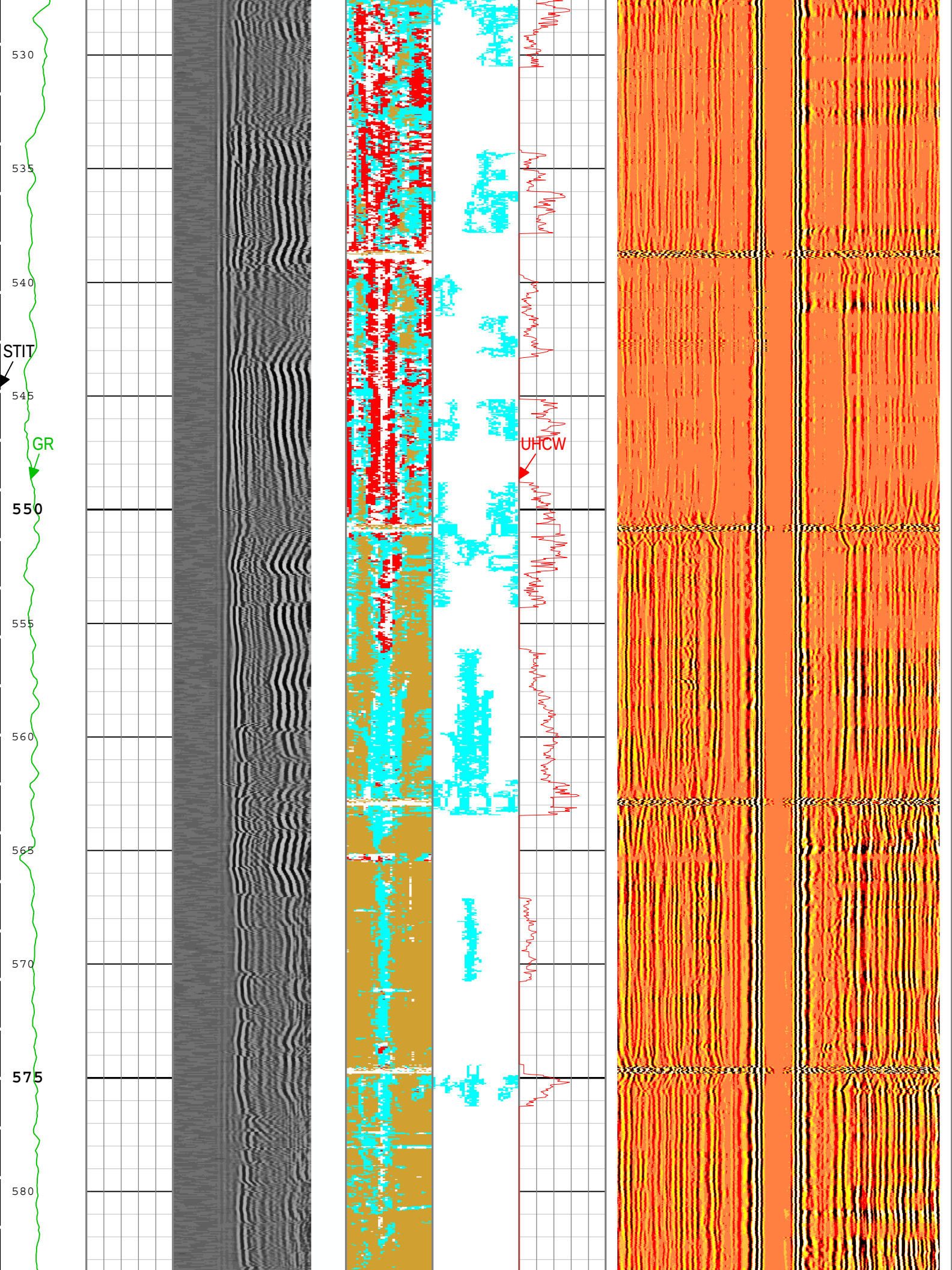
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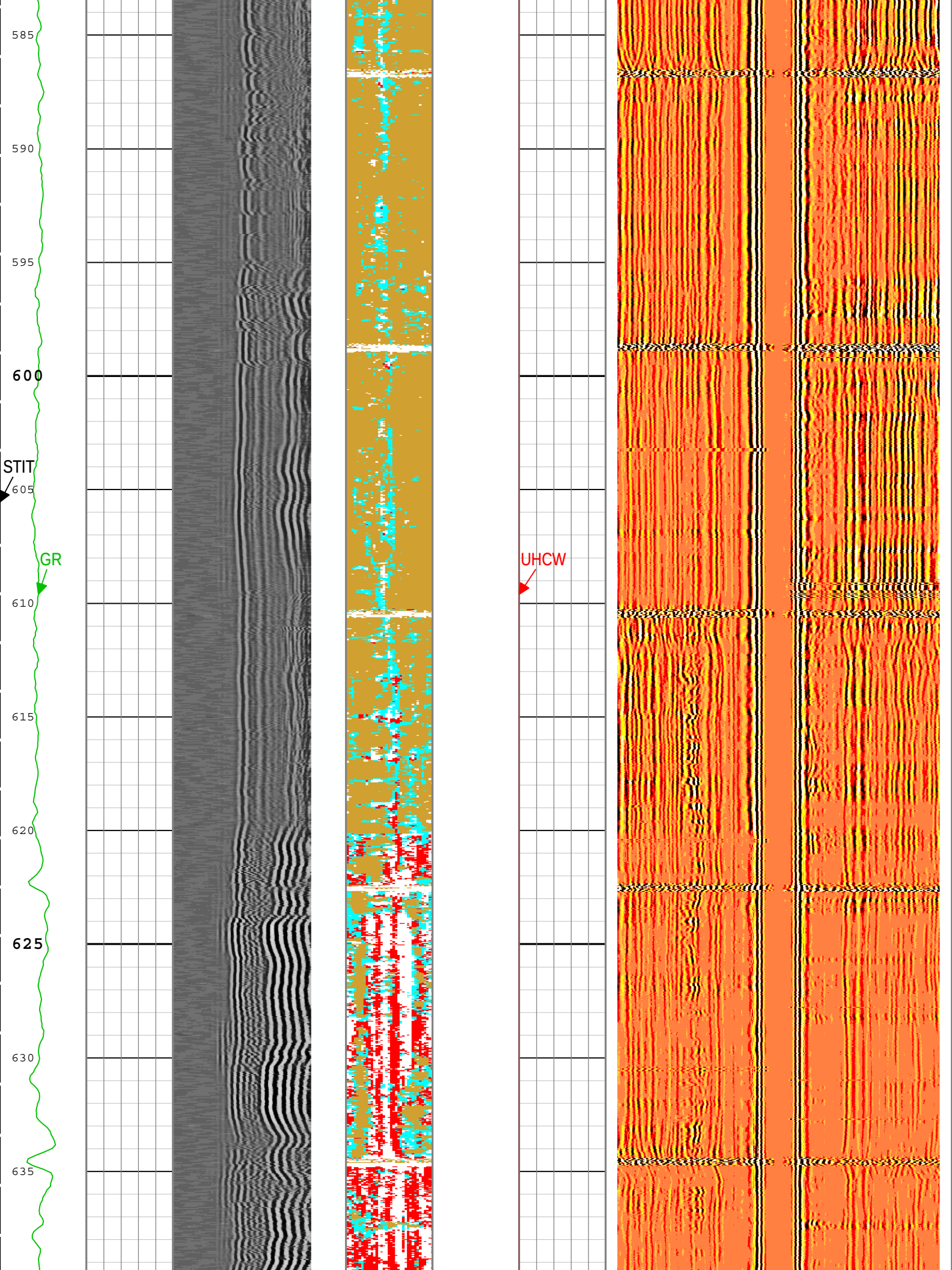
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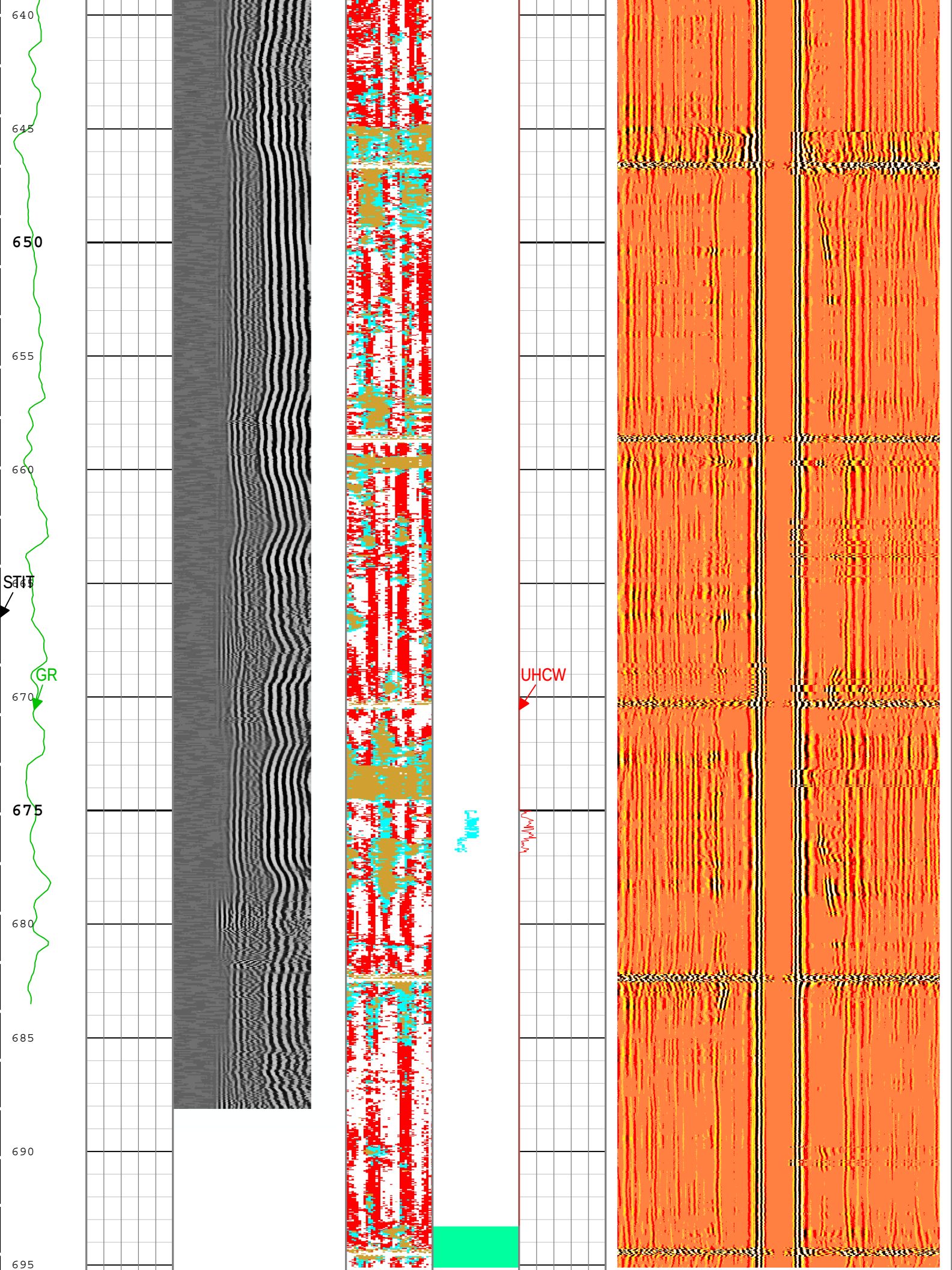
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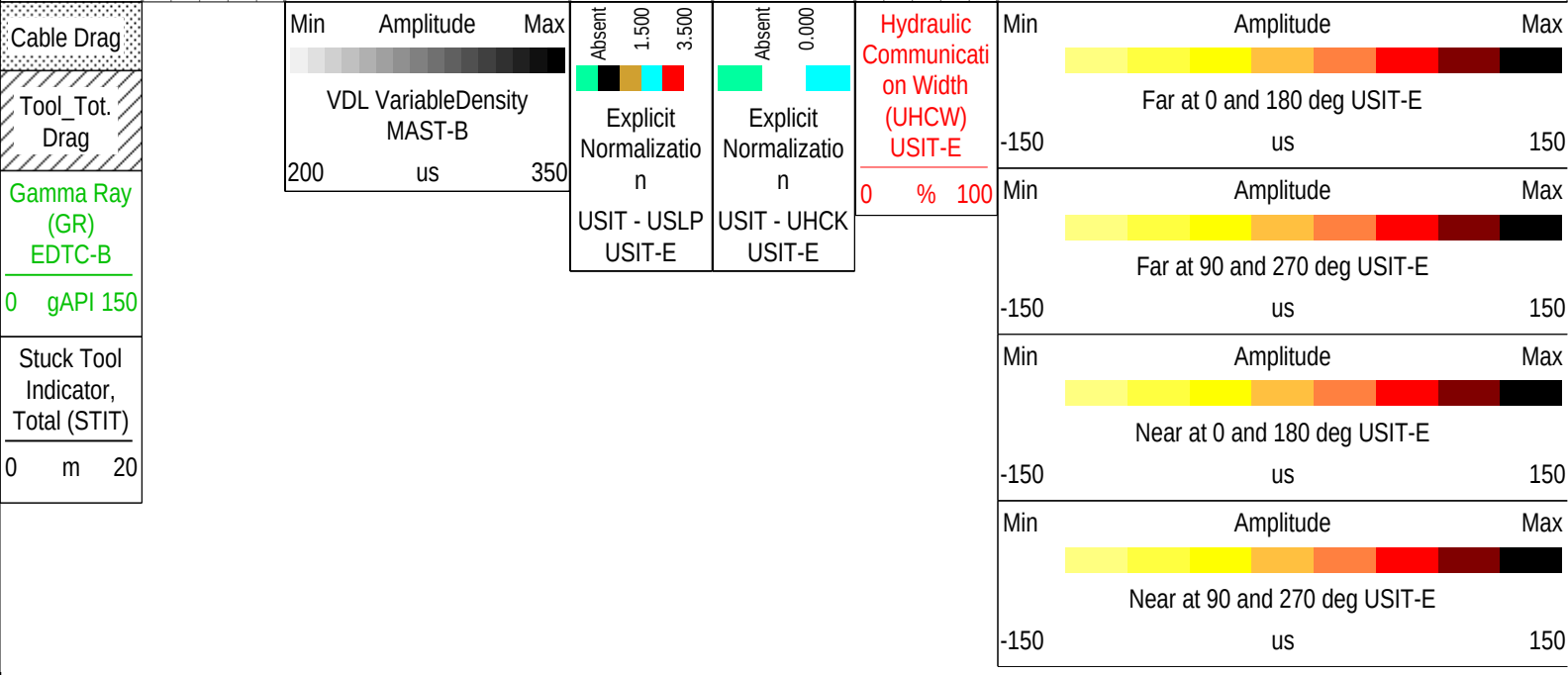

Description: USI IBC CBL VDL Format: Log (USI IBC CBL VDL) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 08-Dec-2013 13:55:11

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	938	m
CDEN.1	Cement Density	USIT-E	0	g/cm3
CDEN.2	Cement Density	EDTC-B	2	g/cm3
CMTY	Cement Type	USIT-E	Regular Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	Depth Zoned	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.26	lbm/gal
DTMD	Borehole Fluid Slowness	Borehole	211.09	us/ft
FDII	FPM Data Interpolation Interval	USIT-E	0	m
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
IBC_FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	5_UFSL_N_ZMUD	
IMAR	Image Rotation	USIT-E	Off	
MODALCTL_MUH	Modal Decomposition Processing Control Flag for Monopole Upper Transmitter High Frequency Firing	MAST-B	On	
OCDI	Outer Casing Diameter	USIT-E	0	in
OCSH	Outer Casing Shoe	USIT-E	0	m
OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
RCTH	Reference Calibrator Thickness	USIT-E	0.217	in
SSCCTL_MUH	Sensor Sensitivity Correction Processing Control Flag for Monopole Upper Transmitter High Frequency Firing	MAST-B	On	
TCUB	T^3 Processing Level	USIT-E	Loop	
TD	Total Measured Depth	Borehole	703	m
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFAO	SIT Flexural Attenuation Offset	USIT-E	5	dB/m
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3

UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	2950	m/s
UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
VDLCTL_MUH	Variable Density Log Processing Control Flag for Monopole Upper High Frequency Waveforms	MAST-B	On	
VDLSELCTL	Variable Density Log Selection Processing Control Flag	MAST-B	On	
WLEN	T^3 Processing Length	USIT-E	14.62	us
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	1.44	Mrayl

Depth Zone Parameters

Parameter	Value	Start (m)	Stop (m)
BS	12.25	4.72	152
BS	8.5	152	318
BS	7.875	318	695.25
CTHILGR	0.352	4.72	147.8
CTHILGR	0.244	4.72	695.25

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
ACQ_DOMAIN	Custom Acquisition Domain Name	MAST-B	[UMHF, LMHF]	
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
CBOOTSTA_MAPC	MAMS Controller Boot Status	MAST-B	1	
CFWREV_MAPC	MAPC Firmware Revision of Controller Electronics	MAST-B	1840	
COMPCTL	Data Compression Control	MAST-B	[MZIPA, MZIPA]	
DDT5	USIC Downhole Decimation for T5 only (SPOOF)	USIT-E	0_NONE	
DHMODALCTL	Downhole/Surface Modal Computation Control	MAST-B	[OFF, OFF]	
DIGDEL	Waveform Digitizing Delay	MAST-B	[0, 0]	us
DIGDT	Sonic Waveform Digitizing Slowness	MAST-B	[0, 0]	us/ft
DIGTIME	Digitizing Time	MAST-B	[1200, 1200]	us
DIIN_WF_CHN	Dipole Inline Component Waveform Data Channel Name	MAST-B	[,]	
DIIN_WFN_CHN	Dipole Inline Component Waveform Normalization Data Channel Name	MAST-B	[,]	
DIOF_WF_CHN	Dipole Offline Component Waveform Data Channel Name	MAST-B	[,]	
DIOF_WFN_CHN	Dipole Offline Component Waveform Normalization Data Channel Name	MAST-B	[,]	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
GNINT	Automatic Gain Selection Time Interval	MAST-B	[1200, 1200]	us
HRES	Horizontal Resolution	USIT-E	5 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	563	ft/h
MAX_TOOL_SPEED	Maximum service speed allowed for, or attained by, a logging tool.	MAST-B	Time Zoned	ft/h
MONO_WF_CHN	Monopole Component Waveform Data Channel Name	MAST-B	[RSWMUH_M, RSWMLH_M]	
MONO_WFN_CHN	Monopole Component Waveform Normalization Data Channel Name	MAST-B	[RSWMUHN_M, RSWMLHN_M]	
MSMT_LIST	Measurement List	MAST-B	[MUH, MLH]	
NUMMSMT	Number of active measurements	MAST-B	2	
PROD_CLASS	MAST Product Class Selection	MAST-B	CBL	
R10FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #10	MAST-B	1057	
R11FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #11	MAST-B	1057	
R12FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #12	MAST-B	1057	

R13FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #13	MAST-B	1057	
R1FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #1	MAST-B	1057	
R2FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #2	MAST-B	1057	
R3FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #3	MAST-B	1057	
R4FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #4	MAST-B	1057	
R5FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #5	MAST-B	1057	
R6FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #6	MAST-B	1057	
R7FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #7	MAST-B	1057	
R8FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #8	MAST-B	1057	
R9FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #9	MAST-B	1057	
RBOOTSTA_MAPC	MAMS Receiver Boot Status	MAST-B	1	
RXSEL	Receiver Station Select	MAST-B	[[Off, Off], [Off, Off], [Off, Off], [Off, Off], [On, On], [On, On], [On, On], [On, On], [On, On], [Off, Off], [Off, Off], [Off, Off], [Off, Off]]	
SAMINT	Sonic Waveform Sampling Interval	MAST-B	[10, 10]	
SERVICE_LIST	Service Selection List	MAST-B	[DCBLVDL]	
SNSR_WF_CHN	Sensor Waveforms Data Channel Name	MAST-B	[RSWMUH, RSWMLH]	
SNSR_WFN_CHN	Sensor Waveforms Normalization Factor Channel Name	MAST-B	[SWMUHN, SWMLHN]	
SNSRSEL	Sensor Element Select	MAST-B	[[On, On], [On, On], [On, On], [On, On], [On, On], [On, On], [On, On], [On, On]]	
TMUC	Type of Mud	USIT-E	BRI	
TX_AMP	Transmitter Amplitude Factor	MAST-B	[FULL, FULL]	
TXSEL	Transmitter Drive Selection	MAST-B	[UM, LM]	
UFWB	Far Receiver Window Begin Time	USIT-E	139	us
UFWE	Far Receiver Window End Time	USIT-E	179	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	500000	Hz
UNWB	Near Receiver Window Begin Time	USIT-E	108	us
UNWE	Near Receiver Window End Time	USIT-E	148	us
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 600 KHz	
USI_UWKM	USIT Working Mode	USIT-E	5 deg at 1.5 in HF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	696	m
UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	1.5 in	
WF_CR_CHN	Waveform Compression Rate Channel Name	MAST-B	[WCRMUH, WCRMLH]	
WF_DEPTH_CHN	Waveform Depth Channel Name	MAST-B	[WDMUH, WDMLH]	
WF_QI_CHN	Waveform Quality Indicator Channel Name	MAST-B	[WQMUH, WQMLH]	
WFSEL	Transmitter Drive Waveform Selection	MAST-B	[mp_hf_d, mp_hf_d]	
WINB	Window Begin Time	USIT-E	35.13	us
WINE	Window End Time	USIT-E	75.13	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (m)	Stop Depth (m)
EMXV	100	08-Dec-2013 06:33:03	08-Dec-2013 06:35:22	695.38	691.58
EMXV	60	08-Dec-2013 06:35:22	08-Dec-2013 06:35:36	691.58	691.09
EMXV	40	08-Dec-2013 06:35:36	08-Dec-2013 06:36:06	691.09	690.04
EMXV	60	08-Dec-2013 06:36:06	08-Dec-2013 06:56:09	690.04	646.31
EMXV	80	08-Dec-2013 06:56:09	08-Dec-2013 11:48:27	646.31	16.44
MAX_TOOL_SPEED	2100	08-Dec-2013 06:33:03	08-Dec-2013 07:06:12	695.38	624.17
MAX_TOOL_SPEED	2240	08-Dec-2013 07:06:12	08-Dec-2013 07:12:14	624.17	611.22

MAX_TOOL_SPEED	2100	08-Dec-2013 07:12:14	08-Dec-2013 07:14:15	611.22	606.91
MAX_TOOL_SPEED	2229	08-Dec-2013 07:14:15	08-Dec-2013 07:24:19	606.91	585.25
MAX_TOOL_SPEED	2115	08-Dec-2013 07:24:19	08-Dec-2013 08:15:39	585.25	473.26
MAX_TOOL_SPEED	2228	08-Dec-2013 08:15:39	08-Dec-2013 08:23:42	473.26	455.72
MAX_TOOL_SPEED	2104	08-Dec-2013 08:23:42	08-Dec-2013 08:45:51	455.72	408.58
MAX_TOOL_SPEED	2231	08-Dec-2013 08:45:51	08-Dec-2013 08:50:52	408.58	397.92
MAX_TOOL_SPEED	2100	08-Dec-2013 08:50:52	08-Dec-2013 10:45:37	397.92	149.28
MAX_TOOL_SPEED	1993	08-Dec-2013 10:45:37	08-Dec-2013 11:42:00	149.28	25.72
MAX_TOOL_SPEED	2100	08-Dec-2013 11:42:00	08-Dec-2013 11:46:02	25.72	21.34
MAX_TOOL_SPEED	1980	08-Dec-2013 11:46:02	08-Dec-2013 11:48:27	21.34	16.44

All depth are at tool zero.

Calibration Report

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run GR-CCL

Primary Equipment :

Enhanced Digital Telemetry Cartridge - B EDTC-B 9162

Calibration Parameter :

Plus Reference (Jig minus background reference) 160

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before (Measured): 07:33:17 07-Dec-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
AZ Vertical Measurement	m/s2	Before	9.810	9.610	9.816	10.010

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM): 07:33:06 07-Dec-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Initial PMT HV	V	Master			1600.000	
Accelerometer Serial Number		Master			1379	
Accelerometer Coefficients - 0		Master	-----	-----	2.959	-----
Accelerometer Coefficients - 1		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 2		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 3		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 4		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 5		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 6		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 7		Master	-----	-----	-0.009	-----
Accelerometer Coefficients - 8		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 9		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 10		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 11		Master	-----	-----	0.000	-----
Gamma-Ray Detector Serial Number		Master			79356	

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured): 07:41:51 07-Dec-2013 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Gamma Ray Gain		Before	1.000	0.900	0.930	1.100
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured): 07:41:51 07-Dec-2013 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
RGR Zero Measurement	gAPI	Before		0	28.820	120.000
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RGR Plus Measurement	gAPI	Before	160.000	145.000	172.033	175.000
		After			NOT DONE	
		After-Before	-----	-----	-----	-----

MAST-B (Multimode Array Sonic Service Tool) Calibration - Run IBC-CBL

Primary Equipment :

MAMS-BA Multimode Array Sonic Minimum Service Sonde MAMS-BA 8262

MAST Master Characterization Coefficients - Characterization Coefficients Summary

Master (EEPROM): 15:54:00 23-Sep-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Sensor Sensitivity Correction Factor Minimum		Master	1.000	0.500	0.870	1.700
Sensor Sensitivity Correction Factor Maximum		Master	1.000	0.500	1.160	1.700
Sensor Time Delay Factor Minimum	us	Master	0	-2.000	-0.854	2.000
Sensor Time Delay Factor Maximum	us	Master	0	-2.000	0.590	2.000
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Minimum		Master	1.000	0.900	0.914	1.700
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Maximum		Master	1.000	0.900	1.064	1.700

Characterization Coefficients

Master (EEPROM): 15:54:00 23-Sep-2013

CALI_SSCF (Master) Sensor Sensitivity Correction Factor

Minimum/Nominal/Maximum 0.500/1.000/1.700 Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	0.884	1.021	0.987	1.010	1.022	0.982	0.985	0.997
SO2	1.049	1.020	1.025	1.009	1.006	0.924	0.969	0.951
SO3	1.015	0.914	1.079	1.053	1.097	1.032	1.078	0.870
SO4	1.010	0.942	0.992	1.016	0.947	0.969	1.027	1.003
SO5	1.050	1.015	0.978	0.988	1.020	0.933	0.921	1.005
SO6	1.059	1.023	1.010	0.972	1.020	0.929	0.876	0.978
SO7	1.050	1.045	1.017	1.020	1.020	0.988	0.931	0.955
SO8	0.989	1.031	1.037	1.013	0.977	0.946	0.947	0.954
SO9	0.982	0.997	1.044	1.016	0.981	0.967	0.955	1.030
SO10	1.079	0.979	0.993	1.125	1.013	1.037	0.958	1.079
SO11	0.964	1.082	0.980	0.990	0.992	1.020	0.996	1.068
SO12	1.160	1.003	1.000	0.963	1.009	0.984	0.954	1.007
SO13	1.017	0.961	0.986	1.000	1.030	1.011	1.044	0.948

CALI_STDF (Master) Sensor Time Delay Factor

Minimum/Nominal/Maximum -2.000/0/2.000 Unit us

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	-0.275	-0.173	0.052	0.173	0.067	-0.189	-0.022	0.022
SO2	-0.145	0.016	0.238	0.295	0.306	-0.076	-0.016	-0.022
SO3	-0.429	-0.335	0.071	0.050	0.370	-0.050	0.114	-0.272
SO4	-0.082	-0.249	-0.147	0.074	-0.011	0.007	0.193	0.088
SO5	-0.268	-0.220	-0.153	0.116	0.140	0.003	0.004	0.059
SO6	0.060	-0.193	0.021	-0.029	-0.042	0.146	0.016	0.238
SO7	-0.148	-0.173	0.069	0.185	0.181	0.019	-0.142	-0.034
SO8	-0.339	-0.059	-0.109	0.109	0.113	-0.135	0.151	0.091
SO9	-0.410	-0.507	-0.062	0.217	0.325	0.202	0.052	-0.096
SO10	-0.436	-0.696	-0.469	0.072	0.323	0.341	0.194	-0.072
SO11	-0.751	-0.457	-0.089	0.270	0.436	0.262	0.089	-0.288
SO12	-0.493	-0.624	-0.216	0.166	0.471	0.395	0.200	-0.166
SO13	-0.854	-0.432	-0.040	0.550	0.590	0.238	0.040	-0.479

CALI_SSCR (Master) Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio

Minimum/Nominal/Maximum 0.900/1.000/1.700 Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	1.022	1.028	0.994	0.996	0.977	1.008	0.999	1.005
SO2	1.021	1.034	1.005	0.988	0.987	1.011	0.973	1.000
SO3	1.013	1.035	0.999	0.992	0.992	1.007	0.995	1.013
SO4	1.026	0.999	0.976	0.972	0.972	0.971	0.978	1.007
SO5	1.014	0.996	0.994	0.998	0.981	0.987	0.995	1.002
SO6	1.036	1.011	0.988	0.996	0.965	0.976	0.996	1.043
SO7	0.962	0.999	1.013	1.014	0.997	0.952	0.935	0.944
SO8	1.001	1.008	1.017	1.026	1.027	0.991	0.969	0.974
SO9	0.960	0.999	1.029	1.032	1.021	0.999	0.967	0.942
SO10	0.933	0.965	1.017	1.036	1.037	1.001	0.988	0.954
SO11	0.974	1.007	1.064	1.052	1.043	1.021	0.981	0.935
SO12	0.946	0.981	1.003	1.007	1.025	0.991	0.948	0.935
SO13	0.951	0.985	0.999	1.024	1.049	0.986	0.923	0.914

CALI_SSCTF (Master)	Sensor Sensitivity Correction Transmitter Failure Flag
Minimum/Nominal/Maximum	0/0/0
Unit	
Monopole Upper Transmitter	0
Monopole Lower Transmitter	0

CALI_SSCHF (Master)	Sensor Sensitivity Correction High Frequency Diagnostic Failure Flag
Minimum/Nominal/Maximum	0/0/0
Unit	

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	0	0	0	0	0	0	0	0
SO2	0	0	0	0	0	0	0	0
SO3	0	0	0	0	0	0	0	0
SO4	0	0	0	0	0	0	0	0
SO5	0	0	0	0	0	0	0	0
SO6	0	0	0	0	0	0	0	0
SO7	0	0	0	0	0	0	0	0
SO8	0	0	0	0	0	0	0	0
SO9	0	0	0	0	0	0	0	0
SO10	0	0	0	0	0	0	0	0
SO11	0	0	0	0	0	0	0	0
SO12	0	0	0	0	0	0	0	0
SO13	0	0	0	0	0	0	0	0

CALI_SSCLF (Master)	Sensor Sensitivity Correction Low Frequency Diagnostic Failure Flag
Minimum/Nominal/Maximum	0/0/0
Unit	

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	0	0	0	0	0	0	0	0
SO2	0	0	0	0	0	0	0	0
SO3	0	0	0	0	0	0	0	0
SO4	0	0	0	0	0	0	0	0
SO5	0	0	0	0	0	0	0	0
SO6	0	0	0	0	0	0	0	0
SO7	0	0	0	0	0	0	0	0
SO8	0	0	0	0	0	0	0	0
SO9	0	0	0	0	0	0	0	0
SO10	0	0	0	0	0	0	0	0
SO11	0	0	0	0	0	0	0	0

SO11								
SO12	0	0	0	0	0	0	0	0
SO13	0	0	0	0	0	0	0	0

CALI_SSCHA (Master)	Sensor Sensitivity Correction High Frequency Normalized Amplitudes							
Minimum/Nominal/Maximum	-----/1.000/-----						Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	1.122	0.972	1.005	0.982	0.971	1.010	1.007	0.995
SO2	0.961	0.988	0.983	0.998	1.002	1.091	1.040	1.059
SO3	1.027	1.141	0.966	0.990	0.950	1.010	0.967	1.198
SO4	0.988	1.059	1.006	0.982	1.053	1.029	0.971	0.994
SO5	0.949	0.981	1.019	1.008	0.977	1.068	1.081	0.992
SO6	0.938	0.971	0.984	1.023	0.974	1.070	1.135	1.016
SO7	0.969	0.973	1.001	0.998	0.997	1.029	1.093	1.065
SO8	0.994	0.954	0.949	0.971	1.006	1.039	1.038	1.030
SO9	1.010	0.996	0.951	0.977	1.012	1.027	1.039	0.964
SO10	0.950	1.047	1.032	0.911	1.012	0.988	1.070	0.950
SO11	1.031	0.919	1.015	1.004	1.002	0.975	0.998	0.931
SO12	0.864	0.998	1.002	1.040	0.993	1.018	1.050	0.994
SO13	0.989	1.047	1.020	1.005	0.977	0.995	0.963	1.062

CALI_SSCLA (Master)	Sensor Sensitivity Correction Low Frequency Normalized Amplitudes							
Minimum/Nominal/Maximum	-----/1.000/-----						Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	1.147	0.999	0.999	0.978	0.949	1.018	1.006	1.001
SO2	0.980	1.021	0.989	0.986	0.988	1.103	1.011	1.059
SO3	1.040	1.181	0.965	0.982	0.943	1.018	0.962	1.213
SO4	1.013	1.058	0.981	0.955	1.024	0.999	0.950	1.001
SO5	0.962	0.977	1.013	1.007	0.958	1.054	1.075	0.993
SO6	0.972	0.982	0.972	1.018	0.939	1.044	1.130	1.060
SO7	0.932	0.972	1.014	1.012	0.994	0.980	1.021	1.006
SO8	0.994	0.961	0.965	0.996	1.033	1.029	1.006	1.004
SO9	0.970	0.995	0.978	1.009	1.033	1.026	1.005	0.908
SO10	0.886	1.010	1.050	0.944	1.049	0.990	1.057	0.906
SO11	1.004	0.925	1.079	1.056	1.045	0.996	0.979	0.871
SO12	0.817	0.979	1.005	1.048	1.017	1.008	0.995	0.930
SO13	0.941	1.031	1.019	1.029	1.025	0.981	0.889	0.971

CALI_SSTRS (Master)	Sensor Sensitivity Correction Transmitter-Receiver Spacing		
Minimum/Nominal/Maximum	-----/1.2192/-----	Unit	m
Monopole Upper Transmitter	1.2192		
Monopole Lower Transmitter	1.2192		

CALI_TTMUH (Master)	Sensor Sensitivity Transit Time from Monopole Upper Transmitter High Frequency Firing							
Minimum/Nominal/Maximum	0/0/5000.000						Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	499.591	499.490	499.265	499.144	499.249	499.505	499.339	499.294
SO2	470.858	470.696	470.475	470.417	470.407	470.789	470.729	470.735
SO3	442.229	442.135	441.729	441.750	441.430	441.850	441.686	442.072
SO4	413.116	413.336	413.183	412.936	412.966	412.989	412.804	412.963
SO5	384.619	384.627	384.560	384.163	384.061	384.248	384.305	384.263
SO6	355.686	355.899	355.587	355.682	355.734	355.543	355.676	355.411
SO7	326.992	326.952	326.751	326.583	326.711	326.724	326.806	326.953

SO7	326.992	326.952	326.751	326.583	326.711	326.724	326.896	326.953
SO8	298.308	297.968	298.052	297.827	297.833	298.087	297.859	297.794
SO9	269.611	269.700	269.318	268.972	268.912	269.010	269.171	269.298
SO10	240.738	240.884	240.767	240.255	240.053	240.076	240.147	240.315
SO11	212.307	212.084	211.574	211.304	211.115	211.465	211.647	211.986
SO12	183.188	183.385	183.055	182.651	182.541	182.631	182.715	183.060
SO13	154.474	153.952	153.609	152.959	152.810	153.282	153.587	153.979

CALI_TTMLH (Master)	Sensor Sensitivity Transit Time from Monopole Lower Transmitter High Frequency Firing							
Minimum/Nominal/Maximum	0/0/5000.000						Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	153.441	153.045	152.731	153.235	153.111	153.503	153.175	153.291
SO2	182.268	182.365	182.038	182.199	182.166	182.496	182.310	182.274
SO3	211.324	211.139	210.768	210.884	210.718	211.072	210.967	211.277
SO4	239.773	239.887	239.836	239.641	239.782	239.721	239.535	239.586
SO5	268.692	268.589	268.521	268.381	268.435	268.521	268.462	268.395
SO6	297.105	297.398	297.281	297.286	297.260	297.074	297.202	297.022
SO7	325.934	326.024	325.741	325.676	325.556	325.869	326.017	325.743
SO8	355.185	354.963	354.981	354.770	354.755	354.997	354.654	354.839
SO9	384.083	384.189	383.680	383.469	383.312	383.461	383.600	383.768
SO10	412.568	412.941	412.605	412.035	411.734	411.675	411.900	412.262
SO11	441.649	441.355	440.986	440.627	440.462	440.635	440.809	441.186
SO12	470.310	470.441	470.033	469.651	469.346	469.422	469.616	469.983
SO13	499.253	498.832	498.440	497.850	497.810	498.162	498.360	498.878

CALI_AMPMUH (Master)	Sensor Sensitivity First Break Amplitude from Monopole Upper Transmitter High Frequency Firing							
Minimum/Nominal/Maximum	-50000.000/0/50000.000						Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	4973.130	4307.420	4453.783	4351.528	4303.235	4478.240	4464.606	4410.610
SO2	4437.276	4562.629	4542.575	4611.731	4626.521	5039.447	4802.813	4893.409
SO3	4856.267	5395.200	4567.563	4680.992	4492.305	4776.734	4572.999	5663.369
SO4	5182.458	5518.001	5250.491	5170.771	5522.953	5406.323	5114.619	5229.573
SO5	5266.718	5482.146	5711.208	5664.078	5438.834	5961.780	6041.479	5525.487
SO6	5545.155	5729.247	5793.618	6036.498	5774.641	6375.023	6788.329	6022.048
SO7	6026.539	6040.121	6203.732	6143.026	6162.473	6309.696	6752.720	6566.614
SO8	6572.506	6286.058	6297.723	6396.099	6669.958	6904.032	6944.770	6810.058
SO9	7073.871	6947.955	6623.895	6737.006	6992.127	7075.352	7199.636	6666.929
SO10	6775.337	7448.938	7351.233	6473.097	7226.317	7049.723	7662.350	6721.562
SO11	8157.095	7204.110	7765.439	7649.637	7588.348	7502.771	7637.718	7244.762
SO12	6860.362	7937.141	7815.408	8072.043	7743.684	8020.530	8134.430	7788.989
SO13	7957.737	8163.320	7771.853	7646.815	7378.492	7307.357	7165.563	8245.021

CALI_AMPMLH (Master)	Sensor Sensitivity First Break Amplitude from Monopole Lower Transmitter High Frequency Firing							
Minimum/Nominal/Maximum	-50000.000/0/50000.000						Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	7643.040	6867.734	7017.409	6789.996	6458.399	6898.202	6914.823	6839.348
SO2	6604.295	7050.778	6968.236	6945.556	6878.451	7637.013	7078.586	7199.860
SO3	6931.389	7700.006	6351.867	6476.042	6278.023	6774.005	6525.879	8023.839
SO4	6646.277	7171.357	6803.931	6581.627	7096.162	6914.923	6508.605	6674.505
SO5	6163.751	6333.086	6557.445	6475.889	6324.721	6896.530	6978.531	6417.007
SO6	5858.768	6076.472	6168.950	6392.900	6061.712	6624.362	6997.123	6324.147

SO7	5587.640	5626.888	5792.040	5811.433	5790.604	6023.509	6343.670	6196.650
SO8	5876.147	5655.802	5586.702	5765.372	5935.446	6113.907	6071.519	6094.551
SO9	5639.729	5578.634	5332.746	5543.644	5724.385	5827.322	5863.926	5445.661
SO10	4972.536	5499.404	5407.143	4787.715	5287.662	5175.342	5579.152	5009.909
SO11	5322.741	4743.504	5239.718	5185.661	5174.506	5034.793	5153.483	4807.804
SO12	4258.682	4922.729	4938.678	5130.042	4895.449	5018.389	5175.340	4901.758
SO13	4671.716	4943.819	4816.855	4748.300	4612.858	4697.243	4549.592	5013.478

CALI_AMPMUL (Master)	Sensor Sensitivity First Break Amplitude from Monopole Upper Transmitter Low Frequency Firing	
Minimum/Nominal/Maximum	-50000.000/0/50000.000	Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	-6759.535	-5881.966	-5516.887	-5027.559	-5004.312	-5376.554	-5656.228	-5426.432
SO2	-6476.960	-6751.683	-6244.757	-5909.781	-6063.994	-6780.192	-6444.640	-6589.901
SO3	-7592.188	-8455.786	-6852.299	-6917.480	-6673.028	-6968.793	-6830.027	-8724.227
SO4	-8778.748	-9048.441	-8443.199	-8103.027	-8614.598	-8089.741	-7896.718	-8439.814
SO5	-8816.735	-8961.350	-9573.232	-9539.069	-9040.876	-9537.582	-9889.888	-9114.861
SO6	-10079.040	-10366.460	-10292.010	-10674.550	-10224.520	-11233.770	-11812.610	-10596.100
SO7	-15164.510	-15827.940	-16502.940	-16466.760	-16183.470	-15949.260	-16621.480	-16368.850
SO8	-15262.700	-14753.590	-14811.420	-15290.780	-15855.310	-15799.160	-15447.500	-15408.340
SO9	-15893.740	-16309.030	-16028.350	-16530.190	-16926.080	-16814.140	-16471.060	-14881.610
SO10	-15036.160	-17136.970	-17806.550	-16004.830	-17801.260	-16788.320	-17926.320	-15359.740
SO11	-18907.170	-17408.840	-20318.320	-19883.890	-19677.020	-18745.310	-18422.920	-16393.440
SO12	-17844.630	-21383.280	-21937.580	-22879.610	-22211.640	-22019.090	-21733.480	-20297.400
SO13	-23465.250	-25719.280	-25416.830	-25677.290	-25557.540	-24469.170	-22186.050	-24213.920

CALI_AMPMLL (Master)	Sensor Sensitivity First Break Amplitude from Monopole Lower Transmitter Low Frequency Firing	
Minimum/Nominal/Maximum	-50000.000/0/50000.000	Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	-24379.270	-21240.620	-21233.860	-20775.860	-20166.990	-21639.680	-21386.400	-21265.480
SO2	-18291.970	-19046.700	-18448.100	-18401.650	-18441.400	-20586.620	-18865.790	-19758.020
SO3	-16731.010	-19005.990	-15524.770	-15804.590	-15167.370	-16372.740	-15478.150	-19520.580
SO4	-15635.840	-16332.240	-15148.310	-14735.870	-15811.270	-15417.470	-14658.130	-15455.660
SO5	-12618.410	-12817.380	-13285.950	-13211.390	-12575.160	-13828.880	-14108.330	-13028.700
SO6	-13721.830	-13851.030	-13718.540	-14370.340	-13255.960	-14730.570	-15943.230	-14956.180
SO7	-9201.660	-9469.461	-9684.221	-9273.544	-9686.911	-9961.544	-10244.430	-9636.986
SO8	-9085.824	-8642.621	-8682.559	-8870.386	-9110.783	-9196.429	-9181.066	-9275.974
SO9	-7842.352	-7992.573	-8043.284	-8339.385	-8410.201	-8491.656	-8464.850	-7670.683
SO10	-6884.489	-7882.415	-8130.943	-7197.755	-8124.125	-7802.142	-8183.521	-7128.140
SO11	-7327.878	-6660.241	-8076.681	-7963.121	-8108.654	-7642.302	-7179.770	-6535.820
SO12	-5101.762	-6256.392	-6861.598	-7329.287	-7251.873	-7047.716	-6362.057	-5761.094
SO13	-5736.863	-6349.140	-6744.333	-6946.648	-6874.015	-6422.449	-5639.348	-5777.204

Vertical Casing Check Coefficients

Before: After:

CALI_SVCNA (Before)	Sensor Vertical Casing Check Normalized Amplitudes (Before/After/BAChange)	
Minimum/Nominal/Maximum	-----/-----/-----	Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO2	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO3	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

SO4	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO5	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO6	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO7	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO8	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO9	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO10	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

CALI_SVCNA (After)	Sensor Vertical Casing Check Normalized Amplitudes (Before/After/BAChange)							
Minimum/Nominal/Maximum	-----/-----/-----						Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO2	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO3	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO4	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO5	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO6	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO7	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO8	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO9	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO10	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

CALI_SVCTDF (Before)	Sensor Vertical Casing Check Time (Before/After/BAChange)							
Minimum/Nominal/Maximum	-----/-----/-----						Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO2	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO3	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO4	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO5	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO6	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO7	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO8	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO9	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO10	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

CALI_SVCTDF (After)	Sensor Vertical Casing Check Time (Before/After/BAChange)							
Minimum/Nominal/Maximum	-----/-----/-----						Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO2	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO3	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

SO4	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO5	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO6	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO7	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO8	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO9	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO10	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

CALI_SVCLF (Before)	Sensor Vertical Casing Check Low Frequency Diagnostics Failure Flag (Before/After/BAChange)	
Minimum/Nominal/Maximum	-----/-----/-----	Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO2	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO3	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO4	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO5	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO6	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO7	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO8	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO9	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO10	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

CALI_SVCLF (After)	Sensor Vertical Casing Check Low Frequency Diagnostics Failure Flag (Before/After/BAChange)	
Minimum/Nominal/Maximum	-----/-----/-----	Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO2	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO3	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO4	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO5	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO6	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO7	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO8	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO9	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO10	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

Well: Springvale 1

Field: Springvale

Rig Name: TDC-4

State: Queensland

Country: Australia

Schlumberger

Isolation Scanner Log

IBC-CBL-GR-CCL

1:200, 1:500 Scale