Hydrogeologic Investigation for the Kissimmee Basin Lower Floridan Aquifer Reconnaissance Project, Site C

Osceola County, Florida
Technical Publication WS-34

Appendices





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APPENDICES

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APPENDIX A
Construction Details

Start Date	End Date	Activity
14-Feb-12		Notice to Proceed
15-Feb-12	4-Apr-12	Mobilization
5-Apr-12	6-Apr-12	12-inch Mud Pilot-hole to 242 ft bls
9-Apr-12		12-inch Mud Pilot-hole to target depth, 300 ft bls
10-Apr-12		Formation logging
11-Apr-12		Ream nominal 32-inch borehole to 300 ft bls
16-Apr-12		Set 26-inch steel casing to 300 ft bls
16-Apr-12		Pressure grout first stage, 256 feet
17-Apr-12		Tremie grout second stage to surface
19-Apr-12	25-Apr-12	12-inch Air Pilot-hole from 300 - 930 ft bls
26-Apr-12	27-Apr-12	Geophysical logging, Formation and Production (1080 gpm)
28-Apr-12	5-May-12	Ream nominal 26-inch borehole to 910 ft bls
3-May-12		OSF-105: USGS runs OBI log on existing borehole
7-May-12	8-May-12	OSF-109: Set 910 feet of 20-inch steel casing to top of APPZ
10-May-12	18-May-12	OSF-109: Grout 20" casing. Lost ~ 151 barrels of cement to the formation in this horizon. Un-planned addition of 9 cu-yd of gravel.
21-May-12	25-May-12	OSF-109: Drill nominal 20-inch borehole from base of casing (915 ft) to 1253 ft. Lost cone off the bit at 1253 ft.
26-May-12	2-Jun-12	OSF-109: Fishing for missing cone.
4-Jun-12	4-Jun-12	OSF-109: Reverse air 20" borehole 1253' to 1270'
5-Jun-12	5-Jun-12	OSF-109: AWE setting up for 3 day APT
6-Jun-12	10-Jun-12	APT #1: APPZ (915 - 1250 ft bls)
11-Jun-12		Break-down APT set-up. Prepare for next stage of drilling.
11-Jun-12	14-Jun-12	OSF-109: Reverse air 20" borehole 1270' to 1358'. 0900 - Breakdown on rig, problem with kelly bushing. Awaiting replacement delivery and installation.
15-Jun-12		OSF-109: Reverse air 20" borehole 1358' to 1391'
18-Jun-12	19-Jun-12	OSF-109: Reverse air 20" borehole 1391' to 1490'
20-Jun-12	21-Jun-12	OSF-109: Geophysical logging of 20" borehole, formation and production logs.
22-Jun-12		OSF-109: Hang 600 ft of 12-inch casing on back-off (1489 - 889 ft bls)
25-Jun-12	29-Jun-12	OSF-109: Grouting 12-inch casing.Multiple grout drinking zones requiring graveling to bypass. 1490 - 933 ft bls.
2-Jul-12	7-Jul-12	OSF-109: Grouting 12-inch casing. Extremely troublesome broken-out area just below casing 933 - ? ft bls. Rig shut-down for July 4th holiday.
9-Jul-12	11-Jul-12	OSF-109: AWE had trouble getting back into the 12-inch casing with the bit. Tried through the morning, then the clutch went down on the rig. Stopped for repairs.
12-Jul-12	13-Jul-12	OSF-109: Went back in with 12-inch bit, but no progress. 12-inch bit is broken. Trip out. Trip back in with 10-inch bit. Returned a lot of metal, some milling of casing has ocurred.
14-Jul-12		OSF-109: AWE finishes drilling out grout plug from 12-inch casing. Drills to 1497 ft bls.
16-Jul-12	19-Jul-12	OSF-109: Pilot-hole drilling 1,497 to Total Depth (2,000). Run 3 interval tests: (1489 - 1635), (1489 - 1762), (1489 - 2000)
20-Jul-12	21-Jul-12	OSF-109: Unable to enter borehole with logging tools. Video survey shows the 12-inch casing is bent over and hooked toward the inside ~906 ft bls. Progress halted for casing repair. Enter with 8 - 12 reamer bit to mill out the casing to the correct diameter.

23-Jul-12		OSF-109: Attempt second video survey of the damaged casing to see if the repair work was successful. The camera got stuck again. Attempts to withdraw it led to a snapped cable, and the tool and much cable fell downhole.
24-Jul-12	28-Jul-12	OSF-109: Recovery fishing for downhole camera.
30-Jul-12	3-Aug-12	OSF-109: Work on repair of damaged back-off. Ran into hole with a 12-inch maximum diameter reaming tool, to try and mill casing to 12-inch where bit damage bent it inward.
4-Aug-12		OSF-109: Formation logging (1,490 - 2,000 FE BLS)
6-Aug-12		OSF-109: Pump installed to 150 ft bls for production logging. Well pumped to purge freshwater that was added during casing repair operations. Generator problem.
7-Aug-12		OSF-109: While attempting static fluid logging, the logging cable was cut, apparently by the flange on the pump riser, dropping the FRT tool and 900 feet of cable down the hole.
8-Aug-12		OSF-109: Fishing for geophysical logging tool and cable.
9-Aug-12	16-Aug-12	OSF-109: Attempt to run production logs, but pump won't run. Diagnose problem with the pump motor, which must be sent off-site for repairs.
17-Aug-12		OSF-109: Repaired pump re-installed. Problem with VFD, must be wired directly to generator to run.
18-Aug-12		OSF-109: Production logging. Flowmeter snagged on casing ~900 ft bls. Fish for and recover hung flowmeter.
19-Aug-12		OSF-109: Set temporary 12-inch funnel-shapped liner at back-off to facillitrated entry of logger and packer testing assembly.
20-Aug-12		OSF-109: Final video to 2000 ft bls, pumped condtions.
21-Aug-12		OSF-109: Trip in with packer assembly.
22-Aug-12		OSF-109: Set-up and run packer tests 1 (1890 - 1920) and 2 (1837 - 1867)
23-Aug-12		OSF-109: Set-up and run packer test 3 (1689 - 1719). Pinched off 200 ft transducer cable during 1st attempt. AWE flowmeter stopped shortly after test began. Stop at end of packer 3 to await flowmeter replacement)
24-Aug-12		OSF-109: Set-up and run packer test 4 (1545 - 1575). Begin to trip out with packer assembly.
25-Aug-12		OSF-109: Complete removal of packer assembly & prepare for borehole backfill.
27-Aug-12		OSF-109: No work on-site due to hurricane Isaac.
28-Aug-12		OSF-109: Backfill borehole with gravel from 2001 to 1760 feet BLS., then cap with 15 feet neat cement to 1745 feet bls. Final well depth.
29-Aug-12	3-Sep-12	Demobilize rig from OSF-109, and set-up over OSF-105.
5-Sep-12		OSF-105: Drilled nominal 10-inch pilot hole from base of the previous drilling (1,217 ft bls) to 1,350 ft bls, then tripped out to prepare the hole for coring.
6-Sep-12	7-Sep-12	OSF-105: Core barrel lowered to 80 ft off bottom, and refuses to advance. Three times though the day and night, AWE tripped out with the core barrel, then back in with the bit to wipe the hole to the bottom. Can feel large rocks beeing pushed down the borehole by the bit. When the core barrel was attempted again, there was again obstruction. Decided abandon attempts to core at this depth and proceed with pilot hole drilling to the second core target. The borehole was advanced to 1,375 ft bls.

10-Sep-12		OSF-105: Pilot-hole drilling 1,375 - 1,423, and condition the borehole for logging. Geophysical logging: Borehole video, x-y caliper & borehole deviation survey. Able to log only to 1,100, where borehole blocked by large boulder.
11-Sep-12		OSF-105: After review of logs and video, SFWMD & AWE concur that there is an abundance of loose rock material in the borehole, and prospects for successful coring operations are poor. The decision was made to abandon further core attempts, and resume reverse-air drilling.
11-Sep-12	12-Sep-12	OSF-105: Pilot-hole drilling 1423 - 1,750 ft bls (TD). Wiper trip into casing to prepare borehole for geophysical logging.
13-Sep-12		OSF-105: Air-development of borehole (6 hrs), in preparation for logging. Trip out of the borehole with the bit.
14-Sep-12		OSF-105: Attempt geophysical logging, but find borehole blocked at 1,255 ft bls. Complete another wiper run and attempt logging again. This time the borehole is blocked at 1,144 ft bls. Shut down 1300 as AWE and SFWMD assess options.
17-Sep-12	19-Sep-12	OSF-109: Re-configure well-head, and install packer at 922 ft bls. Run pressure test to evaluate mechanical integrity of damaged 12-inch casing back-off. The casing meets criteria.
20-Sep-12	26-Sep-12	OSF-109: Fabricate and install adaptor for repair of 12-inch casing back-off.
27-Sep-12		OSF-109: Verification video and caliper log for back-off repair. Repair is complete.
27-Sep-12	29-Sep-12	OSF-105: AWE mobilizes 5-inch I.D. drill pipe to site, installs in OSF-105, wiper to total depth, then hold as protective casing at 1,218 ft bls.
1-Oct-12		OSF-105: Attempt final logs through 5-inch I.D. drill pipe, installed to 1218 ft BLS. Run caliper to bottom, but the tool stuck inside the drill-pipe circa 1,100 ft bls. After repeated attempts to dislodge, had to trip out of the hole with the tool in-place, clamping and cutting the logging cable with each stick of drill-pipe removed.
2-Oct-12		OSF-105: No data-collection activities on-site. The logging tool was returned to the shop for a new cable spool and repair of the caliper tool.
3-Oct-12		OSF-105: Complete final logs through the drill-pipe, formation logs and static flow and fluids.
4-Oct-12		Site C: USGS conducts OBI logging OSF-105 (1226 - 1750) / OSF-109 (1490 - 1745). Time: (OSF-109 0900 - 1128), (OSF-105 1153 - 1506)
5-Oct-12		OSF-105: Prepare for borehole back-fill through the 5-inch I.D. Drill pipe
8-Oct-12		OSF-105: Waiting for gravel delivery.
9-Oct-12	11-Oct-12	OSF-105: Gravel back-fill from 1,750 - 1,312, then cap with 12 feet neat cement.
12-Oct-12		OSF-105: Tag cement @1,300, then trip out with tremie and temporary drill pipe liner.
13-Oct-12	17-Oct-12	Site C: Break-down rig from well OSF-105, and re-configure over OSF-109
18-Oct-12	19-Oct-12	OSF-109: Install 1,700 fr 4-inch FRP tubing with cement baskets for grout.
22-Oct-12	24-Aug-12	OSF-109: Tremie grout 4-inch FRP from 1,694 (moved up from 1,700 ft due to hole irregularity at that depth) to 1,573 F BLS.
26-Aug-12		OSF-109: Conduct successful pressure test of the installed FRP tubing.

26-Oct-12		OSF-109: Develop lower monitor zone to remove turbidity from borehole backfill.
27-Oct-12		OSF-109: Install turbine pump to 160 ft bls in annular zone, in prepration for APT.
29-Oct-12	3-Nov-12	OSF-109: Conduct Aquifer performance test 2
6-Nov-12	9-Nov-12	OSF-109: Grout temporary annular zone to surface.

Well	Date	Stage No.	Mix	Grouting Method	Casing Type	Diameter [in]	Weight [lb/gal]	Barrels	Cubic Feet	Sacks	Start Depth [ft]	Finish Depth [ft]
OSF-109	16-Apr-12	1	Neat	Pressure	Steel	26		94	527.9	447	300	44
OSF-109	17-Apr-12	2	8%	Tremie	Steel	26		14	78.6	41	44	0
							sub-total	108	606.5	**488**		
OSF-109	10-May-12	1	Neat	Pressure	Steel	20		100	561.6	476	910	910
OSF-109	11-May-12	2	Neat	Pressure	Steel	20		27	151.6	129		
OSF-109			gravel		Steel	20			81.0			
OSF-109	15-May-12	3	Neat	Pressure	Steel	20		24	134.8	114		
OSF-109	15-May-12	4	Neat	Tremie	Steel	20		11	61.8	52	916	915
OSF-109	16-May-12		gravel		Steel	20					915	895
OSF-109	16-May-12	5	6%	Tremie	Steel	20		7	39.3	23	895	874
OSF-109	17-May-12	6	Neat + accelerato	Tremie	Steel	20	**15.1**	7	39.3	33	874	839
OSF-109	17-May-12	7	6%	Tremie	Steel	20	*13.2*	66	370.7	214		
OSF-109	18-May-12	7	6%	Tremie	Steel	20	*13.2*	7	39.3	23	839	556
OSF-109	18-May-12	7	6%	Tremie	Steel	20	*13.2*	16	89.9	52	839	556
OSF-109	8-Nov-12	1	12%	Tremie	Steel	20		118	662.7	383	512	161
OSF-109	9-Nov-12	2	12%	Tremie	Steel	20		37	207.8	120	161	0
										503		
							sub-total	249	1479.4	**1064**		
OSF-109	25-Jun-12	1	Neat	Pressure	Steel	12	*15.1*	*24*	134.8	114	1489	1410
OSF-109	26-Jun-12	2	Neat	Tremie	Steel	12	*15.1*	*28*	157.2	133	1410	1410
OSF-109	27-Jun-12	3	Neat	Tremie	Steel	12	*15.1*	22	123.6	105	1410	1410
OSF-109	27-Jun-12	3	6%	Tremie	Steel	12	13.3	21	117.9	68	1410	1410
OSF-109			Gravel						27.0		1410	1400
OSF-109	27-Jun-12	4	Neat	Tremie	Steel	12	*15.1*	24	134.8	114	1400	1341
OSF-109	28-Jun-12		Gravel						16.2		1341	1330
OSF-109	28-Jun-12	5	Neat + accelerato	Tremie	Steel	12	*15.1*	*24*	134.8	114	1330	1299
OSF-109	28-Jun-12		Gravel								1299	1100
OSF-109	28-Jun-12	6	6%	Tremie	Steel	12	13.3	37	207.8	120	1100	1030
OSF-109	29-Jun-12		Gravel								1030	933
OSF-109	2-Jul-12	7	Neat	Tremie	Steel	12	14.6	4	22.5	19	916	933
OSF-109	3-Jul-12		Gravel								933	917
OSF-109	3-Jul-12	8	Neat + accelerant	Tremie	Steel	12	14.5	*5*	28.1	24	917	932
OSF-109	3-Jul-12		Gravel								932	919
OSF-109	5-Jul-12		Gravel								919	916.5
OSF-109	5-Jul-12	9	Neat	Tremie	Steel	12	15	5	28.1	24	916.5	919

OSF-109	5-Jul-12		Gravel								919	915.5
OSF-109	5-Jul-12	10	Neat	Tremie	Steel	12	15	1	5.6	5	915.5	918
OSF-109	6-Jul-12		Gravel								918	913
OSF-109	6-Jul-12		Neat + accelerant	Tremie	Steel	12	15	1	5.6	5	913	914
OSF-109	6-Jul-12		Neat	Tremie	Steel	12	14.9	5	28.1	24	914	907
OSF-109	7-Jul-12		Neat	Tremie	Steel	12	14.9	2	11.2	10	907	897
							sub-total	**203**		**869**		
OSF-109	28-Aug-12	1	Gravel		Borehole Backfill	11					2001	1760
OSF-109	28-Aug-12	2	Neat		Borehole Backfill	11	15			6	1760	1745
OSF-109	22-Oct-12	1	Neat	Tremie	FRP	4	15		5.9	5	1694	1680
OSF-109	23-Oct-12	2	Neat + accelerant	Tremie	FRP	4	15		9.4	8	1680	1662.51
OSF-109	23-Oct-12	3	Neat	Tremie	FRP	4	15		35.4	30	1662.5	1588
OSF-109	24-Oct-12	4	Neat	Tremie	FRP	4	15		8.3	**7**	1588	1573
							sub-total			**50**		

Well	Date	Stage No.	Fill Material	Gravel Buckets	Cubic Feet	Cubic Yards	Sacks	Start Depth [ft]	Finish Depth [ft]
OSF-105	9-Oct-12	1	Pea Gravel	5	115	4		1750	1563
OSF-105	10-Oct-12	2	Pea Gravel	11	253	8		1563	1312
OSF-105	11-Oct-12	3	Neat Cement				10	1312	1300
			totals			**12**	**10**		

date	depth	start-time	end-time	Drill interval [ft]	Drill-time [min] [clock]	Drill-time [min]	ROP [FT/MIN]
4/5/2012	7		9:00	7.0	9:00		
	12	9:00	9:08	5.0	0:08	8	0.63
	17	9:08	9:17	5.0	0:09	9	0.56
	27	9:17	9:20	10.0	0:03	3	3.33
	31.5	9:20	9:25	4.5	0:05	5	0.90
	31.5	9:25	10:38	0.0	1:13	73	
	35	10:38	10:42	3.5	0:04	4	0.88
	40	10:42	10:47	5.0	0:05	5	1.00
	45	10:47	10:51	5.0	0:04	4	1.25
	50	10:51	10:57	5.0	0:06	6	0.83
	55	10:57	11:01	5.0	0:04	4	1.25
	60	11:01	11:06	5.0	0:05	5	1.00
	65	11:06	11:10	5.0	0:04	4	1.25
	65	11:10	11:41	0.0	0:31	31	
	70	11:41	11:45	5.0	0:04	4	1.25
	75	11:45	11:54	5.0	0:09	9	0.56
	80	11:54	12:01	5.0	0:07	7	0.71
	85	12:01	12:06	5.0	0:05	5	1.00
	90	12:06	12:11	5.0	0:05	5	1.00
		12:11	12:16	-90.0	0:05	5	
		12:16	12:48	0.0	0:32	32	
	95	12:48	12:51	95.0	0:03	3	
	100	12:51	12:55	5.0	0:04	4	1.25
	105	12:55	12:59	5.0	0:04	4	1.25
	110	12:59	13:04	5.0	0:05	5	1.00
	115	13:04	13:08	5.0	0:04	4	1.25
	120	13:08		5.0	##########		
	122.5			2.5	0:00		
	122.5		13:47	0.0	13:47		
	125	13:47	13:48	2.5	0:01	1	2.50
	130	13:48	13:54	5.0	0:06	6	0.83
	135	13:54		5.0	##########		
	140		14:11	5.0	14:11	17	0.29
	145	14:11	14:25	5.0	0:14	14	0.36
	150	14:25	14:55	5.0	0:30	30	0.17
	150	14:55	15:28	0.0	0:33	33	
	155	15:28	15:40	5.0	0:12	12	0.42
	160	15:40	15:52	5.0	0:12	12	0.42
	165	15:52	16:11	5.0	0:19	19	0.26
	170	16:11	16:23	5.0	0:12	12	0.42
	170	16:23	16:33	0.0	0:10	10	0.00
	175	16:33	17:27	5.0	0:54	54	0.09
	182	17:27	17:49	7.0	0:22	22	0.32
4/6/2012	182		8:35	0.0	8:35		

	185	8:35	8:38	3.0	0:03	3	1.00
	190	8:38	9:24	5.0	0:46	46	0.11
	195	9:24	10:56	5.0	1:32	92	0.05
	200	10:56	12:31	5.0	1:35	95	0.05
	205	12:31	12:50	5.0	0:19	19	0.26
	210	12:50	14:15	5.0	1:25	85	0.06
	215	14:15	16:02	5.0	1:47	107	0.05
	220	16:02	16:15	5.0	0:13	13	0.38
	225	16:15	16:24	5.0	0:09	9	0.56
	230	16:24	16:48	5.0	0:24	24	0.21
		16:48		-230.0	##########		
4/9/2012	242		7:30	242.0	7:30		
	243	7:30	8:45	1.0	1:15	75	0.01
	243	8:45	9:05	0.0	0:20	20	
	245	9:05	9:10	2.0	0:05	5	0.40
	250	9:10	9:15	5.0	0:05	5	1.00
	255	9:15	9:24	5.0	0:09	9	0.56
	260	9:24	9:36	5.0	0:12	12	0.42
	263	9:36	10:00	3.0	0:24	24	0.13
	263	10:00	11:34	0.0	1:34	94	
	265	11:34	11:42	2.0	0:08	8	0.25
	270	11:42	12:20	5.0	0:38	38	0.13
	273.8	12:20	12:28	3.8	0:08	8	0.48
	275	12:28	13:12	1.2	0:44	44	0.03
	275	13:12	13:27	0.0	0:15	15	
	280	13:27	13:37	5.0	0:10	10	0.50
	285	13:37	13:52	5.0	0:15	15	0.33
	290	13:52	14:00	5.0	0:08	8	0.63
	295	14:00	14:12	5.0	0:12	12	0.42
	295	14:12	14:22	0.0	0:10	10	0.00
	300	14:22	15:16	5.0	0:54	54	0.09
	303	15:16	15:20	3.0	0:04	4	0.75
4/19/2012	304	15:20	15:45	1.0	0:25	25	0.04
	305	15:45	16:24	1.0	0:39	39	0.03
	310	16:24	16:45	5.0	0:21	21	0.24
	315	16:45	17:48	5.0	1:03	23	0.22
	320	17:48	18:06	5.0	0:18	18	0.28
	325	18:06	18:18	5.0	0:12	12	0.42
	330	18:18	18:35	5.0	0:17	17	0.29
	331	18:35	18:45	1.0	0:10	10	0.10
4/20/2012	335		8:36	4.0	8:36		
	340	8:36	8:47	5.0	0:11	11	0.45
	345	8:47	9:06	5.0	0:19	19	0.26
	350	9:06	9:25	5.0	0:19	19	0.26
	355	9:25	9:35	5.0	0:10	10	0.50
	360	9:35	9:47	5.0	0:12	12	0.42
	362	9:47		2.0	##########		

	365		10:45	3.0	10:45		
	370	10:45	10:51	5.0	0:06	6	0.83
	375	10:51	10:58	5.0	0:07	7	0.71
	380	10:58	11:04	5.0	0:06	6	0.83
	385	11:04	11:14	5.0	0:10	10	0.50
	390	11:14	11:24	5.0	0:10	10	0.50
	394	11:24	11:30	4.0	0:06	6	0.67
	400	11:30	12:21	6.0	0:51	51	
	405	12:21	12:25	5.0	0:04	4	1.25
	410	12:25	12:31	5.0	0:06	6	0.83
	415	12:31	12:41	5.0	0:10	10	0.50
	420	12:41	12:53	5.0	0:12	12	0.42
	425	12:53	13:05	5.0	0:12	12	0.42
	425	13:05	13:25	0.0	0:20	20	
	430	13:25	13:44	5.0	0:19	19	0.26
	435	13:44	13:55	5.0	0:11	11	0.45
	440	13:55	14:06	5.0	0:11	11	0.45
	445	14:06	14:14	5.0	0:08	8	0.63
	450	14:14	14:27	5.0	0:13	13	0.38
	455	14:27	14:36	5.0	0:09	9	0.56
	455	14:36	15:08	0.0	0:32	32	
	460	15:08	15:18	5.0	0:10	10	0.50
	465	15:18	15:26	5.0	0:08	8	0.63
	470	15:26	15:36	5.0	0:10	10	0.50
	475	15:36	15:46	5.0	0:10	10	0.50
	480	15:46	15:50	5.0	0:04	4	1.25
	485	15:50	16:04	5.0	0:14	14	0.36
	490	16:04	16:27	5.0	0:23	23	0.22
	495	16:27	16:37	5.0	0:10	10	0.50
	500	16:37	16:40	5.0	0:03	3	1.67
	505	16:40	16:45	5.0	0:05	5	1.00
	510	16:45	16:50	5.0	0:05	5	1.00
	519	16:50	16:53	9.0	0:03	3	3.00
4/23/2012	585			66.0	0:00		
	590			5.0	0:00		
	595			5.0	0:00		
	600		12:34	5.0	12:34		
	605	12:34	12:38	5.0	0:04	4	1.25
	606	12:38		1.0	##########		
	610		13:12	4.0	13:12		
	611	13:12	13:15	1.0	0:03	3	0.33
	611	13:15	13:32	0.0	0:17	17	
	615	13:32	13:37	4.0	0:05	5	0.80
	620	13:37		5.0	##########		
	625		13:49	5.0	13:49		
	640	13:49	13:59	15.0	0:10	10	1.50
	641	13:59	14:01	1.0	0:02	2	0.50

	641	14:01	14:26	0.0	0:25	25	
	645	14:26	14:31	4.0	0:05	5	0.80
	650	14:31	14:46	5.0	0:15	15	0.33
	650	14:46	15:04	0.0	0:18	18	
	655	15:04	18:30	5.0	3:26	206	
	660	18:30	18:45	5.0	0:15	15	0.33
	665	18:45	18:52	5.0	0:07	7	0.71
	670	18:52	18:58	5.0	0:06	6	0.83
	670	18:58		0.0	##########		
4/24/2012	672		8:50	2.0	8:50		
	675	8:50	8:56	3.0	0:06	6	0.50
	680	8:56	9:05	5.0	0:09	9	0.56
	685	9:05	9:15	5.0	0:10	10	0.50
	690	9:15	9:29	5.0	0:14	14	0.36
	695	9:29	9:42	5.0	0:13	13	0.38
	700	9:42	9:54	5.0	0:12	12	0.42
	702	9:54	9:58	2.0	0:04	4	0.50
	702	9:58	10:20	0.0	0:22	22	
	705	10:20	10:22	3.0	0:02	2	1.50
	710	10:22	10:29	5.0	0:07	7	0.71
	715	10:29	10:52	5.0	0:23	23	0.22
	720	10:52	11:03	5.0	0:11	11	0.45
	725	11:03	11:14	5.0	0:11	11	0.45
	730	11:14	11:19	5.0	0:05	5	1.00
	734	11:19	11:21	4.0	0:02	2	2.00
	734	11:21	12:04	0.0	0:43	43	
	735	12:04	12:07	1.0	0:03	3	0.33
	740	12:07	12:15	5.0	0:08	8	0.63
	745	12:15	12:30	5.0	0:15	15	0.33
	750	12:30	12:43	5.0	0:13	13	0.38
	755	12:43	12:57	5.0	0:14	14	0.36
	760	12:57	13:13	5.0	0:16	16	0.31
	765	13:13	13:47	5.0	0:34	34	0.15
	765	13:47	14:11	0.0	0:24	24	
	770	14:11	14:15	5.0	0:04	4	1.25
	775	14:15	14:17	5.0	0:02	2	2.50
	780	14:17	14:20	5.0	0:03	3	1.67
	785	14:20	14:25	5.0	0:05	5	1.00
	790	14:25	14:33	5.0	0:08	8	0.63
	795	14:33	14:44	5.0	0:11	11	0.45
	795	14:44	15:13	0.0	0:29	29	0.00
	800	15:13	15:18	5.0	0:05	5	1.00
	805	15:18	15:28	5.0	0:10	10	0.50
	810	15:28	15:34	5.0	0:06	6	0.83
	815	15:34	15:44	5.0	0:10	10	0.50
	820	15:44	15:59	5.0	0:15	15	0.33
	825	15:59	16:05	5.0	0:06	6	0.83

	827	16:05	16:07	2.0	0:02	2	1.00
	827	16:07	16:32	0.0	0:25	25	
	830	16:32	16:40	3.0	0:08	8	0.38
	835	16:40	16:49	5.0	0:09	9	0.56
	840	16:49	17:01	5.0	0:12	12	0.42
	845	17:01	17:07	5.0	0:06	6	0.83
	850	17:07	17:14	5.0	0:07	7	0.71
	855	17:14	17:18	5.0	0:04	4	1.25
	858	17:18	17:20	3.0	0:02	2	1.50
	858	17:20	17:41	0.0	0:21	21	
	860	17:41	17:43	2.0	0:02	2	1.00
	865	17:43	17:49	5.0	0:06	6	0.83
	870	17:49	17:56	5.0	0:07	7	0.71
	875	17:56	18:05	5.0	0:09	9	0.56
	880	18:05	18:16	5.0	0:11	11	0.45
	885	18:16	18:24	5.0	0:08	8	0.63
	889	18:24	18:26	4.0	0:02	2	2.00
4/25/2012	890	7:47	7:51	1.0	0:04	4	0.25
	895	7:51	8:00	5.0	0:09	9	0.56
	900	8:00	8:06	5.0	0:06	6	0.83
	903	8:06	8:11	3.0	0:05	5	0.60
	905	8:11	8:25	2.0	0:14	14	0.14
	910	8:25	9:17	5.0	0:52	52	0.10
	915	9:17	9:21	5.0	0:04	4	1.25
	920	9:21	9:29	5.0	0:08	8	0.63
5/21/2012	950		14:24	30.0	14:24		
	955	14:24	14:50	5.0	0:26	26	0.19
	958	14:50	15:14	3.0	0:24	24	0.13
	958	15:14	15:55	0.0	0:41	64	
	960	15:55	16:18	2.0	0:23	23	0.09
	965	16:18	16:58	5.0	0:40	40	0.13
	970	16:58	17:43	5.0	0:45	45	0.11
	975	17:43	18:14	5.0	0:31	31	0.16
	980	18:14	18:33	5.0	0:19	19	0.26
	985	18:33	18:55	5.0	0:22	22	0.23
5/22/2012	985		8:24	0.0	8:24		
	988.8	8:24	8:35	3.8	0:11	11	0.35
	988.8	8:35	9:01	0.0	0:26		
	990	9:01	9:05	1.2	0:04	4	0.30
	995	9:05	9:25	5.0	0:20	20	0.25
	1000	9:25	9:56	5.0	0:31	31	0.16
	1005	9:56	10:40	5.0	0:44	44	0.11
	1010	10:40	11:55	5.0	1:15	75	0.07
	1015	11:55	12:50	5.0	0:55	55	0.09
	1019	12:50	13:25	4.0	0:35	35	0.11
	1019	13:25	13:48	0.0	0:23		
	1020	13:48	13:53	1.0	0:05	5	0.20

	1025	13:53	14:30	5.0	0:37	37	0.14
	1030	14:30	15:02	5.0	0:32	32	0.16
	1035	15:02	15:34	5.0	0:32	32	0.16
	1040	15:34	15:56	5.0	0:22	22	0.23
	1045	15:56	16:19	5.0	0:23	23	0.22
	1048	16:19	16:31	3.0	0:12	12	0.25
	1048	16:31	16:52	0.0	0:21	21	
	1050	16:52	17:01	2.0	0:09	9	0.22
	1055	17:01	17:17	5.0	0:16	16	0.31
	1060	17:17	17:36	5.0	0:19	19	0.26
	1065	17:36	17:40	5.0	0:04	4	
	1070	17:40	18:28	5.0	0:48	48	
	1072	18:28	18:41	2.0	0:13	13	0.15
5/23/2012	1075	7:30	7:55	3.0	0:25	25	0.12
	1079	7:55	8:39	4.0	0:44	44	0.09
	1079	8:39	9:11	0.0	0:32	32	
	1080	9:11	9:24	1.0	0:13	13	0.08
	1085	9:24	10:17	5.0	0:53	53	0.09
	1090	10:17	10:55	5.0	0:38	38	0.13
	1095	10:55	11:35	5.0	0:40	40	0.13
	1100	11:35	12:16	5.0	0:41	41	0.12
	1105	12:16	13:07	5.0	0:51	51	0.10
	1110	13:07	13:40	5.0	0:33	33	0.15
	1110	13:40	14:16	0.0	0:36	36	
	1115	14:16	14:45	5.0	0:29	29	0.17
	1120	14:45	15:23	5.0	0:38	38	0.13
	1125	15:23	15:50	5.0	0:27	27	0.19
	1130	15:50	16:31	5.0	0:41	41	0.12
	1135	16:31	16:52	5.0	0:21	21	0.24
	1140	16:52	17:08	5.0	0:16	16	0.31
	1144	17:08		4.0	##########		
	1144		17:59	0.0	17:59		
	1145	17:59	18:05	1.0	0:06	6	0.17
	1150	18:05	18:34	5.0	0:29	29	0.17
	1155	18:34	18:54	5.0	0:20	20	0.25
5/24/2012	1160	8:01	8:23	5.0	0:22	22	0.23
	1165	8:23	9:02	5.0	0:39	39	0.13
	1170	9:02	9:29	5.0	0:27	27	0.19
	1175	9:29	9:53	5.0	0:24	24	0.21
	1175	9:53	10:24	0.0	0:31	31	
	1180	10:24	10:50	5.0	0:26	26	0.19
	1185	10:50	11:42	5.0	0:52	52	0.10
	1190	11:42	12:35	5.0	0:53	53	0.09
	1195	12:35	13:15	5.0	0:40	40	0.13
	1200	13:15	14:06	5.0	0:51	51	0.10
	1204	14:06	14:41	4.0	0:35	35	0.11
	1204	14:41	15:26	0.0	0:45	45	

	1205	15:26	15:33	1.0	0:07	7	0.14
	1210	15:33	16:23	5.0	0:50	50	0.10
	1215	16:23	17:20	5.0	0:57	57	0.09
	1220	17:20	18:27	5.0	1:07	67	0.07
5/25/2012	1225	7:31	8:20	5.0	0:49	49	0.10
	1230	8:20	9:07	5.0	0:47	47	0.11
	1235	9:07	9:45	5.0	0:38	38	0.13
	1235	9:45	10:16	0.0	0:31	31	
	1240	10:16	11:11	5.0	0:55	55	0.09
	1245	11:11	12:06	5.0	0:55	55	0.09
	1245	12:06	12:56	0.0	0:50	50	
6/4/2012	1260	8:33	10:22	15.0	1:49	109	0.14
	1265	10:22	11:24	5.0	1:02	62	0.08
	1270	11:24	14:04	5.0	2:40	160	0.03
6/11/2012	1275		17:27	5.0	17:27		
	1280	17:27	18:10	5.0	0:43	43	0.12
	1283	18:10	18:48	3.0	0:38	38	0.08
6/12/2012	1285	7:30	8:32	2.0	1:02	62	0.03
	1290	8:32	10:28	5.0	1:56	116	0.04
	1295	10:28	11:38	5.0	1:10	70	0.07
	1295	11:38	12:35	0.0	0:57	57	
	1300	12:35	13:28	5.0	0:53	53	0.09
	1305	13:28	14:50	5.0	1:22	82	0.06
	1310	14:50	16:02	5.0	1:12	72	0.07
	1315	16:02	17:10	5.0	1:08	68	0.07
	1320	17:10	18:49	5.0	1:39	99	0.05
6/13/2012	1325	7:20	9:26	5.0	2:06	126	0.04
	1327	9:26	10:20	2.0	0:54	54	0.04
	1327	10:20	10:45	0.0	0:25		
	1330	10:45	11:14	3.0	0:29	29	0.10
	1335	11:14	12:34	5.0	1:20	80	0.06
	1340	12:34	13:26	5.0	0:52	52	0.10
	1345	13:26	15:37	5.0	2:11	130	0.04
	1350	15:37	17:07	5.0	1:30	90	0.06
	1355	17:07	17:50	5.0	0:43	43	0.12
	1358	17:50	18:05	3.0	0:15	15	0.20
6/14/2012	1358	7:25	7:39	0.0	0:14	14	
	1360	7:39	7:55	2.0	0:16	16	0.13
	1362	7:55	8:05	2.0	0:10	10	0.20
6/15/2012	1365	13:34	14:10	3.0	0:36	36	0.08
	1370	14:10	14:41	5.0	0:31	31	0.16
	1375	14:41	15:16	5.0	0:35	35	0.14
	1380	15:16	16:30	5.0	1:14	74	0.07
	1385	16:30	17:17	5.0	0:47	47	0.11
	1390	17:17	18:14	5.0	0:57	57	0.09
	1391	18:14	18:20	1.0	0:06	6	0.17
6/18/2012	1395	8:05	9:10	4.0	1:05	65	0.06

	1400	9:10	10:35	5.0	1:25	85	0.06
	1405	10:35	12:15	5.0	1:40	100	0.05
	1410	12:15	13:00	5.0	0:45	45	0.11
	1415	13:00	13:40	5.0	0:40	40	0.13
	1420	13:40	15:30	5.0	1:50	110	0.05
	1420	15:30	16:40	0.0	1:10		
	1425	16:45	17:10	5.0	0:25	30	0.17
	1430	17:10	17:52	5.0	0:42	42	0.12
	1435	17:52	18:15	5.0	0:23	23	0.22
	1440	18:15	18:40	5.0	0:25	25	0.20
6/19/2012	1445	7:26	8:05	5.0	0:39	39	0.13
	1450	8:05	8:45	5.0	0:40	40	0.13
	1450	8:45	10:30	0.0	1:45	105	
	1455	10:30	10:50	5.0	0:20	20	0.25
	1460	10:50	11:20	5.0	0:30	30	0.17
	1465	11:20	11:45	5.0	0:25	25	0.20
	1470	11:45	12:12	5.0	0:27	27	0.19
	1475	12:12	12:30	5.0	0:18	18	0.28
	1480	12:30	13:00	5.0	0:30	30	0.17
	1480	13:10	13:55	0.0	0:45	55	
	1485	13:55	14:10	5.0	0:15	15	0.33
	1490	14:10	14:50	5.0	0:40	40	0.13
	1491.6	14:50	14:50	1.6	0:00	0	
7/16/2012	1497		8:05	5.4	8:05	485	
7/16/2012	1500	8:05	8:09	3.0	0:04	4	0.75
7/16/2012	1505	8:09	8:27	5.0	0:18	18	0.28
7/16/2012	1510	8:27	8:47	5.0	0:20	20	0.25
7/16/2012	1513	8:47	8:56	3.0	0:09	9	0.33
7/16/2012	1515	9:45	10:31	2.0	0:46	46	0.04
7/16/2012	1520	10:31	10:43	5.0	0:12	12	0.42
7/16/2012	1525	10:43	10:53	5.0	0:10	10	0.50
7/16/2012	1530	10:53	11:19	5.0	0:26	26	0.19
7/16/2012	1535	11:19	11:51	5.0	0:32	32	0.16
7/16/2012	1540	11:51	12:12	5.0	0:21	21	0.24
7/16/2012	1545	12:12	12:50	5.0	0:38	38	0.13
7/16/2012	1550	13:56	14:07	5.0	0:11	11	0.45
7/16/2012	1555	14:07	14:20	5.0	0:13	13	0.38
7/16/2012	1560	14:20	14:34	5.0	0:14	14	0.36
7/16/2012	1565	14:34	14:49	5.0	0:15	15	0.33
7/16/2012	1570	14:49	15:09	5.0	0:20	20	0.25
7/16/2012	1575	15:09	15:24	5.0	0:15	15	0.33
7/16/2012	1580	15:51	16:05	5.0	0:41	41	0.12
7/16/2012	1585	16:05	16:17	5.0	0:12	12	0.42
7/16/2012	1590	16:17	16:28	5.0	0:11	11	0.45
7/16/2012	1595	16:28	16:41	5.0	0:13	13	0.38
7/16/2012	1600	16:41	16:55	5.0	0:14	14	0.36
7/16/2012	1605	16:55	17:04	5.0	0:09	9	0.56

7/16/2012	1606	17:04	17:06	1.0	0:02	2	0.50
7/16/2012	1610	17:33	17:44	4.0	0:11	11	0.36
7/16/2012	1615	17:44	17:58	5.0	0:14	14	0.36
7/16/2012	1620	17:58	18:21	5.0	0:23	23	0.22
7/16/2012	1625	18:21	18:34	5.0	0:13	13	0.38
7/16/2012	1630	18:34	18:42	5.0	0:08	8	0.63
7/16/2012	1635	18:42	18:54	5.0	0:12	12	0.42
7/17/2012	1640	20:43	21:17	5.0	0:34	34	0.15
7/17/2012	1645	21:17	21:39	5.0	0:22	22	0.23
7/17/2012	1650	21:39	22:25	5.0	0:46	46	0.11
7/17/2012	1655	22:25	23:18	5.0	0:53	53	0.09
7/17/2012	1660	23:18	23:55	5.0	0:37	37	0.14
7/17/2012	1665	23:55	0:40	5.0	0:45	45	0.11
7/18/2012	1670	0:40	1:10	5.0	0:30	30	0.17
7/18/2012	1675	1:53	2:12	5.0	0:19	19	0.26
7/18/2012	1680	2:12	2:32	5.0	0:20	20	0.25
7/18/2012	1685	2:32	2:57	5.0	0:25	25	0.20
7/18/2012	1690	2:57	3:30	5.0	0:33	33	0.15
7/18/2012	1695	3:30	3:48	5.0	0:18	18	0.28
7/18/2012	1698	3:48	4:08	3.0	0:20	20	0.15
7/18/2012	1700	4:30	4:36	2.0	0:06	6	0.33
7/18/2012	1705	4:36	5:03	5.0	0:27	27	0.19
7/18/2012	1710	5:03	5:20	5.0	0:17	17	0.29
7/18/2012	1715	5:20	5:50	5.0	0:30	30	0.17
7/18/2012	1720	5:50	6:06	5.0	0:16	16	0.31
7/18/2012	1725	6:06	6:27	5.0	0:21	21	0.24
7/18/2012	1730	6:27	7:00	5.0	0:33	33	0.15
7/18/2012	1731						
7/18/2012	1735	7:32	7:43	4.0	0:11	11	0.36
7/18/2012	1740	7:43	8:04	5.0	0:21	21	0.24
7/18/2012	1745	8:04	8:19	5.0	0:15	15	0.33
7/18/2012	1750	8:19	8:28	5.0	0:09	9	0.56
7/18/2012	1755	8:28	8:54	5.0	0:26	26	0.19
7/18/2012	1760	8:54	9:21	5.0	0:27	27	0.19
7/18/2012	1762	9:21	9:28	2.0	0:07	7	0.29
7/19/2012	1765		8:11	3.0			
7/19/2012	1770	8:11	8:29	5.0	0:18	18	0.28
7/19/2012	1775	8:29	8:46	5.0	0:17	17	0.29
7/19/2012	1780	8:46	8:58	5.0	0:12	12	0.42
7/19/2012	1785	8:58	9:07	5.0	0:09	9	0.56
7/19/2012	1790	9:07	9:36	5.0	0:29	29	0.17
7/19/2012	1793	9:36	9:46	3.0	0:10	10	0.30
7/19/2012	1795	10:34	10:40	2.0	0:06	6	0.33
7/19/2012	1800	10:40	10:58	5.0	0:18	18	0.28
7/19/2012	1805	10:58	11:11	5.0	0:13	13	0.38
7/19/2012	1810	11:11	11:21	5.0	0:10	10	0.50
7/19/2012	1815	11:21	11:35	5.0	0:14	14	0.36

7/19/2012	1820	11:35	11:47	5.0	0:12	12	0.42
7/19/2012	1825	11:47	11:58	5.0	0:11	11	0.45
7/19/2012	1830	12:30	12:40	5.0	0:10	10	0.50
7/19/2012	1835	12:40	12:55	5.0	0:15	15	0.33
7/19/2012	1840	12:55	13:05	5.0	0:10	10	0.50
7/19/2012	1845	13:05	13:17	5.0	0:12	12	0.42
7/19/2012	1850	13:17	13:33	5.0	0:16	16	0.31
7/19/2012	1855	13:33	13:52	5.0	0:19	19	0.26
7/19/2012	1857	13:52	13:54	2.0	0:02	2	1.00
7/19/2012	1860	14:31	14:42	3.0	0:11	11	0.27
7/19/2012	1865	14:42		5.0			
7/19/2012	1870		15:16	5.0			
7/19/2012	1875	15:16	15:39	5.0	0:23	23	0.22
7/19/2012	1880	15:39	15:52	5.0	0:13	13	0.38
7/19/2012	1885	15:54	16:14	5.0	0:20	20	0.25
7/19/2012	1888	16:14	16:24	3.0	0:10	10	0.30
7/19/2012	1890	17:00	17:07	2.0	0:07	7	0.29
7/19/2012	1895	17:07	17:20	5.0	0:13	13	0.38
7/19/2012	1900	17:20	17:36	5.0	0:16	16	0.31
7/19/2012	1905	17:36	17:50	5.0	0:14	14	0.36
7/19/2012	1910	17:50	18:03	5.0	0:13	13	0.38
7/19/2012	1915	18:03	18:18	5.0	0:15	15	0.33
7/19/2012	1919	18:18	18:26	4.0	0:08	8	0.50
7/19/2012	1925	18:26	19:17	6.0	0:51	51	0.12
7/19/2012	1930	19:17	20:03	5.0	0:46	46	0.11
7/19/2012	1935	20:03	20:35	5.0	0:32	32	0.16
7/19/2012	1940	20:35	21:06	5.0	0:31	31	0.16
7/19/2012	1945	21:06	21:42	5.0	0:36	36	0.14
7/19/2012	1950	21:42	22:00	5.0	0:18	18	0.28
7/20/2012	1950.75	22:00	22:13	0.8	0:13	13	0.06
	1955	0:35	1:05				
7/20/2012	1960	1:05	1:34	9.3	0:29	29	0.32
7/20/2012	1965	1:34	2:07	5.0	0:33	33	0.15
7/20/2012	1970	2:07	2:45	5.0	0:38	38	0.13
7/20/2012	1975	2:45	3:26	5.0	0:41	41	0.12
7/20/2012	1980	3:26	4:05	5.0	0:39	39	0.13
7/20/2012	1981.75	4:05	4:18	1.8	0:13	13	0.13
7/20/2012	1985	4:48					
7/20/2012	1990		5:45				
7/20/2012	1995	5:45	6:23	5.0	0:38	38	0.13
7/20/2012	2000	6:23	7:00	5.0	0:37	37	0.14

APPENDIX B
Lithologic Log

OSF-109 Lithologic Log		
		Worked By: Bouchier / Janzen
Depth From	**Depth To**	**Description/Comments**
0	5	NO SAMPLE COLLECTED
5	7	FINE-GRAINED, SUBROUNDED, QUARTZ SAND, 40% SHELL FRAGMENTS, 10% ORGANIC MATERIAL
7	10	NO SAMPLE COLLECTED
10	12	BLACK ORGANIC SILT WITH SHELL FRAGMENTS
12	15	NO SAMPLE COLLECTED
15	17	FINE-GRAINED, SUBROUNDED, QUARTZ SAND, 30% SHELL FRAGMENTS, 5% ORGANIC MATERIAL IN MATTS
17	20	NO SAMPLE COLLECTED
20	25	NO SAMPLE COLLECTED
25	27	SHELL FRAGMENTS (MAILINLY BIVALVE FRAGMENTS AND 2-4 mm MOLLUSKS WITH OTHER UNKNOWNS FRAGMENTS); 25% COARSE-GRAINED, SUBANGULAR, QUARTZ SAND
27	30	NO SAMPLE COLLECTED
30	35	FINE- MEDIUM-GRAINED, SUBROUNDED, QUARTZ SAND, 30% SHELL FRAGMENTS
35	40	MEDIUM-GRAINED, SUBANGULAR, QUARTZ SAND, 40-50% SHELL FRAGMENTS (MOSTLY BIVAVLE FRAGMENTS, FEW 5-6 mm BIVALVES)
40	45	SHELL FRAGMENTS (MAINLY BIVALVE FRAGMENTS, 8-10 mm MOLLUSKS, CORAL FRAGMENTS, UNKNOWNS FRAGMENTS); 10% MEDIUM- TO COARSE-GRAINED, SUBANGULAR, QUARTZ SAND
45	50	SHELL FRAGMENTS (MAINLY BIVALVE FRAGMENTS 5-40 mm), 10% MEDIUM-GRAINED, SUBANGULAR QUARTZ SAND AND SILT, < 5 % CLAY
50	55	CALCEAROUS CLAY, LIGHT OLIVE GRAY, UP TO 50% SHELL FRAGMENTS
55	60	CALCAREOUS CLAY, OLIVE GRAY, 30% SHELL FRAGMENTS (MAINLY BIVALVES)
60	65	CALCAREOUS CLAY, OLIVE GRAY, 30% SHELL FRAGMENTS
65	85	SHELL FRAGMENTS, DARK GRAY COMPOSED OF BLACK THROUGH VERY PALE ORANGE GRAINS, 5-10% MEDIUM- TO COARSE-GRAINED, SUBROUNDED, PHOSPHATE SAND WITH SOME QUARTZ GRAINS
85	100	SILT AND CALCAREOUS CLAY, OLIVE GRAY (5Y 3/2), 30% SHELL FRAGMENTS, MAINLY BIVALVES, TRACE PHOSPHATE GRAINS
100	110	SILT AND CALCAREOUS CLAY, OLIVE GRAY (5Y 3/2), 5% SHELL FRAGMENTS (MAINLY BIVALVES)

110	130	SILT AND CALCAREOUS CLAY, OLIVE GRAY (5Y 3/2), 20% SHELL FRAGMENTS, MAINLY BIVALVES
130	135	NO SAMPLE COLLECTED
135	145	DOLOMITIC-LIMESTONE; DARK GRAY (N3); HIGH INTERGRANULAR POROSITY; MICROCRYSTALLINE; POORLY INDURATED; 5-10% SHELL FRAGMENTS, <5% MEDIUM-GRAINED, SUBROUNDED PHOSPHATE
145	165	DOLOSTONE AND DOLOMITIC LIMESTONE WITH 5-30% CALCARIOUS CLAY AND SILT; LIGHT OLIVE GRAY (5Y 6/4) AND PALE YELLOWISH BROWN (10YR 6/2); LOW INTERGRANULAR POROSITY; MICROCRYSTALLINE; POORLY INDURATED; 5% SHELL FRAGMENTS
165	170	LIMESTONE (WACKESTONE) CALCILUTITE WITH 30-40% COARSE-GRAINED SUB- TO ANGULAR LIMESTONE FRAGEMENTS; LIGHT OLIVE GRAY(5Y 6/1); LOW INTERGRANULAR POROSITY; POOR INDURATION; 1% PHOSPHATE GRAINS
170	175	LIMESTONE (WACKESTONE); OLIVE GRAY (5Y 4/1); MODERATE INTERGRANULAR POROSITY; CEMENT TYPE(S): CALILUTITE MATRIX; ACCESSORY MINERALS: PHOSPHATE-10%, SHELL-05%; OTHER FEATURES: microcrystalline DOLOSTONE FRAGMENTS; FOSSILS: FRAGMENTS
175	185	LIMESTONE (WACKESTONE); PALE YELLOWISH BROWN (10YR 6/2); LOW INTERGRANULAR POROSITY; MODERATE INDURATION; CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT; ACCESSORY MINERALS: PHOSPHATE SANDS-02%, SHELL-01%; OTHER FEATURES: microcrystalline DOLOMITIC LIMESTONE FRAGMENTS
185	200	LIMESTONE (WACKESTONE); OLIVE GRAY (5Y 4/1); LOW INTERGRANULAR POROSITY; MODERATE INDURATION; ACCESSORY MINERALS: PHOSPHATE SANDS-05%, SHELLS-02%; OTHER FEATURES: DOLOSTONE AND LIMESTONE FRAGMENTS; FOSSILS: MOLLUSKS
200	205	LIMESTONE (WACKESTONE); PALE YELLOWISH BROWN (10YR 6/2); LOW INTERGRANULAR POROSITY; MODERATE INDURATION; ACCESSORY MINERALS: PHOSPHATE AND QUARTZ SANDS-05%; OTHER FEATURES: DOLOMITIC LIMESTONE ALLOCHEMS; FOSSILS: NONE
205	230	LIMESTONE (WACKESTONE); OLIVE GRAY (5Y 4/1); MODERATE INTERGRANULAR POROSITY; MODERATE INDURATION; ACCESSORY MINERALS: 10% PHOSPHATIC SAND AND FINE TO MEDIUM GRAVEL; OTHER FEATURES: DOLOSTONE, DOLOMITIC LIMESTONE ALLOCHEMS; FOSSILS: MOLLUSKS SHELL FRAGMENTS AND MOLLUSKS MOLDS IN DOLOSTONE
230	235	NO SAMPLE COLLECTED

235	240	LIMESTONE (WACKESTONE); PALE YELLOWISH BROWN (10YR 6/2); INTERGRANULAR POROSITY; POOR INDURATION; ACCESSORY MINERALS: PHOSPHATE (OR PHOSPHATIC?) SAND; OTHER FEATURES: DOLOSTONE; FOSSILS: SHELL FRAGMENTS, VERY SMALL MOLLUSK
240	245	LIMESTONE (WACKESTONE); LIGHT OLIVE GRAY (5Y 5/2); INTERGRANULAR POROSITY; POOR INDURATION; ACCESSORY MINERALS: PHOSPHATE SAND; OTHER FEATURES: DOLOSTONE WITH SPOTTED GREEN MINERALIZATION; FOSSILS: FRAGMENTS
245	255	LIMESTONE (WACKESTONE); YELLOWISH GRAY (5Y 8/1); LOW INTERGRANULAR POROSITY; POOR INDURATION; ACCESSORY MINERALS: PHOSPHATE; OTHER FEATURES: LIMESTONE FRAGMENTS; FOSSILS: NONE
255	280	PHOSPHATE SANDS/GRAVEL; YELLOWISH GRAY (5Y8/1) LIGHT OLIVE GRAY (5Y 5/2), VERY PALE ORANGE (10YR 8/2), VERY LIGHT GRAY (N8), BLACK (N1); PHOSPHATE, LIMESTONE AND DOLOSTONE FRAGMENTS
280	295	DOLOSTONE; MEDIUM GRAY (N5), MEDIUM DARK GRAY (N4), MODERATE YELLOWISH BROWN (10YR 5/4), AND WHITE (N9); HIGH INTERGRANULAR POROSITY; GOOD INDURATION; SOME FRAGMENTS OF DOLOMITIC-LIMESTONE, AND MOLLUSK AND MOLLUSK FRAGMENTS
295	300	LIMESTONE (RUDSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY (HIGH); POOR INDURATION; CEMENT TYPE(S): NONE VISIBLE; ACCESSORY MINERALS: FEW (01%-07%) SAND TO PEBBLE SIZED FRAGMENTS OF MEDIUM DARK GRAY (N6), MICROCRYSTALLINE, ROUNDED, DOLOMITIC-LIMESTONE; OTHER FEATURES: HIGHLY FOSSILIFEROUS; FOSSILS: FORAMINIFERA (Lepidocyclina sp.)
300	310	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); HIGH INTERGRANULAR POROSITY; POOR INDURATION; MOLLUSK FRAGMENTS, MANY LARGE FORAMINIFERA (Lepidocyclina sp.)
305	315	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); HIGH INTERGRANULAR POROSITY; POOR INDURATION; CEMENT TYPE(S): CALCAREOUS CLAY; ACCESSORY MINERALS: MEDIUM DARK GRAY (N6), MICROCRYSTALLINE, ROUNDED, DOLOMITIC-LIMESTONE PEBBLES-03%; OTHER FEATURES: HIGHLY FOSSILIFEROUS; FOSSILS: FORAMINIFERA (ABUNDANT Lepidocyclina)

315	390	LIMESTONE (RUDSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY (HIGH); POOR INDURATION; CEMENT TYPE(S): NONE VISIBLE; ACCESSORY MINERALS: FEW (01%-07%) SAND TO PEBBLE SIZED FRAGMENTS OF MEDIUM DARK GRAY (N6), MICROCRYSTALLINE, ROUNDED, DOLOMITIC-LIMESTONE; OTHER FEATURES: HIGHLY FOSSILIFEROUS; FOSSILS: FORAMINIFERA (ABUNDENT DISCOID SHAPED Lepidocyclina sp., SOME Nummulites sp., AND Pseudophragmina sp.), MOLLUSK FRAGMENTS, ECHINOID SPINES, SPARSE BRYOZOAN/GREEN ALGAE
390	394	LIMESTONE (RUDSTONE); VERY PALE ORANGE (10YR 8/2) AND GRAYISH ORANGE (10YR 7/4); INTERGRANULAR POROSITY (HIGH); MODERATE INDURATION; CEMENT TYPE(S): CALCAREOUS CLAY MATRIX; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: RECRYSTALIZATION; FOSSILS: ECHINOID (4-16 mm) (ABUNDANT Neolaganum sp. [dalli?]), FORAMINIFERA (ABUNDANT Discorinopis sp. [gunteri?], Fabiana sp. [cassis?]), MOLLUSK MOLDS, AND FRAGMENTS OF MILIOLID GRAINSTONE, AND FEW FORAMINIFERIA (Lepidocyclina)
394	400	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2) AND GRAYISH ORANGE (10YR 7/4); LOW INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): SPARRY CALCITE WHERE EXISTS; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: RECRYSTALIZATION OF ECHNOIDS; FOSSILS: ECHINOID (RECYRSTALLIZED FRAGMENTS OF Neolaganum sp. [dalli?]), FORAMINIFERA (FEW Discorinopis sp. [gunteri?], Fabiana sp. [cassis?]), MOLLUSK MOLDS, AND FRAGMENTS OF MILIOLID/PELLET GRAINSTONE, AND FEW FORAMINIFERIA (lepidocyclina sp.)
400	415	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY (LOW); MODERATE TO GOOD INDURATION; CEMENT TYPE(S): SPARY CALCITE MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: RECRYSTALIZATION OF ECHNOIDS; FOSSILS: ECHINOID (RECYRSTALLIZED FRAGMENTS OF Neolaganum sp. [dalli?]), FORAMINIFERA (ABUNDENT CONE SHAPED Fallotella sp., FEW Discorinopis sp. [gunteri?], Fabiana sp. [cassis?], Cribrobulimina sp.), MOLLUSK MOLDS AND FRAGMENTS, AND FEW FORAMINIFERIA (lepidocyclina sp., AND Nummulities sp.)

415	445	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY (LOW); GOOD INDURATION; CEMENT TYPE(S): SPARY CALCITE MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: LARGELY COMPOSED OF VERY SMALL MILIOLID/PELLETS GRAINSTONE; FOSSILS: ECHINOIDS AND FRAGMENTS, FORAMINIFERA (FEW DISTINGUISABLE Fallotella sp.) FEW MOLLUSK AND ECHINOID SPINE MOLDS, FEW BRANCHING BRYOZOA (OR GREEN ALGAE), AND SPARSE FORAMINIFERIA (lepidocyclina sp., AND Nummulities sp.)
445	465	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY (MODERATE); MODERATE TO GOOD INDURATION; CEMENT TYPE(S): SPARY CALCITE MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: RECRYSTALIZATION OF ECHNOIDS; FOSSILS: ECHINOID (RECYRSTALLIZED FRAGMENTS OF Neolaganum sp. [dalli?]), FORAMINIFERA (Fallotella sp., FEW Discorinopis sp., AND Fabiana sp.), MOLLUSK MOLDS AND FRAGMENTS, GREEN ALGAE/BRYOZOA BRANCHES, AND FORAMINIFERIA (lepidocyclina sp., AND Nummulities sp.)
465	470	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY (LOW); GOOD INDURATION; CEMENT TYPE(S): SPARY CALCITE MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: LARGELY COMPOSED OF VERY SMALL MILIOLID/PELLETS GRAINSTONE; FOSSILS: ECHINOIDS AND FRAGMENTS, FORAMINIFERA (FEW DISTINGUISABLE Fallotella sp.) FEW MOLLUSK MOLD, AND FEW FORAMINIFERIA (lepidocyclina sp., AND Nummulities sp.)
470	480	LIMESTONE (RUDSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY (MODERATE); MODERATE TO GOOD INDURATION; CEMENT TYPE(S): SPARY CALCITE MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: POSSIBLE STYLOLITES, 03% SAND TO PEBBLE SIZED FRAGMENTS OF MEDIUM GRAY (N5), MICROCRYSTALLINE, ROUNDED, DOLOMITIC-LIMESTONE; FOSSILS: ECHINOID FRAGMENTS AND SPINES, FORAMINIFERA (Fabularia sp., Discorinopis sp., AND Fabiana sp.), MOLLUSK MOLDS AND FRAGMENTS, AND FORAMINIFERIA (lepidocyclina sp., AND Nummulities sp.)
480	500	LIMESTONE (WACKESTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY (LOW); MODERATE TO GOOD INDURATION; CEMENT TYPE(S): CALCILUTITE MATRIX; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: MEDIUM GRAY LIMESTONE PEBBLES-10%; FOSSILS: FORAMINIFERA (FEW Fallotella sp.), FRAGMENTS OF RECRYSTALLIZED ECHINOIDS, MOLLUSK MOLDS, AND FORAMINIFERIA (lepidocyclina sp., AND Nummulities sp.)

500	510	LIMESTONE (GRAINSTONE); PALE YELLOWISH BROWN (10YR 6/2); INTERGRANULAR POROSITY (MODERATE); GOOD INDURATION; CEMENT TYPE(S): SPARY CALCITE MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; FOSSILS: FORAMINIFERA (Fallotella sp., Fabularia sp. [gunteri?], Nummulities sp., Lepidocyclina sp., Discorinopis sp., Fabiana sp., Spirolina sp., AND Cribrobulimina sp.), MOLLUSK MOLDS AND FRAGMENTS, BRYOZOA, < 5% OOLITES
510	540	LIMESTONE (PACKSTONE); PALE YELLOWISH BROWN (10YR 6/2) TO VERY PALE ORANGE (10YR 8/2); INTERGRANULA POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE; FOSSILS: FORAMINIFERA (Fallotella sp., Fabularia sp., Spirolina sp.), MOLLUSK MOLDS AND FRAGMENTS, ECHINOID SPINES AND FRAGMENTS, BRYOZOA, PELLET GRAINSTONE FRAGMENTS, AND FORAMINIFERIA (lepidocyclina sp., Nummulities sp., Heterostegina sp., AND POSSIBLE Amphistegina sp.)
540	545	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania sp., Fabularia sp., Spirolina sp., Lituonella sp., Cribrobulimina sp., POSSIBLE Discorinopis sp., and Fabiana sp.), MOLLUSK MOLDS AND FRAGMENTS, ECHINOID (Neolaganum sp.)
545	550	NO SAMPLE COLLECTED
550	555	LIMESTONE (WACKESTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania sp., Fabularia sp., Spirolina sp., Lituonella sp.), ECHINOID (Neolaganum sp.), AND FORAMINIFERIA (lepidocyclina sp., Nummulities sp., AND POSSIBLY Amphistegina sp.)
555	580	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: MANY FORAMS APPEAR PARTIALLY ALMOST COATED IN A SPARY CALCITE FILM; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania sp., Spirolina sp. Lituonella sp.), MOLLUSK MOLDS AND CASTS, BYROZOA, ECHINOID FRAGMENTS

580	585	LIMESTONE (WACKESTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): CALCILUTITE MATRIX; ACCESSORY MINERALS: CALCITE; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania sp., Fabularia sp., Spirolina sp., Lituonella sp.)
585	595	LIMESTONE (GRAINSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX WHERE EXISTS; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: MANY FORAMS APPEAR ALMOST COATED IN A SPARY CALCITE FILM, FRAGMENTS OF WACKESTONE MIXED IN; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania SP., Nummulities sp., Heterostegina sp., Lepidocyclina sp., Spirolina sp. Lituonella sp.), MOLLUSK MOLDS AND CASTS, BYROZOA, ECHINOID FRAGMENTS
595	600	LIMESTONE (WACKESTONE), 20% DOLOMITIC LIMESTONE; VERY PALE ORANGE (10YR 8/2), AND MODERATE YELLOWISH BROWN (10YR 5/4); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX AND DOLOMITE; ACCESSORY MINERALS: DOLOMITE; SOME FRAGMENTS APPEAR TO BE MUDSTONE WITH MOLLUSK MOLDS, DOLOMITIC LIMESTONE FRAGMENTS ARE SUCROSIC; FOSSILS: FORAMINIFERA (Fallotella sp., Spirolina sp., AND Miliolids), MOLLUSK MOLDS AND CASTS
600	605	LIMESTONE (PACKSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; OTHER FEATURES: SOME FRAGMENTS APPEAR TO BE MUDSTONE WITH MOLLUSK MOLDS OR PRESSURE SOLUTION STYOLITES; FOSSILS: FORAMINIFERA (Fallotella sp., AND Miliolids), MOLLUSK MOLDS AND CASTS
605	606	LIMESTONE (PACKSTONE), 50% DOLOSTONE; VERY PALE ORANGE (10YR 8/2), AND MODERATE YELLOWISH BROWN (10YR 5/4); INTERGRANULAR AND INTERCRYSTALLINE POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE AND DOLOMICRITE MATRIX AND DOLOMITE; ACCESSORY MINERALS: DOLOMITE; OTHER FEATURES: SOME FRAGMENTS APPEAR TO BE FALLOTELLA- OR MILIOLID- GRAINSTONE, DOLOSTONE FRAGMENTS ARE SUCROSIC; FOSSILS: FORAMINIFERA (Fallotella sp., AND Miliolids), MOLLUSK MOLDS AND CASTS
606	610	LIMESTONE (WACKESTONE), 03% DOLOMITIC LIMESTONE; VERY PALE ORANGE (10YR 8/2), AND MODERATE YELLOWISH BROWN (10YR 5/4); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX AND DOLOMITE; ACCESSORY MINERALS: DOLOMITE; FOSSILS: FORAMINIFERA (Fallotella sp., AND Miliolids)

610	615	LIMESTONE (WACKESTONE), 01% DOLOMITIC LIMESTONE; VERY PALE ORANGE (10YR 8/2), AND MODERATE YELLOWISH BROWN (10YR 5/4); INTRAGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: STYOLITES, MANY FRAGMENTS ARE VERY VUGGY; FOSSILS: NONE
615	620	NO SAMPLE COLLECTED
620	625	LIMESTONE (WACKESTONE); GRAYISH ORANGE (10YR 6/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: VUGGY; FOSSILS: FEW FORAMINIFERA (Fallotella sp., AND Miliolids), FEW BRYOZOA
625	635	NO SAMPLE COLLECTED
635	640	LIMESTONE (MUDSTONE AND GRAINSTONE); VERY PALE ORANGE (10YR 8/2) AND GRAYISH ORANGE (10YR 7/4); INTERGRANULAR POROSITY AND INTRAGRANULAR; GOOD TO POOR INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE AND QUARTZ; OTHER FEATURES: MUDSTONE FRAGMENTS WELL INDURATED, LIGHTER COLORED, AND CONTAIN QUARTZ GRAINS, GRAINSTONE FRAGMENTS COMPOSED OF VERY SMALL FORAMS, POORLY INDURATED, DARKER COLORED; FOSSILS: FEW FORAMINIFERA (Fallotella sp., AND Miliolids)
640	650	LIMESTONE (MUDSTONE); VERY PALE ORANGE (10YR 8/2); INTRAGRANULAR POROSITY; POOR INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE AND QUARTZ; OTHER FEATURES: SOME FRAGMENTS VUGGY, SPARSE FRAGMENTS OF SUCROSIC DOLOMITE; FOSSILS: FEW FORAMINIFERA (Fallotella sp., Cushmania americana, Spirolina sp., Lituorella sp., AND MILIOLIDS), FEW BRYOZOA, FEW MOLLUSK MOLDS
650	655	NO SAMPLE COLLECTED
655	675	LIMESTONE (MUDSTONE); VERY PALE ORANGE (10YR 8/2); VUGGY POROSITY INCREASING WITH DEPTH; GOOD INDURATION; FOSSILS: MOLLUSK MOLDS, FEW ECHINOID (Neolaganum dalli): POOR RETURNS
675	690	LIMESTONE (MUDSTONE); VERY PALE ORANGE (10YR 8/2) TO GRAYISH ORANGE (10YR 7/4); VUGGY POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE AND QUARTZ; OTHER FEATURES: MANY lepidocyclina sp. AND Nummulities (WASHOUT?); POOR RETURNS

690	705	LIMESTONE (WACKESTONE); VERY PALE ORANGE (10YR 8/2); VUGGY POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: LARGE NUMBER OF lepidocyclina sp. AND Nummulities sp. (WASHOUT?); POOR RETURNS
705	710	LIMESTONE (MUDSTONE); VERY PALE ORANGE (10YR 8/2) TO GRAYISH ORANGE (10YR 7/4); VUGGY POROSITY; GOOD INDURATION; CEMENT TYPE(S): ACCESSORY MINERALS: CALCITE; FOSSILS: FEW FORAMINIFERA (Fallotella sp., Cushmania americana, Spirolina sp., AND MILOIDS); POOR RETURNS
710	745	LIMESTONE (WACKESTONE); PALE YELLOWISH BROWN (10YR 6/2) TO VERY PALE ORANGE (10YR 8/2); VUGGY POROSITY; GOOD INDURATION; ACCESSORY MINERALS: CALCITE; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania americana, Spirolina sp., Lituorella sp., Cribrobulimina sp., Fabularia sp., AND MILIOLIDS), ECHINOIDS, MOLLUSK MOLDS AND RECRYSTALIZED SHELL; POOR RETURNS
745	760	LIMESTONE (PACKSTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE, FEW DOLOMITIC FRAGMENTS; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania americana, Cribrobulimina sp., Fabularia sp., AND MILIOLIDS), MOLLUSK MOLDS
760	765	LIMESTONE (PACKSTONE); VERY PALE ORANGE (10YR 8/2) AND DARK YELLOWISH BROWN (10YR 4/2); INTERGRANULAR AND INTRAGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX, MICROCRYSTALLINE, ACCESSORY MINERALS: CALCITE, DOLOMITE 30%; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania americana, Cribrobulimina sp., Fabularia sp., AND MILIOLIDS), MOLLUSK MOLDS
765	770	LIMESTONE (PACKSTONE); VERY PALE ORANGE (10YR 8/2) ; INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; OTHER FEATURES: 10% microcrystalline, MEDIUM LIGHT GRAY LIMESTONE FRAGMENTS; FOSSILS: FORAMINIFERA (Cushmania americana, MILOIDS, AND UNIDENTIFIED, SUB mm FORAMS), MOLLUSK MOLDS
770	775	NO SAMPLE COLLECTED
775	780	LIMESTONE (WACKESTONE); VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; FOSSILS: FORAMINIFERA

780	785	LIMESTONE (PACKSTONE); PALE YELLOWISH BROWN (10YR 6/2); INTERGRANULAR TO VUGGY POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: HIGH DEGREE OF RECRYSTALLIZATION IN SOME FRAGEMENTS; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania americana, Spirolina sp., Lituorella sp., Cribrobulimina sp., Fabularia sp., AND MILIOLIDS), ECHINOIDS, SOME FORAMINIFERA APPEAR TO HAVE WASHED OUT FROM ABOVE FORMATIONS
785	795	LIMESTONE (WACKESTONE); VERY PALE ORANGE (10YR 8/2) TO PALE YELLOWISH BROWN (10YR 6/2); INTERGRANULAR TO VUGGY POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; FOSSILS: FORAMINIFERA (Fallotella sp., Cushmania americana, Spirolina sp., Lituorella sp., AND MILOILDS), SOME FORAMINIFER FROM ABOVE FORMATIONS WHICH HAVE LIKELY WASHED OUT
795	805	LIMESTONE (WACKESTONE); PALE YELLOWISH BROWN (10YR 6/2) TO LIGHT OLIVE GRAY (5Y 5/2); INTERGRANULAR POROSITY; GOOD INDURATION; CEMENT TYPE(S): MICRITE MATRIX; ACCESSORY MINERALS: CALCITE; OTHER FEATURES: CLAY LUMPS COMPOSING 05% OF SAMPLE; FOSSILS: FEW FORAMINIFERA (Cushmania americana)
805	810	LIMESTONE (PACKSTONE); GRAYISH ORANGE (10YR 7/4); INTERGRANULAR POROSITY; MODERATE INDURATION; CEMENT TYPE(S): SPARSE MICRITE MATRIX; OTHER FEATURES: RECRYSTALLIZATION OF MANY FOSSILS; FOSSILS: GREEN ALGAE OR ECHINOID SPINES, FORAMINIFERA (Cushmania americana, Spirolina sp., Lituorella sp., Cribrobulimina sp.), MOLLUSK MOLDS, SOME FORAMINIFER FROM ABOVE FORMATIONS WHICH HAVE LIKELY WASHED DOWN
810	815	LIMESTONE AND DOLOMITE (SUCROSIC TO MICROCRYSTALLINE); GRAYISH ORANGE (10YR 6/2), PALYE YELLOWISH BROWN(10YR 6/2), DARK YELLOWISH ORANGE (10YR 6/6), VERY PALE ORANGE (10YR 8/2), AND DARK YELLOWISH BROWN (10YR 4/2); VUGGY POROSITY; MODERATE INDURATION; CEMENT TYPE(S): CALCITE, DOLOMITE; OTHER FEATURES: RECRYSTALLIZATION, MICROCRYSTALLINE TO SUCROSIC AND VUGGY TEXTURE; FOSSILS: SOME MOSTLY INDISTINCT FORAMINIFERA WHICH MAY HAVE WASHED OUT
815	855	LIMESTONE (PACKSTONE); VERY PALE ORANGE (10YR 8/2) AND GRAYISH ORANGE (10YT 6/2); INTERGRANULAR POROSITY; MODERATE INDURATION; CEMENT TYPE(S): MICRITE; FOSSILS: FORAMINIFERA (Cushmania sp., Fallotella sp., Lituonella sp., Cribobulimina sp., Spirolina sp., MILOIDS), GREEN ALGAE, FLATTENED/ROUNDED CONE/HAMBURGER BUN SHAPED FOSSIL (UP TO ~3 mm), FORAMINIFERA WHICH MAY HAVE WASHED DOWN FROM ABOVE (Lepidocyclina sp., AND Nummulities sp.)

855	860	LIMESTONE (WACKESTONE); LIGHT GRAY (N7) TO MEDIYM LIGHT GRAY (N6) AND VERY PALE ORANGE (10YR 8/2); INTERGRANULAR POROSITY; POOR INDURATION; CEMENT TYPE(S): MICRITE; FOSSILS: FORAMINIFERA - VERY PALE ORANGE IN COLOR AND MAY HAVE WASHED IN FROM ABOVE
860	885	LIMESTONE (PACKSTONE); VERY PALE ORANGE (10YR 8/2) AND GRAYISH ORANGE (10YT 6/2); INTERGRANULAR POROSITY; MODERATE INDURATION; CEMENT TYPE(S): MICRITE; FOSSILS: FORAMINIFERA (Cushmania sp., Fallotella sp., Lituonella sp., Cribobulimina sp., Spirolina sp., MILOIDS), GREEN ALGAE, FLATTENED/ROUNDED CONE/HAMBURGER BUN SHAPED FOSSIL (UP TO ~3 mm), FORAMINIFERA WHICH MAY HAVE WASHED DOWN FROM ABOVE (Lepidocyclina sp., AND Nummulities sp.)
885	890	LIMESTONE (WACKESTONE); DARK YELLOWISH BROWN (10YR 4/2) AND VERY PALE ORANGE (10YR 8/2); MICROSCOPIC TEXTURE (MOTTLED WITH FINE GRAINED DARK MATRIX WITH SOME LIGHTER CLASTS); INTERGRANULAR POROSITY; POOR INDURATION; CALCITE CEMENT; FEW VERY PALE ORANGE FORAMINIFERA
890	895	DOLOSTONE; DARK YELLOWISH BROWN (10YR 4/2) TO MODERATE YELLOWISH BROWN (10YR 5/4); NO POROSITY VISIBLE; MICROCRYSTALLINE TEXTURE; GOOD INDURATION; DOLOMITIC CEMENT; FEW LIMESTONE FRAGMENT AND FRAGMENTS OF BOTH DOLOSTONE AND LIMESTONE
895	900	CALCAREOUS SAND; VERY PALE ORANGE (10YR 8/2); UNCONSOLIDATED, COMPOSED MAINLY OF SMALL WACKESTONE FRAGMENTS; FOSSILS: FEW FORAMINIFERA (Fallotella sp., Fabularia gunteri AND F. vaughani, Spirolina sp., AND Cribrobulimina sp.) AND FEW GREEN ALGAE
900	905	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); MICROCRYSTALLINE TO NEARLY SUCROSIC TEXTURE; NO POROSITY VISIBLE IN CUTTINGS (SOME DARK BANDS WHICH MAY INDICATE FRACTURE POROSITY); GOOD INDURATION; DOLOMITIC CEMENT; FEW VERY PALE ORANGE Lepidocyclina FORAMINIFERA
905	910	DOLOSTONE; DARK YELLOWISH BROWN (10YR 4/2) TO MODERATE YELLOWISH BROWN (10YR 5/4); MICROCRYSTALLINE TEXTURE, SOME SUCROSIC AND SOME VUGGY MICROCRYSTALLINE FRAGMENTS; LIMITED MOLIDIC/VUGGY POROSITY; GOOD INDURATION; DOLOMITIC CEMENT; FEW VERY PALE ORANGE FORAMINIFERA AND LIMESTONE FRAGMENTS

910	920	LIMESTONE (WACKESTONE); VERY PALE ORANGE (10YR 8/2); INTERGRAULAR POROSITY; UNCONSOLIDATEDPOOR INDURATION; CEMENT TYPE(S): MICRITE LARGELY WASHED AWAY; FOSSILS: FEW FORAMINIFERA (Fallotella sp., Lituonella sp., Cribrobulimina sp., Fabularia sp., Nummulities sp., AND Lepidocyclina sp.), GREEN ALGAE, AND SPERICAL OOID-LIKE FOSSILS
920	950	NO SAMPLE COLLECTED
950	955	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) WITH SOME WHITE FRAGMENTS; SUCROSIC; INTERCRYSTALLINE POROSTIY; GOOD INDURATION
955	960	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) WITH BLOTCHES AND BANDING OF DARK YELLOWISH BROWN (10YR 4/2) AND FEW VERY PALE ORANGE (10YR 8/2) FRAGMENTS; MAINLY SUCROSIC TEXTURE WITH SOME FRAGMENTS MICROCRYSTALLINE; INTERCRYSTALLINE POROSITY WITH SOME MOLDIC; GOOD INDURATION; FEW VERY LIGHT GRAY (N8) CLAY LUMPS
960	970	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) WITH MOTTLED DARK YELLOWISH BROWN (10YR 4/2); SUCROSIC TEXTURE; APPEARS AS FINE TO COARSE SAND-SIZED FRAGMENTS; INTERCRYSTALLINE WITH SOME MOLDIC POROSITY; GOOD INDURATION
970	975	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) MOTTLED DARK YELLOWISH BROWN (10YR 4/2) WITH SOME CALCITE; SUCROSIC; APPEARS AS FINE TO COARSE SAND-SIZED FRAGMENTS; INTERCRYSTALLINE WITH SOME MOLDIC POROSITY; GOOD TO MODERATE INDURATION
975	980	DOLOSTONE TO DOLOMITIC-LIMESTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO VERY PALE ORANGE (10YR 8/2); SUCROSIC TEXTURE; INTERCRYSTALLINE POROSITY; GOOD (DOLOSTONE) TO MODERATE (DOLOMITIC LIMESTONE) INDURATION
980	985	DOLOSTONE; MODERATE YELLOWISH BROWN (10YT5/4); SURCOSIC TEXTURE; INTERCRYSTALLINE POROSITY WITH SOME MOLDIC; VERY WELL INDURATED
985	990	DOLOSTONE TO DOLOMITIC-LIMESTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO VERY PALE ORANGE (10YR 8/2); SUCROSIC TEXTURE; INTERCRYSTALLINE POROSITY; GOOD TO MODERATE INDURATION
990	1000	DOLOMITIC LIMESTONE; VERY PALE ORANGE (10YR 8/2) TO MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE; CALCITE CEMENT; INTERCRYSTALLINE POROSITY; MODERATE INDURATION; SOME FRAGMENTS LAYERED

1000	1025	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC AND MICROCRYSTALLINE TEXTUE; INTERCRYSTALLINE AND FRACTURE POROSITY; GOOD INDURATION
1025	1030	DOLOSTONE WITH DOLOMITIC LIMESTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO VERY PALE ORANGE (10YR 8/2); SUCROSIC TO MICROCRYSTALLINE TEXTURE; INTERCRYSTALLINE POROSITY; GOOD INDURATION
1030	1040	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE WITH SOME MOLDS AND VUG FILLING DISPLAYING GOOD CRYSTAL STRUCTURE; MODERATE INTERCRYSTALLINE POROSITY; GOOD INDURATION
1040	155	DOLOSTONE WITH DOLOMITIC LIMESTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO VERY PALE ORANGE (10YR 8/2); SUCROSIC TO MICROCRYSTALLINE TEXTURE; MODERATEINTERCRYSTALLINE POROSITY; GOOD INDURATION
1055	1075	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) WITH SOME VERY PALE ORANGE (10YR 8/2) COATINGS; SUCROSIC TEXTURE WITH SOME MOLDS DISPLAYING WELL FORMED CRYSTALS; MODERATE INTERCRSYTALINE POROSITY; GOOD INDURATION; SOME RECRYSTALLIZATION
1075	1135	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC WITH MODERATE POROSTY AND GOOD INDURATION AND microcrystalline WITH POOR POROSITY AND POOR INDURATION
1135	1140	DOLOSTONE AND LIMESTONE (FORAMINIFERAL PACKSTONE); MODERATE YELLOWISH BROWN (10YR 5/4) AND VERY PALE ORANGE (10YR 8/2); DOLOSTONE HAS SUCROSIC TEXTURE, MODERATE intercrystalline AND MOLDIC POROSITY, AND MODERATE INDURATION; LIMESTONE IS A FORAMINIFERAL PACKSTONE WITH INTERGRANULAR POROSITY AND MODERATE INDURATION
1140	1145	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SURCROSIC TEXTURE WITH MOLDS DISPLAYING LARGER CRYSTALS; MODERATE TO HIGH INTERCRYSTALLINE AND MOLDIC POROSITY; GOOD INDURATION
1145	1155	DOLOSTONE; PALE YELLOWISH BROWN (10YR 6/2); SURCROSIC TEXTURE; MODERATE INTERCRYSTALLINE POROSITY; GOOD INDURATION; SOME CALCITE CEMENT AND PARTIALLY DOLOMITIZED FRAGMENTS
1155	1160	DOLOSTONE; PALE YELLOWISH BROWN (10YR 6/2); SUCROSIC TEXTURE; MODERATE INTERCRYSTALLINE POROSITY; GOOD INDURATION
1160	1175	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO PALE YELLOWISH BROWN (10YR 6/2); SUCROSIC TO MICROCRYSTALLINE TEXTURE; POOR INTERCRYSTALLINE POROSITY; GOOD INDURATION; FEW VERY PALE ORANGE CALCAREOUS CLAY

1175	1200	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO DARK YELLOWISH BROWN (10YR 4/2); FINE-GRAINED SUCROSIC TEXTURE; INTERCRYSTALLINE AND LIMITED MOLDIC POROSITY; GOOD INDURATION
1200	1205	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO DARK YELLOWISH BROWN (10YR 4/2) TO MEDIUM LIGHT GRAY (N7); FINE-GRAINED SUCROSIC TEXTURE; INTERCRYSTALLINE AND LIMITED MOLDIC POROSITY; GOOD INDURATION; WITH GRAYISH BLACK (N2) LAMINATION
1205	1215	DOLOSTONE; PALE YELLOWISH BROWN (10YR 6/2); SUCROSIC TEXTURE; POOR INTERCRYSTALLINE POROSITY; GOOD INDURATION
1215	1220	DOLOSTONE; PALE YELLOWISH BROWN (10YR 6/2); SUCROSIC TEXTURE; POOR INTERCRYSTALLINE POROSITY; GOOD INDURATION; LAMINATED
1220	1230	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); FINE-GRAINED SUCROSIC TEXTURE; NO POROSITY; GOOD INDURATION
1230	1235	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) AND DUSKY YELLOWISH BROWN (10 YR 2/2); LIGHTER COLORED FRAGEMENTS: FINE-GRAINED SUCROSIC TEXTURE; NO VISIBLE POROSITY; GOOD INDURATION, DARKER COLORED FRAGMENTS: COARSE-GRAINED SUCROSIC TEXTURE; INTERCRYSTALLINE POROSITY; POOR INDURATION
1235	1245	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO DARK YELLOWISH BROWN (10YR 4/2); SUCROSIC TEXTURE; INTERCRYSTALLINE POROSITY; GOOD INDURATION
1245	1250	NO SAMPLE COLLECTED
1250	1255	DOLOSTONE; DARK YELLOWISH BROWN (10YR 4/2); SUCROSIC TEXTURE; INTERCRYSTALLINE POROSITY; VERY GOOD INDURATION
1255	1270	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); FINE-GRAINED SUCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGS; INTERCRYSTALLINE AND SOME MOLDIC POROSITY; GOOD INDURATION
1270	1275	DOLOSTONE; BETWEEN MODERATE YELLOWISH BROWN (10YR 4/2) AND PALE YELLOWISH BROWN (10YR 6/2); MICROCRYSTALLINE TO FINE-GRAINED SUCROSIC TEXTURE; NO POROSITY; GOOD INDURATION
1275	1295	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 4/2); FINE-GRAINED SUCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGS; MODERATE POROSITY; GOOD INDURATION; FEW TRACES OF CALCIUM CARBONATE COATINGS

1295	1300	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 4/2); FINE-GRAINED SUCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGS AND MOLDS; MODERATE INTERCRYSTALLINE POROSITY; GOOD INDURATION
1300	1305	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO DARK YELLOWISH BROWN (10YR 4/2); FINE-GRAINED SUCROSIC TEXTURE WITH LARGER CRYSTALS IN MOLDS; FRACTURE, INTERCRYSTALLINE AND MOLDIC POROSITY; GOOD INDURATION
1305	1310	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO PALE YELLOWISH BROWN (10YR 6/2); SUCROSIC TEXTURE WITH LARGER CRYSTALS LINING CRACKS; FRACTURE POROSITY; GOOD INDURATION
1310	1315	DOLOSTONE; MOTTELED MODERATE YELLOWISH BROWN (10YR 5/4), DARK YELLOWISH BROWN (10YR 4/2) AND PALE YELLOWISH BROWN (10YR 6/2), AND MEDIUM LIGHT GRAY (N6); MOTTELED FRAGEMENTS: MICROCRYSTALLINE TO FINE-GRAINED SUCROSIC WITH LARGER CRYSTALS LINING VUGGS; LOW FRACTURE POROSITY; GOOD INDURATION, GRAY FRAGMENTS: MICROSCOPIC TEXTURE; NO POROSITY; MODERATE INDURATION
1315	1350	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) WITH DARK YELLOWISH BROWN (10YR 4/2) LAMINATION; MICROCRYSTALLINE WITH FINE-GRAINED SUCROSIC TEXTURE IN VUGS OR LINING FRACTURES, FRACTURE POROSITY; GOOD INDURATION
1350	1358	DOLOMITIC-LIMESTONE; VERY PALE ORANGE (10YR 8/2); MICROCRYSTALLINE TO VERY FINE-GRAINED SUCROSIC TEXTURE; PIN-POINT POROSITY; MODERATE INDURATION; WITH SOME MEDIUM LIGHT GRAY (N6) MICROCRYSTALLINE TO FINE-GRAINED SUCROSIC TEXTURE
1358	1375	DOLOMITIC-LIMESTONE; PALE YELLOWISH BROWN (10YR 6/2); FINE-GRAINED SUCROSIC TEXTURE PRESERVING FOSSIL MOLDS; PIN-POINT VUGGY POROSITY; MODERATE INDURATION; SOME FRAGMENTS DISPLAYING LIMITED TO NO POROSITY
1375	1380	DOLOSTONE; MEDIUM GRAY (N5) WITH SMALL LIGHT COLORED SPOTS; SUCROSIC TEXTURE WITH LARGER CRYSTALS LINING MOLDS AND FACTURES; PIN-POINT VUGGY AND FRACTURE POROSITY; GOOD INDURATION
1380	1390	DOLOSTONE AND DOLOMITIC-LIMESTONE; DOLOSTONE: MODERATE YELLOWISH BROWN (10YR 5/4); VERY FINE-GRAINED SUCROSIC TEXTURE; LIMITED PIN-POINT POROSITY; GOOD INDURATION, DOLOMITIC-LIMESTONE: VERY PALE ORANGE (10YR 8/2) WITH SOME FINE, BROWN VEINS; VERY FINE-GRAINED SUCROSIC TEXTURE WITH LARGER CRYSTALS LINING VUGS; PIN-POINT POROSITY; MODERATE INDURATION
1390	1400	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 4/2); VERY FINE-GRAINED SUCROSIC TEXTURE; LIMITED INTERCRYSTALLINE POROSITY; GOOD INDURATION

1400	1410	DOLOSTONE; DARK YELLOWISH BROWN (10YR 4/2) TO MODERATE YELLOWISH BROWN (10YR 5/4); VERY FINE-GRAINED SUCROSIC TEXTURE WITH SOME LARGER CRYSTALS LINING VUGS; LIMITED PIN-POINT POROSITY; GOOD INDURATION; SOME FRAGMENTS OF FORMINIFERAL GRAINSTONE PRESERVED IN DOLOMITE, SOME FRAGMENTS HAVE CONGLOMERATIC APPEARANCE
1410	1420	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); FINE-GRAINED SUCROSIC TEXTURE; LIMITED PIN-POINT POROSITY; GOOD INDURATION
1420	1425	DOLOSTONE; PALE YELLOWISH BROWN (10YR 6/2); VERY FINE-GRAINED SUCROSIC TO MICROCRYSTALLINE TEXTURE; PIN-POINT TO LARGER VUGGY POROSITY; GOOD INDURATION
1425	1445	DOLOSTONE; GRAYISH ORANGE (10YR 7/4); FINE-GRAINED SUCROSIC TEXTURE; PIN-POINT AND MOLDIC POROSITY WITH SOME FOSSIL MOLDS WELL PRESERVED; MODERATE INDURATION
1445	1455	DOLOMITIC-LIMESTONE; VERY PALE ORANGE (10YR 8/2); VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE WITH SOME FOSSIL MOLDS PRESREVED; PIN-POINT POROSITY; MODERATE INDURATION
1455	1465	DOLOSTONE; GRAYISH ORANGE (10YR 7/4); FINE-GRAINED SUCROSIC TEXTURE; PIN-POINT AND MOLDIC POROSITY WITH SOME FOSSIL MOLDS WELL PRESERVED; MODERATE INDURATION
1465	1475	DOLOMITIC-LIMESTONE; GRAYISH ORANGE (10YR 7/4); VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE WITH SOME FOSSIL MOLDS PRESREVED; PIN-POINT POROSITY; MODERATE INDURATION
1475	1490	DOLOMITIC-LIMESTONE; VERY PALE ORANGE (10YR 8/2); VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE WITH SOME FOSSIL MOLDS PRESREVED; PIN-POINT POROSITY; MODERATE INDURATION
1490	1495	DOLOMITIC-LIMESTONE; LIGHT OLIVE GRAY (5Y 6/1) AND VERY PALE ORANGE (10YR 8/2); LIGHT FRAGMENTS: VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE; PIN-POINT POROSSITY; MODERATE INDURATION, GRAY FRAGMENTS: VERY FINE-GRAINS OF DOLOMITE IN A CALCITE CEMENT; MODERATE INDURATION
1495	1500	DOLOMITIC-LIMESTONE; VERY PALE ORANGE (10YR 8/2); VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE WITH SOME FOSSIL MOLDS PRESREVED; PIN-POINT POROSITY; MODERATE INDURATION

1500	1505	DOLOMITIC-LIMESTONE; LIGHT OLIVE GRAY (5Y 6/1) AND VERY PALE ORANGE (10YR 8/2); LIGHT FRAGMENTS: VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE; PIN-POINT POROSSITY; MODERATE INDURATION, GRAY FRAGMENTS: VERY FINE-GRAINS OF DOLOMITE IN A CALCITE CEMENT; MODERATE INDURATION
1505	1510	DOLOMITIC-LIMESTONE; VERY PALE ORANGE (10YR 8/2); VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE WITH SOME FOSSIL MOLDS PERSERVED; PIN-POINT POROSITY; MODERATE INDURATION
1510	1525	DOLOMITIC-LIMESTONE; LIGHT OLIVE GRAY (5Y 6/1) AND VERY PALE ORANGE (10YR 8/2); LIGHT FRAGMENTS: VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE; PIN-POINT POROSSITY; MODERATE INDURATION, GRAY FRAGMENTS: VERY FINE-GRAINS OF DOLOMITE IN A CALCITE CEMENT; MODERATE INDURATION
1525	1530	DOLOMITIC-LIMESTONE; GRAYISH ORANGE (10YR 7/4) AND VERY PALE ORANGE (10YR 8/2); VERY FINE-GRAINED SUCROSIC AND MOLDIC TEXTURE WITH SOME FOSSIL MOLDS PRESREVED; PIN-POINT POROSITY; MODERATE INDURATION
1530	1535	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) AND PALE YELLOWISH BROWN (10YR 6/2) WITH SOME VERY PALY ORANGE (10YR 8/2); FINE-GRAINED SUCROSIC TEXTURE WITH FEW TO MANY VUGGS, LARGER CRYSTALS LINING VUGGS AND FRACTURES; MOSTLY FRACTURE WITH SOME PINPOINT AND VUGGY POROSITY; MODERATE INDURATION; SLIGHT TRACES OF CALCITE CEMENT
1535	1545	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) TO MEDIUM LIGHT GRAY (N6), FINE-GRAINED SUCROSIC TEXTURE; BROWN LAMINATION CONSISTING OF FINE-GRAINED GRANULAR SECTIONS; FRACTURE AND SOME PIN-POINT POROSITY; GOOD INDURATION
1545	1550	DOLOSTONE; GRAYISH ORANGE (10YR 7/4); FINE-GRAINED SUCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGGS AND FRACTURES; FRACTURE, PIN-POINT AND MOLDIC POROSITY WITH SOME FOSSIL MOLDS WELL PRESERVED; MODERATE INDURATION
1550	1555	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO DARK YELLOWISH BROWN (4/2); FINE-GRAINED SURCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGGS; PIN-POINT POROSITY; GOOD INDURATION
1555	1560	DOLOSTONE; GRAYISH ORANGE (10YR 7/4); FINE-GRAINED SUCROSIC TEXTURE WITH SOME BROWN, FINE-GRAINED LAMINATION; FRACTURE AND SOME PIN-POINT POROSITY; GOOD INDURATION; TRACES OF CALCIUM CARBONATE CEMENT
1560	1575	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) AND MODERATE YELLOWISH BROWN (10YR 4/2); FINE-GRAINED SUCROSIC TEXTURE; SOME IRREGULAR VUGGY POROSITY; PIN-POINT POROSITY; MODERATE INDURATION; TRACES OF CALCITE

1575	1580	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) WITH DARK YELLOWISH BROWN (10YR 4/2) TO DUSKY YELLOWISH BROWN (10YR 2/2) AND MEDIUM GRAY (N5); FINE-GRAINED SUCROSIC AND GRANULAR TEXTURE WITH VUGGS AND LARGER CRYSTALS LINING EDGES; PIN-POINT AND VUGGULAR POROSITY; MODERATE TO GOOD INDURATION
1580	1595	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) WITH SOME DARK YELLOWISH BROWN (10YR 4/2) COATING; FINE-GRAINED SUCROSIC TEXTURE WITH FEW TO MANY VUGGS; PIN-POINT POROSITY; GOOD INDURATION
1595	1605	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) AND MODERATE YELLOWISH BROWN (10YR 4/2); FINE-GRAINED SUCROSIC TEXTURE, SOME VUGGY POROSITY AND PIN-POINT POROSITY; MODERATE TO GOOD INDURATION
1605	1620	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 4/2) AND GRAYISH ORANGE (10YR 7/4); FINE-GRAINED SUCROSIC TEXTURE, IRREGULAR VUGGY AND PIN-POINT POROSITY; MODERATE TO GOOD INDURATION; TRACES OF CALCITE CEMENT
1620	1640	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) SOME DUSKY YELLOWISH BROWN (10YR 2/2); LARGE-GRAINED SUCROSIC TEXTURE; HIGH PIN-POINT/INTERCRYSTAL POROSITY; MODERATE INDURATION
1640	1665	DOLOSTONE; PREDOMINATELY MODERATE YELLOWISH BROWN (10YR 5/4) SOME GRAYISH ORANGE (10YR 7/4) AND LIGHT GRAY (N7); SUCROSIC TEXTURE WITH FRACTURE, PIN-POINT, AND VUGGY POROSITY; GOOD INDURATION; APPEARS AS A RECRYSTALLIZED FORAMINIFERAL GRAINSTONE
1665	1680	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; GOOD INDURATION; DOLOMITIZED FORAMINIFERAL GRAINSTONE
1680	1685	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) AND GRAYISH YELLOW (10YR 7/4); SUCROSIC TEXTURE WITH LARGER CRYSTALS LINING VUGGS; PIN-POINT AND FRACTURE POROSITY; GOOD INDURATION
1685	1695	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; GOOD INDURATION; DOLOTOMIZED FORAMINEFERIA GRAINSTONE
1695	1700	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) WITH SOME DUSKY YELLOWISH BROWN (10YR 2/2) LAYERING; SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; GOOD INDURATION; DOLOTOMIZED FORAMINEFERIA GRAINSTONE

1700	1710	DOLOSTONE (FORMER FORAMINIFER GRAINSTONE); MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; MODERATE INDURATION; DOLOTOMIZED FORAMINEFERIA GRAINSTONE
1710	1720	DOLOSTONE; GRAYISH ORANGE (10YR 7/4); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; MODERATE INDURATION; DOLOTOMIZED FOSSILS PRESERVED
1720	1735	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE; LOW TO HIGH PIN-POINT POROSITY; MODERATE TO HIGH INDURATION; SOME DARK LAMINATION
1735	1740	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) AND MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE IRREGULAR VUGY AND INTERCRYSTALLINE POROSITY; GOOD INDURATION
1740	1745	DOLOSTONE AND DOLOMITIC LIMESTONE; MOLTTLED MODERATE YELLOWISH BROWN (10YR 4/2) AND MODERATE YELLOWISH BROWN WITH WHITE FORAMINIFERA; SUCROSIC; INTERCRYSTALLINE POROSITY; MODERATE INDURATION
1745	1765	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC DOLOTOMIZATION OF FORAMINIFERA; HIGH PIN-POINT POROSITY; GOOD INDURATION
1765	1785	DOLOSTONE; GRAYISH ORANGE (10YR 7/4); SUCROSIC TEXTURE, GRADING TO GRANULAR IN PLACES; HIGH PIN-POINT POROSITY; MODERATE INDURATION; TRACE OF CALCIUM CARBONATE CEMENT; FEW REMAINS OF FOSSILS
1785	1795	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); FINE-GRAINED SUCROSIC; FRACTURE AND LOW PIN-POINT POROSITY; GOOD INDURATION; FEW FOSSILS
1795	1805	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); FINE-GRAINED SUCROSIC TEXTURE; PIN-POINT POROSITY; MODERATE INDURATION; TRACES OF CALCITE CEMENT
1805	1810	DOLOSTONE; GRAYISH ORANGE (10YR 7/4); FINE-GRAINED SUCROSIC WITH LARGER CRYSTALS IN VUGGS; PIN-POINT POROSITY; MODERATE INDURATION; RECRYSTALLIZED FORAMINIFERAL GRAINSTONE;
1810	1835	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 4/2); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; MODERATE INDURATION; RECYRSTALLIZED FORAMINIFERAL GRAINSTONE;

1835	1840	DOLOMITIC-LIMESTONE AND DOLOSTONE; DOLOMITIC-LIMESTONE: GRAYISH ORANGE (10YR 7/4), SUCROSIC TEXTURE WITH PARTIALLY RECYRSTALLIZED MILOID GRAINSTONE, HIGH PIN-POINT POROSITY, POOR INDURATION; DOLOSTONE: MODERATE YELLOWISH BROWN (10YR 5/4), SUCROSIC TEXTURE WITH RECRYSTALLIZATION PRESERVING FORAMINIFERA, MODERATE PIN-POINT POROSITY, GOOD INDURATION
1840	1890	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE WITH RECRYSTALLIZATION PRESERVING SOME FORAMINIFERA; MODERATE PIN-POINT POROSITY; GOOD INDURATION
1890	1895	DOLOMITIC-LIMESTONE; GRAYISH ORANGE (10YR 7/4); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; MODERATE TO GOOD INDURATION; SOME DOLOMITE REPLACING MILOIDS
1895	1905	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) TO DARK YELLOWISH BROWN (10YR 4/2); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; MODERATE TO GOOD INDURATION; SOME CALCIUM CARBONATE CEMENT
1905	1910	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO MEDIUM DARK GRAY (N4); SUCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGGS; MODERATE PIN-POINT POROSITY; GOOD INDURATION
1910	1915	DOLOSTONE; GRAYISH ORANGE (10YR 7/4) TO DARK YELLOWISH BROWN (10YR 4/2); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; MODERATE TO GOOD INDURATION; SOME CALCIUM CARBONATE CEMENT
1915	1920	NO SAMPLE COLLECTED
1920	1925	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO MEDIUM DARK GRAY (N4); SUCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGGS; MODERATE PIN-POINT POROSITY; GOOD INDURATION
1925	1930	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) TO MEDIUM DARK GRAY (N4) WITH VERY PALE ORANGE (10YR 8/2); SUCROSIC TEXTURE WITH FOSSILS AND CALCIUM CARBONATE FILLING VUGGS; LOW PIN-POINT POROSITY; GOOD INDURATION
1930	1935	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGGS; HIGH PIN-POINT POROSITY; GOOD INDURATION
1935	1940	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); FINE-GRAINED SUCROSIC TEXTURE WITH LARGER CRYSTALS IN VUGGS; MODERATE PIN-POINT POROSITY; GOOD INDURATION

1940	1945	LIMESTONE AND DOLOMITIC-LIMESTONE; VERY PALE ORANGE (10YR 8/2); SUCROSIC TEXTURE; FORAMINIFERA; PIN-POINT POROSITY; MODERATE INDURATION
1945	1950	LIMESTONE AND DOLOSTONE;VERY PALE ORANGE (10YR 8/2) AND MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE WITH FOSSILS IN LIMESTONE, SUCROSIC TEXTURE IN DOLOSTONE; PIN-POINT POROSITY; MODERATE TO HIGH INDURATION
1950	1955	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4) WITH VERY PALE ORANGE (10YR 8/2); SUCROSIC TEXTURE WITH FOSSILS AND CALCITE FILLING VUGGS; LOW PIN-POINT POROSITY; GOOD INDURATION
1955	1960	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE; MODERATE PIN-POINT POROSITY; MODERATE TO HIGH INDURATION
1960	1975	DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE; HIGH PIN-POINT POROSITY; MODERATE TO HIGH INDURATION; TRACES OF CALCITE CEMENT; 30 % LIGHT TO DARK GRAY, MICROCRYSTALLINE, VERY WELL INDURATED CHERT WITH SOME FOSSIL INCLUSIONS; 5% WHITE, CRYSTALLINE, GYPSUM
1975	1980	50 % CHERT; DUSKY YELLOWISH BROWN (10YR 2/2); MICROCRYSTALLINE TEXTURE; NO VISIBLE POROSITY; VERY INDURATION; 40% DOLOMITIC-LIMESTONE; VERY PALE ORANGE (10YR 8/2); FINE-GRAINED SUCROSIC TEXTURE, MODERATE PIN-POINT POROSITY; POOR INDURATION; CRYSTALS OF DOLOMITE IN CALCIUM CARBONATE MATRIX; 10% DOLOSTONE; MODERATE YELLOWISH BROWN (10YR 5/4); SUCROSIC TEXTURE; PIN-POINT POROSITY; GOOD INDURATION
1980	1995	DOLOMITIC-LIMESTONE; VERY PALE ORANGE (10YR 8/2) WITH SPECKS OF BLACK AND ORANGEISH BROWN; LIMITED PIN-POINT POROSITY; POOR INDURATION, SOME FOSSILS, SOME MODERATE YELLOWISH BROWN, SUCROSIC, HIGHLY INDURATET DOLOSTONE
1995	2000	CALCAREOUS CLAY; YELLOWISH GRAY (5Y 8/1); NO OBSERVABLE POROSITY; POOR INDURATION;

APPENDIX C
Geophysical Logs

ALLWEBBS ENTERPRISES, INC.

X-Y CALIPER GAMMA RAY LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County POLK State FLORIDA
Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD
Other Services
SEE COMMENTS
Elevation
K.B.
D.F.
G.L.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	POLK
State	FLORIDA

Date	10-APRIL-2012
Run Number	ONE
Depth Driller	303'
Depth Logger	303'
Bottom Logged Interval	303'
Top Log Interval	SURFACE
Open Hole Size	12.25"
Type Fluid	MUD
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'

Borehole Record

Run Number	Bit	From	To

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String				
Production String				
Liner				

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

Comments

SP/GR/RES
DIL/LATERAL
BHC SONIC/VDL

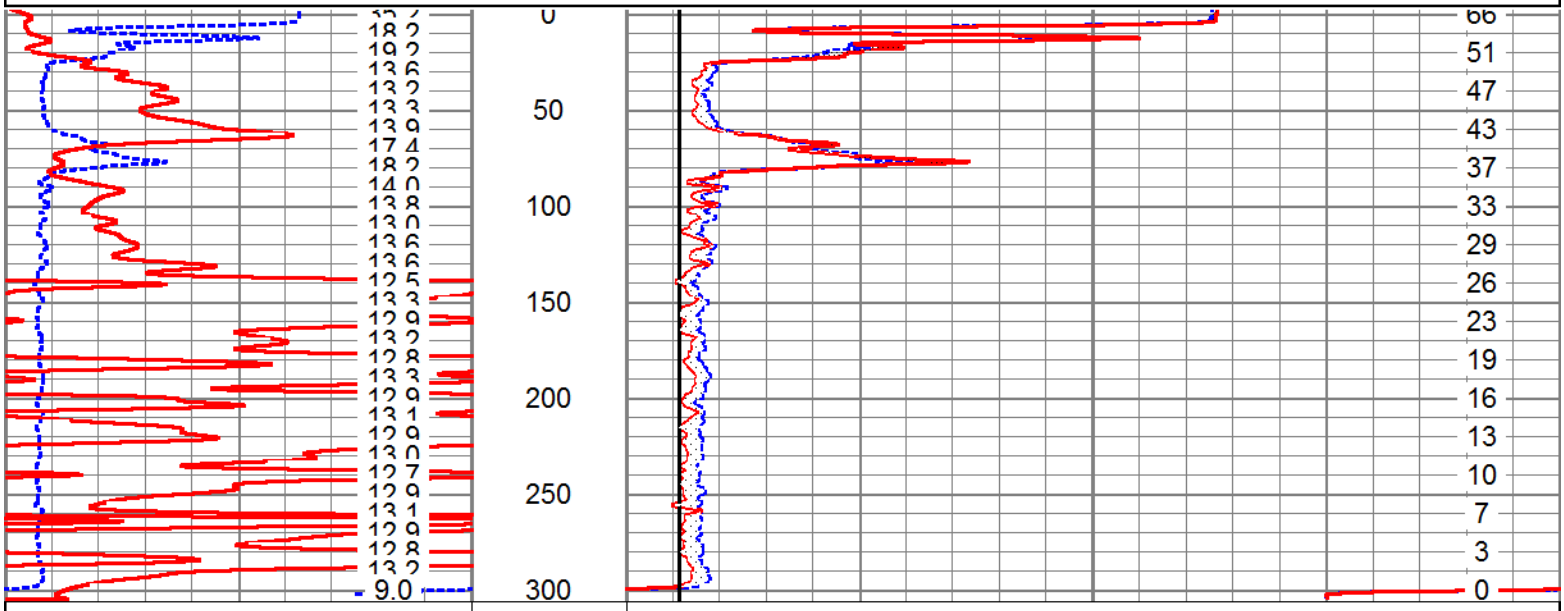
ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

Database File: kisspoc109.db
Dataset Pathname: XYCMP1
Presentation Format: xyc
Dataset Creation: Tue Apr 10 15:21:47 2012 by Calc Open-Cased 100827
Charted by: Depth in Feet scaled 1:1200

10 Caliper Average (in) 50		10 Y-Caliper (in) 50
0 Gamma 200		10 X-Caliper (in) 50
CALA (in)		10 Borehole ID (in) 50
		TBHV (bbl)



10 Caliper Average (in) 50		10 Y-Caliper (in) 50
0 Gamma 200		10 X-Caliper (in) 50
CALA (in)		10 Borehole ID (in) 50
		TBHV (bbl)

MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: XYCMP1
Presentation Format: xyc
Dataset Creation: Tue Apr 10 15:21:47 2012 by Calc Open-Cased 100827
Charted by: Depth in Feet scaled 1:600

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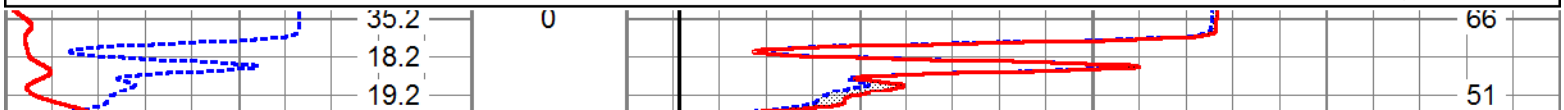
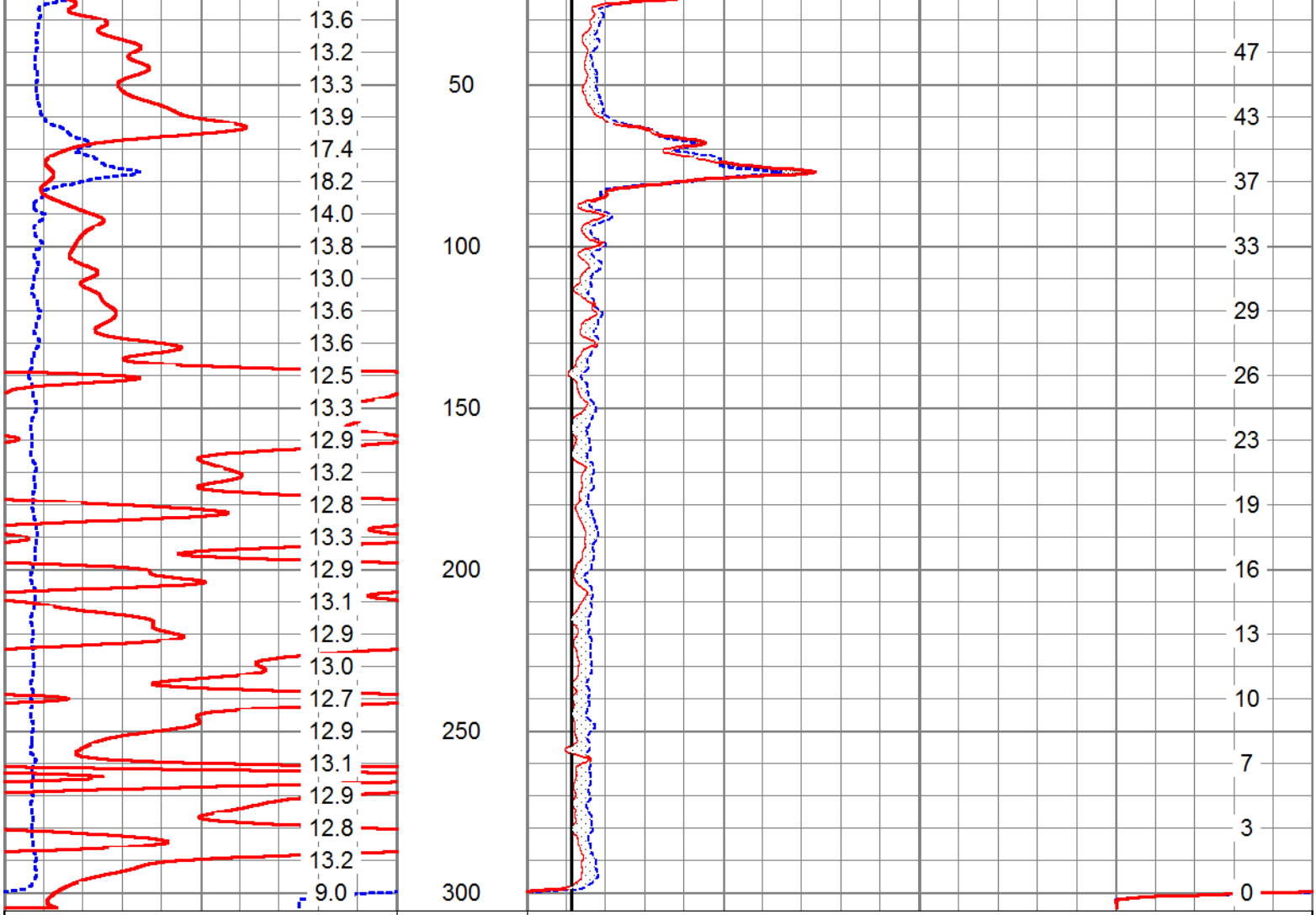
CALA (in)		10 Borehole ID (in) 50
		TBHV (bbl)





MAIN PASS

Database File: kisspoc109.db
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Presentation Format: xyc
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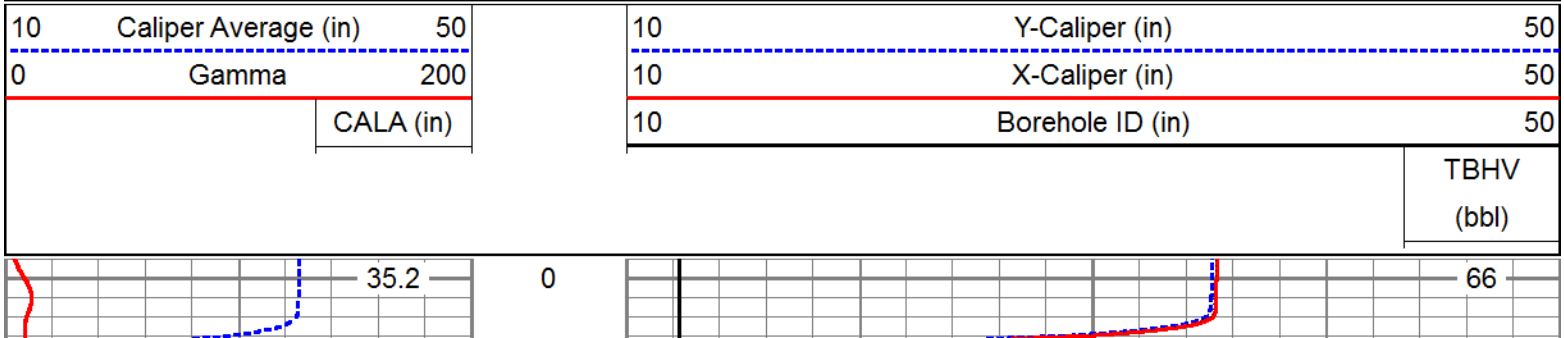

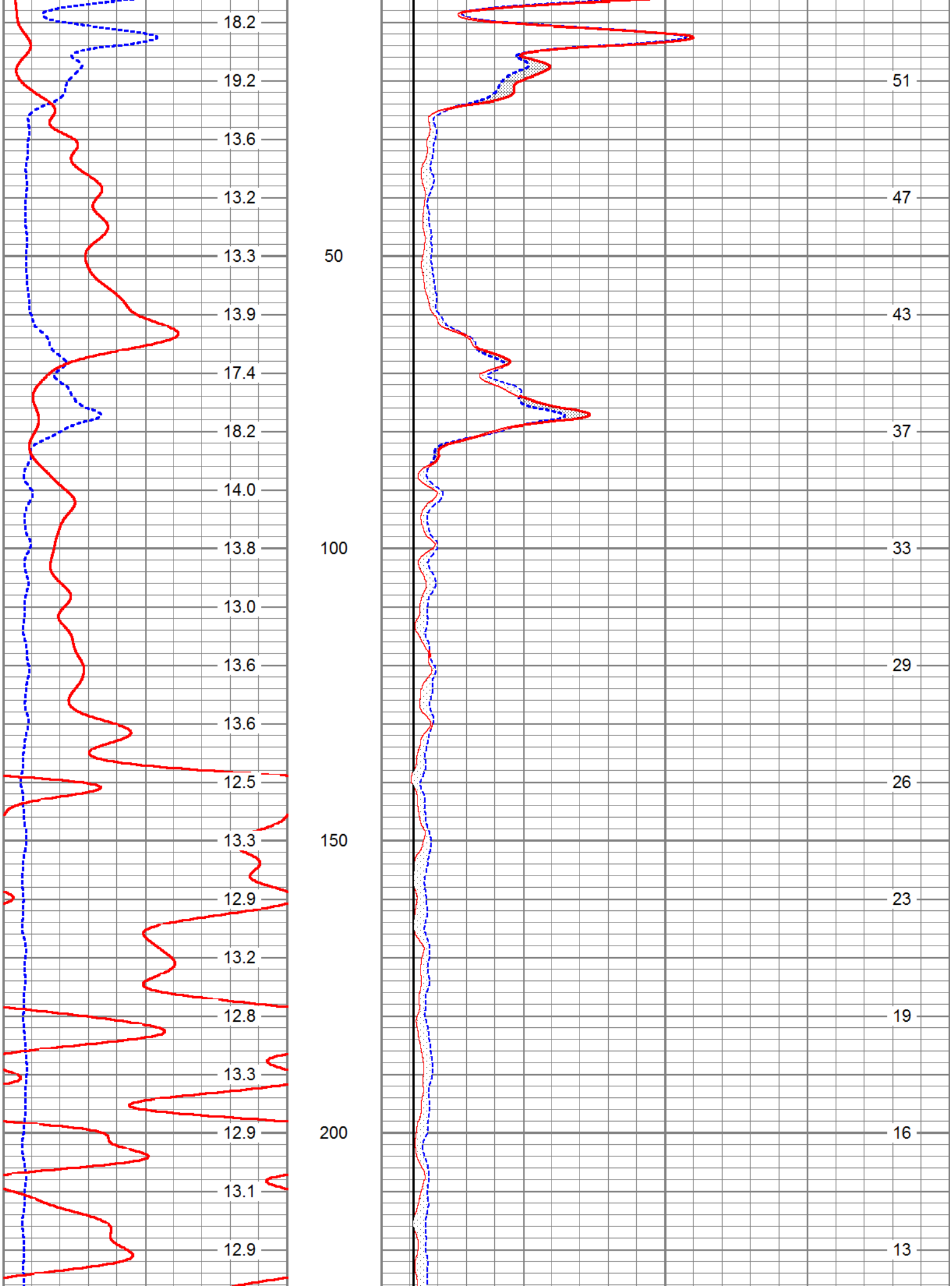
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12.8
13.3
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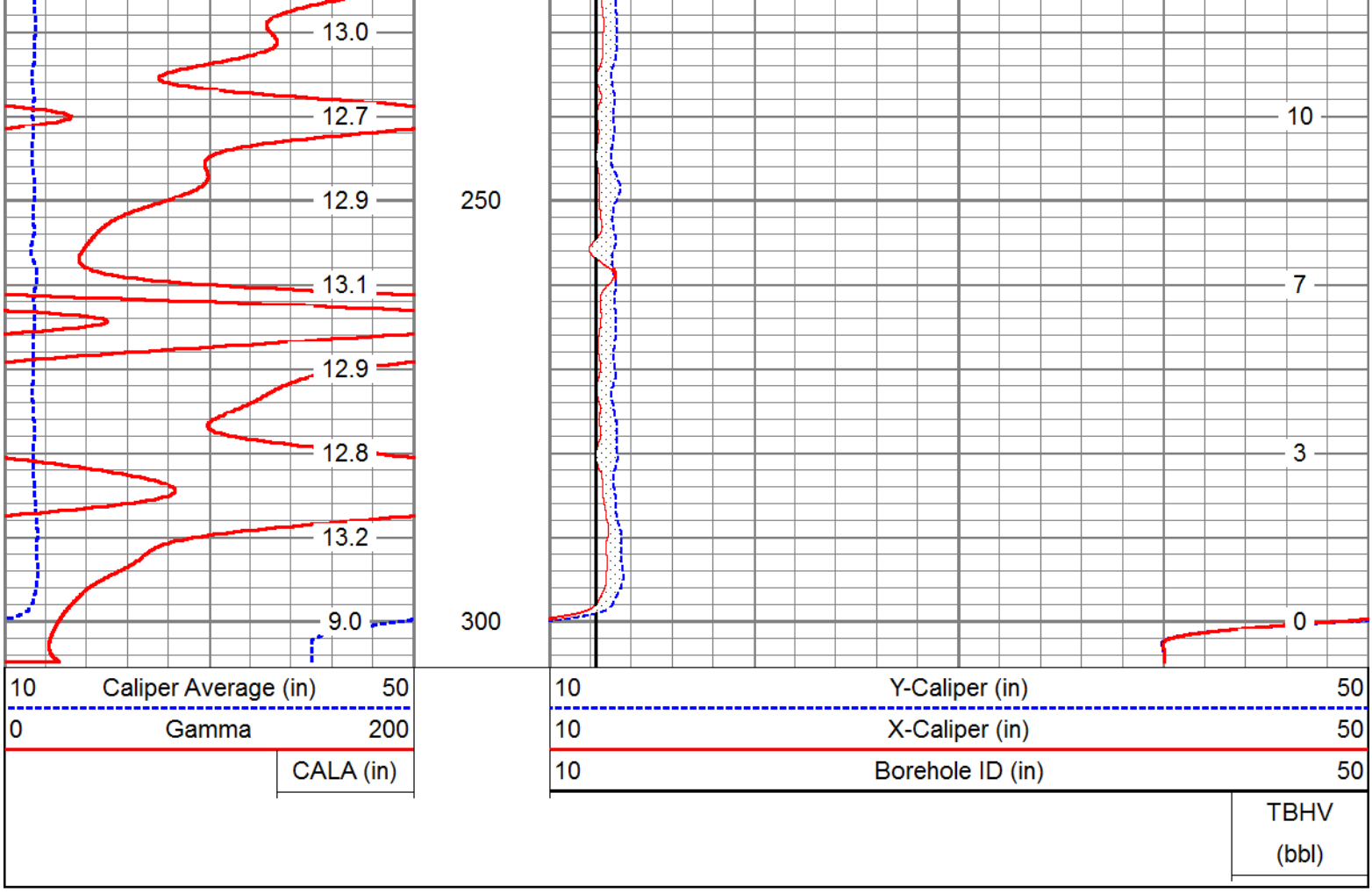

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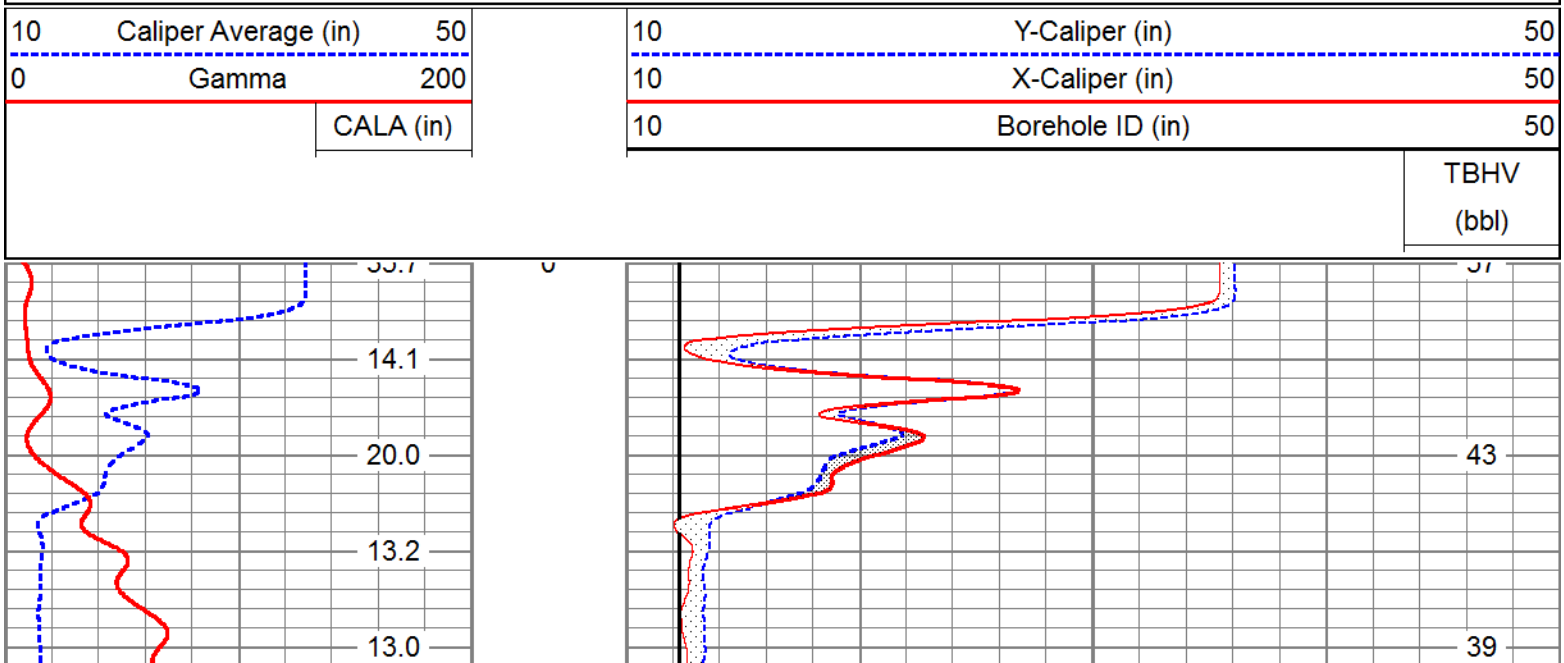
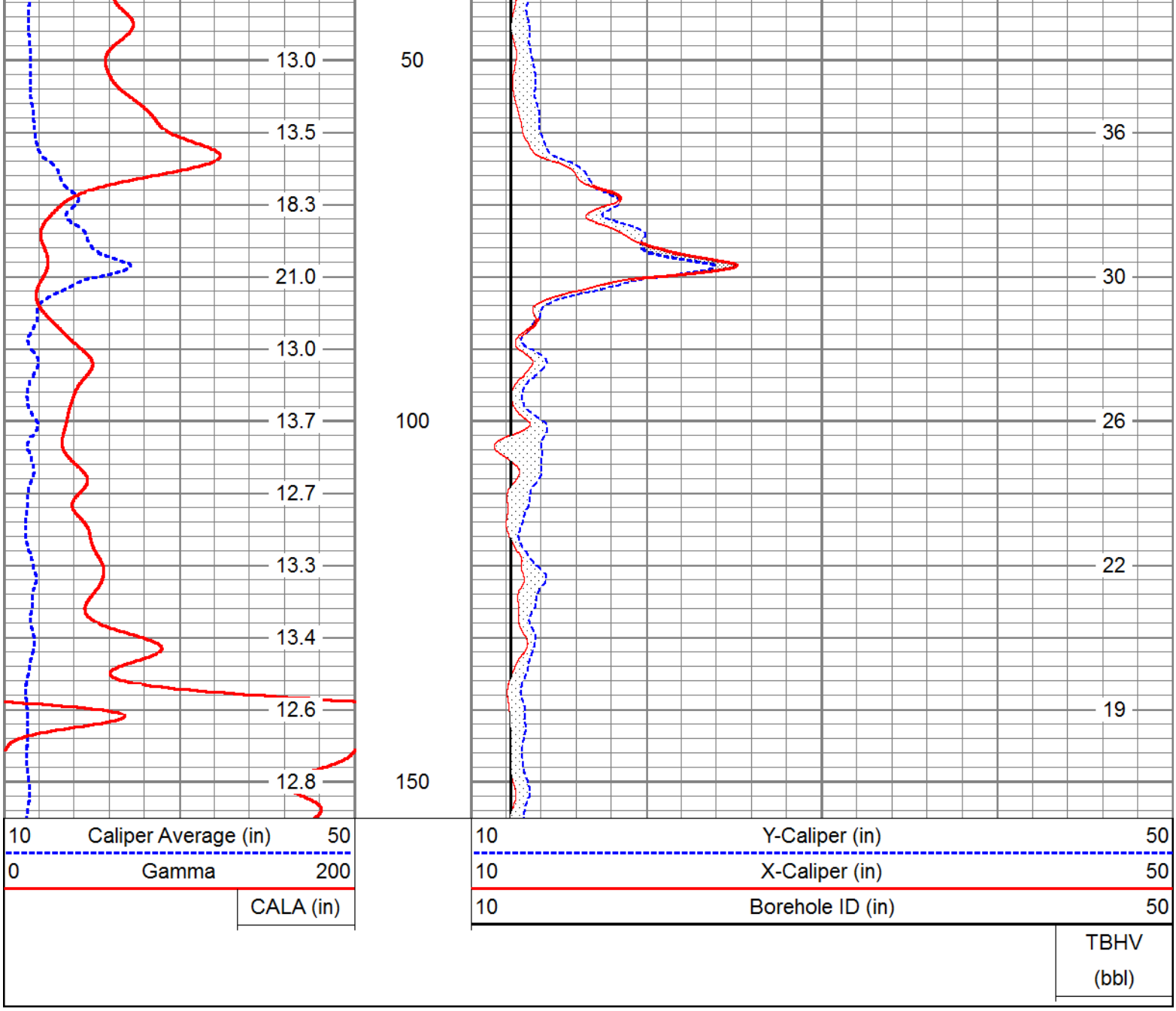
Presentation Format:	xyc
Dataset Creation:	Tue Apr 10 15:23:50 2012 by Calc Open-Cased 100827
Charted by:	Depth in Feet scaled 1:240





Calibration Report

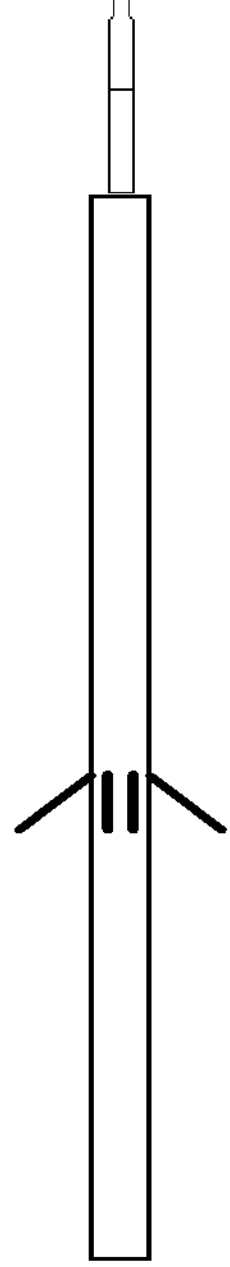
Database File: kisspoc109.db
Dataset Pathname: XYCRP
Dataset Creation: Tue Apr 10 15:23:50 2012 by Calc Open-Cased 100827

XY Caliper Calibration Report

Serial Number/Model: Probe24-60-Probe24"
Performed: Tue Apr 10 09:42:20 2012

	Ring		X Caliper		Y Caliper	
1:	6	in	347.357	cps	384.056	cps
2:	12.25	in	426.275	cps	463.157	cps
3:	20	in	521.741	cps	586.587	cps
4:	30	in	690.799	cps	769.865	cps
5:	40	in	895.295	cps	957.079	cps
6:		in		cps		cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)

			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			XYC-Probe24" (Probe24-60) Probe XY Caliper with 24" extensions	5.17	3.50	99.00
XCAL YCAL	0.50 0.50					

Dataset:	kisspoc109.db: field/well/run1/XYCRP
Total Length:	6.17 ft
Total Weight:	104.00 lb
O.D.	3.50 in

BOREHOLE COMPENSATED SONIC/VDL LOG

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	POLK
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well POC#109

Field KISSIMMEE BASIN (LFA-C)

County POLK State FLORIDA

Location: API # :

SEC TWP RGE

Other Services
SEE
COMMENTS

Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

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

Date	10-APRIL-2012
Run Number	ONE
Depth Driller	303'
Depth Logger	303'
Bottom Logged Interval	303'
Top Log Interval	SURFACE
Open Hole Size	12.25"
Type Fluid	MUD
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'

Borehole Record

Run Number	Bit	From	To

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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Comments

SP/GR/RES
XYC/GR
DIL/SP/GR

MAIN PASS

ENTERPRISES, INC.

Database File: kisspoc109.db
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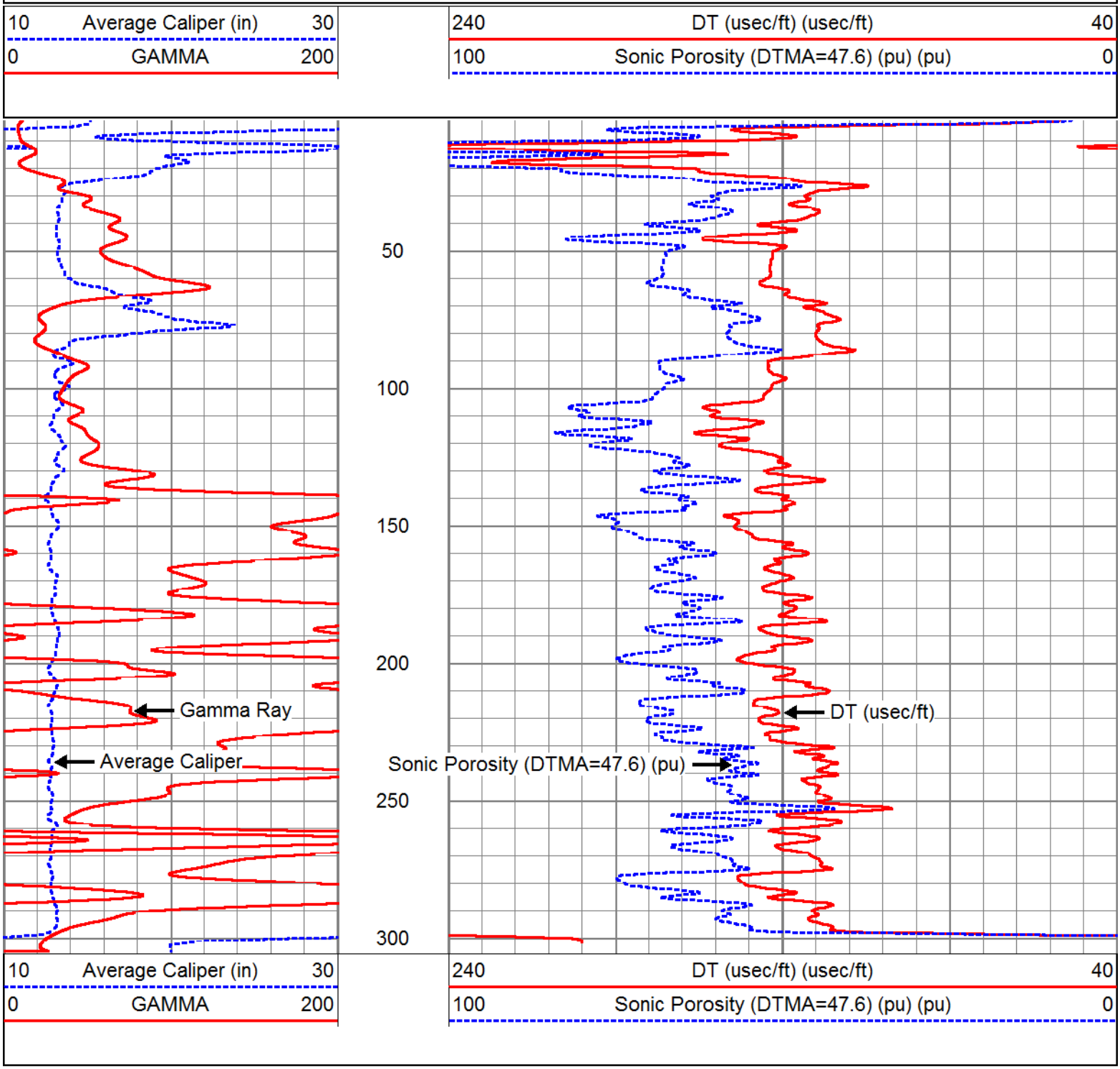
Presentation Format: bhc_por
Dataset Creation: Tue Apr 10 22:16:26 2012 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:600



ALLWEBBS ENTERPRISES, INC.

MAIN PASS

Database File: kisspoc109.db
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Presentation Format: bhc_por
Dataset Creation: Tue Apr 10 22:16:26 2012 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

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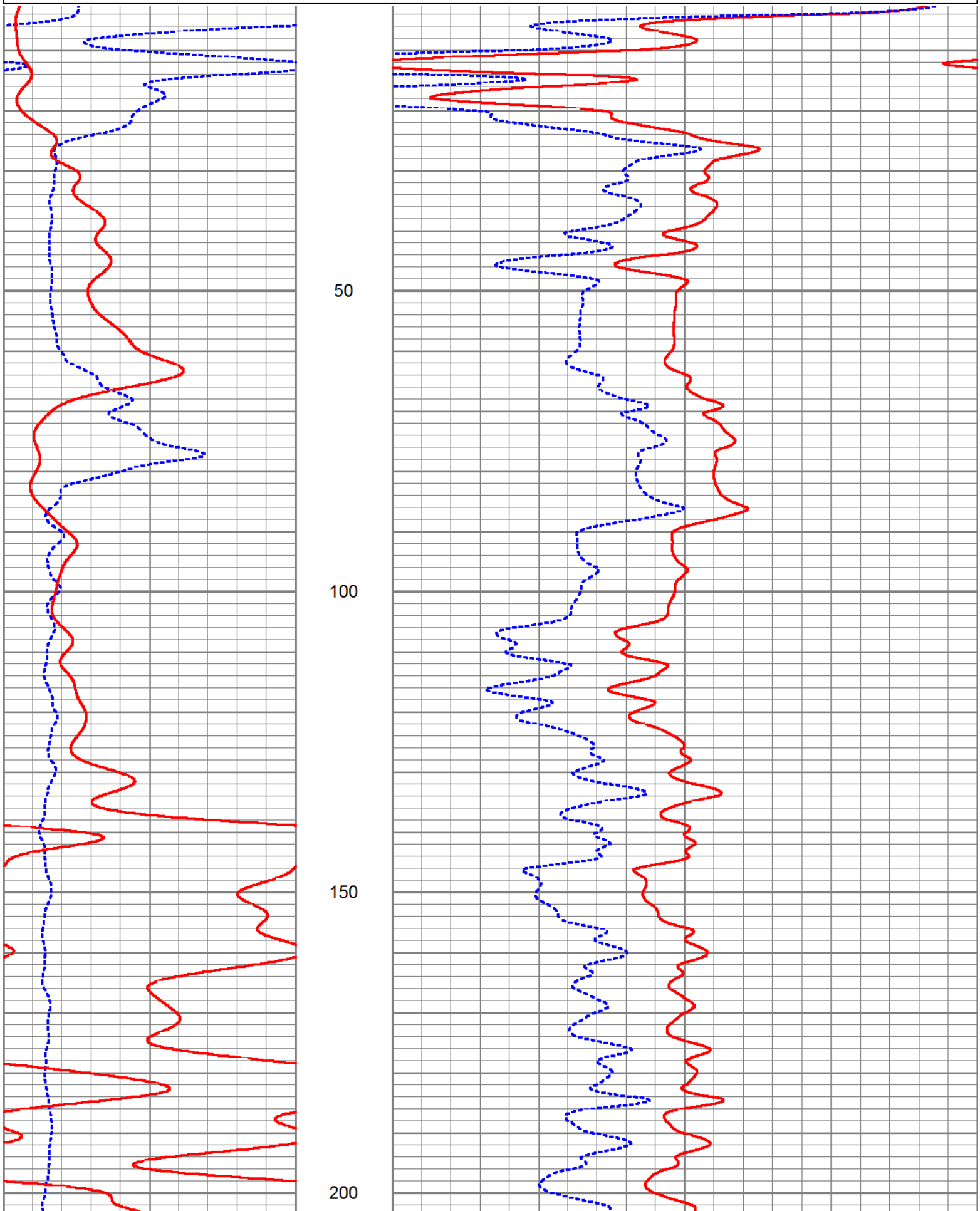

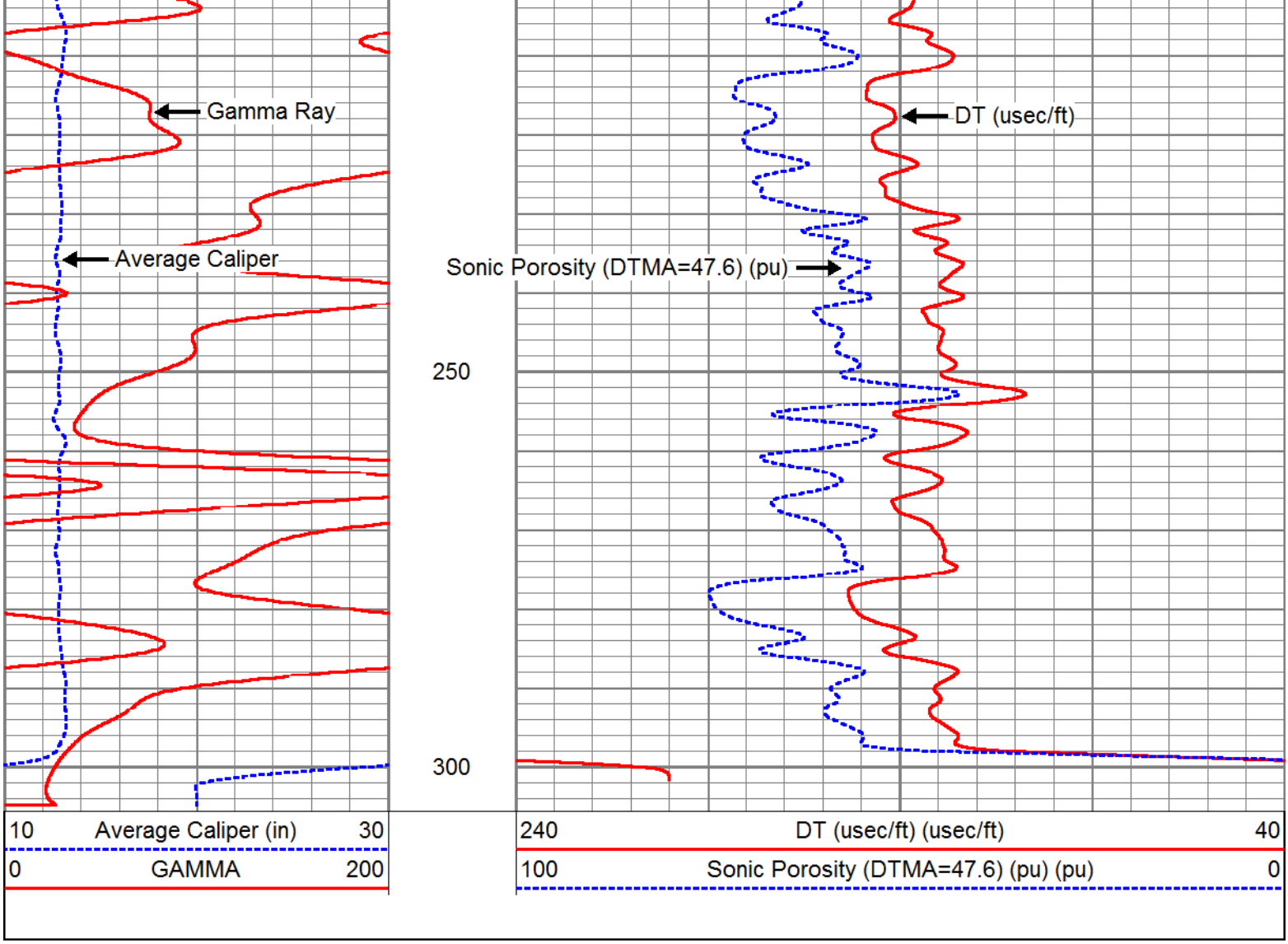

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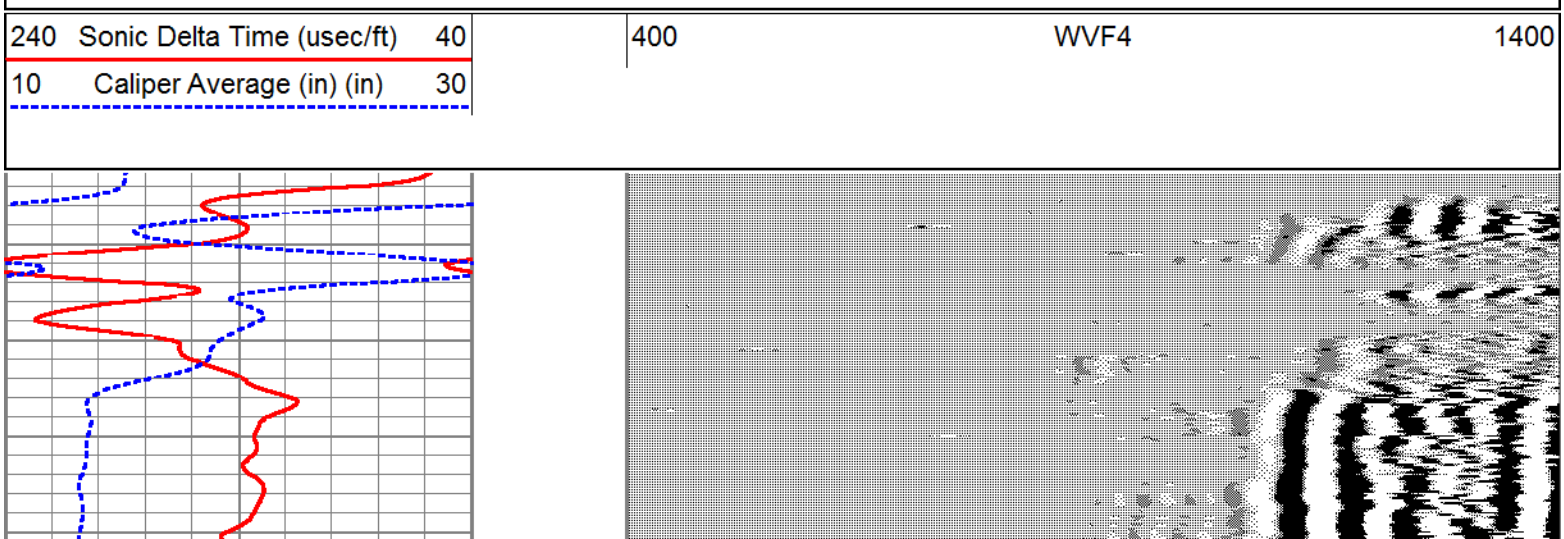
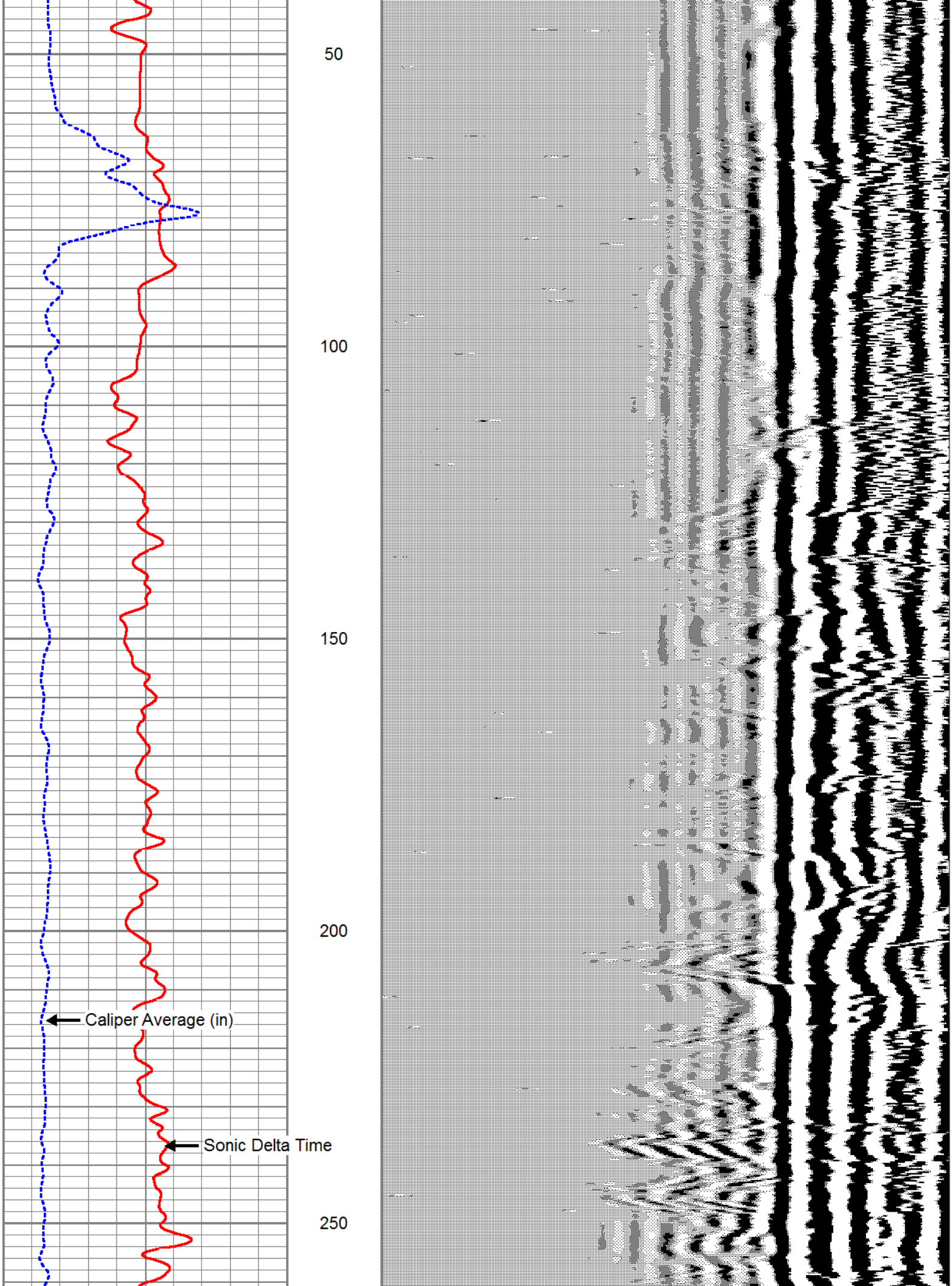
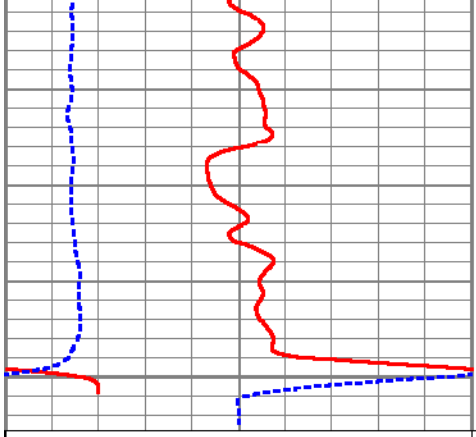
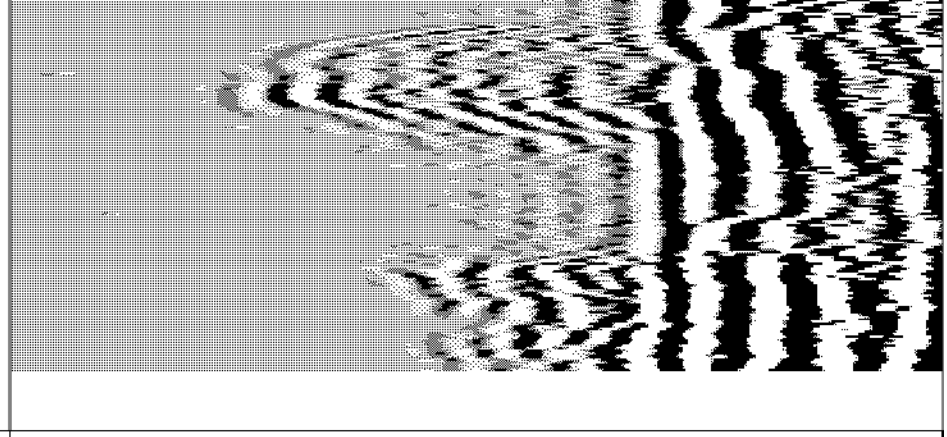



50
100
150
200
250
Caliper Average (in)
Sonic Delta Time





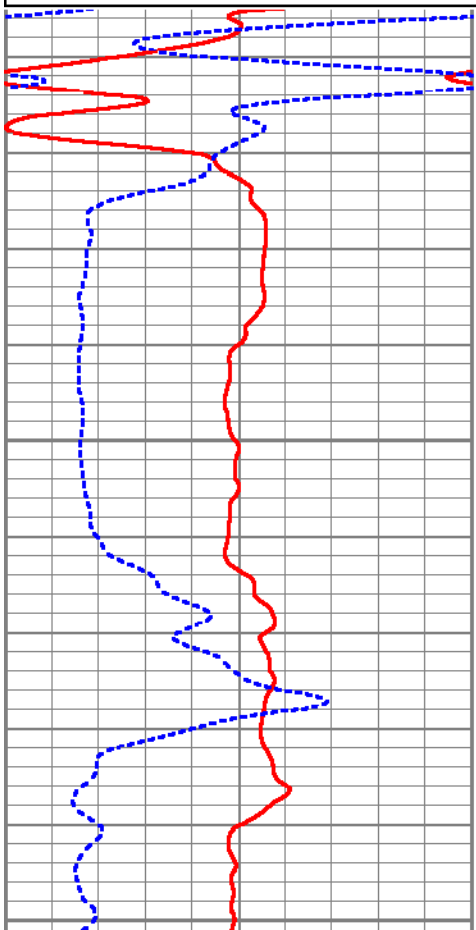
300

240	Sonic Delta Time (usec/ft)	40	400	WVF4	1400
10	Caliper Average (in) (in)	30			

REPEAT PASS

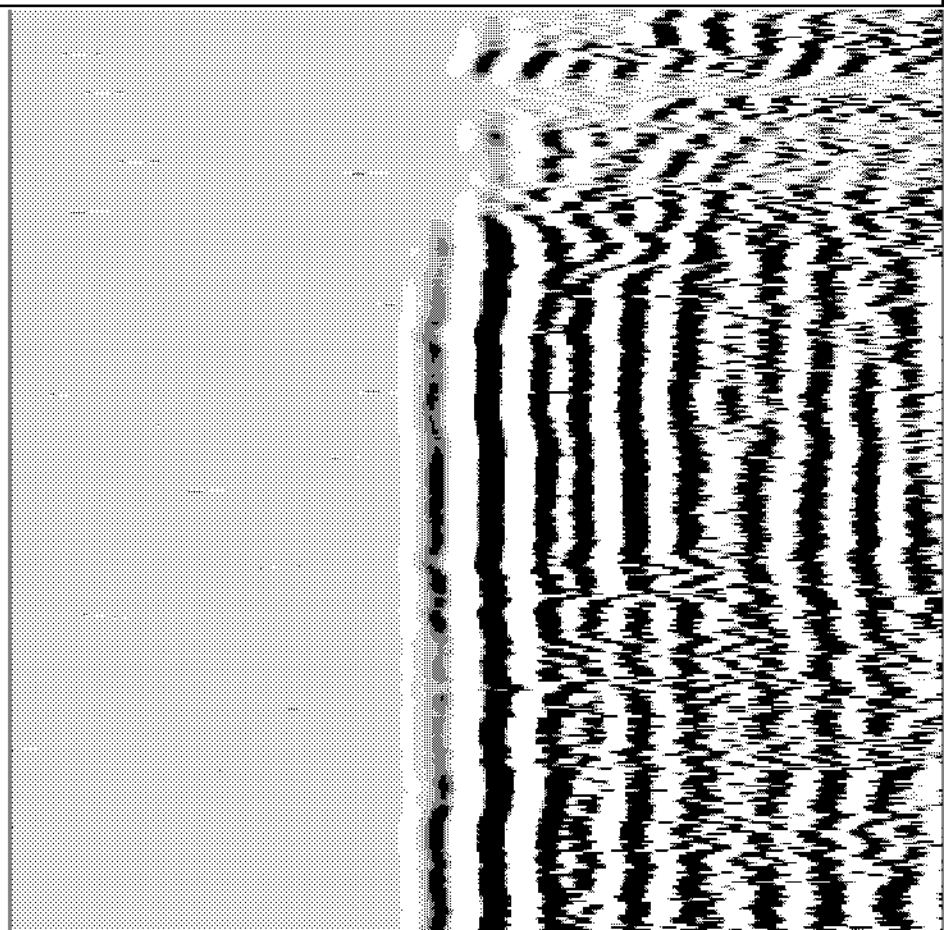
Database File:	kisspoc109.db
Dataset Pathname:	BHCRP3
Presentation Format:	bhc
Dataset Creation:	Tue Apr 10 16:15:39 2012 by Log Open-Cased 100827
Charted by:	Depth in Feet scaled 1:240

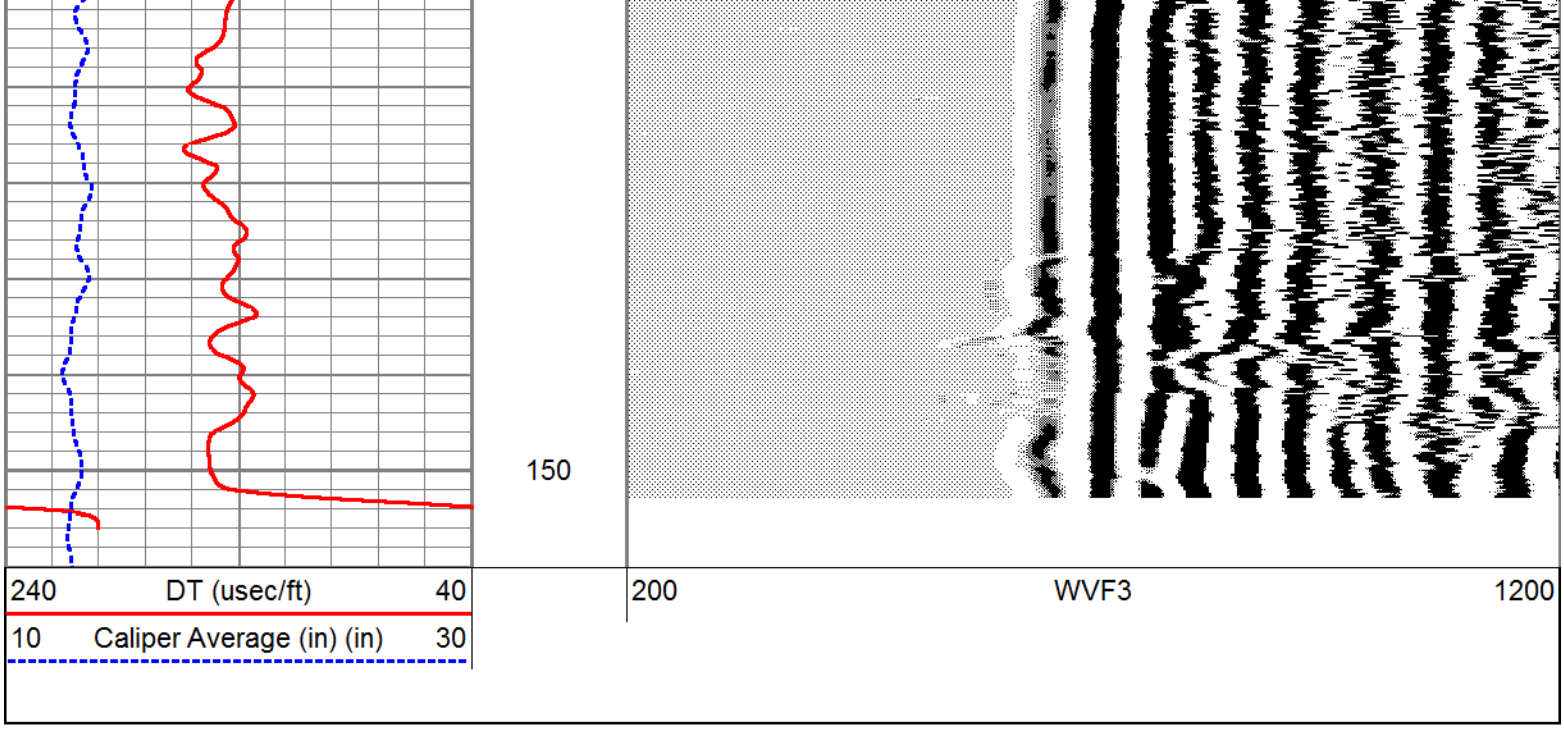
240	DT (usec/ft)	40	200	WVF3	1200
10	Caliper Average (in) (in)	30			



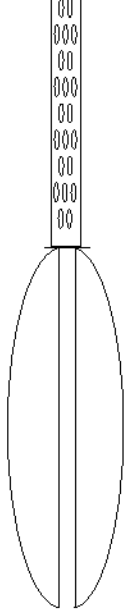
50

100





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CBLINLINE	3.00	1.50	10.00
WVF1 WVF2	7.25 7.25		SLT2Probe-Probe275(Probe) (1)	8.83	2.75	100.00
WVF3 WVF4	6.25 6.25					

			CBLINLINE	3.00	1.50	10.00

Dataset:	kisspoc109.db: field/well/run1/BHCMP
Total Length:	15.83 ft
Total Weight:	125.00 lb
O.D.	2.75 in

ALLWEBBS ENTERPRISES, INC.

RESISTIVITY SP/SP/GR LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County POLK
State FLORIDA

Location: API # :

SEC TWP RGE

Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Date	10-APRIL-2012
Run Number	ONE
Depth Driller	303'
Depth Logger	303'
Bottom Logged Interval	303'
Top Log Interval	SURFACE
Open Hole Size	12.25"
Type Fluid	MUD
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'

Borehole Record

Run Number	Bit	From	To

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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Comments

SP/GR/RES
XYC/GR
BHC SONIC/VDL

ALLWEBBS

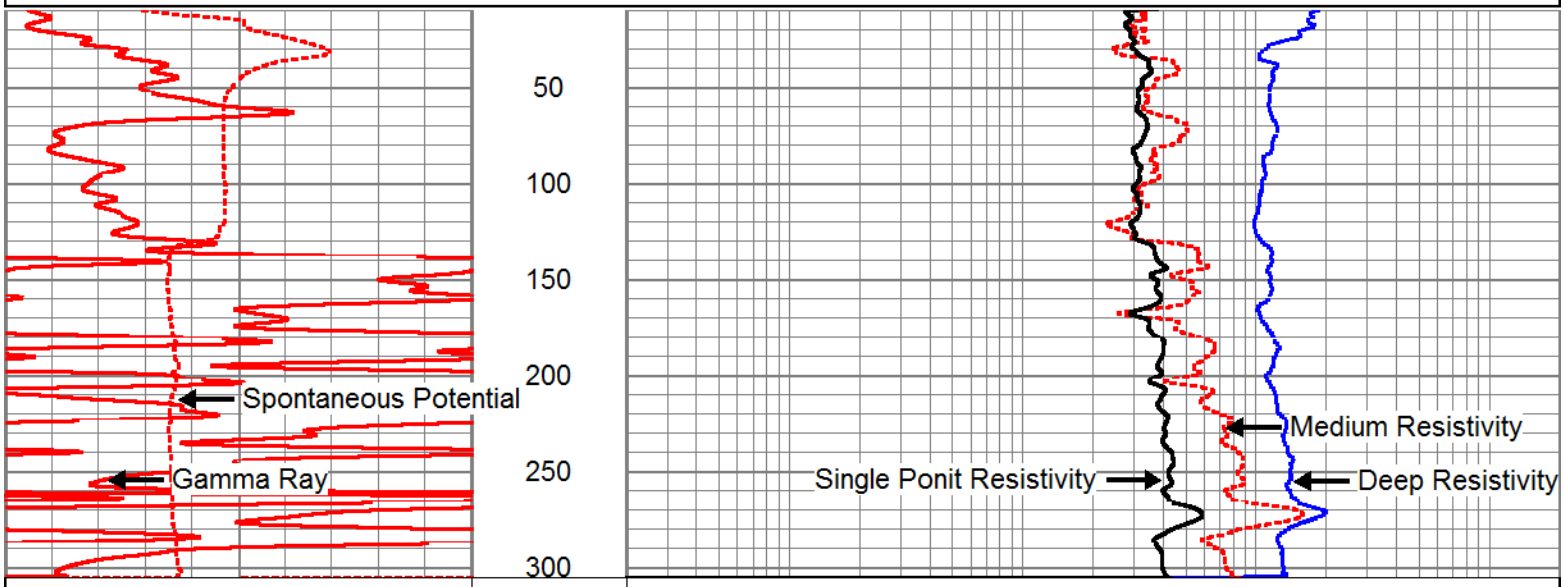
MAIN PASS

ENTERPRISES, INC.

Database File: kisspoc109.db
Dataset Pathname: run1RESMP/@0142a406
Presentation Format: res-cent
Dataset Creation: Tue Apr 10 17:20:58 2012
Charted by: Depth in Feet scaled 1:1200

0	Gamma Ray	200
-150	Spontaneous Potential	150

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000



0	Gamma Ray	200
-150	Spontaneous Potential	150

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000

ALLWEBBS ENTERPRISES, INC.

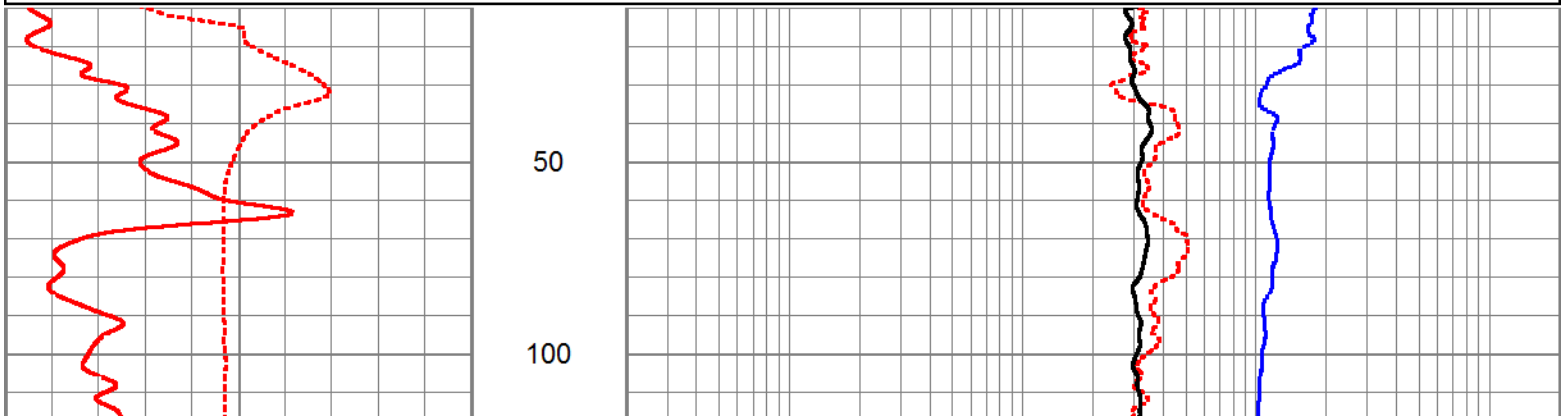
MAIN PASS

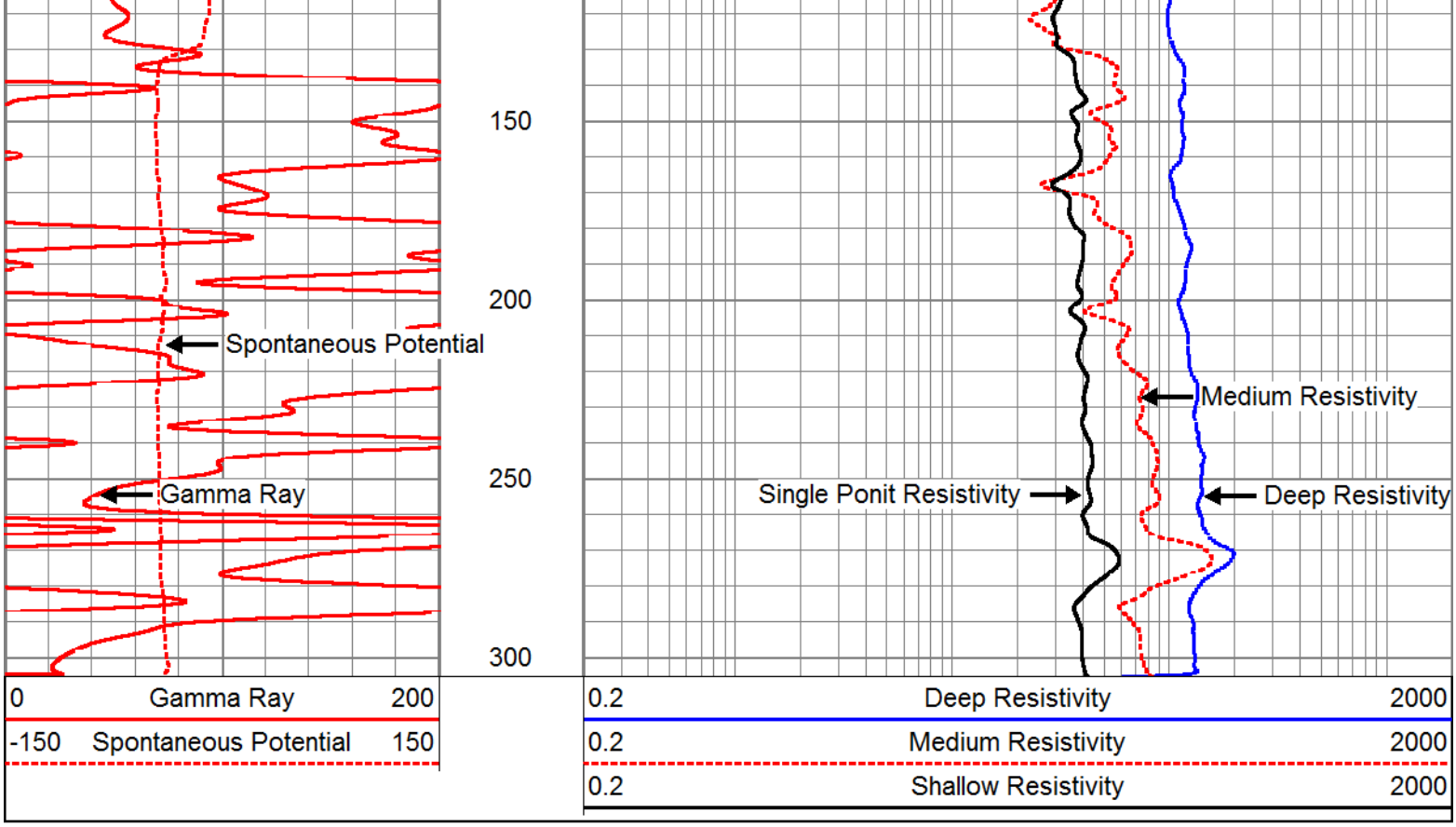
Database File: kisspoc109.db
Dataset Pathname: run1RESMP/@0142a406
Presentation Format: res-cent
Dataset Creation: Tue Apr 10 17:20:58 2012

Charted by: Depth in Feet scaled 1:600

0	Gamma Ray	200
-150	Spontaneous Potential	150

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000





0	Gamma Ray	200
-150	Spontaneous Potential	150

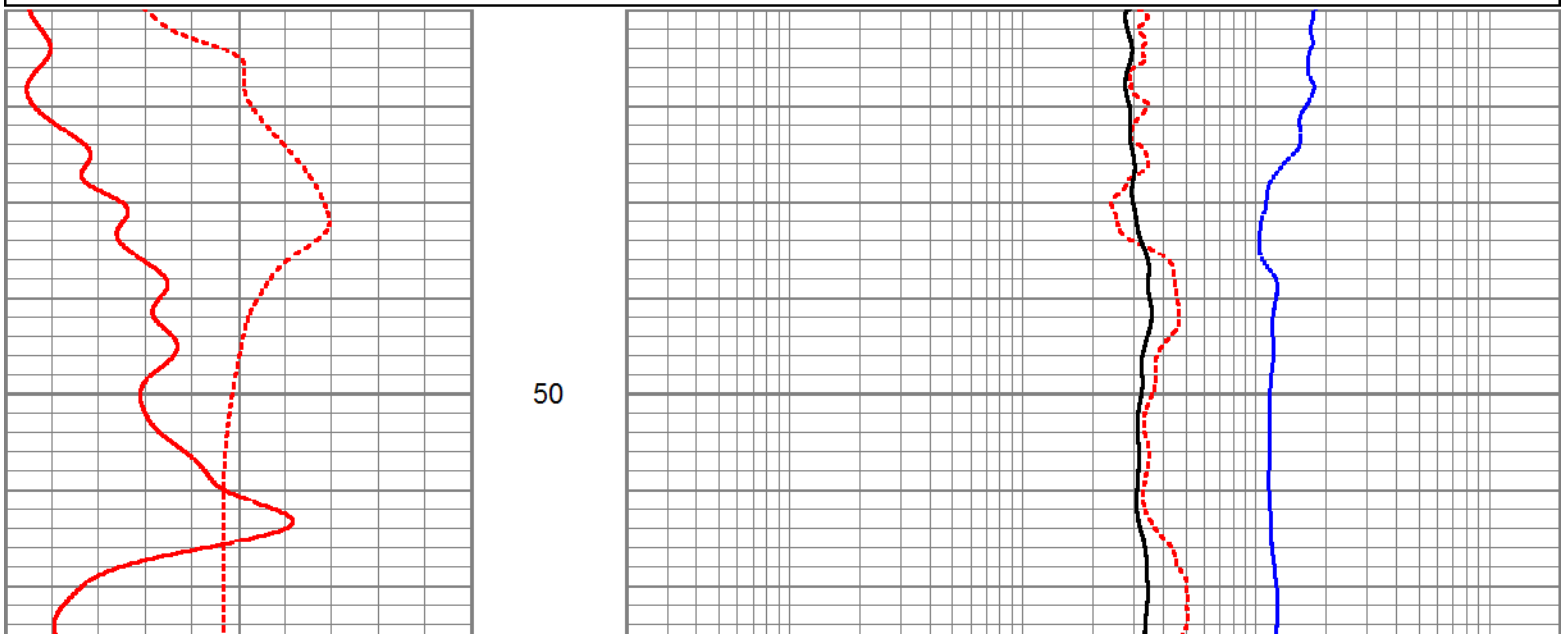
0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000

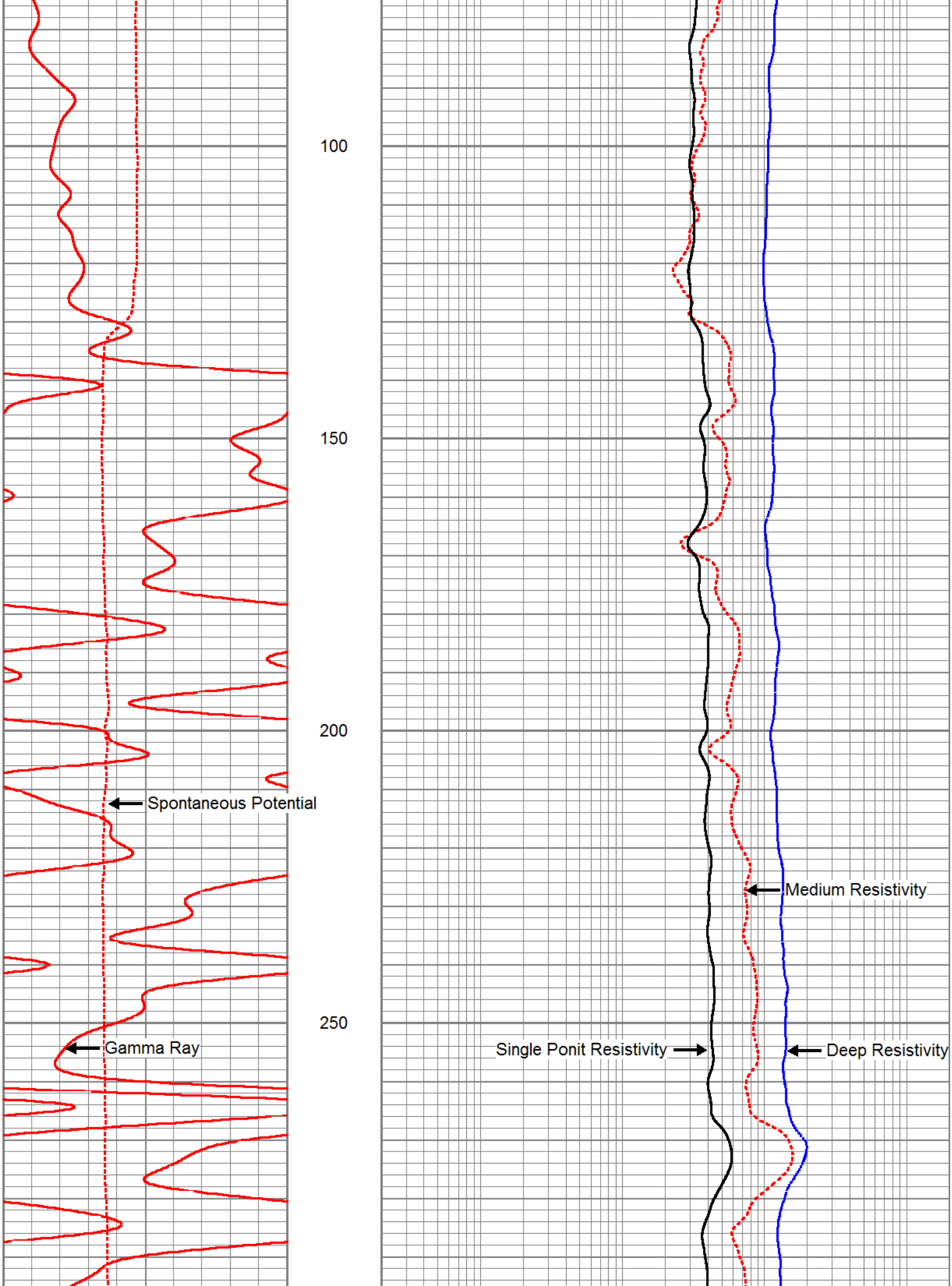
MAIN PASS

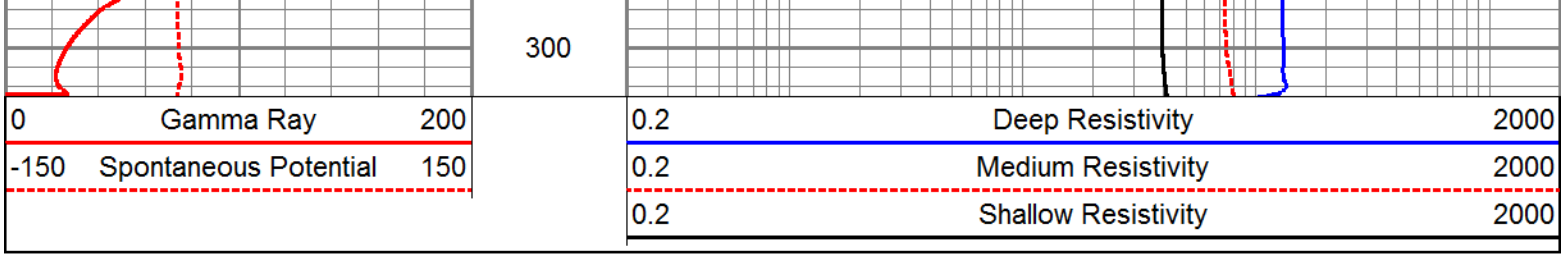
Database File:	kisspoc109.db
Dataset Pathname:	run1RESMP/@0142a406
Presentation Format:	res-cent
Dataset Creation:	Tue Apr 10 17:20:58 2012
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray	200
-150	Spontaneous Potential	150

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000

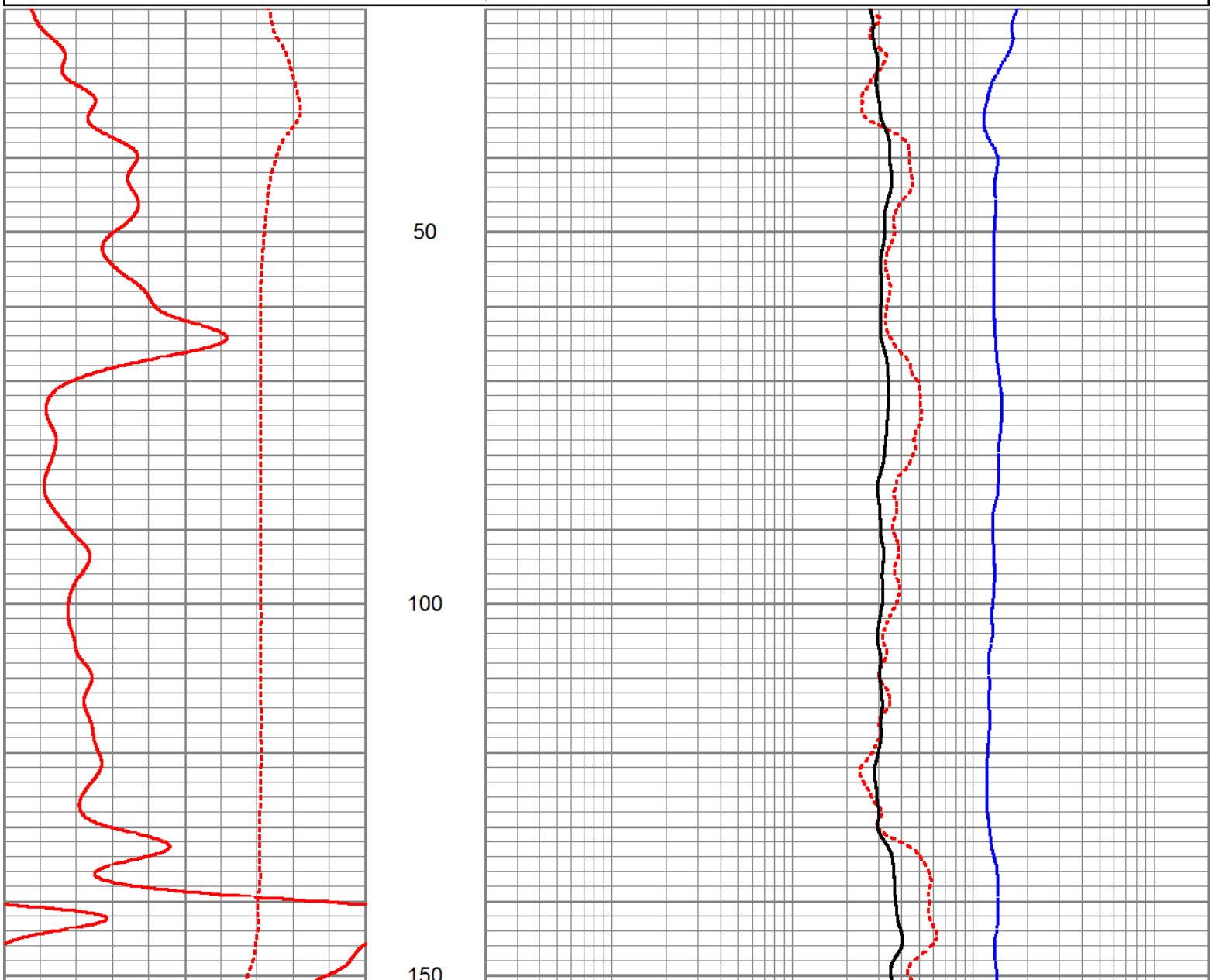


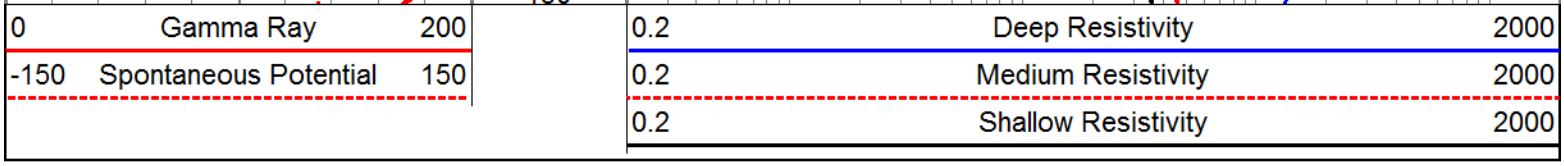

100
150
200
250
Spontaneous Potential
Gamma Ray
Medium Resistivity
Single Ponit Resistivity
Deep Resistivity



REPEAT PASS

Database File:	kisspoc109.db
Dataset Pathname:	run1RESRP/@0140ed80
Presentation Format:	res-cent
Dataset Creation:	Tue Apr 10 17:20:40 2012
Charted by:	Depth in Feet scaled 1:240





0	Gamma Ray	200
-150	Spontaneous Potential	150

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000

ALLWEBBS ENTERPRISES, INC.

DUAL INDUCTION GAMMA RAY LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County POLK
State FLORIDA

Location: API # :

SEC TWP RGE

Other Services
SEE COMMENTS

Permanent Datum PAD Elevation
Log Measured From PAD Elevation K.B.
Drilling Measured From PAD D.F.
G.L.

Date	10-APRIL-2012							
Run Number	ONE							
Depth Driller	303'							
Depth Logger	303'							
Bottom Logged Interval	303'							
Top Log Interval	SURFACE							
Open Hole Size	12.25"							
Type Fluid	MUD							
Density / Viscosity	NA							
Max. Recorded Temp.	NA							
Estimated Cement Top	NA							
Time Well Ready	00:00							
Time Logger on Bottom	00:00							
Equipment Number	VA-202							
Location	JUPTIER							
Recorded By	LEE							
Witnessed By								

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'

Borehole Record

Run Number	Bit	From	To

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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Comments

SP/GR/RES
XYC/GR
BHC SONIC/VDL

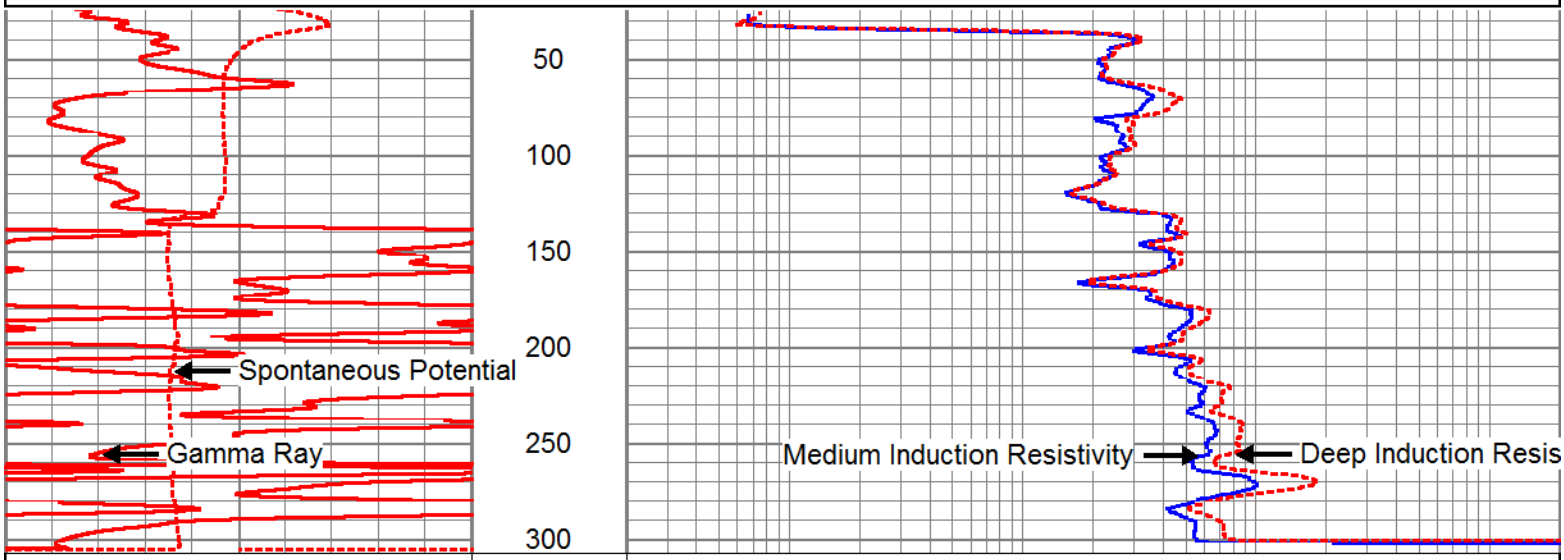
ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

Database File: kisspoc109.db
Dataset Pathname: RGDILMP
Presentation Format: dil
Dataset Creation: Tue Apr 10 22:00:21 2012
Charted by: Depth in Feet scaled 1:1200

0	Gamma	200	0.2	Medium Induction Resistivity (Ohm-m)	2000
-150	Spontaneous Potential	150	0.2	Deep Induction Resistivity (Ohm-m)	2000



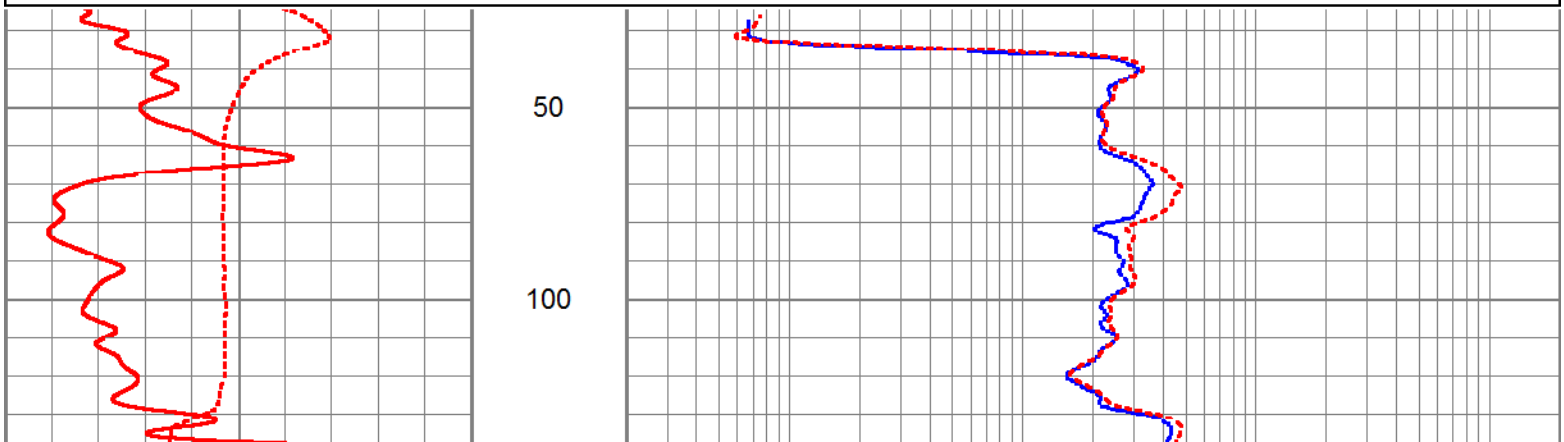
0	Gamma	200	0.2	Medium Induction Resistivity (Ohm-m)	2000
-150	Spontaneous Potential	150	0.2	Deep Induction Resistivity (Ohm-m)	2000

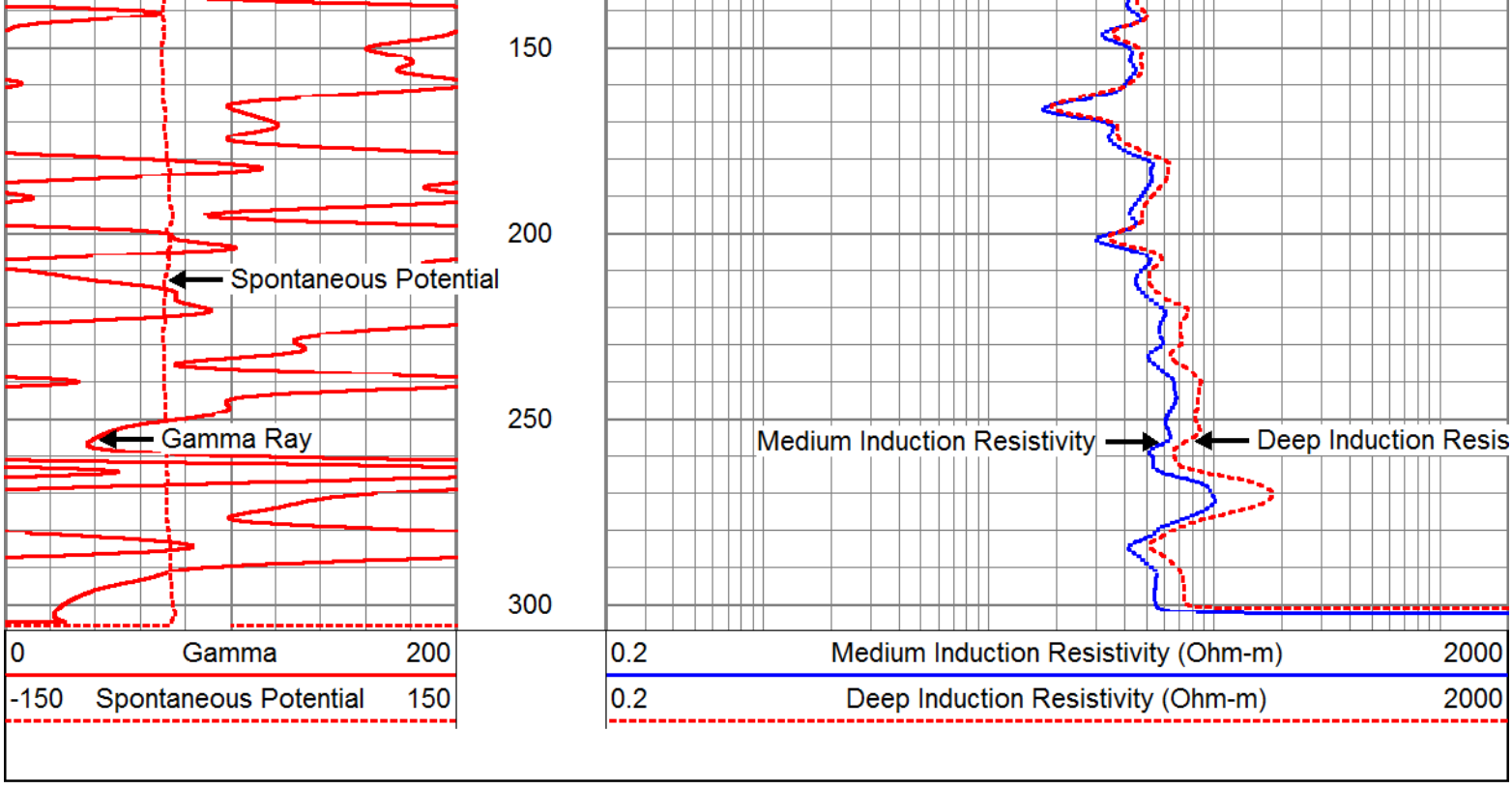
ALLWEBBS ENTERPRISES, INC.

MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: RGDILMP
Presentation Format: dil
Dataset Creation: Tue Apr 10 22:00:21 2012
Charted by: Depth in Feet scaled 1:600

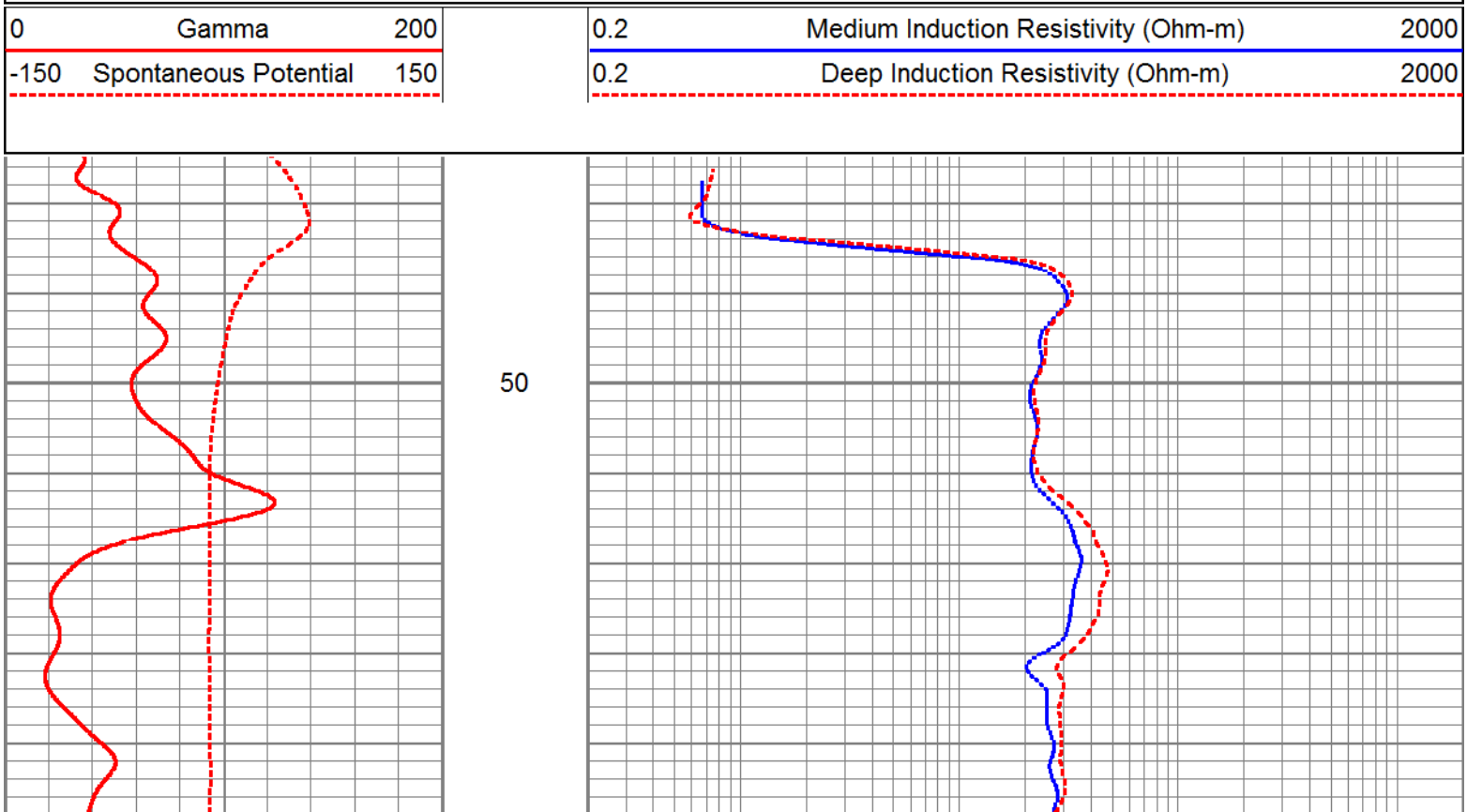
0	Gamma	200	0.2	Medium Induction Resistivity (Ohm-m)	2000
-150	Spontaneous Potential	150	0.2	Deep Induction Resistivity (Ohm-m)	2000

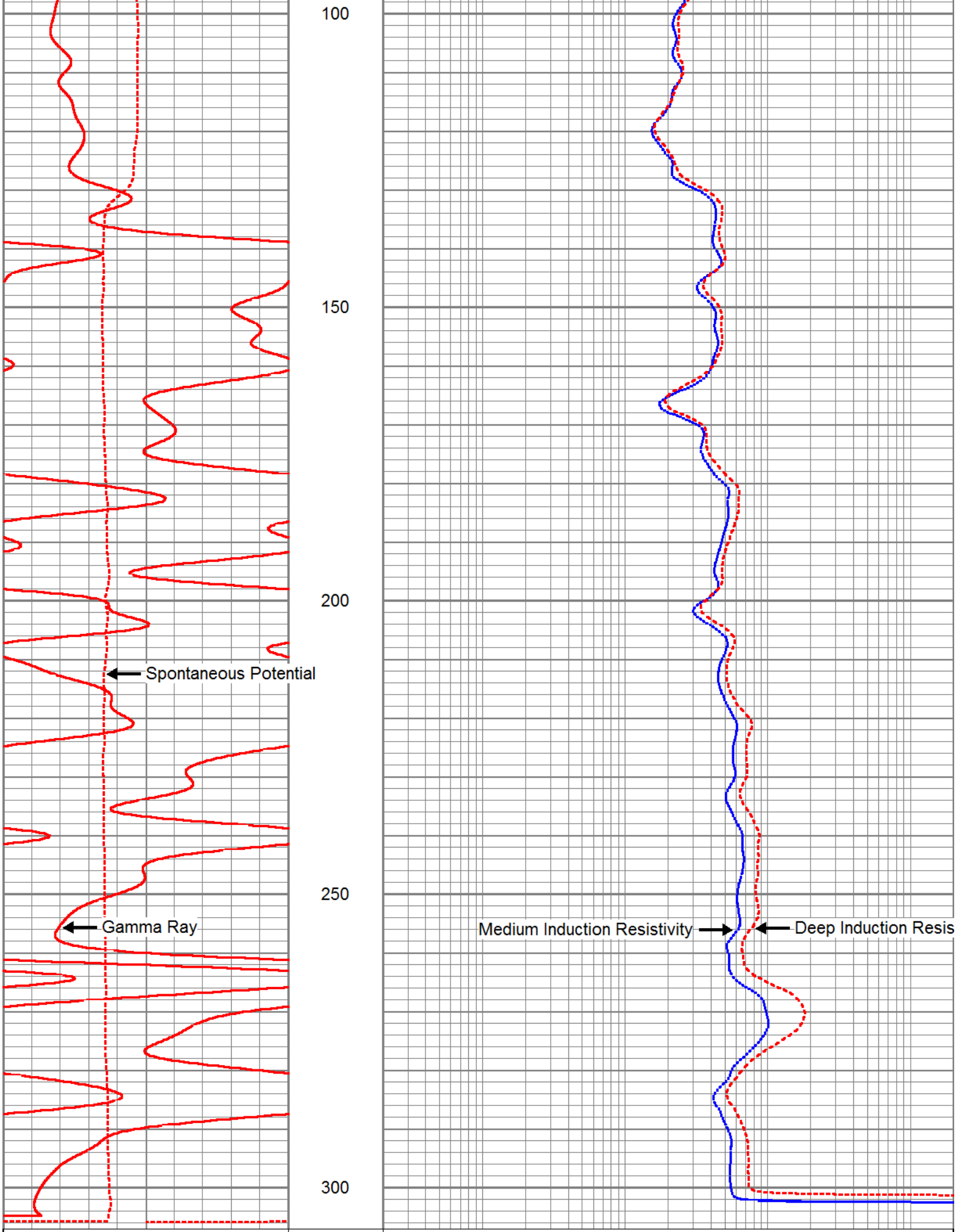




MAIN PASS

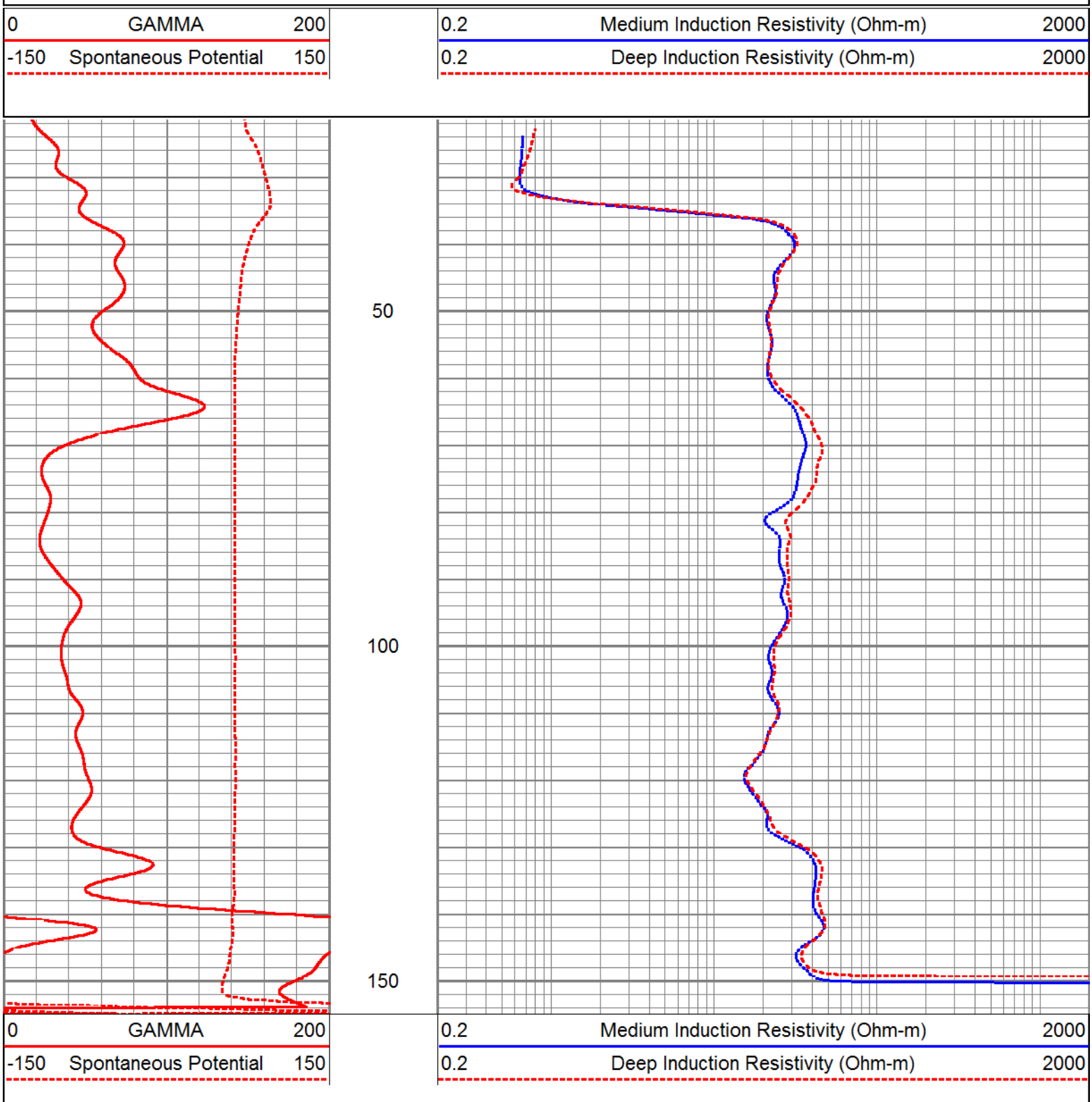
Database File:	kisspoc109.db
Dataset Pathname:	RGDILMP
Presentation Format:	dil
Dataset Creation:	Tue Apr 10 22:00:21 2012
Charted by:	Depth in Feet scaled 1:240




100
150
200
250
300
Spontaneous Potential
Gamma Ray
Medium Induction Resistivity
Deep Induction Resis
0
Gamma
200
-150
Spontaneous Potential
150
0.2
Medium Induction Resistivity (Ohm-m)
2000
0.2
Deep Induction Resistivity (Ohm-m)
2000

REPEAT PASS

Database File:	kisspoc109.db
Dataset Pathname:	RGDILRP
Presentation Format:	dil
Dataset Creation:	Tue Apr 10 22:00:22 2012
Charted by:	Depth in Feet scaled 1:240



Calibration Report

Database File: kisspoc109.db
Dataset Pathname: RGDILRP
Dataset Creation: Tue Apr 10 22:00:22 2012

Gamma Ray Calibration Report

Serial Number:	5562	
Tool Model:	6CHAN	
Performed:	Mon Feb 27 11:39:18 2012	
Calibrator Value:	120.0	GAPI
Background Reading:	21.0	
Calibrator Reading:	67.1	
Sensitivity:	2.6030	GAPI/

Dual Induction Calibration Report

Serial-Model: 5562-6CHAN
Surface Cal Performed:

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	32134.400	41811.700	0.000	1650.000	mmho-m	0.171	-5478.970
Medium	33023.100	50028.000	0.000	3300.000	mmho-m	0.194	-6408.530

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	6.50		RGDILGR-6CHAN (5562) Robertson Geologging Dual Induction Gamma Ray	7.06	1.50	13.67
CILD	2.63					

CILM	1.54						

Dataset:	kisspoc109.db: field/well/run1/RGDILMP
Total Length:	7.06 ft
Total Weight:	13.67 lb
O.D.	1.50 in

ALLWEBBS ENTERPRISES, INC.

X-Y CALIPER GAMMA RAY LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA State FLORIDA
Location: API # :
SEC TWP RGE
Other Services
SEE COMMENTS

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA
Location: API # :	
SEC TWP RGE	
Other Services	SEE COMMENTS
Permanent Datum	PAD
Log Measured From	PAD
Drilling Measured From	PAD
Elevation	
K.B.	
D.F.	
G.L.	

Date	26-APRIL-2012
Run Number	THREE
Depth Driller	920'
Depth Logger	920'
Bottom Logged Interval	920'
Top Log Interval	CASING
Open Hole Size	12.25"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-203
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'

Borehole Record

Run Number	Bit	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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Comments

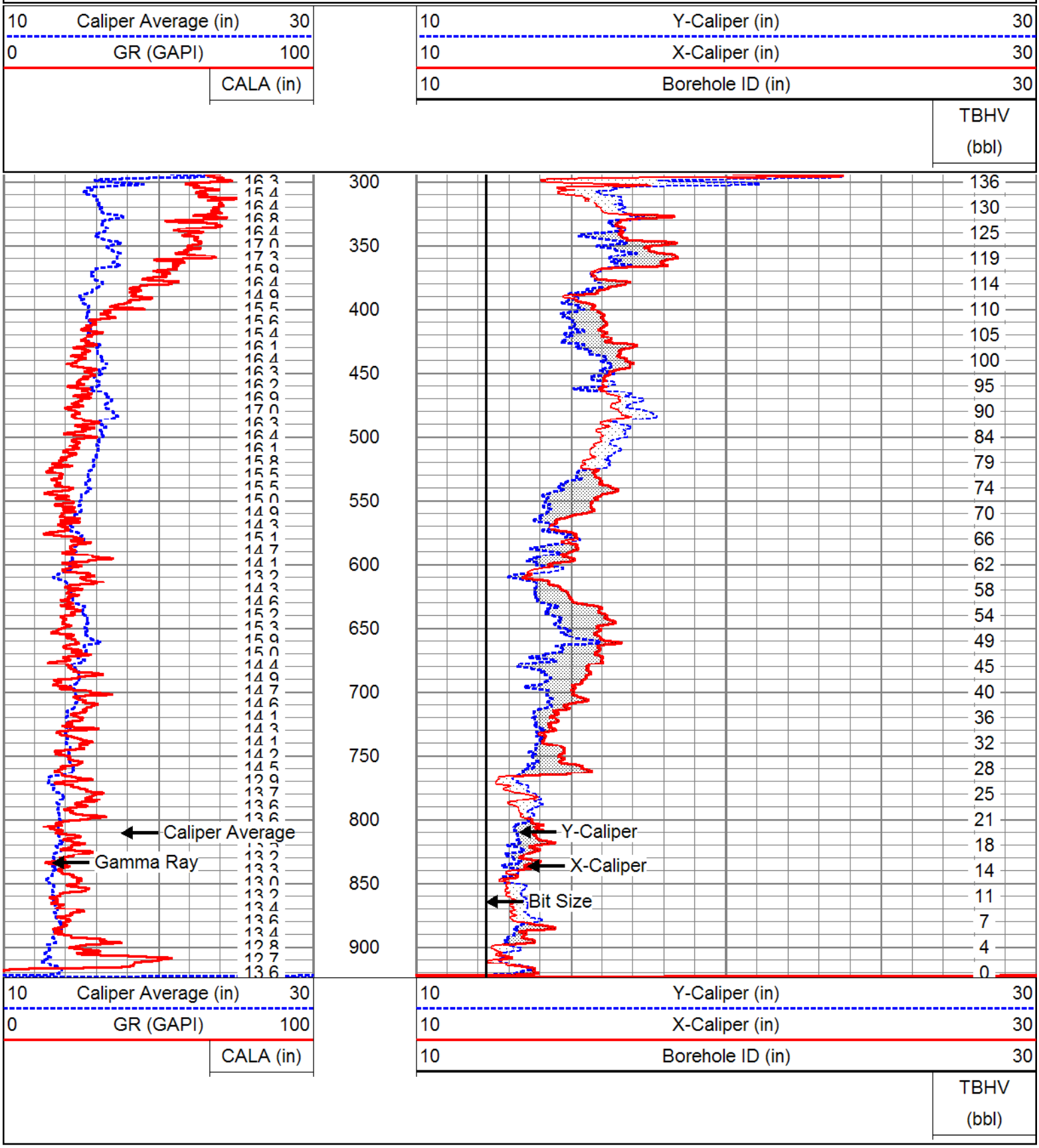
FCT
DIL/LL3/SP
BHC/SONIC/VDL
FLOWMETER

ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

Database File:	kisspoc109.db
Dataset Pathname:	run3/XYCMP
Presentation Format:	xyc
Dataset Creation:	Sat Apr 07 21:33:36 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:1200



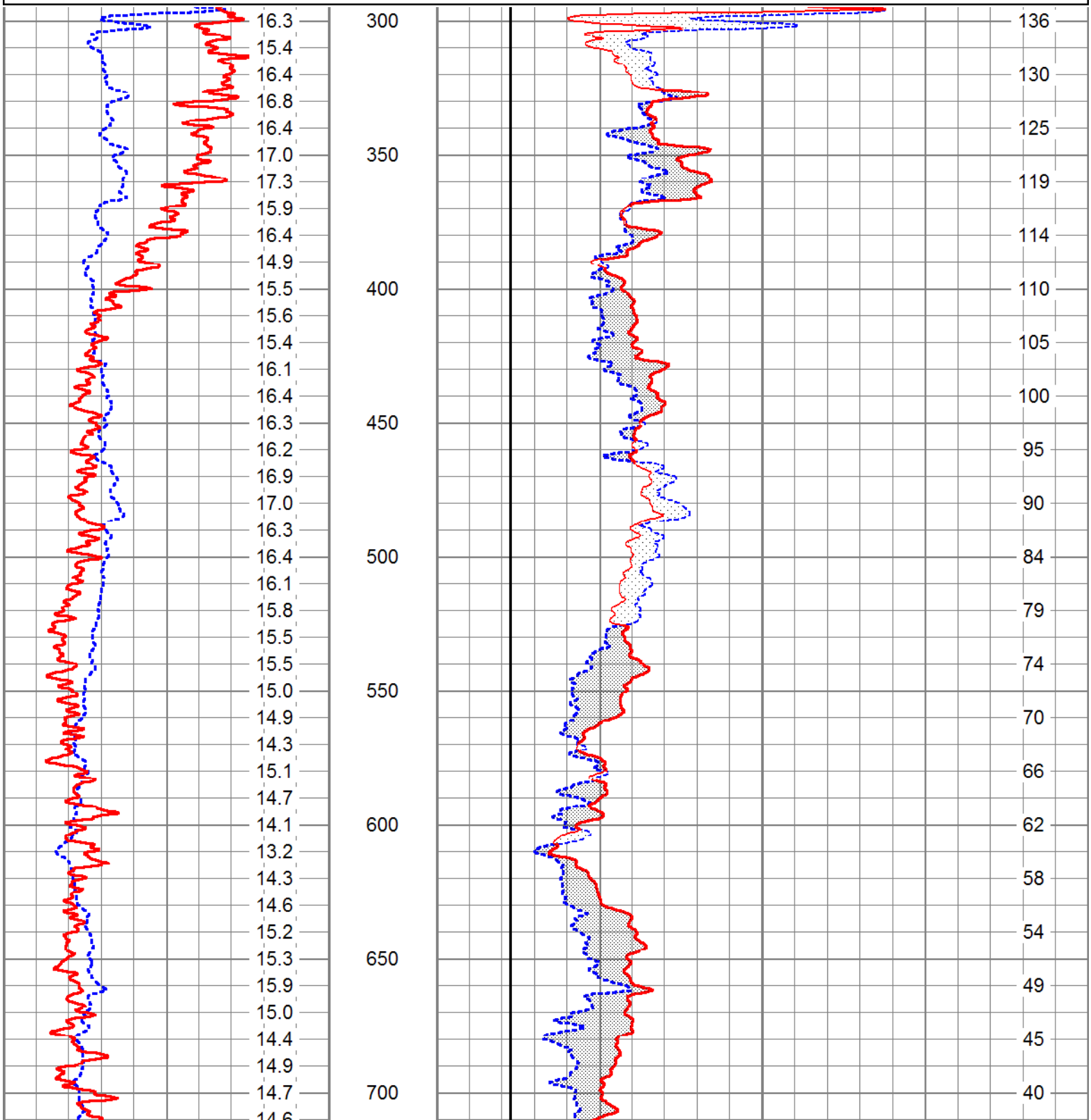
MAIN PASS

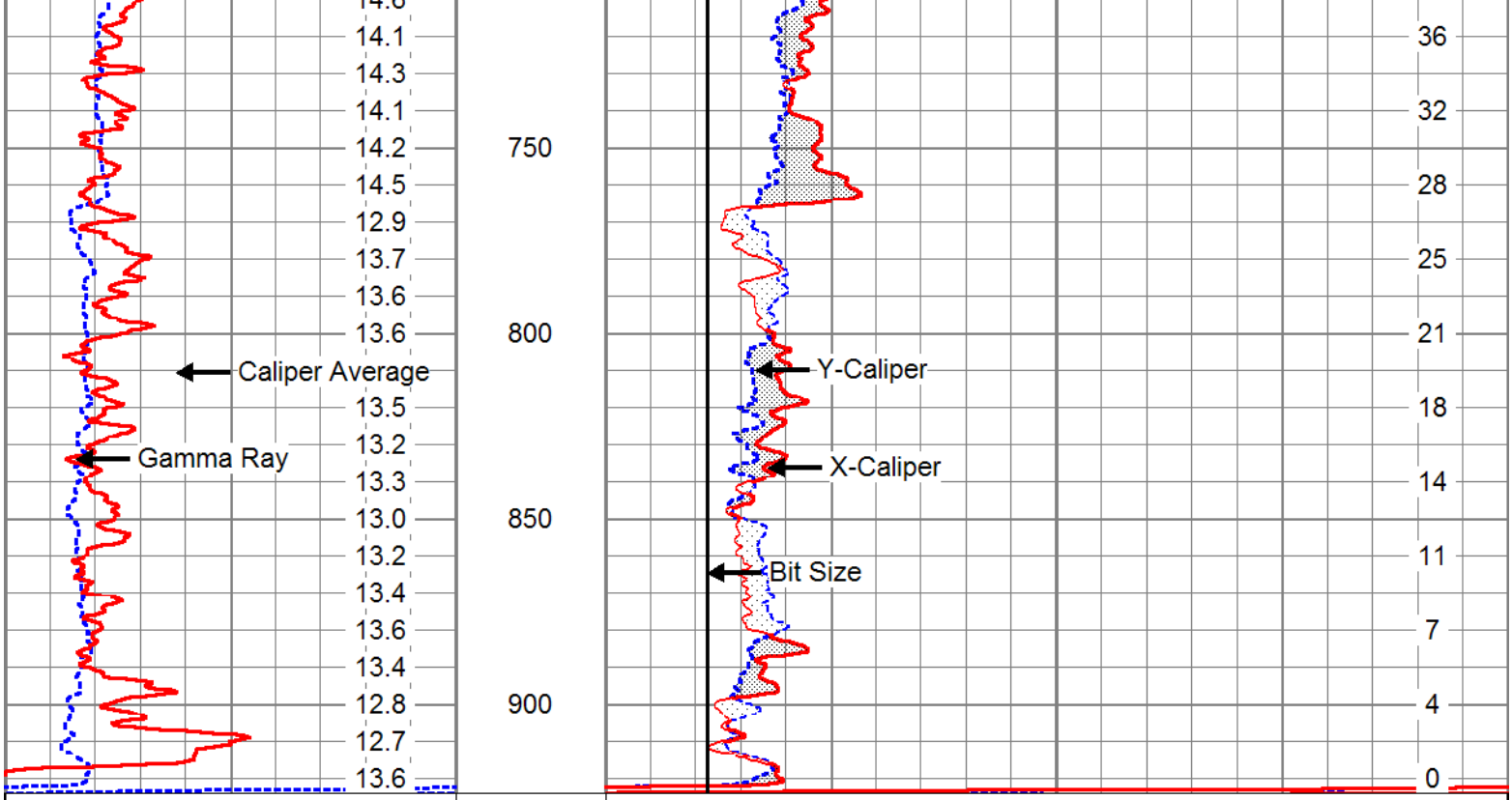
ALLWEBBS ENTERPRISES, INC.

Database File:	kisspoc109.db
Dataset Pathname:	run3/XYCMP
Presentation Format:	xyc
Dataset Creation:	Sat Apr 07 21:33:36 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:600

10	Caliper Average (in)	30
0	GR (GAPI)	100
	CALA (in)	

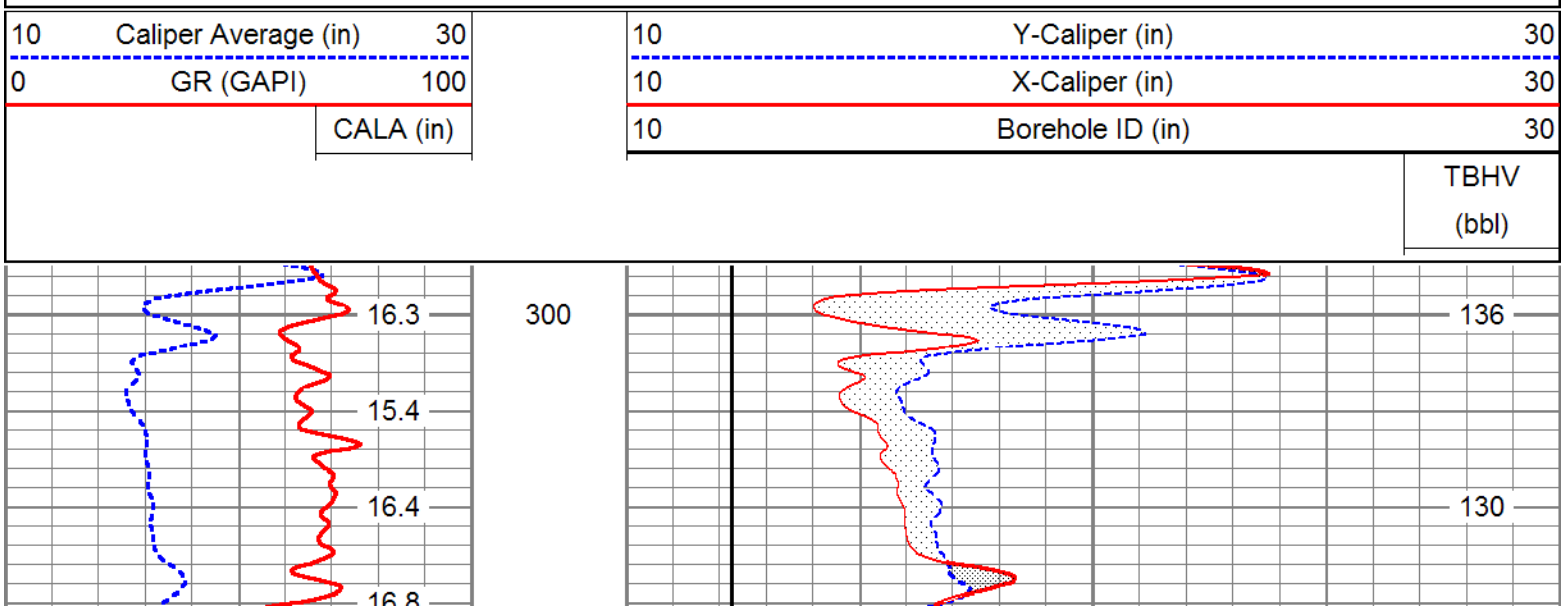
10	Y-Caliper (in)	30
10	X-Caliper (in)	30
10	Borehole ID (in)	30
	TBHV (bbl)	

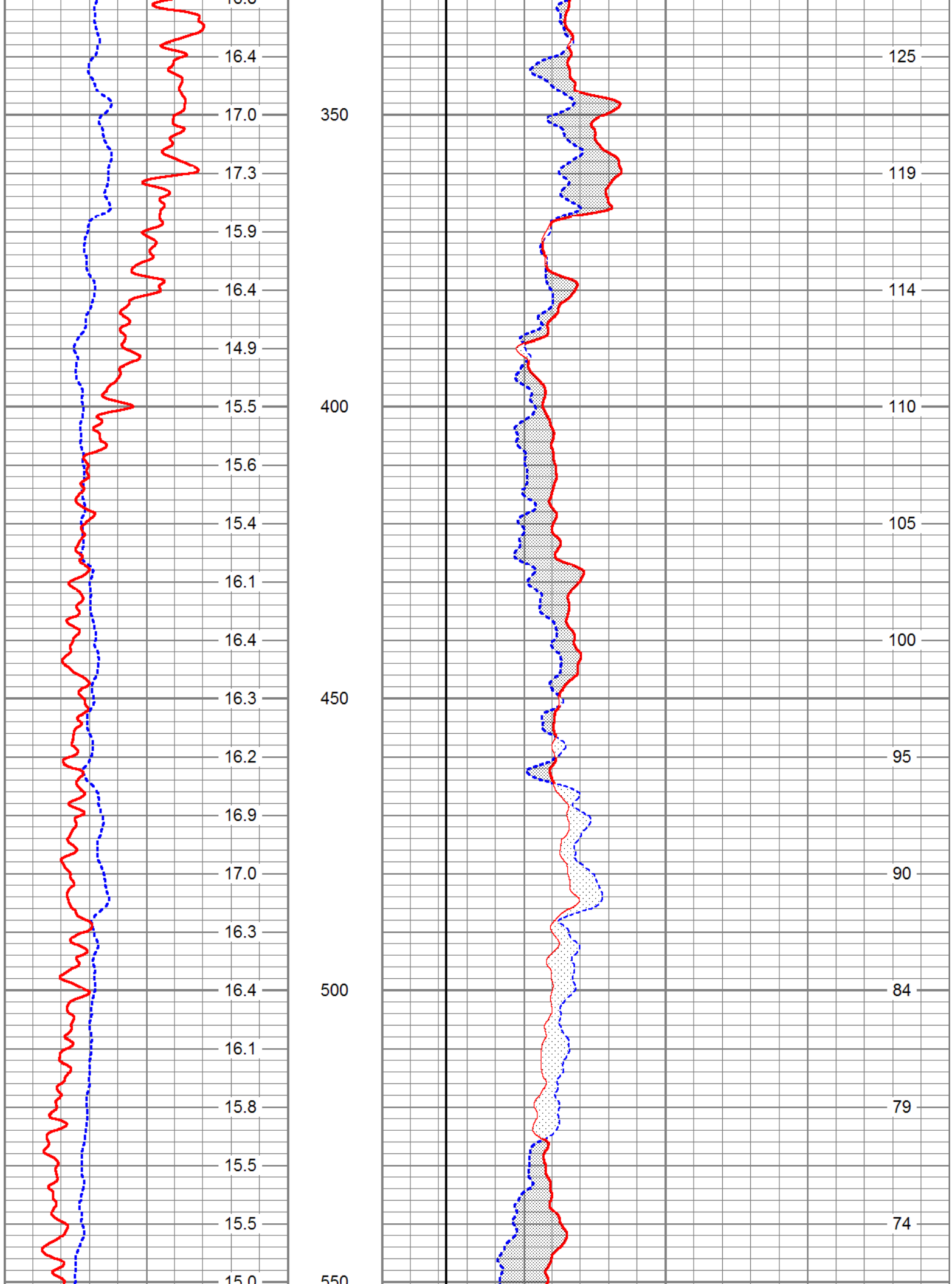


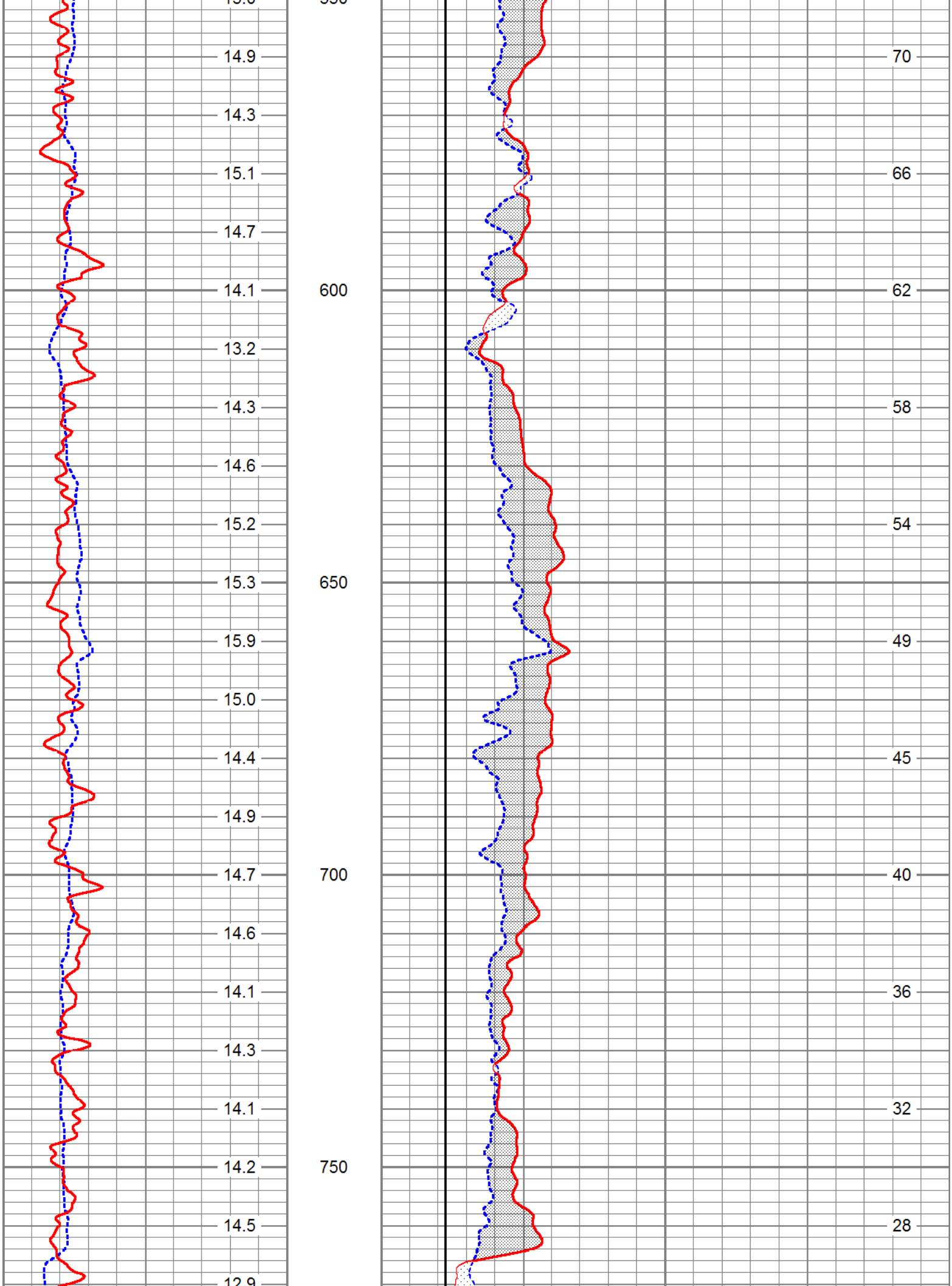


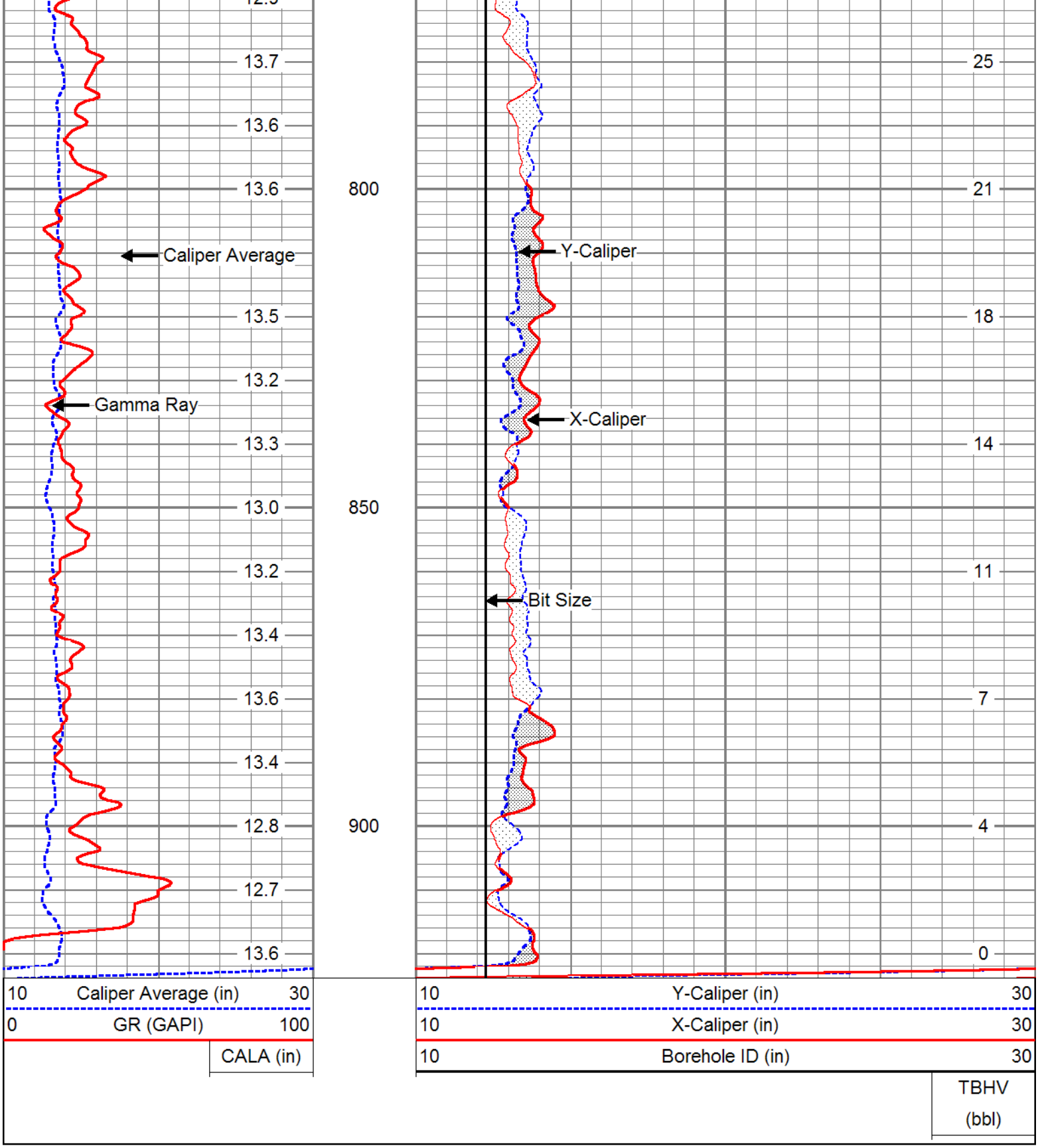
MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run3/XYCMP
Presentation Format: xyc
Dataset Creation: Sat Apr 07 21:33:36 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240




16.4
17.0
17.3
15.9
16.4
14.9
15.5
15.6
15.4
16.1
16.4
16.3
16.2
16.9
17.0
16.3
16.4
16.1
15.8
15.5
15.5
15.0
350
400
450
500
550
125
119
114
110
105
100
95
90
84
79
74


14.9
14.3
15.1
14.7
14.1
600
13.2
14.3
14.6
15.2
15.3
650
15.9
15.0
14.4
14.9
14.7
700
14.6
14.1
14.3
14.1
14.2
750
14.5
70
66
62
58
54
49
45
40
36
32
28



ALLWEBBS ENTERPRISES, INC.

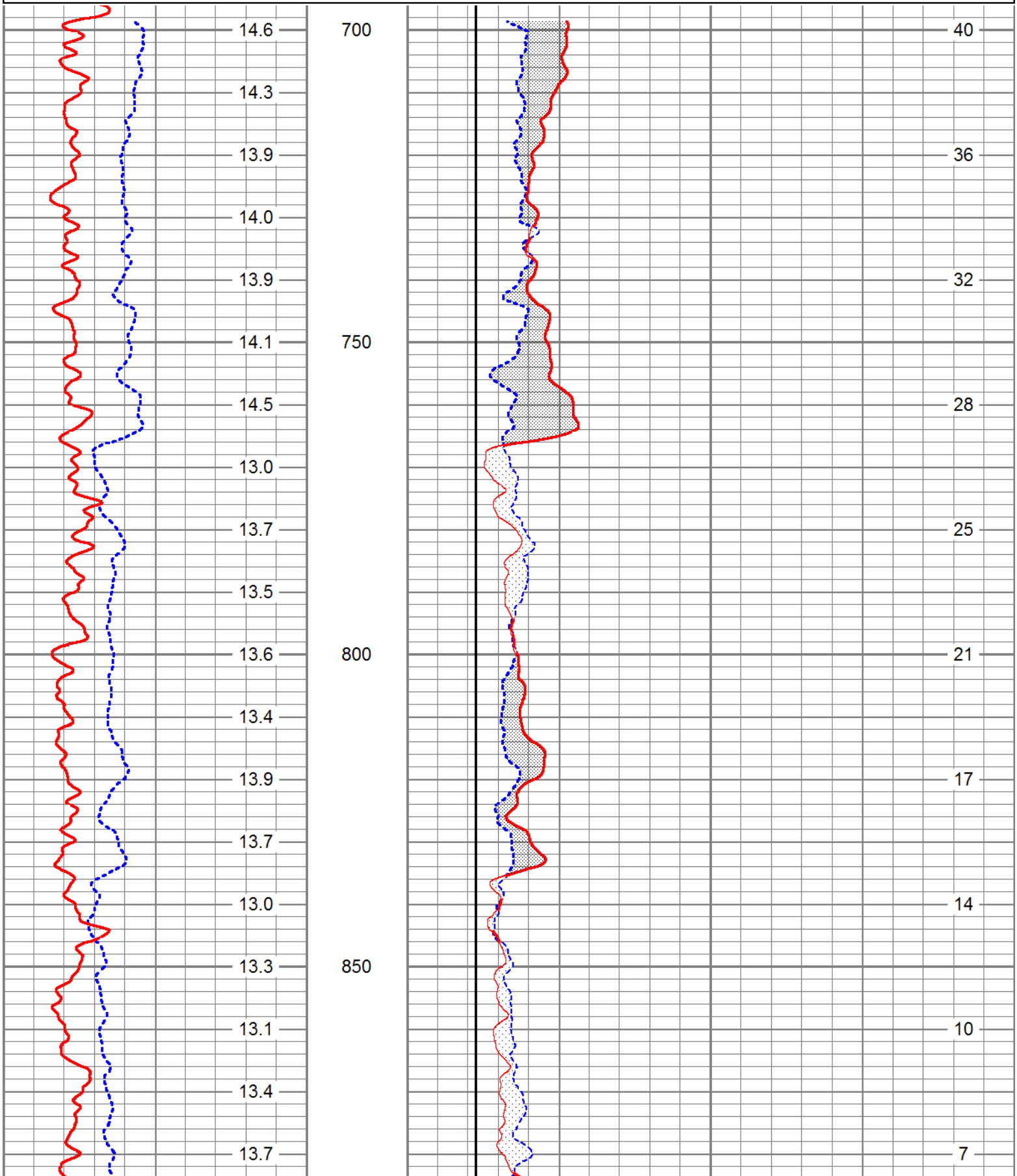
REPEAT PASS

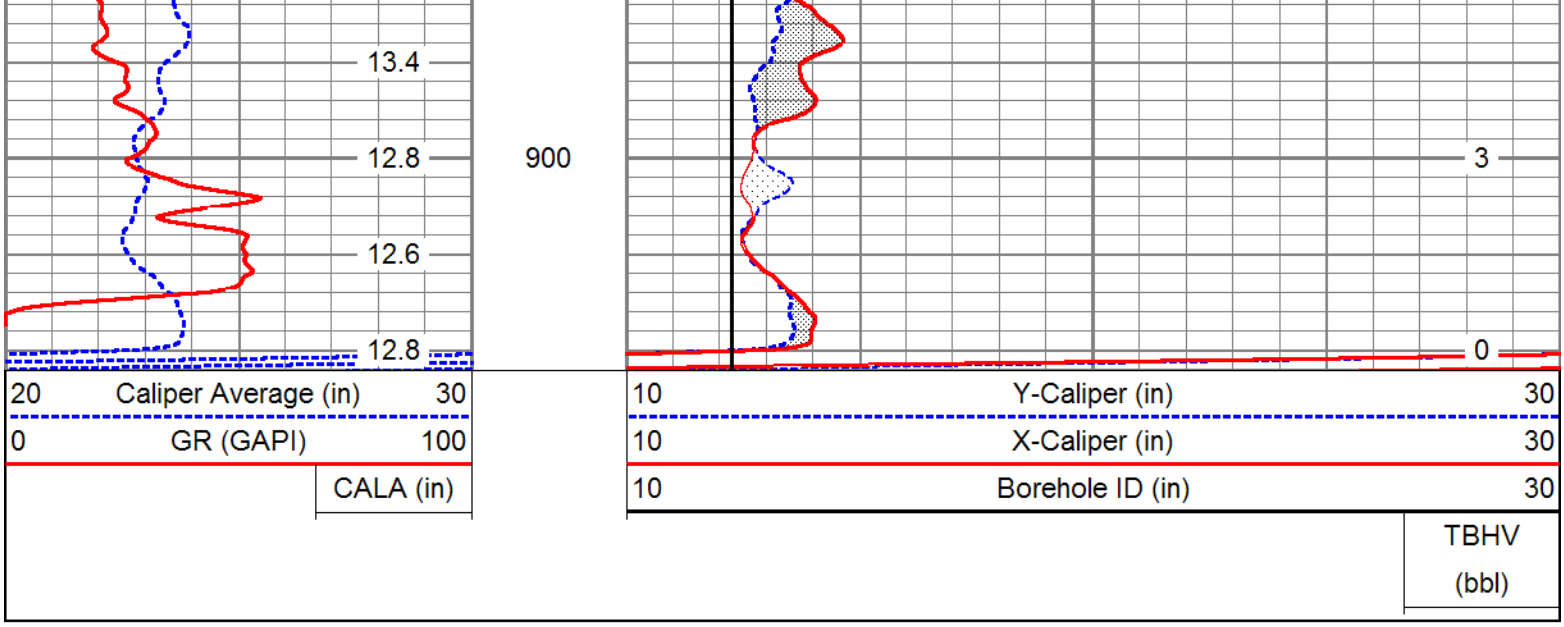
Database File:	kisspoc109.db
Dataset Pathname:	run3/XYC
Presentation Format:	xyc
Dataset Creation:	Sat Apr 07 21:23:53 2012 by Log Open-Cased 071220

Charted by: Depth in Feet scaled 1:240

20	Caliper Average (in)	30
0	GR (GAPI)	100
	CALA (in)	

10	Y-Caliper (in)	30
10	X-Caliper (in)	30
10	Borehole ID (in)	30
	TBHV (bbl)	





Calibration Report

Database File: kisspoc109.db
Dataset Pathname: run3/XYCMP
Dataset Creation: Sat Apr 07 21:33:36 2012 by Log Open-Cased 071220

XY Caliper Calibration Report

Serial Number/Model: SDSDEMO-XY
Performed: Sat Apr 07 21:11:54 2012

	Ring		X Caliper		Y Caliper	
1:	10	in	398.811	cps	377.622	cps
2:	20	in	542.5	cps	535	cps
3:	30	in	716.957	cps	703.913	cps
4:		in		cps		cps
5:		in		cps		cps
6:		in		cps		cps

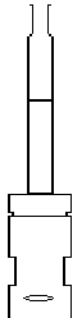
Gamma Ray Calibration Report

Serial Number: SDS
Tool Model: SDSGR
Performed: Sat Apr 07 20:58:30 2012

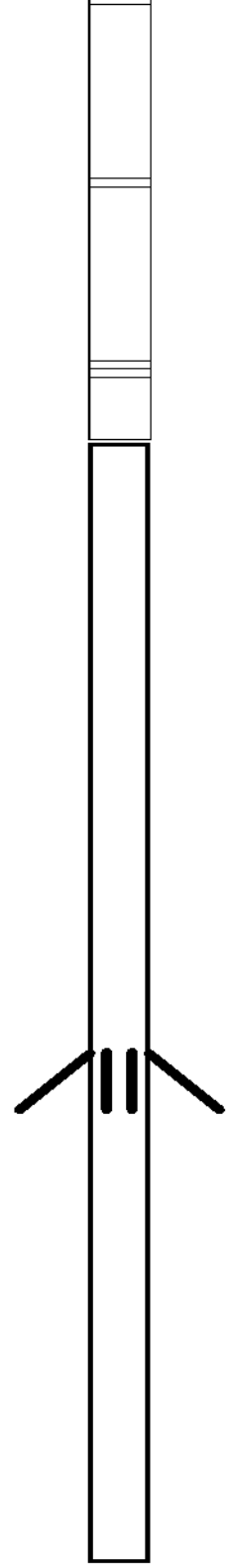
Calibrator Value: 120.0 GAPI

Background Reading: 117.8 cps
Calibrator Reading: 585.1 cps

Sensitivity: 0.2568 GAPI/cps

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

		GR-SDSGR (SDS) GR for Testing	3.00	1.69	20.00
GR	7.00				
		XYC-XY (SDSDEMO) LGL_XYC_MM	6.00	3.50	100.00
XCAL YCAL	0.50 0.50				



Dataset:	kisspoc109.db: field/well/run3/XYCMP
Total Length:	10.00 ft
Total Weight:	125.00 lb
O.D.	3.50 in

ALLWEBBS ENTERPRISES, INC.

RESISTIVITY GAMMA RAY LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA
Location:	API # :
	SEC TWP RGE
Permanent Datum	PAD Elevation
Log Measured From	PAD
Drilling Measured From	PAD
Other Services	SEE COMMENTS
Elevation	K.B. D.F. G.L.

Date	27-APRIL-2012		
Run Number	THREE		
Depth Driller	920'		
Depth Logger	920'		
Bottom Logged Interval	920'		
Top Log Interval	CASING		
Open Hole Size	12.25"		
Type Fluid	WATER		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	00:00		
Time Logger on Bottom	00:00		
Equipment Number	VA-203		
Location	JUPTIER		
Recorded By	LEE		
Witnessed By			

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'

Borehole Record

Run Number	Bit	From	To

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String				
Liner				

<<< Fold Here >>>

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

Comments

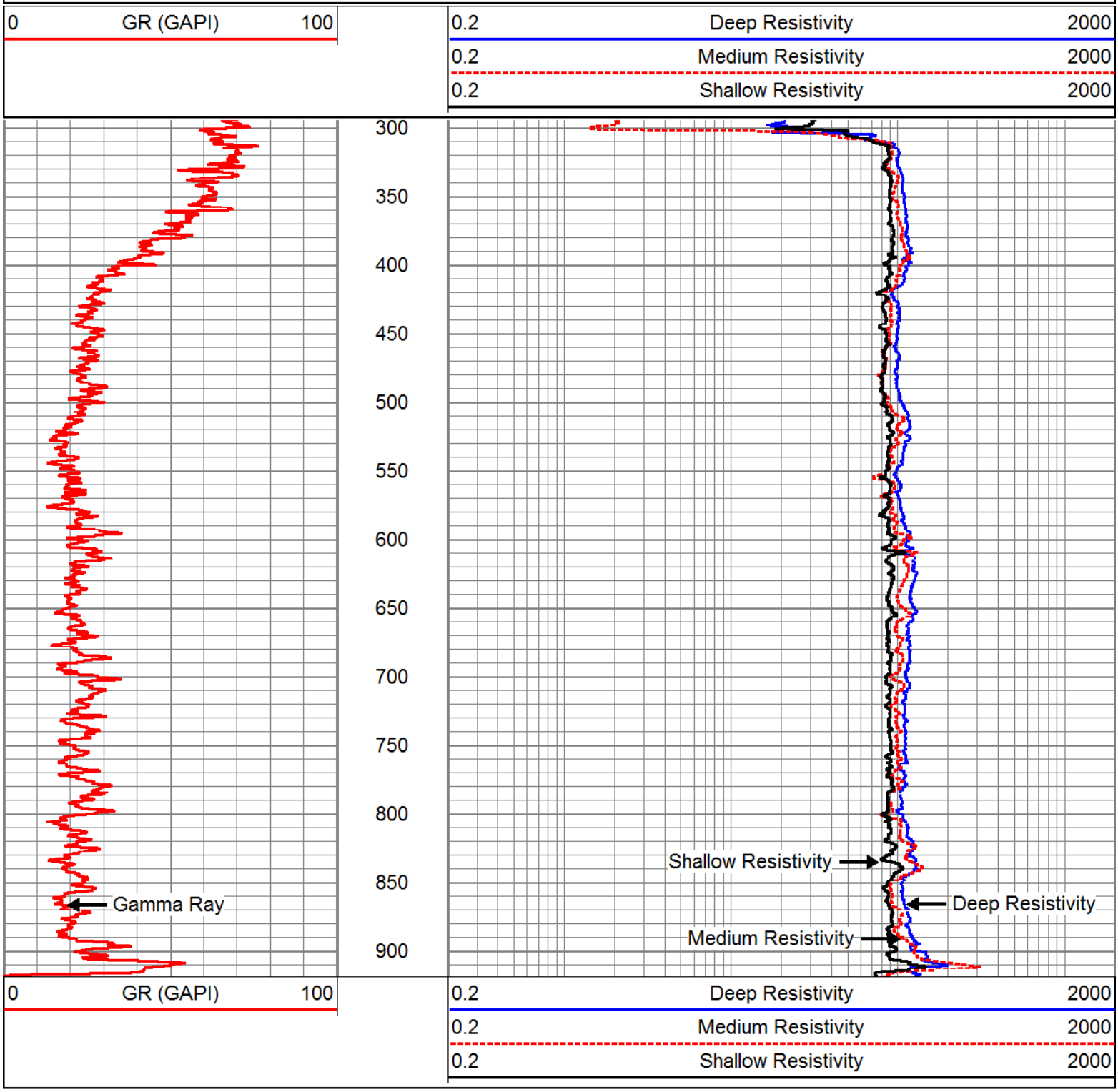
FCT
BHC/SONIC/VDL
XYC/GR
DIL/LL3/SP

ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

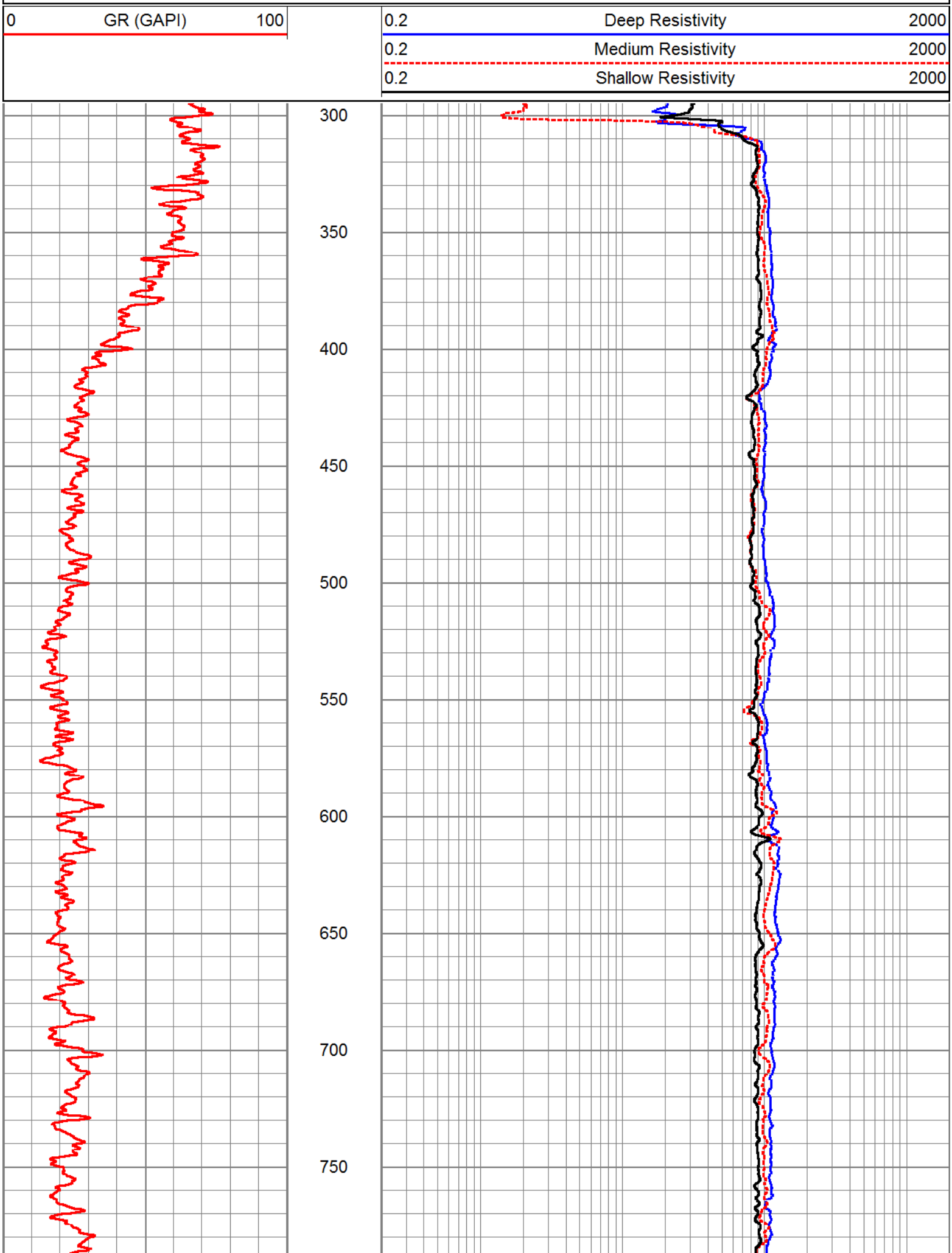
Database File: kisspoc109.db
Dataset Pathname: run3RESMP/@0334ffe8
Presentation Format: res-cent
Dataset Creation: Sat Apr 28 18:22:40 2012
Charted by: Depth in Feet scaled 1:1200

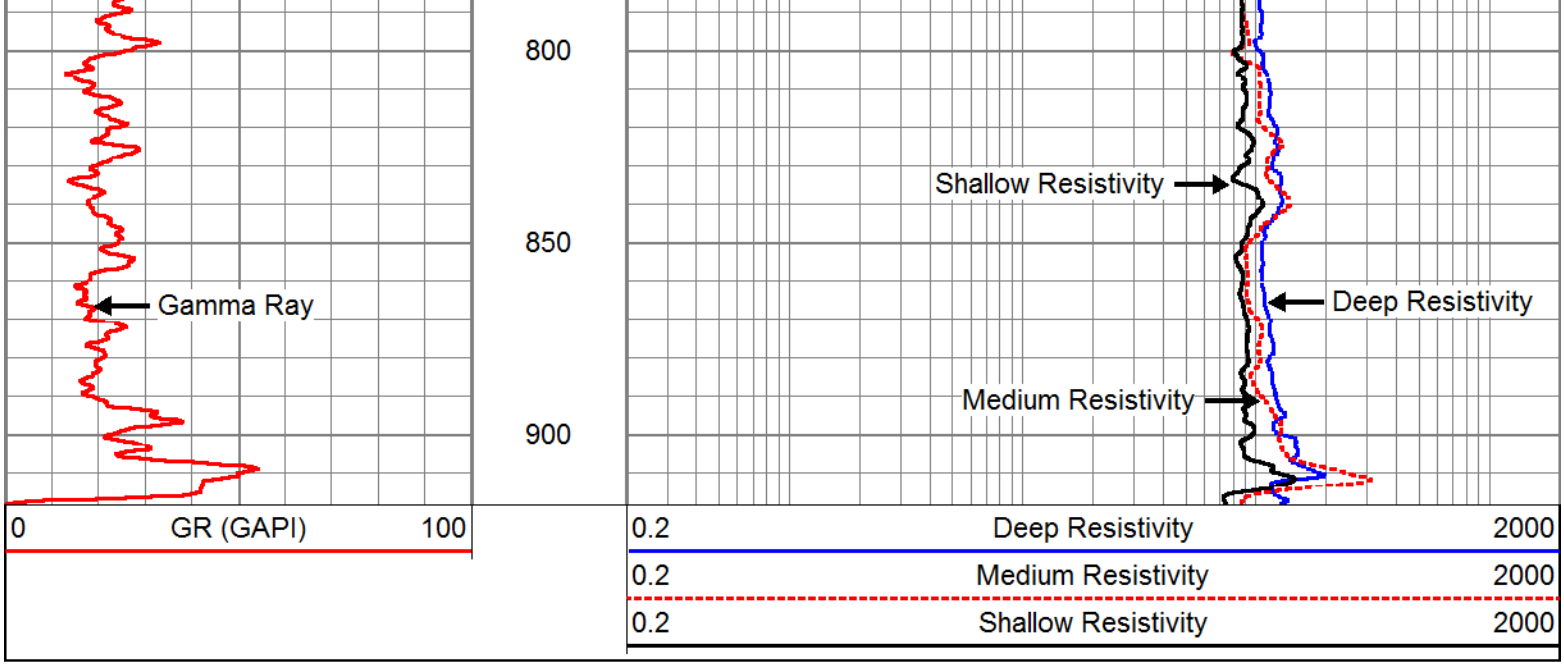


MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run3RESMP/@0334ffe8
Presentation Format: res-cent
Dataset Creation: Sat Apr 28 18:22:40 2012

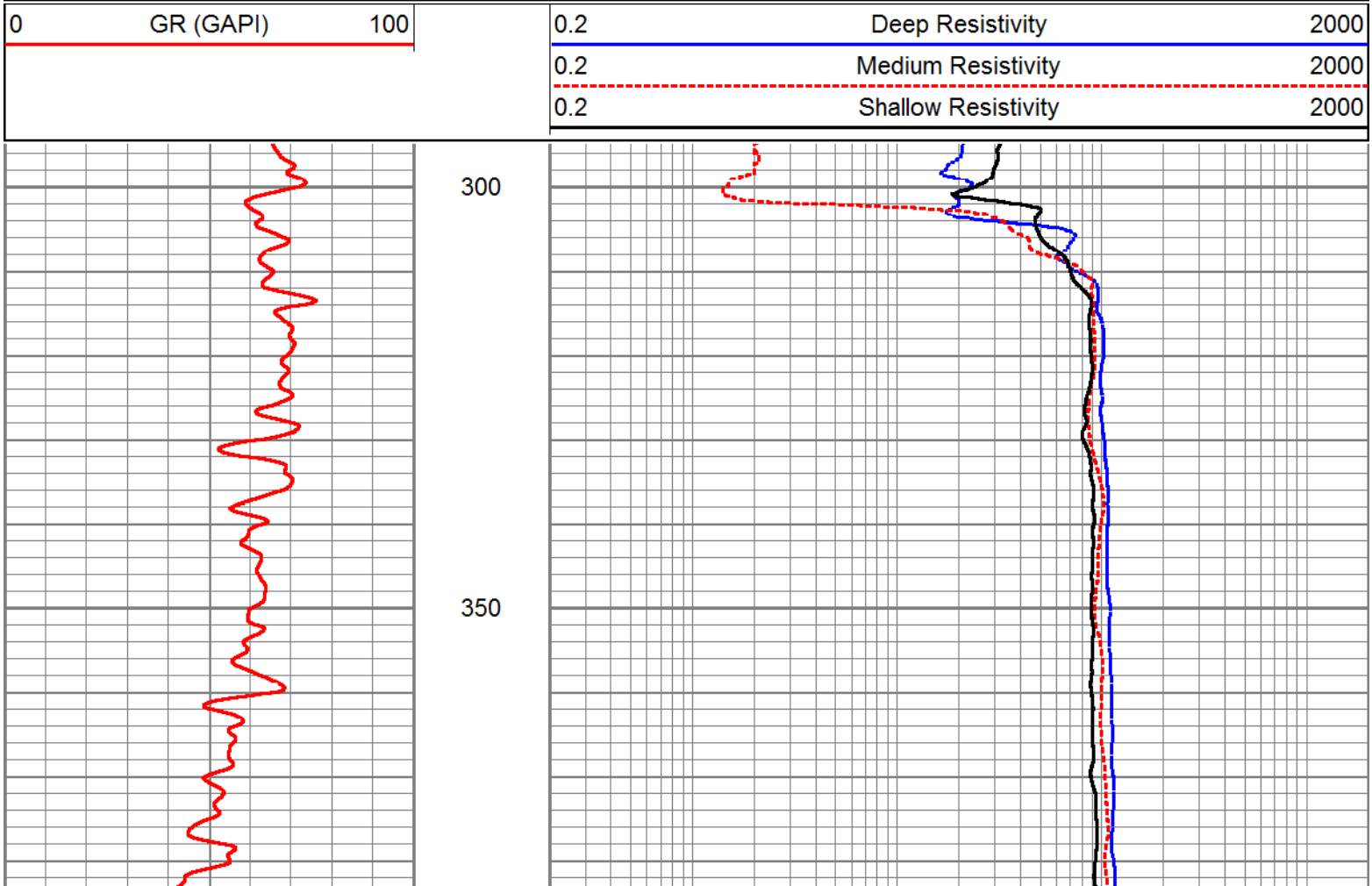
Charted by: Depth in Feet scaled 1:600

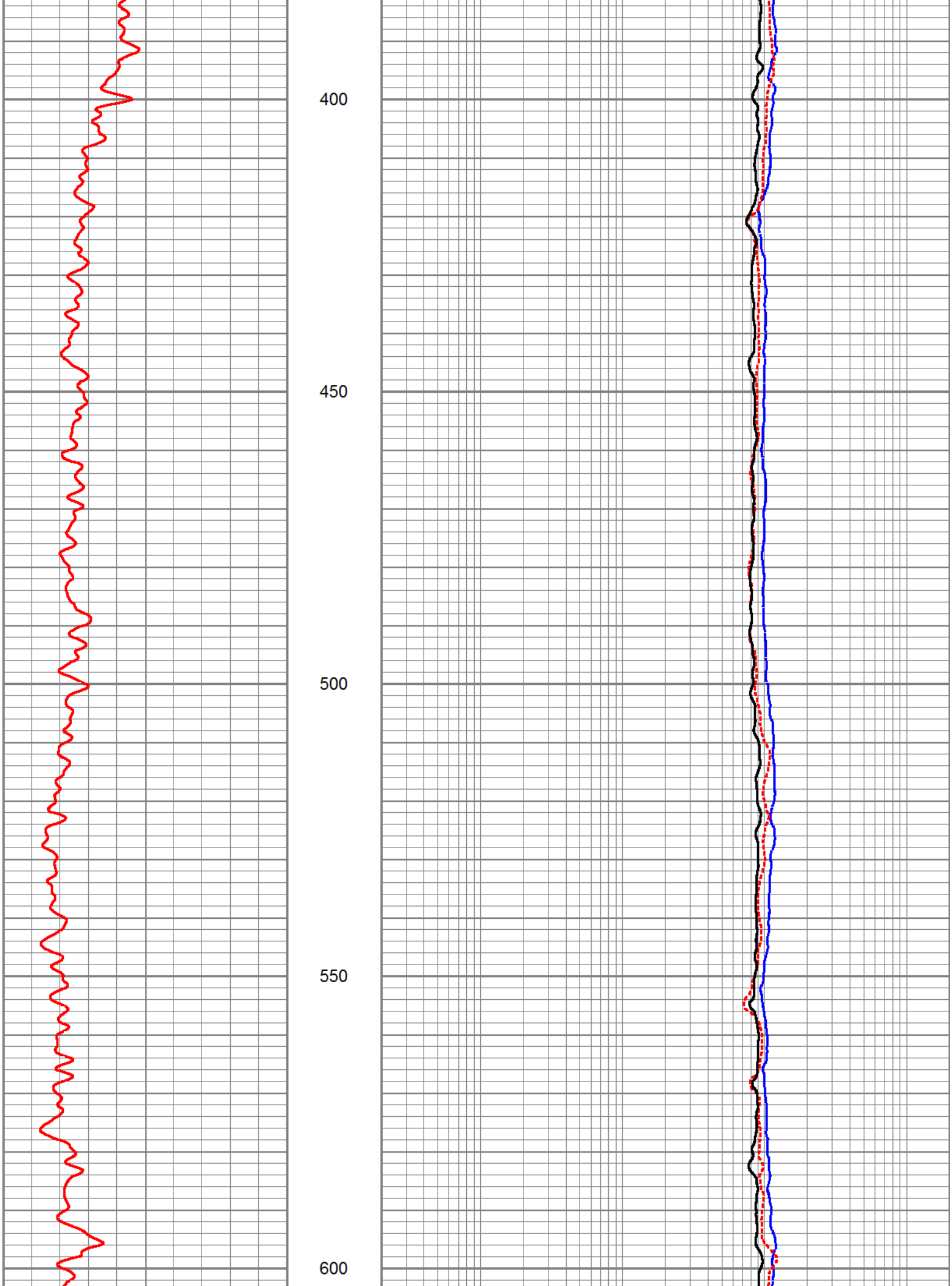


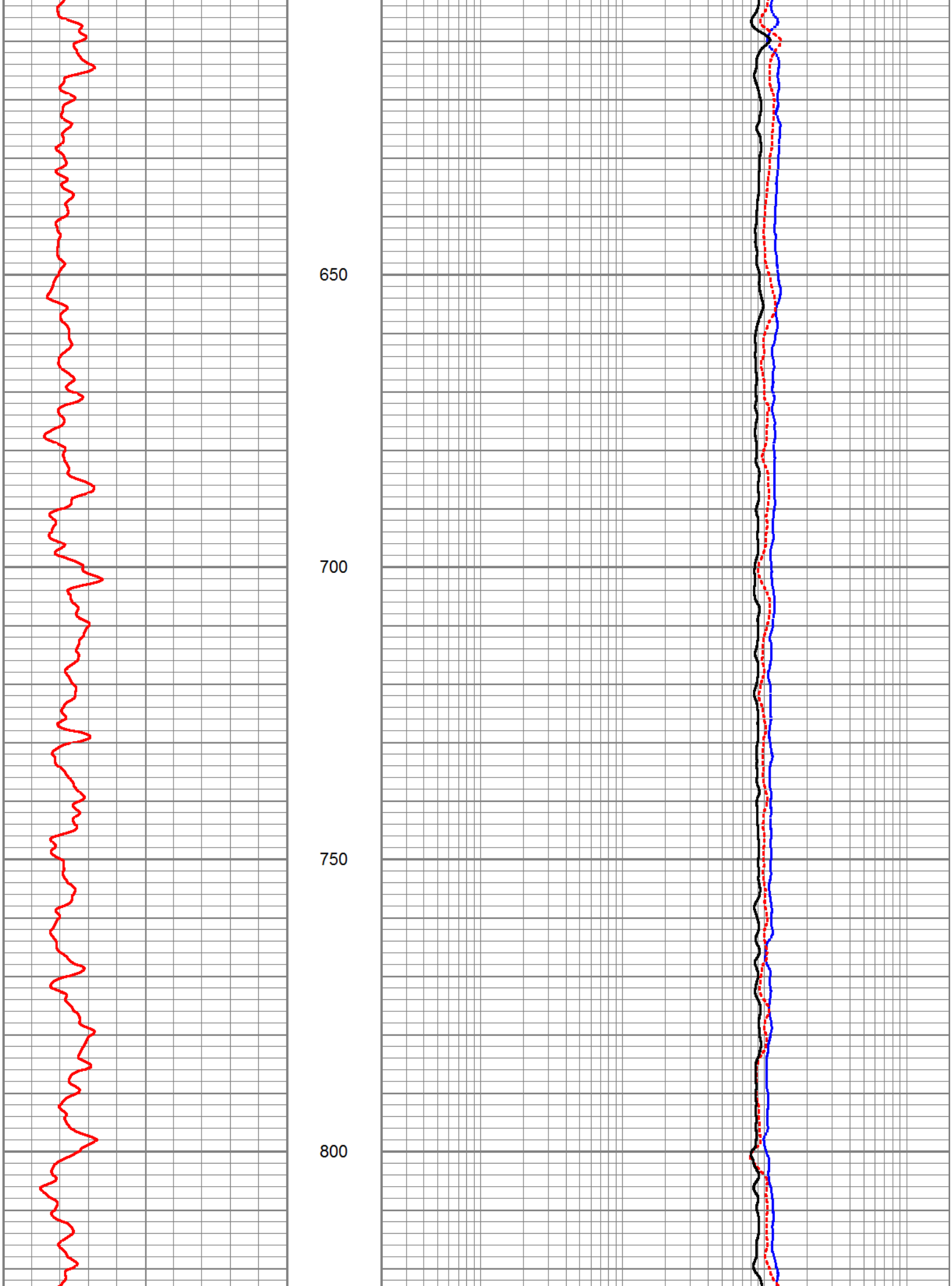


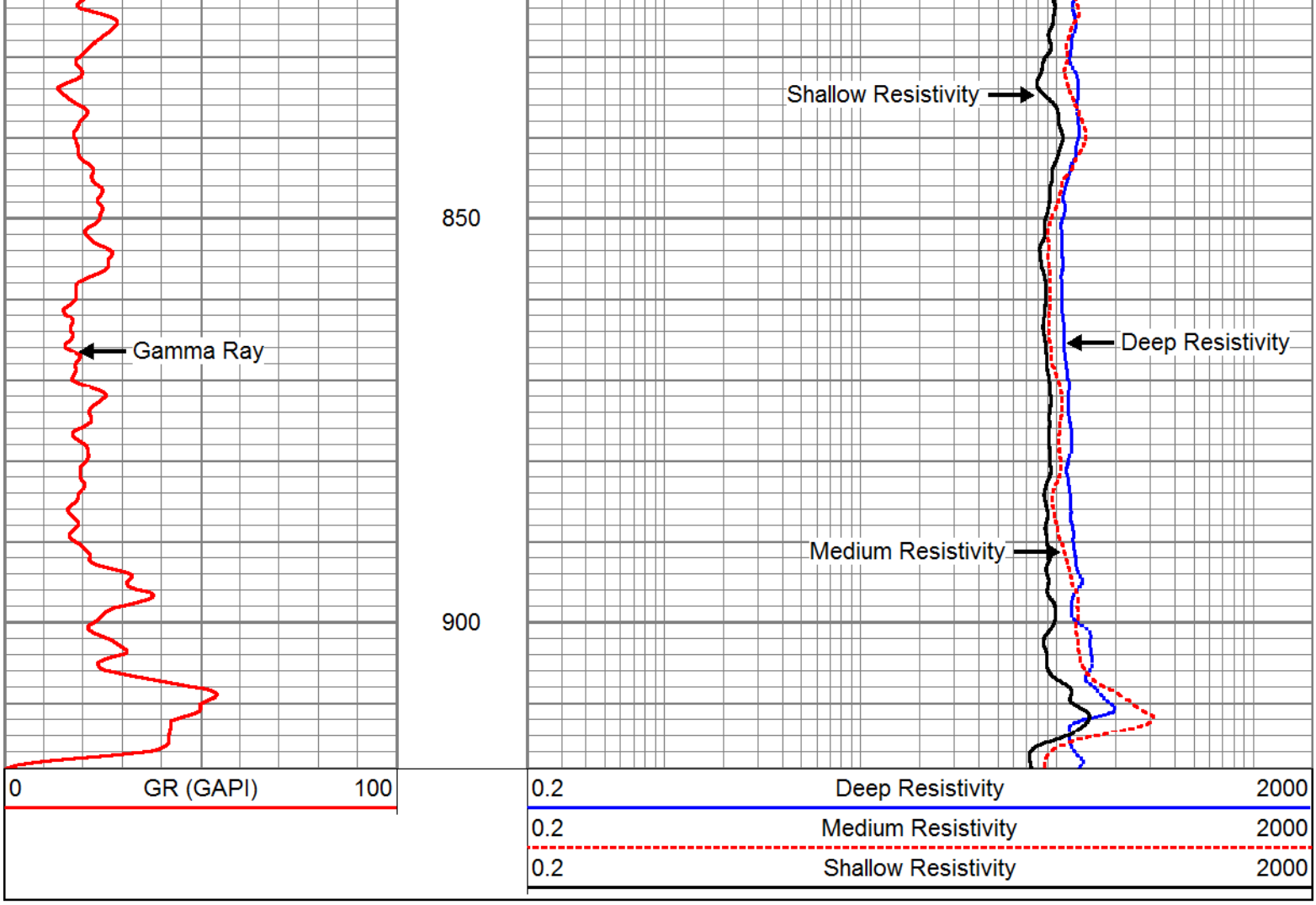
MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run3RESMP/@0334ffe8
Presentation Format:	res-cent
Dataset Creation:	Sat Apr 28 18:22:40 2012
Charted by:	Depth in Feet scaled 1:240



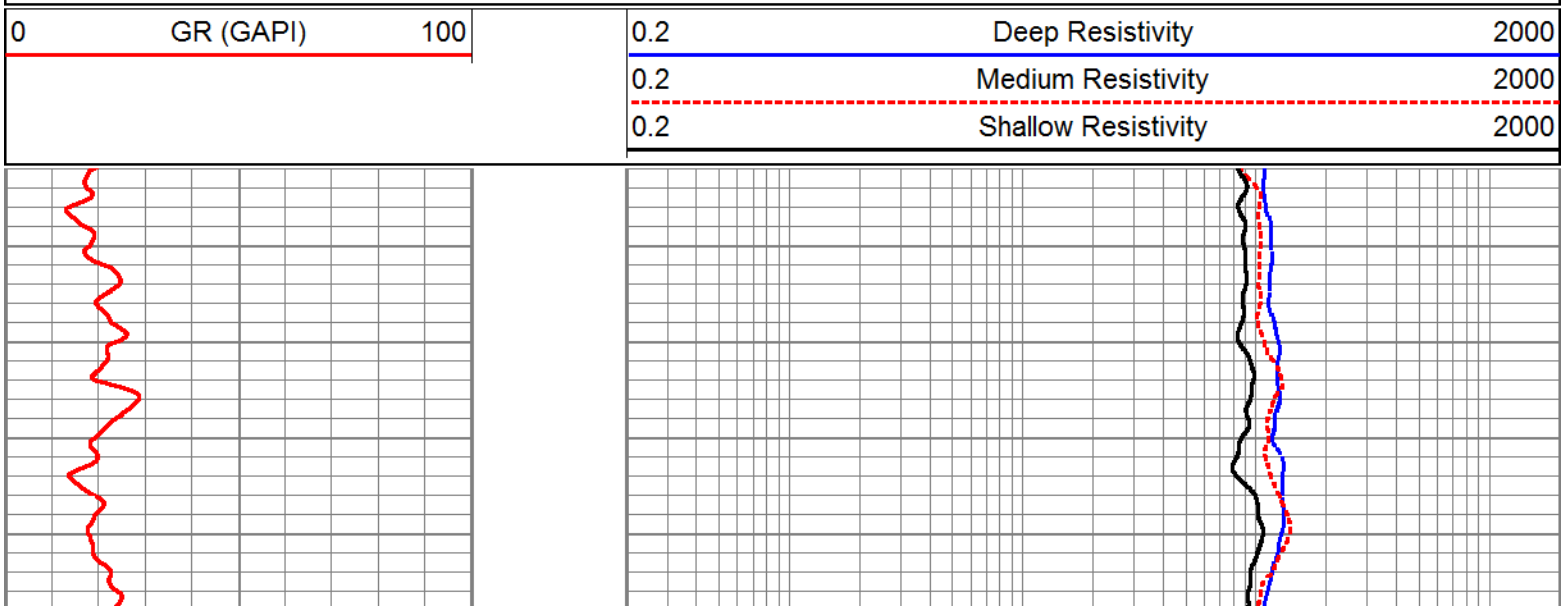

400
450
500
550
600

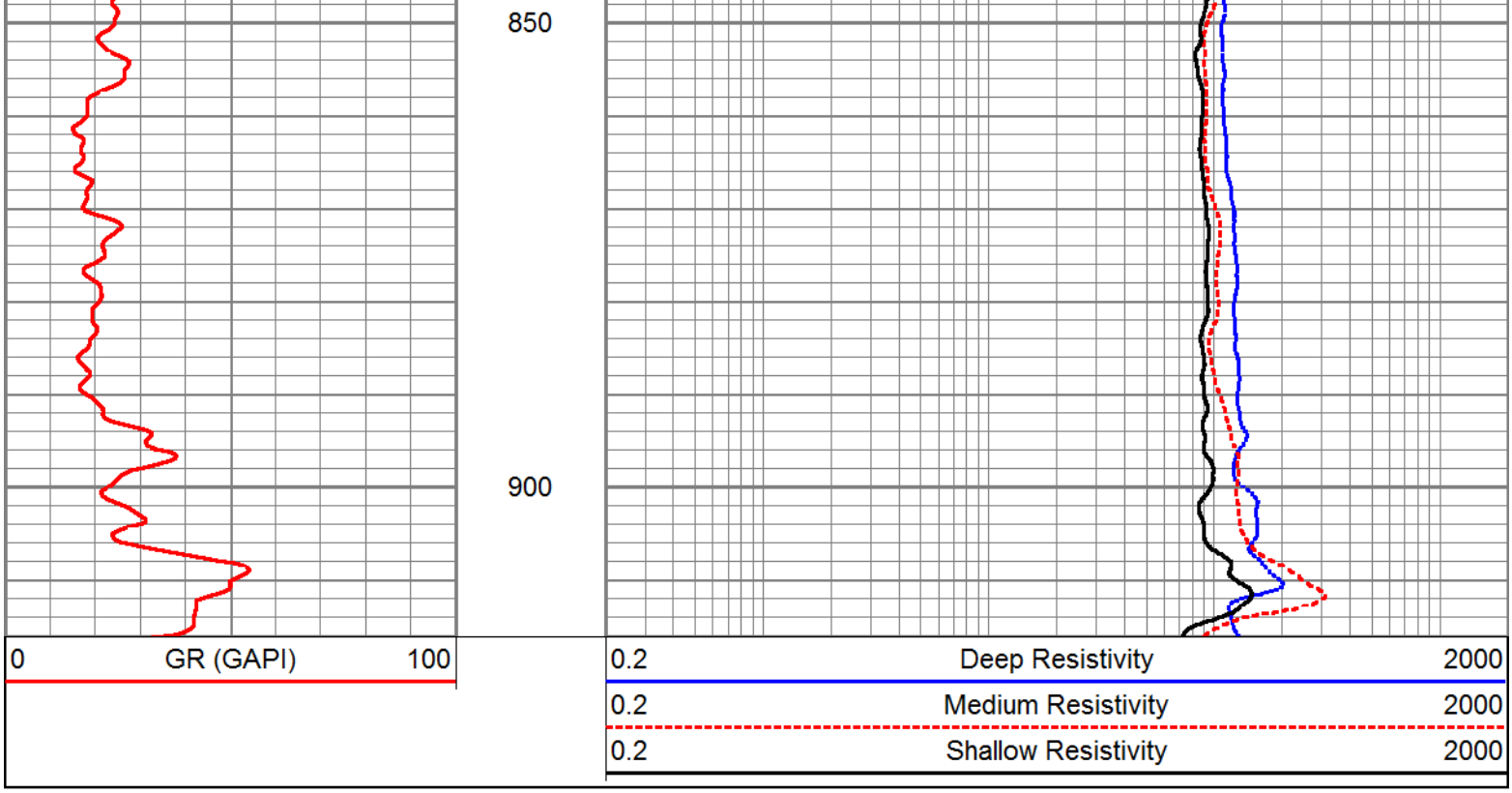

650
700
750
800



REPEAT PASS

Database File:	kisspoc109.db
Dataset Pathname:	run3RESRP/@03334578
Presentation Format:	res-cent
Dataset Creation:	Sat Apr 28 18:14:00 2012
Charted by:	Depth in Feet scaled 1:240




850
900
0
GR (GAPI)
100
0.2
Deep Resistivity
2000
0.2
Medium Resistivity
2000
0.2
Shallow Resistivity
2000

ALLWEBBS ENTERPRISES, INC.

DUAL INDUCTION LL3/SP LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA State FLORIDA
Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD K.B.
Drilling Measured From PAD D.F.
G.L.
Other Services
SEE COMMENTS

Date	26-APRIL-2012
Run Number	THREE
Depth Driller	920'
Depth Logger	920'
Bottom Logged Interval	920'
Top Log Interval	CASING
Open Hole Size	12.25"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-203
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'

Borehole Record

Run Number	Bit	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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Comments

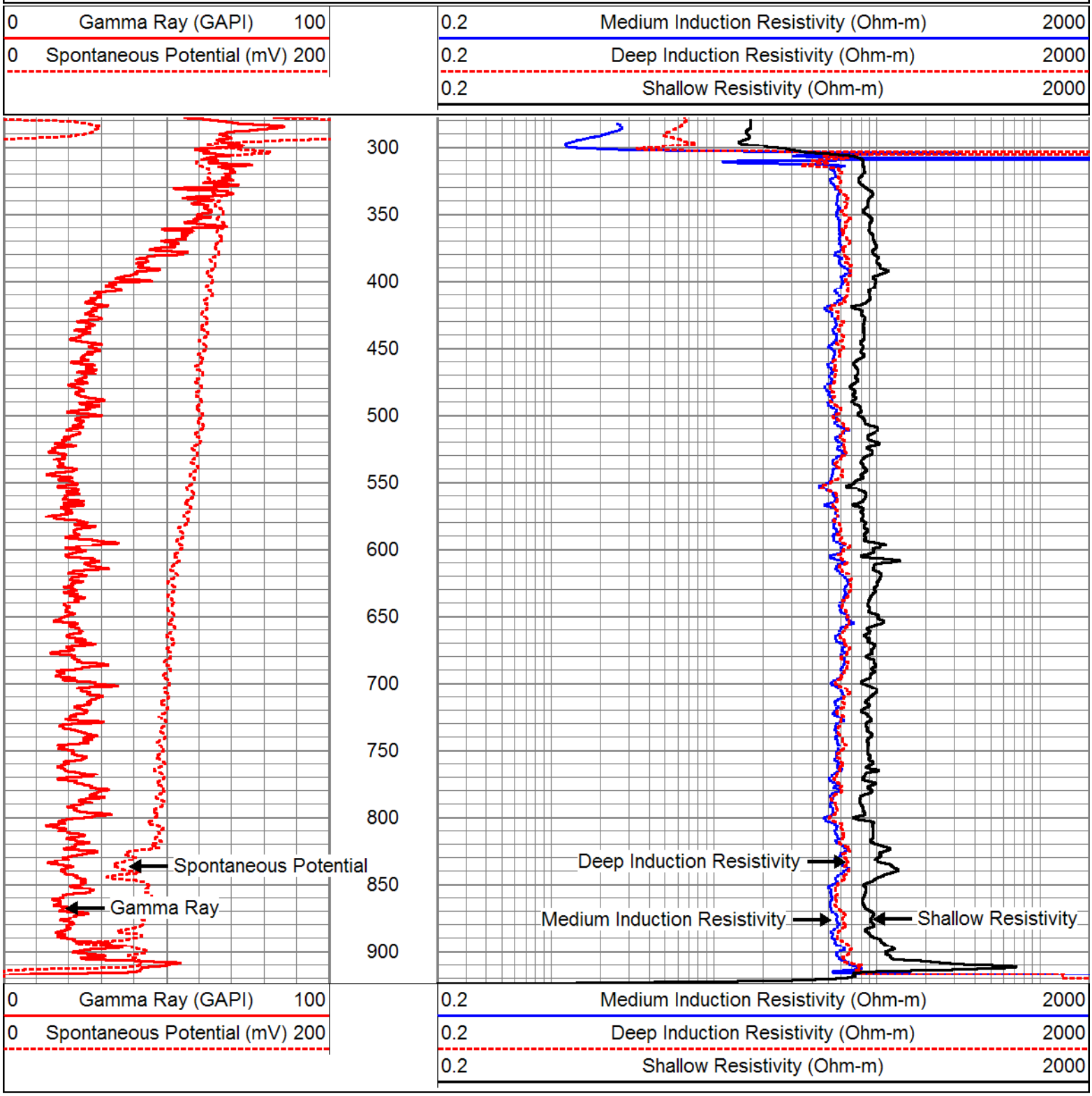
FCT
XYC/GR
BHC/SONIC/VDL
FLOWMETER

ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

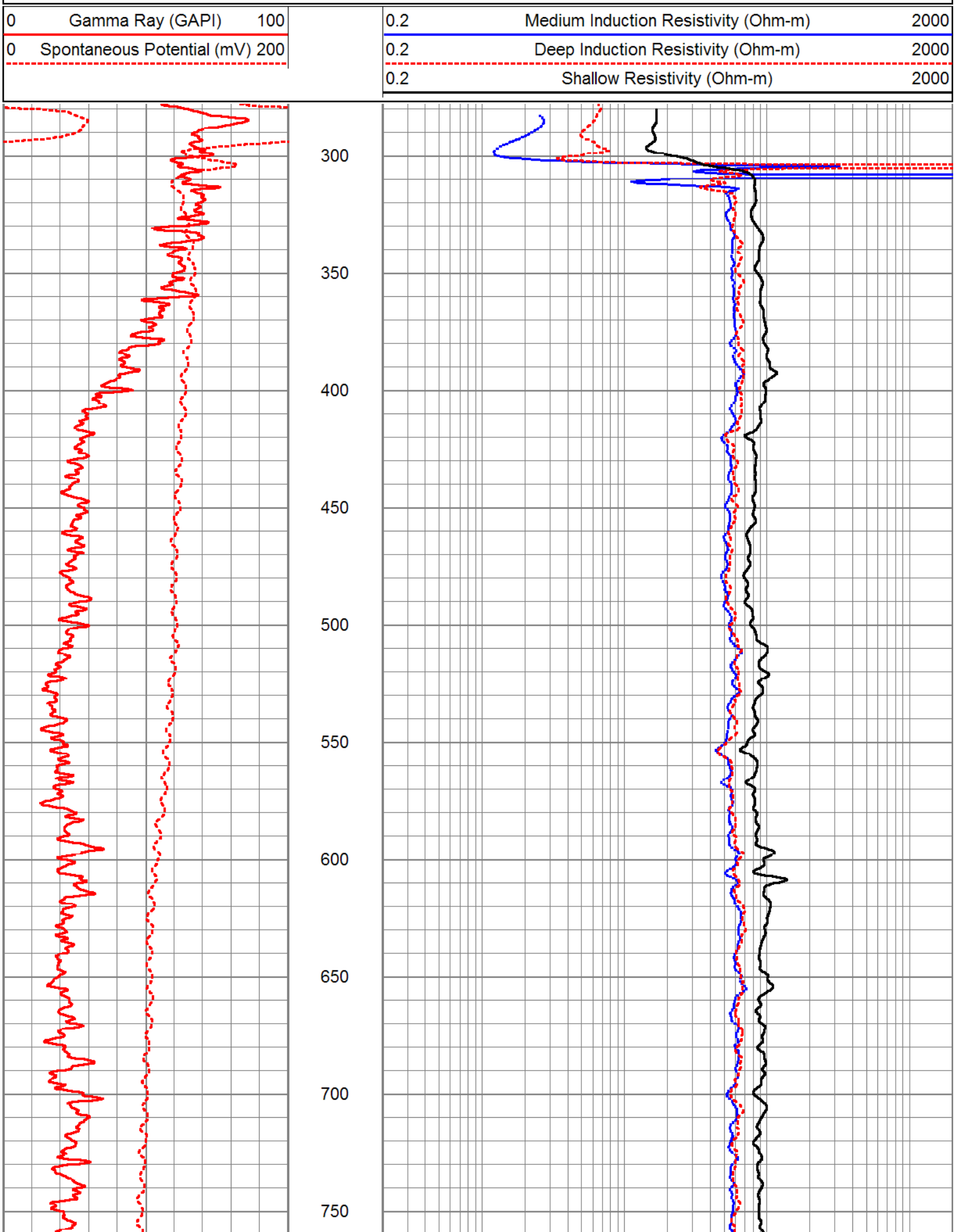
Database File: kisspoc109.db
Dataset Pathname: run3/DILMP
Presentation Format: dil
Dataset Creation: Sat Apr 07 22:24:05 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:1200

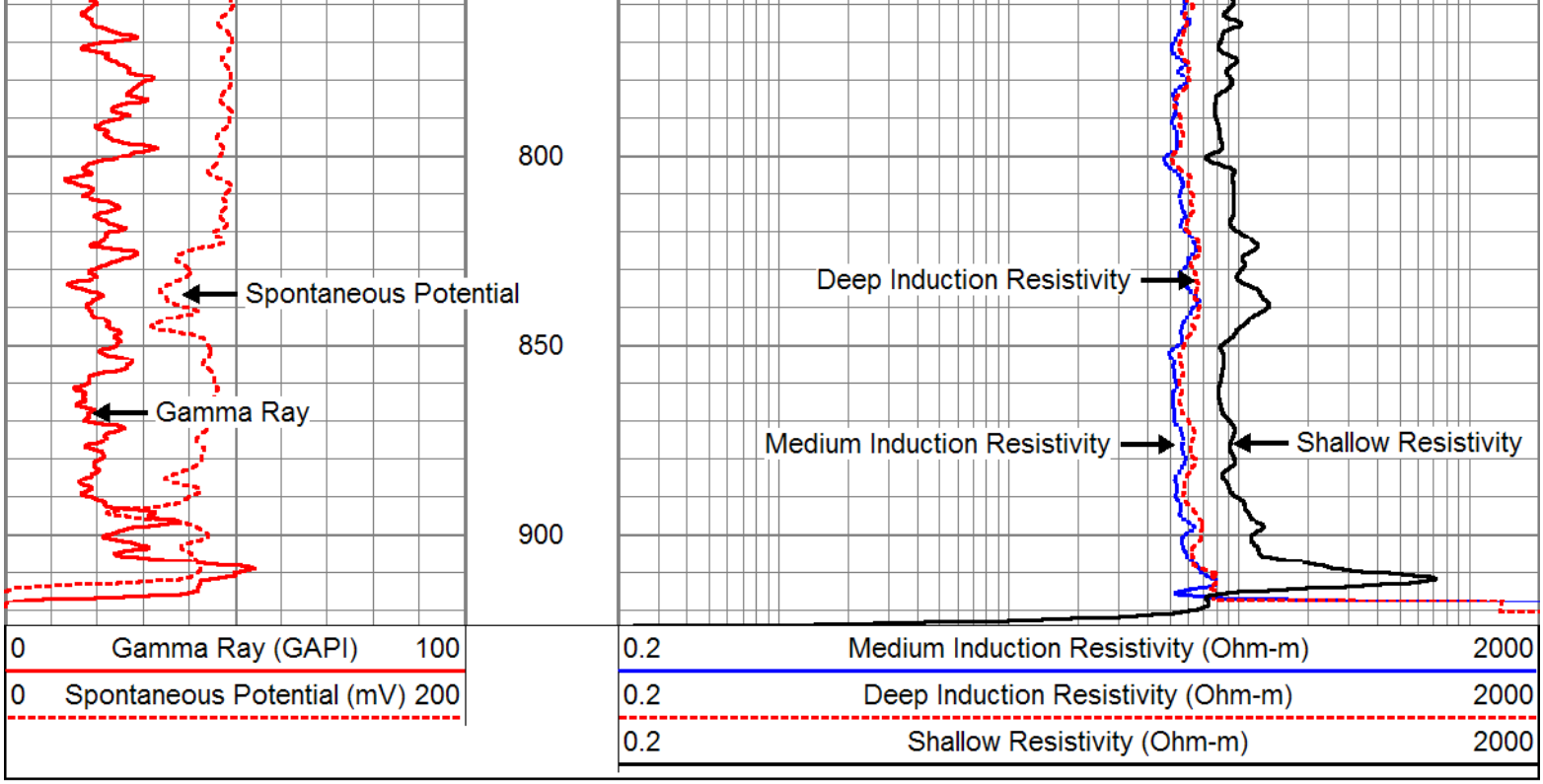


MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run3/DILMP
Presentation Format: dil

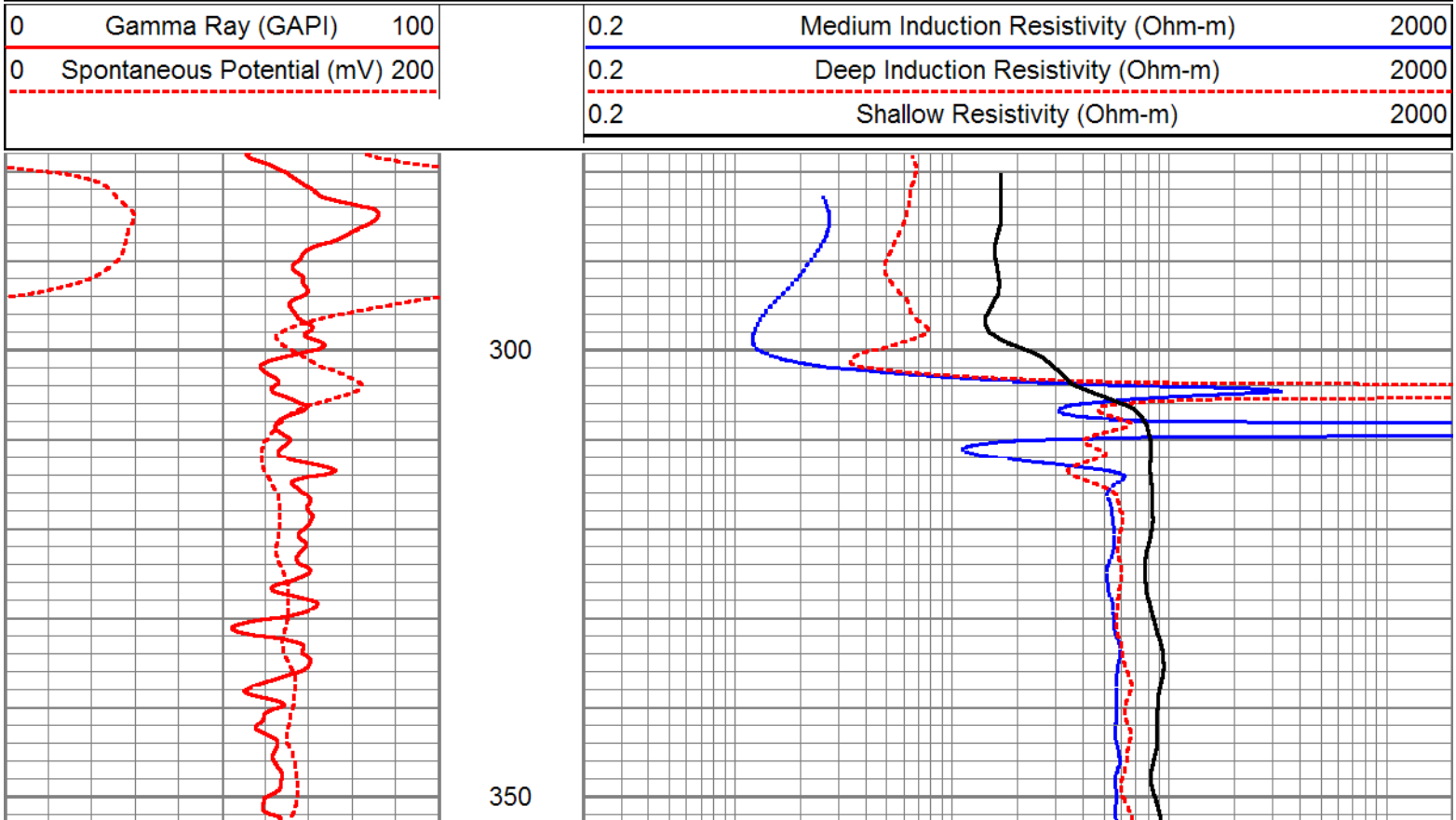
Presentation Format: dil
Dataset Creation: Sat Apr 07 22:24:05 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:600

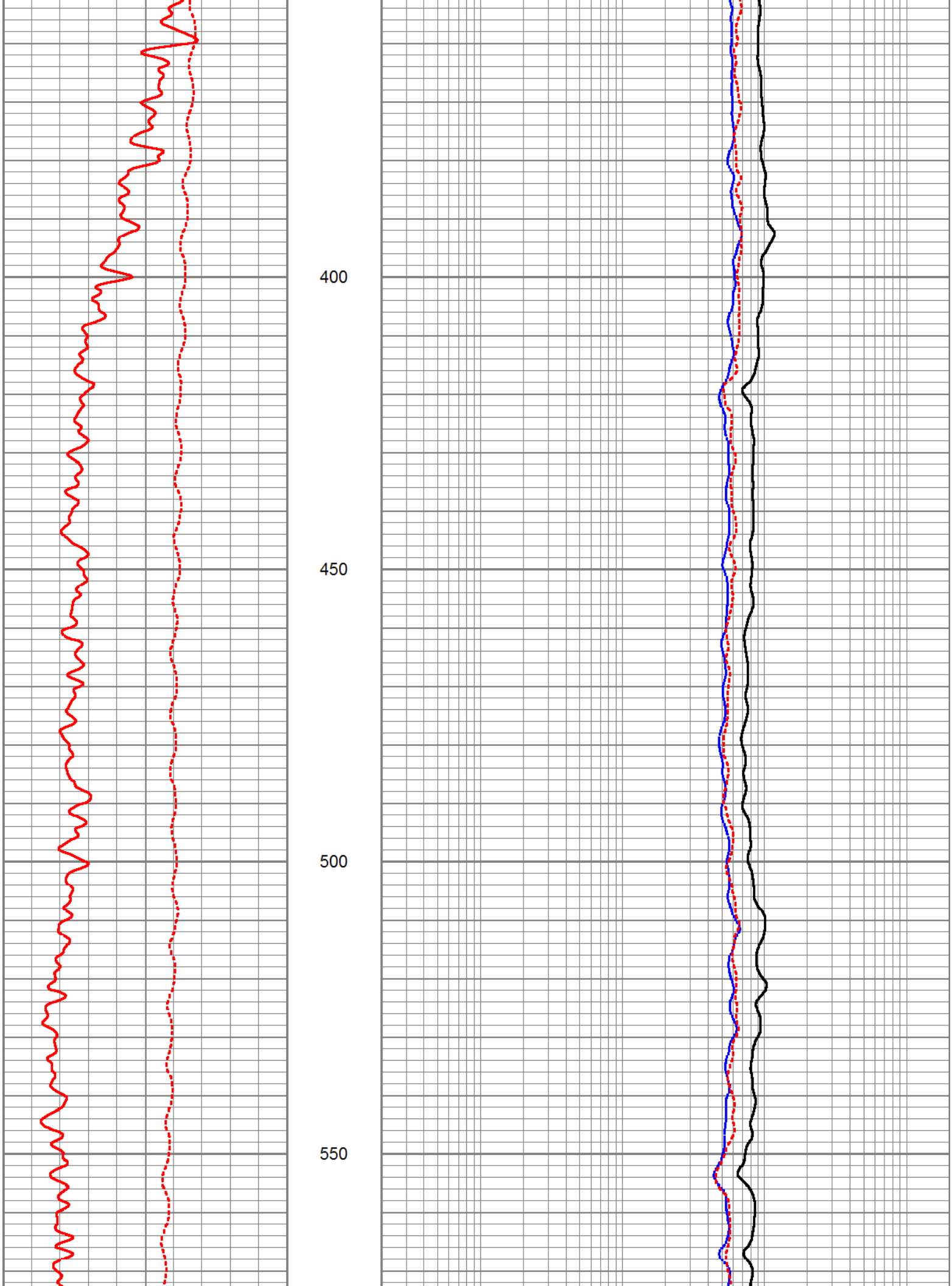


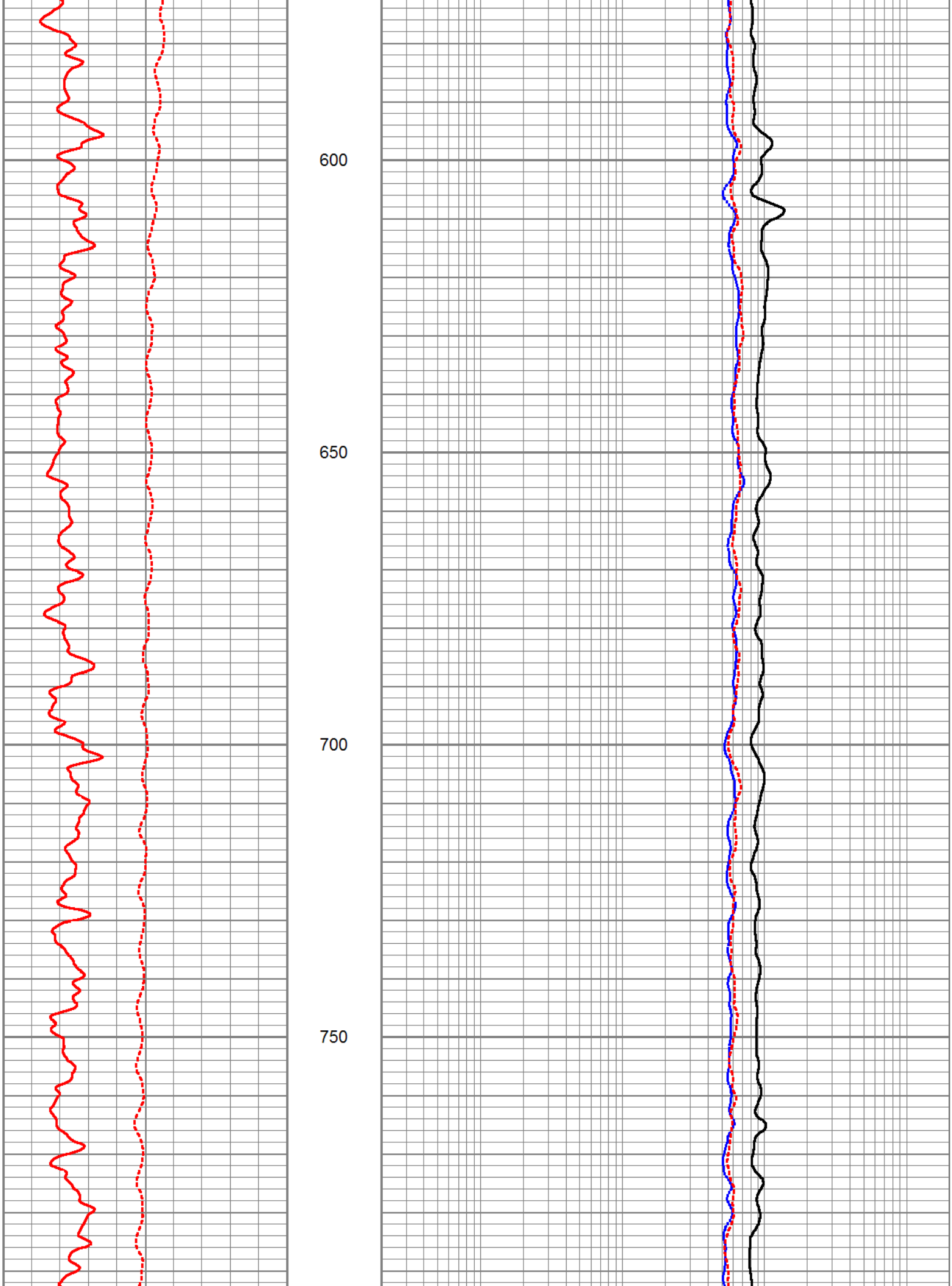


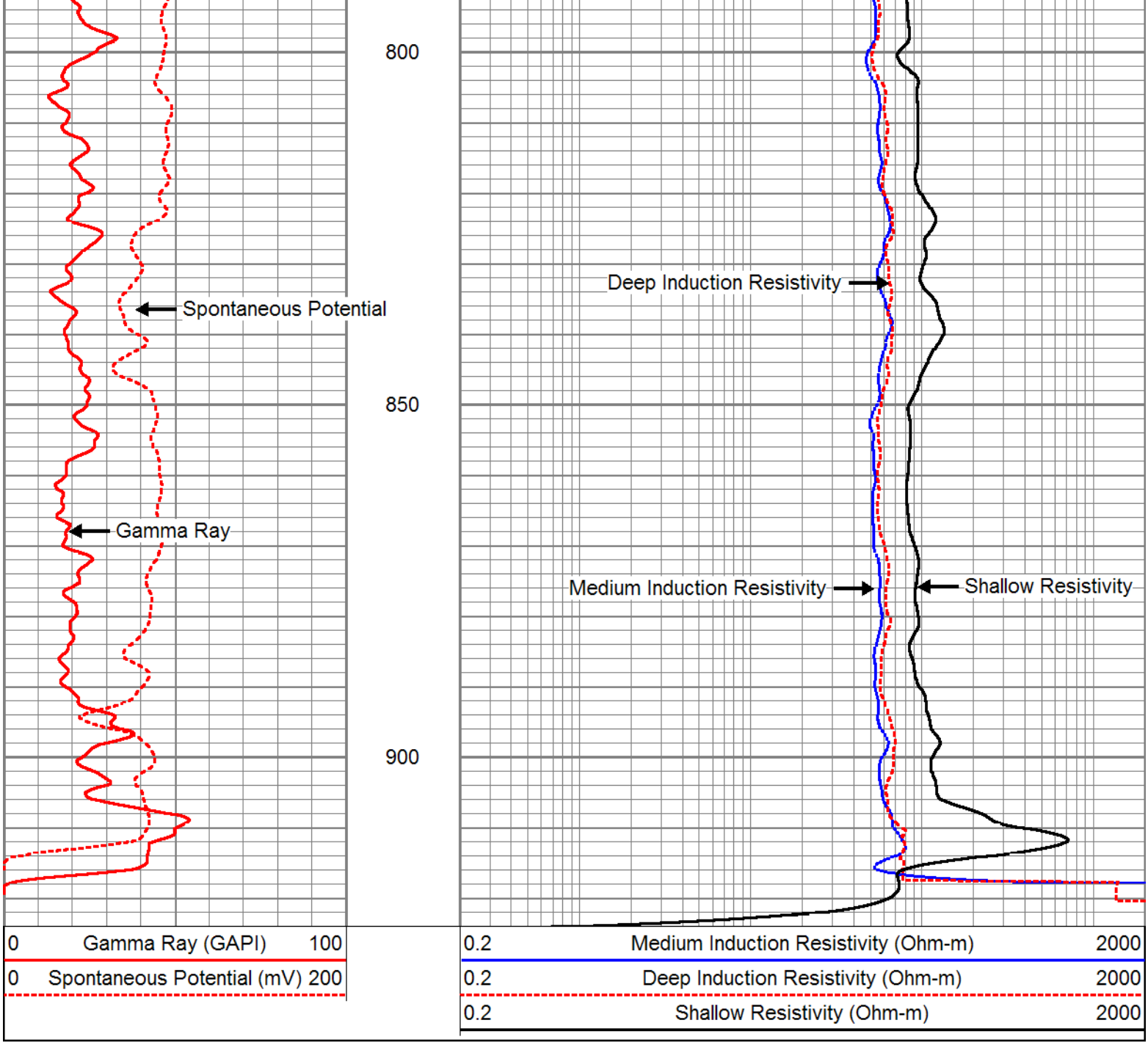
MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run3/DILMP
Presentation Format:	dil
Dataset Creation:	Sat Apr 07 22:24:05 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240



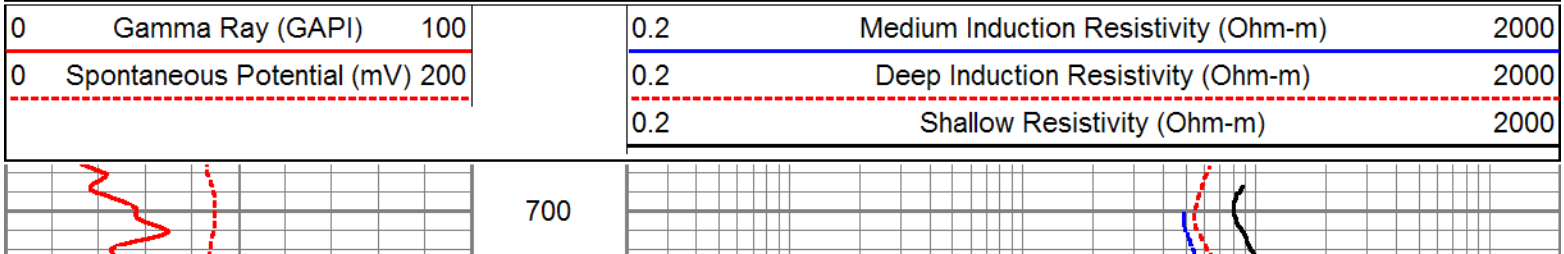

400
450
500
550

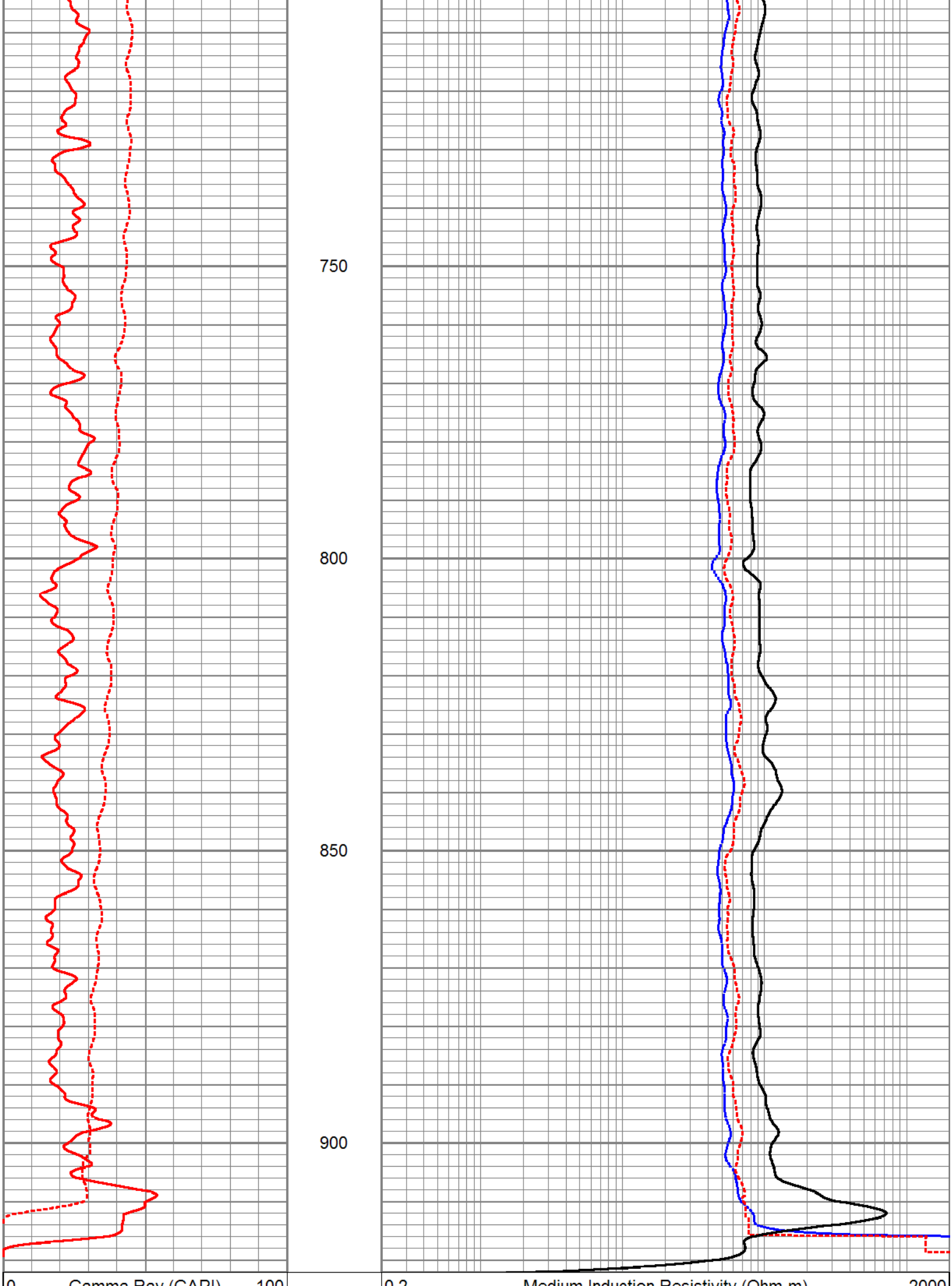

600
650
700
750



REPEAT PASS

Database File:	kisspoc109.db
Dataset Pathname:	run3/DIL
Presentation Format:	dil
Dataset Creation:	Sat Apr 07 22:15:58 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240




750
800
850
900
0
Gamma Ray (GAPI)
100
0.2
Medium Induction Resistivity (Ohm.m)
2000

0	Gamma Ray (GAPI) 100	0.2 Medium Induction Resistivity (Ohm-m) 2000
0	Spontaneous Potential (mV) 200	0.2 Deep Induction Resistivity (Ohm-m) 2000
		0.2 Shallow Resistivity (Ohm-m) 2000

Calibration Report

Database File: kisspoc109.db
Dataset Pathname: run3/DILMP
Dataset Creation: Sat Apr 07 22:24:05 2012 by Log Open-Cased 071220

Dual Induction Calibration Report

Serial-Model:	DIL2-GEAR
Surface Cal Performed:	Tue Dec 20 19:49:42 2011
Downhole Cal Performed:	Tue Nov 08 15:48:53 2011
After Survey Verification Performed:	Tue Nov 08 16:54:56 2011

Surface Calibration

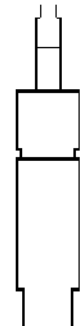
	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.015	0.569	V	0.000	400.000	mmho-m	684.688	10.270
Medium	0.010	0.723	V	0.000	465.000	mmho-m	652.254	-6.523
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.635	V	0.000	400.000	mmho-m	637.070	-4.479
Medium	0.010	0.750	V	0.000	465.000	mmho-m	628.185	-6.138

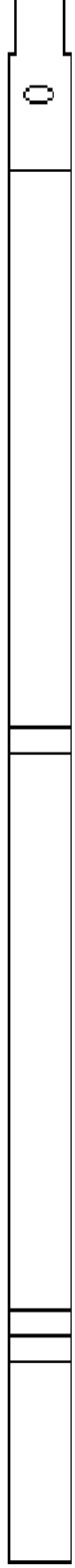
Downhole Calibration

	Readings			References			Results	
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	5.933	439.536	mmho-m	7.717	445.844	mmho-m	1.010	1.722
Medium	-5.649	478.826	mmho-m	-4.578	482.836	mmho-m	1.006	1.105
Shallow	2.505	0.011	V	500.000	2.000	Ohm-m	199.730	-0.238

After Survey Verification

	Readings			Targets			Results	
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	3.721	437.936	mmho-m	5.933	439.536	mmho-m	1.010	1.722
Medium	-25.488	485.515	mmho-m	-5.649	478.826	mmho-m	1.006	1.105
Shallow	499.938	1.991	Ohm-m	500.000	2.000	Ohm-m	1.000	0.008

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



SP	11.00				
CILD	10.50	DIL-GEAR (DIL2) GO_DIL/LL3/SP	21.25	3.50	150.00
CILM	7.00				
RLL3	2.00				

Dataset:	kisspoc109.db: field/well/run3/DILMP
Total Length:	22.25 ft
Total Weight:	155.00 lb
O.D.	3.50 in

ALLWEBBS ENTERPRISES, INC.

BOREHOLE COMPENSATED SONIC/VDL LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Date	26-APRIL-2012
Run Number	THREE
Depth Driller	920'
Depth Logger	920'
Bottom Logged Interval	920'
Top Log Interval	CASING
Open Hole Size	12.25"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-203
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'

Borehole Record

Run Number	Bit	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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Comments

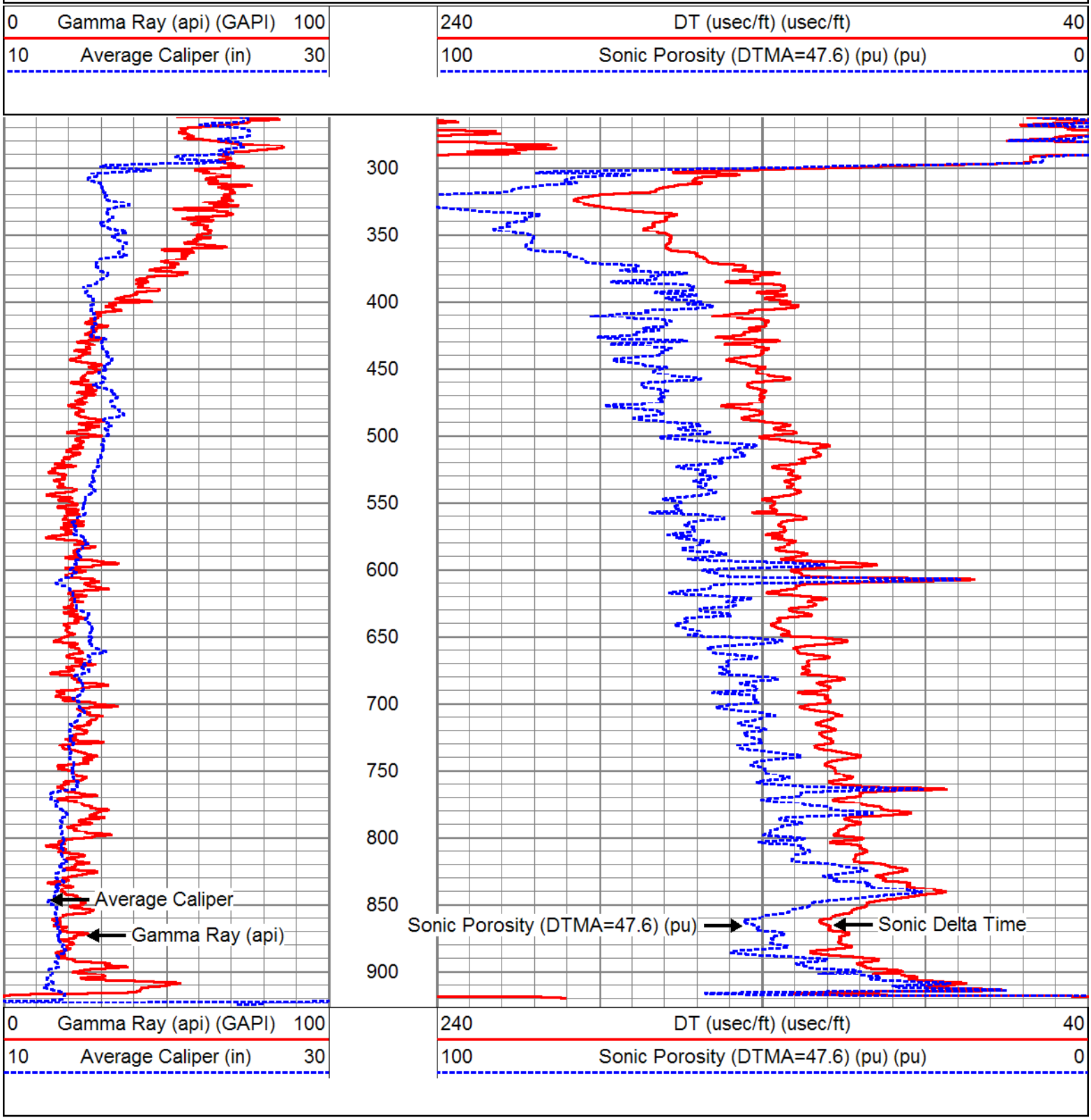
FCT
XYC/GR
DIL/LL3/SP
FLOWMETER

ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

Database File: kisspoc109.db
Dataset Pathname: run3/BHCMP
Presentation Format: bhc_por
Dataset Creation: Sat Apr 07 23:20:04 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:1200



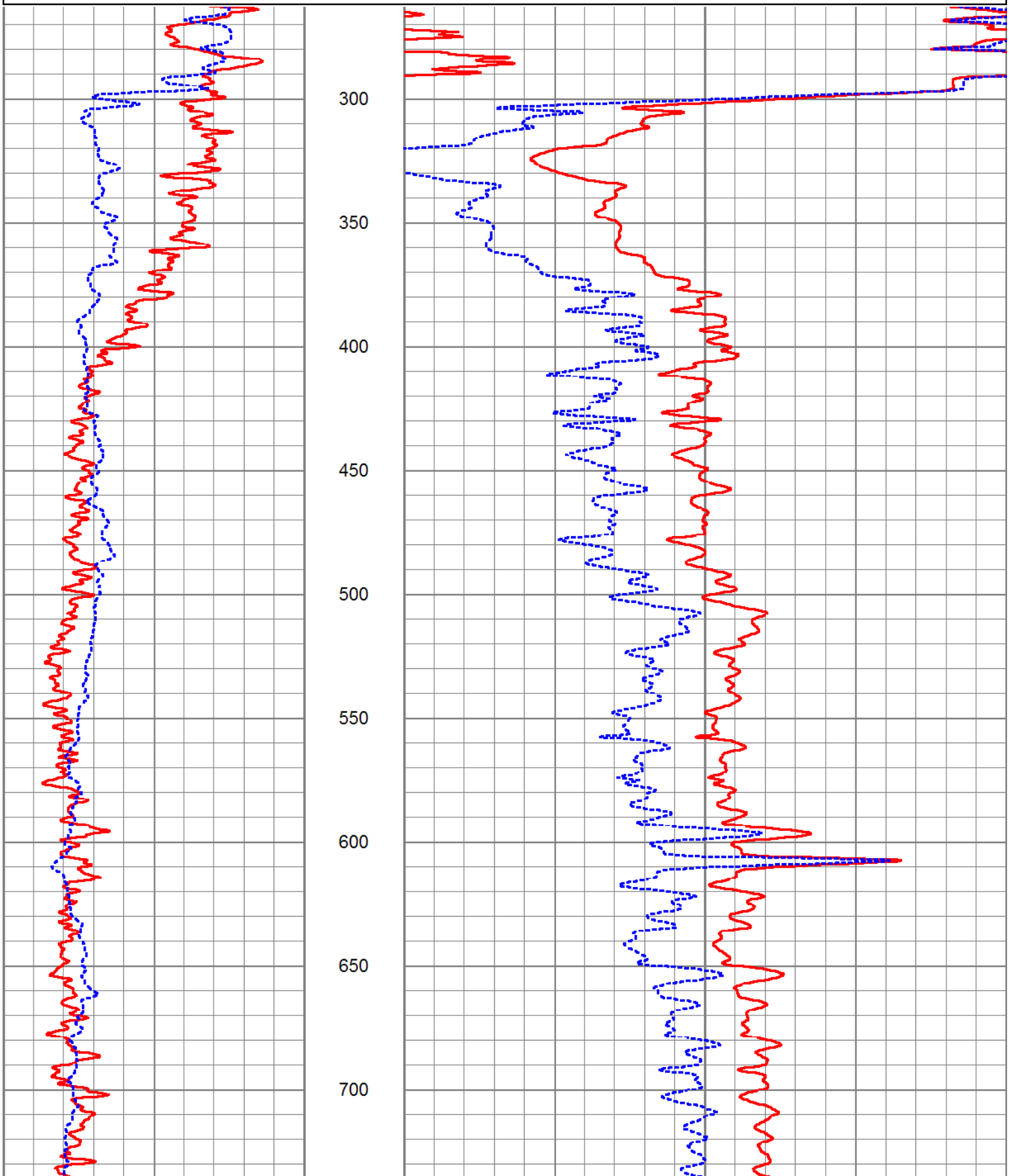
MAIN PASS

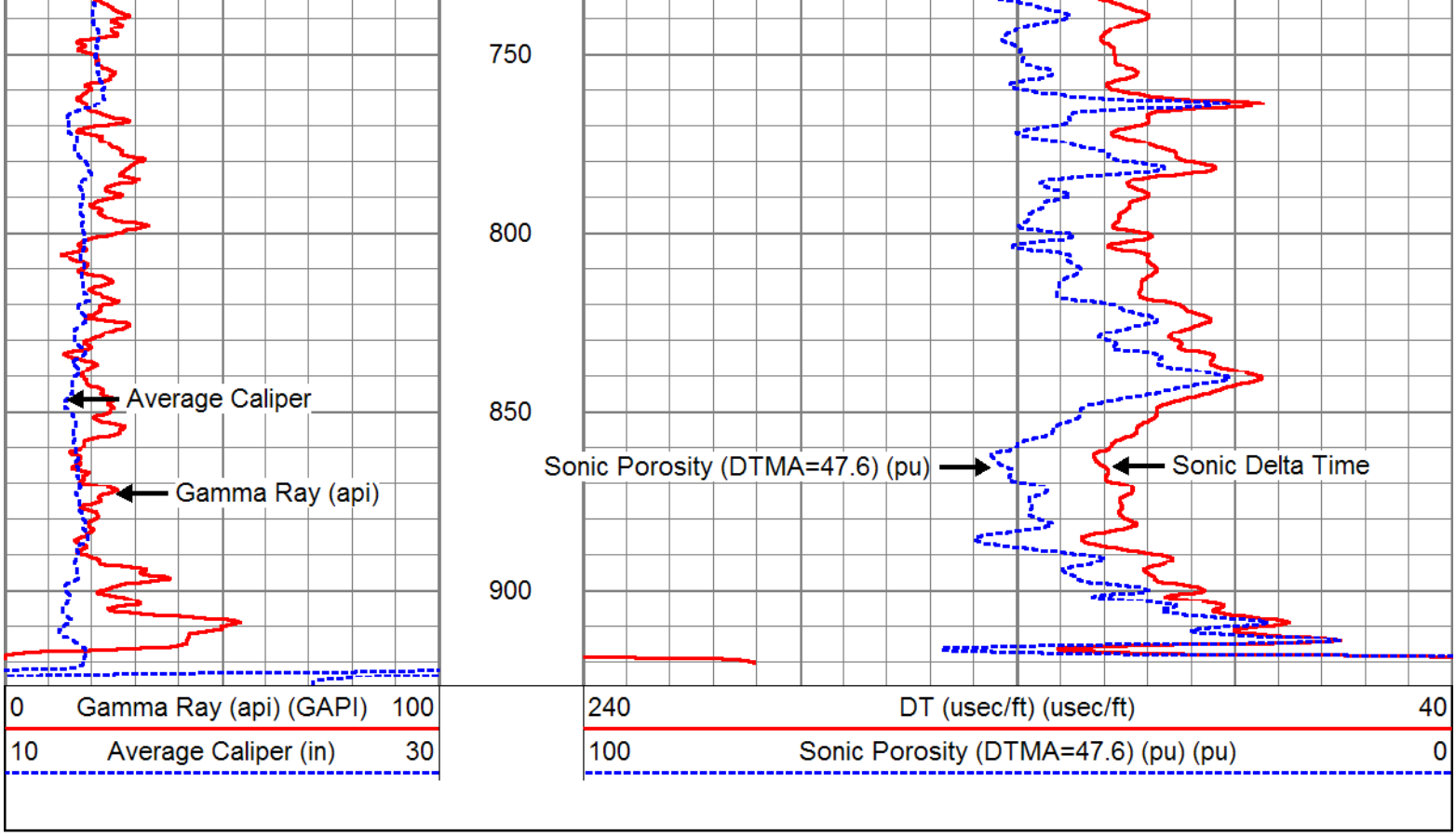
Database File: kisspoc109.db

Dataset Pathname: run3/BHCMP
Presentation Format: bhc_por
Dataset Creation: Sat Apr 07 23:20:04 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (api) (GAPI)	100
10	Average Caliper (in)	30

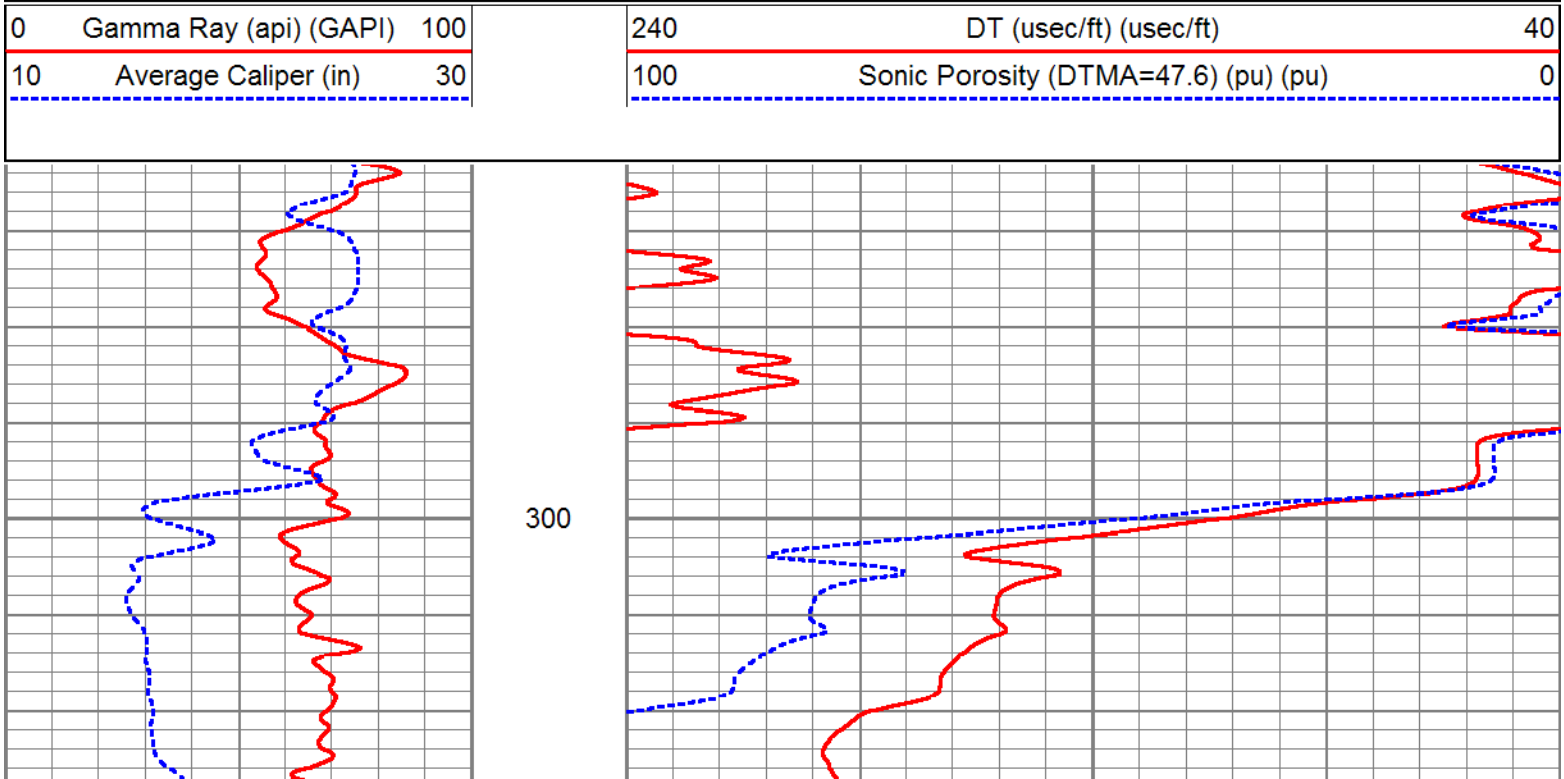
240	DT (usec/ft) (usec/ft)	40
100	Sonic Porosity (DTMA=47.6) (pu) (pu)	0

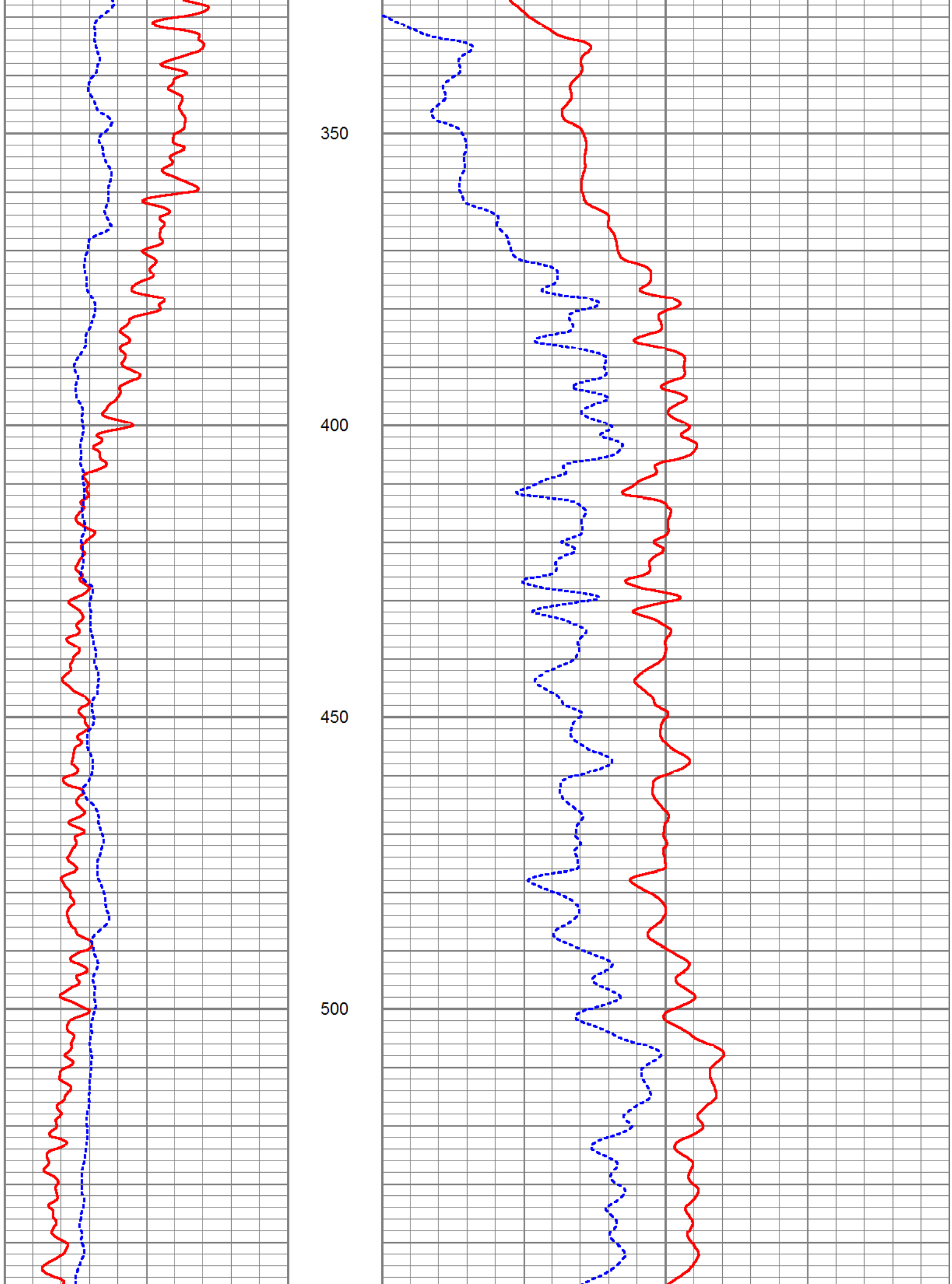


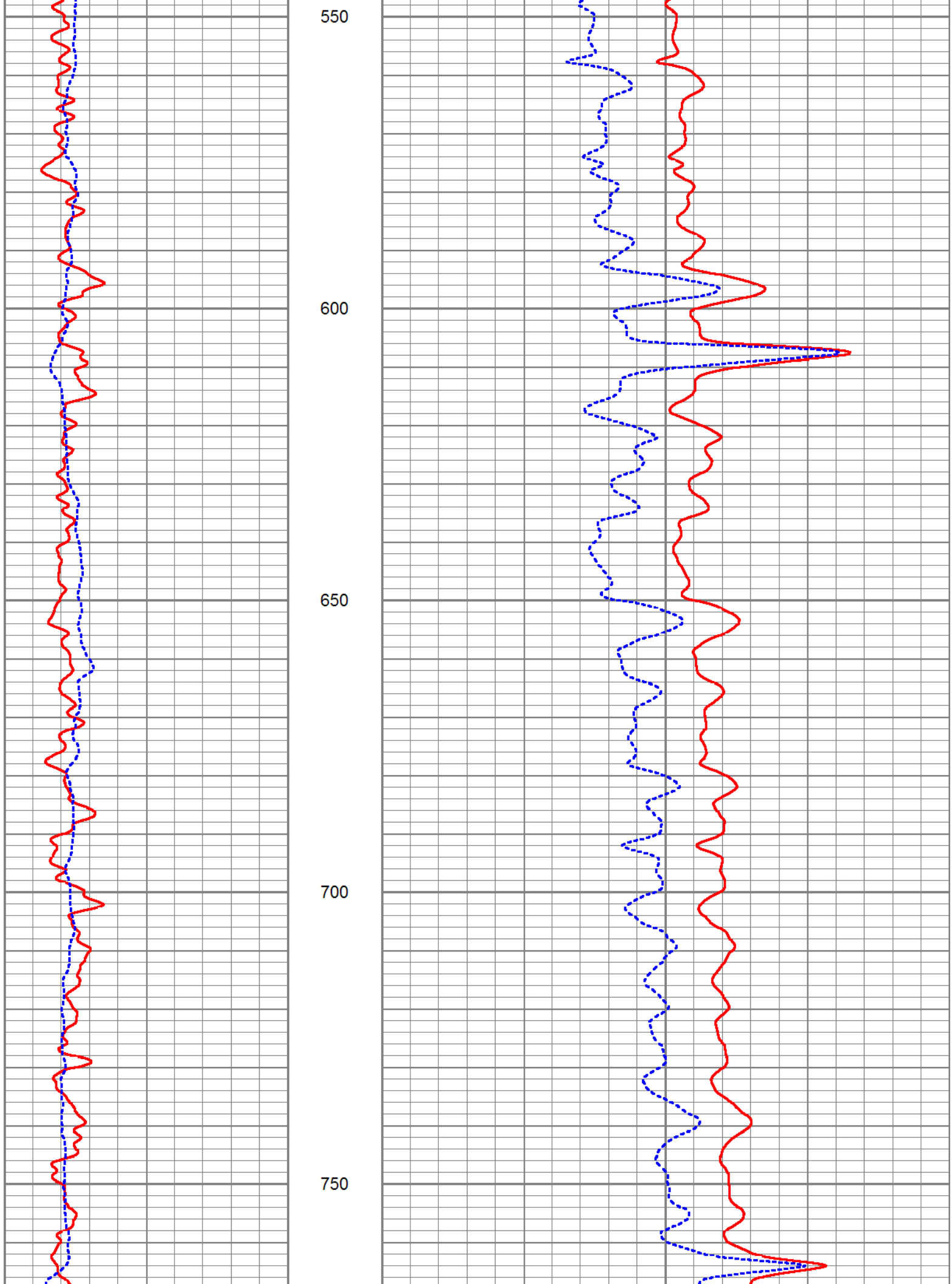


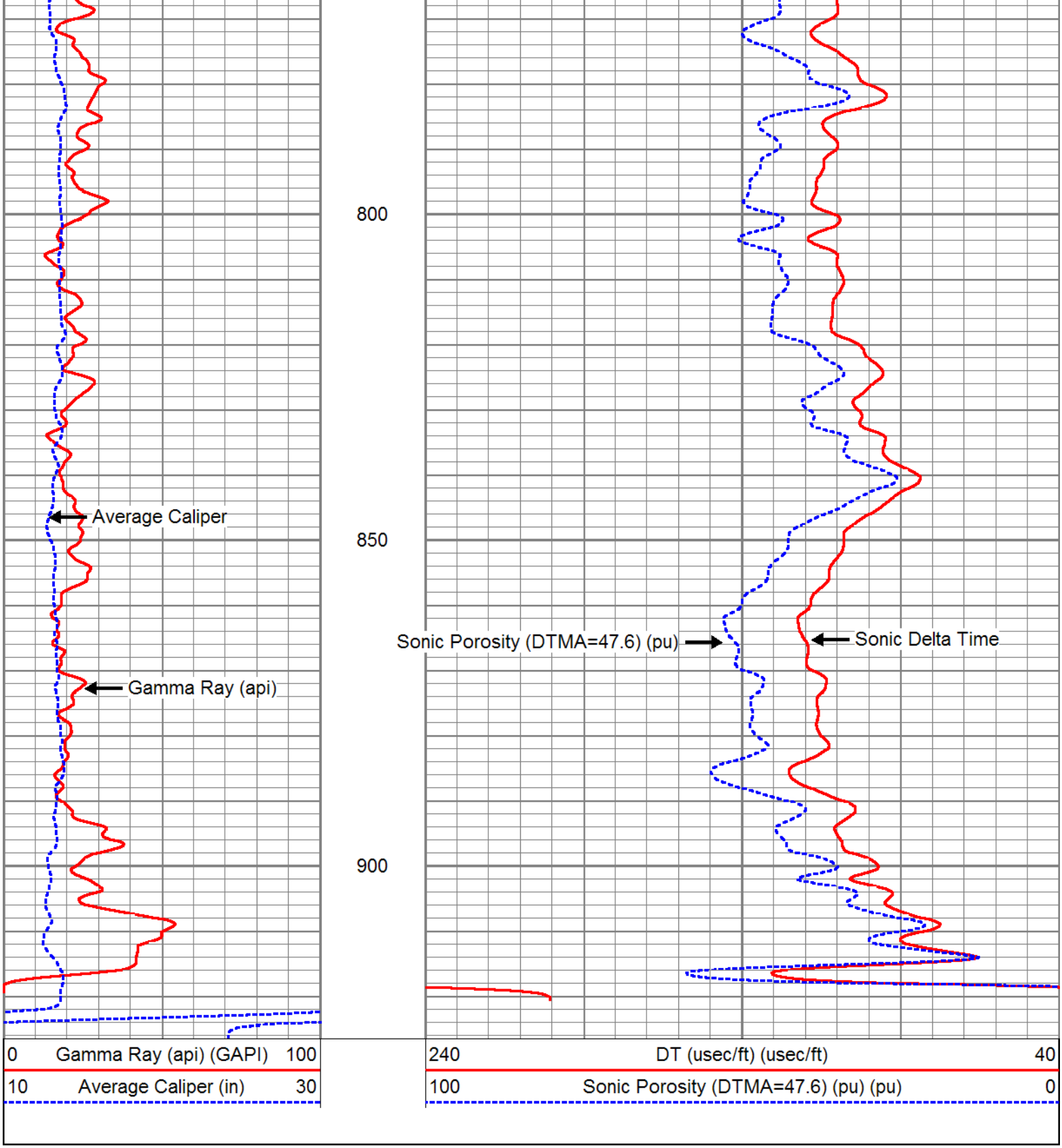
MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run3/BHCMP
Presentation Format: bhc_por
Dataset Creation: Sat Apr 07 23:20:04 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240




350
400
450
500


550
600
650
700
750



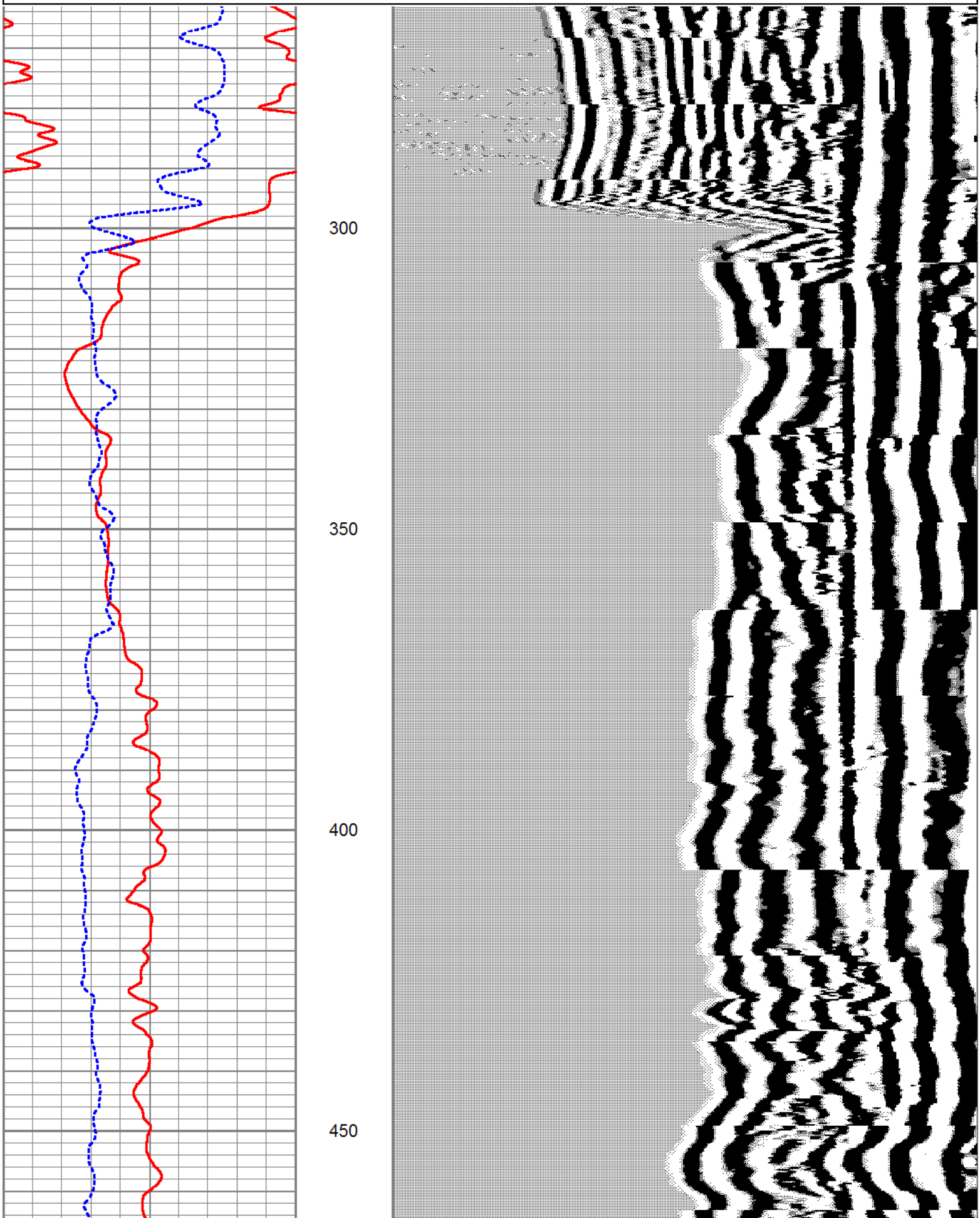
MAIN PASS

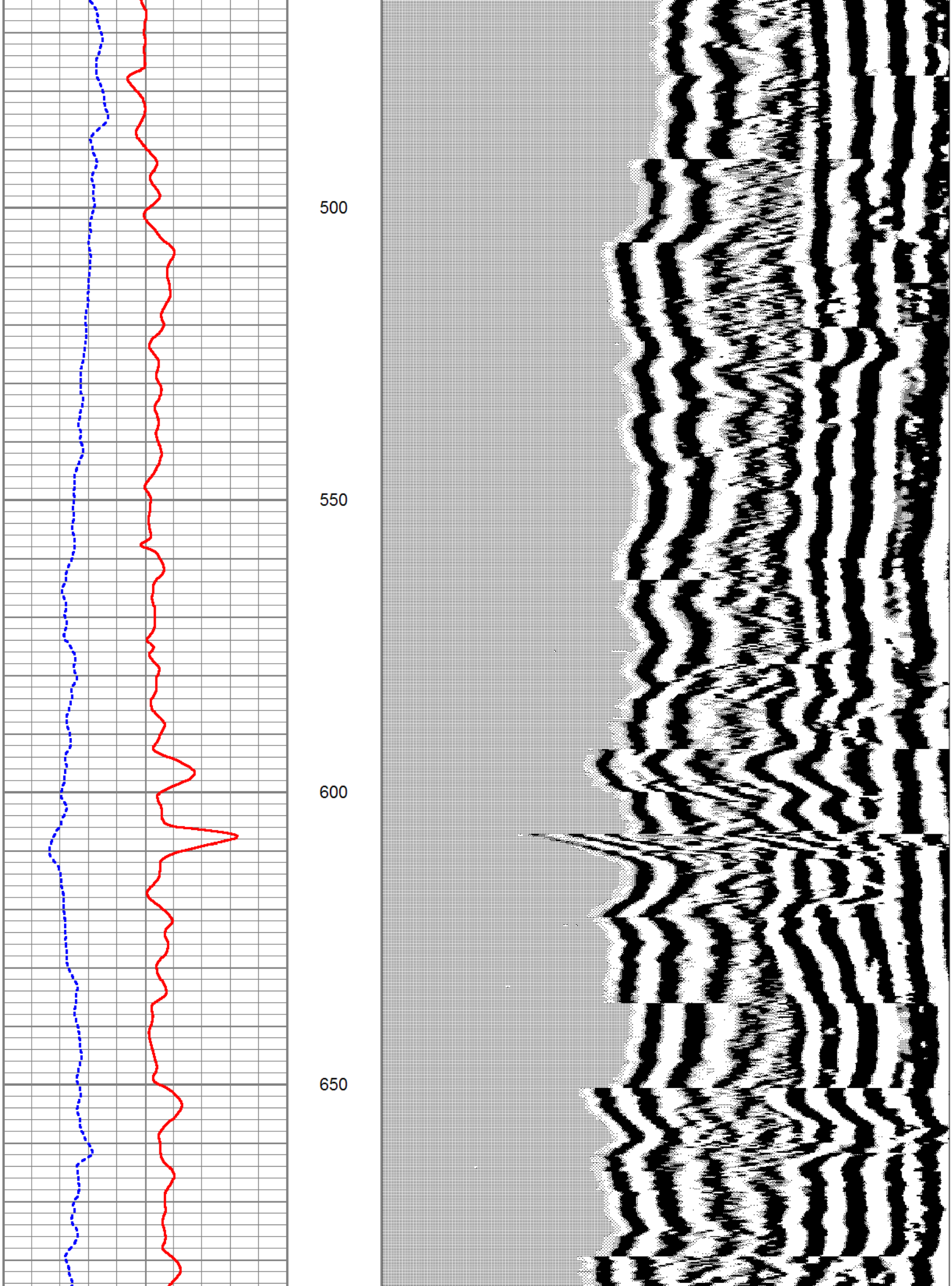
Database File:	kisspoc109.db
Dataset Pathname:	run3/BHCMP
Presentation Format:	bhc
Dataset Creation:	Sat Apr 07 23:20:04 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

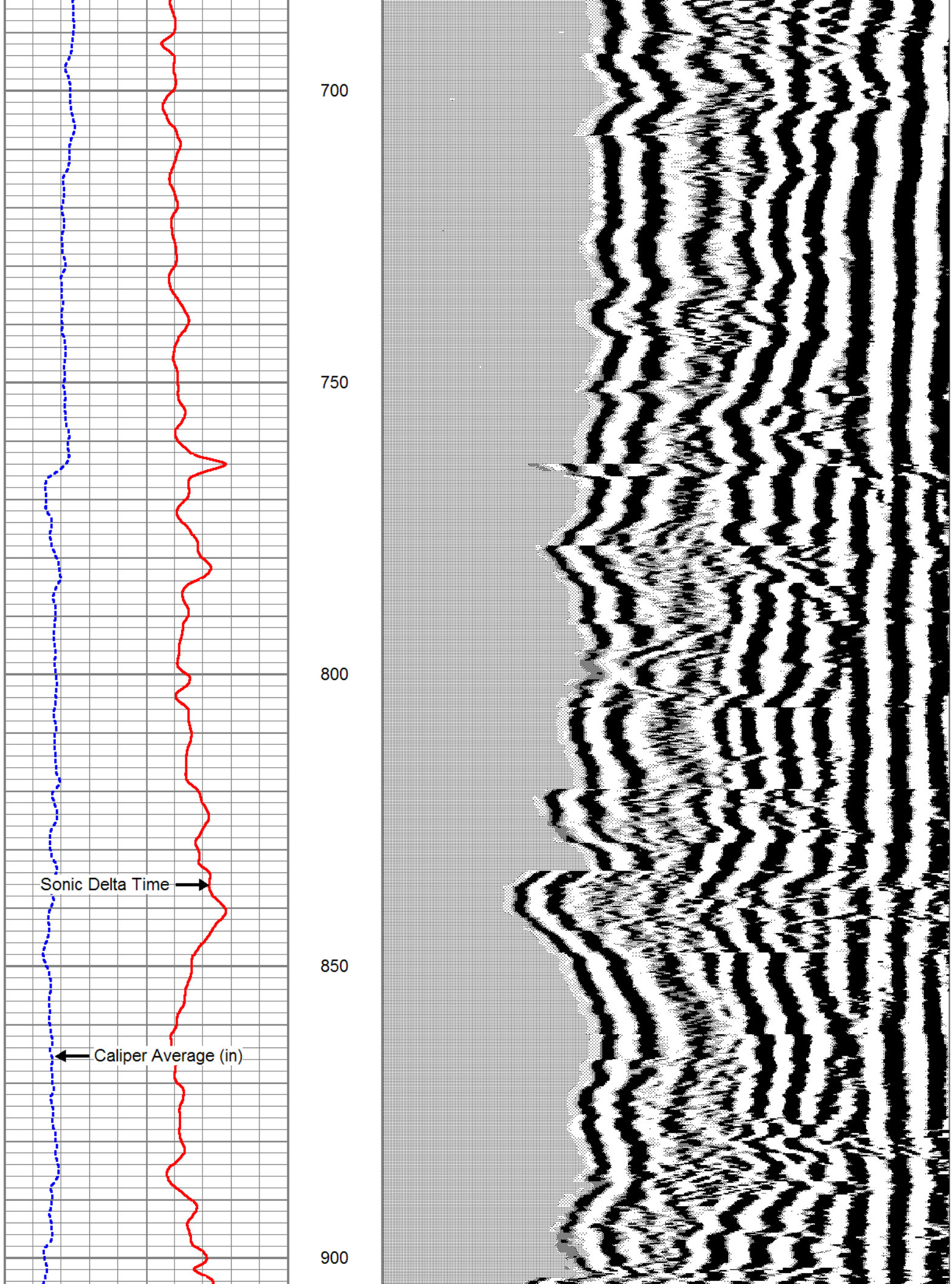
240 Sonic Delta Time (usec/ft) 40

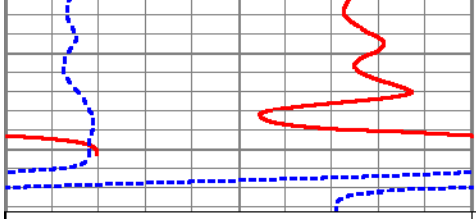
10 Caliper Average (in) (in) 30

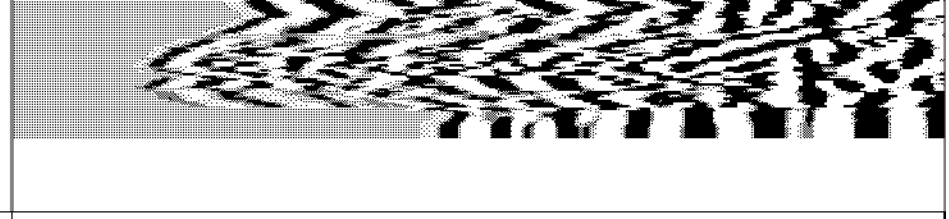
400 WVF4 1400




500
550
600
650


700
750
800
850
900
Sonic Delta Time
Caliper Average (in)



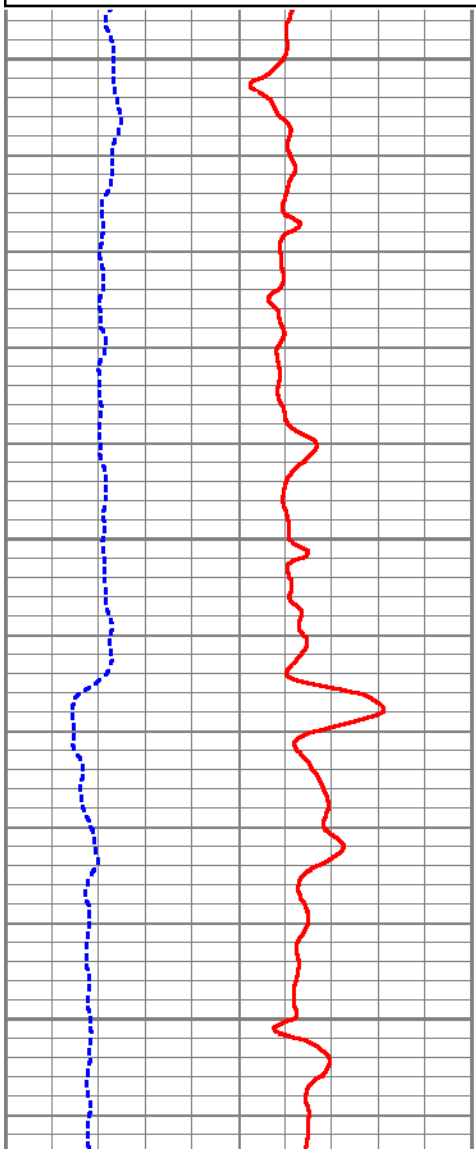


240	Sonic Delta Time (usec/ft)	40	400	WVF4	1400
10	Caliper Average (in) (in)	30			

REPEAT PASS

Database File:	kisspoc109.db
Dataset Pathname:	run3/BHC
Presentation Format:	bhc
Dataset Creation:	Sat Apr 07 23:10:30 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

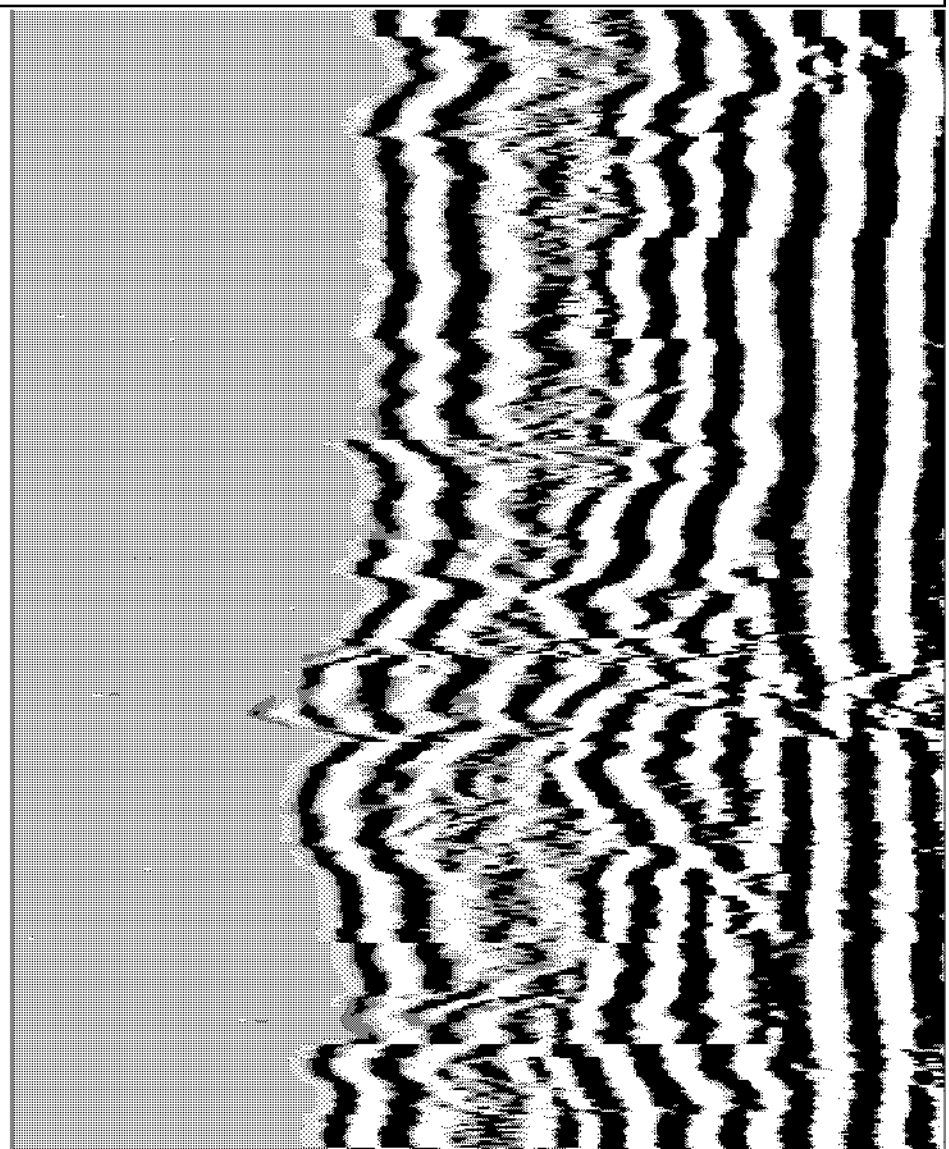
240	Sonic Delta Time (usec/ft)	40	400	WVF4	1400
10	Caliper Average (in) (in)	30			

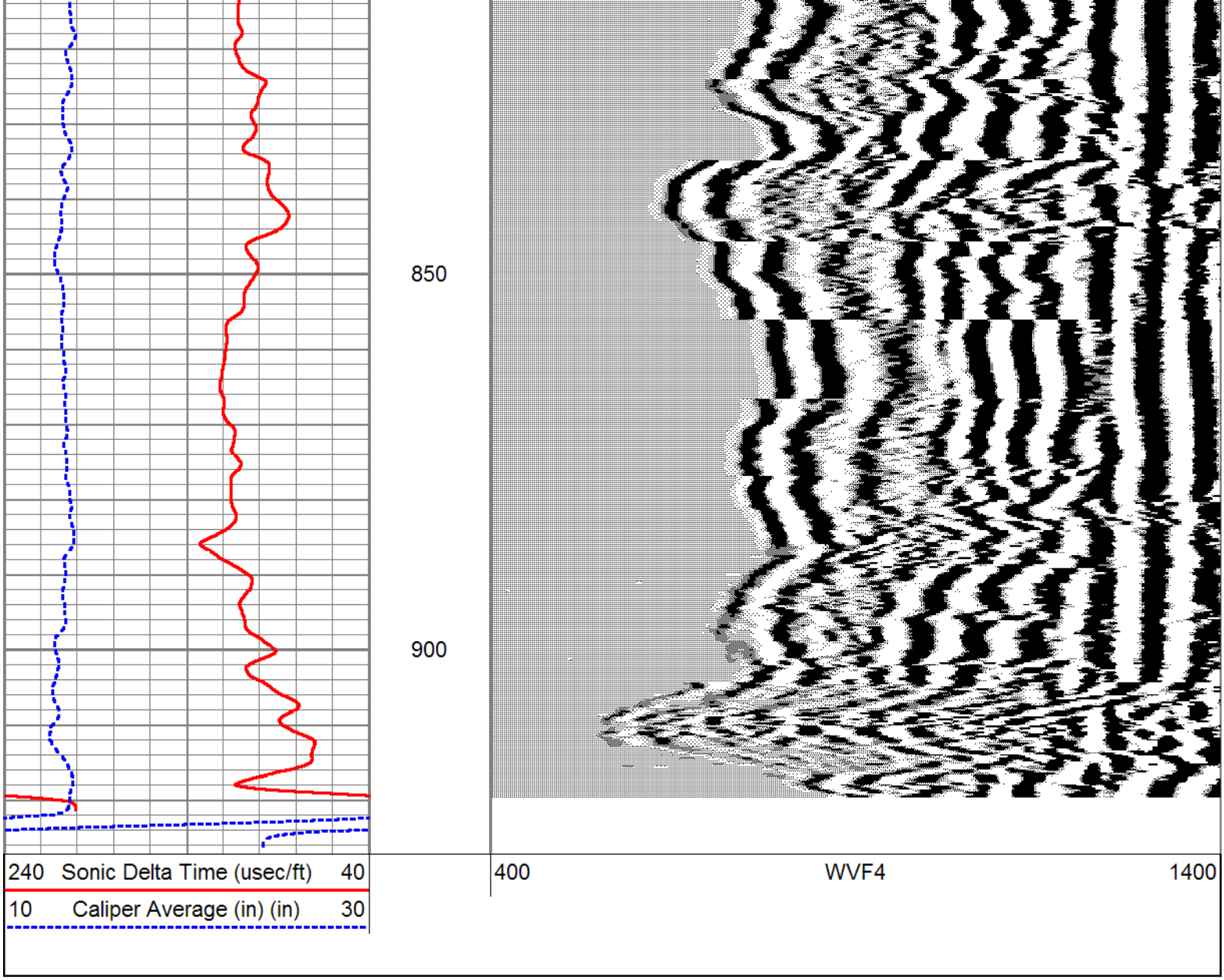


700

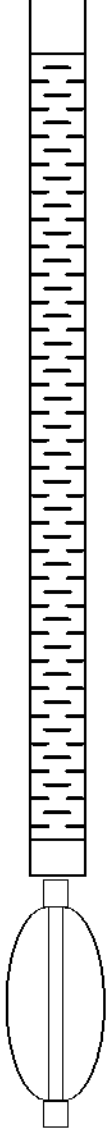
750

800





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CENCBL Centralizer CENCBL	3.00	1.44	10.69
WVF1	10.50					

WVF1	13.50		SLT-GEAR (SLT1) G0_BHC	15.71	3.50	140.00
WVF2	8.67					
WVF4	7.67					
WVF3	3.00		CENCBL Centralizer CENCBL	3.00	1.44	10.69

Dataset:	kisspoc109.db: field/well/run3/BHCMP
Total Length:	22.71 ft
Total Weight:	166.38 lb
O.D.	3.50 in

FLUID CONDUCTIVITY TEMPERATURE LOG

ALLWEBBS ENTERPRISES, INC.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company	SOUTH FLORIDA MGT. DISTRICT					
Well	POC#109					
Field	KISSIMMEE BASIN (LFA-C)					
County	OSCEOLA	State	FLORIDA			
Location:	API # :	SEC	TWP	RGE	Other Services SEE COMMENTS	
Permanent Datum		PAD		Elevation	K.B.	
Log Measured From		PAD			D.F.	
Drilling Measured From		PAD			G.L.	

Date	27-APRIL-2012
Run Number	THREE
Depth Driller	920'
Depth Logger	920'
Bottom Logged Interval	920'
Top Log Interval	CASING
Open Hole Size	12.25"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	81.5 DEGF.
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-203
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record					Borehole Record			
Run Number	Bit	From	To		Run Number	Bit	From	To
ONE	12.25"	CASING	303'					
TWO	32"	CASING	303'					
THREE	12.25"	CASING	920'					

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String				
Liner				

<<< Fold Here >>>

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

Comments

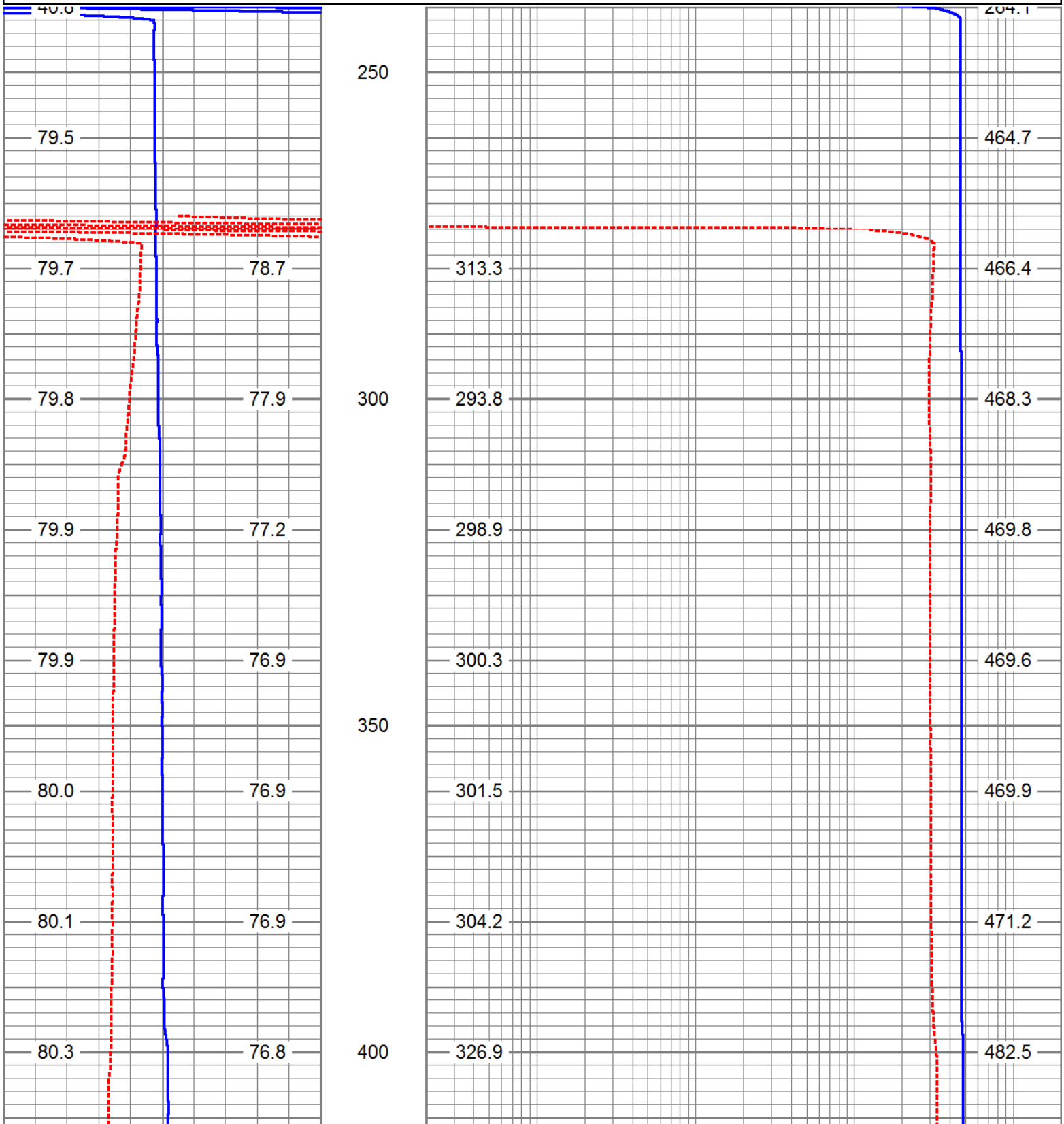
BHC/SONIC/VDL
XYC/GR
DIL/LL3/SP
FLOWMETER

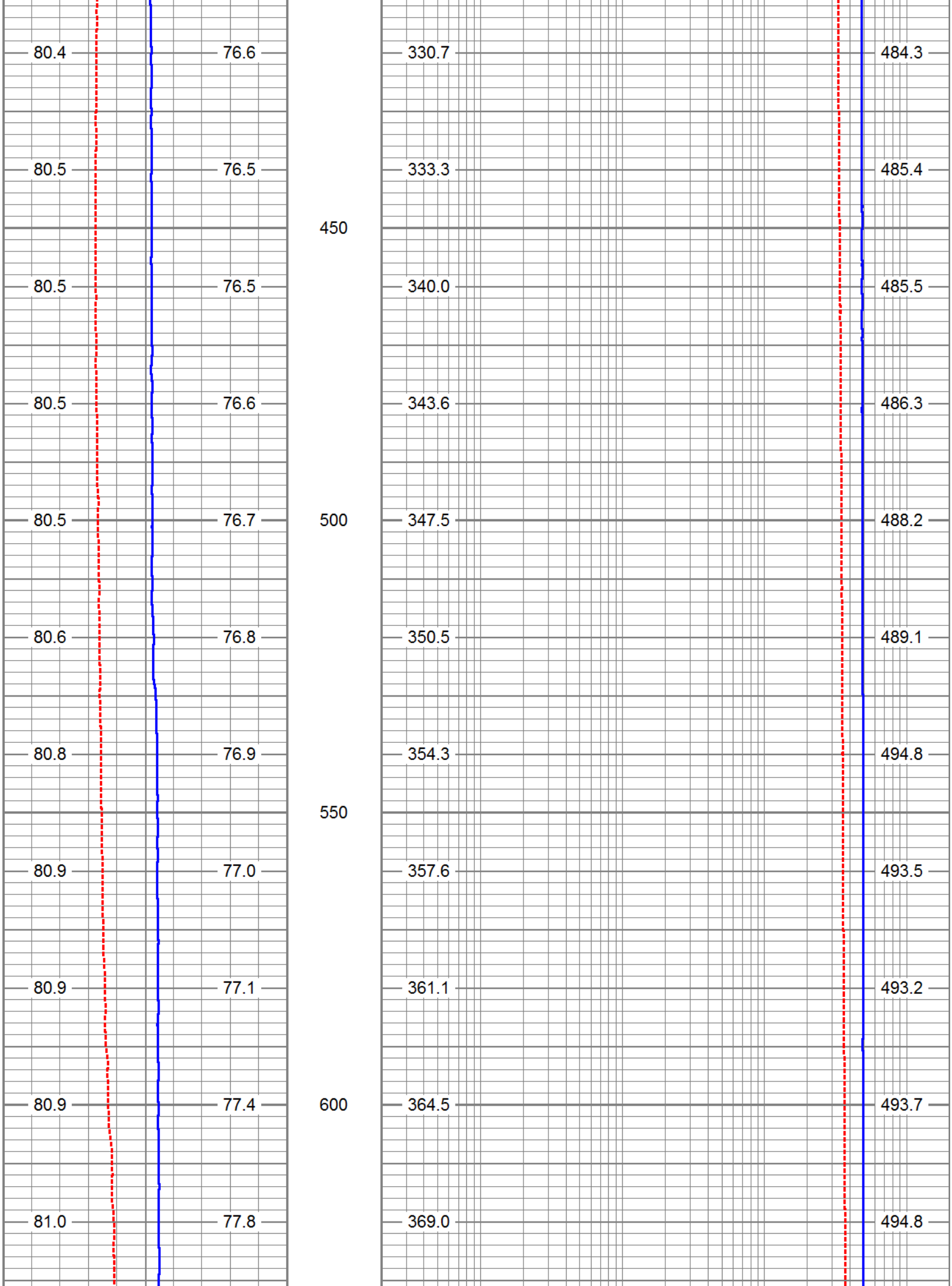
ALLWEBBS

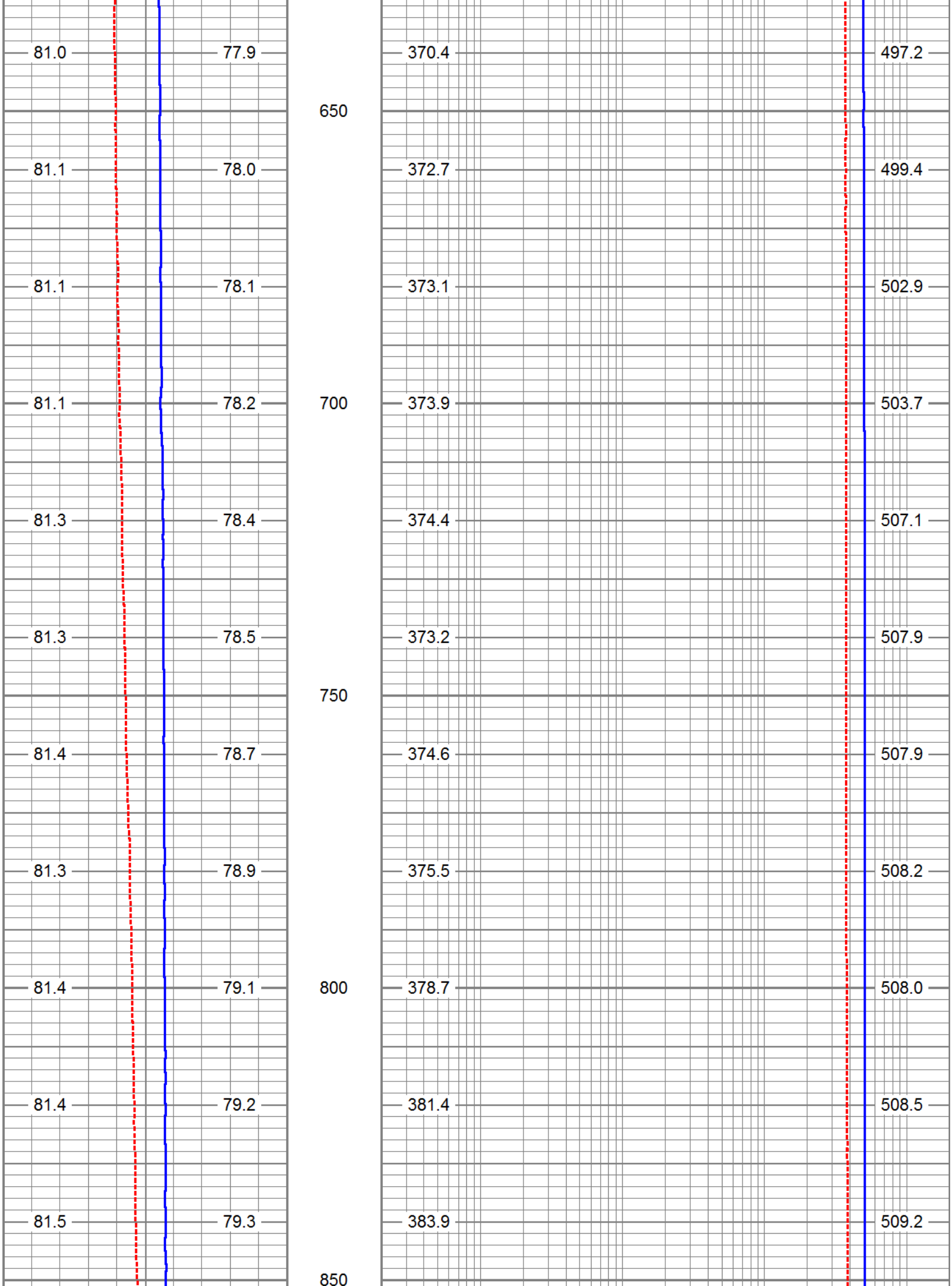
FLOWRATE = 1,180 GPM

ENTERPRISES, INC.

Database File:	kisspoc109.db
Dataset Pathname:	run3/FCTDY
Presentation Format:	fct
Dataset Creation:	Fri Apr 27 17:55:40 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240




80.4
76.6
330.7
484.3
80.5
76.5
333.3
485.4
450
80.5
76.5
340.0
485.5
80.5
76.6
343.6
486.3
80.5
76.7
500
347.5
488.2
80.6
76.8
350.5
489.1
80.8
76.9
354.3
494.8
550
80.9
77.0
357.6
493.5
80.9
77.1
361.1
493.2
80.9
77.4
600
364.5
493.7
81.0
77.8
369.0
494.8


81.0
77.9
370.4
497.2
650
81.1
78.0
372.7
499.4
81.1
78.1
373.1
502.9
81.1
78.2
700
373.9
503.7
81.3
78.4
374.4
507.1
81.3
78.5
373.2
507.9
750
81.4
78.7
374.6
507.9
81.3
78.9
375.5
508.2
81.4
79.1
800
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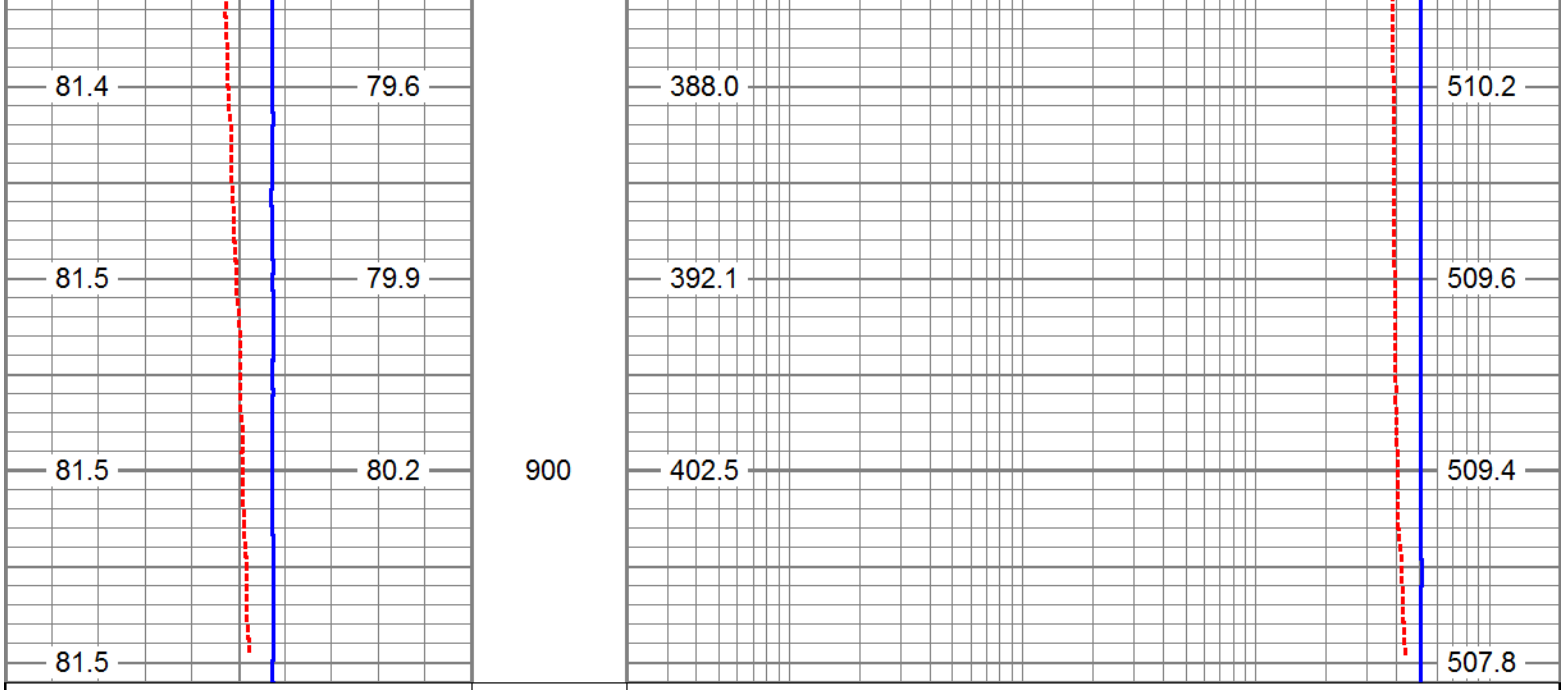
508.0
81.4
79.2
381.4
508.5
81.5
79.3
383.9
509.2
850



Calibration Report

Database File: kisspoc109.db
Dataset Pathname: run3/FCTDY
Dataset Creation: Fri Apr 27 17:55:40 2012 by Log Open-Cased 071220

Temperature Calibration Report

Serial Number: 1
Tool Model: RG
Performed: Sat Apr 07 23:51:23 2012

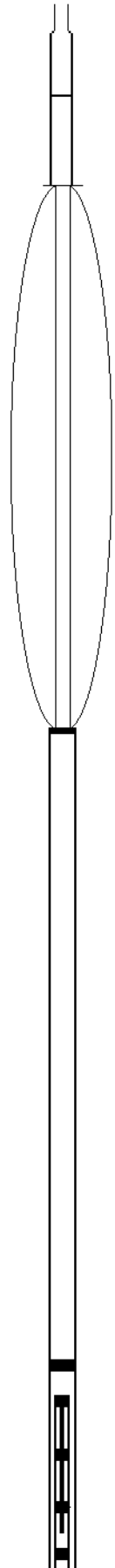
Point #	Reading	Reference	
1	3636.76	32.20	degF
2	4626.58	51.60	degF
3	6505.18	72.00	degF
4	7120.74	77.40	degF
5	8623.55	91.80	degF
6	9608.83	100.60	degF
7			degF
8			degF
9			degF
10			degF

Calibration Report

Serial Number: 1
Tool Model: RG
Performed: Sat Apr 07 23:51:21 2012

Reference (um)	Reading ()
1023.000	1131.130
10090.000	10173.500
13040.000	12435.600
25200.000	23497.400

29200.000	24812.300
49900.000	39605.500

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CBLINLINE	3.00	1.50	10.00
			FRTEMP-RG (1) RG_FCON	5.00	1.50	25.00
FCON	0.50					

TEMP	0.33						

Dataset:	kisspoc109.db: field/well/run3/FCTDY
Total Length:	9.00 ft
Total Weight:	40.00 lb
O.D.	1.50 in

ALLWEBBS ENTERPRISES, INC.

FLOWMETER LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Date	27-APRIL-2012
Run Number	THREE
Depth Driller	920'
Depth Logger	920'
Bottom Logged Interval	920'
Top Log Interval	CASING
Open Hole Size	12.25"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-203
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'

Borehole Record

Run Number	Bit	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String				
Liner				

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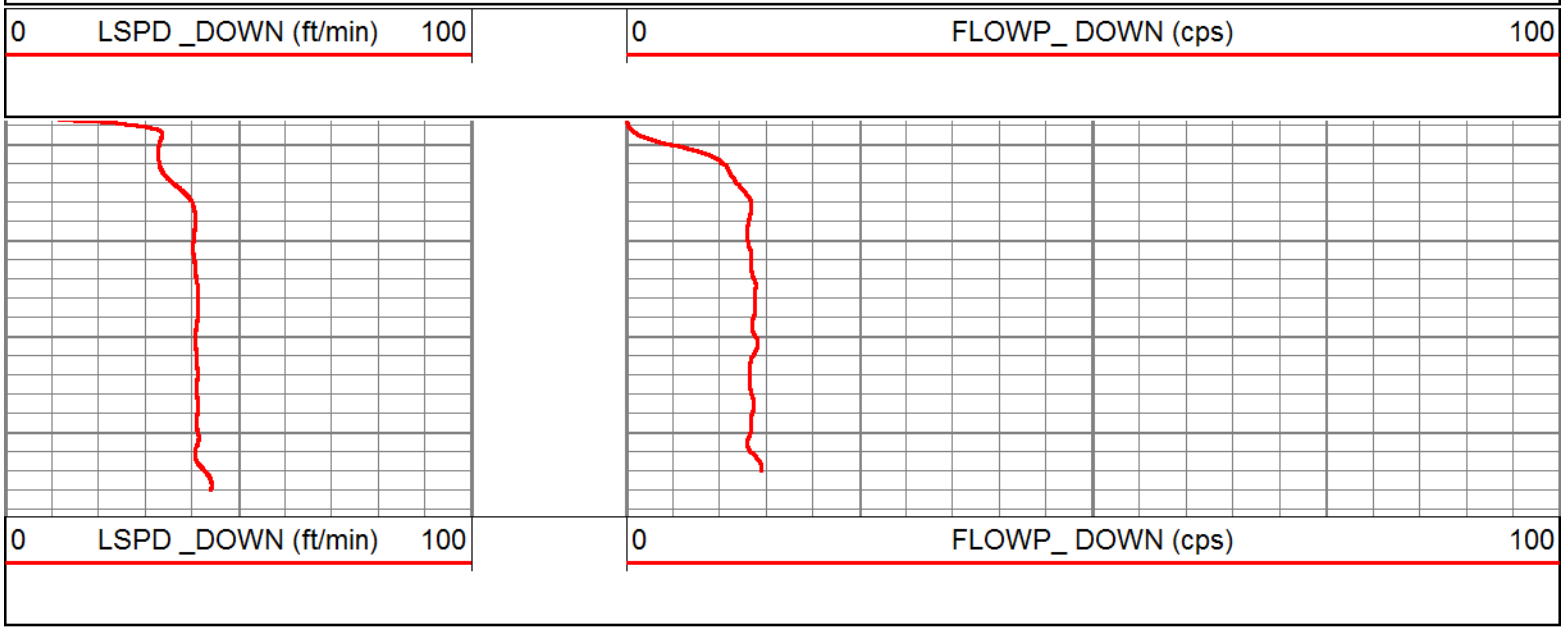
Comments

FCT
BHC/SONIC/VDL
XYC/GR
DIL/LL3/SP

ALLWEBBS

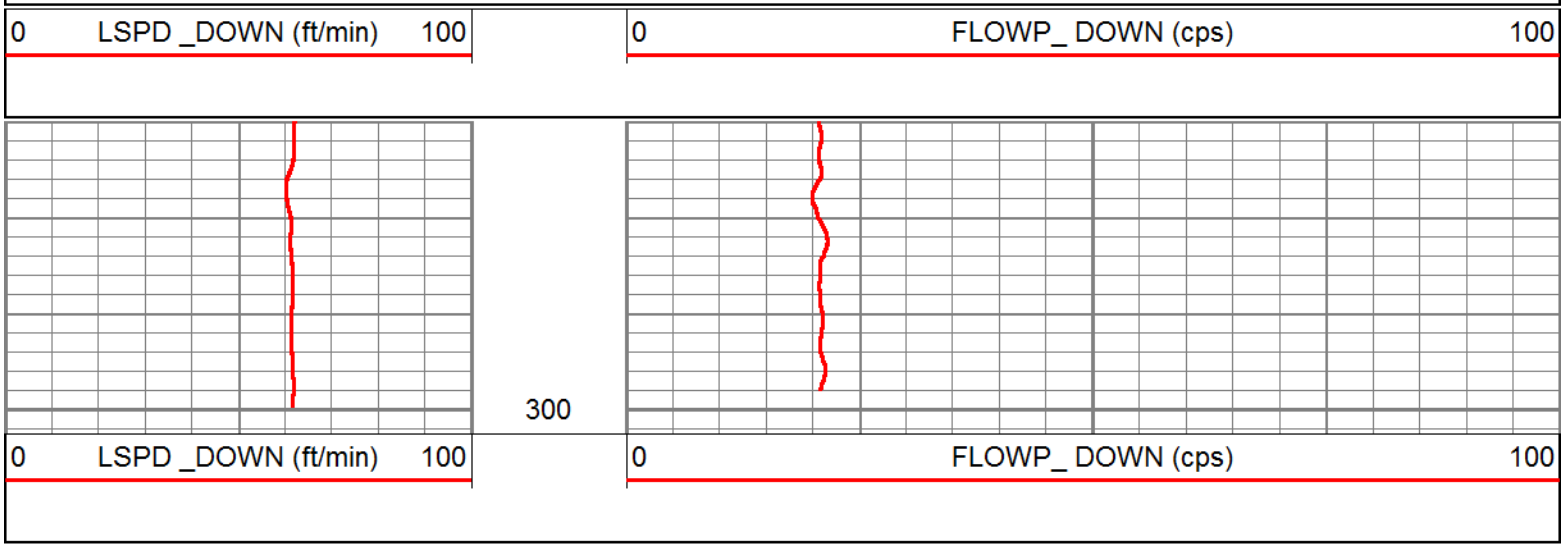
CALS @ 40 FPM

Database File: kisspoc109.db
Dataset Pathname: run3/FMCAL40
Presentation Format: flow
Dataset Creation: Fri Apr 27 18:42:49 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



CALS @ 60 FPM

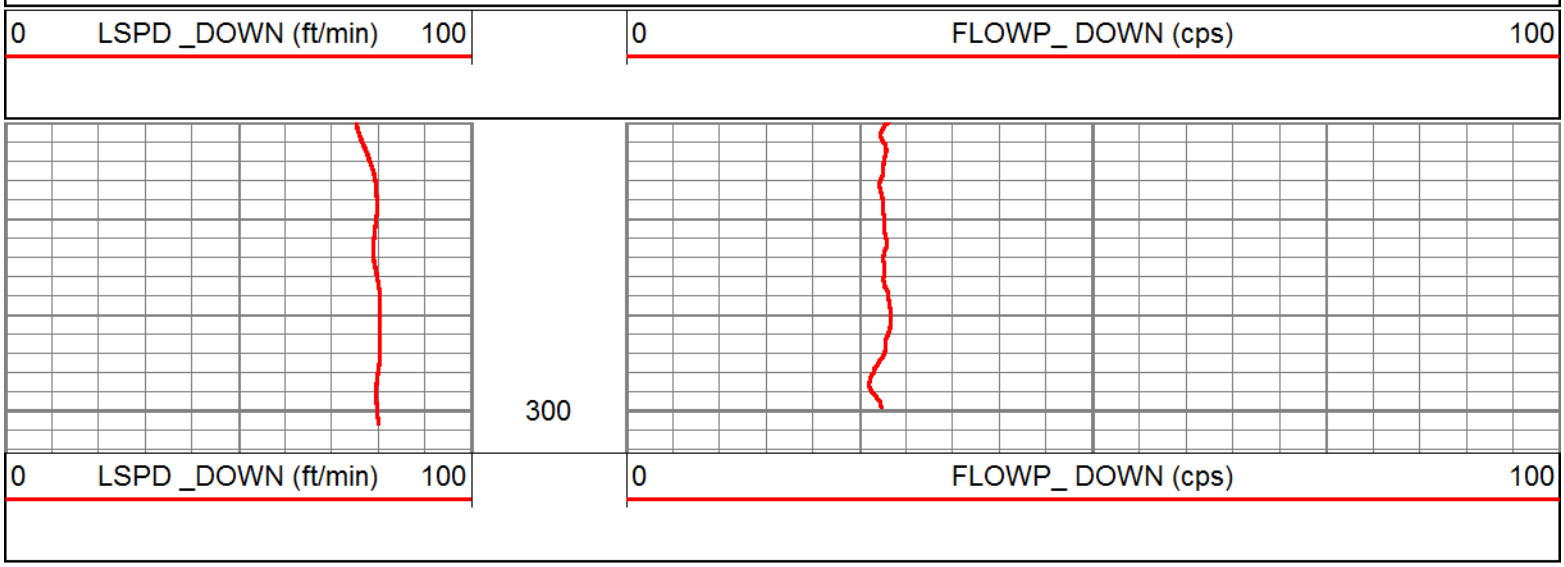
Database File: kisspoc109.db
Dataset Pathname: run3/FMCAL60
Presentation Format: flow
Dataset Creation: Fri Apr 27 18:45:23 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



CALS @ 80 FPM

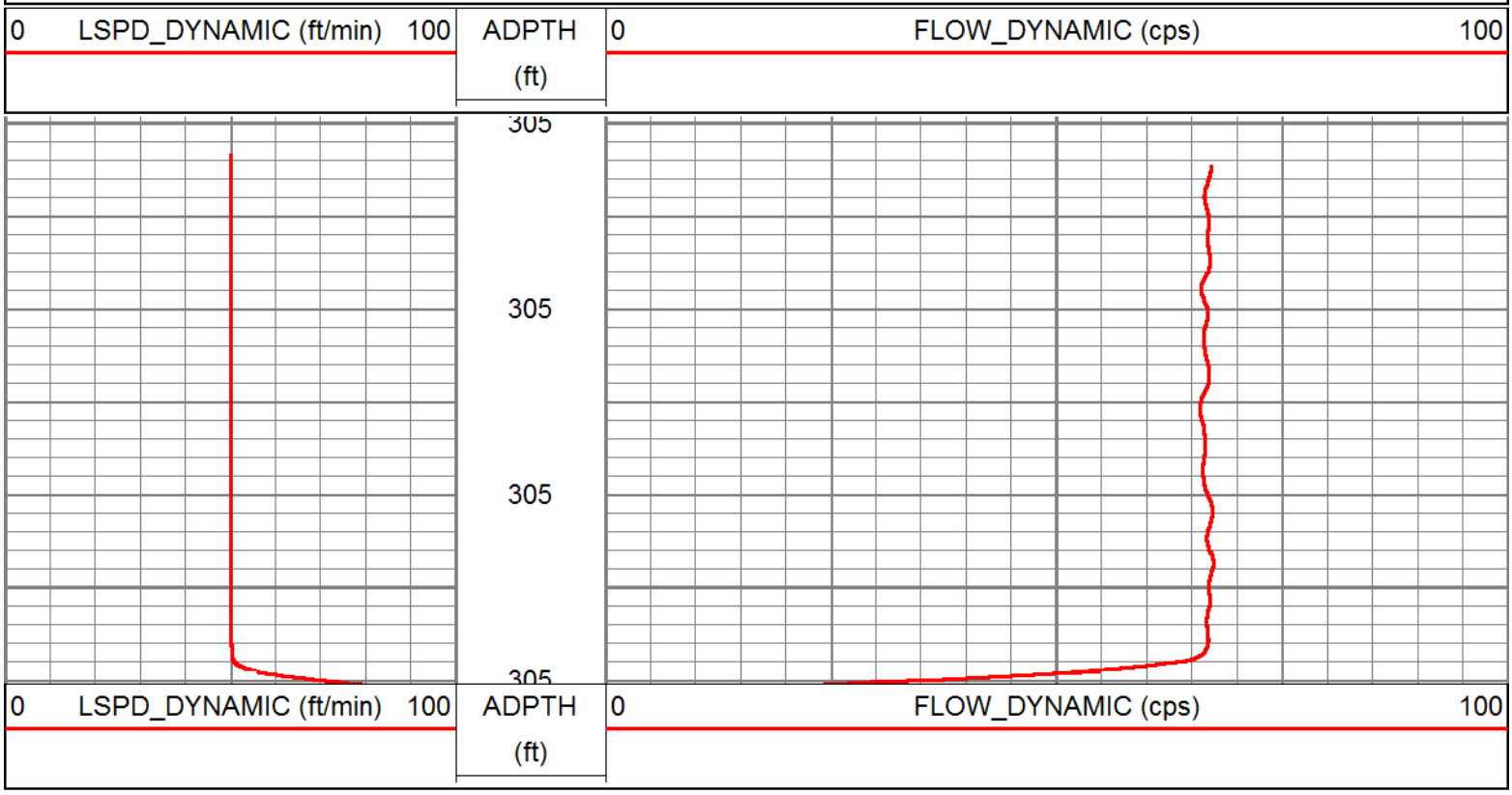
Database File: kisspoc109.db

Dataset Pathname: run3/FMCAL80
Presentation Format: flow
Dataset Creation: Fri Apr 27 18:47:24 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 305'

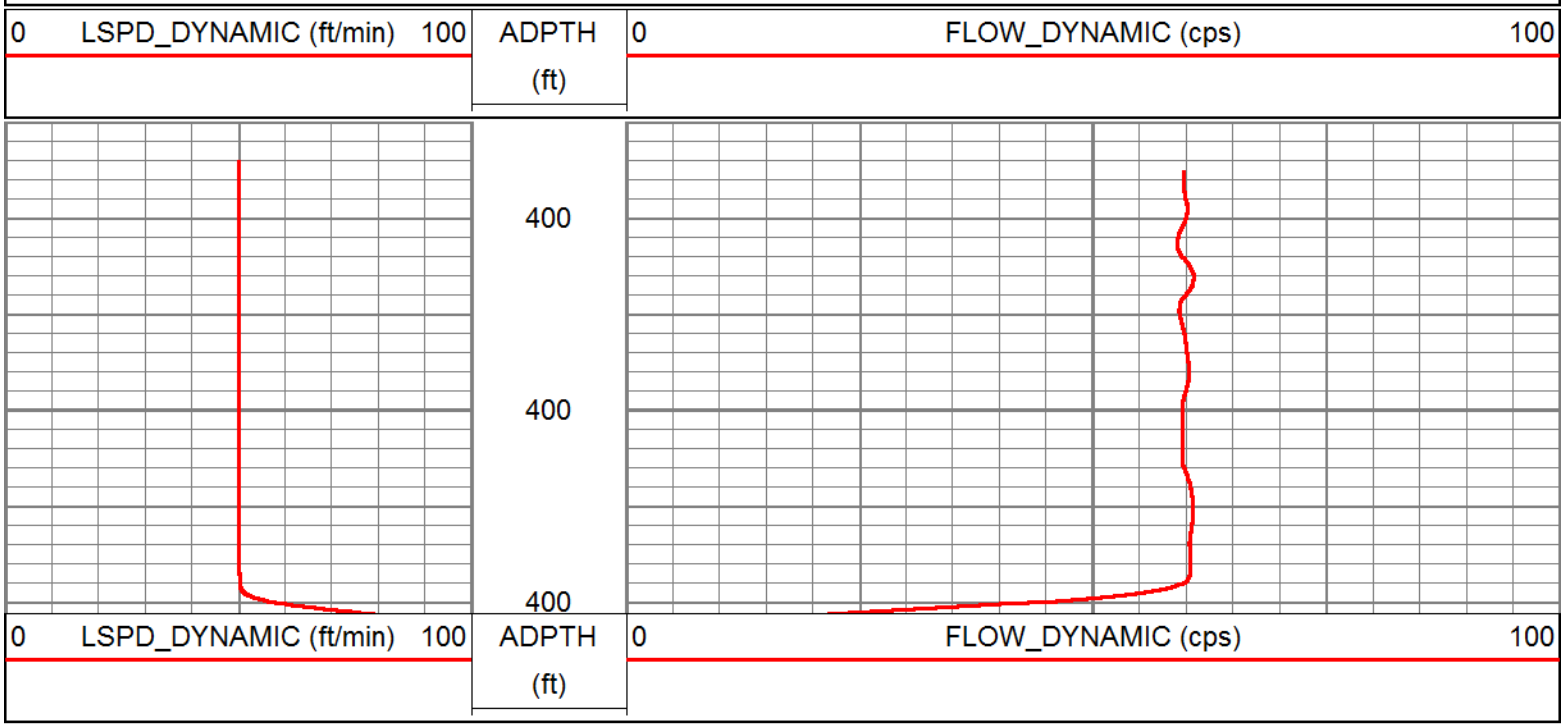
Database File: kisspoc109.db
Dataset Pathname: run3/FMSTAT305
Presentation Format: flow_mg
Dataset Creation: Fri Apr 27 19:43:24 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 400'

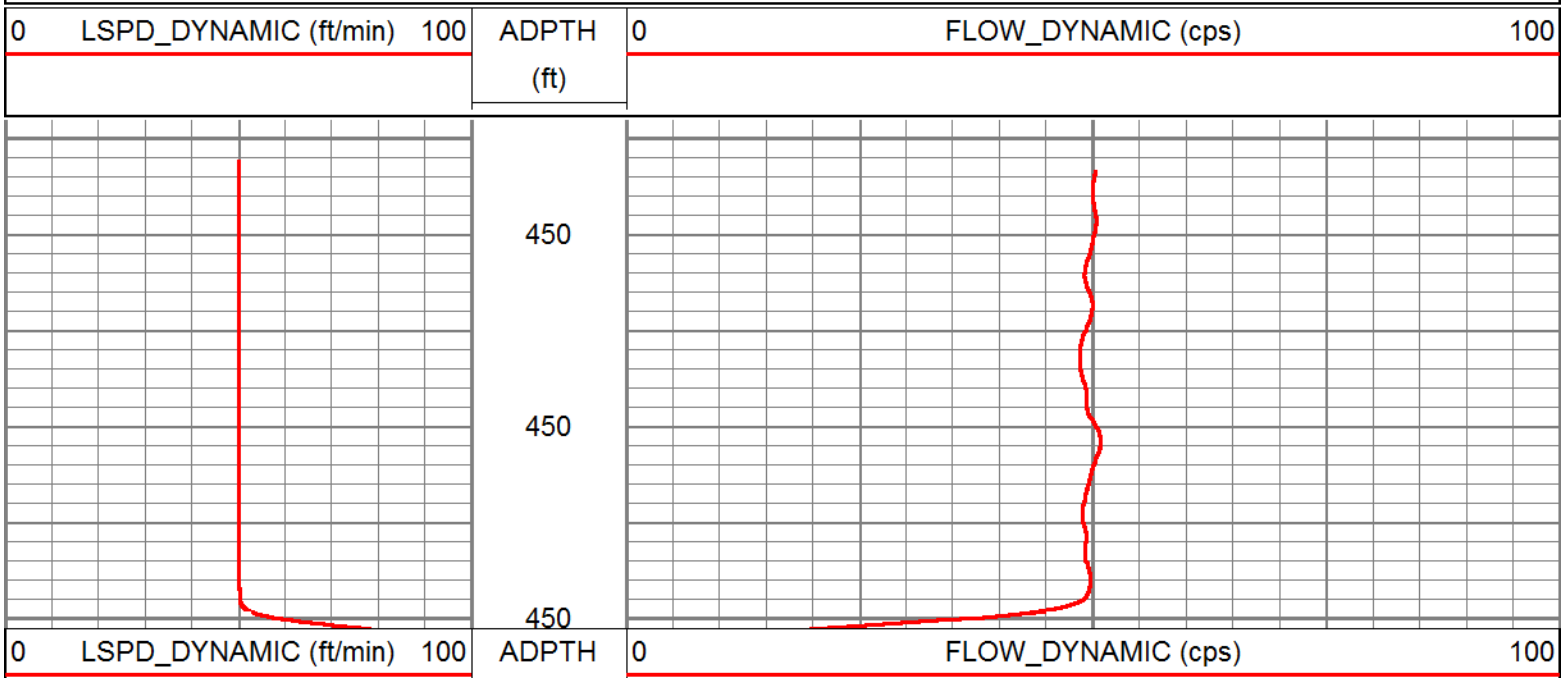
STATION @ 400'

Database File: kisspoc109.db
Dataset Pathname: run3/FMSTAT400
Presentation Format: flow_mg
Dataset Creation: Fri Apr 27 19:40:11 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 450'

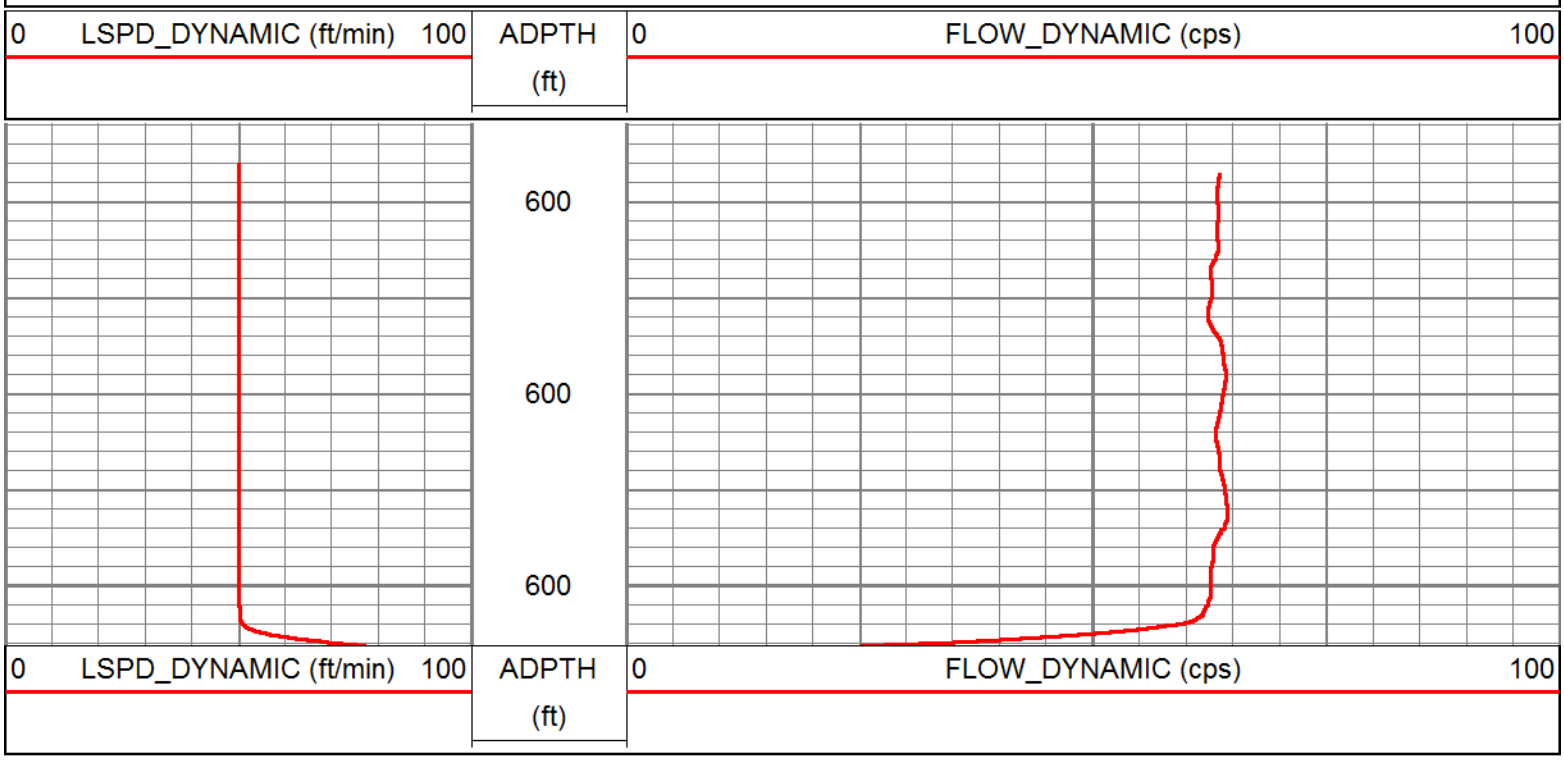
Database File: kisspoc109.db
Dataset Pathname: run3/FMSTAT450
Presentation Format: flow_mg
Dataset Creation: Fri Apr 27 19:38:35 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



(ft)

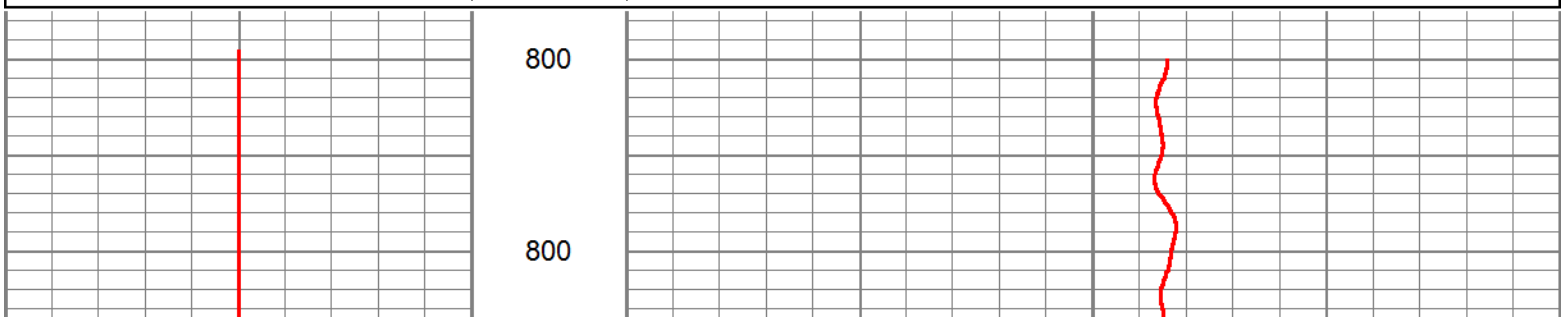
STATION @ 600'

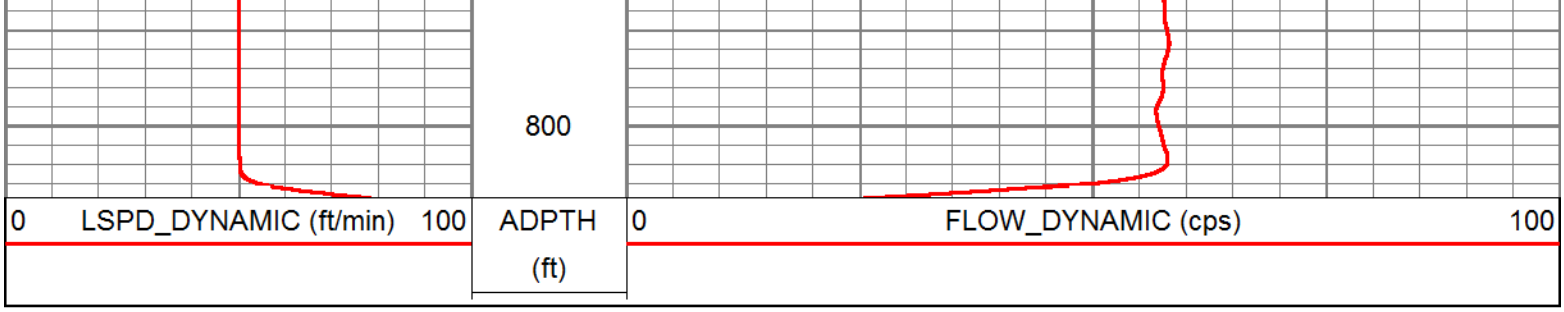
Database File: kisspoc109.db
Dataset Pathname: run3/FMSTAT600
Presentation Format: flow_mg
Dataset Creation: Fri Apr 27 19:36:29 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 800'

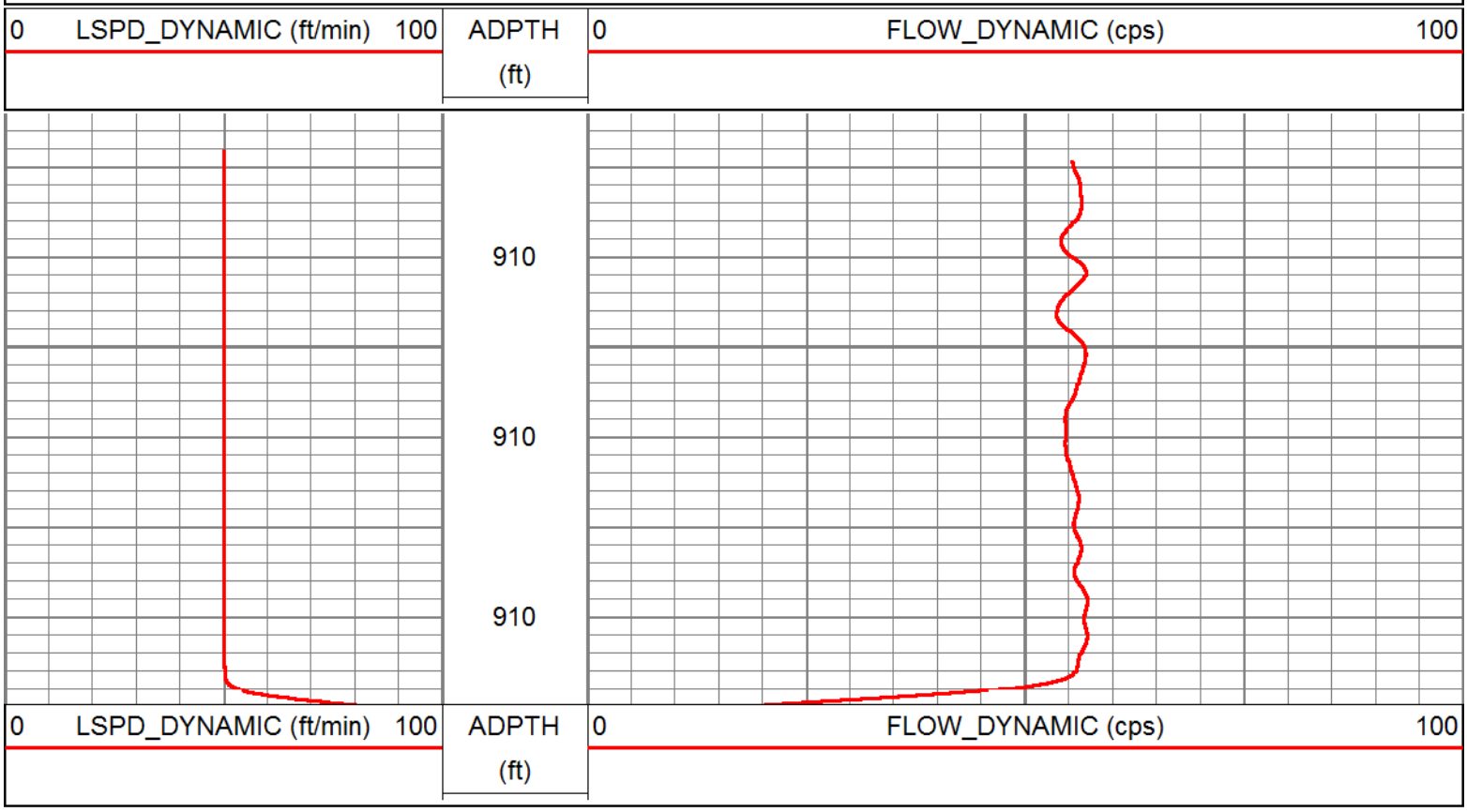
Database File: kisspoc109.db
Dataset Pathname: run3/FMSTAT800
Presentation Format: flow_mg
Dataset Creation: Fri Apr 27 19:34:27 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240





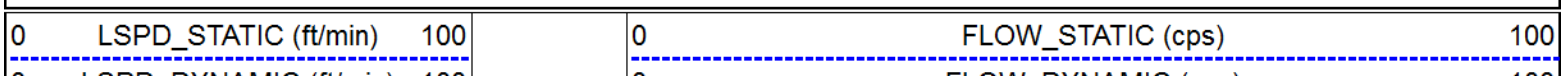
STATION @ 910'

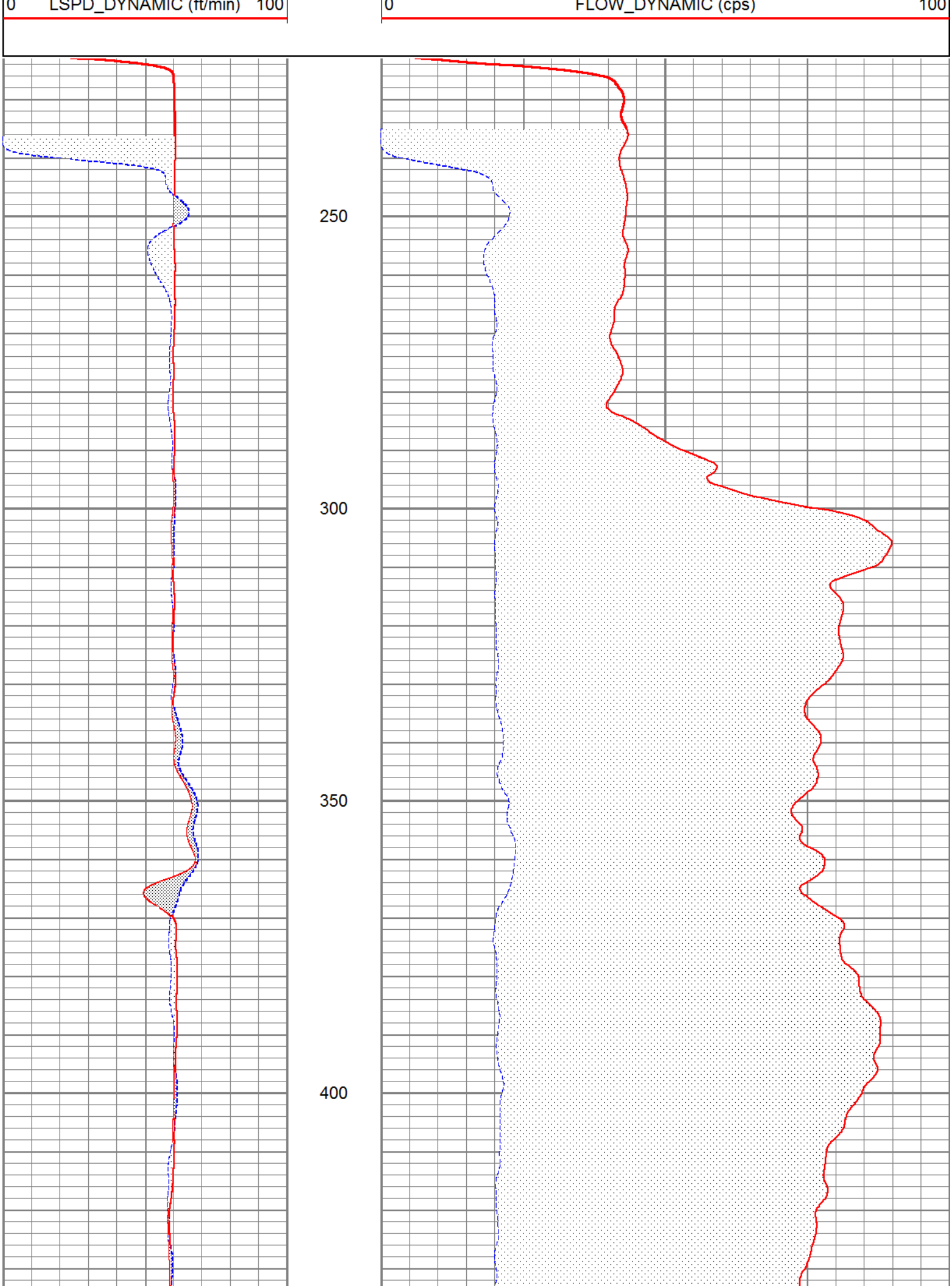
Database File: kisspoc109.db
Dataset Pathname: run3/FMSTAT910
Presentation Format: flow_mg
Dataset Creation: Fri Apr 27 19:30:49 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

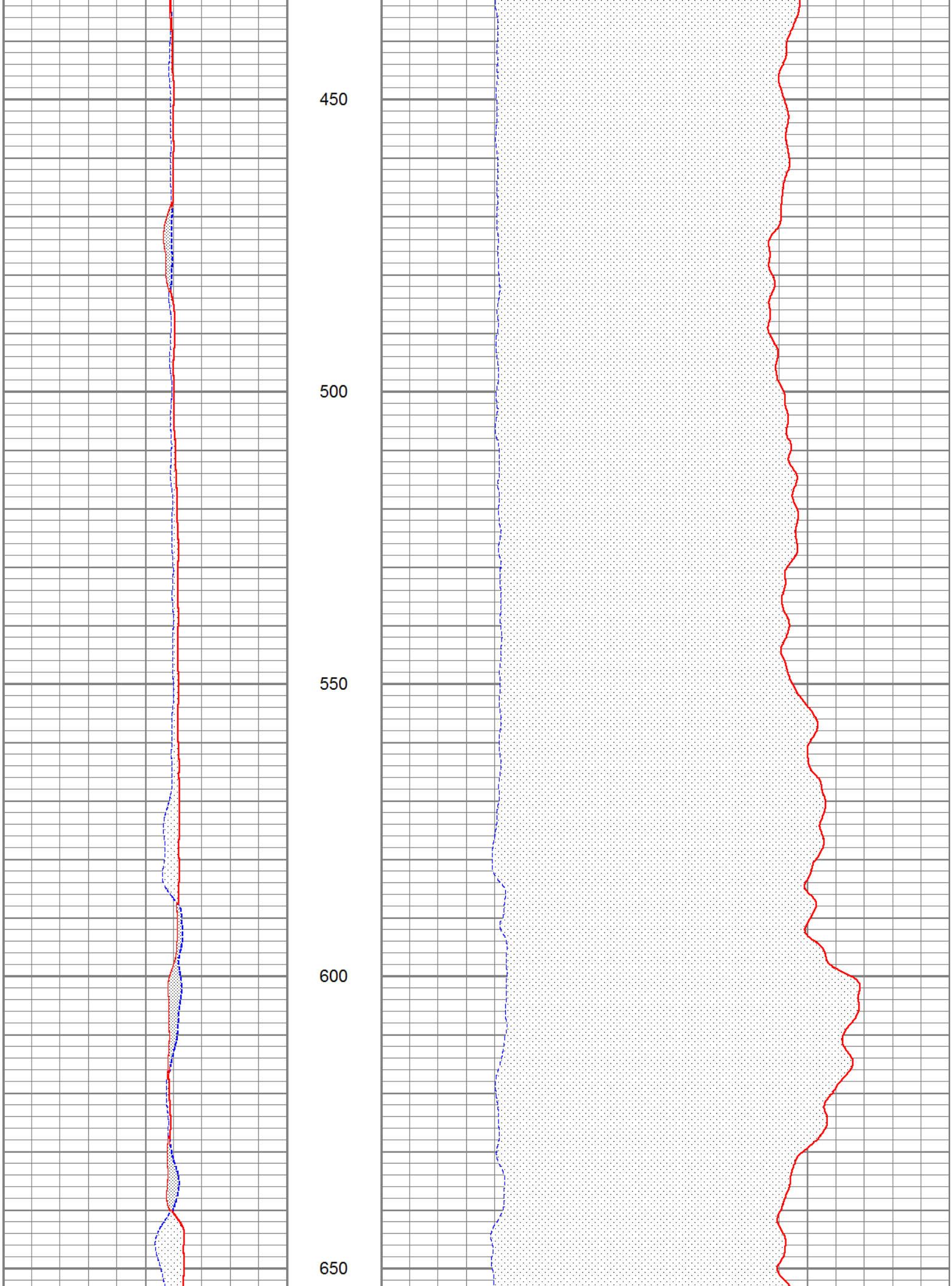


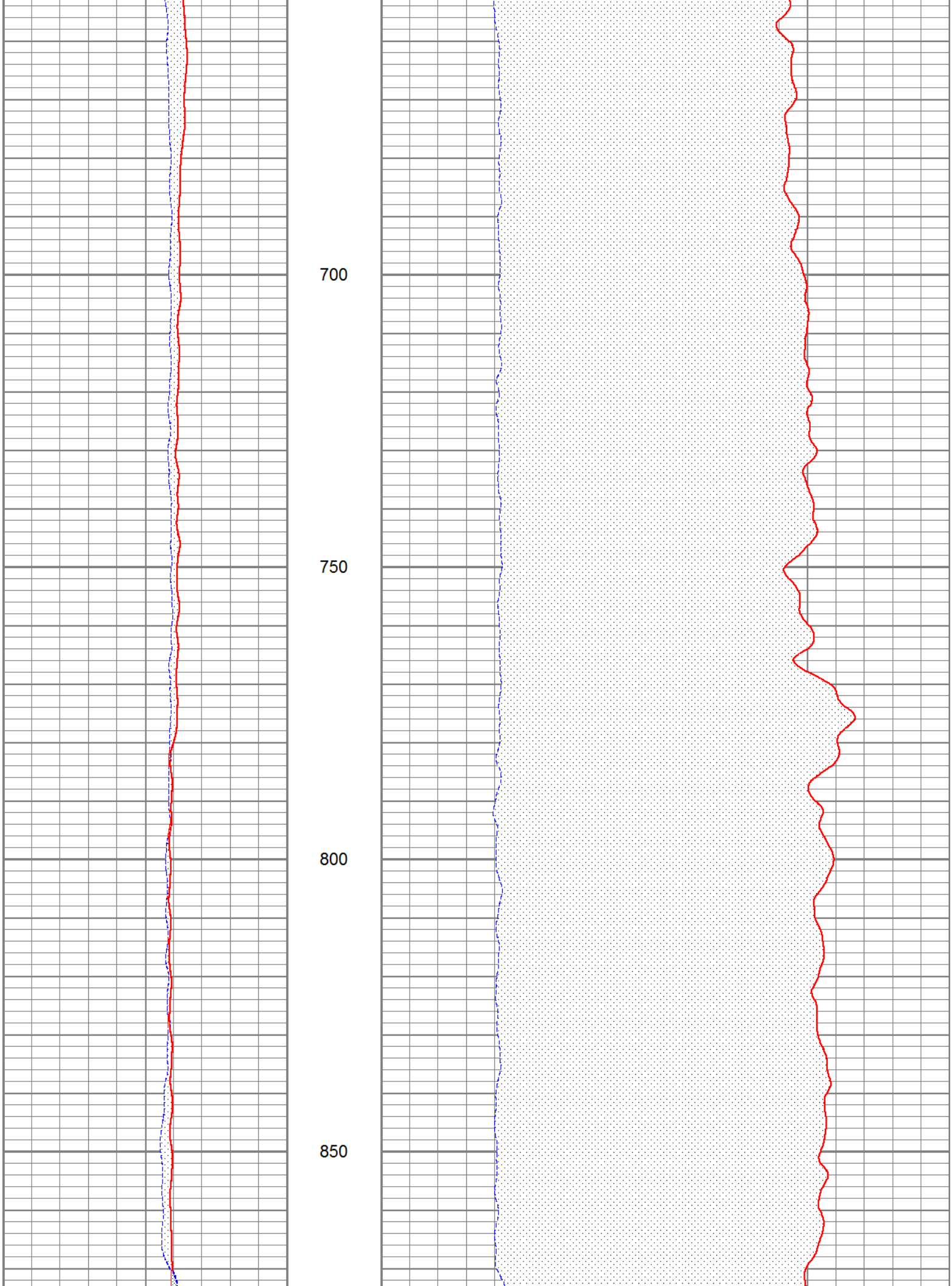
FLOWRATE = 1,180 GPM

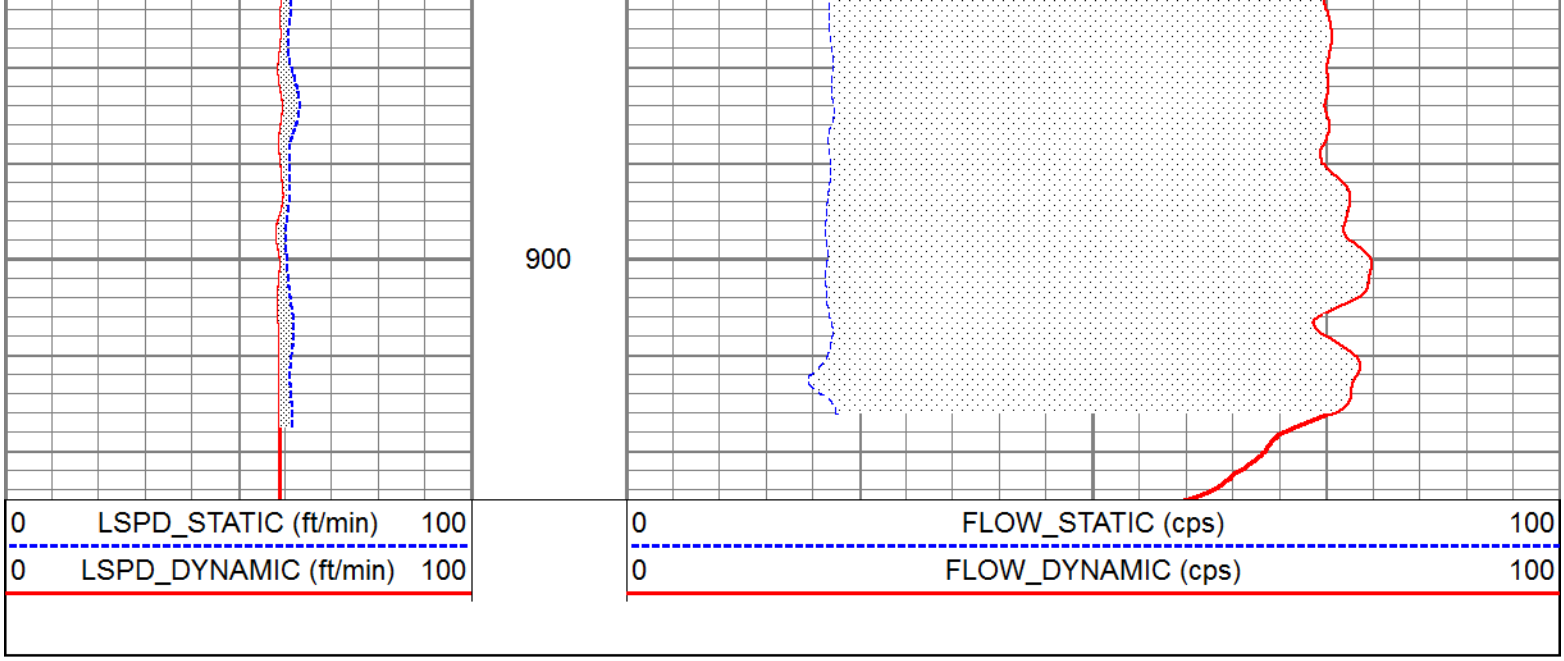
Database File: kisspoc109.db
Dataset Pathname: run3/FMDY60
Presentation Format: flow_mg
Dataset Creation: Fri Apr 27 19:17:39 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



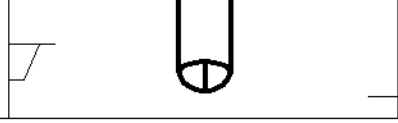

0 LSPD_DYNAMIC (ft/min) 100
0 FLOW_DYNAMIC (cps) 100
250
300
350
400


450
500
550
600
650


700
750
800
850



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CBLINLINE	3.00	1.50	10.00
			FLOWMETER-TITAN (TITAN_3") TITIN_3'	3.00	1.69	25.00

FLOWP FLOWN	0.25 0.25					

Dataset:	kisspoc109.db: field/well/run3/FMSTAT305
Total Length:	7.00 ft
Total Weight:	40.00 lb
O.D.	1.69 in

ALLWEBBS ENTERPRISES, INC.

X-Y CALIPER GAMMA RAY LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA
Date	20-JUN-2012
Run Number	FIVE
Depth Driller	1491'
Depth Logger	1493'
Bottom Logged Interval	1493'
Top Log Interval	CASING
Open Hole Size	19"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'
FOUR	25"	CASING	910'

Borehole Record

Run Number	Bit	From	To
FIVE	19"	CASING	1491'

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner				

<<< Fold Here >>>

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

Comments

ABHV COMPUTED WITH 12" CASING
(BBLS & 3FT)

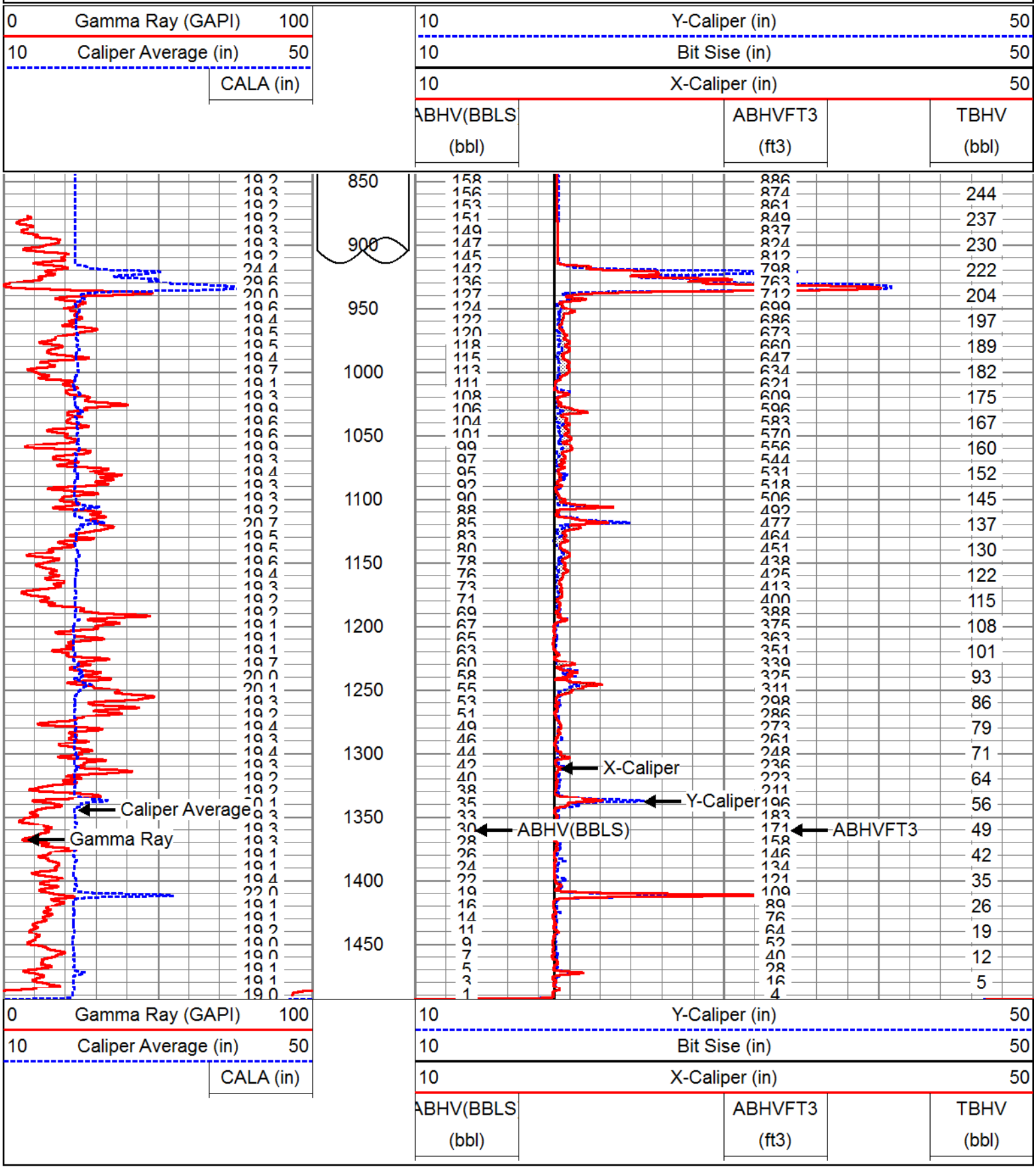
FLOWMETER
DEVIATION
RES/GR/SP
BHC/SONIC/VDL
DIL/SP/GR
FCT
DHTVS

ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

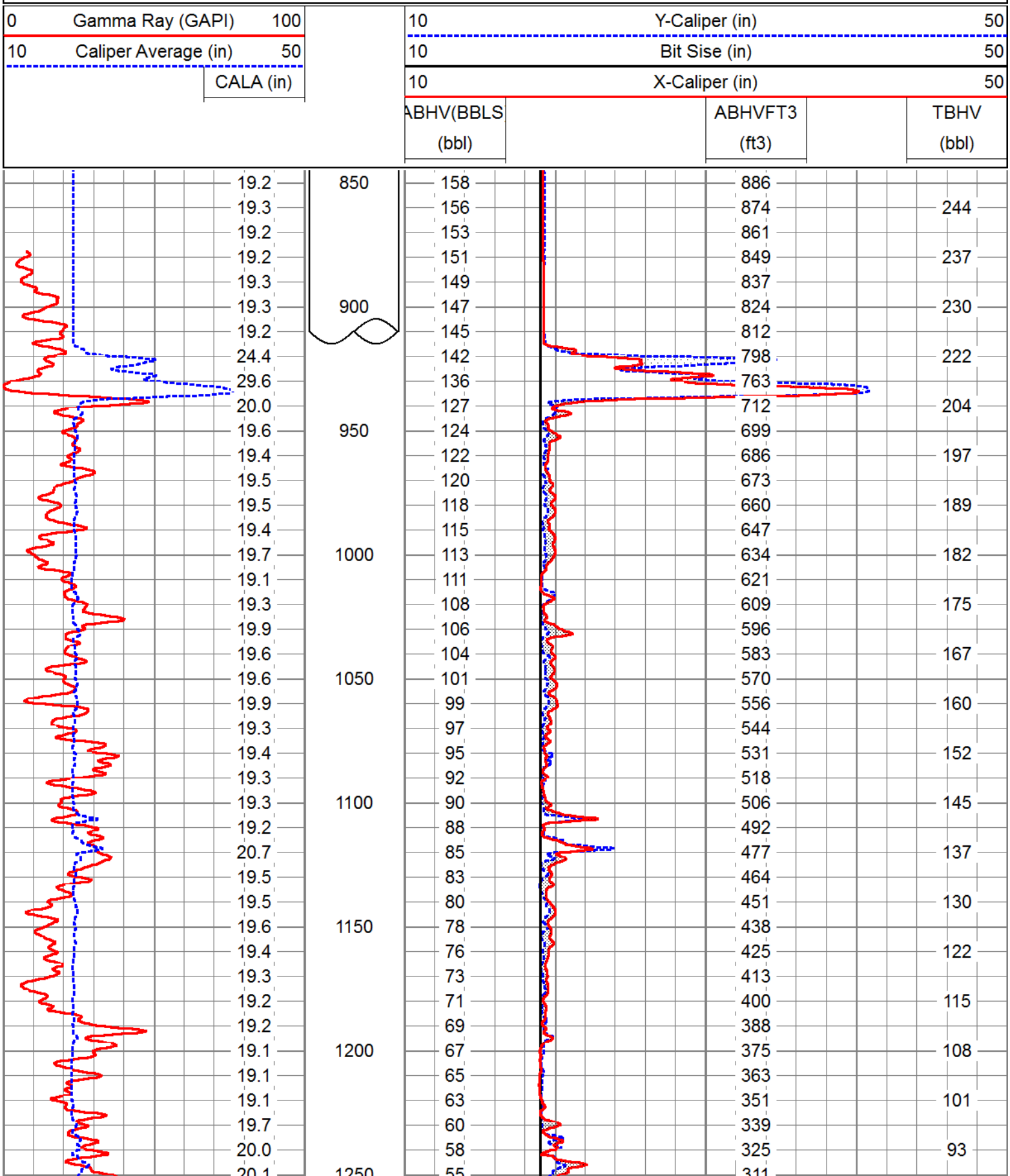
Database File: kisspoc109.db
Dataset Pathname: run5/XYCMP2
Presentation Format: xyc_abhv
Dataset Creation: Wed Jun 20 21:30:48 2012 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:1200

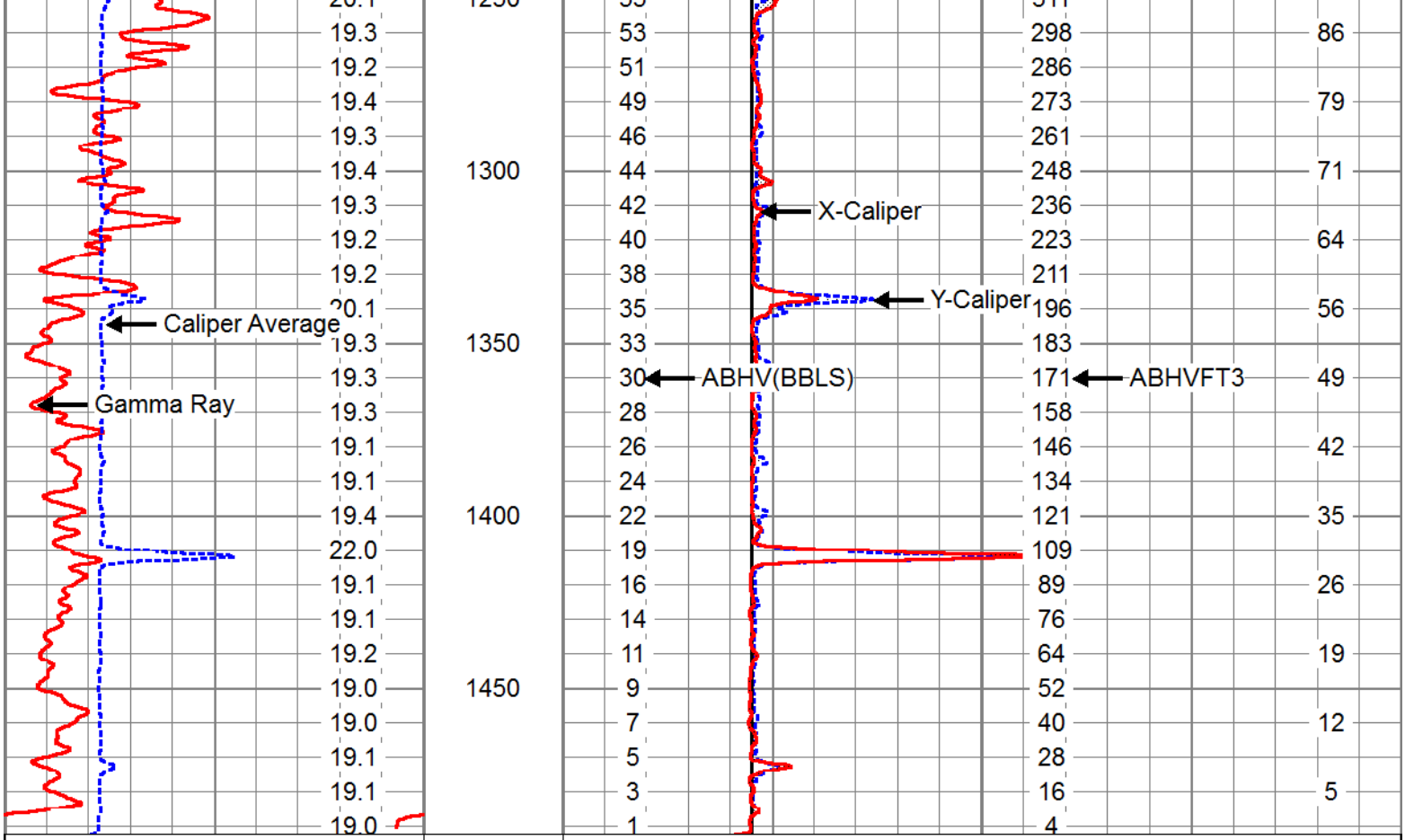


MAIN PASS

MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5/XYCMP2
Presentation Format:	xyc_abhv
Dataset Creation:	Wed Jun 20 21:30:48 2012 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:600





0	Gamma Ray (GAPI)	100
10	Caliper Average (in)	50
	CALA (in)	

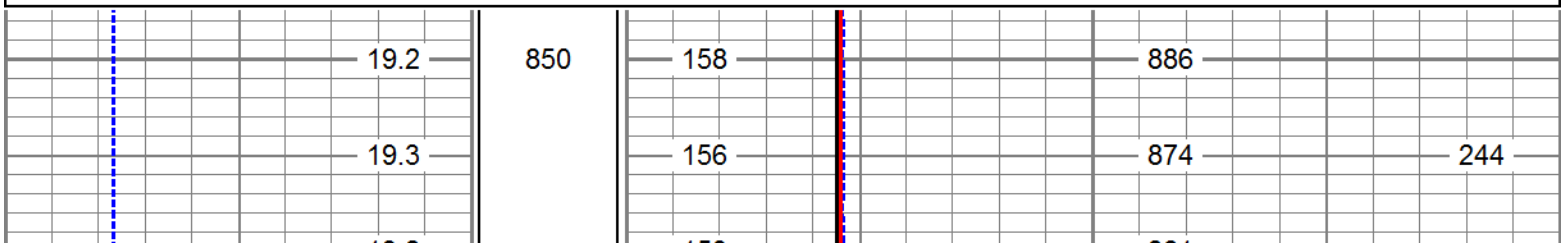
10	Y-Caliper (in)	50
10	Bit Sise (in)	50
10	X-Caliper (in)	50
ABHV(BBLS (bbl)	ABHVFT3 (ft3)	TBHV (bbl)

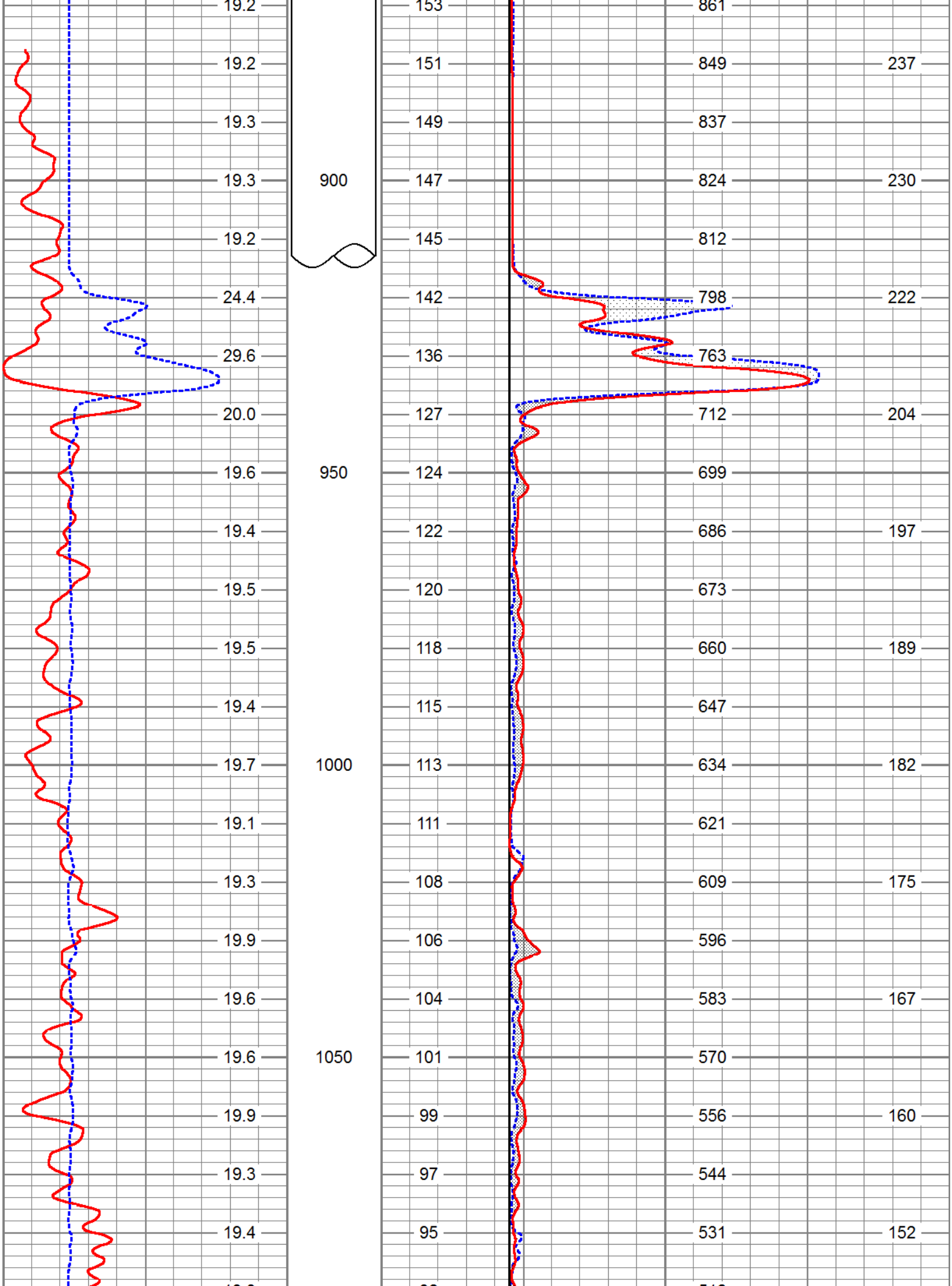
MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5/XYCMP2
Presentation Format:	xyc_abhv
Dataset Creation:	Wed Jun 20 21:30:48 2012 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	100
10	Caliper Average (in)	50
	CALA (in)	

10	Y-Caliper (in)	50
10	Bit Sise (in)	50
10	X-Caliper (in)	50
ABHV(BBLS (bbl)	ABHVFT3 (ft3)	TBHV (bbl)




19.2
19.2
19.3
19.3
900
19.2
24.4
29.6
20.0
19.6
950
19.4
19.5
19.5
19.4
19.7
1000
19.1
19.3
19.9
19.6
19.6
1050
19.9
19.3
19.4
153
151
149
147
145
142
136
127
124
122
120
118
115
113
111
108
106
104
101
99
97
95
861
849
837
824
812
798
763
712
699
686
673
660
647
634
621
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583
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531
237
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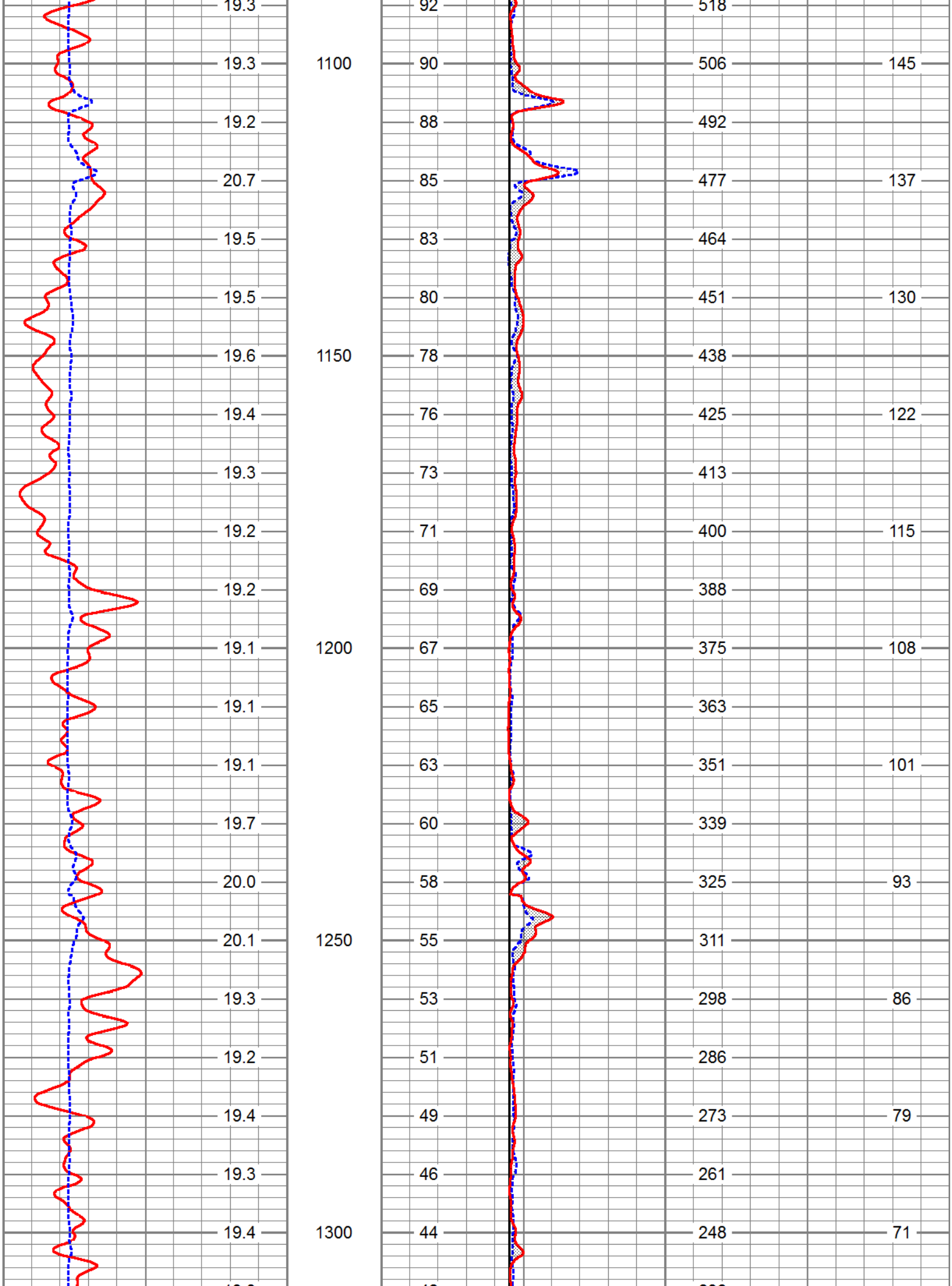
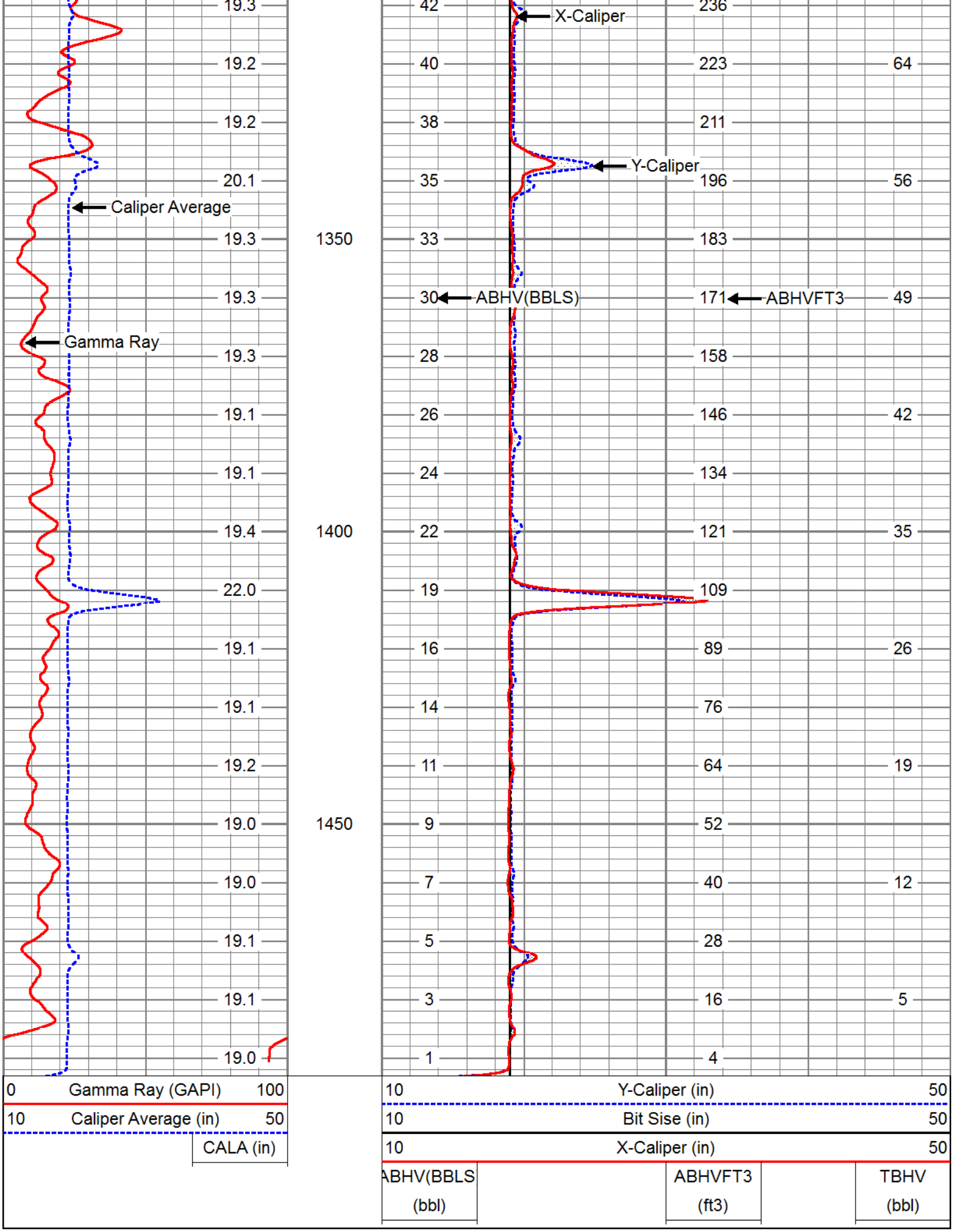
189
182
175
167
160
152


19.3
92
518
19.3
1100
90
506
145
19.2
88
492
20.7
85
477
137
19.5
83
464
19.5
80
451
130
19.6
1150
78
438
19.4
76
425
122
19.3
73
413
19.2
71
400
115
19.2
69
388
19.1
1200
67
375
108
19.1
65
363
19.1
63
351
101
19.7
60
339
20.0
58
325
93
20.1
1250
55
311
19.3
53
298
86
19.2
51
286
19.4
49
273
79
19.3
46
261
19.4
1300
44
248
71

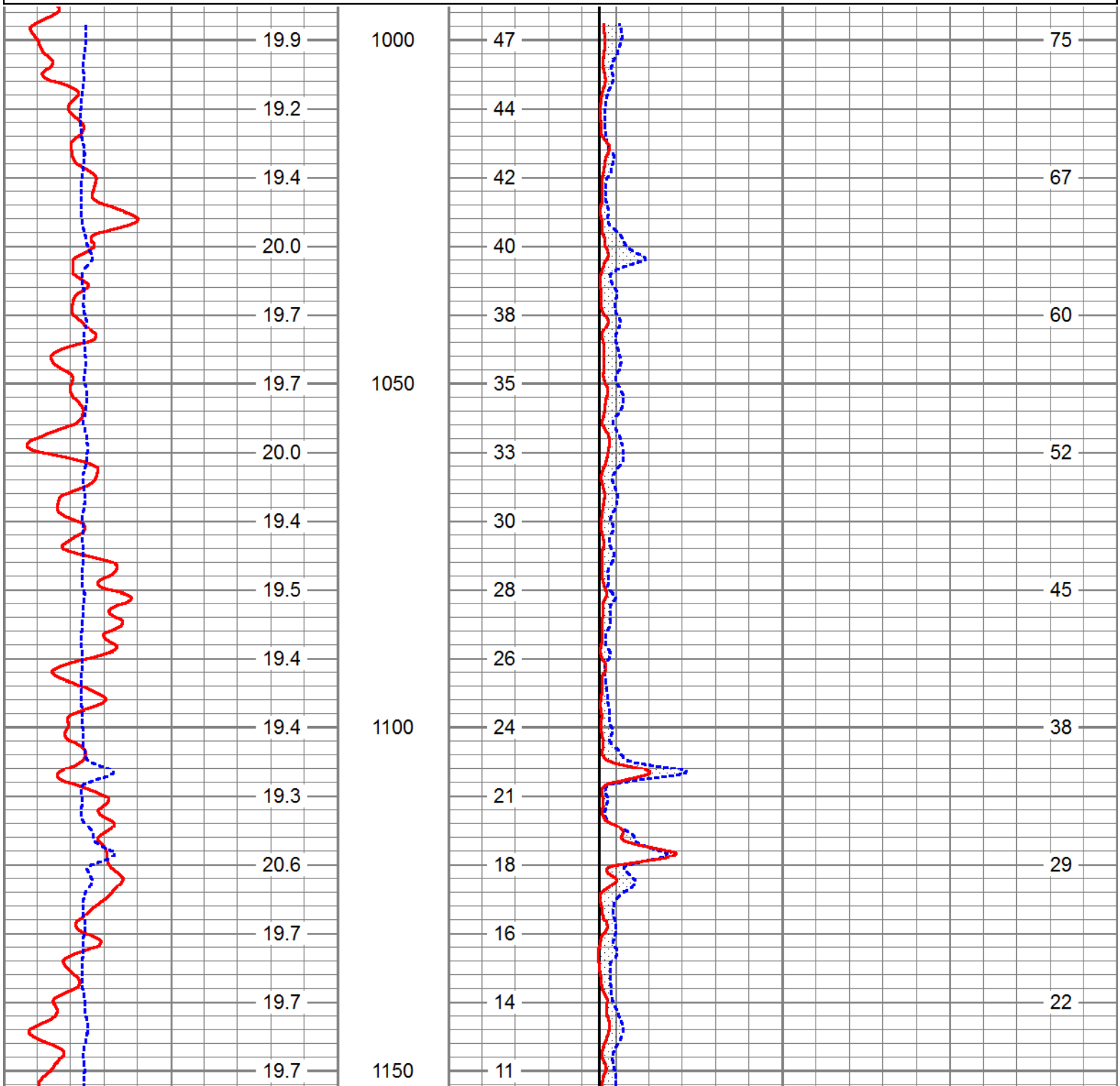

X-Caliper
Y-Caliper
Caliper Average
Gamma Ray
ABHV(BBLS)
ABHVFT3
19.3
19.2
19.2
20.1
19.3
19.3
19.3
19.1
19.1
19.4
22.0
19.1
19.1
19.2
19.0
19.0
19.1
19.1
19.0
1350
1400
1450
42
40
38
35
33
30
28
26
24
22
19
16
14
11
9
7
5
3
1
236
223
211
196
183
171
158
146
134
121
109
89
76
64
52
40
28
16
4
64
56
49
42
35
26
19
12
5
0 Gamma Ray (GAPI) 100
10 Caliper Average (in) 50
CALA (in)
10 Y-Caliper (in) 50
10 Bit Sise (in) 50
10 X-Caliper (in) 50
ABHV(BBLS (bbl)
ABHVFT3 (ft3)
TBHV (bbl)

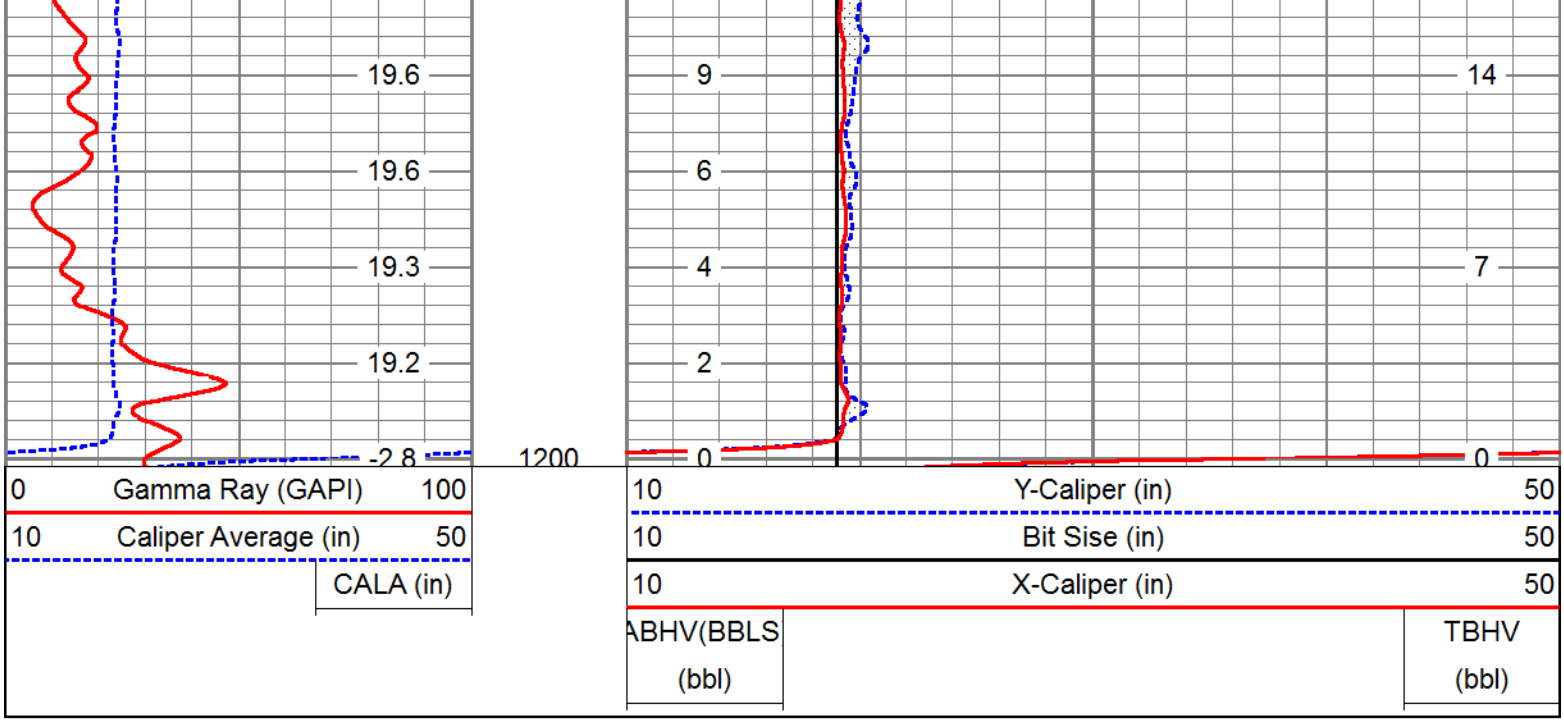
REPEAT PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5/XYCRP
Presentation Format:	xyc_abhv
Dataset Creation:	Wed Jun 20 12:01:11 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	100
10	Caliper Average (in)	50
	CALA (in)	

10	Y-Caliper (in)	50
10	Bit Sise (in)	50
10	X-Caliper (in)	50
ABHV(BBLS (bbl)		TBHV (bbl)





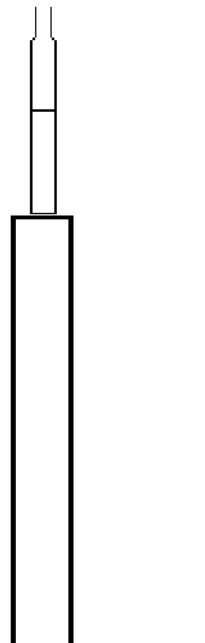
Calibration Report

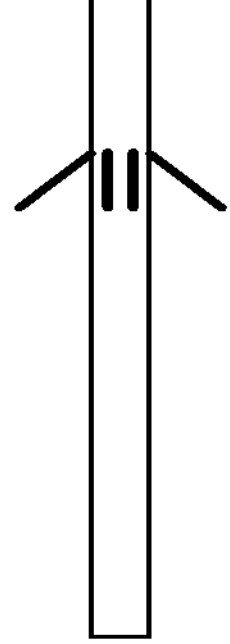
Database File: kisspoc109.db
Dataset Pathname: run5/XYCMP2
Dataset Creation: Wed Jun 20 21:30:48 2012 by Calc Open-Cased 071220

XY Caliper Calibration Report

Serial Number/Model: Probe1-Probe
Performed: Thu May 12 00:30:11 2011

	Ring		X Caliper		Y Caliper	
1:	6	in	348.775	cps	381.802	cps
2:	15.25	in	470.605	cps	518.279	cps
3:	19.25	in	542.8	cps	590.2	cps
4:		in		cps		cps
5:		in		cps		cps
6:		in		cps		cps

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

			XYC-Probe (Probe1) Probe _AWE-XY Caliper SM	5.17	3.50	99.00
XCAL YCAL	0.75 0.75					

Dataset:	kisspoc109.db: field/well/run5/XYCMP2
Total Length:	6.17 ft
Total Weight:	104.00 lb
O.D.	3.50 in

ALLWEBBS ENTERPRISES, INC.

DUAL INDUCTION GAMMA RAY LOG

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well POC#109

Field KISSIMMEE BASIN (LFA-C)

County OSCEOLA State FLORIDA

Location: API # :

SEC TWP RGE

Permanent Datum PAD Elevation

Log Measured From PAD

Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Date	20-JUN-2012							
Run Number	FIVE							
Depth Driller	1491'							
Depth Logger	1493'							
Bottom Logged Interval	1493'							
Top Log Interval	CASING							
Open Hole Size	19"							
Type Fluid	WATER							
Density / Viscosity	NA							
Max. Recorded Temp.	NA							
Estimated Cement Top	NA							
Time Well Ready	00:00							
Time Logger on Bottom	00:00							
Equipment Number	VA-202							
Location	JUPTIER							
Recorded By	LEE							
Witnessed By								

Borehole Record					Borehole Record			
Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	12.25"	CASING	303'	FIVE	19"	CASING	1491'
TWO	32"	CASING	303'				
THREE	12.25"	CASING	920'				
FOUR	25"	CASING	910'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner				

<<< Fold Here >>>

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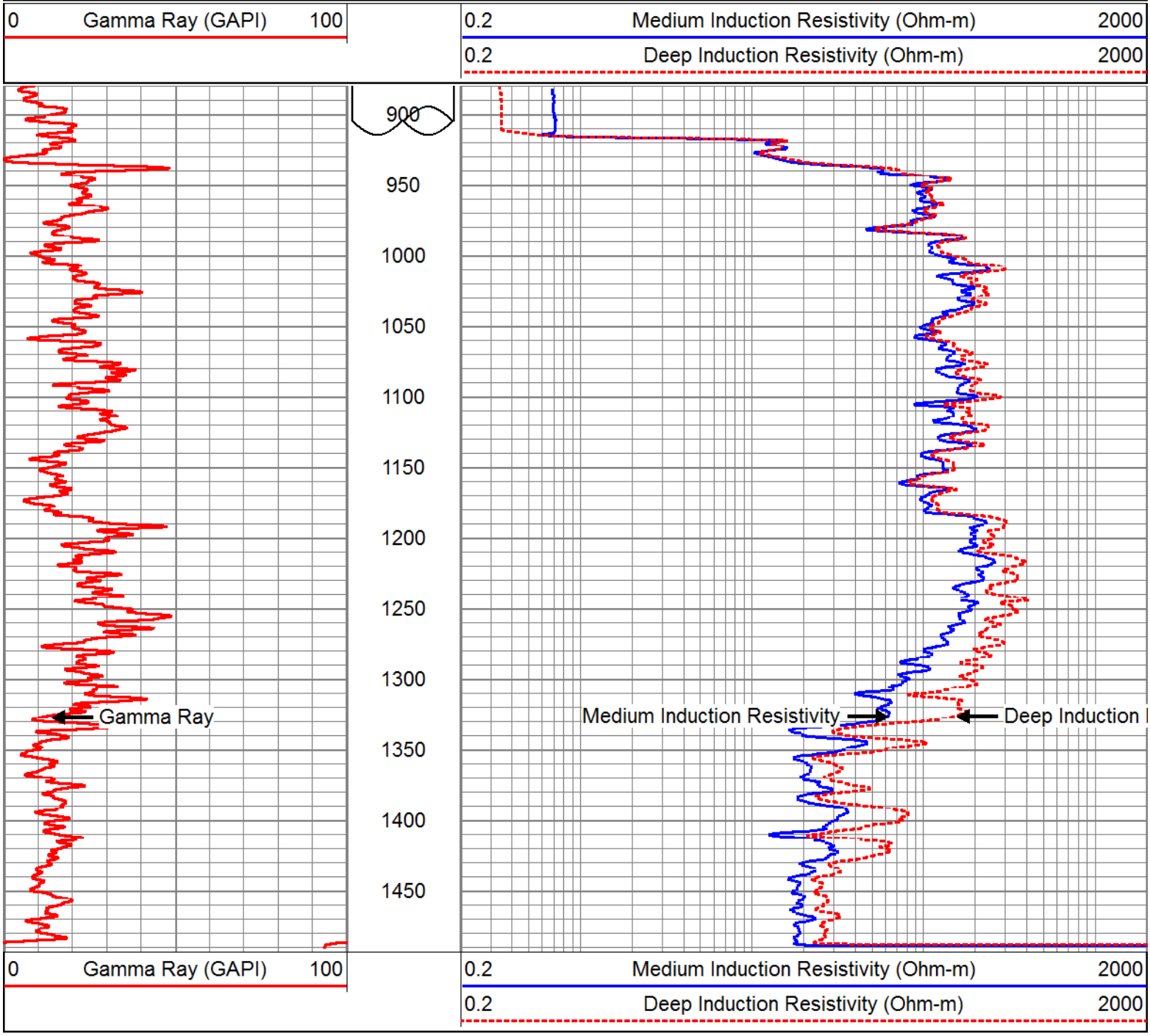
Comments

FLOWMETER
DEVIATION
RES/GR/SP
BHC/SONIC/VDL
XYC/GR
FCT
DHTVS

ALLWEBBS

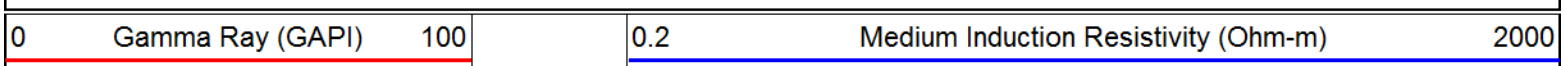
MAIN PASS

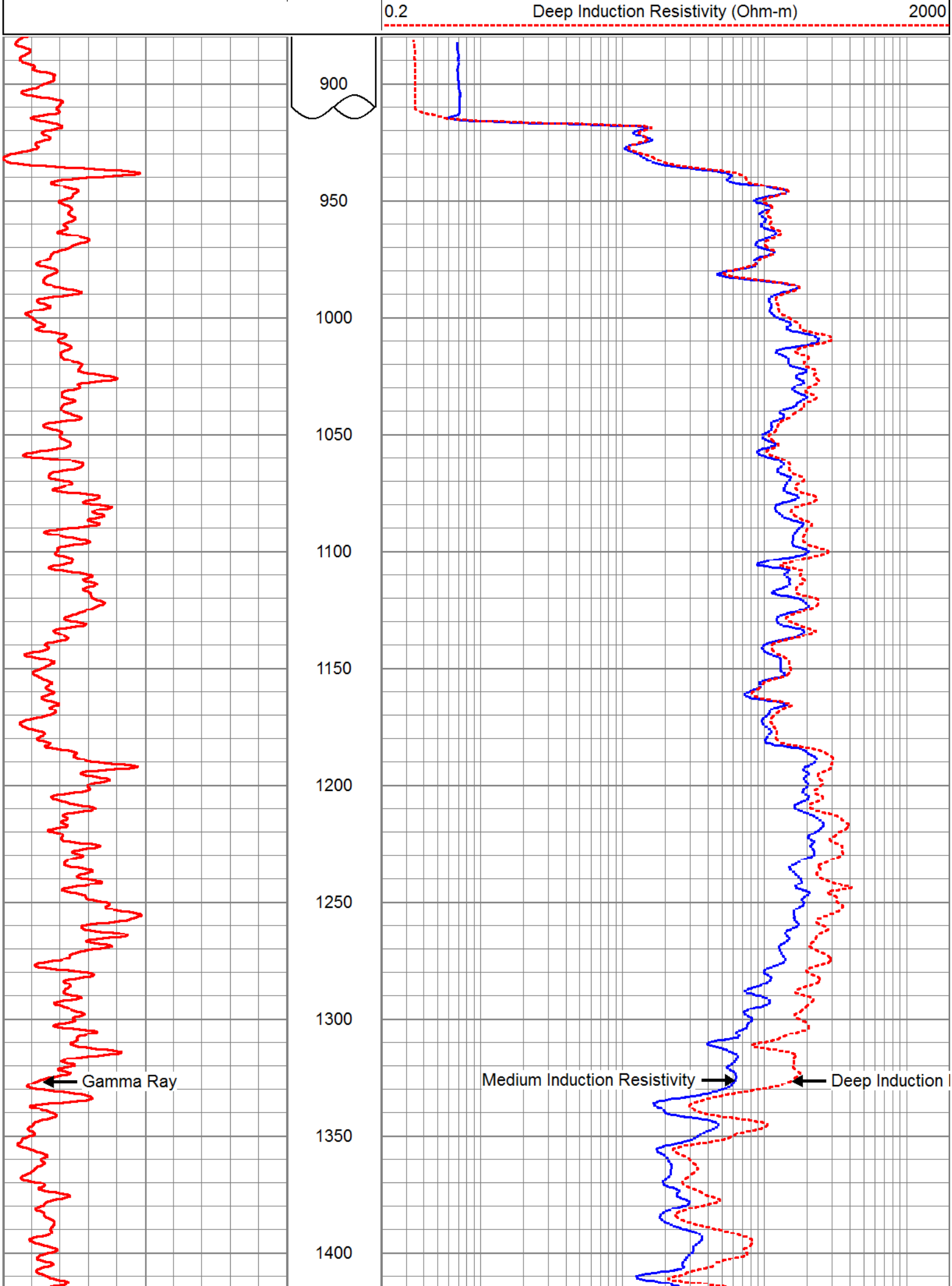
Database File:	kisspoc109.db
Dataset Pathname:	run5/DILMP1
Presentation Format:	dil
Dataset Creation:	Wed Jun 20 13:09:54 2012 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:1200

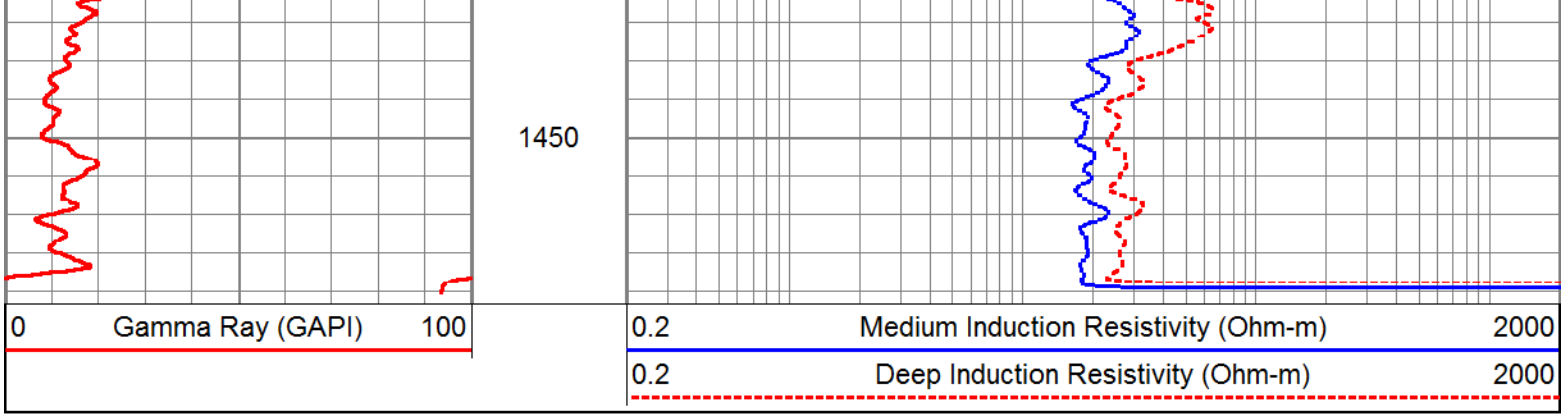


MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5/DILMP1
Presentation Format:	dil
Dataset Creation:	Wed Jun 20 13:09:54 2012 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:600

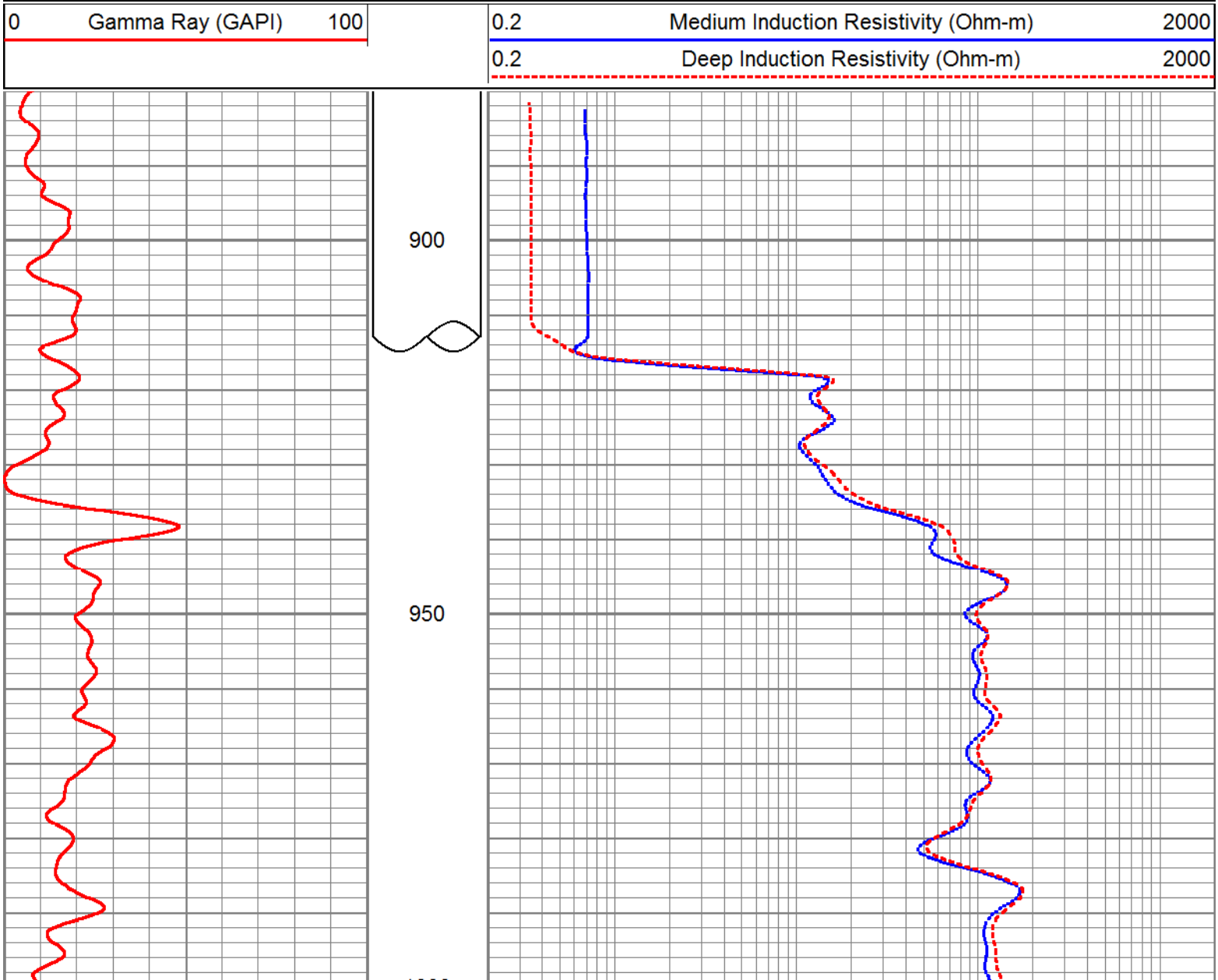


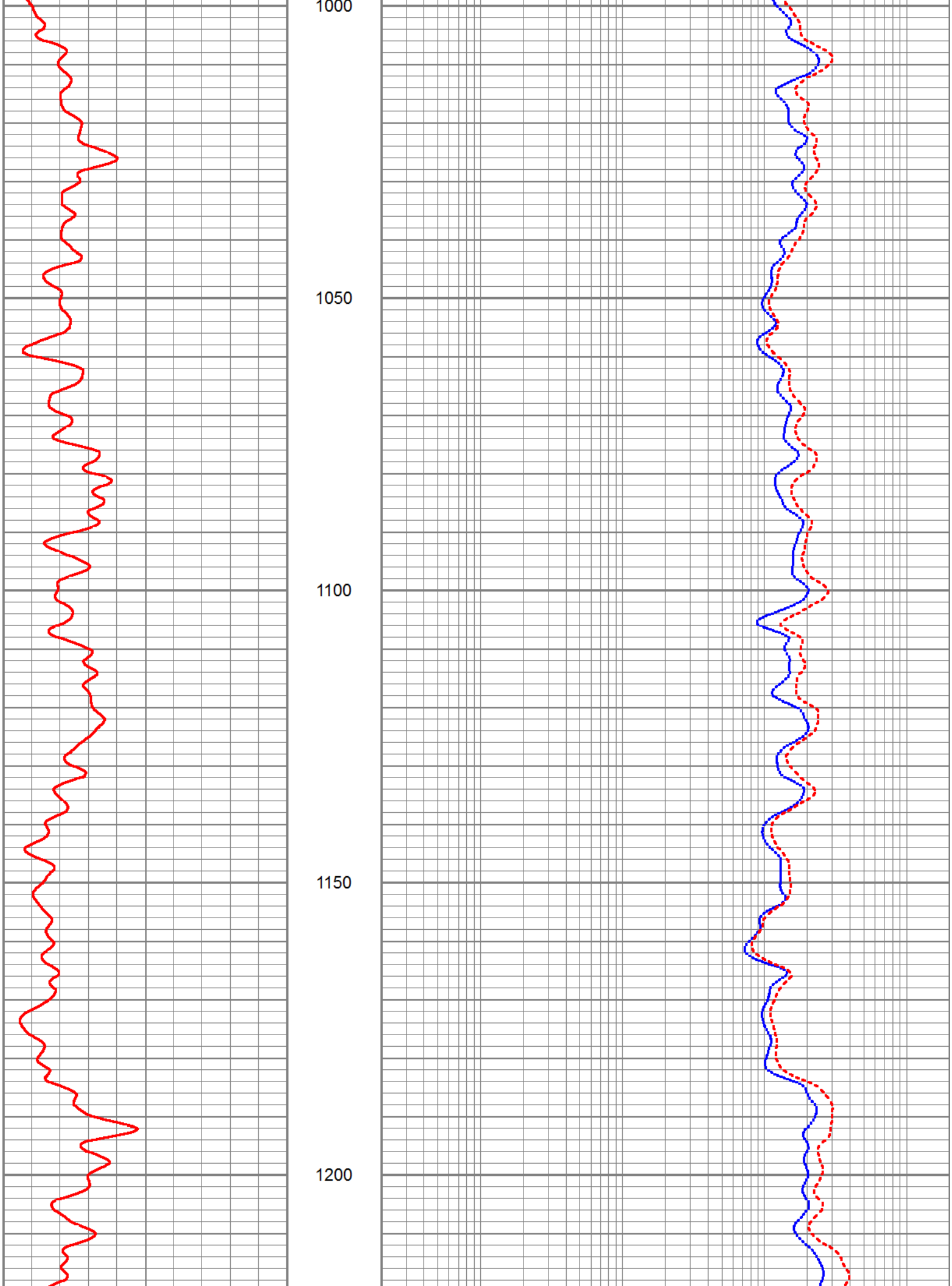

0.2
Deep Induction Resistivity (Ohm-m)
2000
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
Gamma Ray
Medium Induction Resistivity
Deep Induction

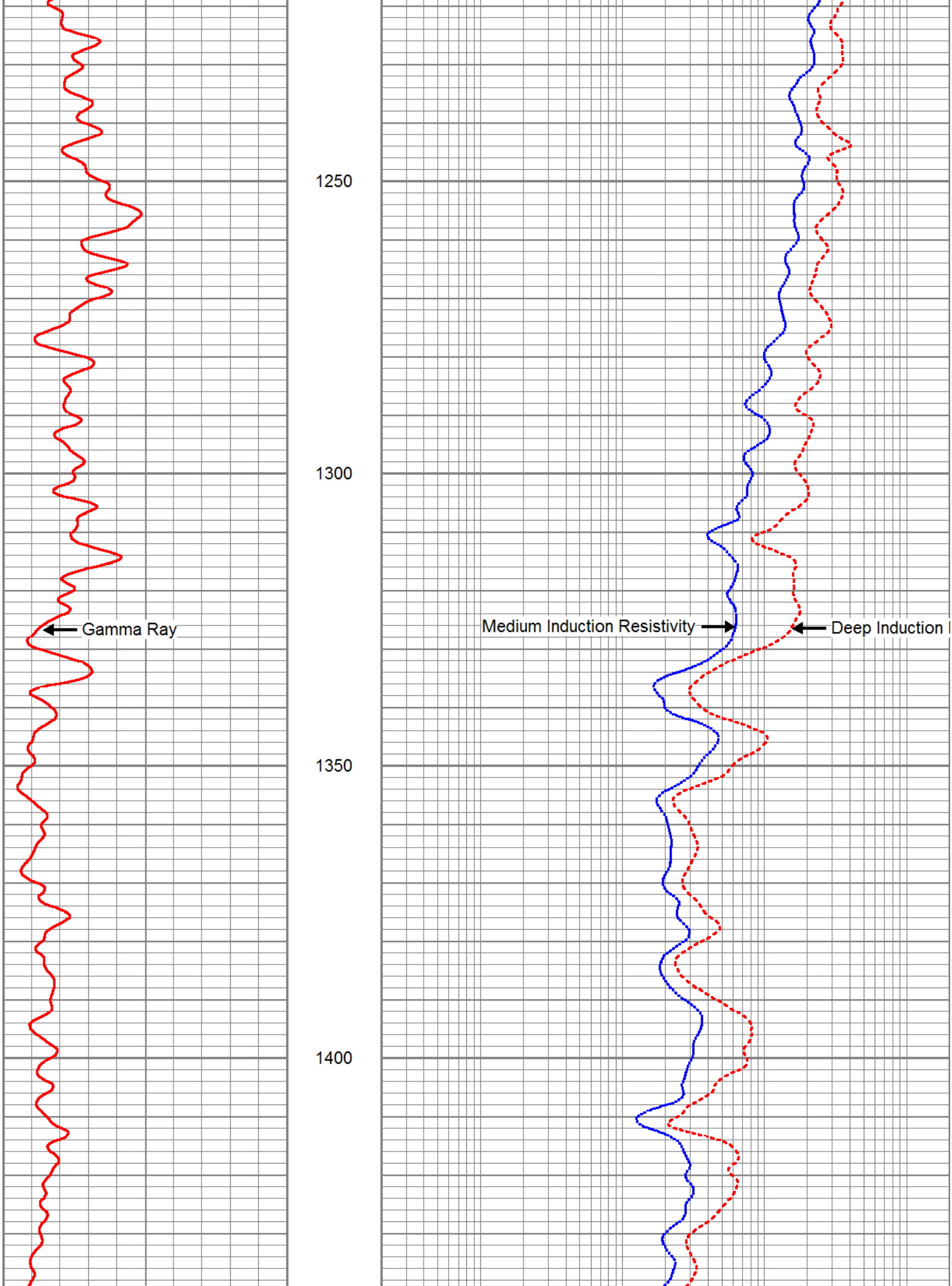


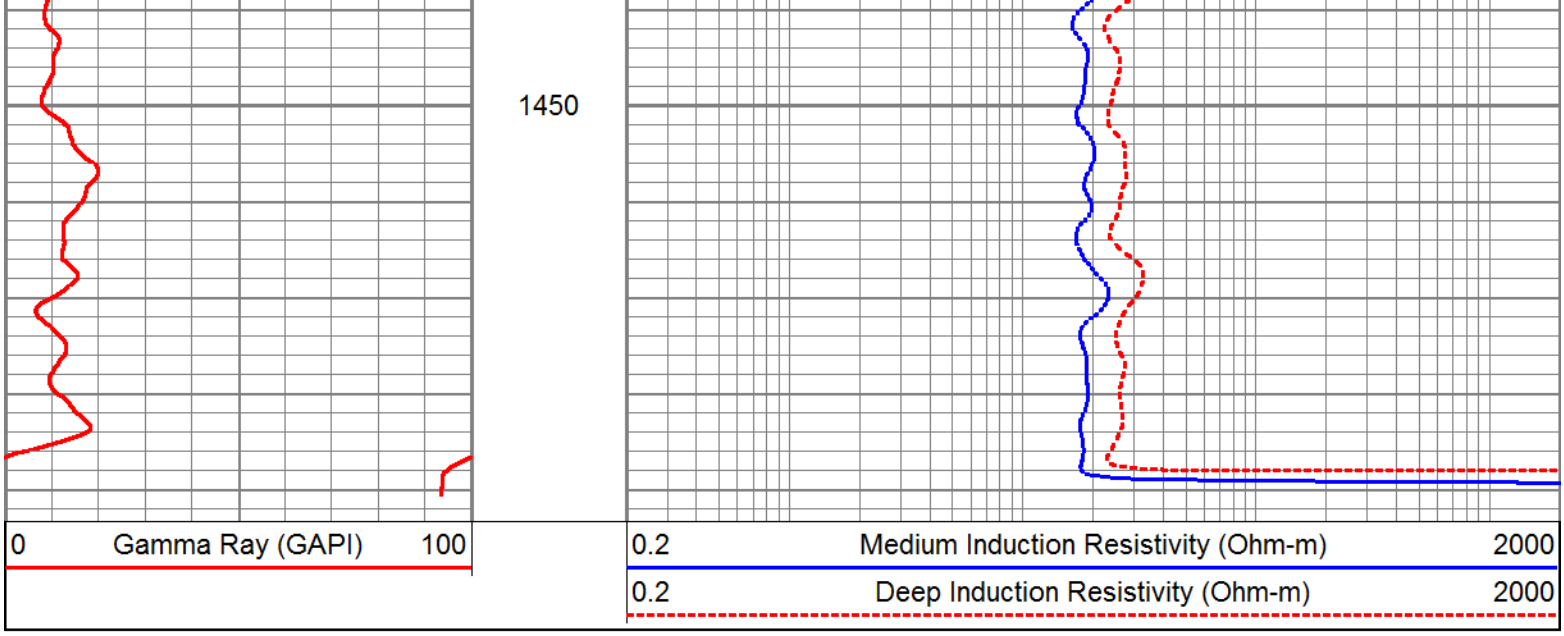
MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5/DILMP1
Presentation Format:	dil
Dataset Creation:	Wed Jun 20 13:09:54 2012 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240



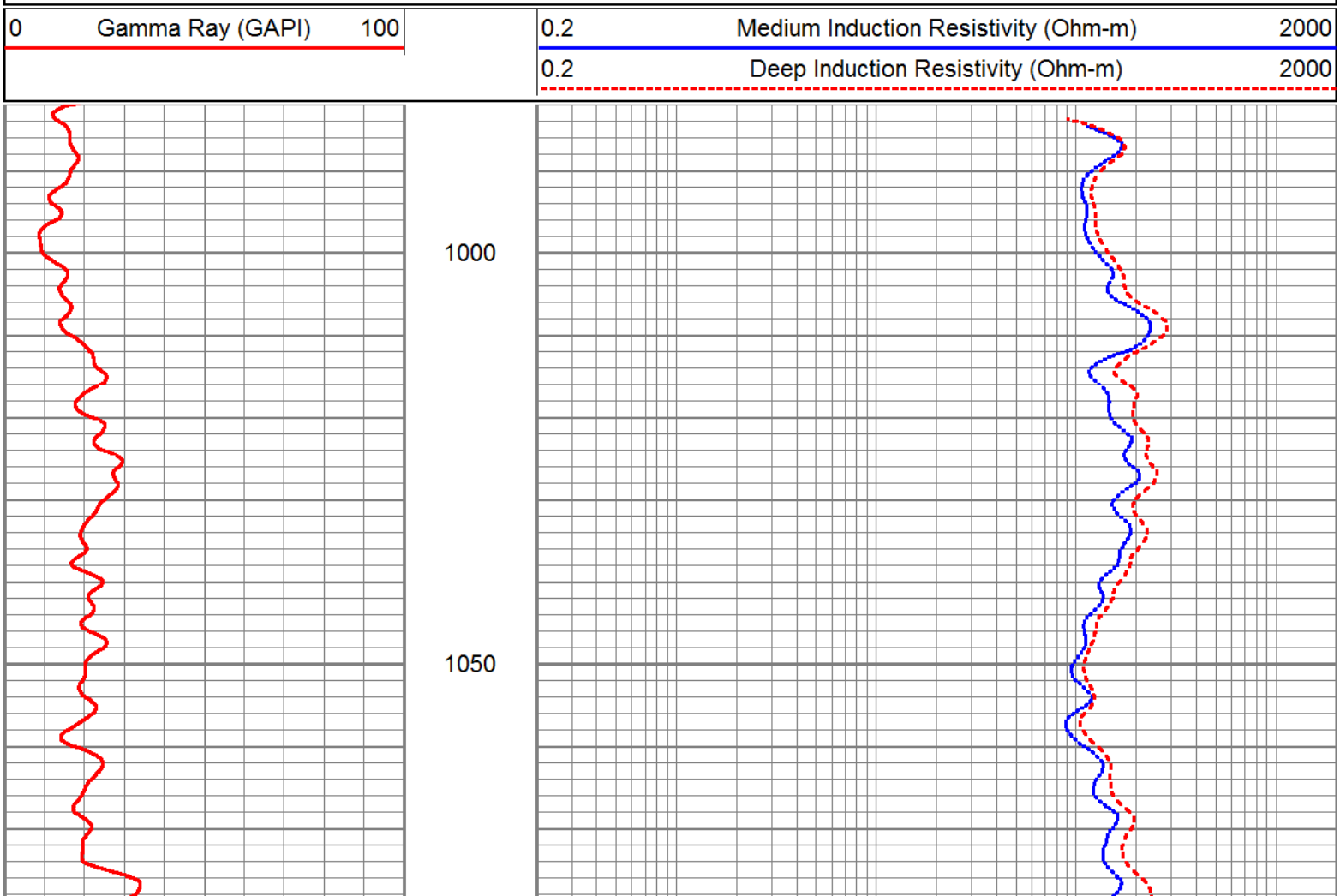

1000
1050
1100
1150
1200

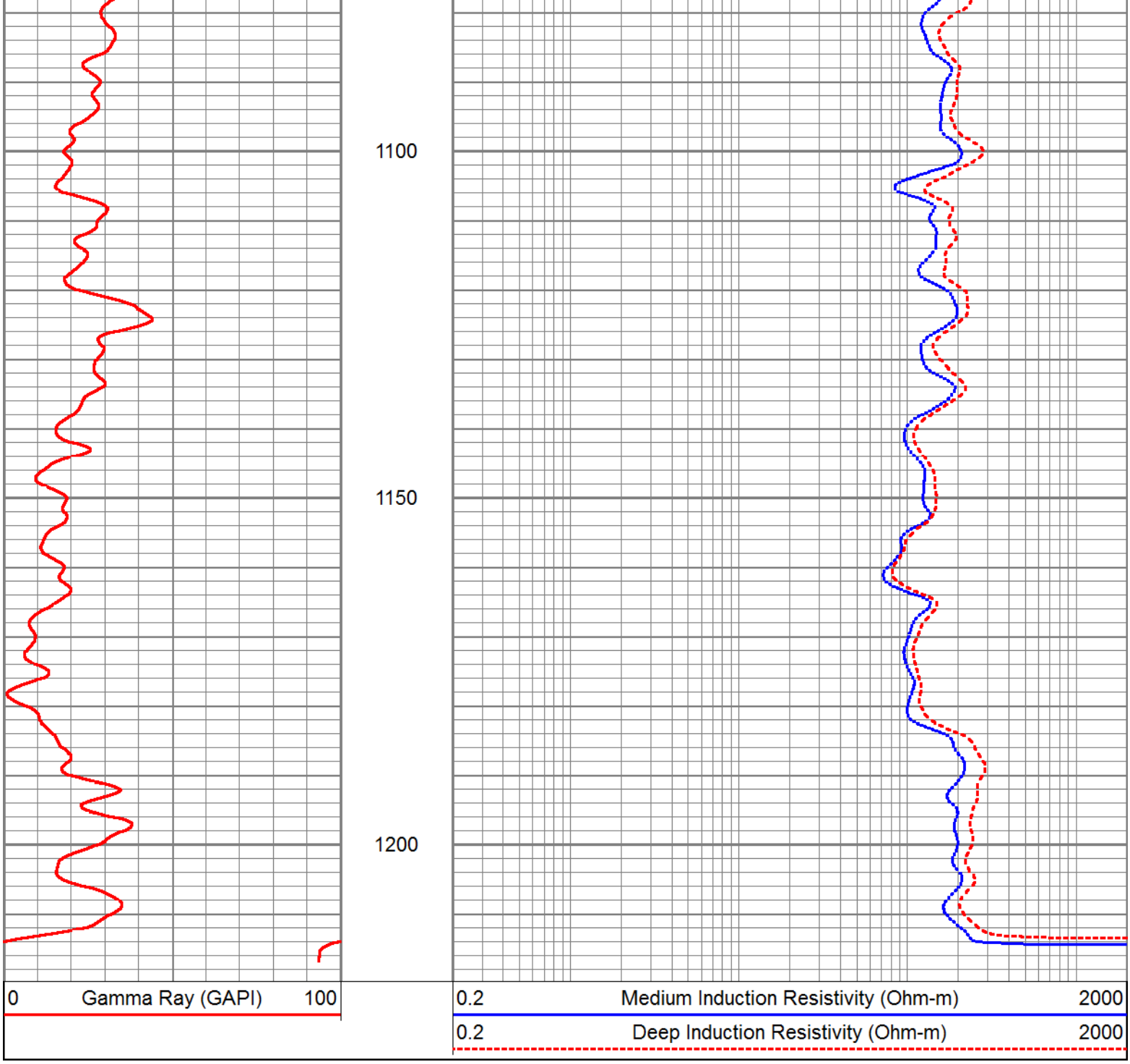

1250
1300
1350
1400
Gamma Ray
Medium Induction Resistivity
Deep Induction



REPEAT PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5/DILRP
Presentation Format:	dil
Dataset Creation:	Wed Jun 20 13:05:49 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240





Calibration Report

Database File: kisspoc109.db
Dataset Pathname: run5/DILMP1
Dataset Creation: Wed Jun 20 13:09:54 2012 by Calc Open-Cased 071220

Gamma Ray Calibration Report

Serial Number:	5562	
Tool Model:	6CHAN	
Performed:	Wed Jun 20 12:44:08 2012	
Calibrator Value:	120.0	GAPI
Background Reading:	3.5	
Calibrator Reading:	67.1	
Sensitivity:	1.8868	GAPI/

Dual Induction Calibration Report

Serial-Model: 5562-6CHAN
Surface Cal Performed:

Loop:	Readings Air	Readings Loop	References Air	References Loop		Results m	Results b
Deep	32134.400	41811.700	0.000	1650.000	mmho-m	0.171	-5478.970
Medium	33023.100	50028.000	0.000	3300.000	mmho-m	0.194	-6408.530

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	6.50		RGDILGR-6CHAN (5562) Robertson Geologging Dual Induction Gamma Ray	7.06	1.50	13.67
CILD	2.63					
CILM	1.54					

Dataset: kisspoc109.db: field/well/run5/DILMP1
Total Length: 7.06 ft
Total Weight: 13.67 lb

Total Weight:	15.07 lb
O.D.	1.50 in

RESISTIVITY GAMMA RAY LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA State FLORIDA
Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Date	20-JUN-2012
Run Number	FIVE
Depth Driller	1491'
Depth Logger	1493'
Bottom Logged Interval	1493'
Top Log Interval	CASING
Open Hole Size	19"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'
FOUR	25"	CASING	910'

Borehole Record

Run Number	Bit	From	To
FIVE	19"	CASING	1491'

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner				

<<< Fold Here >>>

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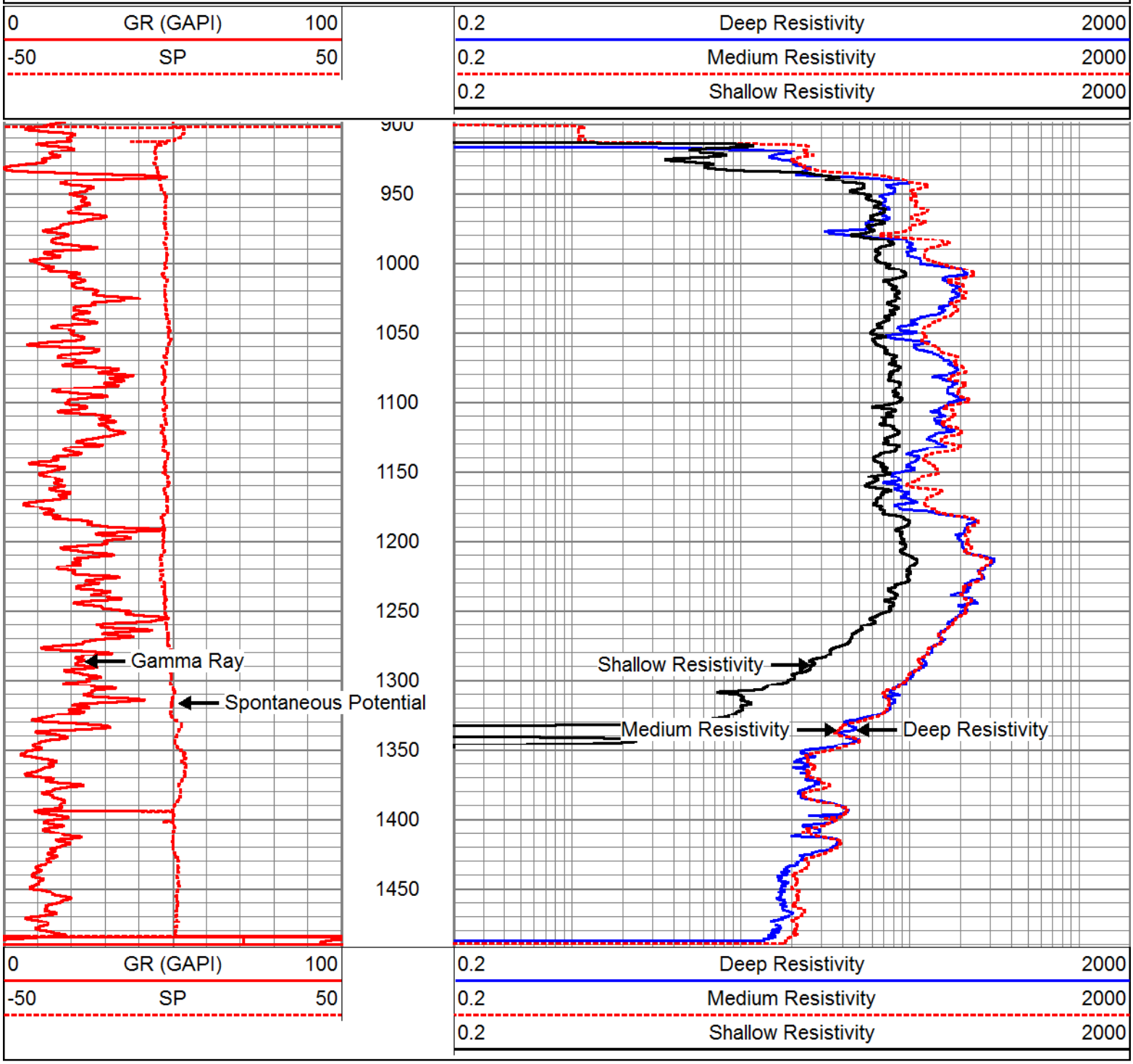
Comments

FLOWMETER
DEVIATION
DIL/GR
BHC/SONIC/VDL
XYC/GR
FCT
DHTVS

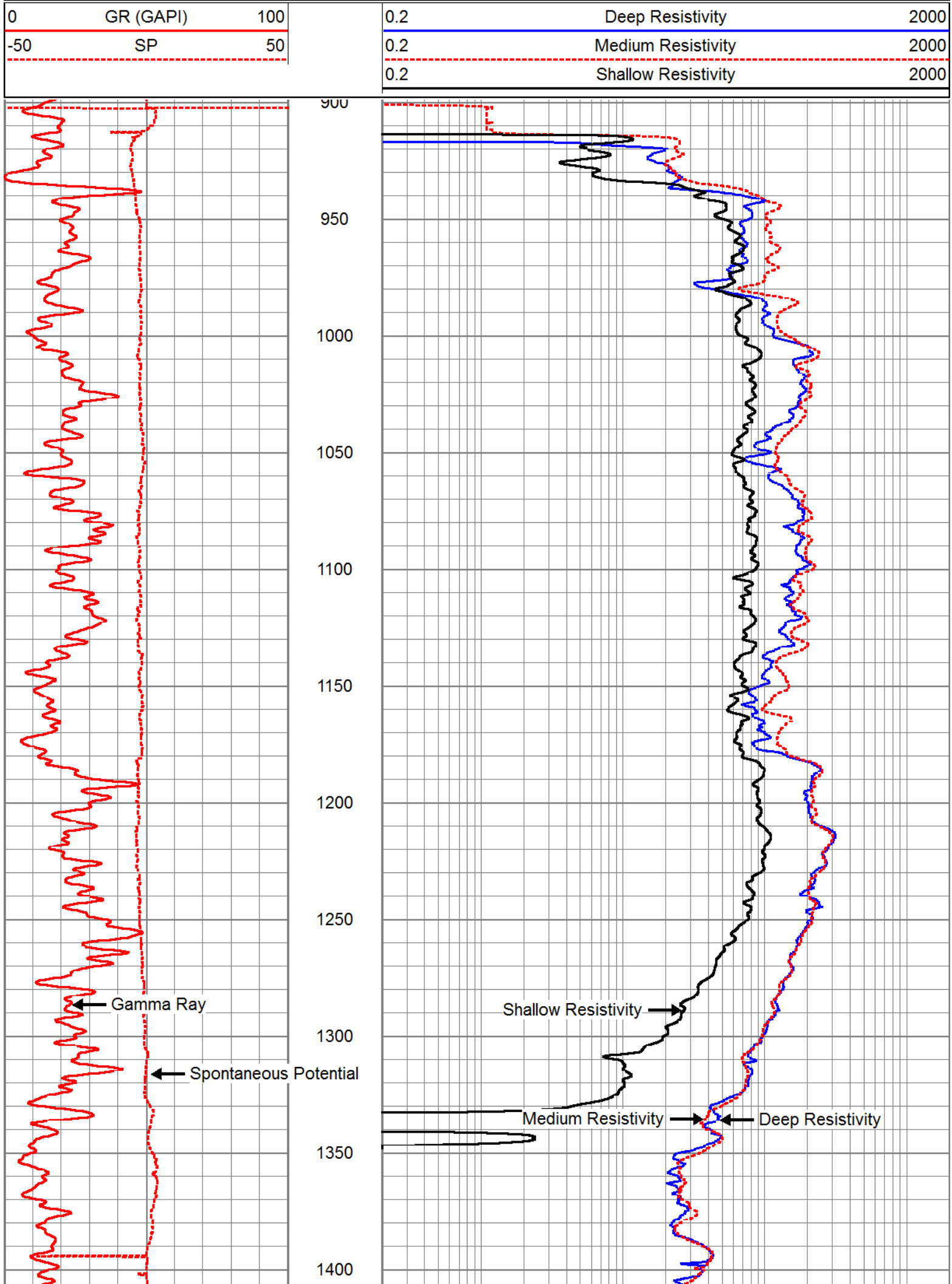
MAIN PASS

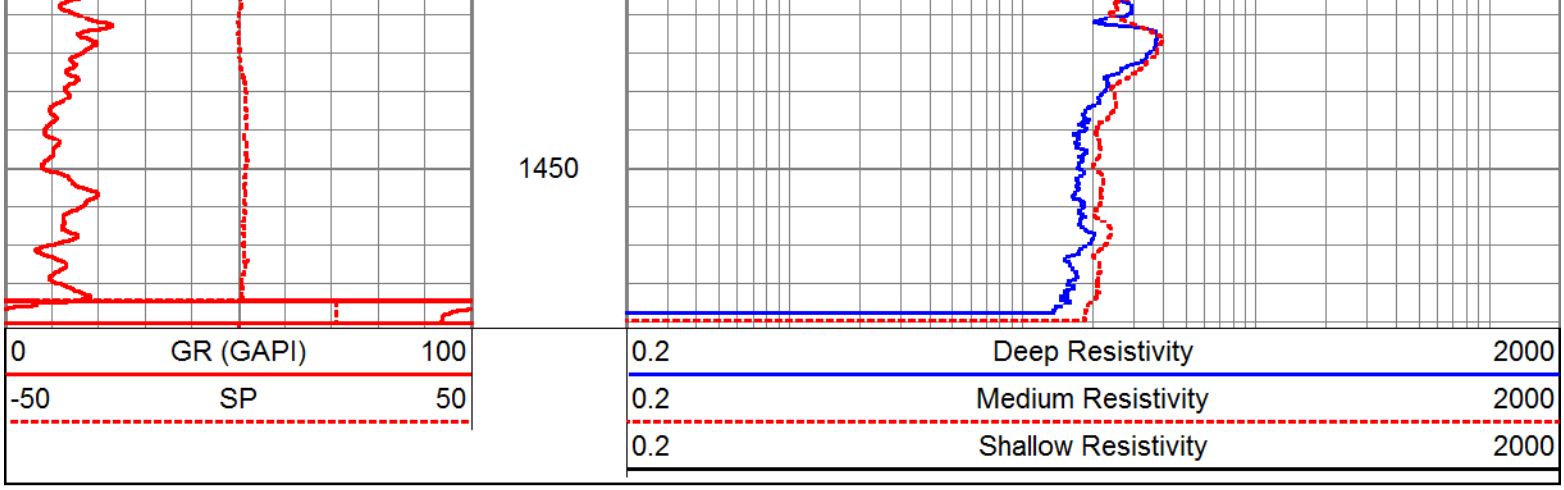
Database File:	kisspoc109.db
Dataset Pathname:	run5RESMP/@037107ea
Presentation Format:	res-cent
Dataset Creation:	Wed Jun 20 22:02:07 2012
Charted by:	Depth in Feet scaled 1:1200



MAIN PASS

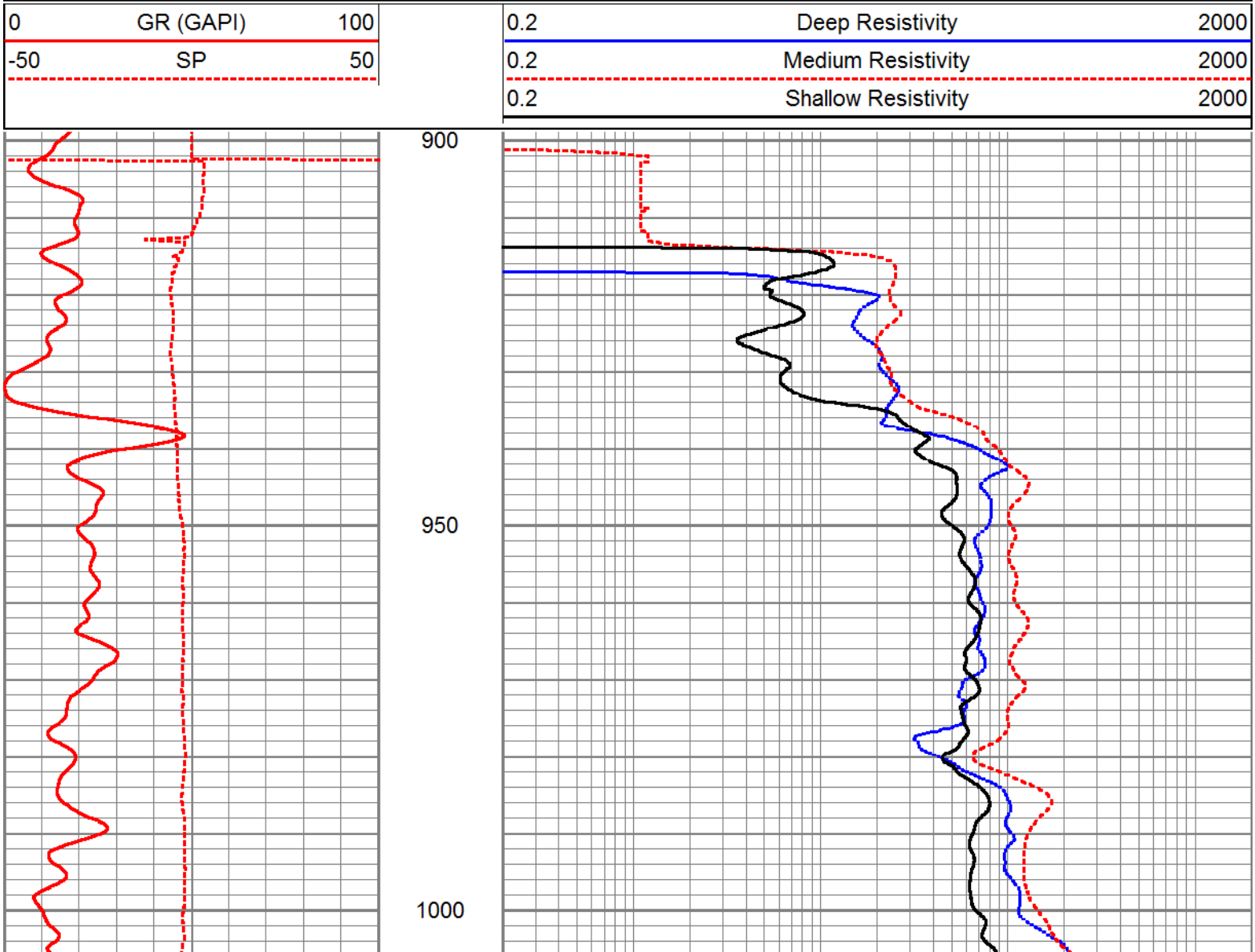
Database File:	kisspoc109.db
Dataset Pathname:	run5RESMP/@037107ea
Presentation Format:	res-cent
Dataset Creation:	Wed Jun 20 22:02:07 2012
Charted by:	Depth in Feet scaled 1:600

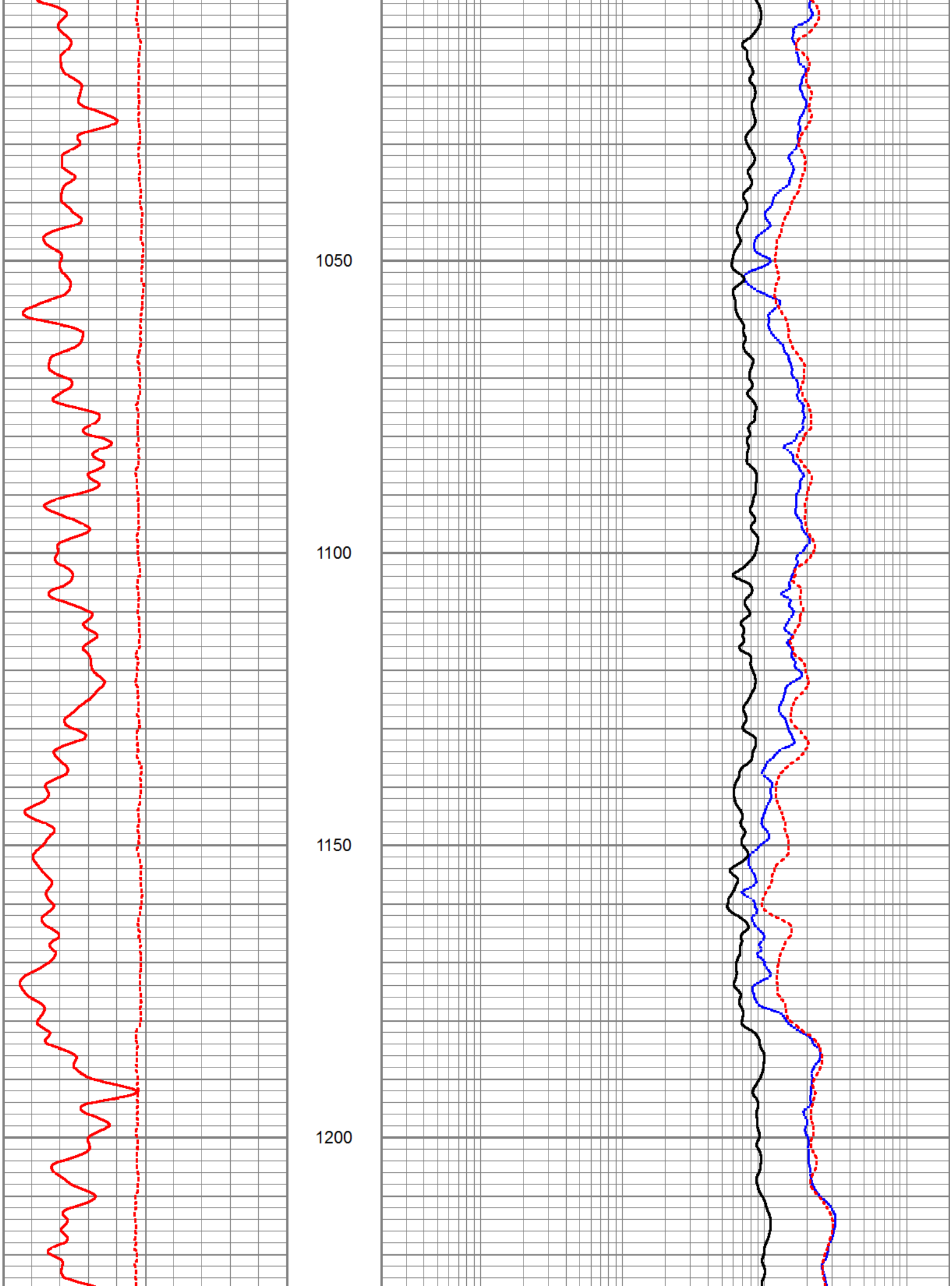

0
GR (GAPI)
100
-50
SP
50
0.2
Deep Resistivity
2000
0.2
Medium Resistivity
2000
0.2
Shallow Resistivity
2000
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
Gamma Ray
Spontaneous Potential
Shallow Resistivity
Medium Resistivity
Deep Resistivity

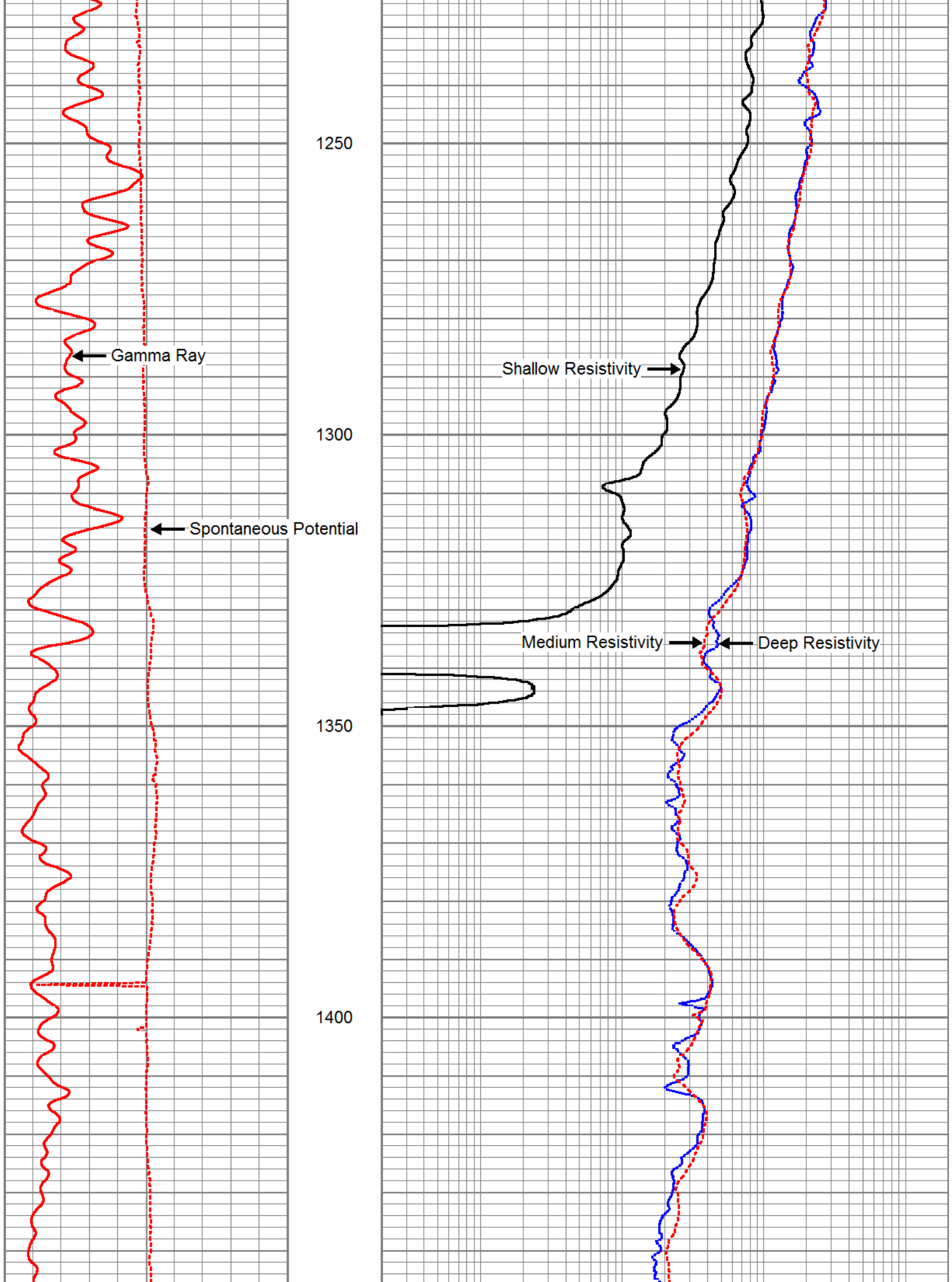


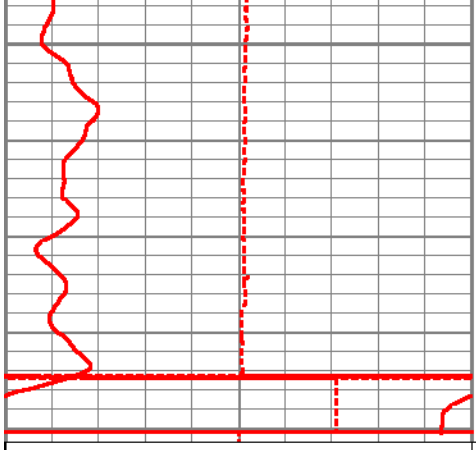
MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5RESMP/@037107ea
Presentation Format:	res-cent
Dataset Creation:	Wed Jun 20 22:02:07 2012
Charted by:	Depth in Feet scaled 1:240

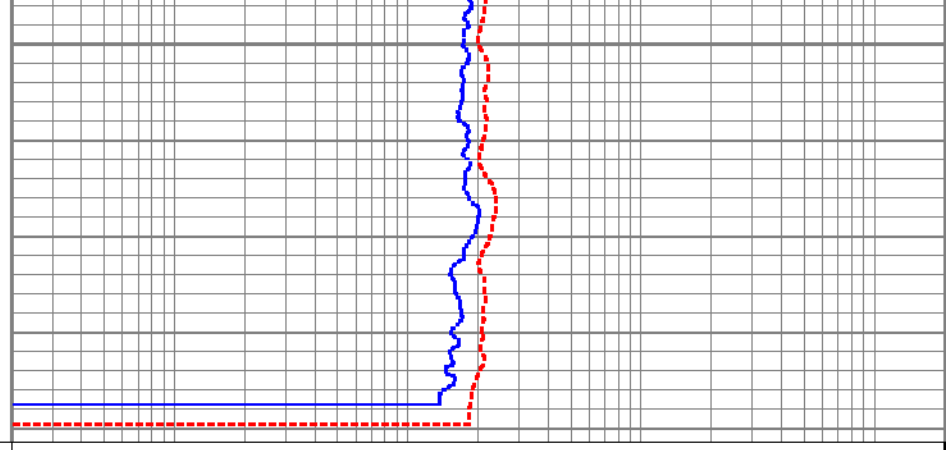



1050
1100
1150
1200


1250
1300
1350
1400
Gamma Ray
Spontaneous Potential
Shallow Resistivity
Medium Resistivity
Deep Resistivity



1450



0	GR (GAPI)	100
-50	SP	50

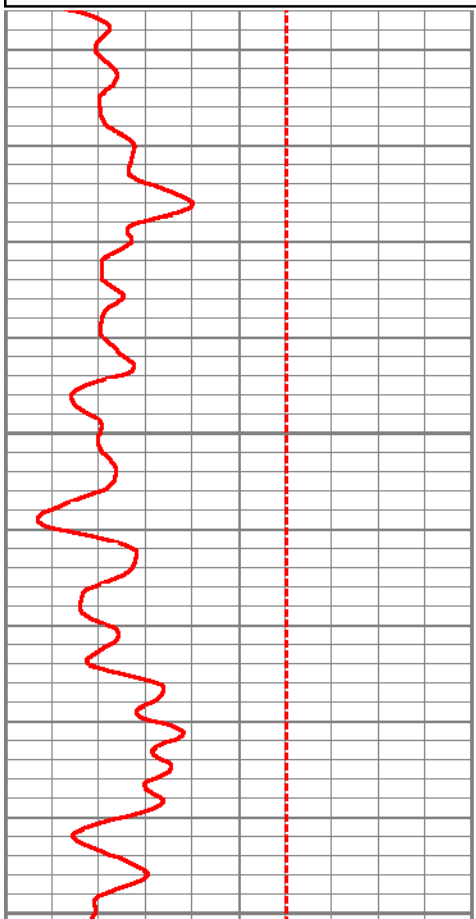
0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000

REPEAT PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5RESRP/@036db602
Presentation Format:	res-cent
Dataset Creation:	Wed Jun 20 22:02:07 2012
Charted by:	Depth in Feet scaled 1:240

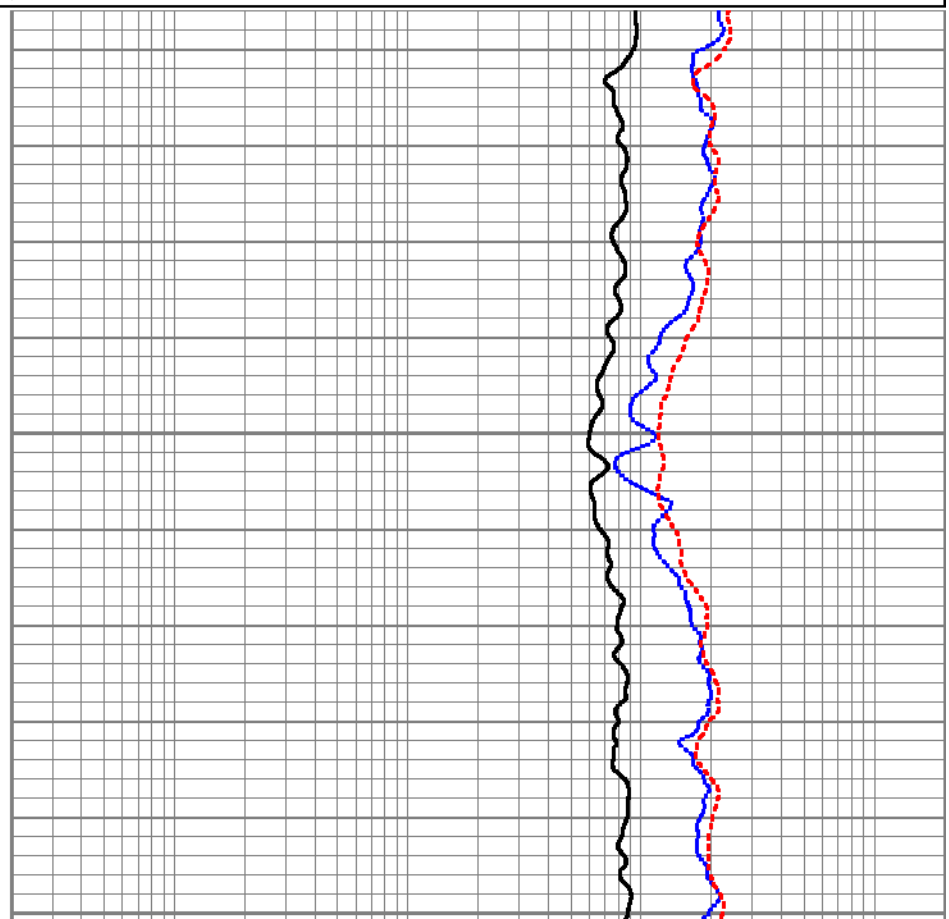
0	GR (GAPI)	100
-50	SP	50

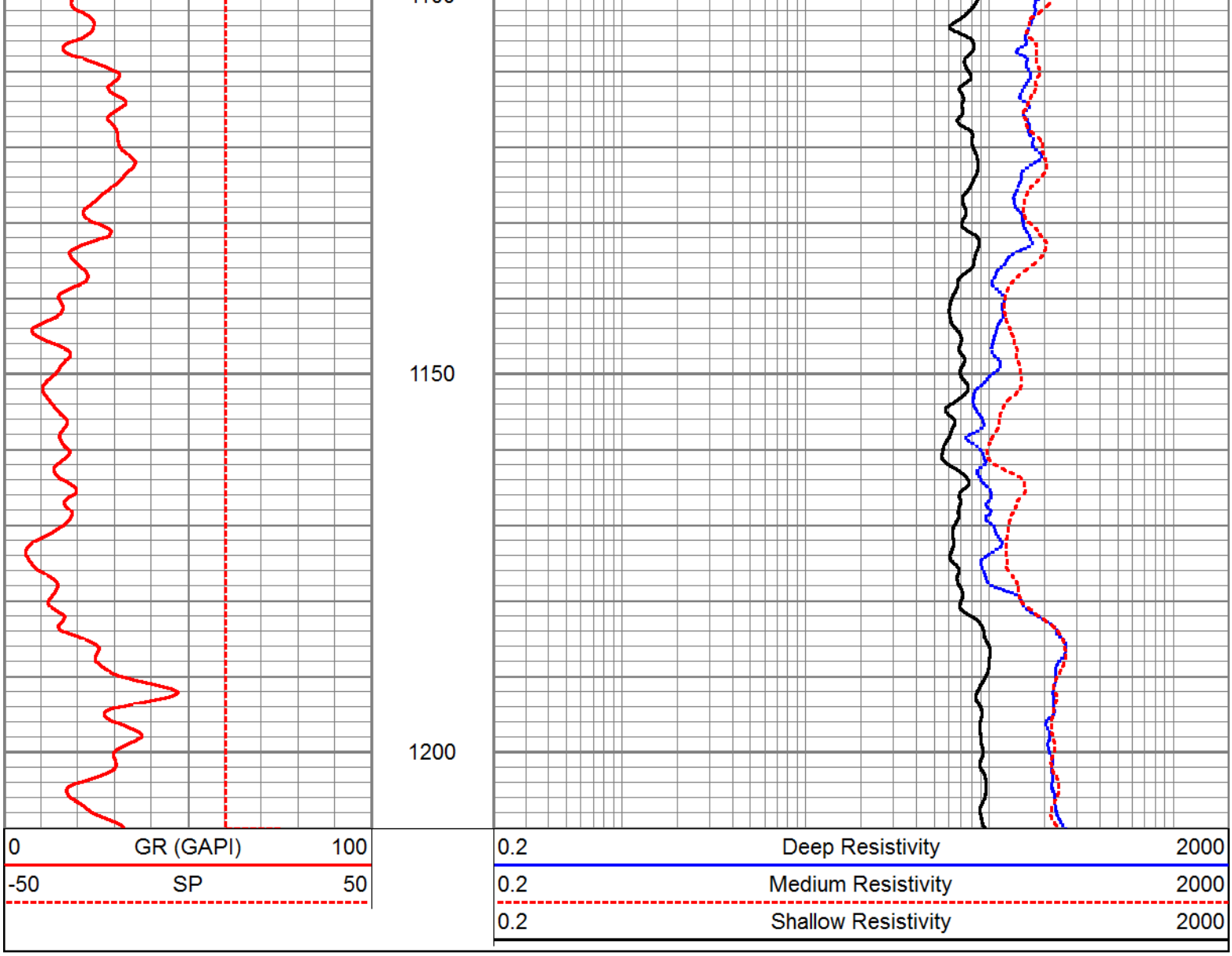
0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000



1050

1100




1150
1200
0
GR (GAPI)
100
-50
SP
50
0.2
Deep Resistivity
2000
0.2
Medium Resistivity
2000
0.2
Shallow Resistivity
2000

ALLWEBBS ENTERPRISES, INC.

BOREHOLE COMPENSATED SONIC/VDL LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :
SEC TWP RGE

Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Date	20-JUN-2012
Run Number	FIVE
Depth Driller	1491'
Depth Logger	1493'
Bottom Logged Interval	1493'
Top Log Interval	CASING
Open Hole Size	19"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'
FOUR	25"	CASING	910'

Borehole Record

Run Number	Bit	From	To
FIVE	19"	CASING	1491'

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner				

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Comments

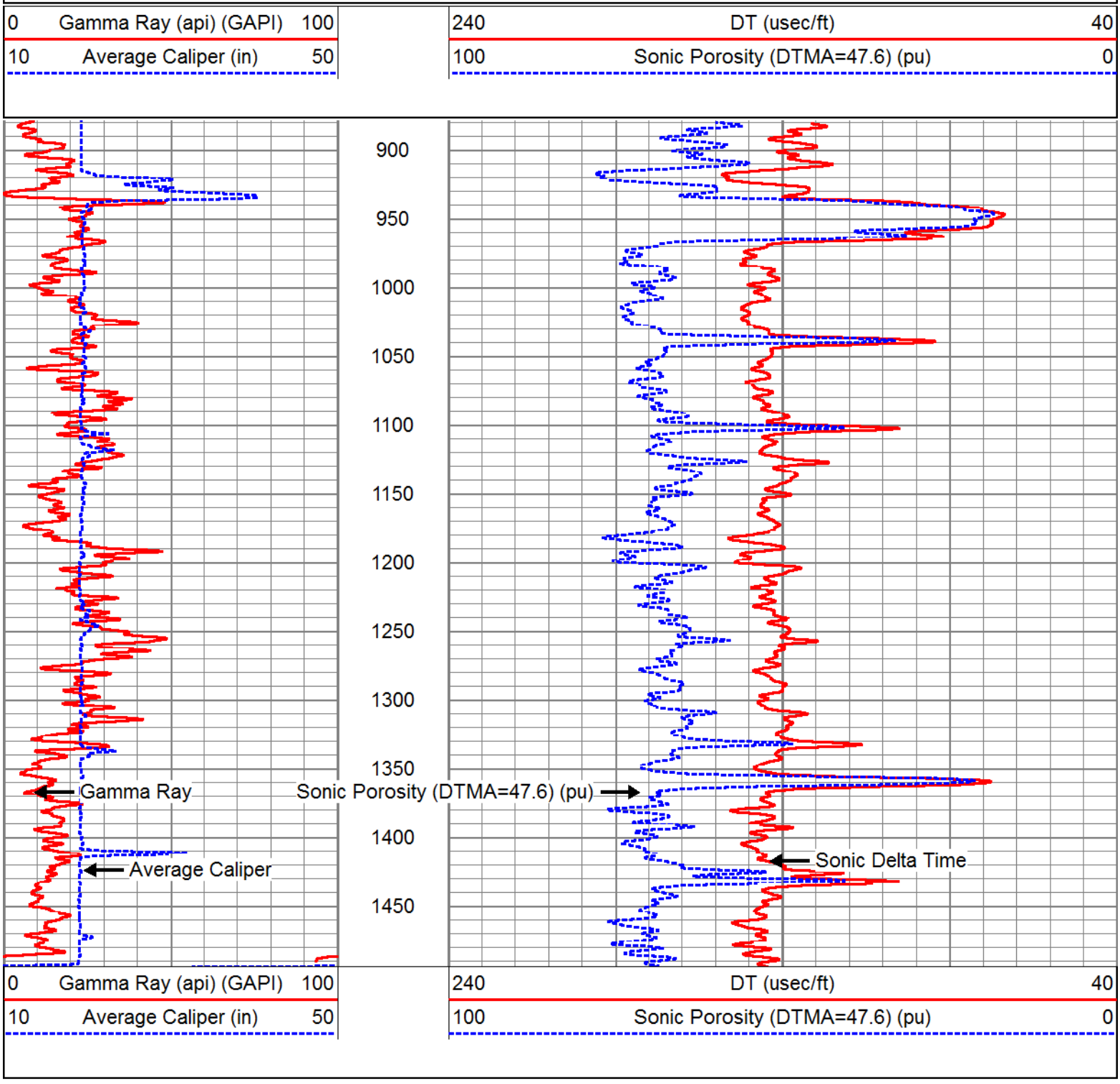
FLOWMETER
DEVIATION
DIL/GR
RES/GR/SP
XYC/GR
FCT
DHTVS

ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

Database File: kisspoc109.db
Dataset Pathname: run5/BHCMP1
Presentation Format: bhc_por
Dataset Creation: Wed Jun 20 17:42:42 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:1200



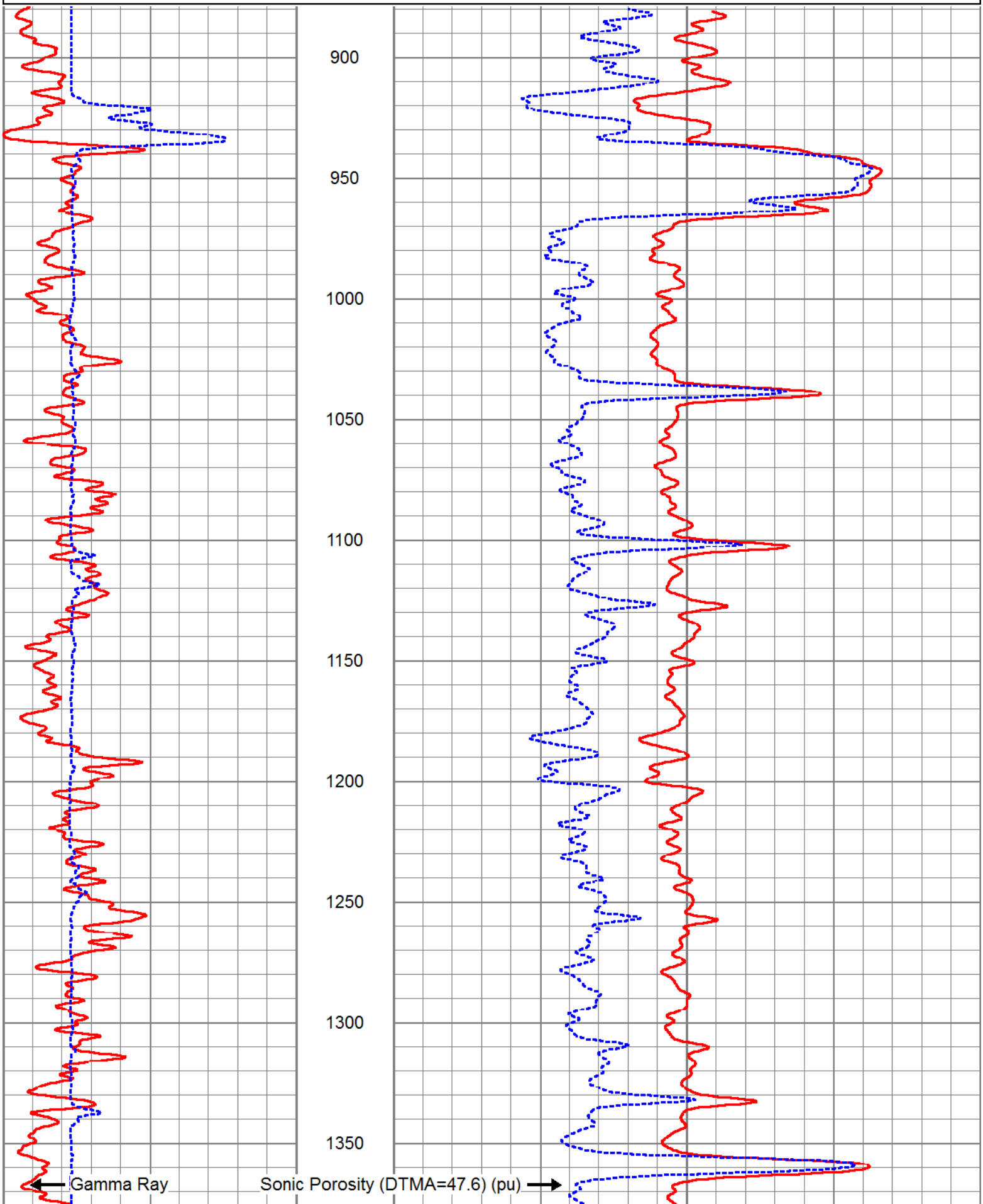
ALLWEBBS ENTERPRISES, INC.

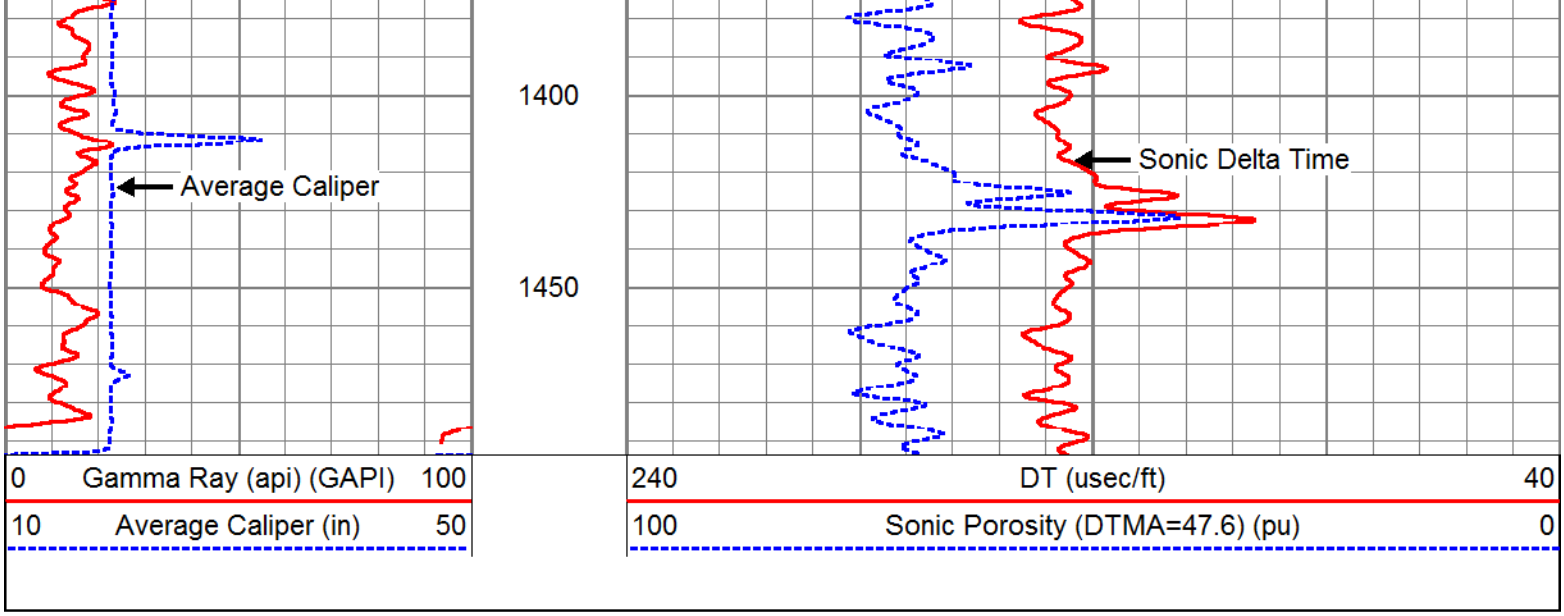
MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run5/BHCMP1
Presentation Format: bhc_por
Dataset Creation: Wed Jun 20 17:42:42 2012 by Log Open-Cased 071220

Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (api) (GAPI)	100	240	DT (usec/ft)	40
10	Average Caliper (in)	50	100	Sonic Porosity (DTMA=47.6) (pu)	0





0	Gamma Ray (api) (GAPI)	100
10	Average Caliper (in)	50

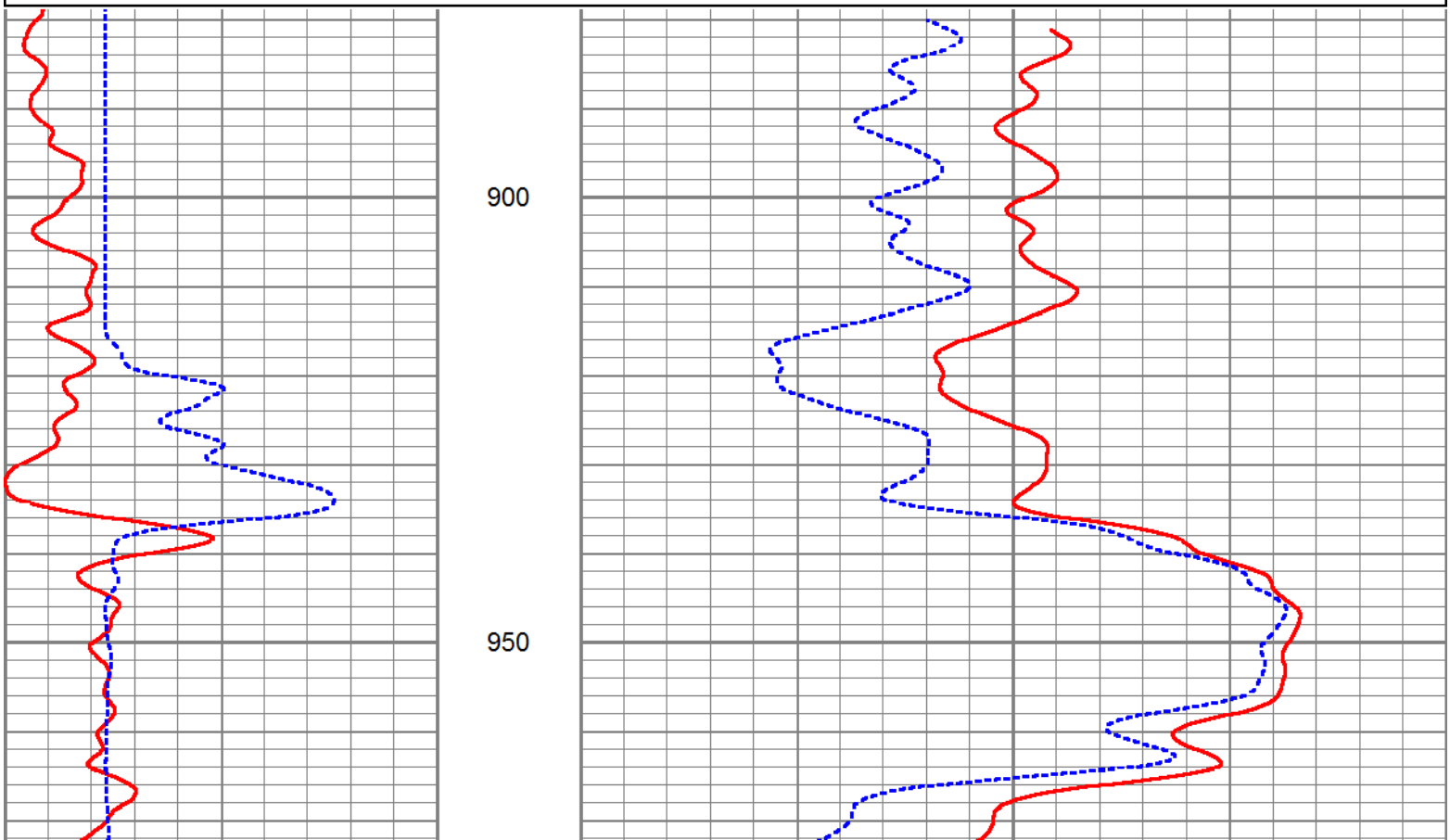
240	DT (usec/ft)	40
100	Sonic Porosity (DTMA=47.6) (pu)	0

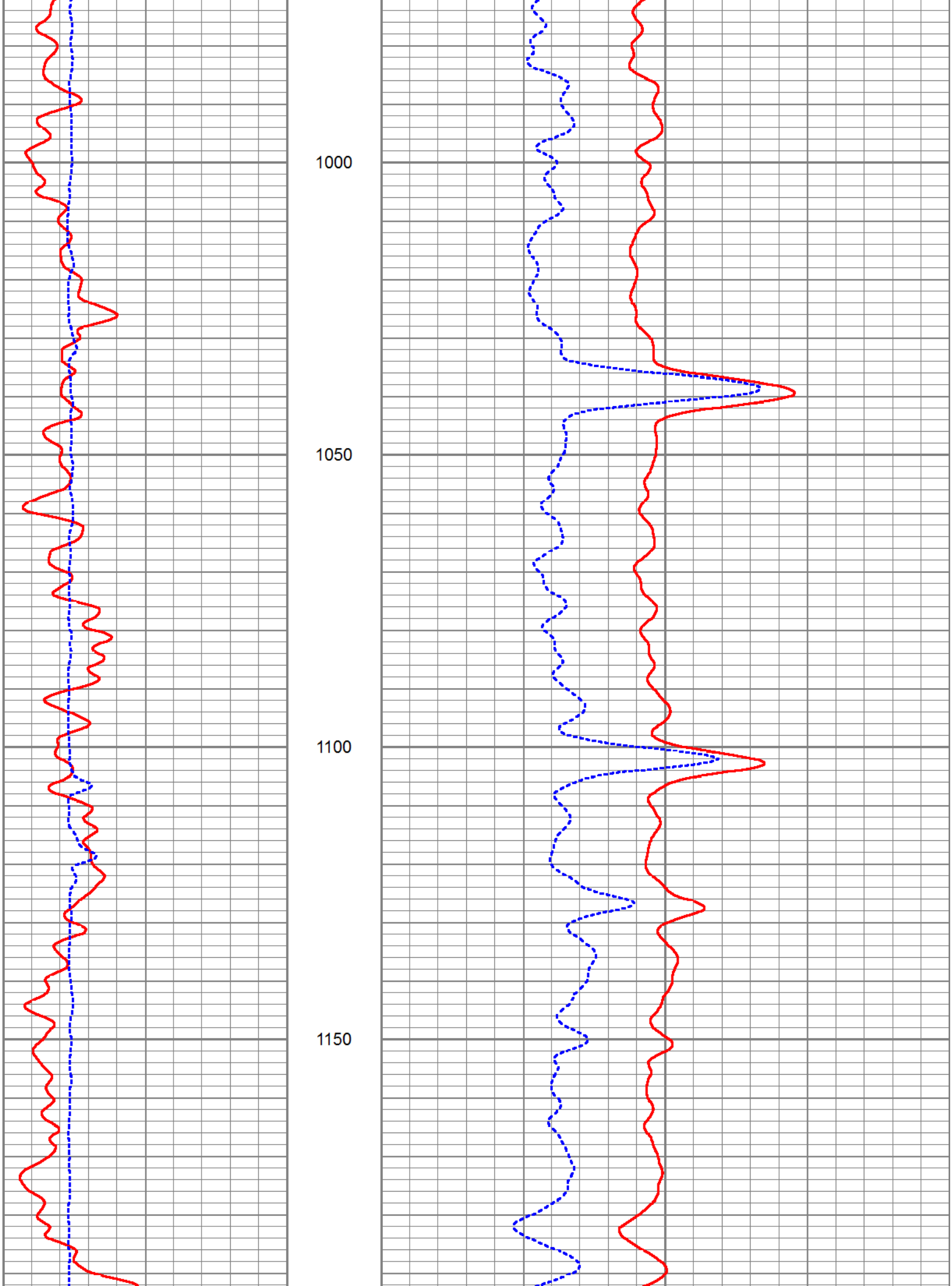
MAIN PASS

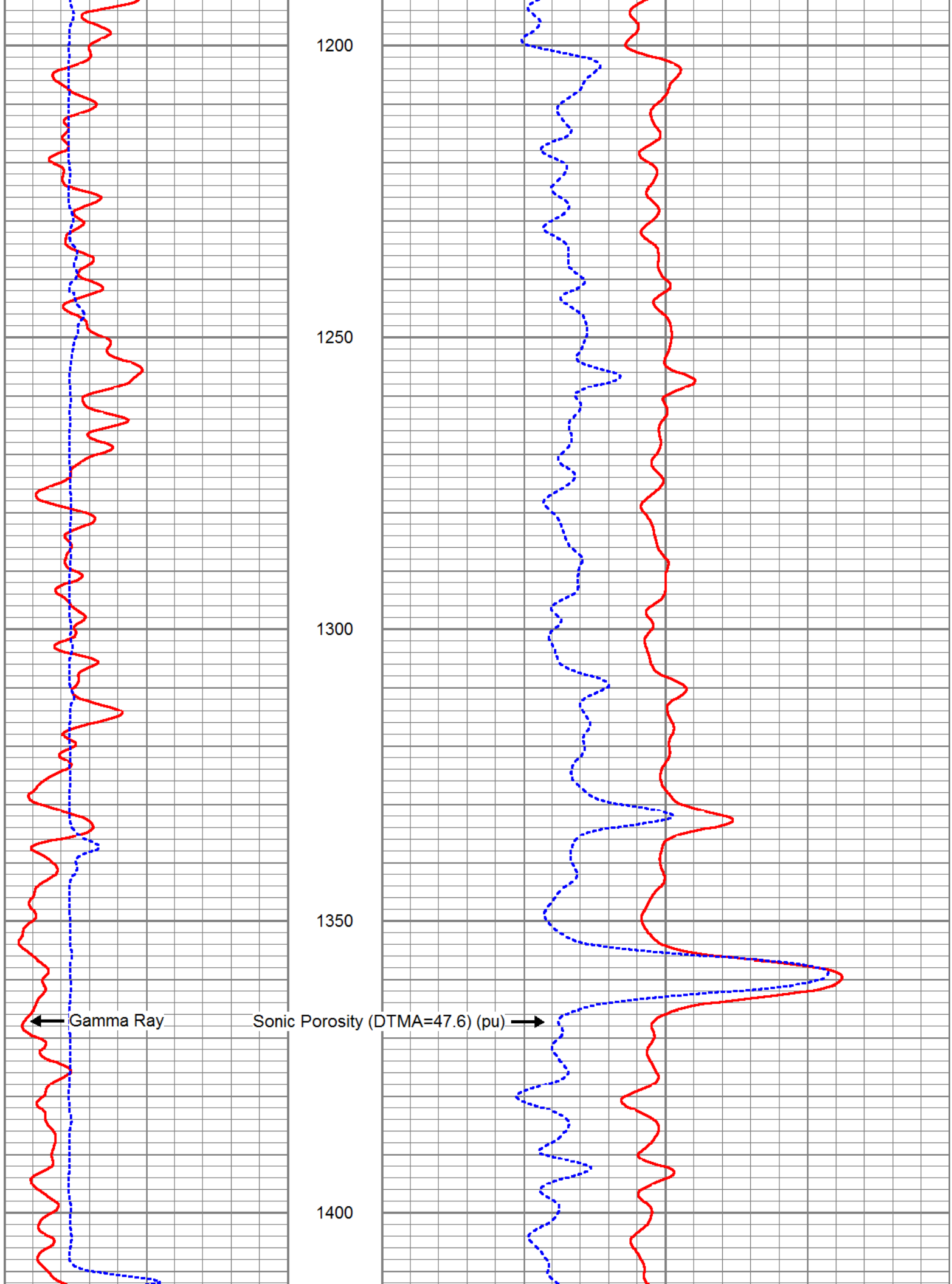
Database File:	kisspoc109.db
Dataset Pathname:	run5/BHCMP1
Presentation Format:	bhc_por
Dataset Creation:	Wed Jun 20 17:42:42 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

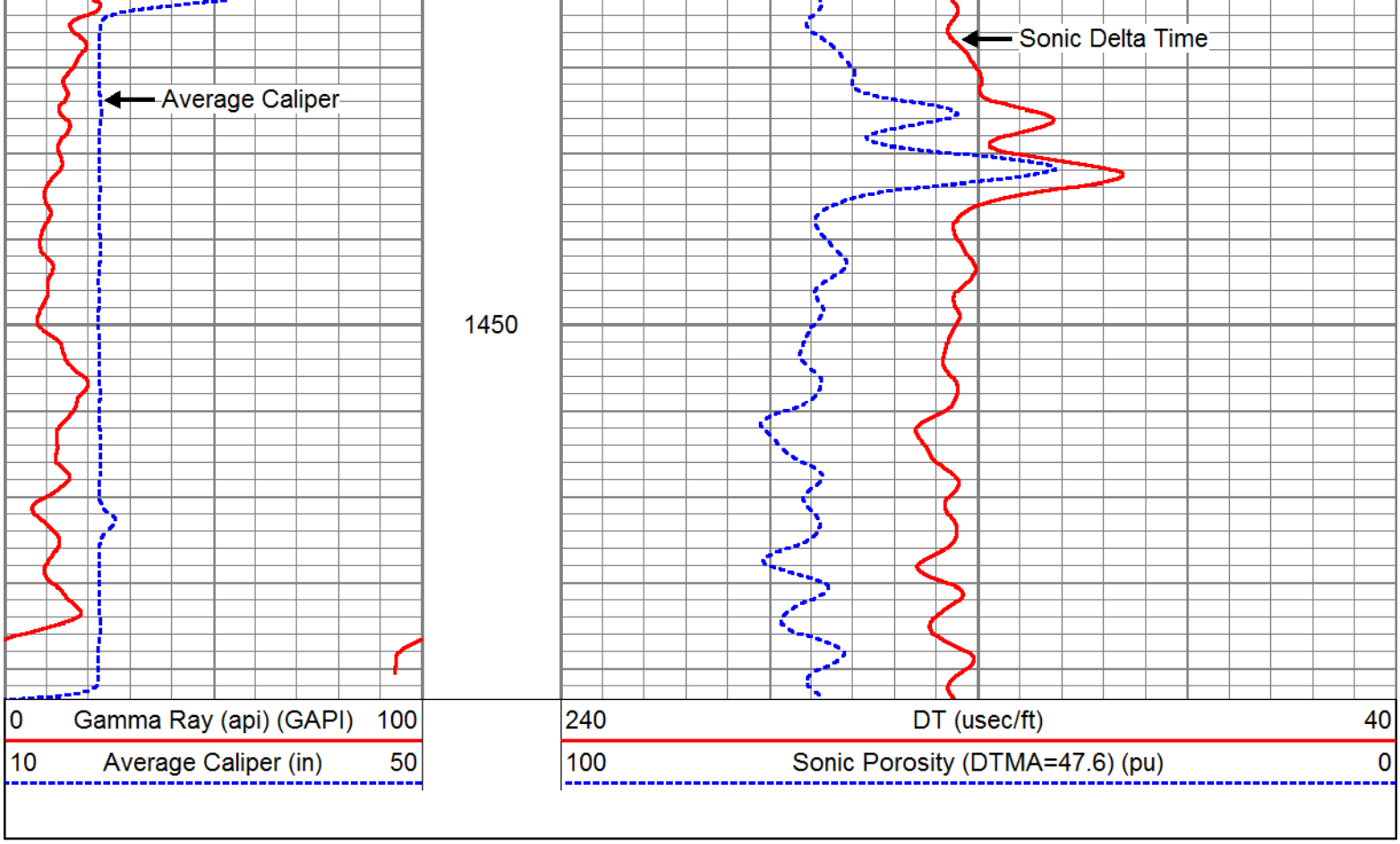
0	Gamma Ray (api) (GAPI)	100
10	Average Caliper (in)	50

240	DT (usec/ft)	40
100	Sonic Porosity (DTMA=47.6) (pu)	0



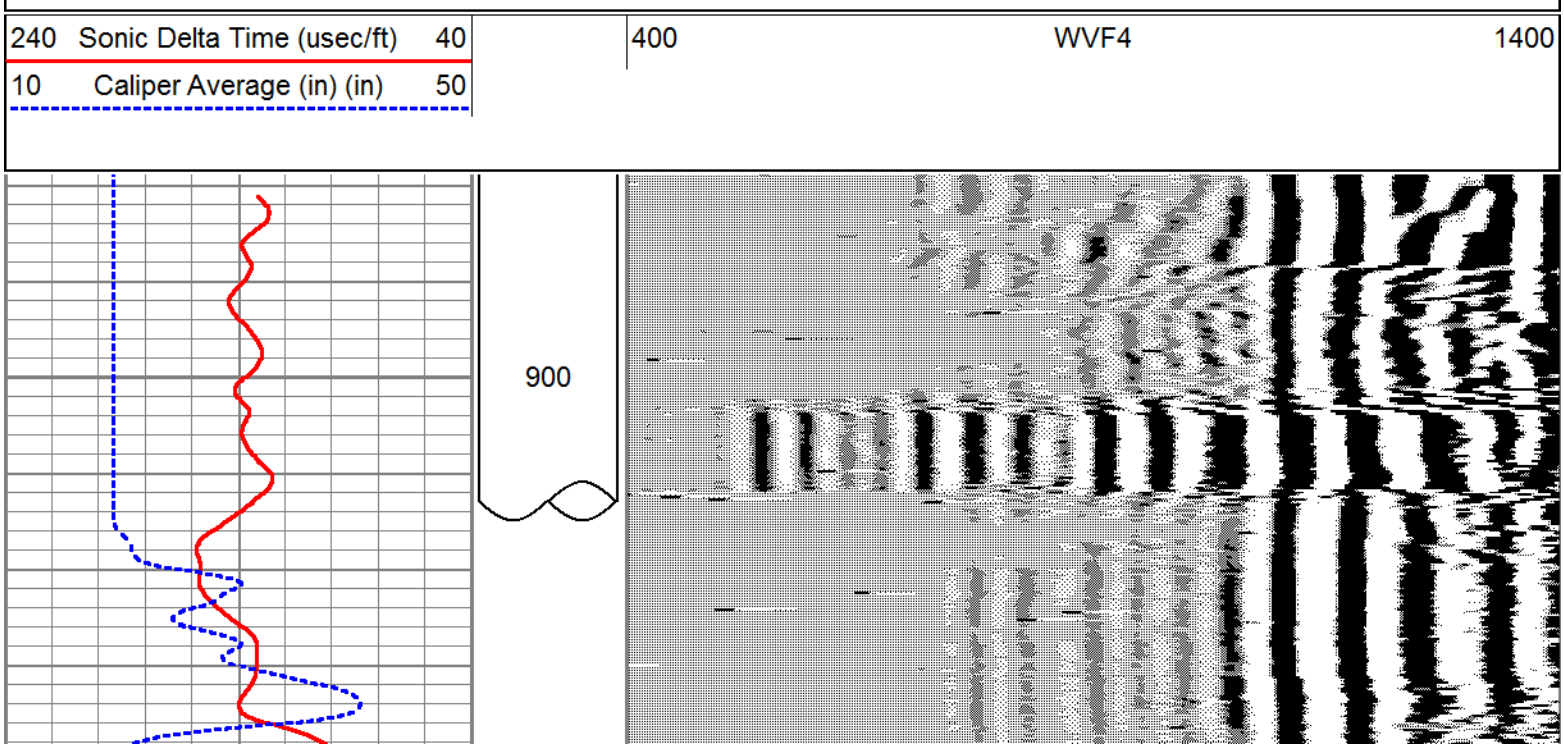

1000
1050
1100
1150

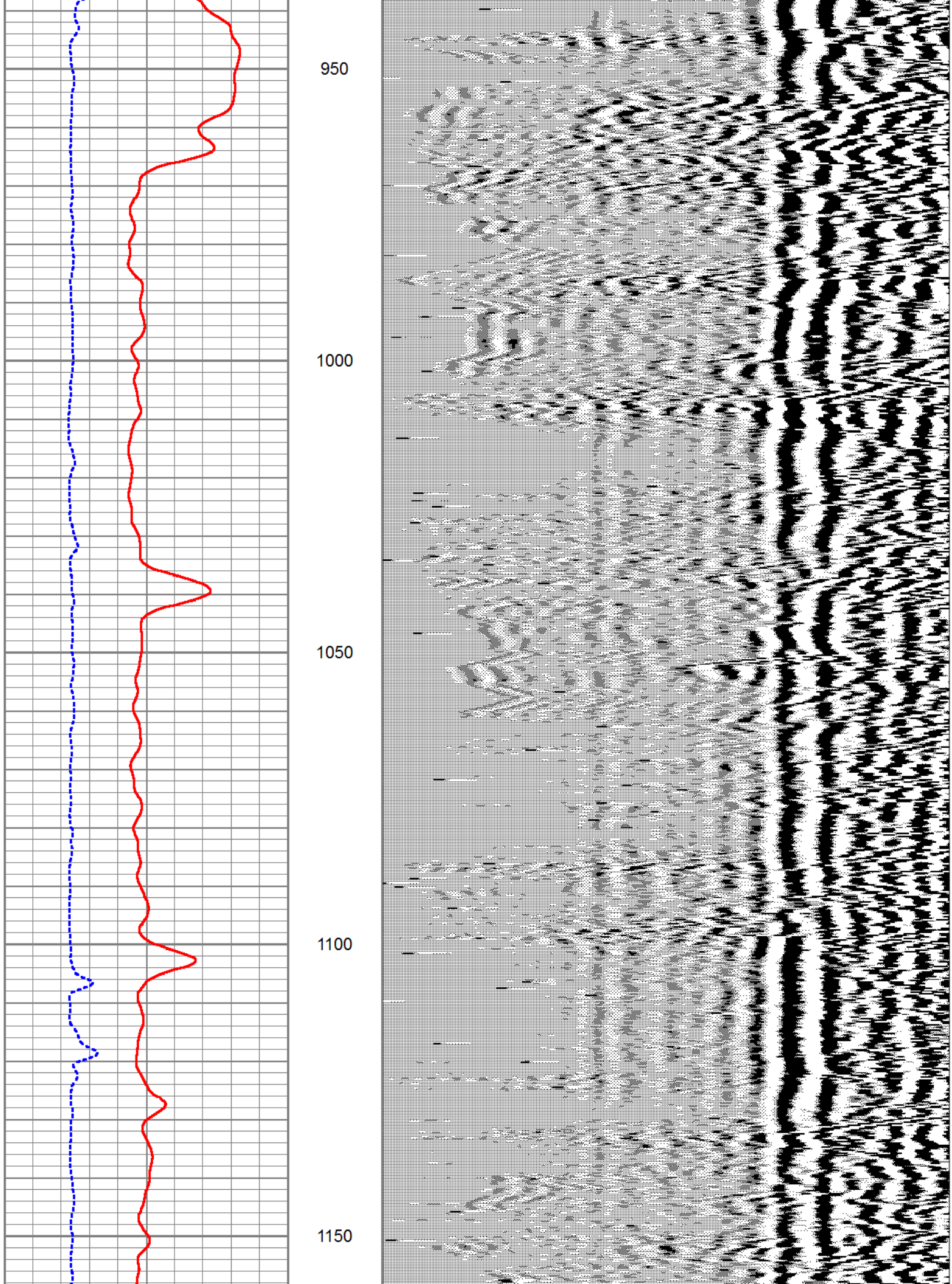

1200
1250
1300
1350
1400
Gamma Ray
Sonic Porosity (DTMA=47.6) (pu)

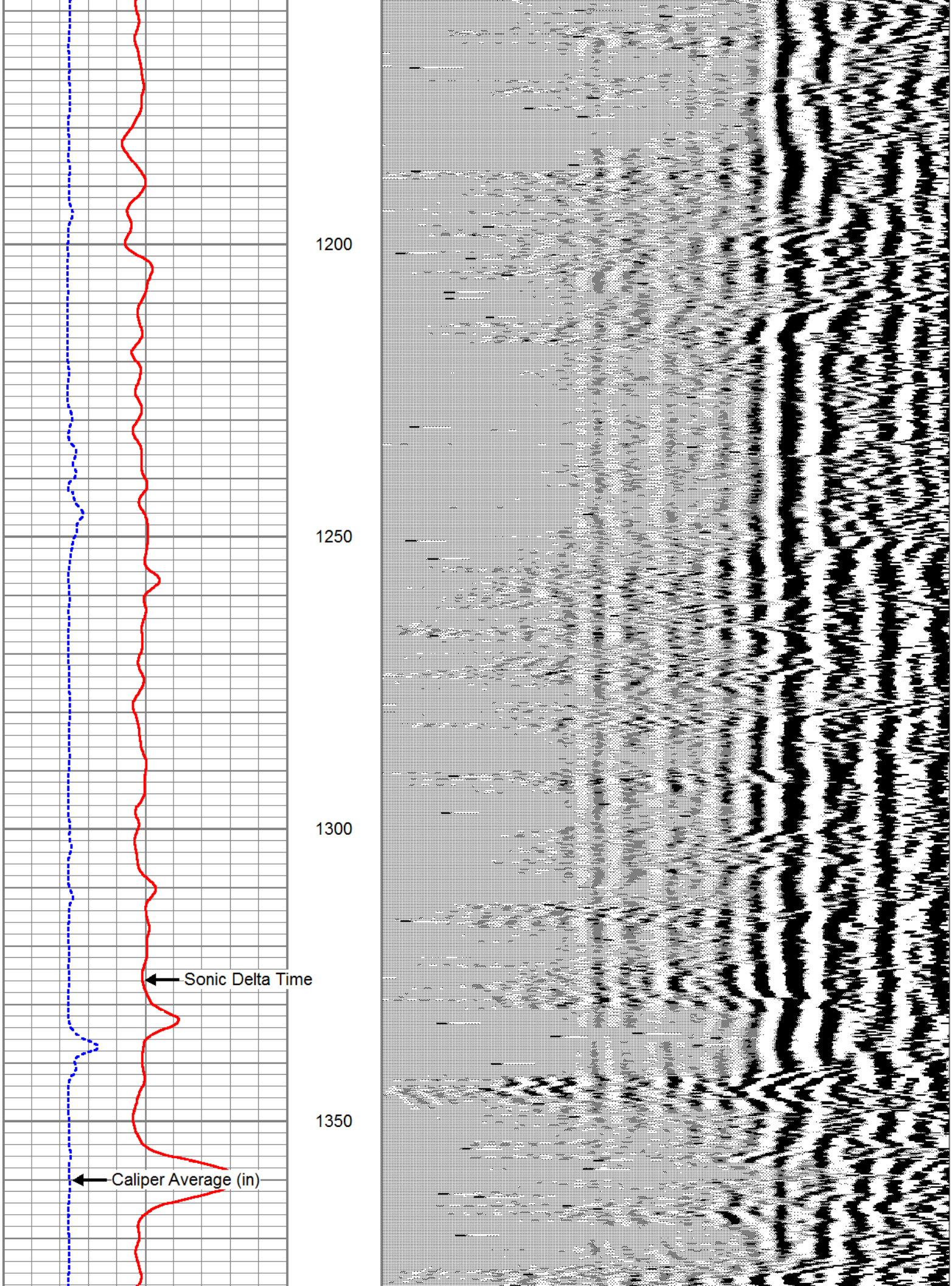


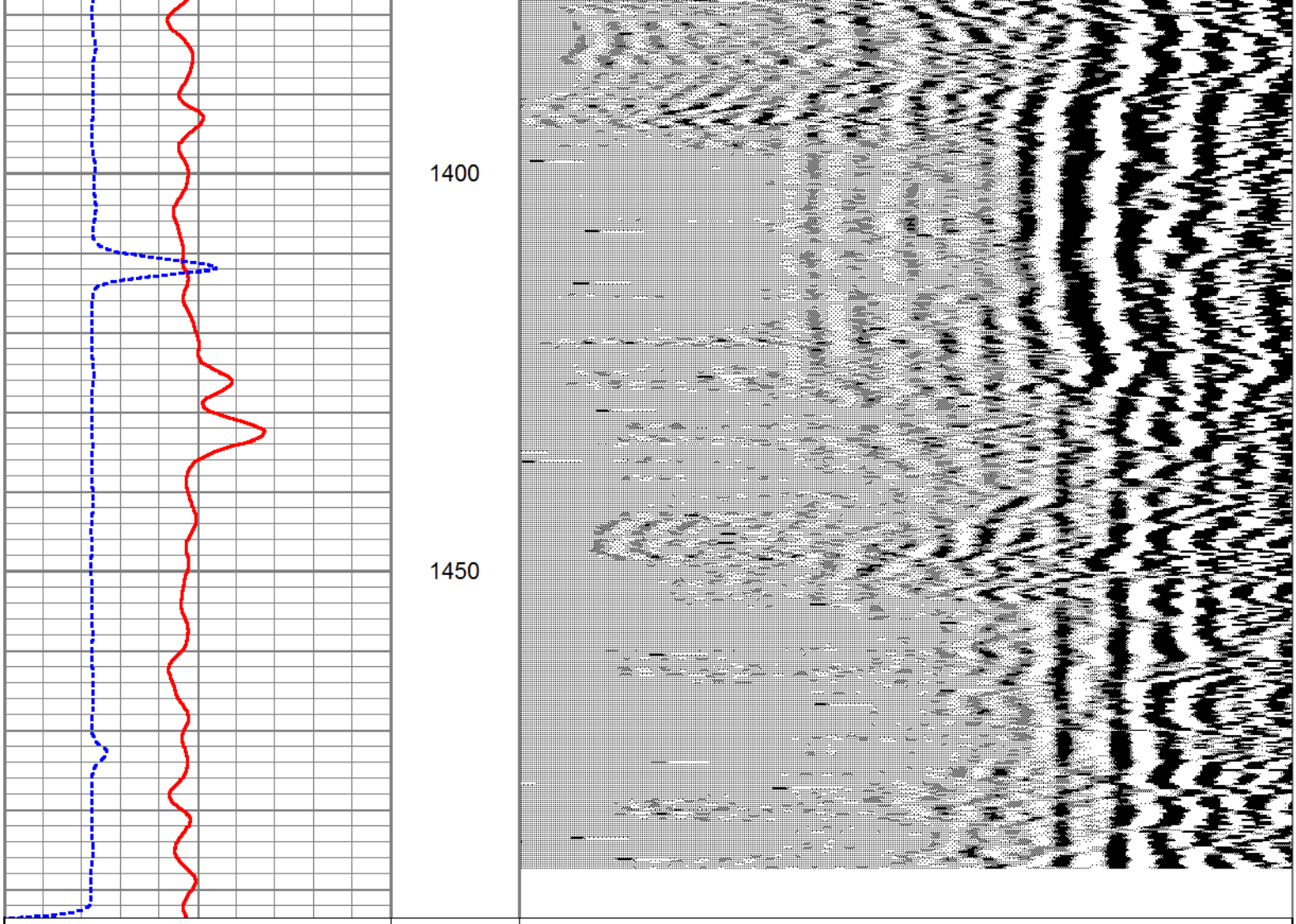
MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run5/BHCMP1
Presentation Format:	bhc
Dataset Creation:	Wed Jun 20 17:42:42 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

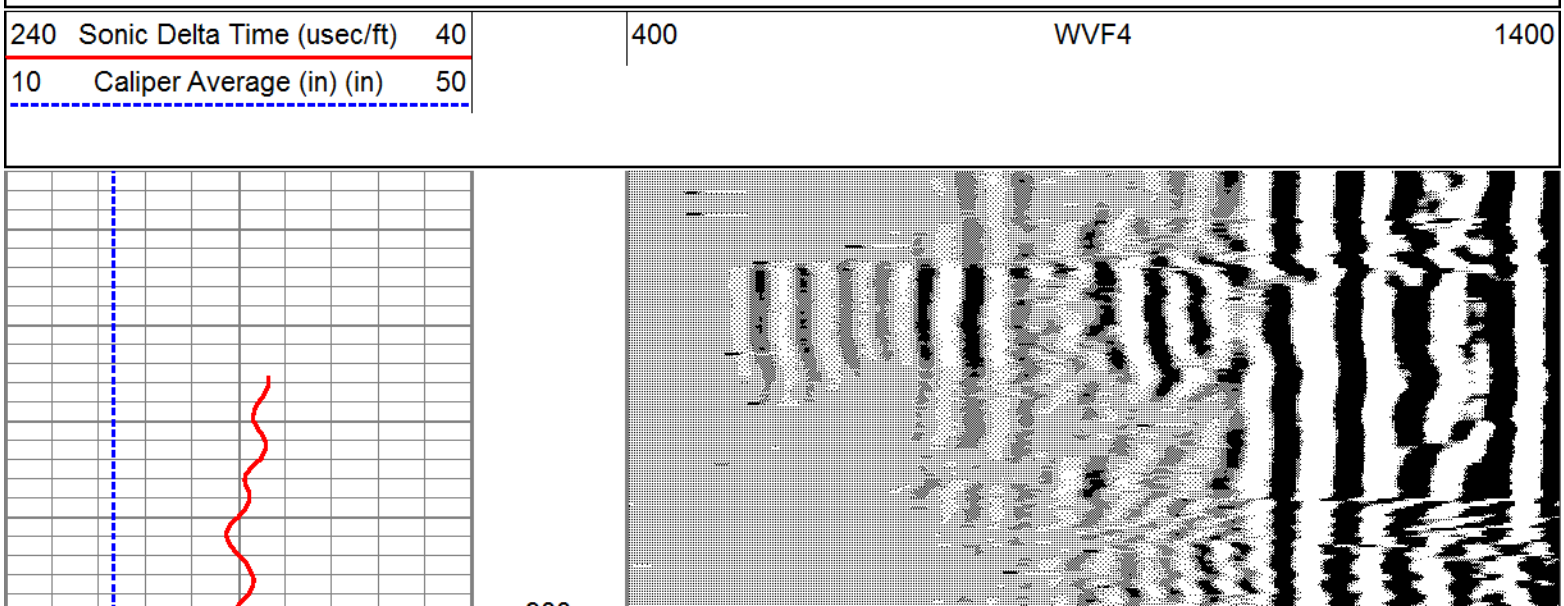


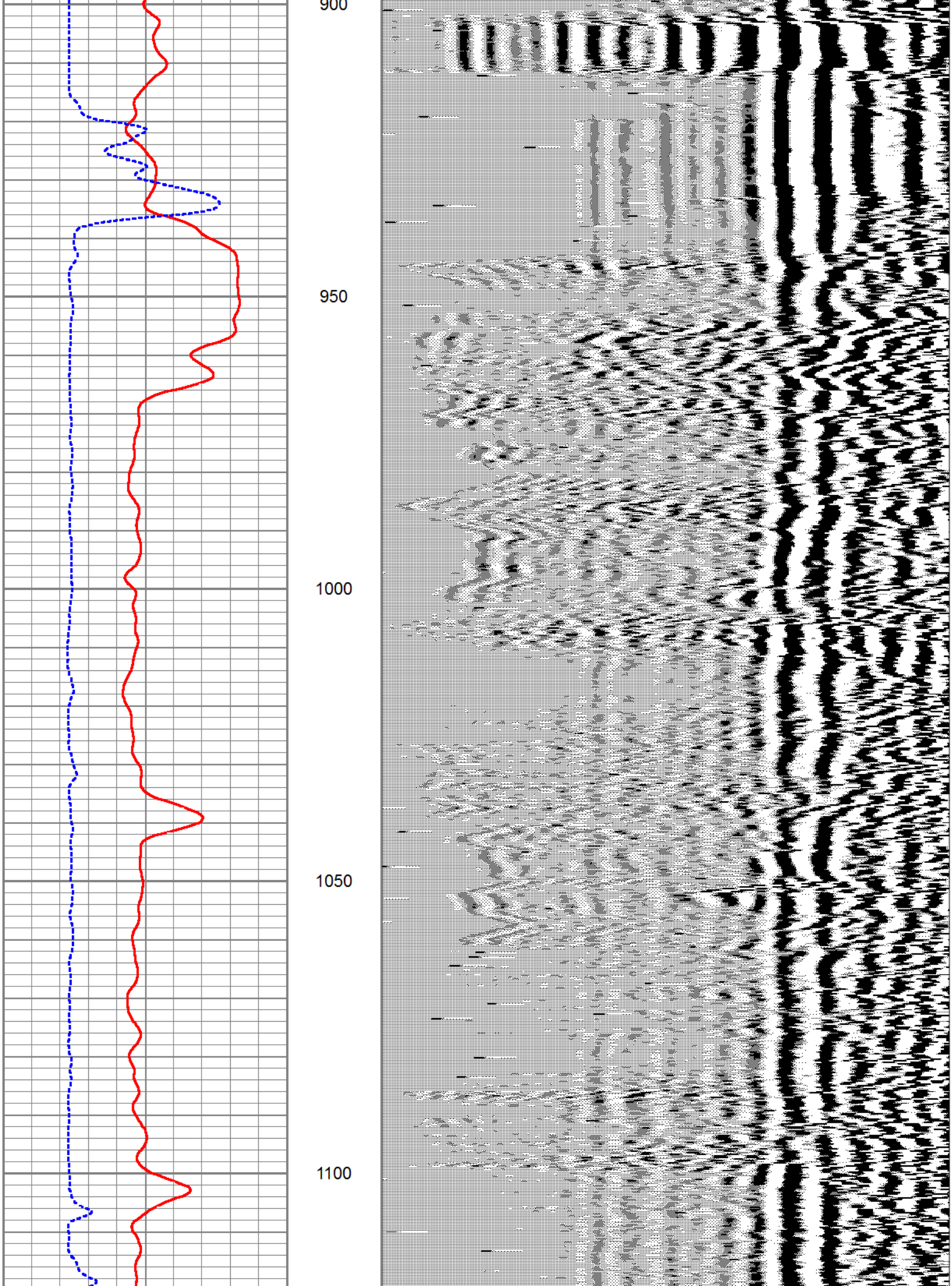

950
1000
1050
1100
1150

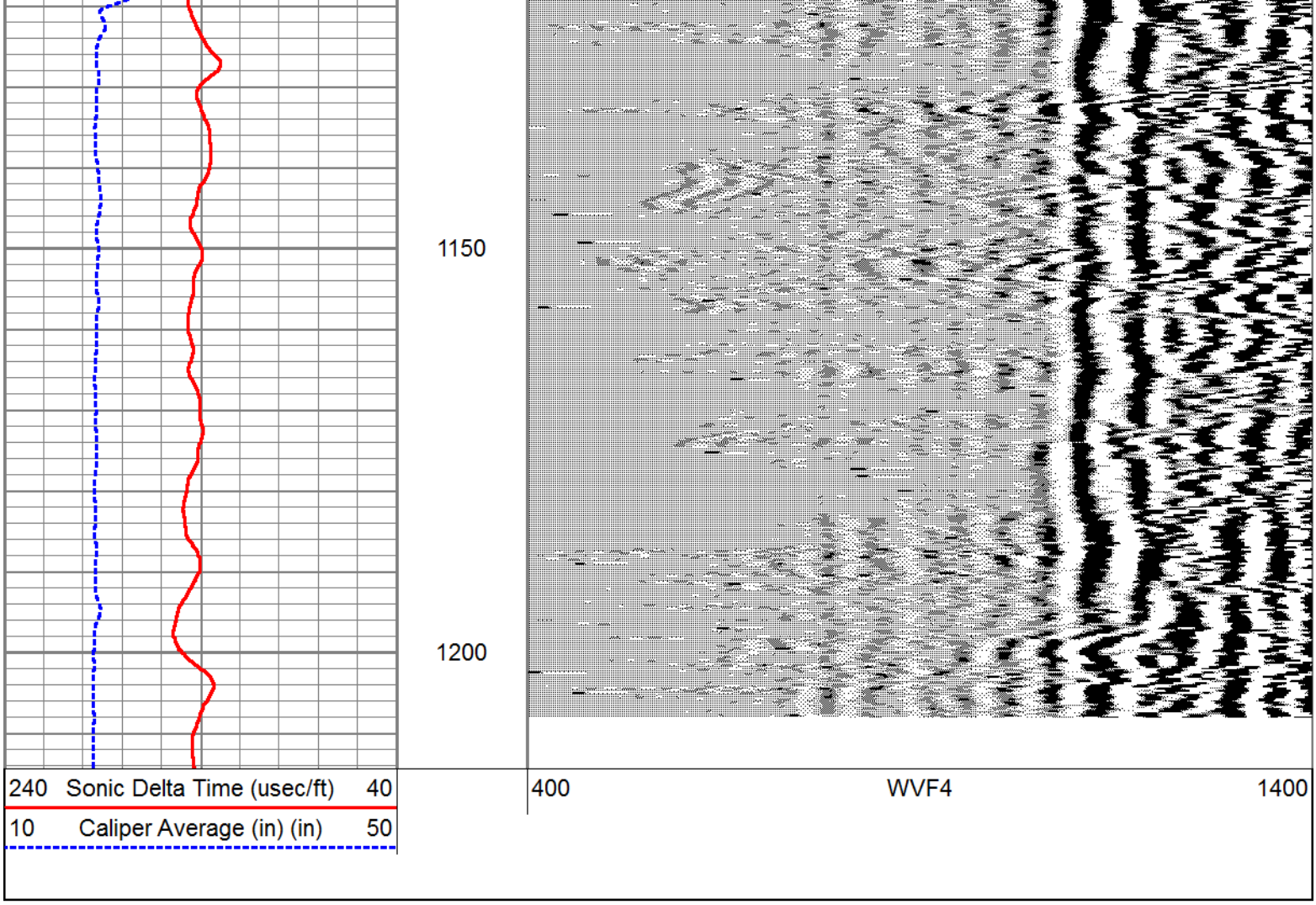

1200
1250
1300
1350
Sonic Delta Time
Caliper Average (in)



Database File: kisspoc109.db
Dataset Pathname: run5/BHCRP1
Presentation Format: bhc
Dataset Creation: Wed Jun 20 18:16:19 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

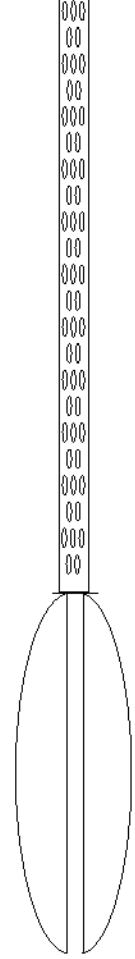



900
950
1000
1050
1100



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CBLINLINE	3.00	1.50	10.00

			SLT2Probe-Probe275(Probe) (1)	8.83	2.75	100.00
WVF1	7.25					
WVF2	7.25					
WVF3	6.25					
WVF4	6.25					
			CBLINLINE	3.00	1.50	10.00



Dataset:	kisspoc109.db: field/well/run5/BHCMP1
Total Length:	15.83 ft
Total Weight:	125.00 lb
O.D.	2.75 in

FLUID CONDUCTIVITY TEMPERATURE LOG

ALLWEBBS ENTERPRISES, INC.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well POC#109

Field KISSIMMEE BASIN (LFA-C)

County OSCEOLA State FLORIDA

Location: API # :

SEC TWP RGE

Other Services SEE COMMENTS

Permanent Datum	PAD	Elevation	Elevation
Log Measured From	PAD		K.B.
Drilling Measured From	PAD		D.F.
			G.L.

Date	20-JUN-2012		
Run Number	FIVE		
Depth Driller	1491'		
Depth Logger	1493'		
Bottom Logged Interval	1493'		
Top Log Interval	CASING		
Open Hole Size	19"		
Type Fluid	WATER		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	00:00		
Time Logger on Bottom	00:00		
Equipment Number	VA-202		
Location	JUPTIER		
Recorded By	LEE		
Witnessed By			

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	12.25"	CASING	303'	FIVE	19"	CASING	1491'
TWO	32"	CASING	303'				
THREE	12.25"	CASING	920'				
FOUR	25"	CASING	910'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner				

<<< Fold Here >>>

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Comments

FLOWMETER
DEVIATION
DIL/GR
RES/GR/SP
XYC/GR
BHC/VDL
DHTVS

FLOWRATE = 3,500 GPM

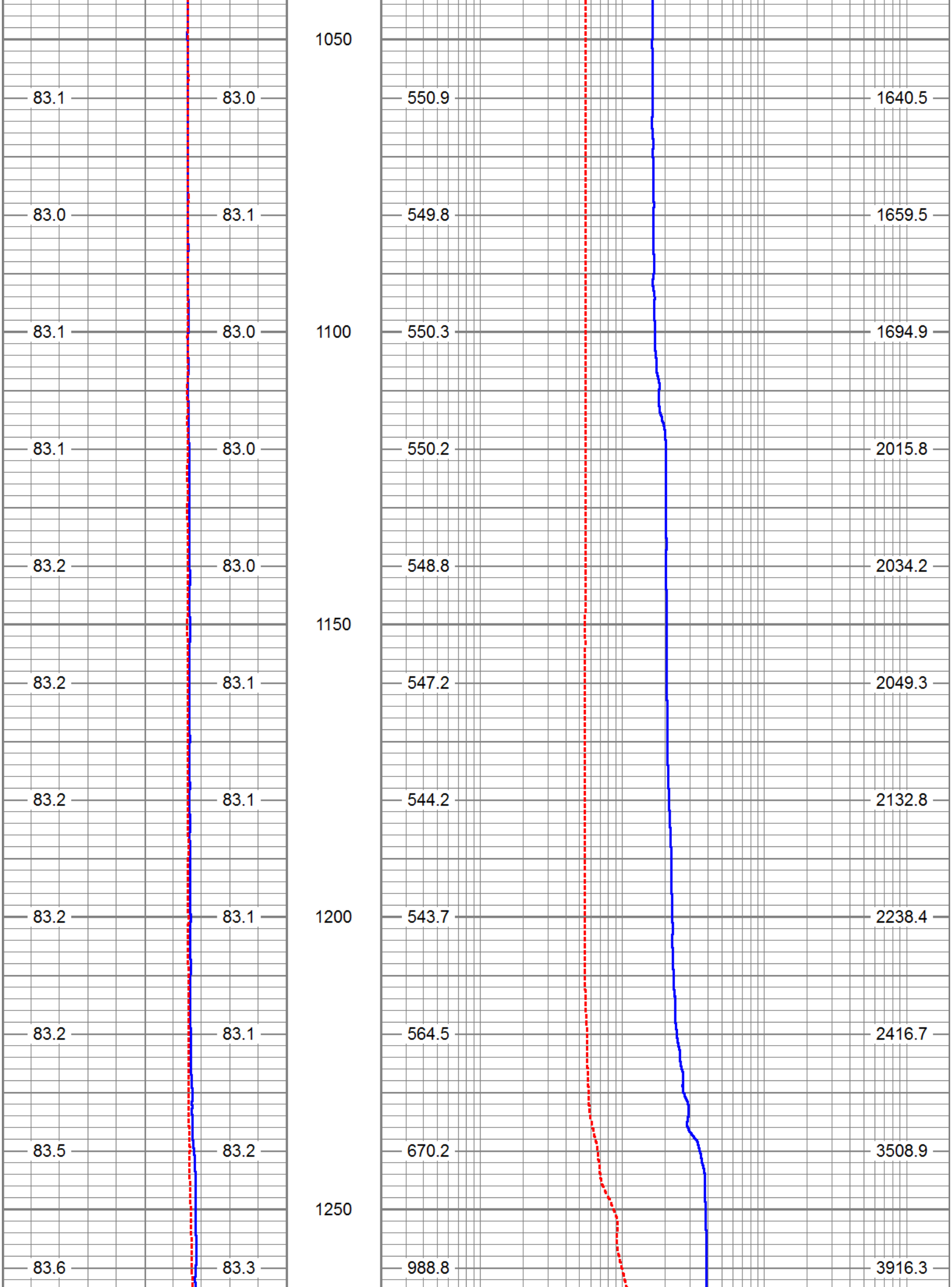
ALLWEBBS

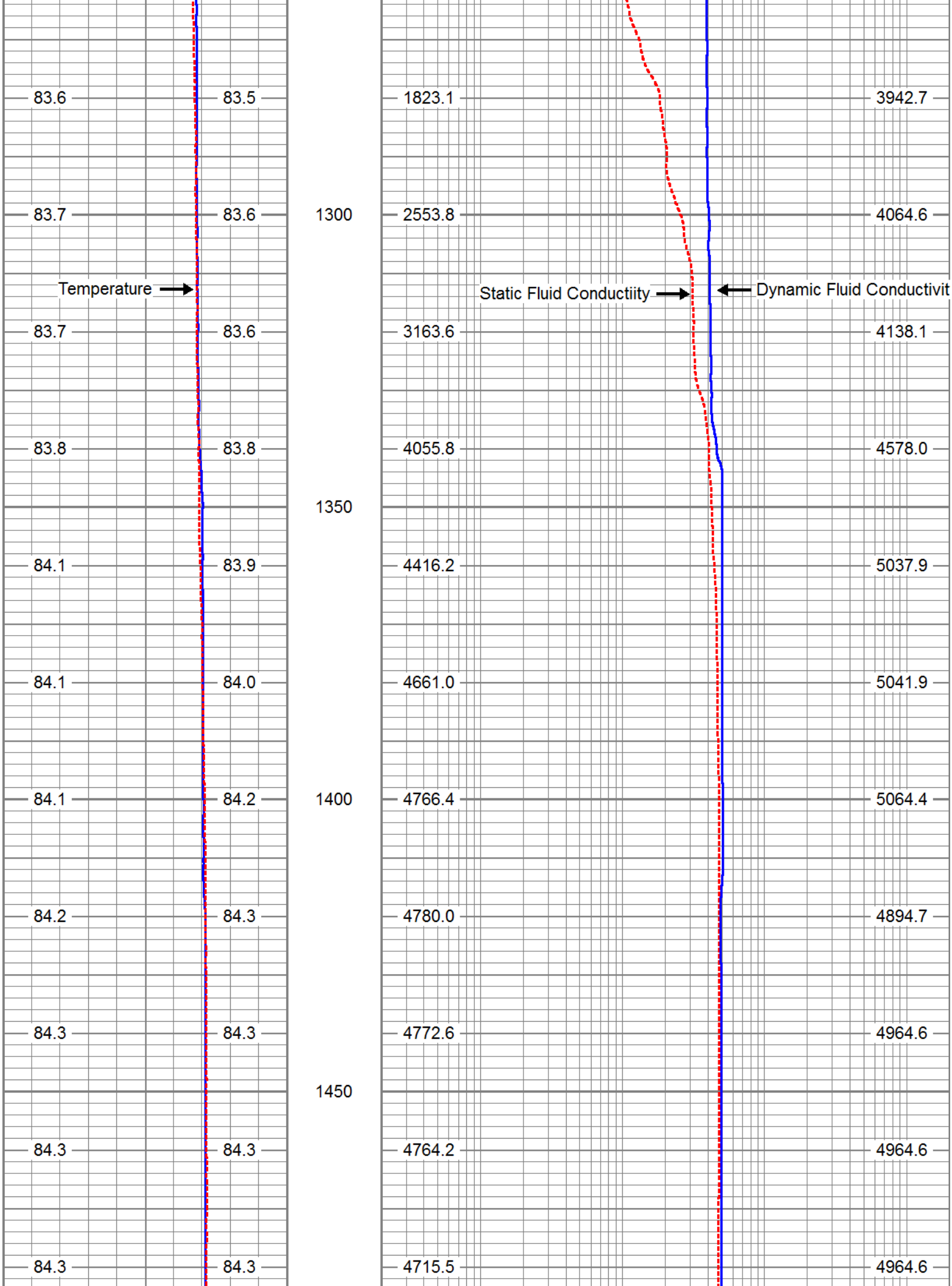
ENTERPRISES, INC.

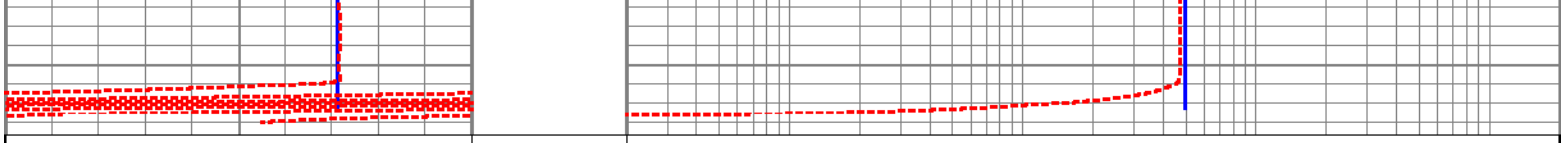
Database File: kisspoc109.db
Dataset Pathname: run5/FCTDY
Presentation Format: fct
Dataset Creation: Thu Jun 21 11:16:01 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

70 Dynamic Temperature (degF) 90		20 Static Fluid Conductiity (um) 200000	
70 Static Temperature (degF) 90		20 Dynamic Fluid Conductivity (um) 200000	
MP_DYNAM (degF)	EMPS_STAT (degF)	CONS_STAT (um)	ON_DYNAM (um)

83.1	83.4		897.1	1549.3
83.1	83.5	900	1066.9	1527.4
83.1	83.5		1208.1	1223.8
83.0	83.4		840.0	1562.4
		950		
83.0	83.1		513.6	1259.9
83.0	83.1		542.7	1150.4
83.0	83.1	1000	554.1	1535.6
83.0	83.0		557.1	1563.4
83.0	83.0		552.7	1622.9


1050
83.1
83.0
550.9
1640.5
83.0
83.1
549.8
1659.5
1100
83.1
83.0
550.3
1694.9
83.1
83.0
550.2
2015.8
83.2
83.0
548.8
2034.2
1150
83.2
83.1
547.2
2049.3
83.2
83.1
544.2
2132.8
1200
83.2
83.1
543.7
2238.4
83.2
83.1
564.5
2416.7
83.5
83.2
670.2
3508.9
1250
83.6
83.3
988.8
3916.3


83.6
83.5
1823.1
3942.7
83.7
83.6
1300
2553.8
4064.6
Temperature
Static Fluid Conductiity
Dynamic Fluid Conductivit
83.7
83.6
3163.6
4138.1
83.8
83.8
4055.8
4578.0
1350
84.1
83.9
4416.2
5037.9
84.1
84.0
4661.0
5041.9
84.1
84.2
1400
4766.4
5064.4
84.2
84.3
4780.0
4894.7
84.3
84.3
4772.6
4964.6
1450
84.3
84.3
4764.2
4964.6
84.3
84.3
4715.5
4964.6



70 Dynamic Temperature (degF) 90		20 Static Fluid Conductiity (um)	200000
70 Static Temperature (degF) 90		20 Dynamic Fluid Conductivity (um)	200000
MP_DYNAM (degF)	EMPS_STAT (degF)	CONS_STAT (um)	ON_DYNAM (um)

Calibration Report

Database File: kisspoc109.db
Dataset Pathname: run5/FCTDY
Dataset Creation: Thu Jun 21 11:16:01 2012 by Log Open-Cased 071220

Temperature Calibration Report

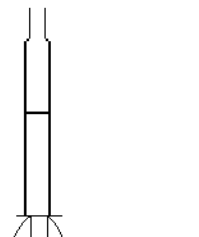
Serial Number: 1
Tool Model: RG
Performed: Fri Mar 30 11:43:19 2012

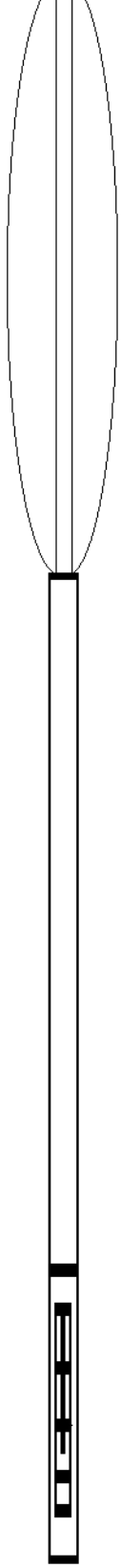
Point #	Reading	Reference	
1	3636.76	32.20	degF
2	4626.58	51.60	degF
3	6505.18	72.00	degF
4	7120.74	77.40	degF
5	8623.55	91.80	degF
6	9608.83	100.60	degF
7			degF
8			degF
9			degF
10			degF

Calibration Report

Serial Number: 1
Tool Model: RG
Performed: Fri Mar 30 11:43:22 2012

Reference (um)	Reading ()
1023.000	1131.130
10090.000	10173.500
13040.000	12435.600
25200.000	23497.400
29200.000	24812.300
49900.000	39605.500

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



		CBLINLINE	3.00	1.50	10.00
		FRTEMP-RG (1) RG_FCON	5.00	1.50	25.00
FCON TEMP	0.50 0.33				

Dataset:	kisspoc109.db: field/well/run5/FCTDY
Total Length:	9.00 ft
Total Weight:	40.00 lb
O.D.	1.50 in

FLOWMETER LOG

ALLWEBBS ENTERPRISES, INC.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well POC#109

Field KISSIMMEE BASIN (LFA-C)

County OSCEOLA State FLORIDA

Location: API # :

SEC TWP RGE

Other Services SEE COMMENTS

Permanent Datum	PAD	Elevation
Log Measured From	PAD	
Drilling Measured From	PAD	

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

Date	20-JUN-2012		
Run Number	FIVE		
Depth Driller	1491'		
Depth Logger	1493'		
Bottom Logged Interval	1493'		
Top Log Interval	CASING		
Open Hole Size	19"		
Type Fluid	WATER		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	00:00		
Time Logger on Bottom	00:00		
Equipment Number	VA-202		
Location	JUPTIER		
Recorded By	LEE		
Witnessed By			

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	12.25"	CASING	303'	FIVE	19"	CASING	1491'
TWO	32"	CASING	303'				
THREE	12.25"	CASING	920'				
FOUR	25"	CASING	910'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner				

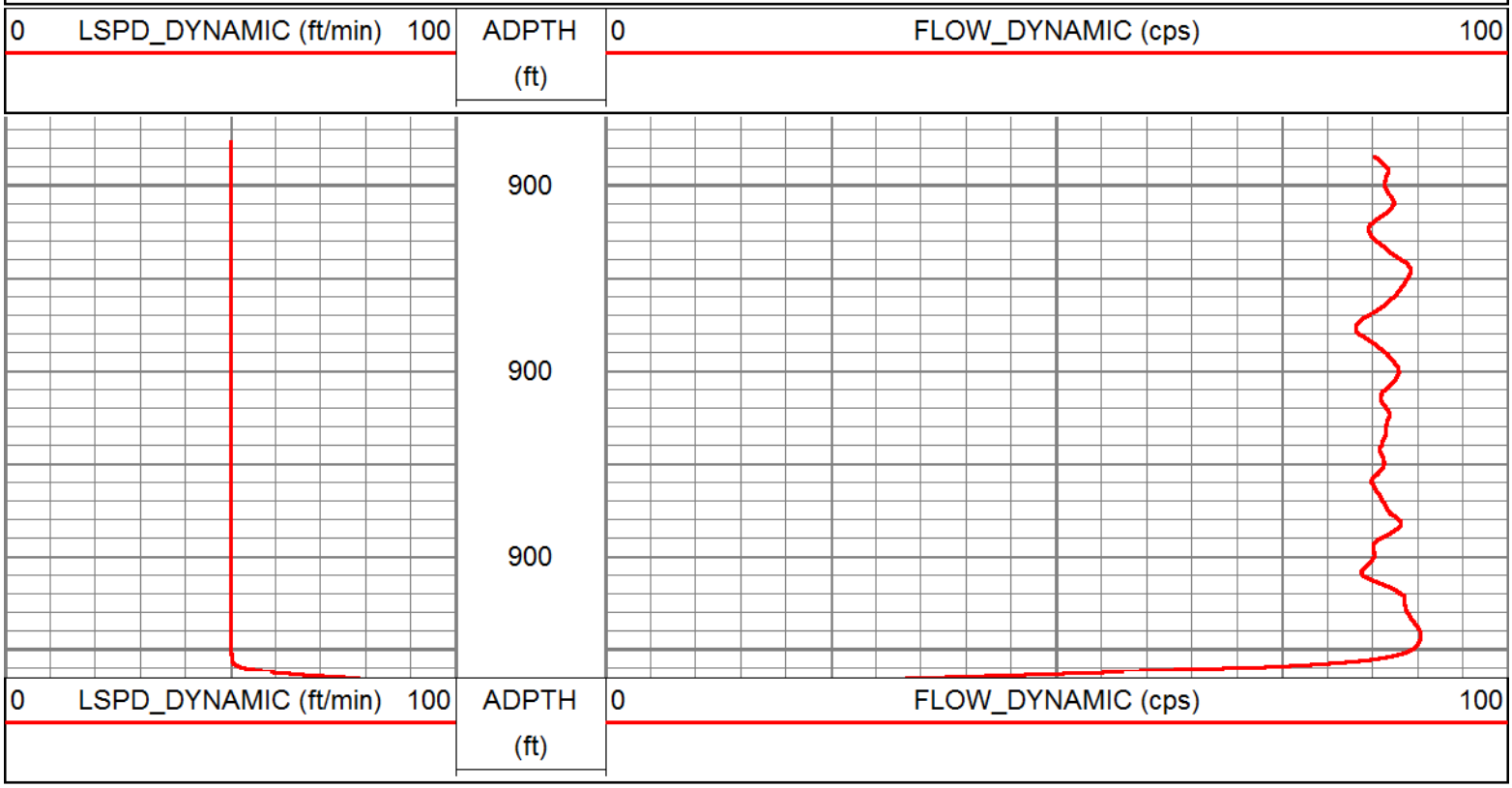
<<< Fold Here >>>

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

Comments

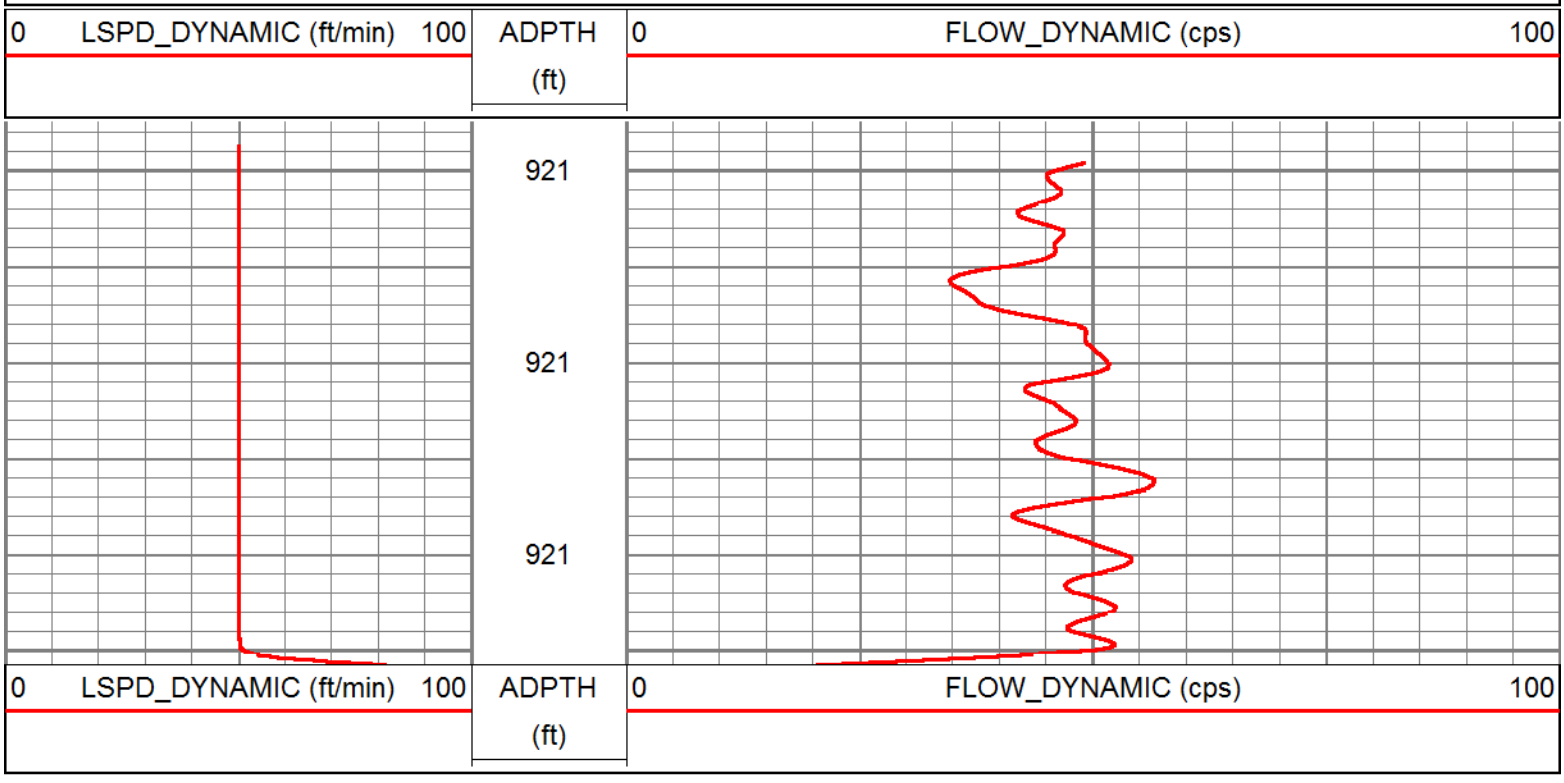
FCT
DEVIATION
DIL/GR
RES/GR/SP
XYC/GR
BHC/VDL
DHTVS

Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA900
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:30:54 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 920'

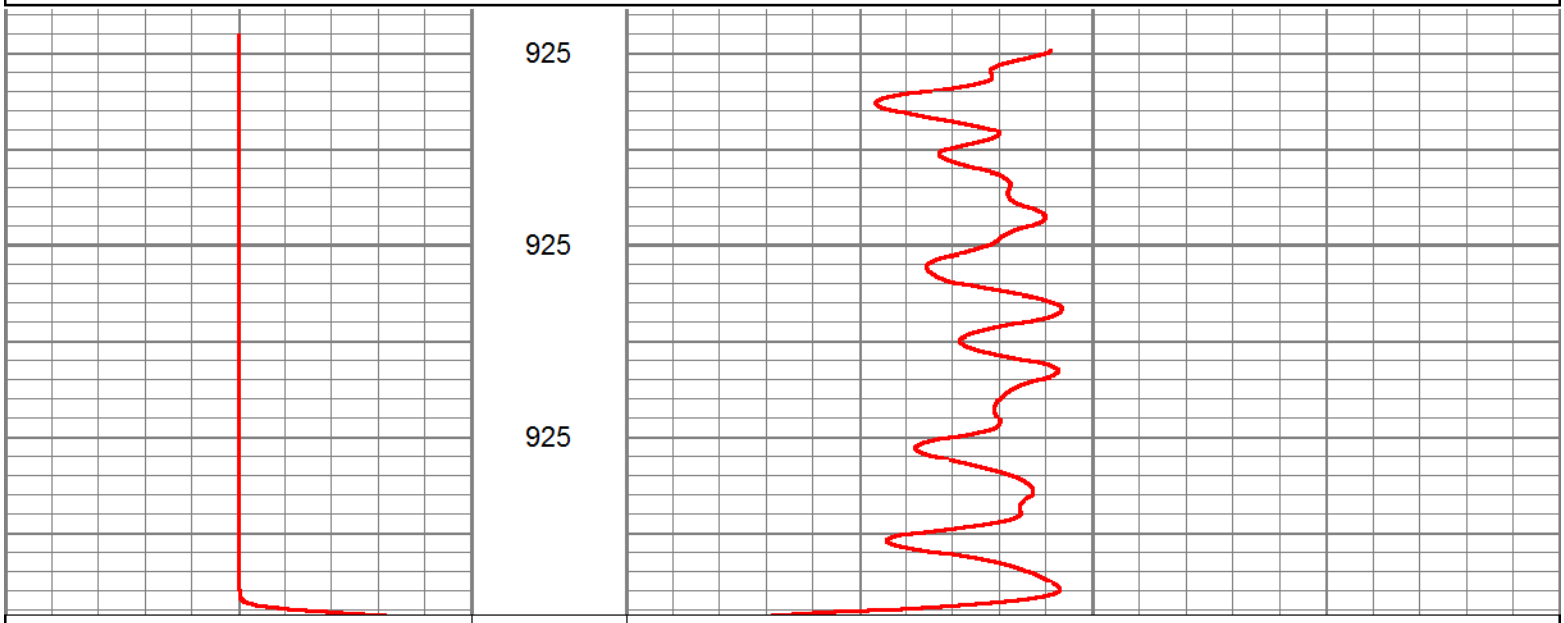
Database File:	kisspoc109.db
Dataset Pathname:	run5/FMSTA920
Presentation Format:	flow_sta
Dataset Creation:	Thu Jun 21 10:28:56 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240



STATION @ 925'

Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA925
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:27:11 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

0 LSPD_DYNAMIC (ft/min) 100	ADPTH (ft)	0 FLOW_DYNAMIC (cps) 100

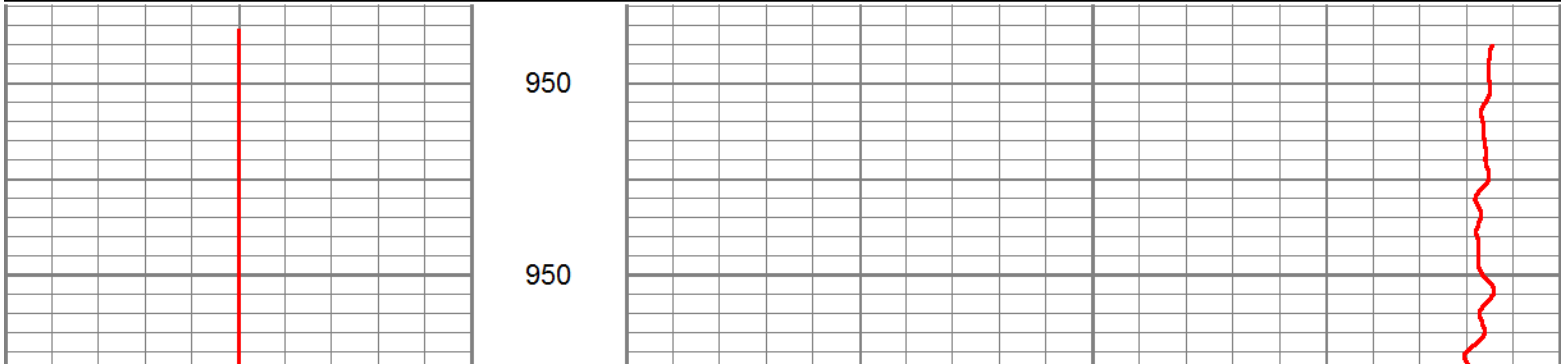


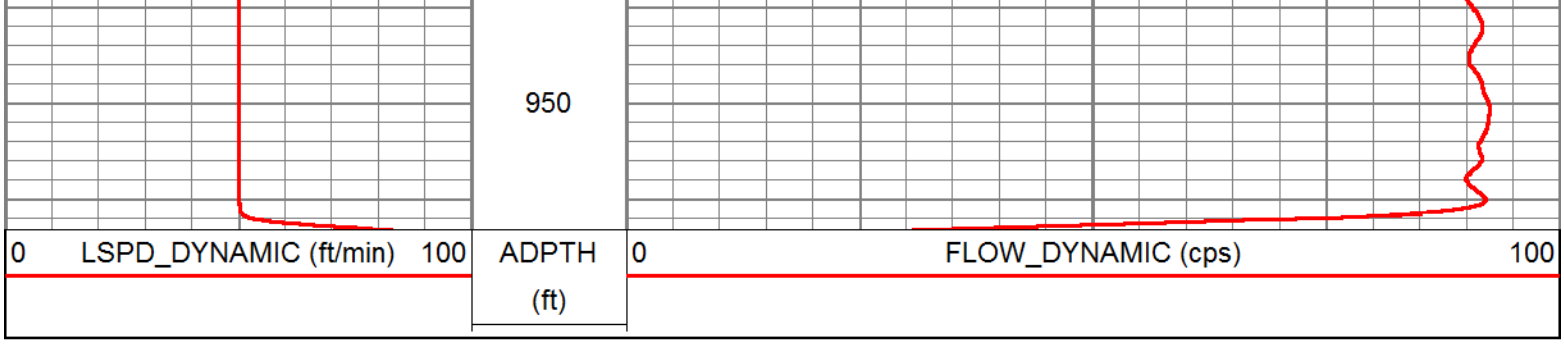
0 LSPD_DYNAMIC (ft/min) 100	ADPTH (ft)	0 FLOW_DYNAMIC (cps) 100

STATION @ 950'

Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA950
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:25:18 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

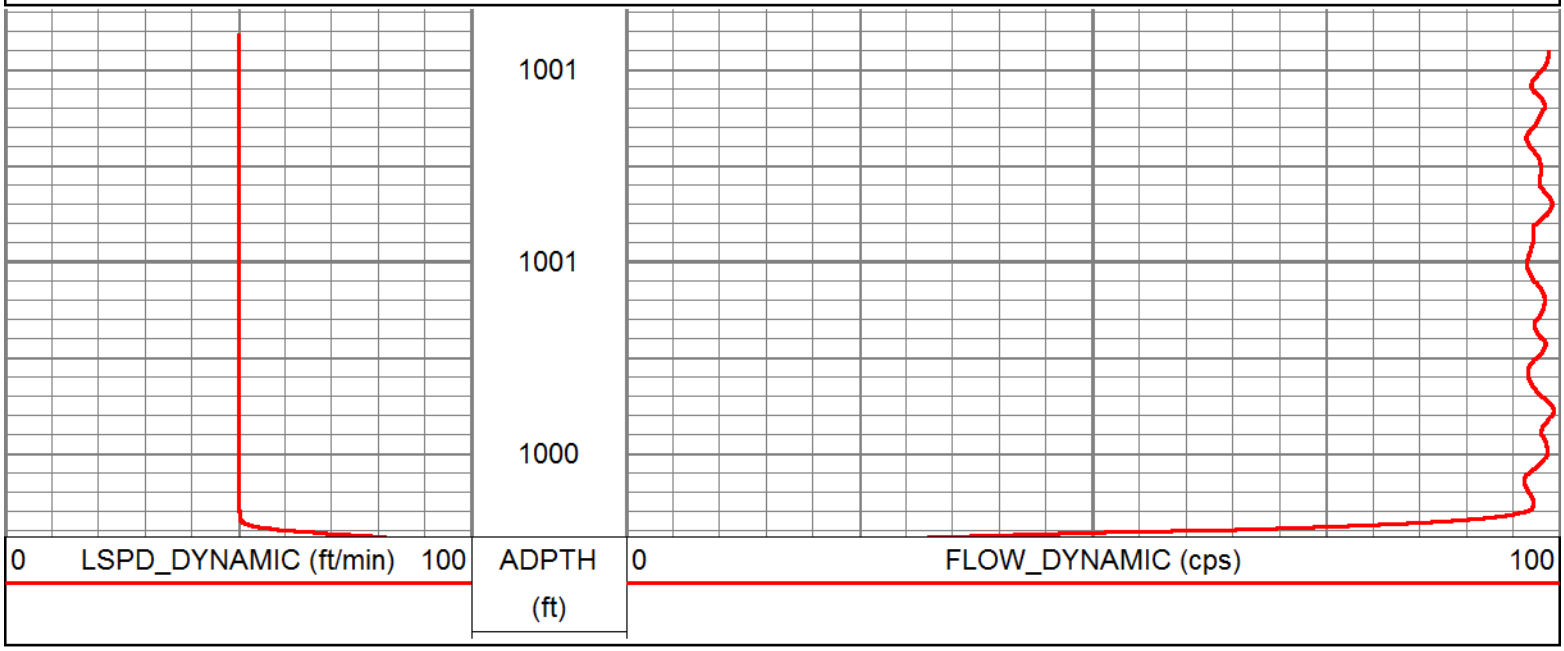
0 LSPD_DYNAMIC (ft/min) 100	ADPTH (ft)	0 FLOW_DYNAMIC (cps) 100





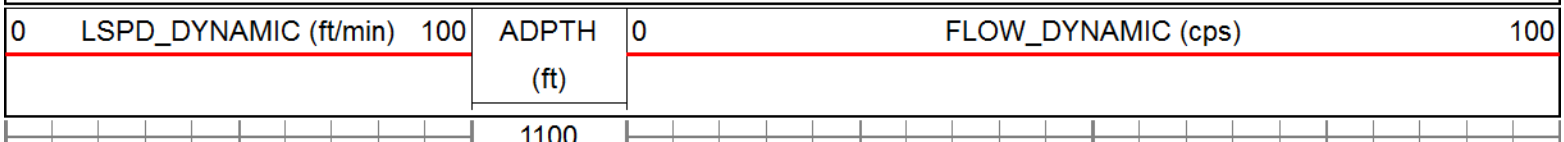
STATION @ 1000'

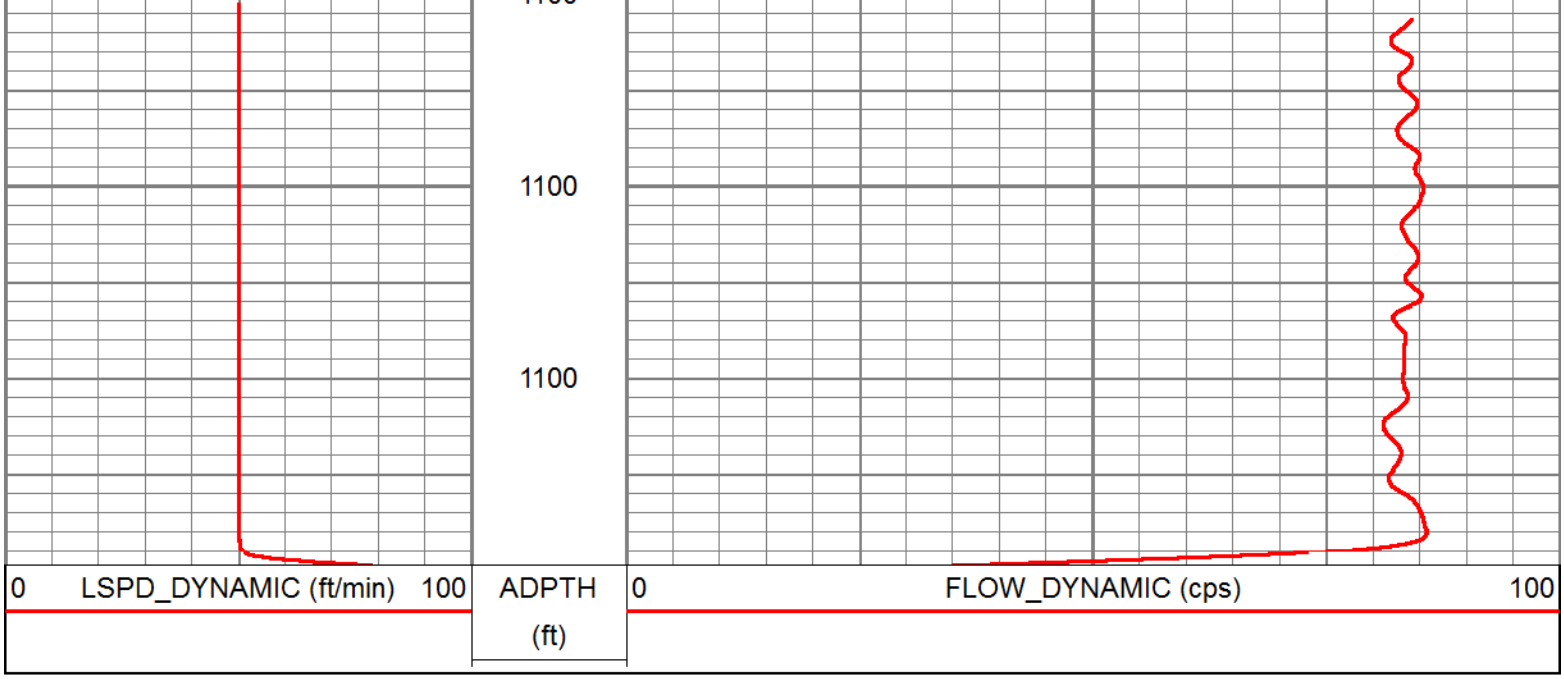
Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA1000
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:23:23 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 1100'

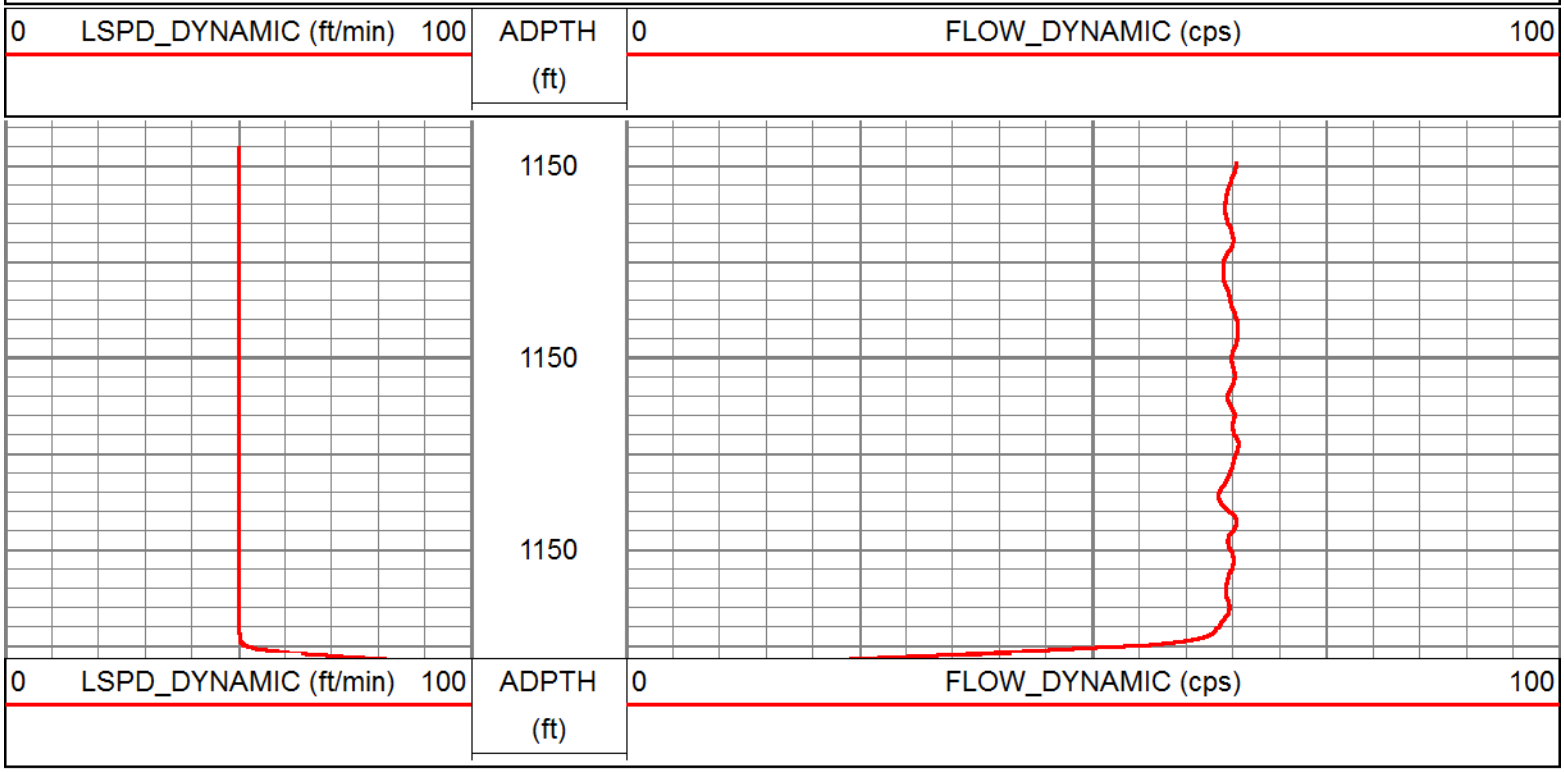
Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA1100
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:21:10 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240





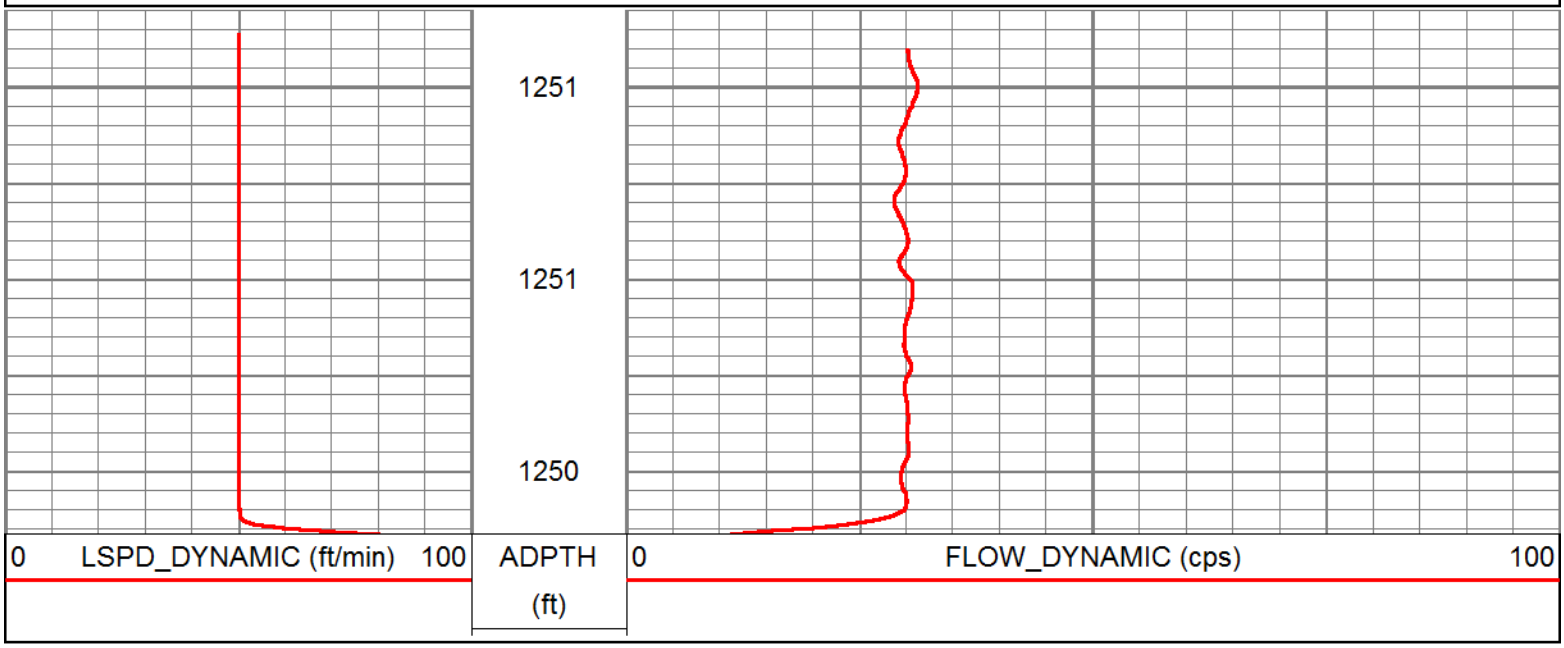
STATION @ 1150'

Database File:	kisspoc109.db
Dataset Pathname:	run5/FMSTA1150
Presentation Format:	flow_sta
Dataset Creation:	Thu Jun 21 10:19:20 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240



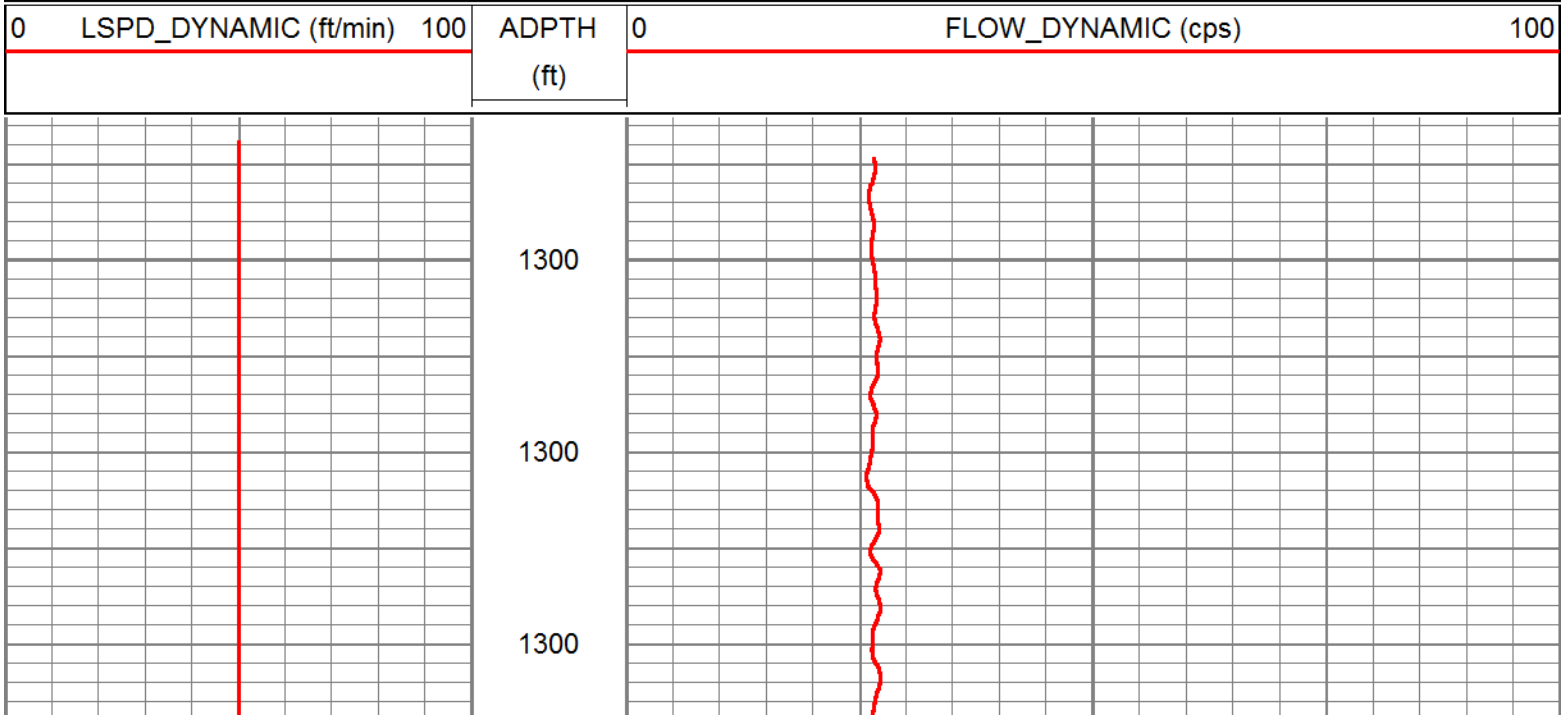
STATION @ 1250'

Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA1250
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:17:02 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 1300'

Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA1300
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:14:56 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

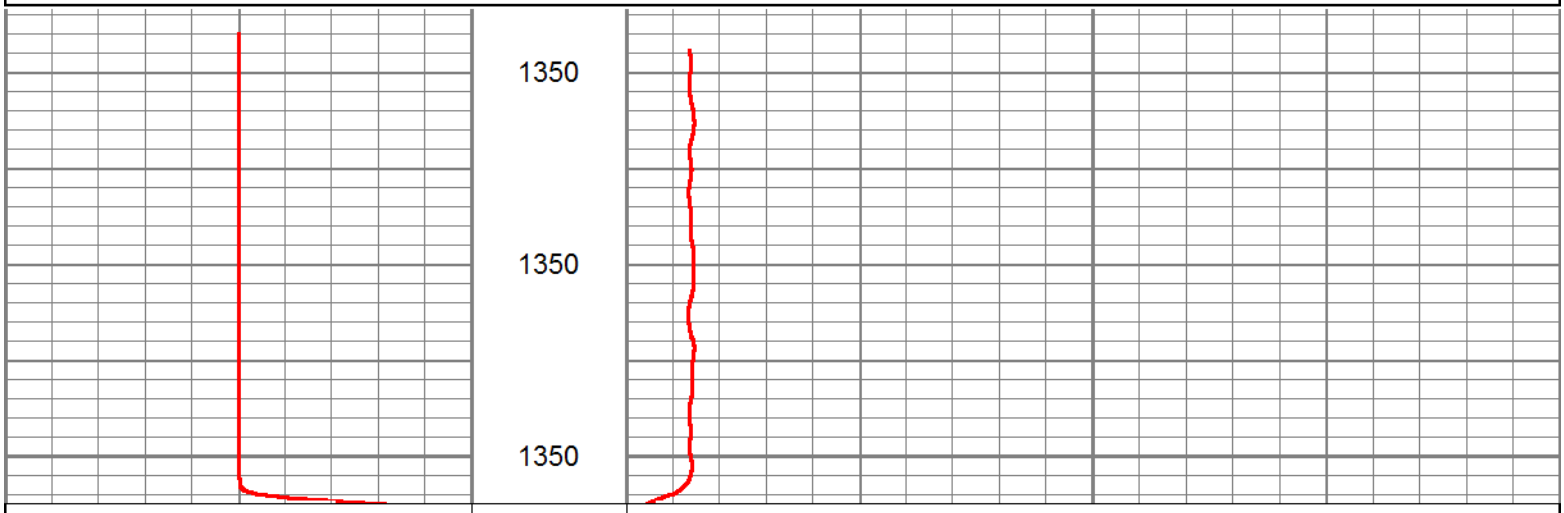


0 LSPD_DYNAMIC (ft/min) 100	ADPTH (ft)	0 FLOW_DYNAMIC (cps) 100

STATION @ 1350'

Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA1350
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:11:52 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

0 LSPD_DYNAMIC (ft/min) 100	ADPTH (ft)	0 FLOW_DYNAMIC (cps) 100

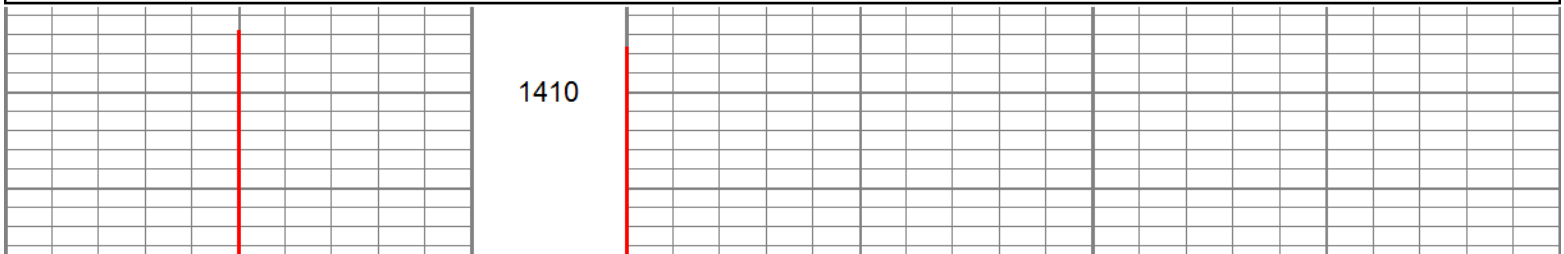


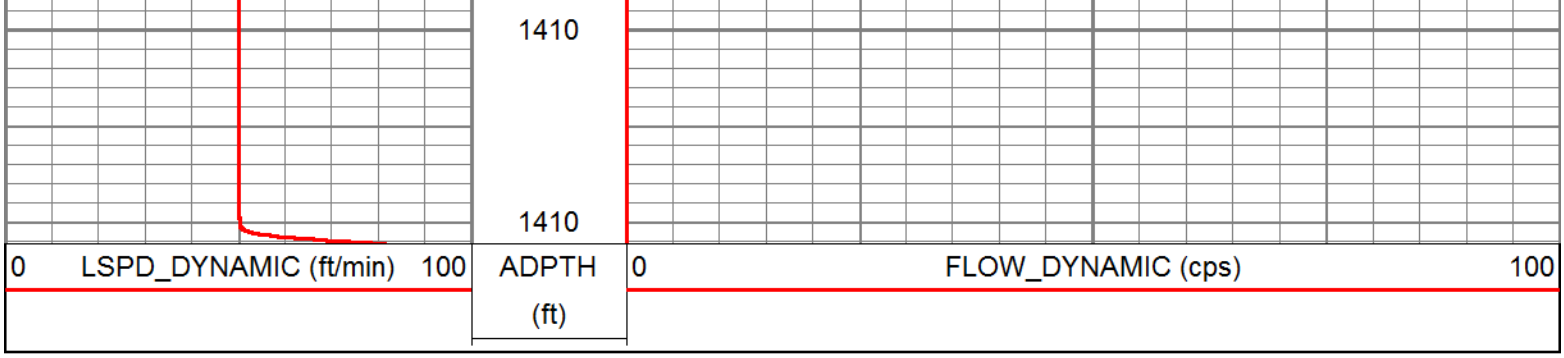
0 LSPD_DYNAMIC (ft/min) 100	ADPTH (ft)	0 FLOW_DYNAMIC (cps) 100

STATION @ 1410'

Database File: kisspoc109.db
Dataset Pathname: run5/FMSTA1410
Presentation Format: flow_sta
Dataset Creation: Thu Jun 21 10:07:31 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

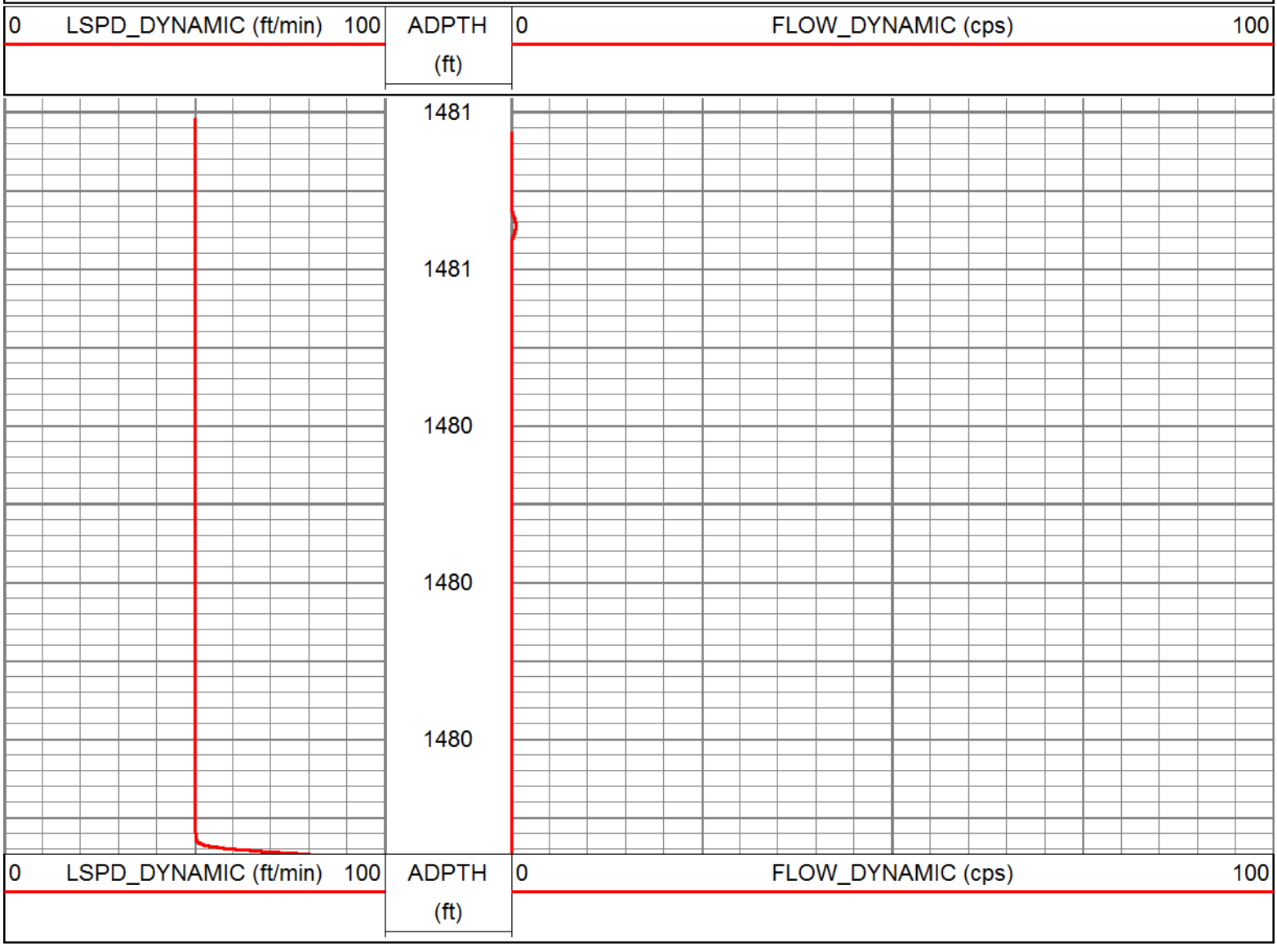
0 LSPD_DYNAMIC (ft/min) 100	ADPTH (ft)	0 FLOW_DYNAMIC (cps) 100





STATION @ 1480'

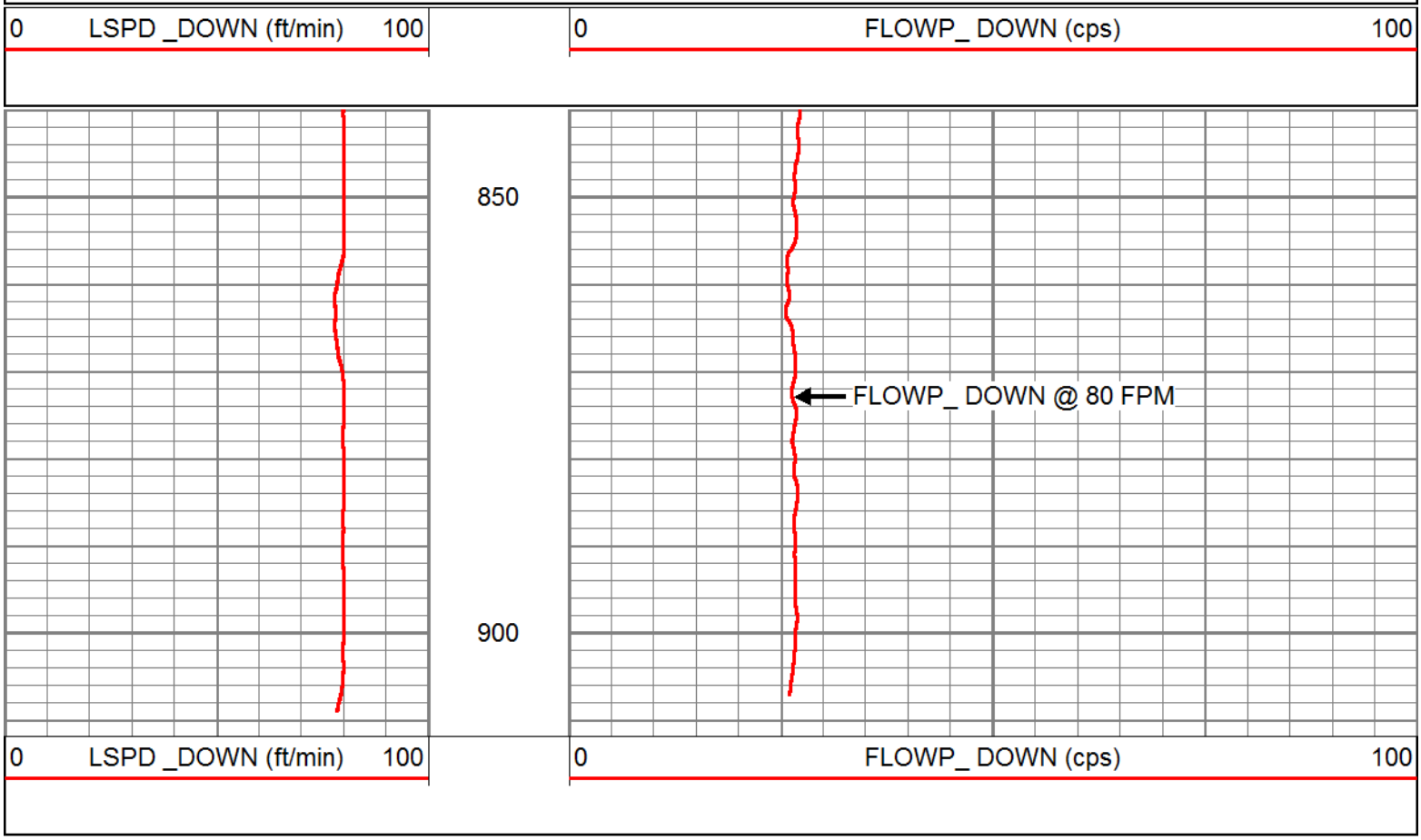
Database File:	kisspoc109.db
Dataset Pathname:	run5/FMSTAT148
Presentation Format:	flow_sta
Dataset Creation:	Thu Jun 21 10:04:04 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240



CALS @ 80 FPM

ALLWEBBS ENTERPRISES, INC.

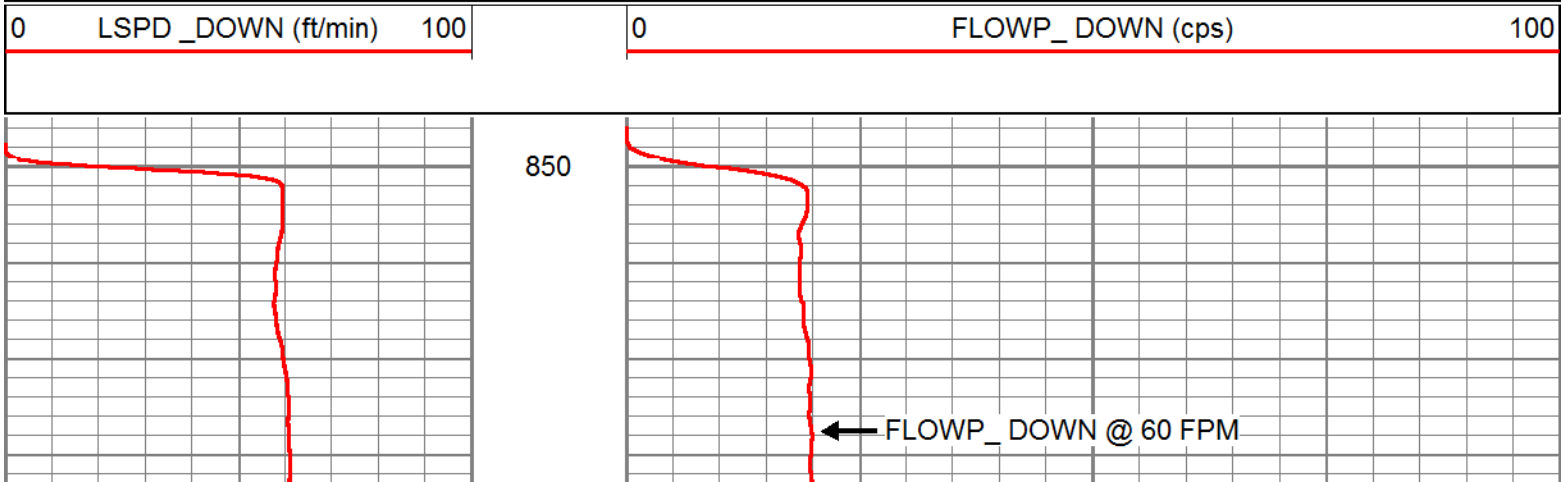
Database File: kisspoc109.db
Dataset Pathname: run5/FMCAL80
Presentation Format: flow
Dataset Creation: Thu Jun 21 09:12:52 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

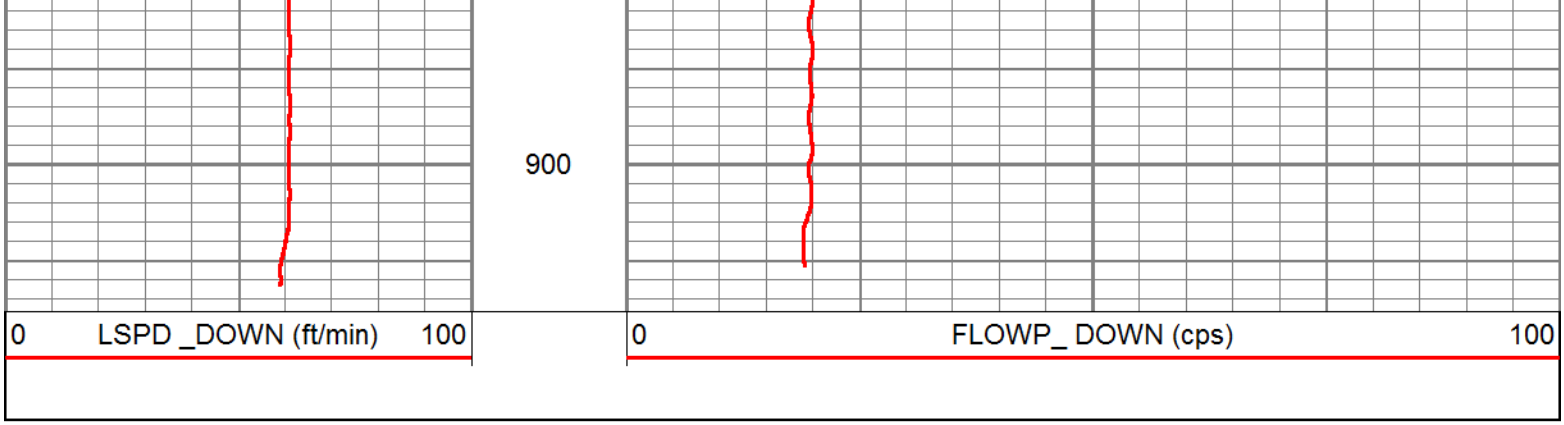


ALLWEBBS ENTERPRISES, INC.

CALS @ 60 FPM

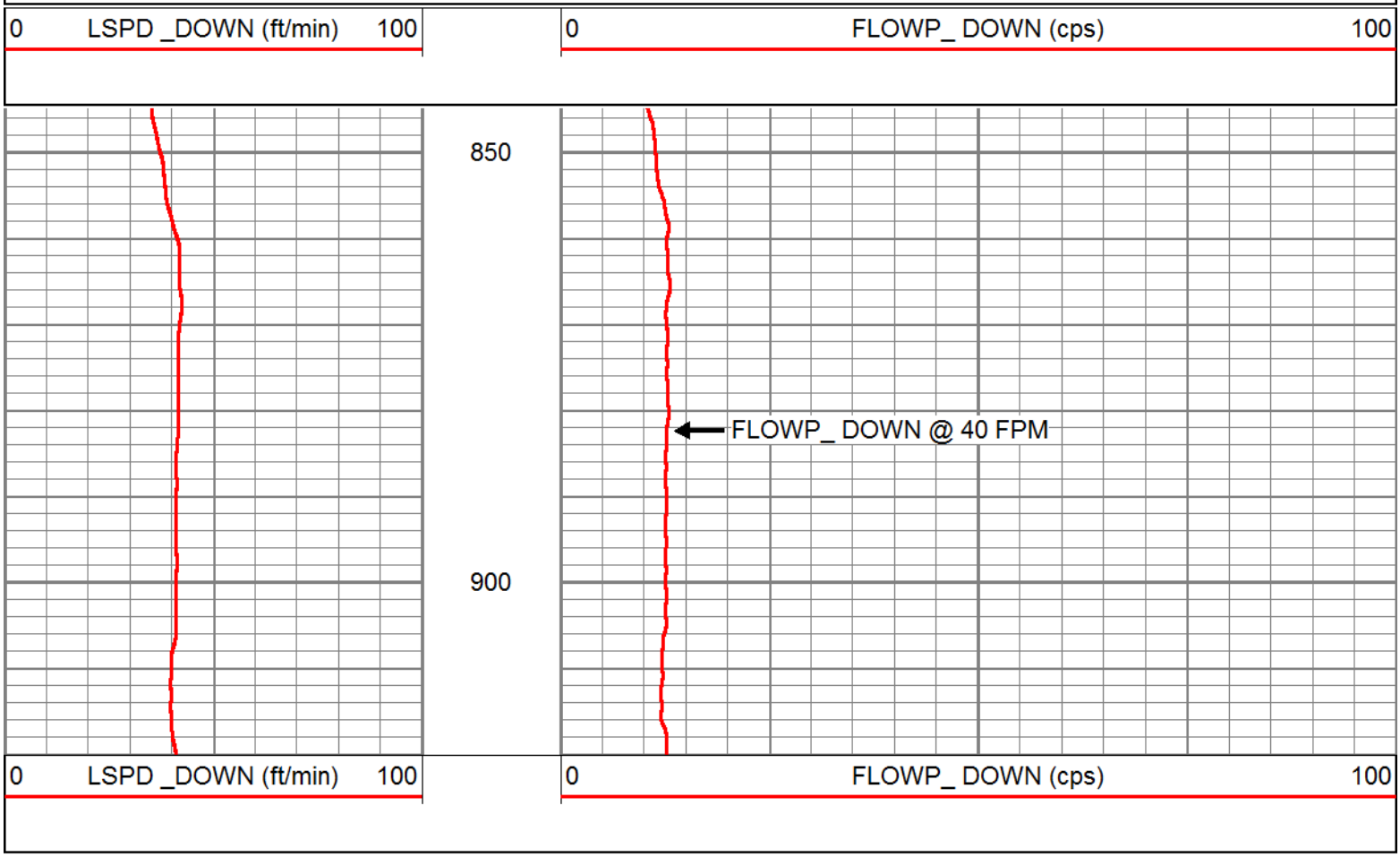
Database File: kisspoc109.db
Dataset Pathname: run5/FMCAL60
Presentation Format: flow
Dataset Creation: Thu Jun 21 09:10:37 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240





CALS @ 40 FPM

Database File:	kisspoc109.db
Dataset Pathname:	run5/FMCAL40
Presentation Format:	flow
Dataset Creation:	Thu Jun 21 09:06:19 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240



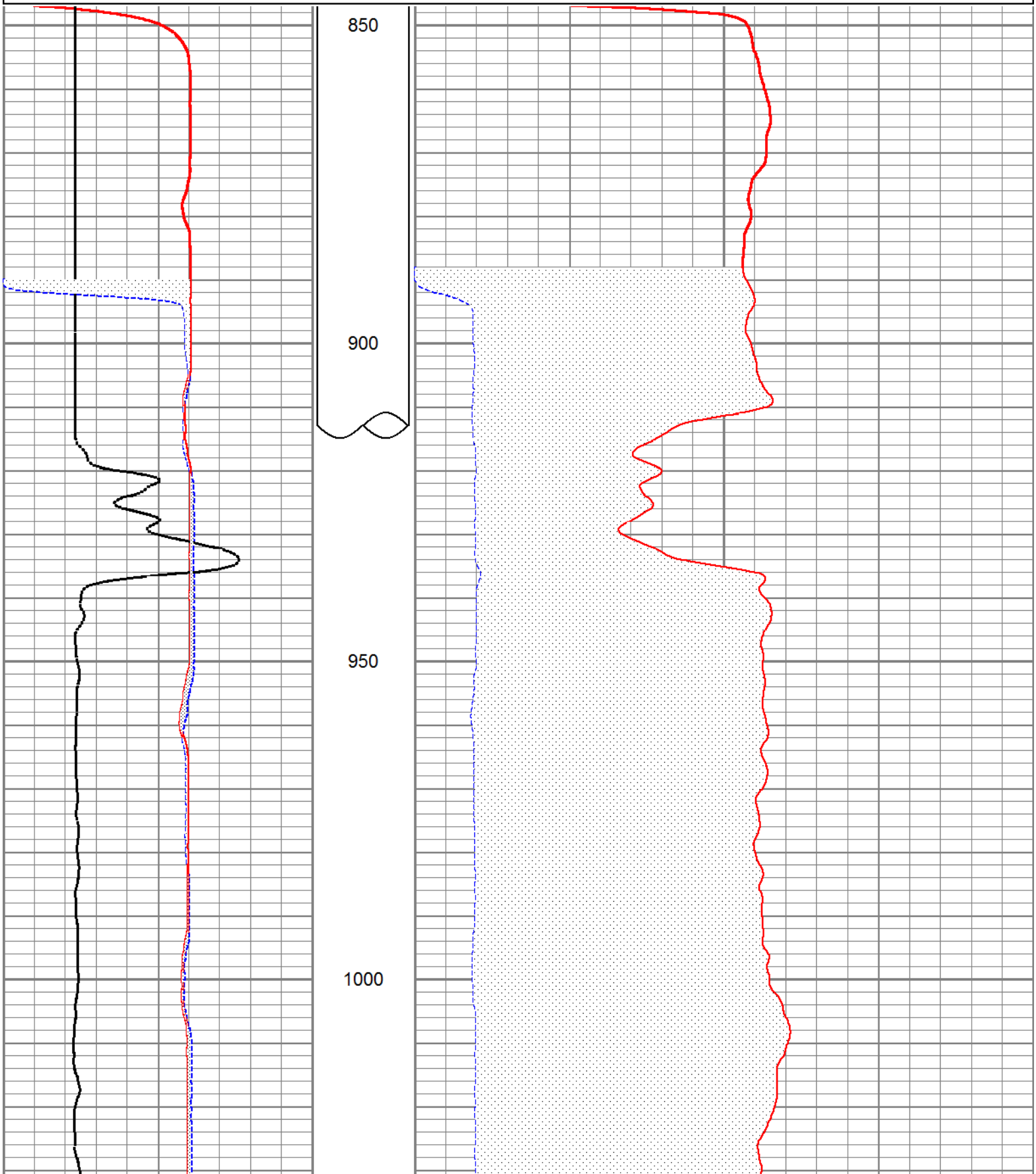
FLOWRATE = 3,500 GPM

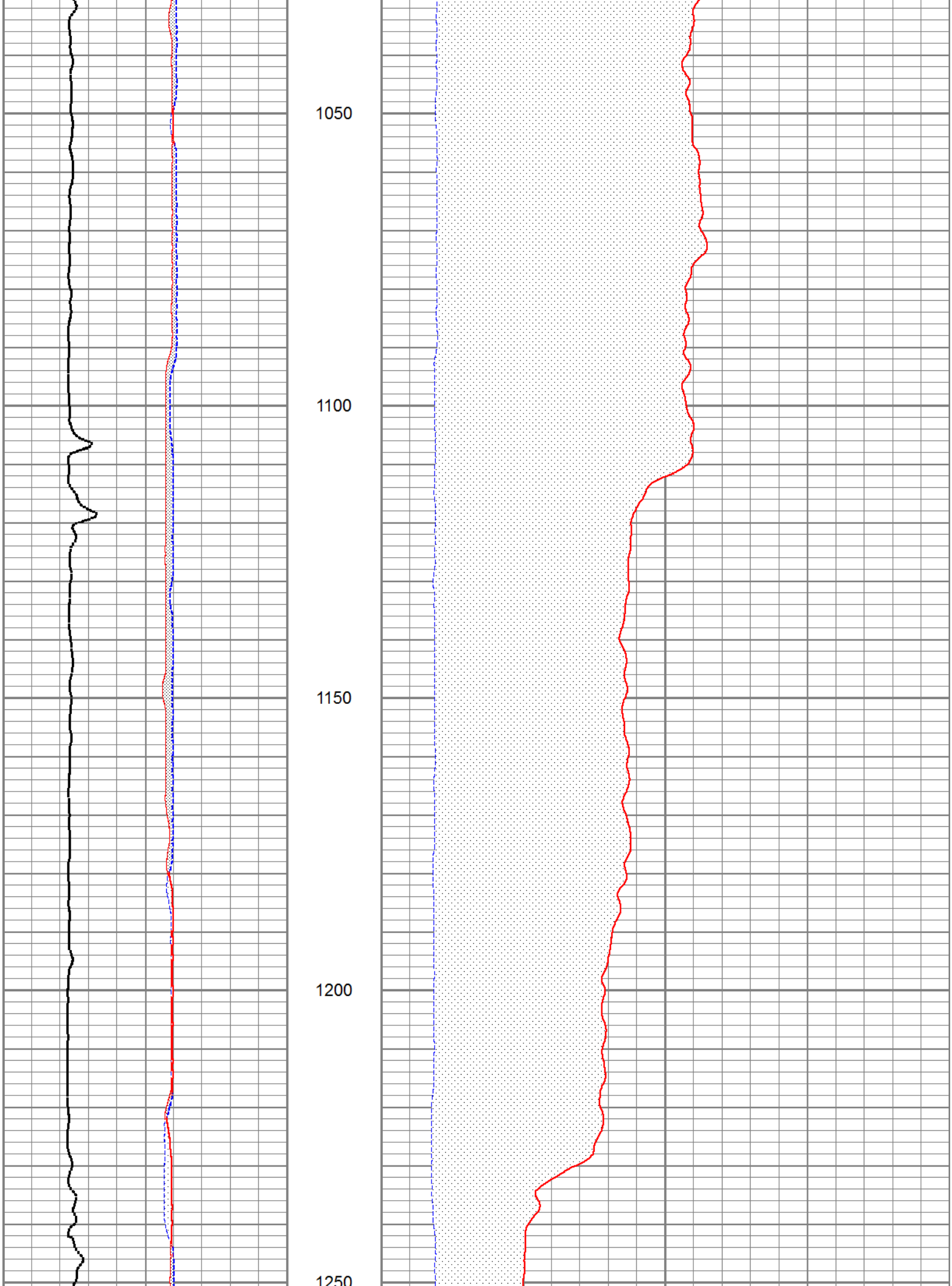
Database File:	kisspoc109.db

Dataset Pathname: run5/FMDY601
Presentation Format: flow_mg
Dataset Creation: Thu Jun 21 09:52:03 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

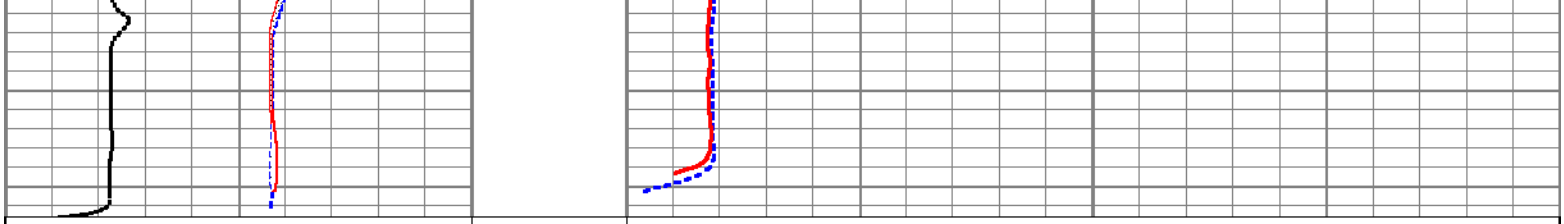
0	LSPD_STATIC (ft/min)	100
0	LSPD_DYNAMIC (ft/min)	100
10	CALA (in)	50

0	FLOW_STATIC (cps)	200
0	FLOW_DYNAMIC (cps)	200




1050
1100
1150
1200
1250


1300
1350
1400
1450



0	LSPD_STATIC (ft/min)	100
0	LSPD_DYNAMIC (ft/min)	100
10	CALA (in)	50

0	FLOW_STATIC (cps)	200
0	FLOW_DYNAMIC (cps)	200

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CBLINLINE	3.00	1.50	10.00
			FLOWMETER-TITAN (TITAN_3") TITIN_3'	3.00	1.69	25.00
FLOWP FLOWN	0.25 0.25					

Dataset: kisspoc109.db: field/well/run5/FMSTA1000
Total Length: 7.00 ft
Total Weight: 40.00 lb
O.D. 1.69 in

O.D.	1.69 in

DEVIATION SURVEY LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well POC#109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :

SEC TWP RGE

Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Company	SOUTH FLORIDA MGT. DISTRICT
Well	POC#109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Date	20-JUN-2012
Run Number	FIVE
Depth Driller	1491'
Depth Logger	1493'
Bottom Logged Interval	1493'
Top Log Interval	CASING
Open Hole Size	19"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'
FOUR	25"	CASING	910'

Borehole Record

Run Number	Bit	From	To
FIVE	19"	CASING	1491'

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner				

<<< Fold Here >>>

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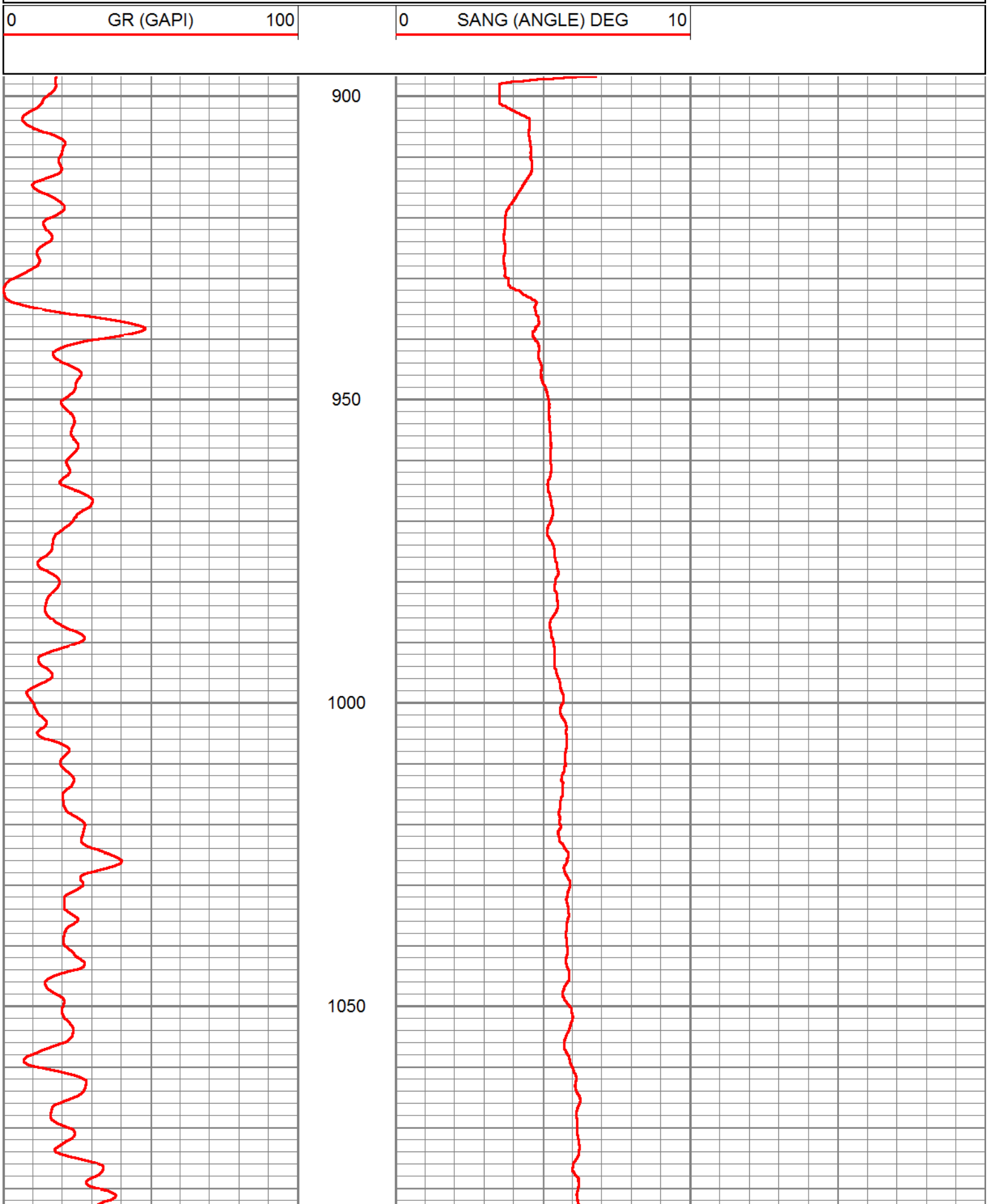
Comments

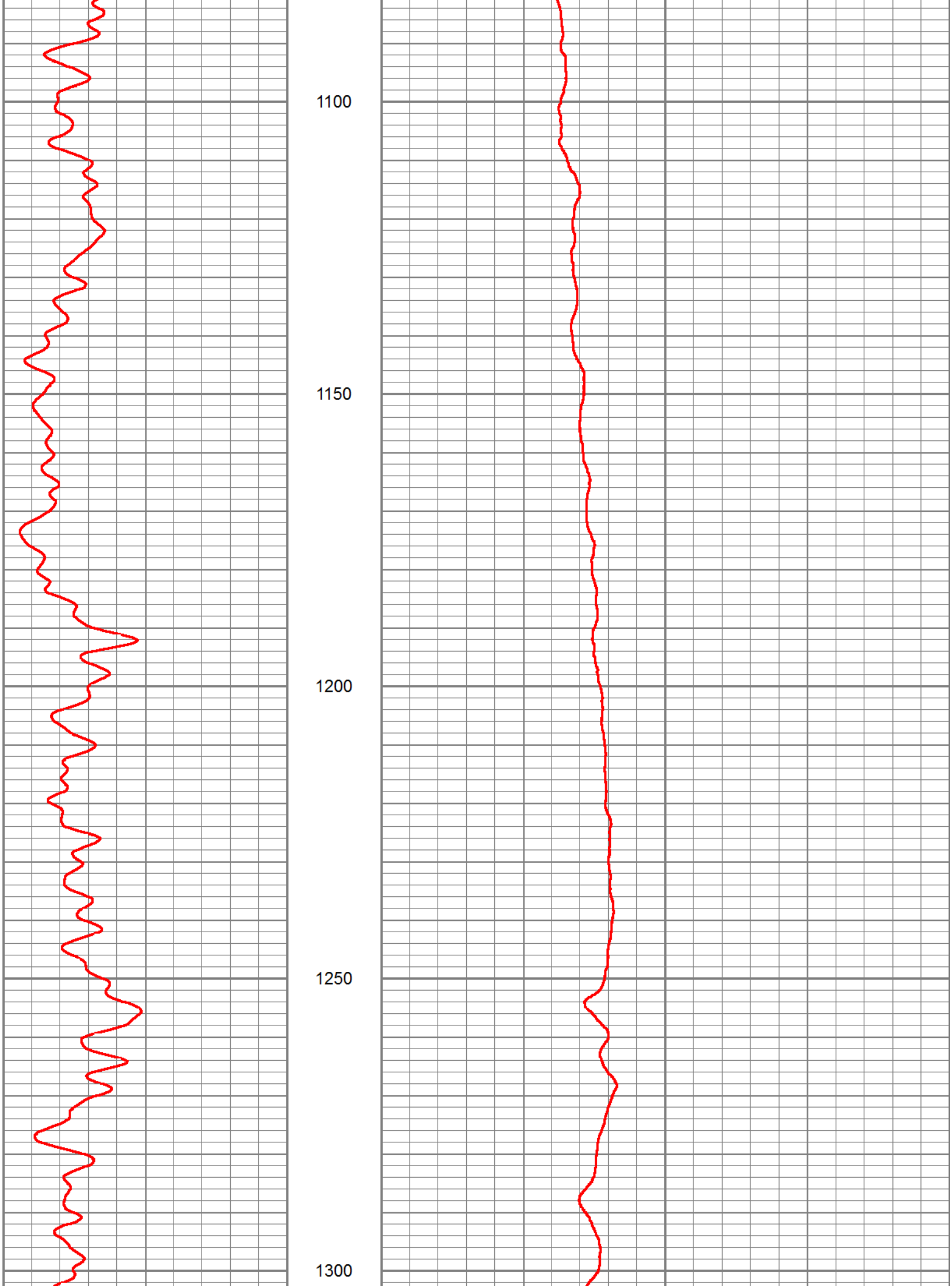
FCT
FLOWMETER
DIL/GR
RES/GR/SP
XYC/GR
BHC/VDL
DHTVS

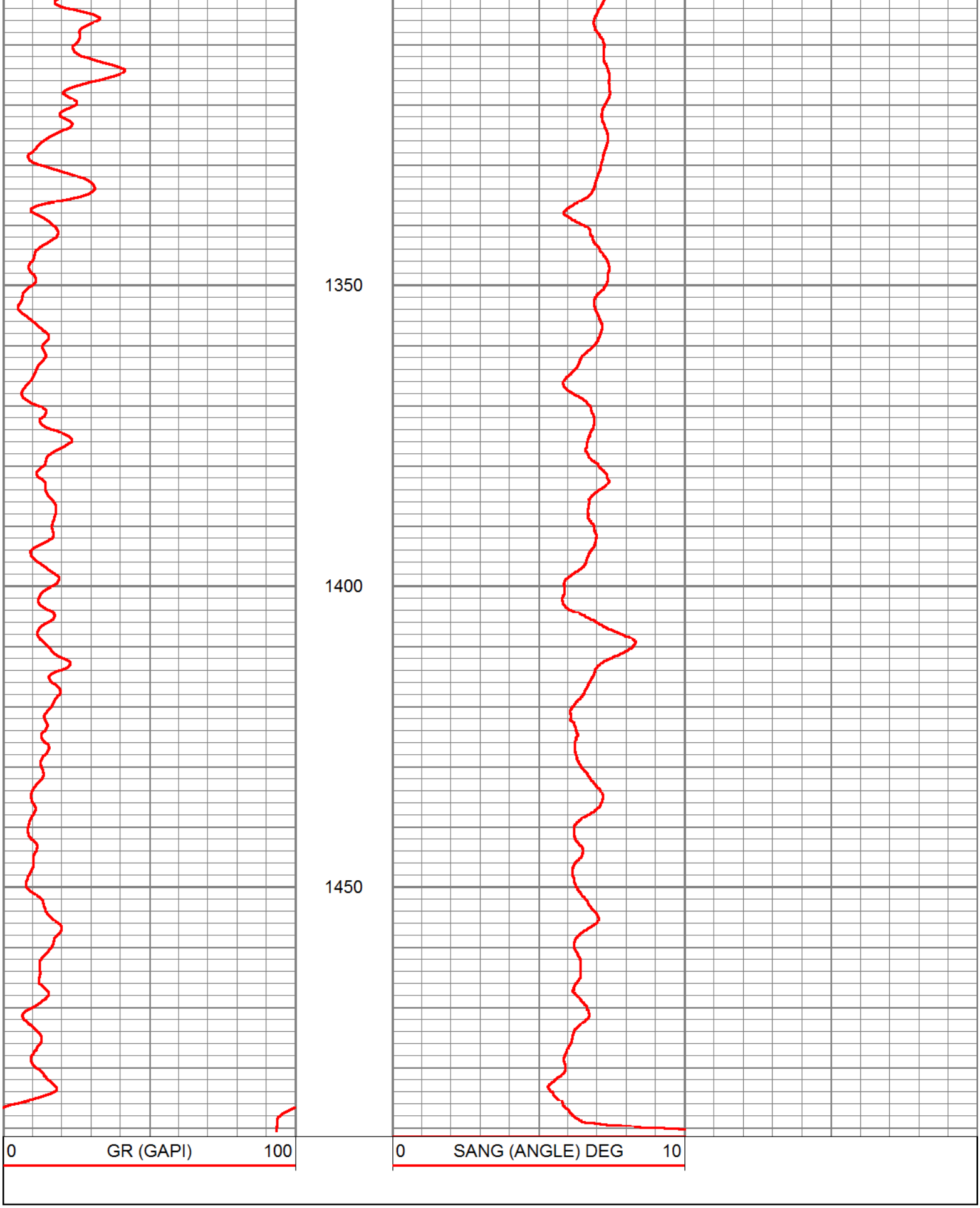
DEVIATION

ENTERPRISES, INC.

Database File:	kisspoc109.db
Dataset Pathname:	run5DEVI/@036f6c8f
Presentation Format:	DEVIAT~1
Dataset Creation:	Wed Jun 20 22:02:07 2012
Charted by:	Depth in Feet scaled 1:240




1100
1150
1200
1250
1300


1350
1400
1450
0
GR (GAPI)
100
0
SANG (ANGLE) DEG
10

X-Y CALIPER GAMMA RAY LOG

ALLWEBBS ENTERPRISES, INC.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF #109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well OSF #109

Field KISSIMMEE BASIN (LFA-C)

County OSCEOLA State FLORIDA

Location: API # :

SEC TWP RGE

Other Services SEE COMMENTS

Permanent Datum	PAD	Elevation	Elevation
Log Measured From	PAD		K.B.
Drilling Measured From	PAD		D.F.
			G.L.

Date	4-AUG-2012		
Run Number	SIX		
Depth Driller	2001'		
Depth Logger	2002'		
Bottom Logged Interval	2002'		
Top Log Interval	CASING		
Open Hole Size	10.75"		
Type Fluid	WATER		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	00:00		
Time Logger on Bottom	00:00		
Equipment Number	VA-202		
Location	JUPTIER		
Recorded By	LEE		
Witnessed By			

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	12.25"	CASING	303'	FIVE	19"	CASING	1491'
TWO	32"	CASING	303'	SIX	10.75"	CASING	2001'
THREE	12.25"	CASING	920'				
FOUR	25"	CASING	910'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner	12"	.375 W.T	897'	1489'

<<< Fold Here >>>

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Comments

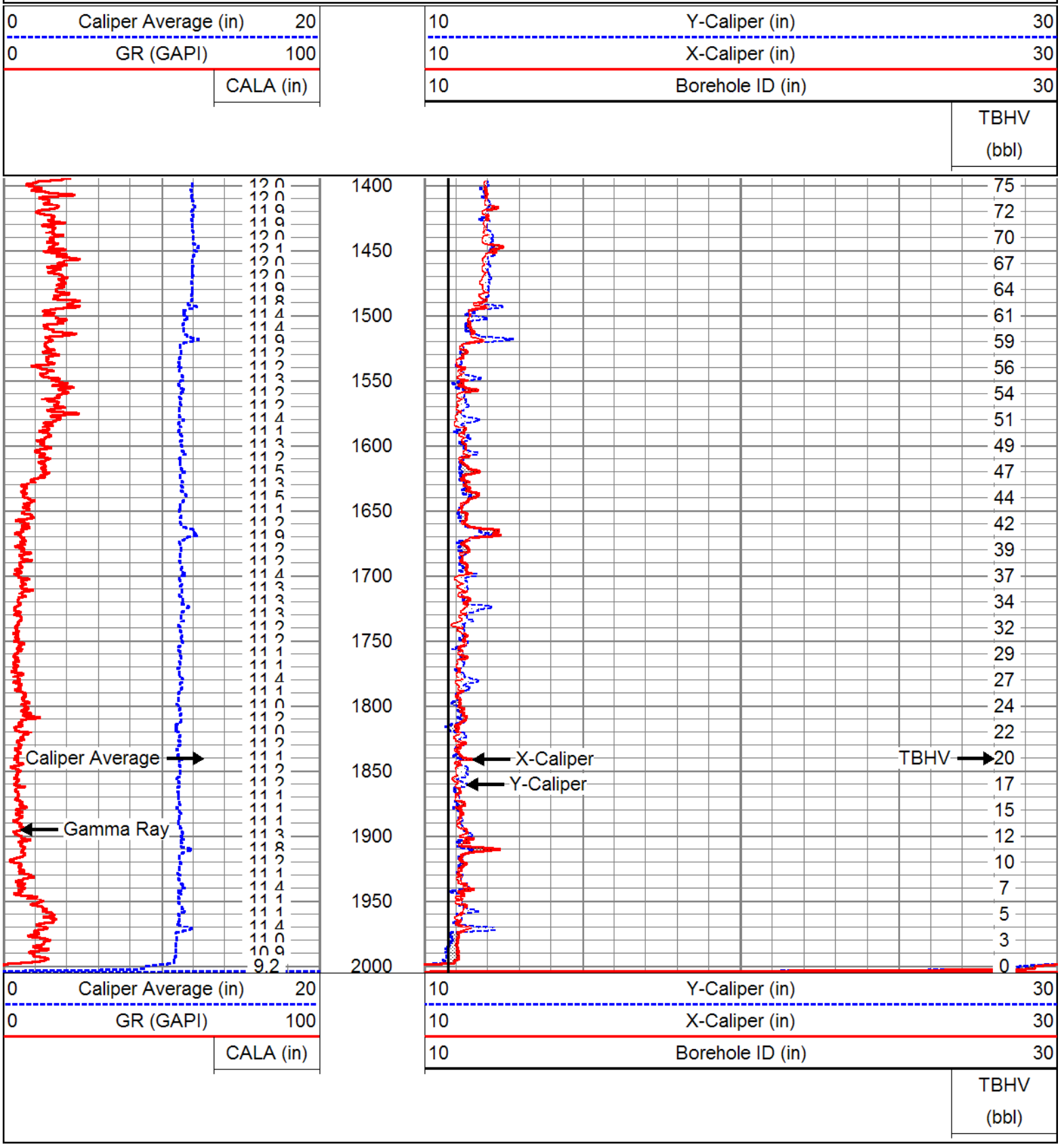
FLOWMETER
DEVIATION
RES/GR/SP
BHC/SONIC/VDL
DIL/SP/GR
FCT
DHTVS

MAIN PASS

ALLWEBBS

ENTERPRISES, INC.

Database File:	kisspoc109.db
Dataset Pathname:	run6/XYCMP3
Presentation Format:	xyc
Dataset Creation:	Thu Jul 26 18:09:31 2012 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:1200



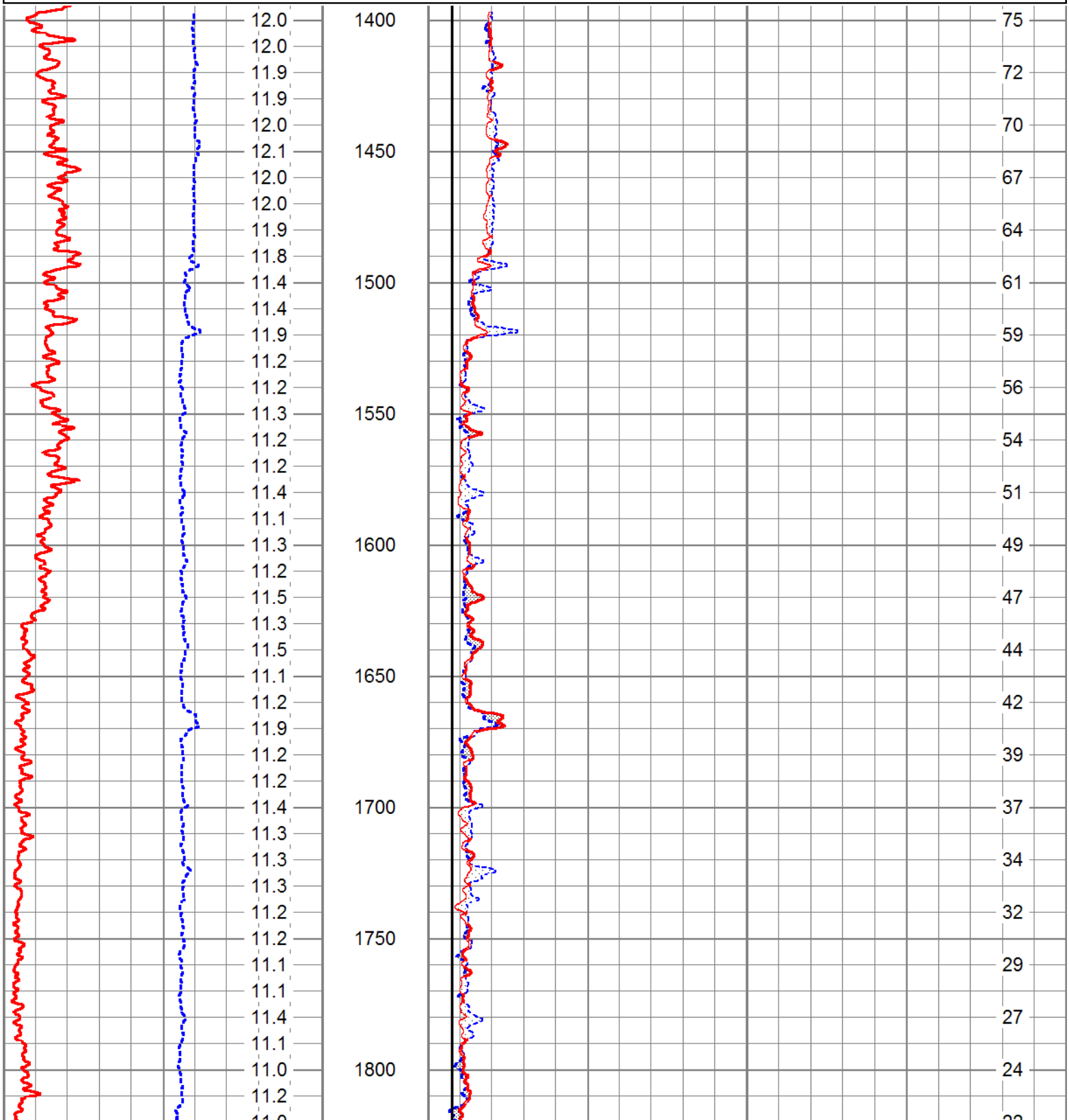
MAIN PASS

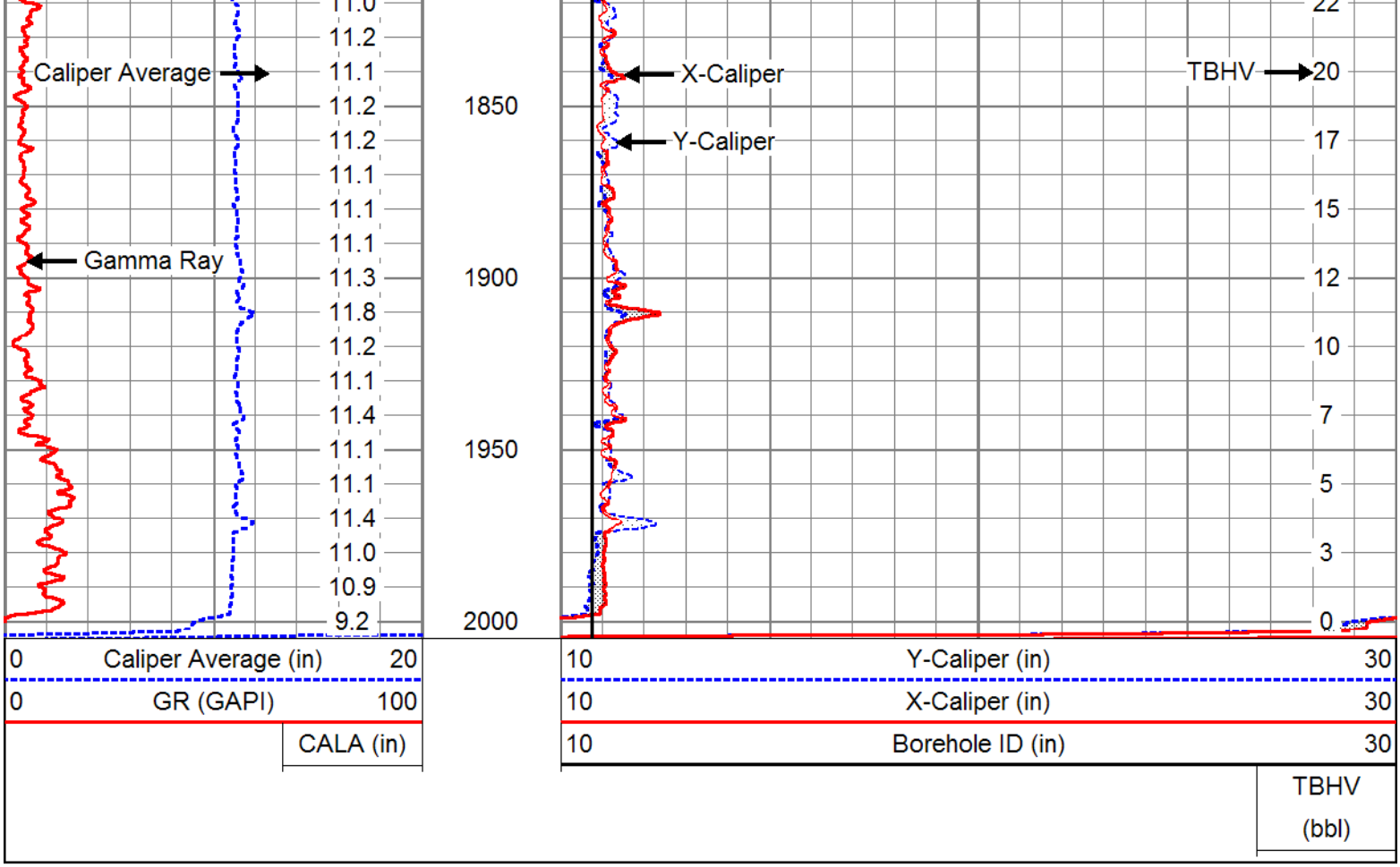
ALLWELLS
ENTERPRISES, INC.

Database File:	kisspoc109.db
Dataset Pathname:	run6/XYCMP3
Presentation Format:	xyc
Dataset Creation:	Thu Jul 26 18:09:31 2012 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:600

0	Caliper Average (in)	20
0	GR (GAPI)	100
	CALA (in)	

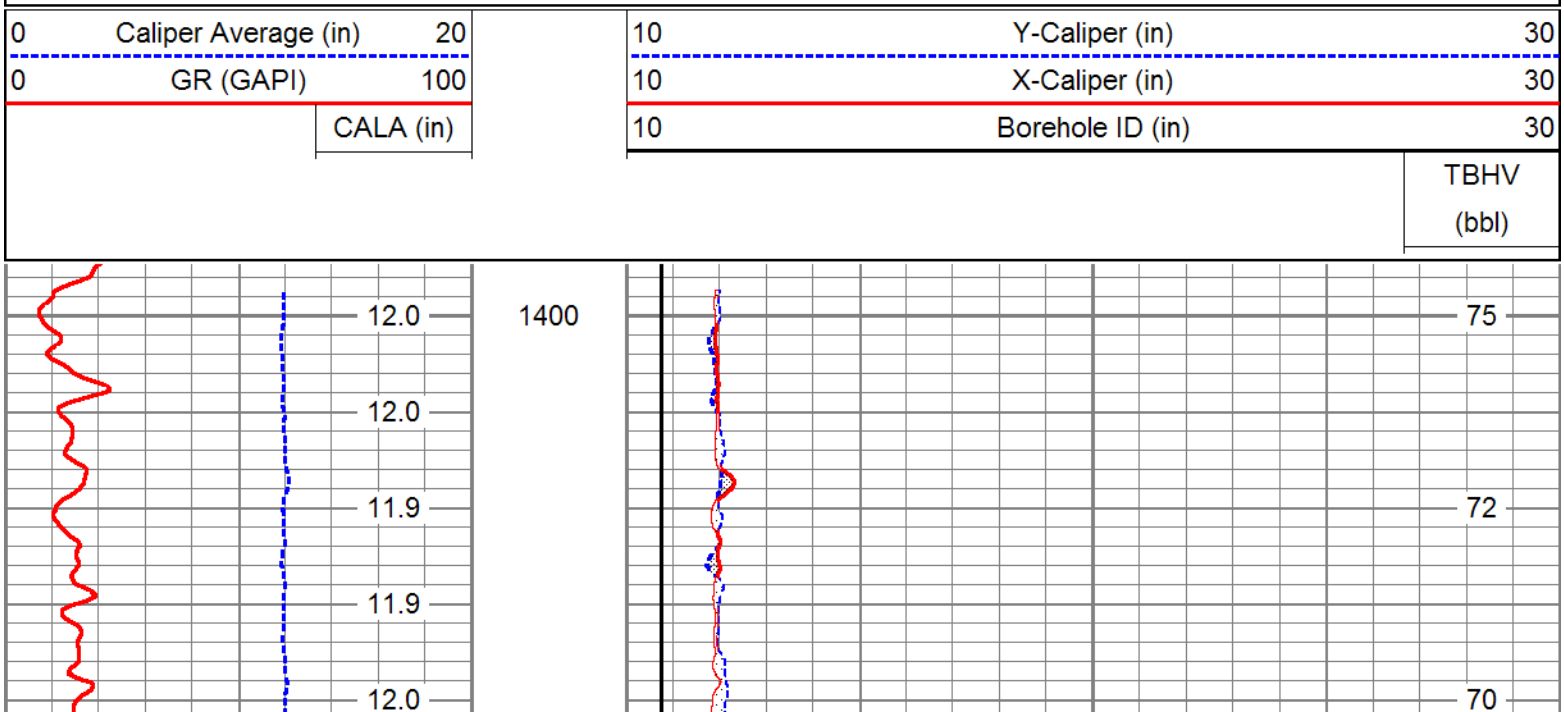
10	Y-Caliper (in)	30
10	X-Caliper (in)	30
10	Borehole ID (in)	30
	TBHV (bbl)	

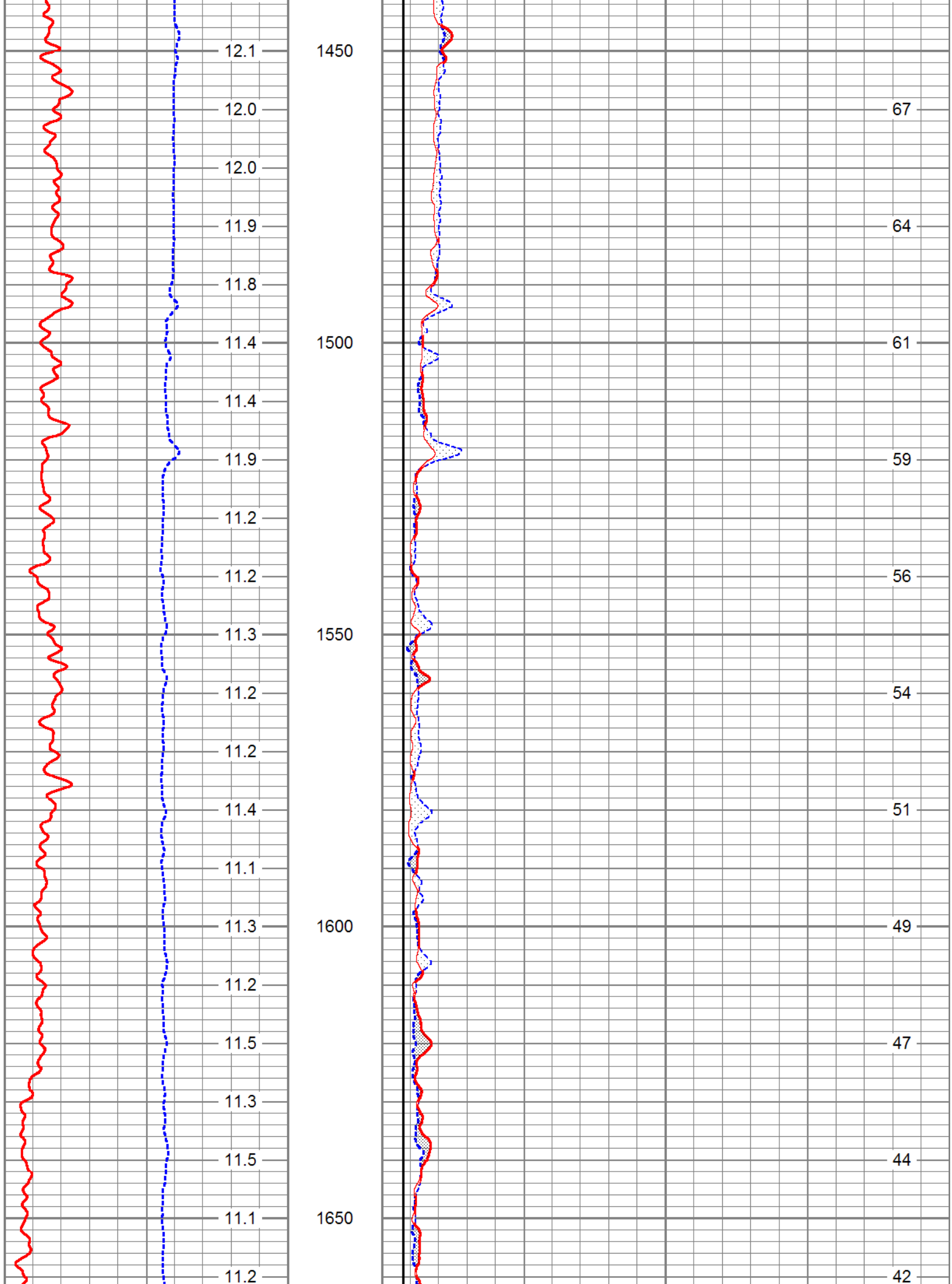


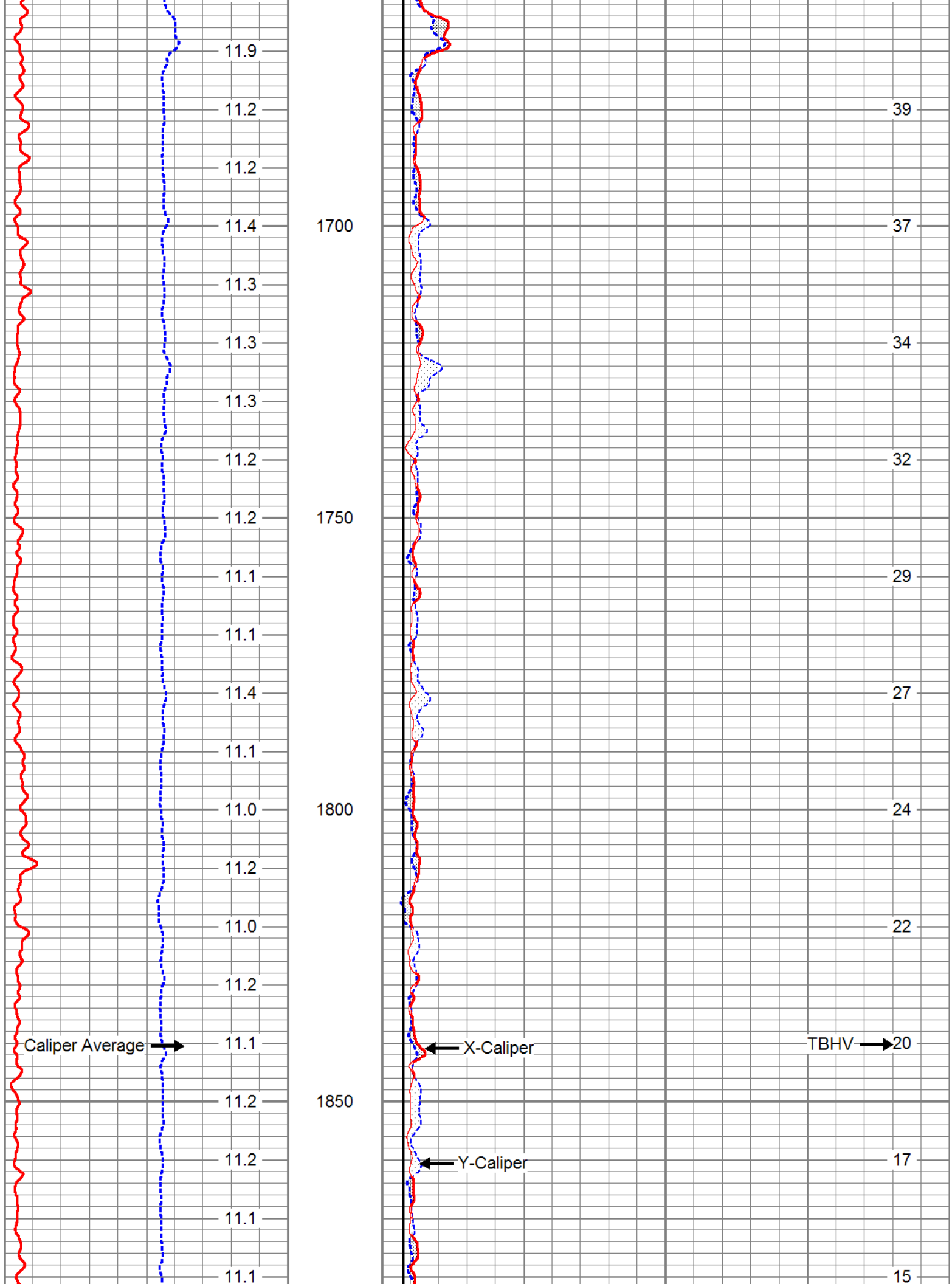


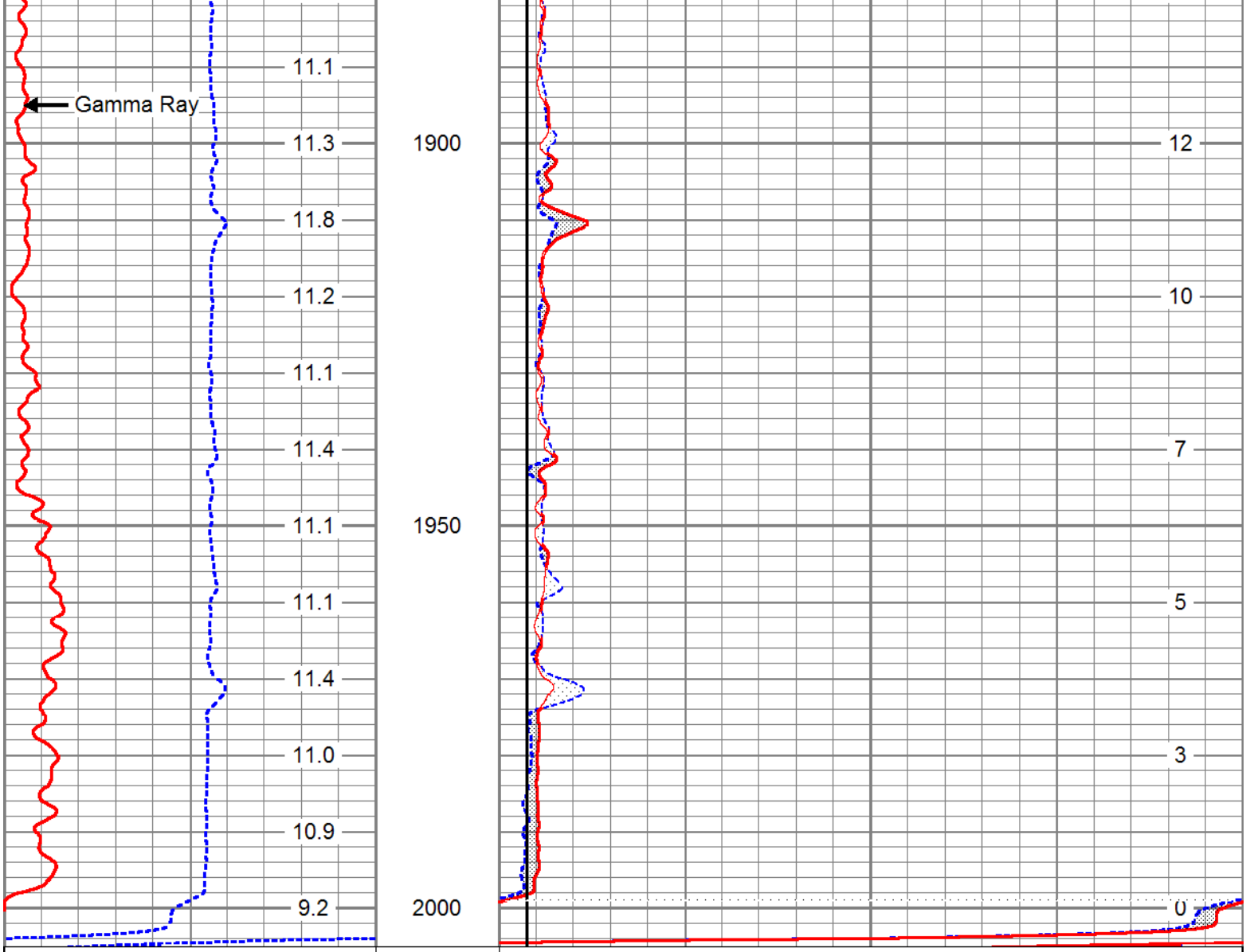
MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run6/XYCMP3
Presentation Format: xyc
Dataset Creation: Thu Jul 26 18:09:31 2012 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



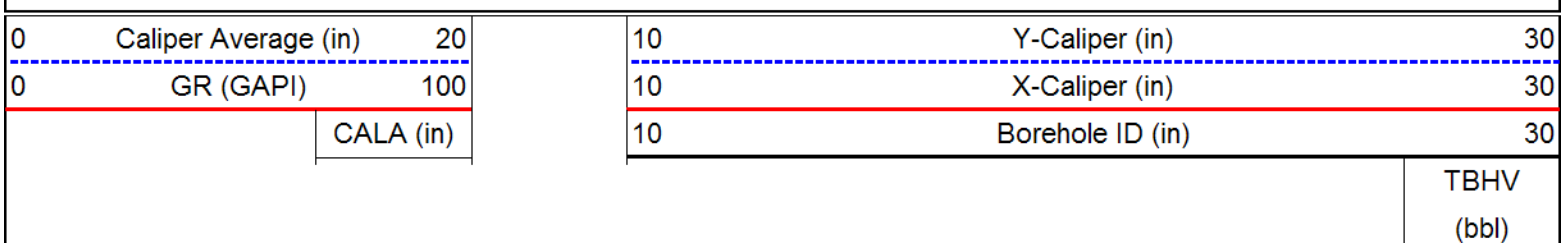

12.1
12.0
12.0
11.9
11.8
11.4
11.4
11.9
11.2
11.2
11.3
11.2
11.2
11.4
11.1
11.3
11.2
11.5
11.3
11.5
11.1
11.2
1450
1500
1550
1600
1650
67
64
61
59
56
54
51
49
47
44
42

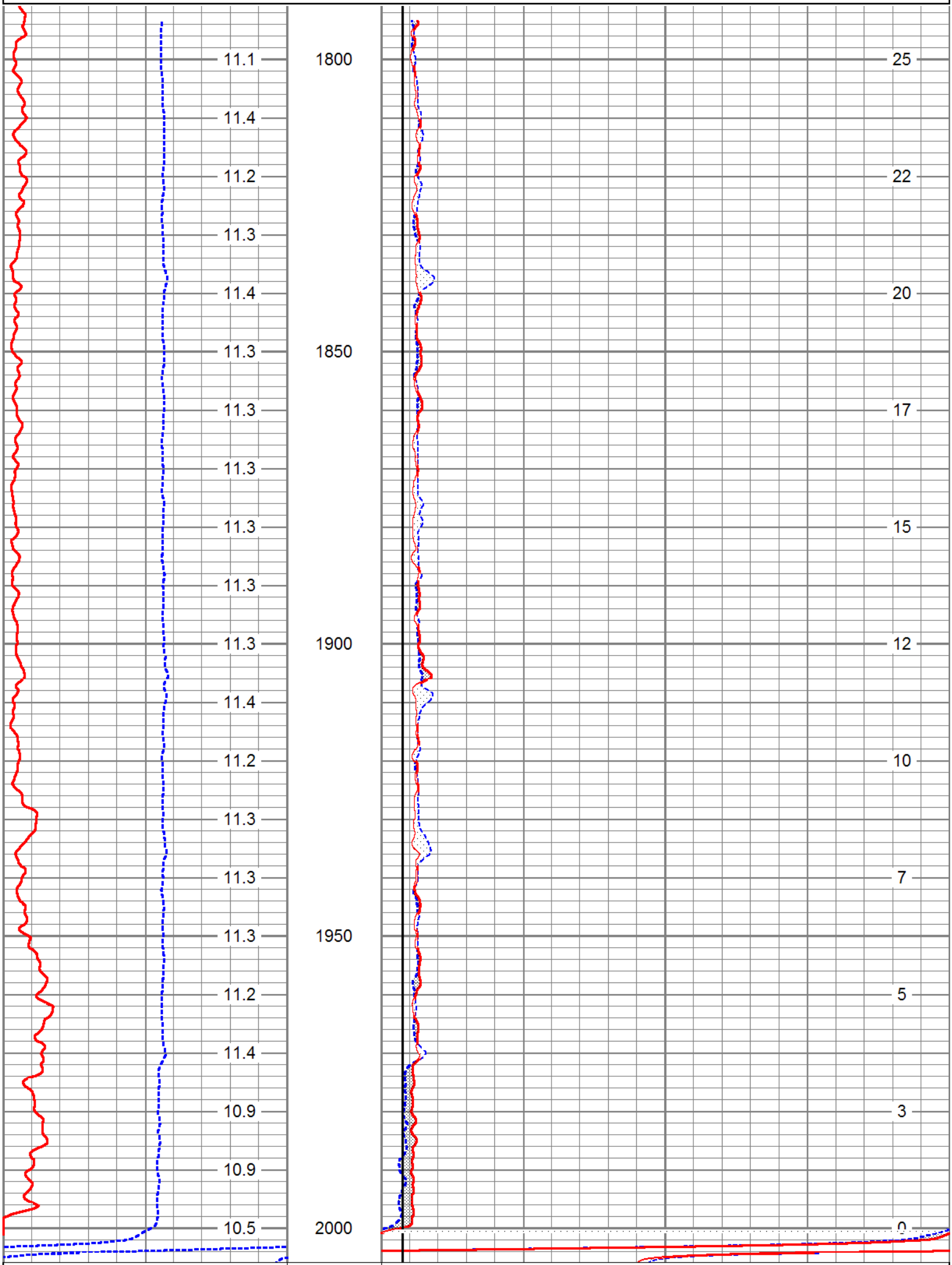

11.9
11.2
11.2
11.4
11.3
11.3
11.3
11.2
11.2
11.1
11.1
11.4
11.1
11.0
11.2
11.0
11.2
11.1
11.2
11.2
11.1
11.1
1700
1750
1800
1850
39
37
34
32
29
27
24
22
20
17
15
Caliper Average
X-Caliper
Y-Caliper
TBHV



REPEAT SECTION

Database File:	kisspoc109.db
Dataset Pathname:	run6/XYCRP
Presentation Format:	xyc
Dataset Creation:	Thu Jul 26 18:12:56 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240




11.1
11.4
11.2
11.3
11.4
11.3
11.3
11.3
11.3
11.3
11.3
11.4
11.2
11.3
11.3
11.3
11.2
11.4
10.9
10.9
10.5
1800
1850
1900
1950
2000
25
22
20
17
15
12
10
7
5
3
0
0
Caliper Average (in)
20
10
Y Caliper (in)
30

0	Caliper Average (in)	20
0	GR (GAPI)	100
	CALA (in)	

10	Y-Caliper (in)	30
10	X-Caliper (in)	30
10	Borehole ID (in)	30
	TBHV (bbl)	

Calibration Report

Database File: kisspoc109.db
Dataset Pathname: run6/XYCMP3
Dataset Creation: Thu Jul 26 18:09:31 2012 by Calc Open-Cased 071220

XY Caliper Calibration Report

Serial Number/Model: SDSDEMO-XY
Performed: Fri Jul 06 22:16:00 2012

	Ring		X Caliper		Y Caliper	
1:	6	in	347.283	cps	329.674	cps
2:	7.75	in	369.783	cps	351.304	cps
3:	11	in	412	cps	395	cps
4:	12	in	433	cps	414	cps
5:	20	in	542.5	cps	535	cps
6:	30	in	716.957	cps	703.913	cps

Gamma Ray Calibration Report

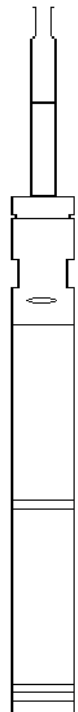
Serial Number: SDS
Tool Model: SDSGR
Performed: Fri Jul 06 22:16:45 2012

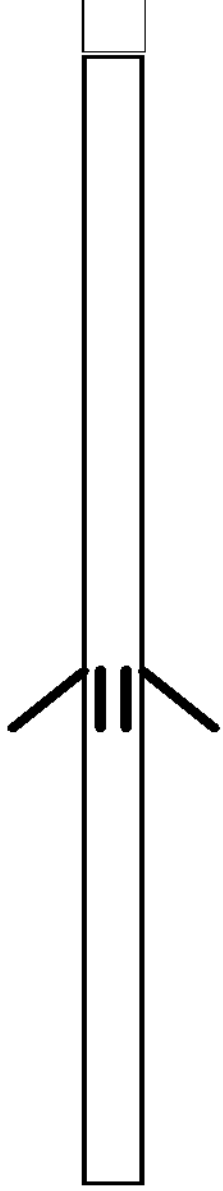
Calibrator Value: 120.0 GAPI

Background Reading: 117.8 cps
Calibrator Reading: 585.1 cps

Sensitivity: 0.2568 GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			GR-SDSGR (SDS) GR for Testing	3.00	1.69	20.00
GR	7.00					





		XYC-XY (SDSDEMO) LGL_XYC_MM	6.00	3.50	100.00
XCAL YCAL	0.50 0.50				

Dataset:	kisspoc109.db: field/well/run6/XYCMP3
Total Length:	10.00 ft
Total Weight:	125.00 lb
O.D.	3.50 in

ALLWEBBS ENTERPRISES, INC.

RESISTIVITY GR/SP LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF #109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA State FLORIDA
Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD
Other Services SEE COMMENTS
Elevation
K.B.
D.F.
G.L.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF #109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Date	4-AUG-2012
Run Number	SIX
Depth Driller	2001'
Depth Logger	2002'
Bottom Logged Interval	2002'
Top Log Interval	CASING
Open Hole Size	10.75"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'
FOUR	25"	CASING	910'

Borehole Record

Run Number	Bit	From	To
FIVE	19"	CASING	1491'
SIX	10.75"	CASING	2001'

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner	12"	.375 W.T	897'	1489'

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Comments

FLOWMETER
DEVIATION
BHC/SONIC/VDL
DIL/LL3/SP
XYC/GR
FCT
DHTVS

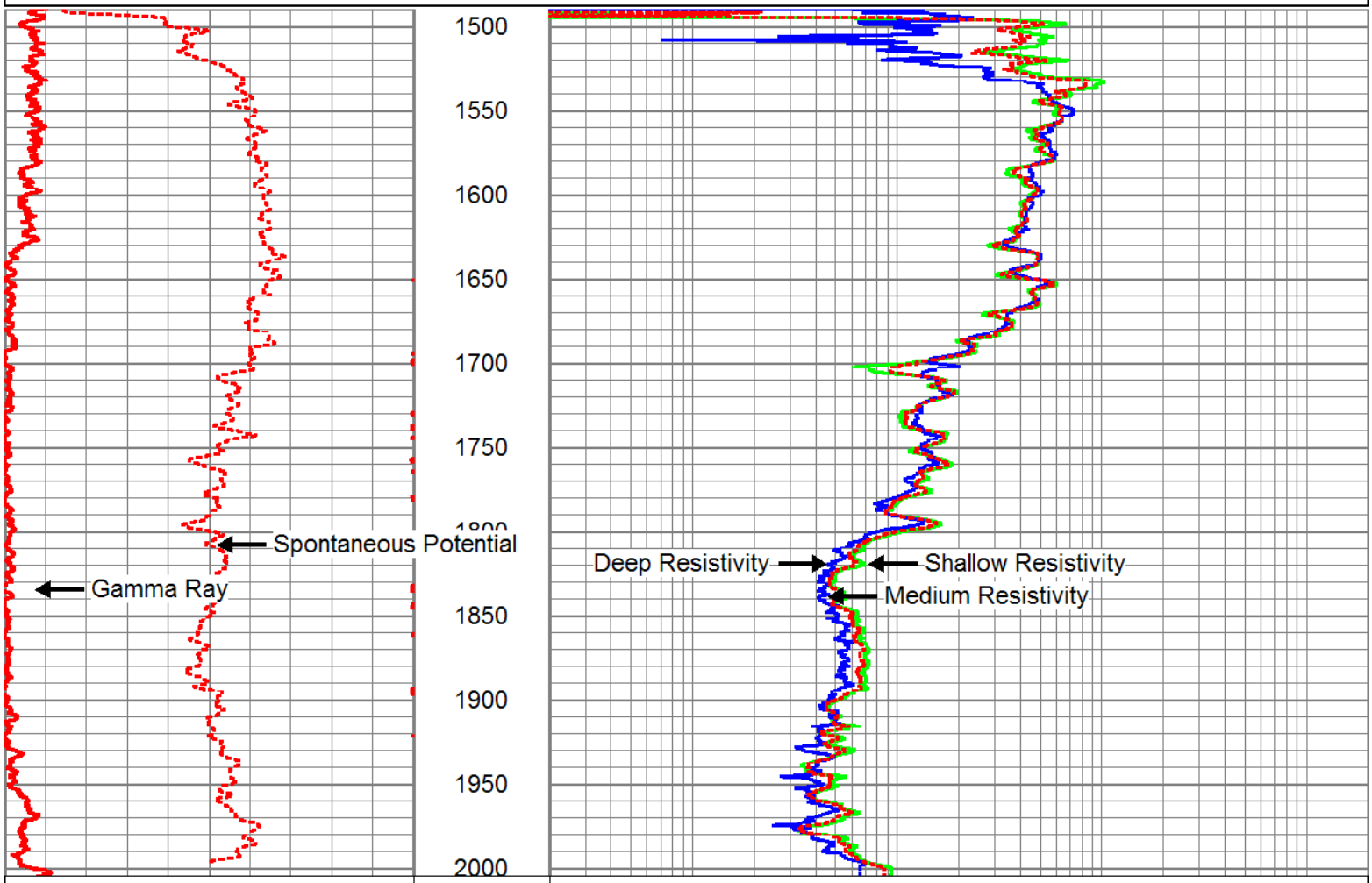
ALLWEBBS

MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run6RES/@071bd22e
Presentation Format:	res-cent
Dataset Creation:	Sun Aug 05 01:02:29 2012
Charted by:	Depth in Feet scaled 1:1200

0	Gamma Ray	200
	Spontaneous Potential	
-150	(mV)	150

0.2	Lateral Resistivity	2000
0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000



0	Gamma Ray	200
	Spontaneous Potential	
-150	(mV)	150

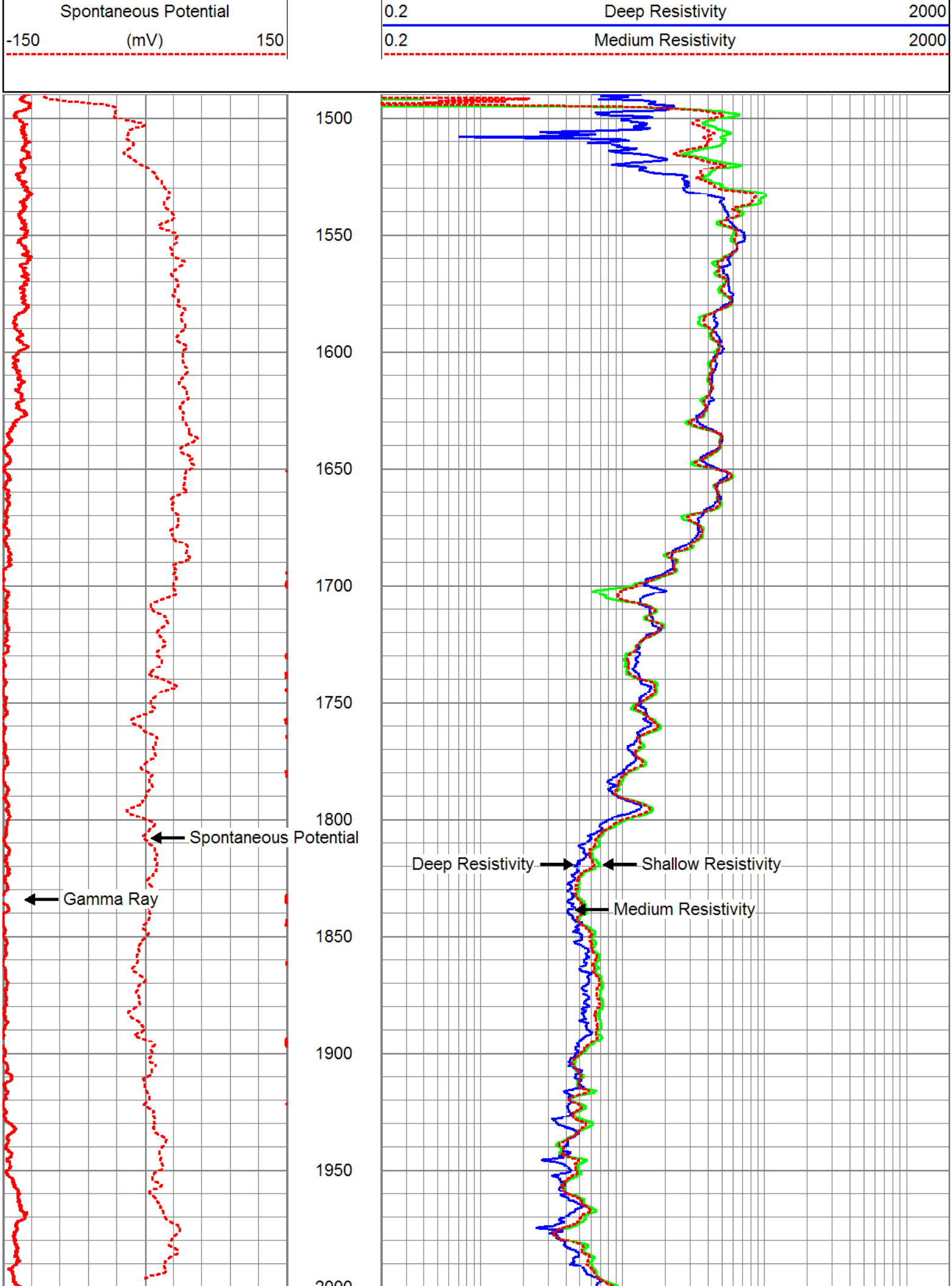
0.2	Lateral Resistivity	2000
0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000

MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run6RES/@071bd22e
Presentation Format:	res-cent
Dataset Creation:	Sun Aug 05 01:02:29 2012
Charted by:	Depth in Feet scaled 1:600

0	Gamma Ray	200

0.2	Lateral Resistivity	2000


Spontaneous Potential
-150
(mV)
150
0.2
Deep Resistivity
2000
0.2
Medium Resistivity
2000
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
Spontaneous Potential
Gamma Ray
Deep Resistivity
Shallow Resistivity
Medium Resistivity

0	Gamma Ray	200
	Spontaneous Potential	
-150	(mV)	150

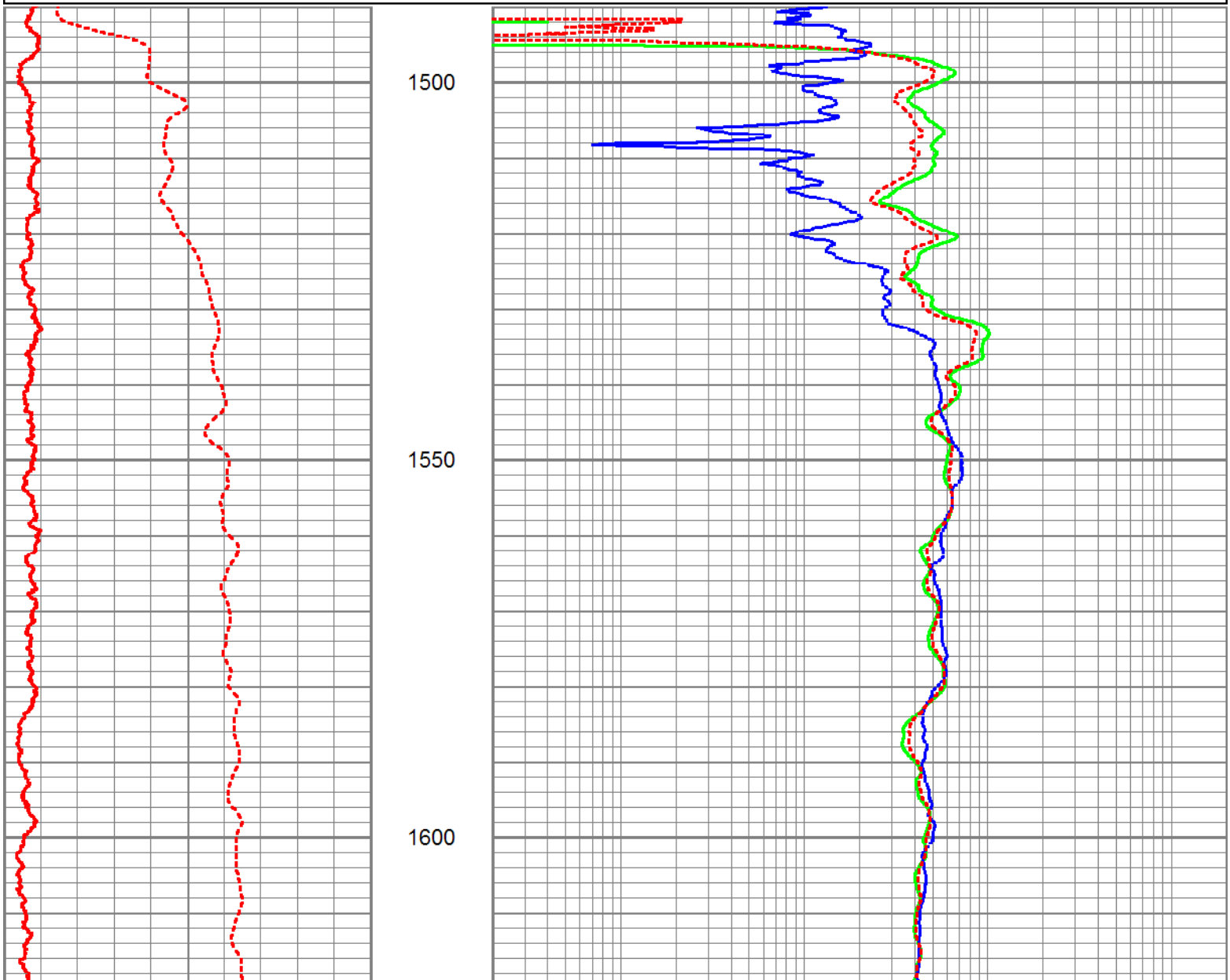
0.2	Lateral Resistivity	2000
0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000

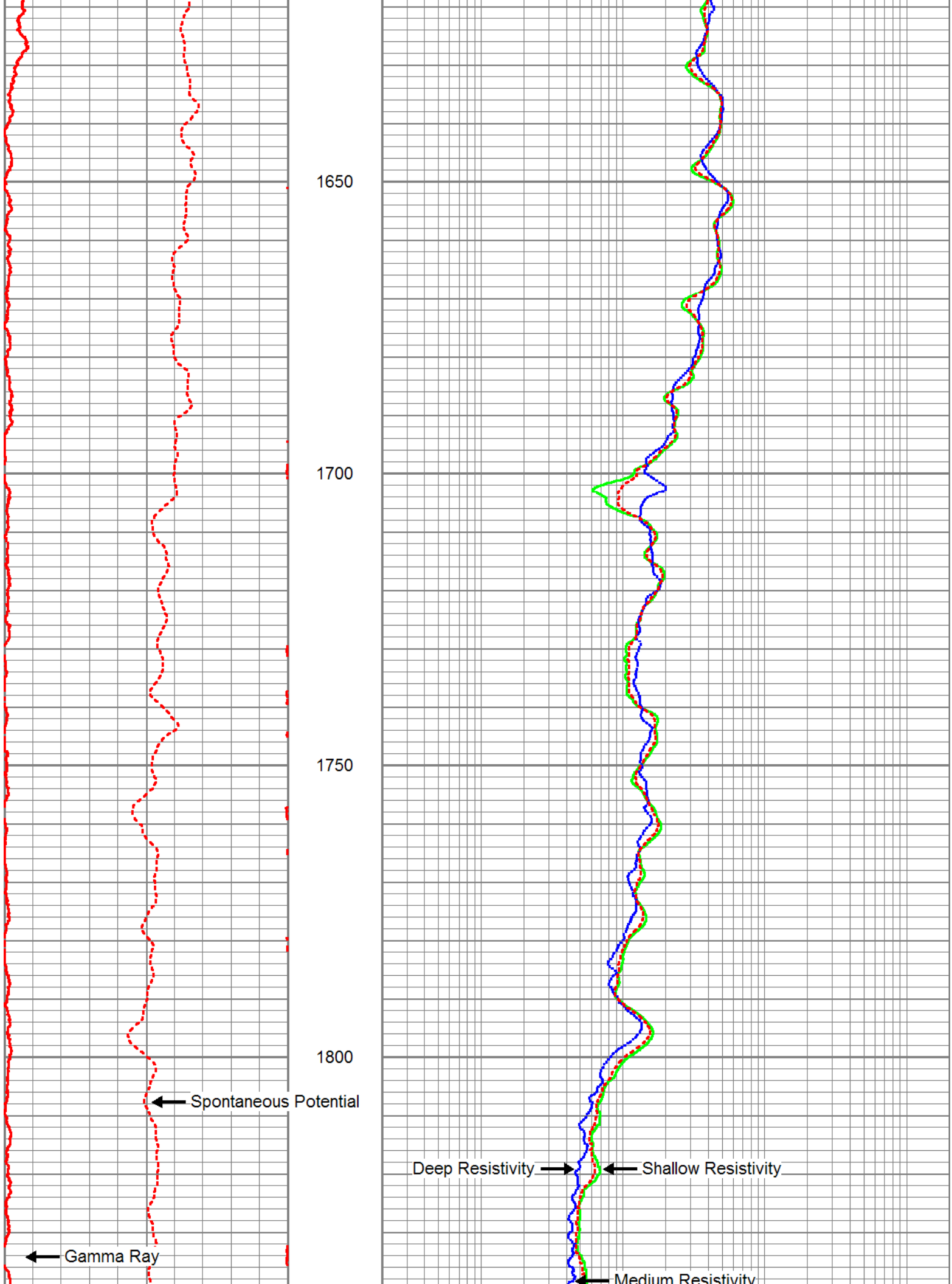
MAIN PASS

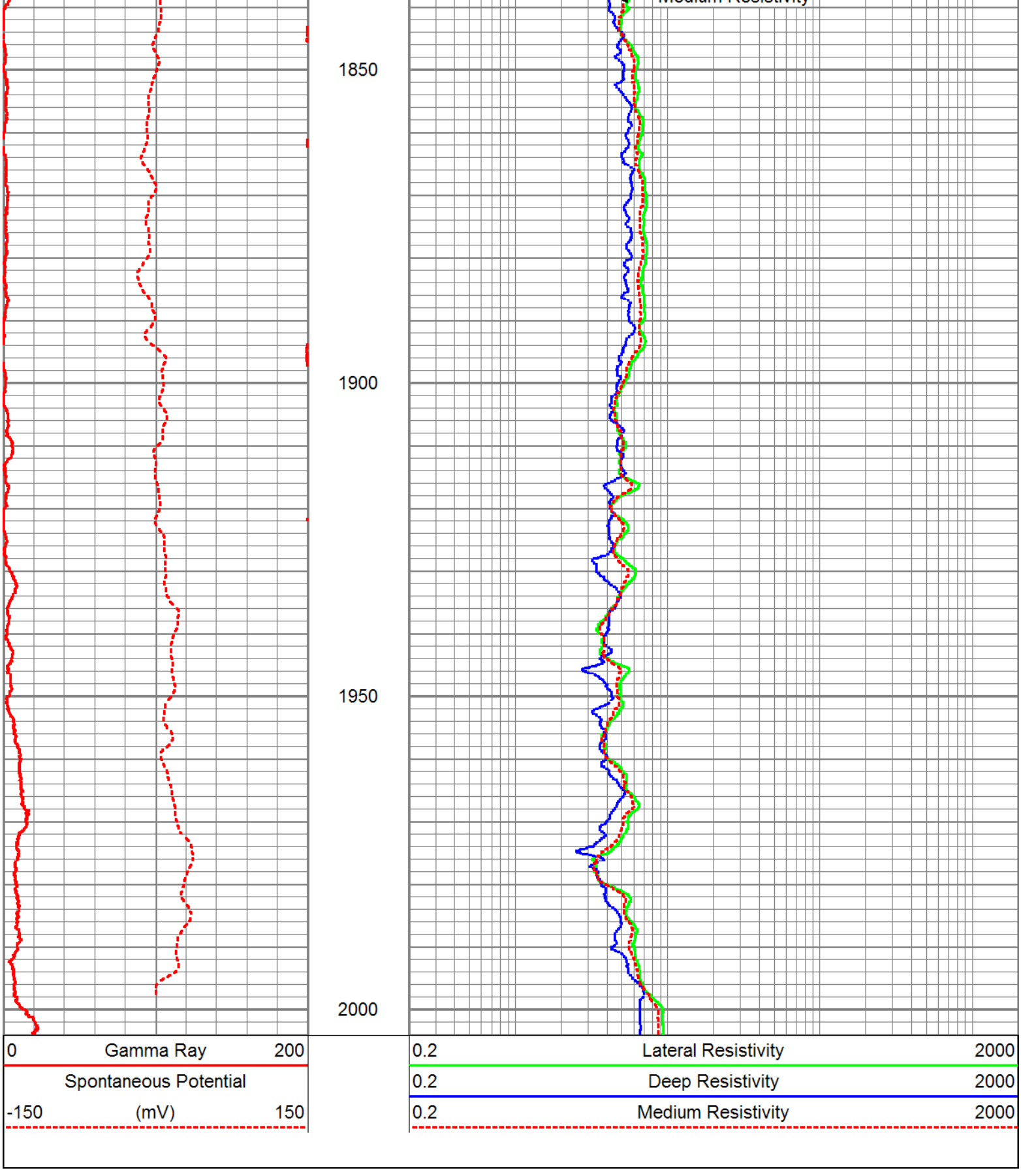
Database File:	kisspoc109.db
Dataset Pathname:	run6RES/@071bd22e
Presentation Format:	res-cent
Dataset Creation:	Sun Aug 05 01:02:29 2012
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray	200
	Spontaneous Potential	
-150	(mV)	150

0.2	Lateral Resistivity	2000
0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000




1650
1700
1750
1800
Spontaneous Potential
Gamma Ray
Deep Resistivity
Shallow Resistivity
Medium Resistivity


1850
1900
1950
2000
0
Gamma Ray
200
Spontaneous Potential
-150
(mV)
150
0.2
Lateral Resistivity
2000
0.2
Deep Resistivity
2000
0.2
Medium Resistivity
2000

ALLWEBBS ENTERPRISES, INC.

DUAL INDUCTION LL3/SP LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF #109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA State FLORIDA
Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD
Other Services SEE COMMENTS
Elevation K.B. D.F. G.L.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF #109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Date	4-AUG-2012
Run Number	SIX
Depth Driller	2001'
Depth Logger	2002'
Bottom Logged Interval	2002'
Top Log Interval	CASING
Open Hole Size	10.75"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'
FOUR	25"	CASING	910'

Borehole Record

Run Number	Bit	From	To
FIVE	19"	CASING	1491'
SIX	10.75"	CASING	2001'

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner	12"	.375 W.T	897'	1489'

<<< Fold Here >>>

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Comments

FLOWMETER
DEVIATION
RES/GR/SP
BHC/SONIC/VDL
XYC/GR
FCT
DHTVS

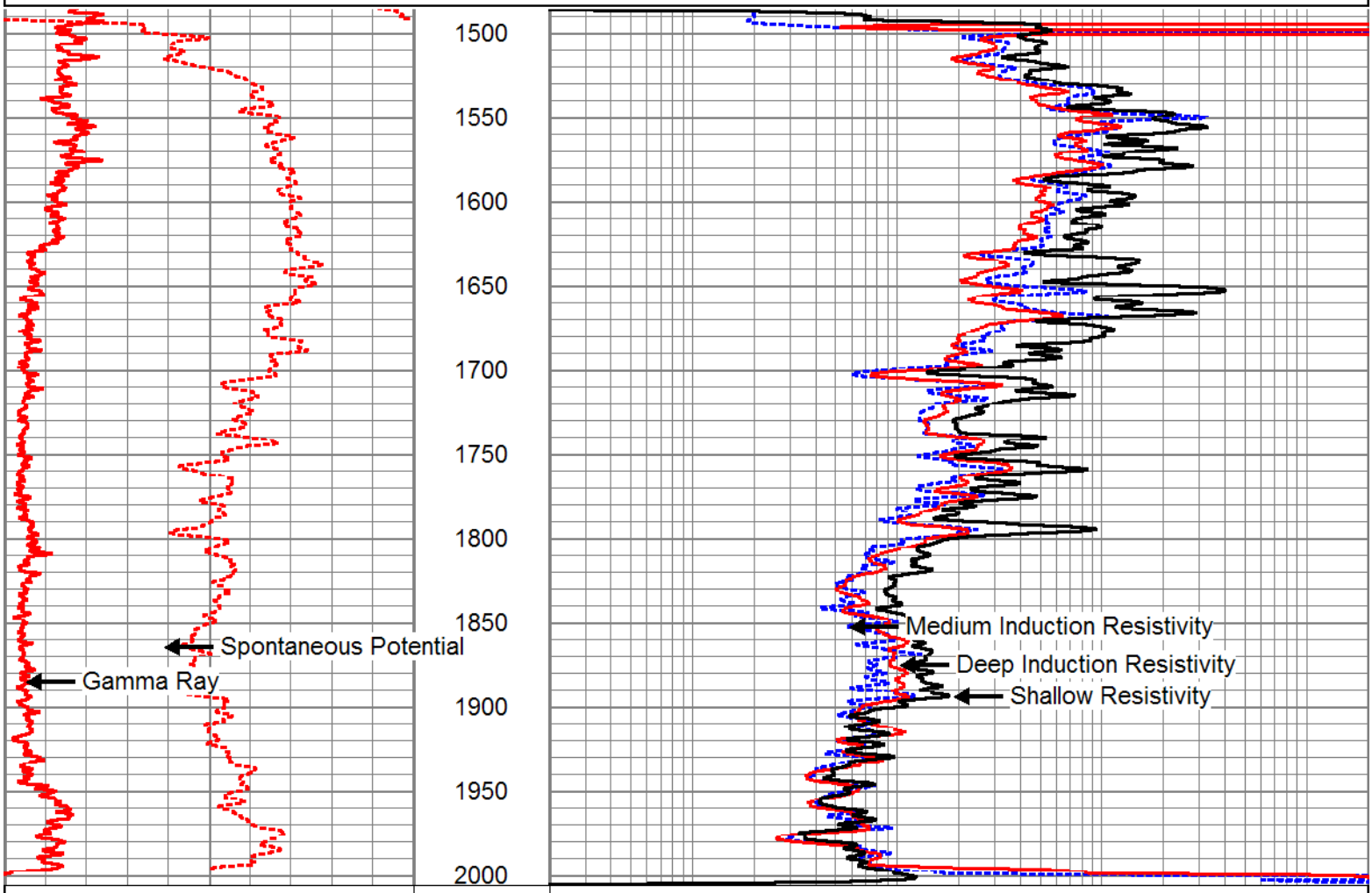
ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

Database File: kisspoc109.db
Dataset Pathname: run6/DILMP
Presentation Format: dil
Dataset Creation: Sat Aug 04 13:57:25 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:1200

0 Gamma Ray (GAPI) 100		0.2 Medium Induction Resistivity (Ohm-m) 2000
Spontaneous Potential		0.2 Deep Induction Resistivity (Ohm-m) 2000
-100 (mV) 100		0.2 Shallow Resistivity (Ohm-m) 2000

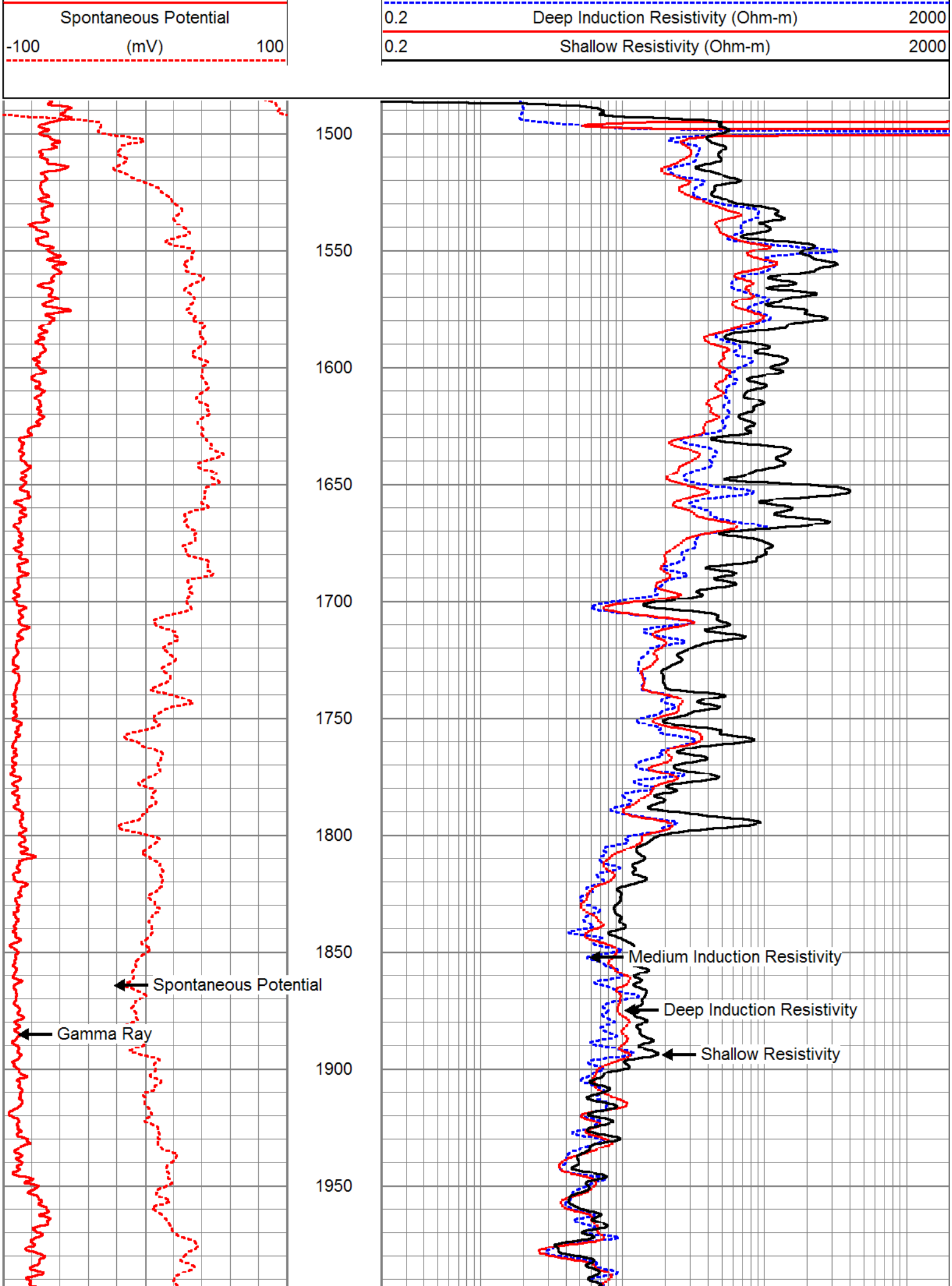


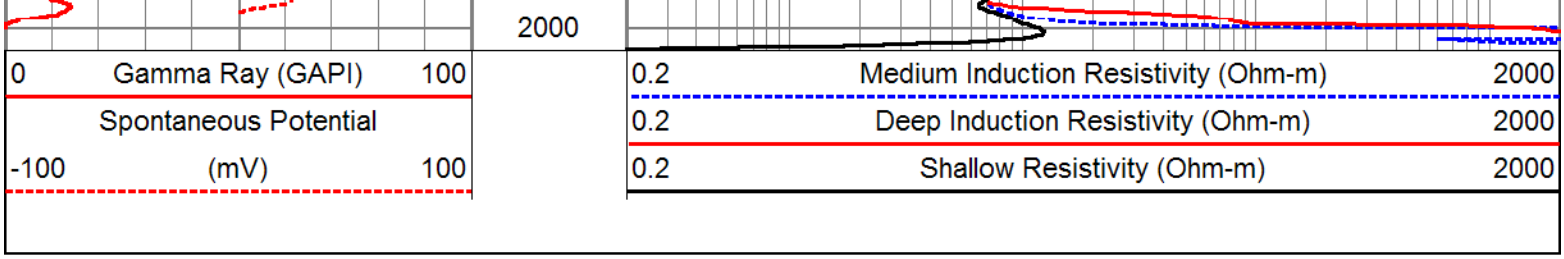
0 Gamma Ray (GAPI) 100		0.2 Medium Induction Resistivity (Ohm-m) 2000
Spontaneous Potential		0.2 Deep Induction Resistivity (Ohm-m) 2000
-100 (mV) 100		0.2 Shallow Resistivity (Ohm-m) 2000

MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run6/DILMP
Presentation Format: dil
Dataset Creation: Sat Aug 04 13:57:25 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:600

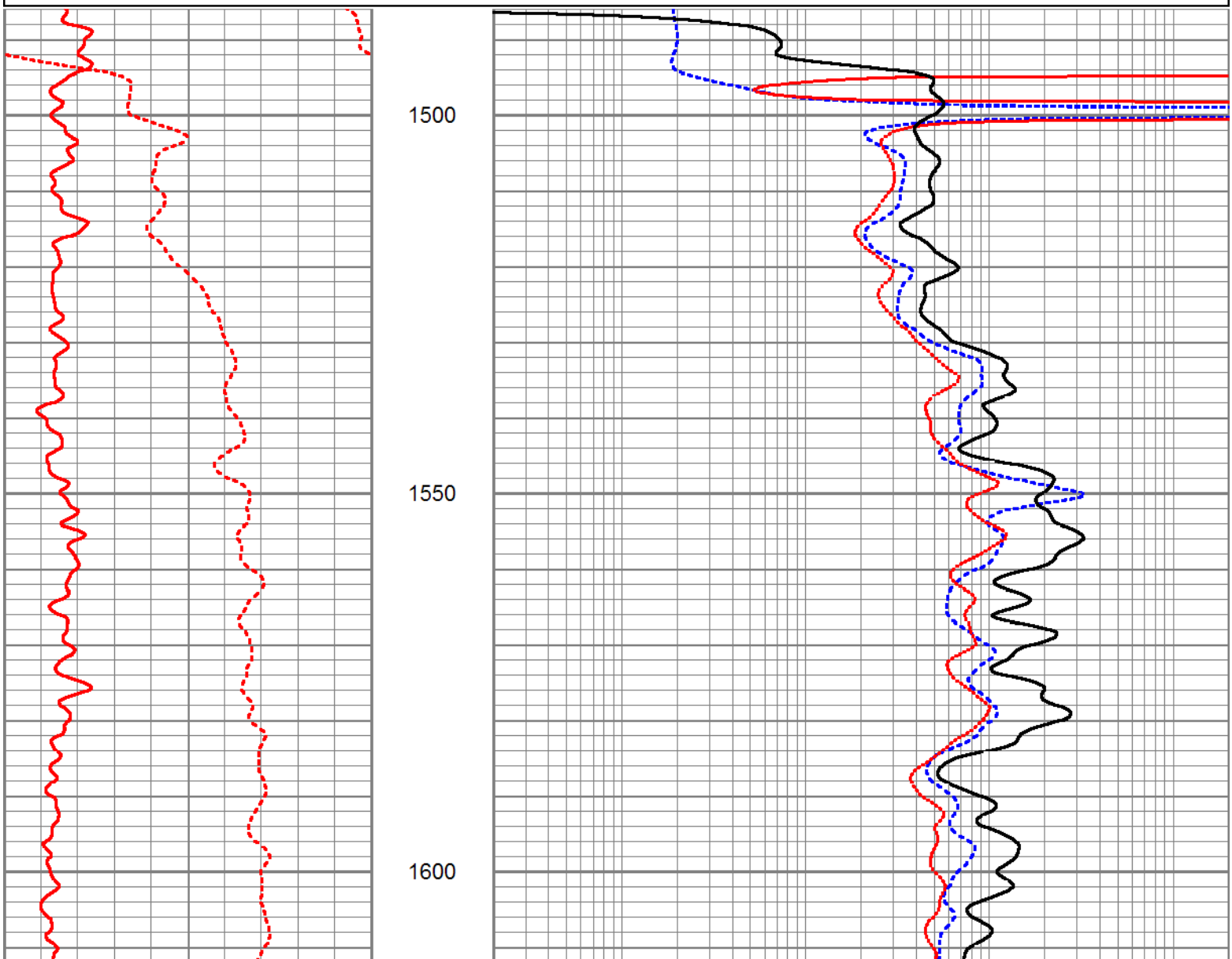
0 Gamma Ray (GAPI) 100		0.2 Medium Induction Resistivity (Ohm-m) 2000

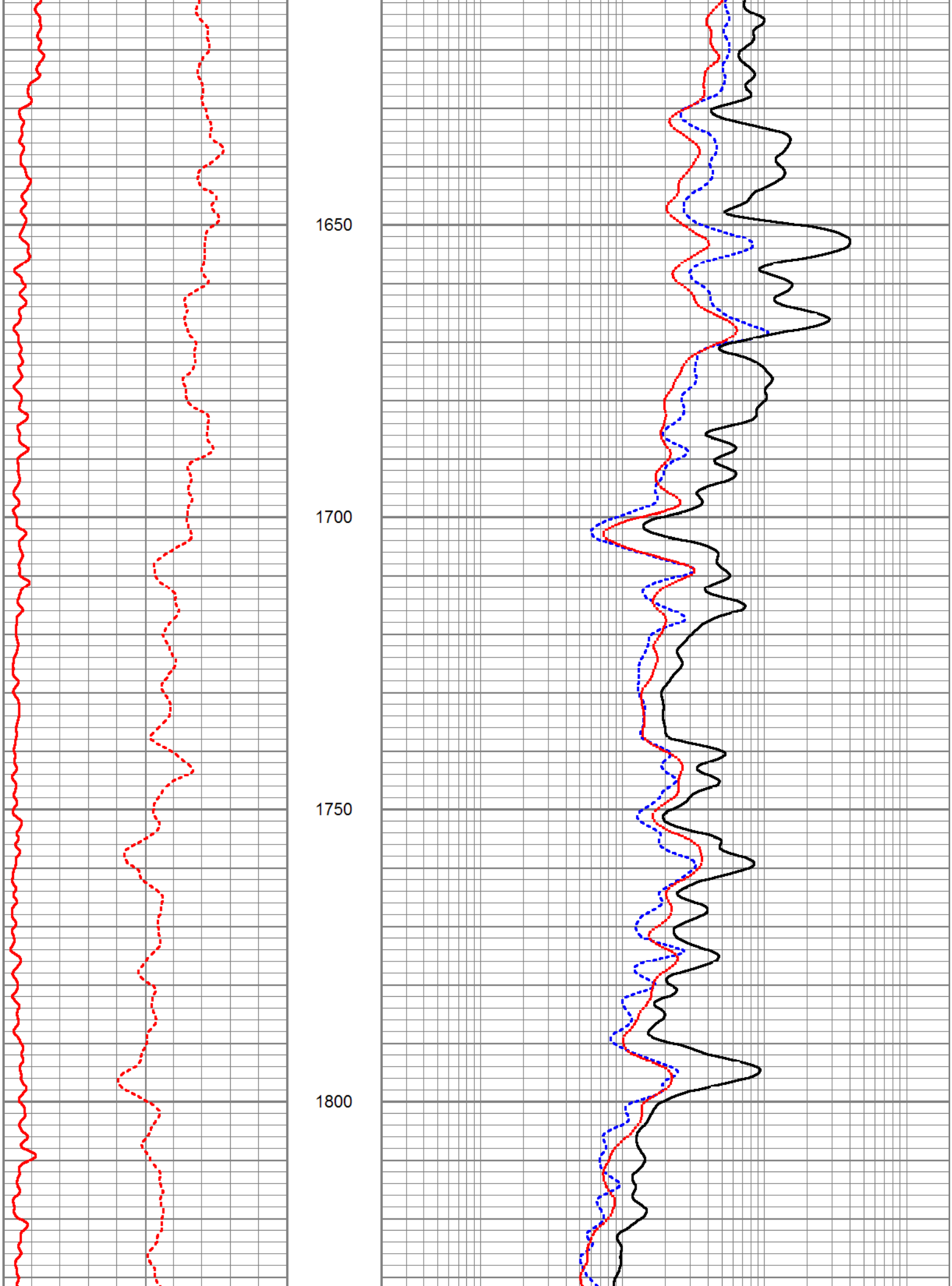

Spontaneous Potential
-100
(mV)
100
0.2
Deep Induction Resistivity (Ohm-m)
2000
0.2
Shallow Resistivity (Ohm-m)
2000
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950
Medium Induction Resistivity
Deep Induction Resistivity
Shallow Resistivity
Spontaneous Potential
Gamma Ray

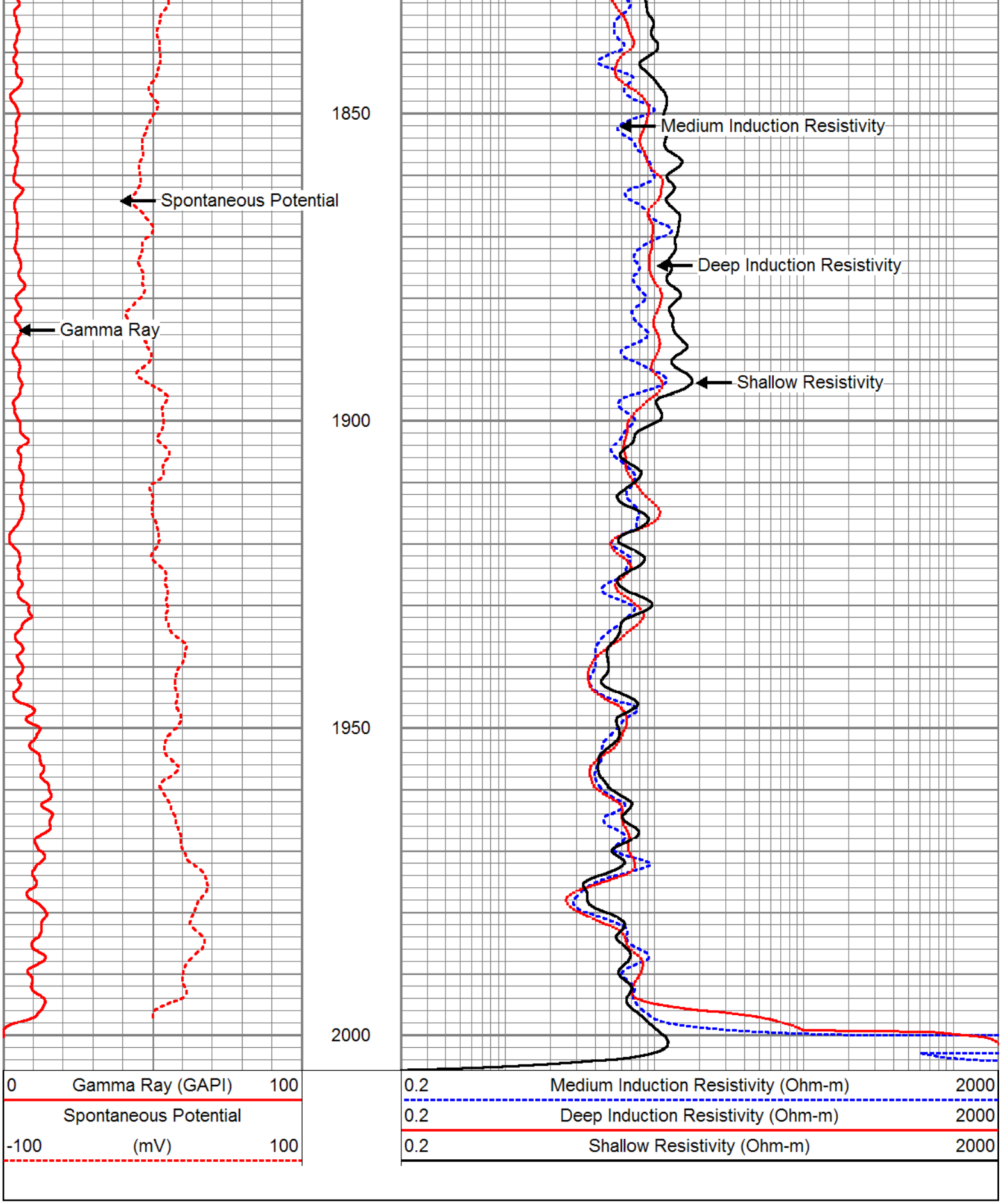


MAIN PASS

Database File:	kisspoc109.db
Dataset Pathname:	run6/DILMP
Presentation Format:	dil
Dataset Creation:	Sat Aug 04 13:57:25 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240




1650
1700
1750
1800



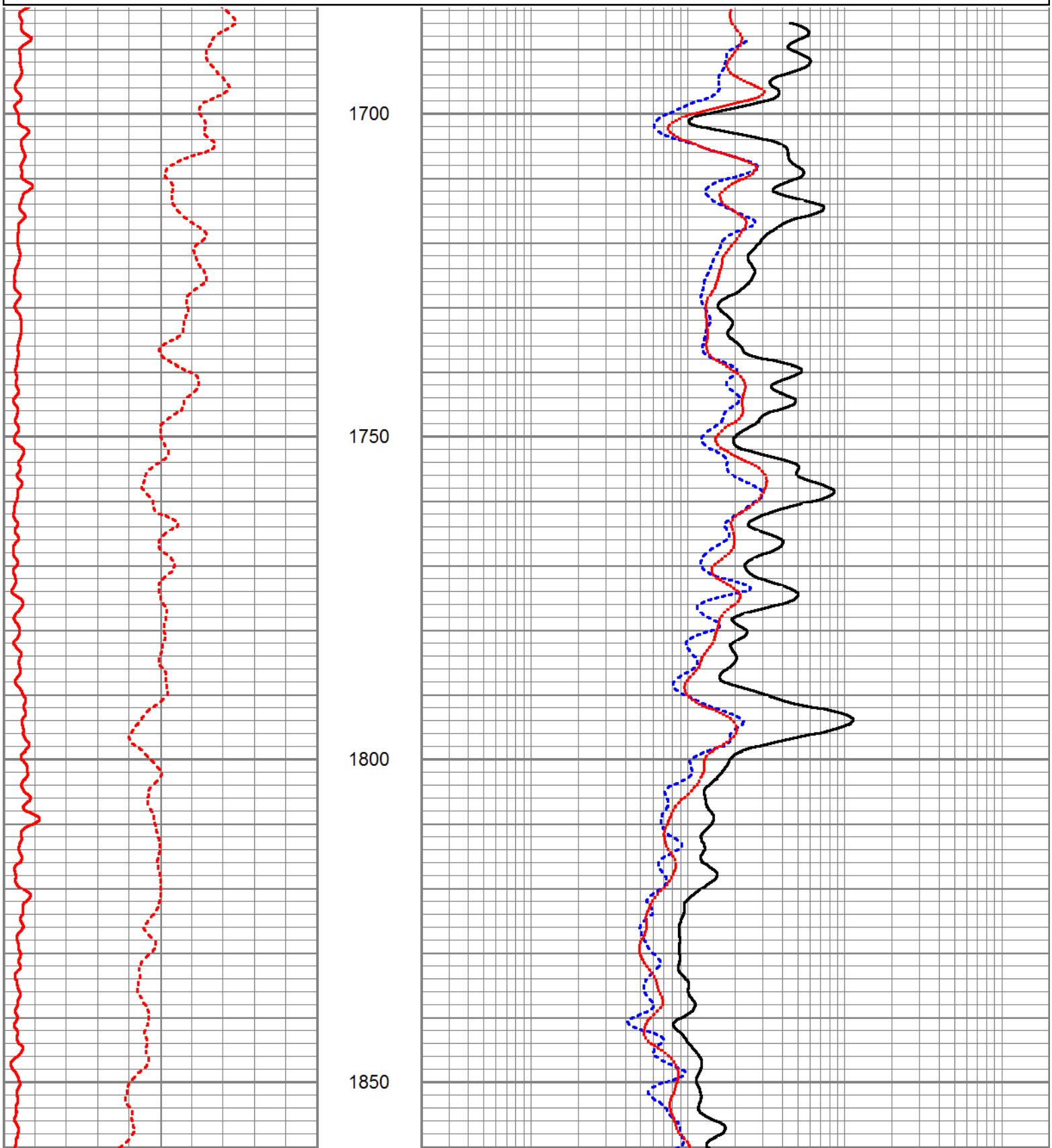
ALLWEBBS ENTERPRISES INC

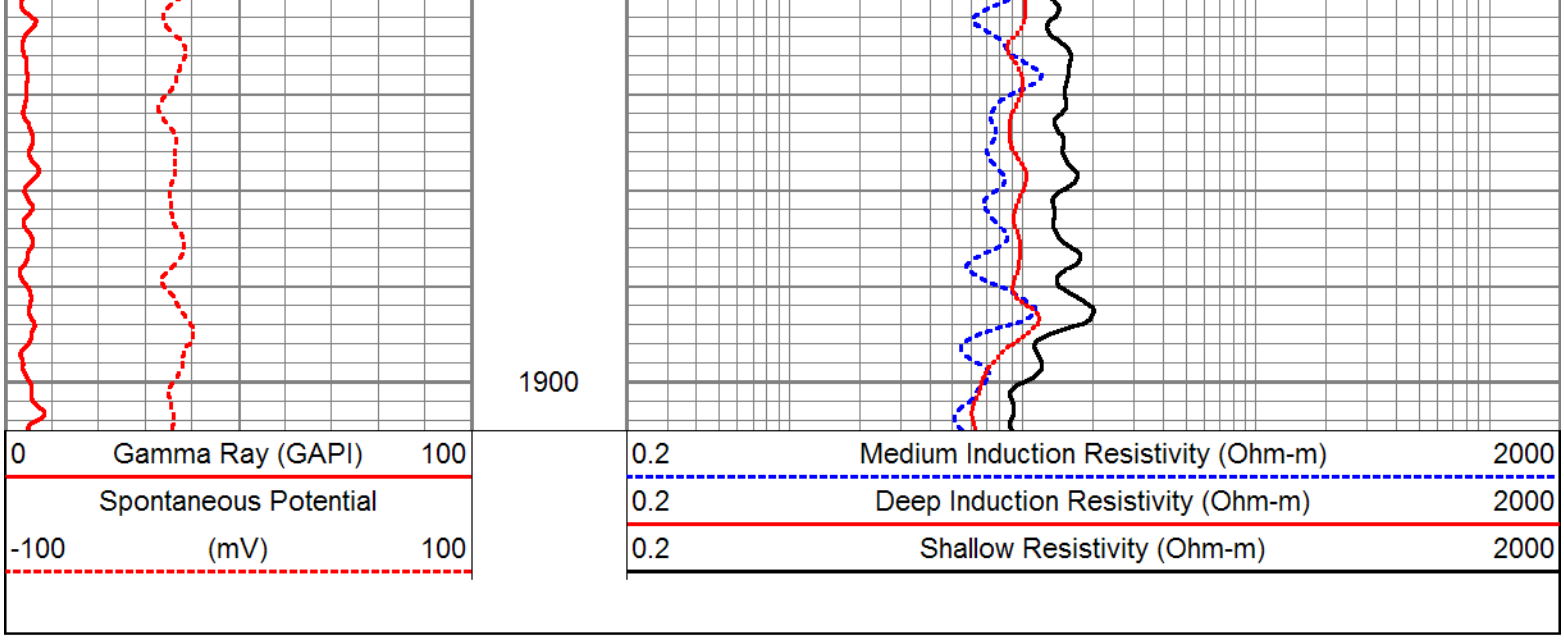
REPEAT SECTION

Database File:	kisspoc109.db
Dataset Pathname:	run6/DILRP2
Presentation Format:	dil
Dataset Creation:	Sat Aug 04 14:14:28 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	100
	Spontaneous Potential	
-100	(mV)	100

0.2	Medium Induction Resistivity (Ohm-m)	2000
0.2	Deep Induction Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000





Calibration Report

Database File: kisspoc109.db
Dataset Pathname: run6/DILRP2
Dataset Creation: Sat Aug 04 14:14:28 2012 by Log Open-Cased 071220

Dual Induction Calibration Report

Serial-Model:	DIL2-GEAR
Surface Cal Performed:	Mon Jul 23 15:53:45 2012
Downhole Cal Performed:	Sat Aug 04 13:56:50 2012
After Survey Verification Performed:	Sat Aug 04 14:07:14 2012

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.015	0.569	V	0.000	400.000	mmho-m	684.688	10.270
Medium	0.010	0.723	V	0.000	465.000	mmho-m	652.254	-6.523
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.635	V	0.000	400.000	mmho-m	637.070	-4.479
Medium	0.010	0.750	V	0.000	465.000	mmho-m	628.185	-6.138

Downhole Calibration

	Readings			References			Results	
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	9.894	440.428	mmho-m	7.717	445.844	mmho-m	1.018	-2.351
Medium	1.889	484.905	mmho-m	-4.578	482.836	mmho-m	1.009	-6.484
Shallow	2.502	0.011	V	500.000	2.000	Ohm-m	199.894	-0.190

After Survey Verification

	Readings			Targets			Results	
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	17.224	441.009	mmho-m	9.894	440.428	mmho-m	1.018	-2.351
Medium	3.749	481.099	mmho-m	1.889	484.905	mmho-m	1.009	-6.484

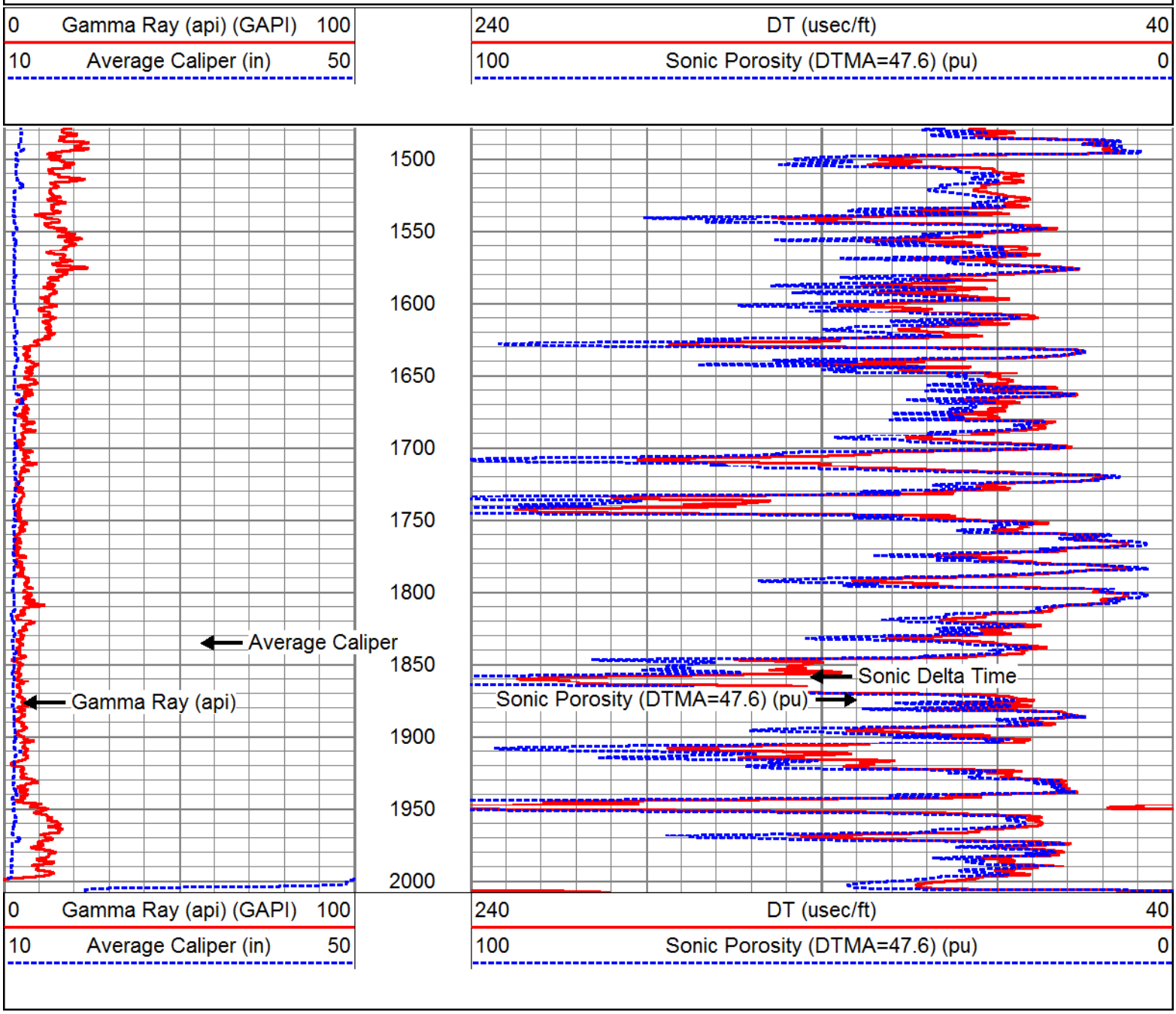
Shallow	500.151	1.904	Ohm-m	500.000	2.000	Ohm-m	1.000	0.097

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
SP	11.00					
CILD	10.50		DIL-GEAR (DIL2) GO_DIL/LL3/SP	21.25	3.50	150.00
CILM	7.00					
RLL3	2.00					

Dataset:	kisspoc109.db: field/well/run6/DILRP2
Total Length:	22.25 ft
Total Weight:	155.00 lb
O.D.	3.50 in

MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run6/BHCMP1
Presentation Format: bhc_por
Dataset Creation: Sat Aug 04 14:55:55 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:1200



MAIN PASS

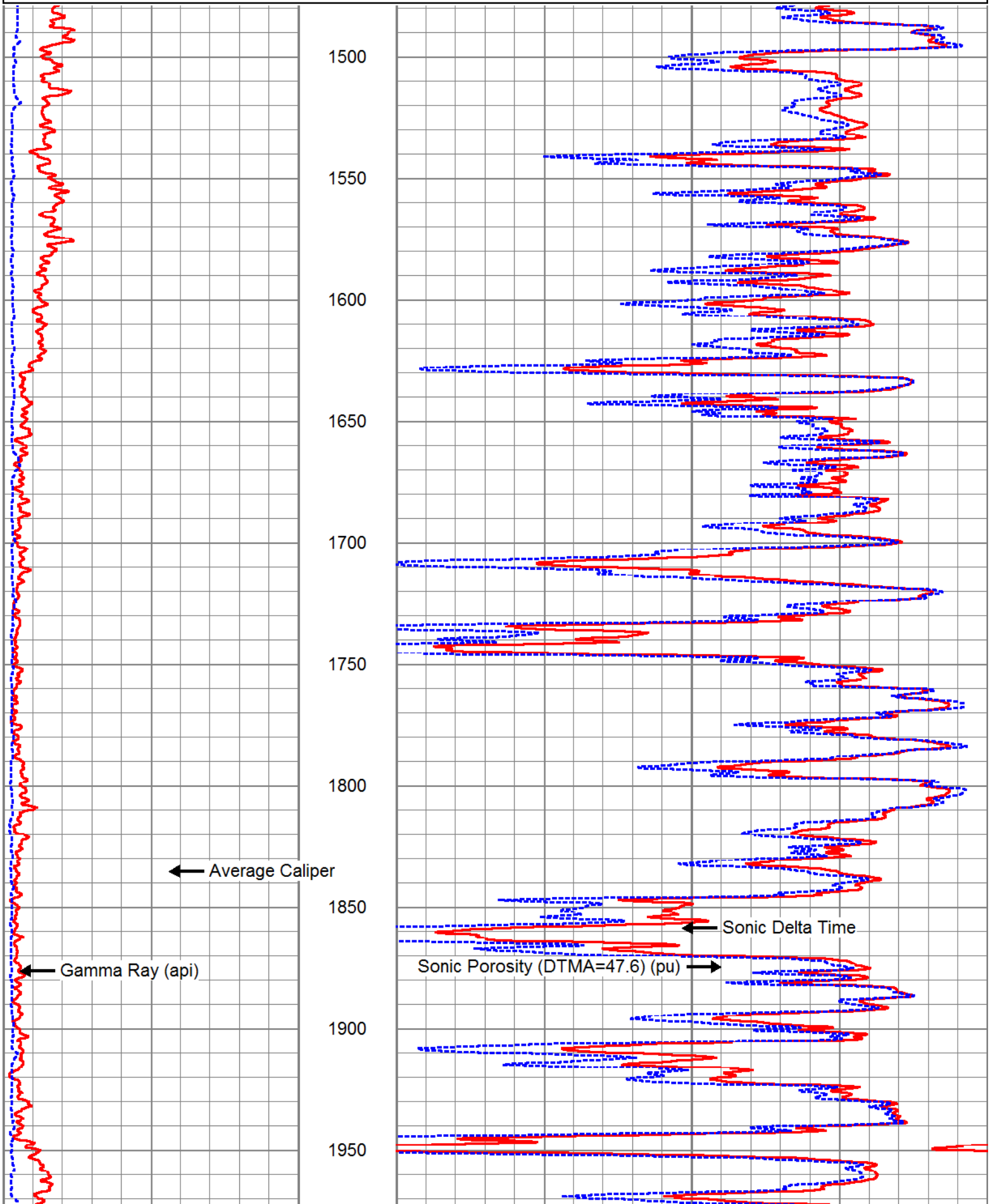
Database File: kisspoc109.db
Dataset Pathname: run6/BHCMP1
Presentation Format: bhc_por
Dataset Creation: Sat Aug 04 14:55:55 2012 by Log Open-Cased 071220

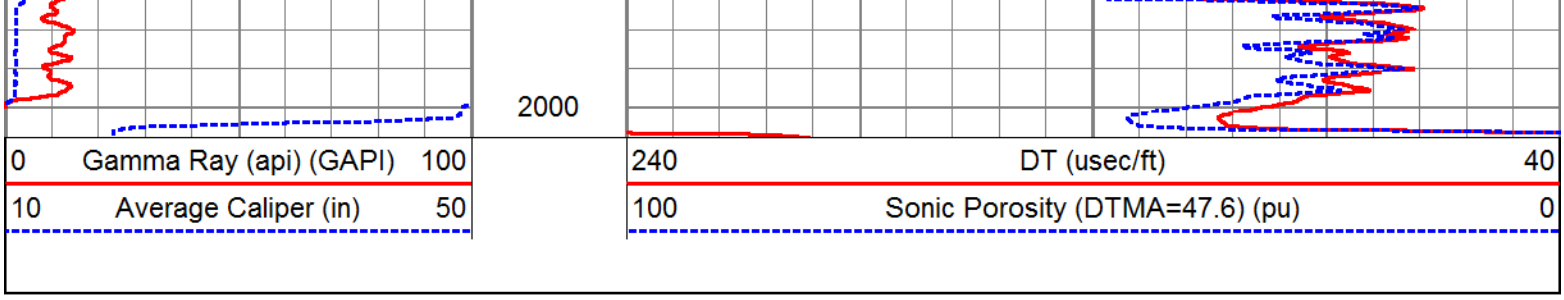
Charted by: Depth in Feet scaled 1:1200

Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (api) (GAPI)	100
10	Average Caliper (in)	50

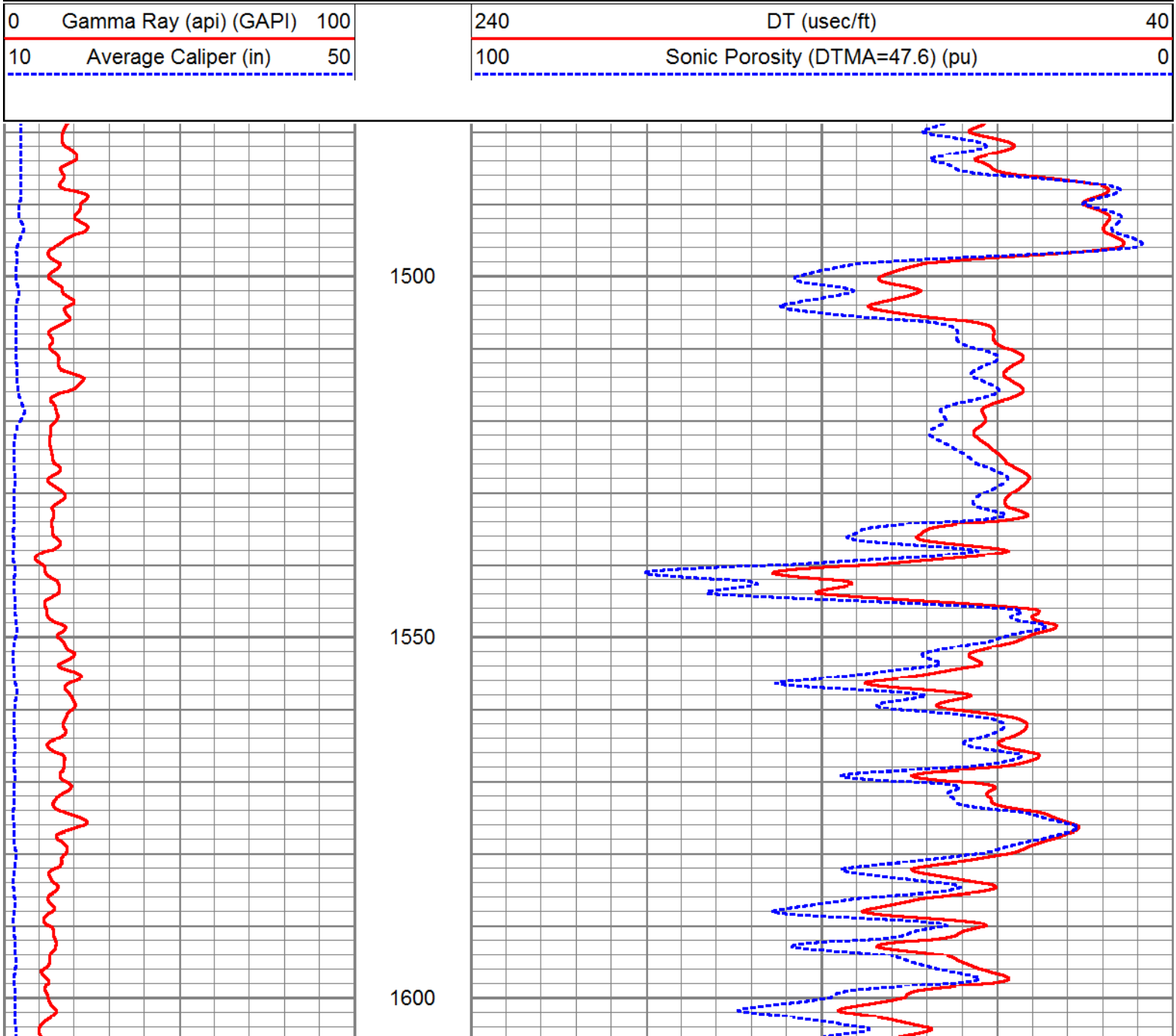
240	DT (usec/ft)	40
100	Sonic Porosity (DTMA=47.6) (pu)	0

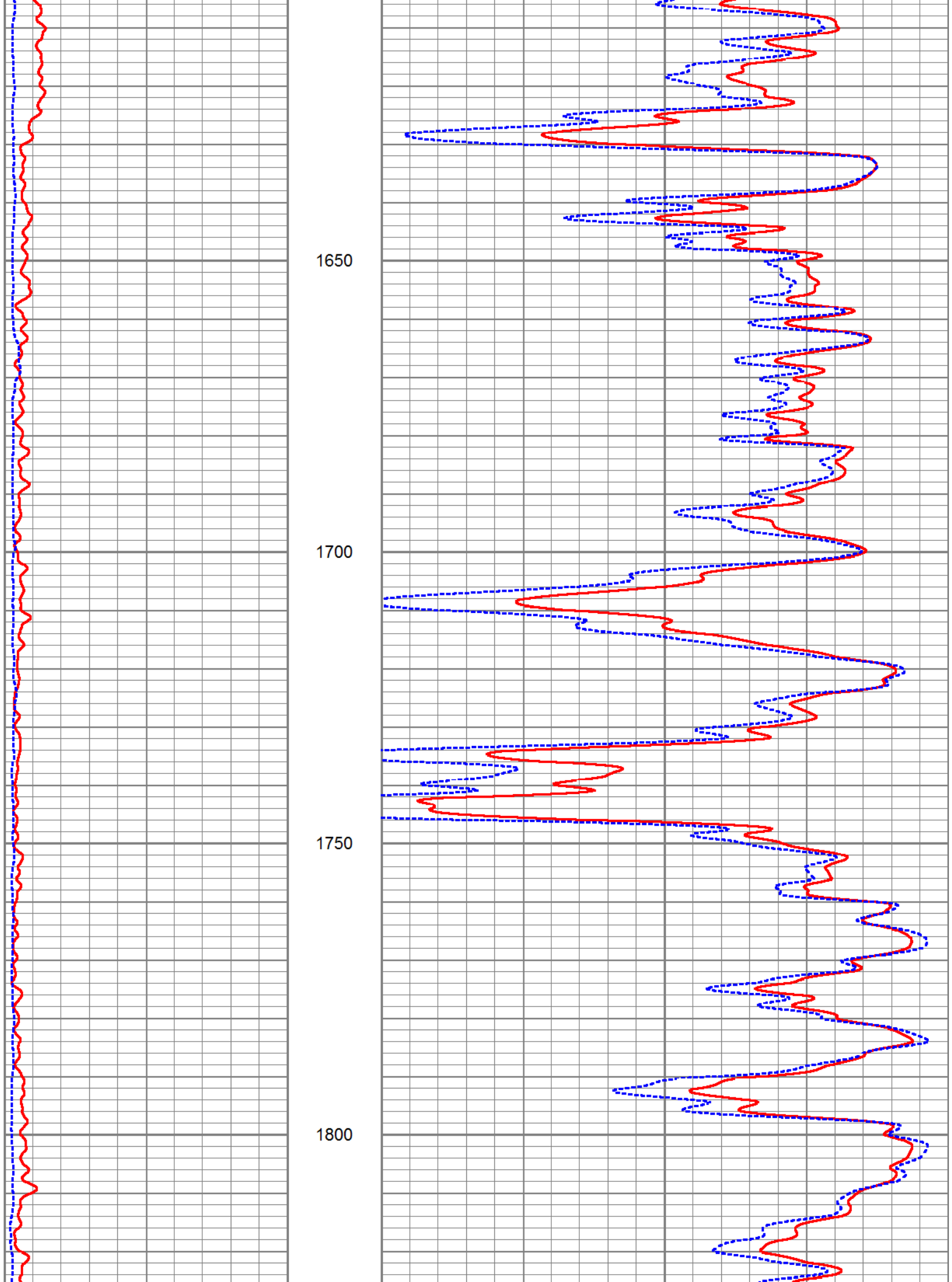


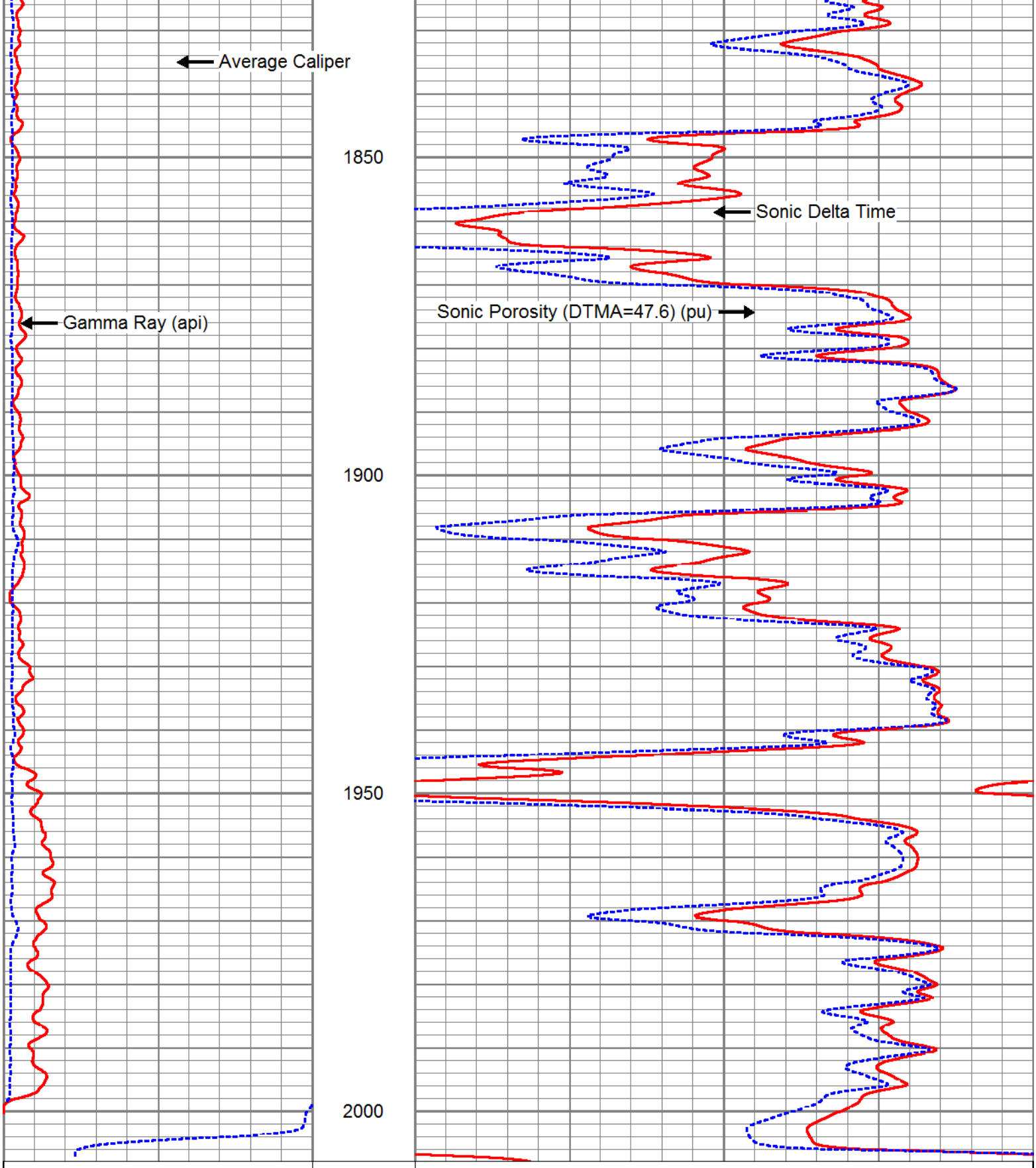


MAIN PASS

Database File: kisspoc109.db
Dataset Pathname: run6/BHCMP1
Presentation Format: bhc_por
Dataset Creation: Sat Aug 04 14:55:55 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240




1650
1700
1750
1800


Average Caliper
Gamma Ray (api)
Sonic Delta Time
Sonic Porosity (DTMA=47.6) (pu)
1850
1900
1950
2000
0 Gamma Ray (api) (GAPI) 100
10 Average Caliper (in) 50
240 DT (usec/ft) 40
100 Sonic Porosity (DTMA=47.6) (pu) 0

MAIN PASS

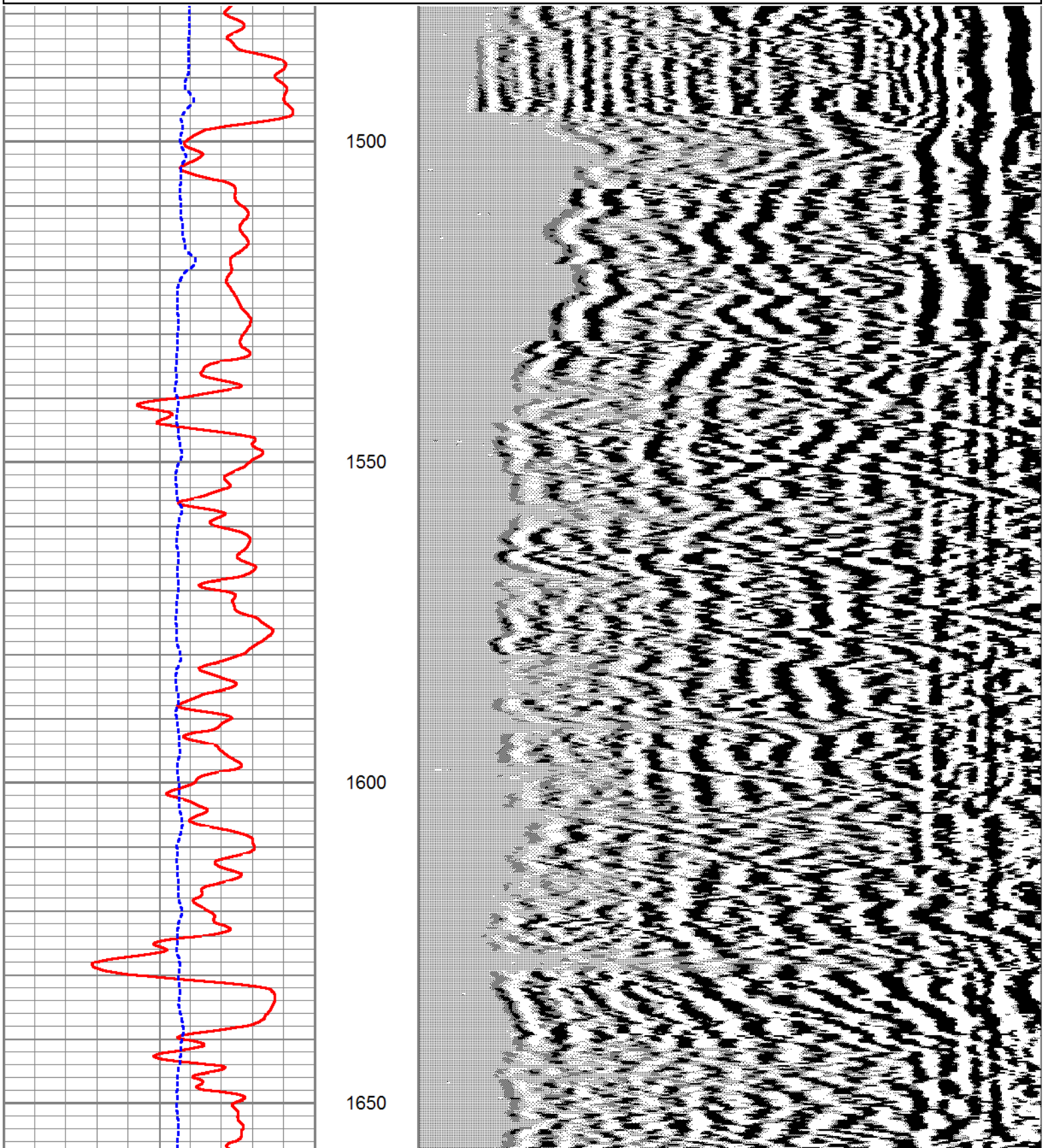
ALLWEBBS ENTERPRISES, INC.

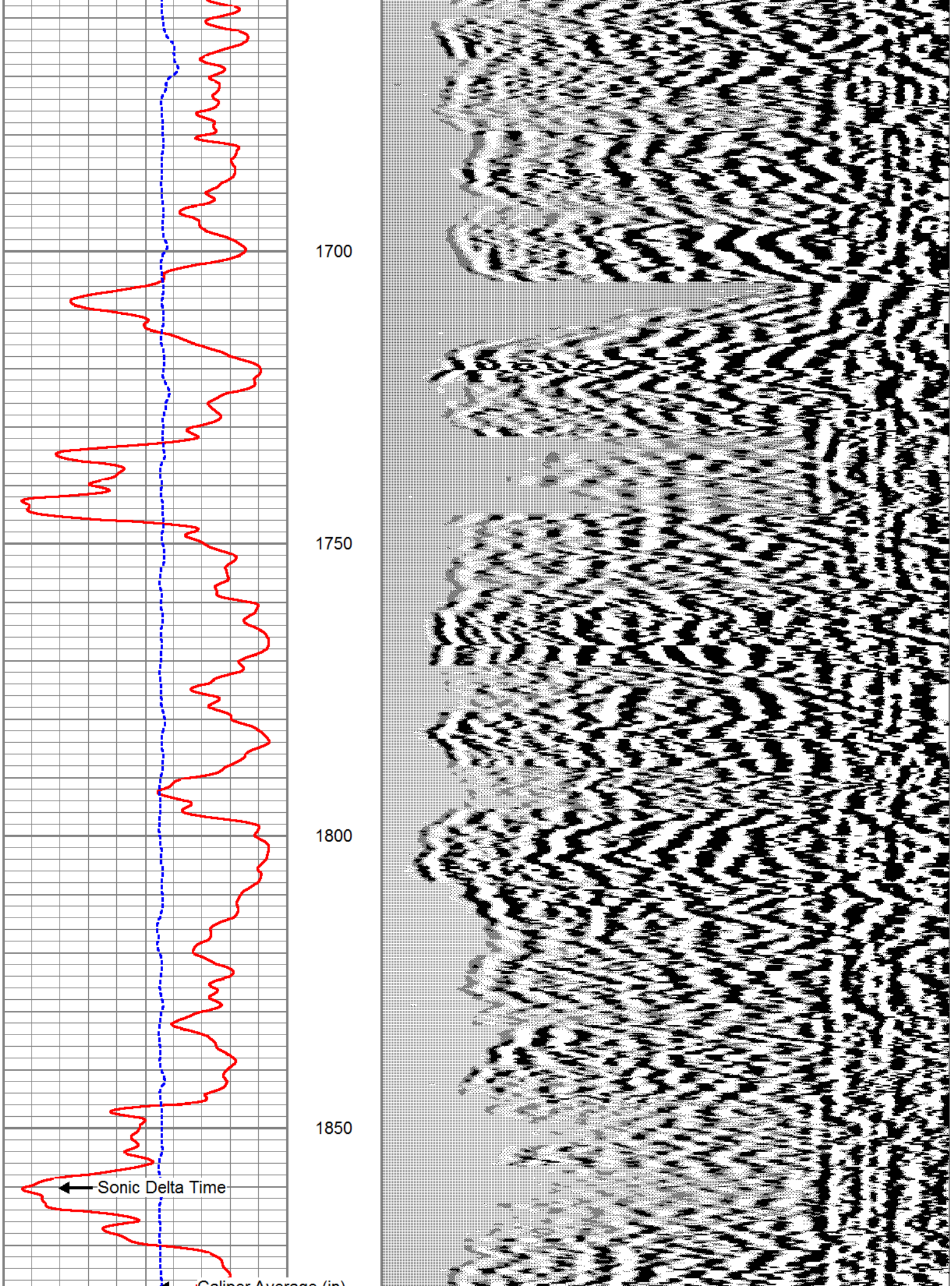
Database File:	kisspoc109.db
Dataset Pathname:	run6/BHCMP1
Presentation Format:	bhc
Dataset Creation:	Sat Aug 04 14:55:55 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

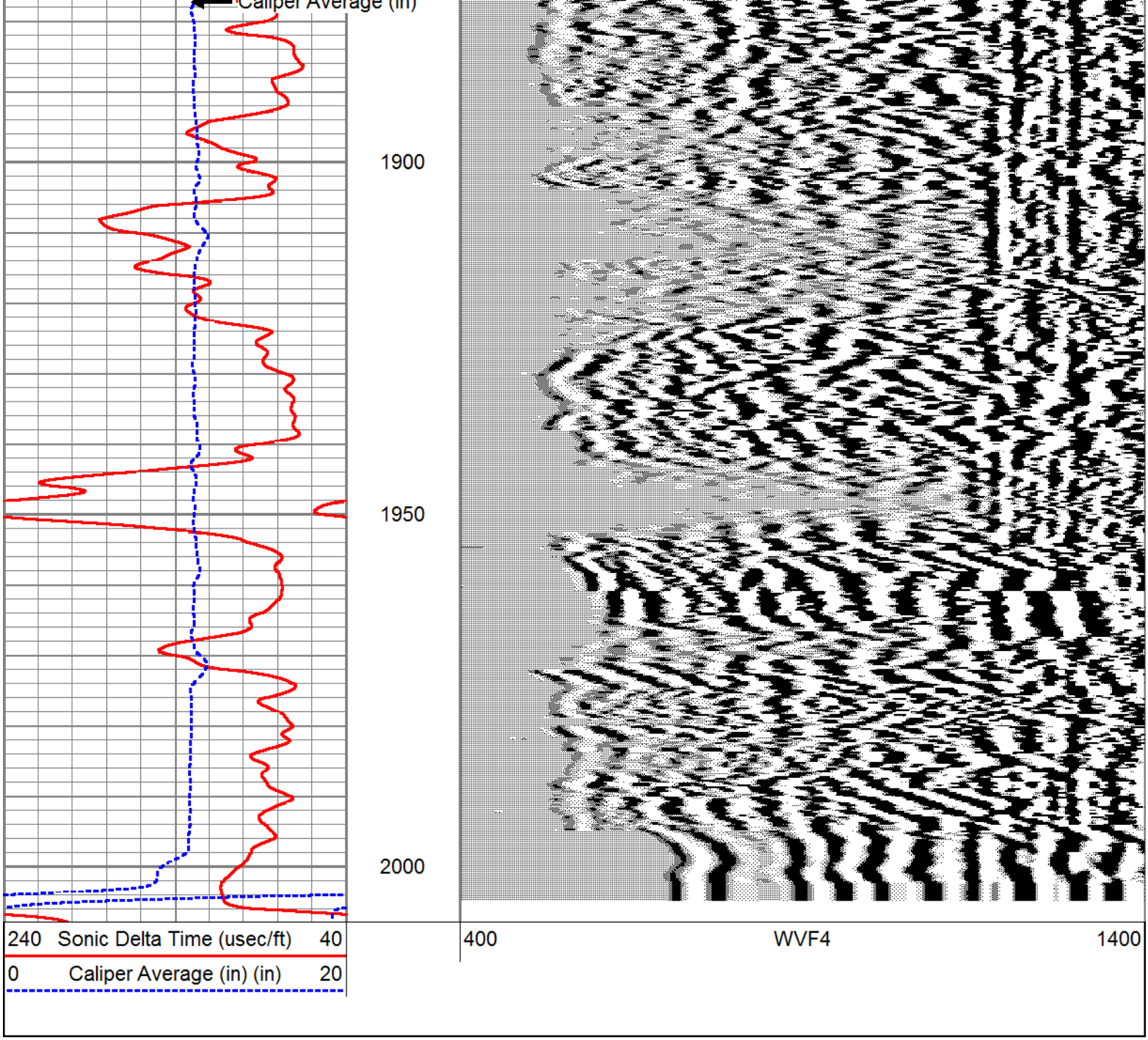
240 Sonic Delta Time (usec/ft) 40

0 Caliper Average (in) (in) 20

400 WVF4 1400

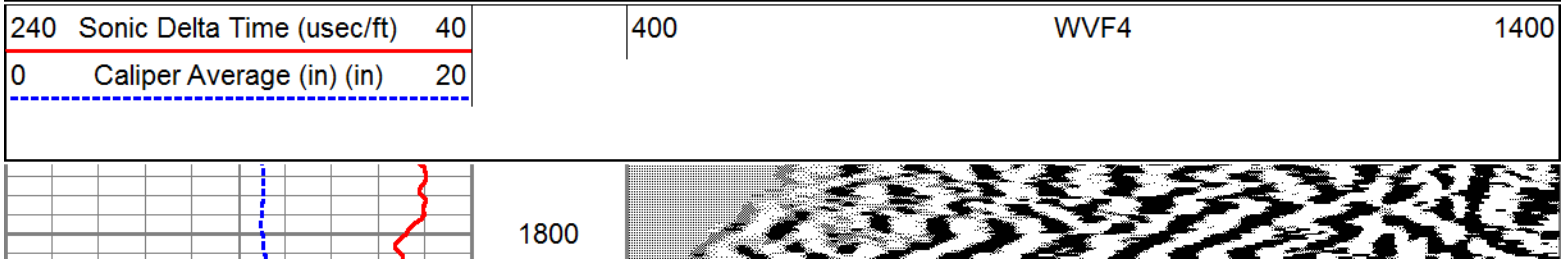


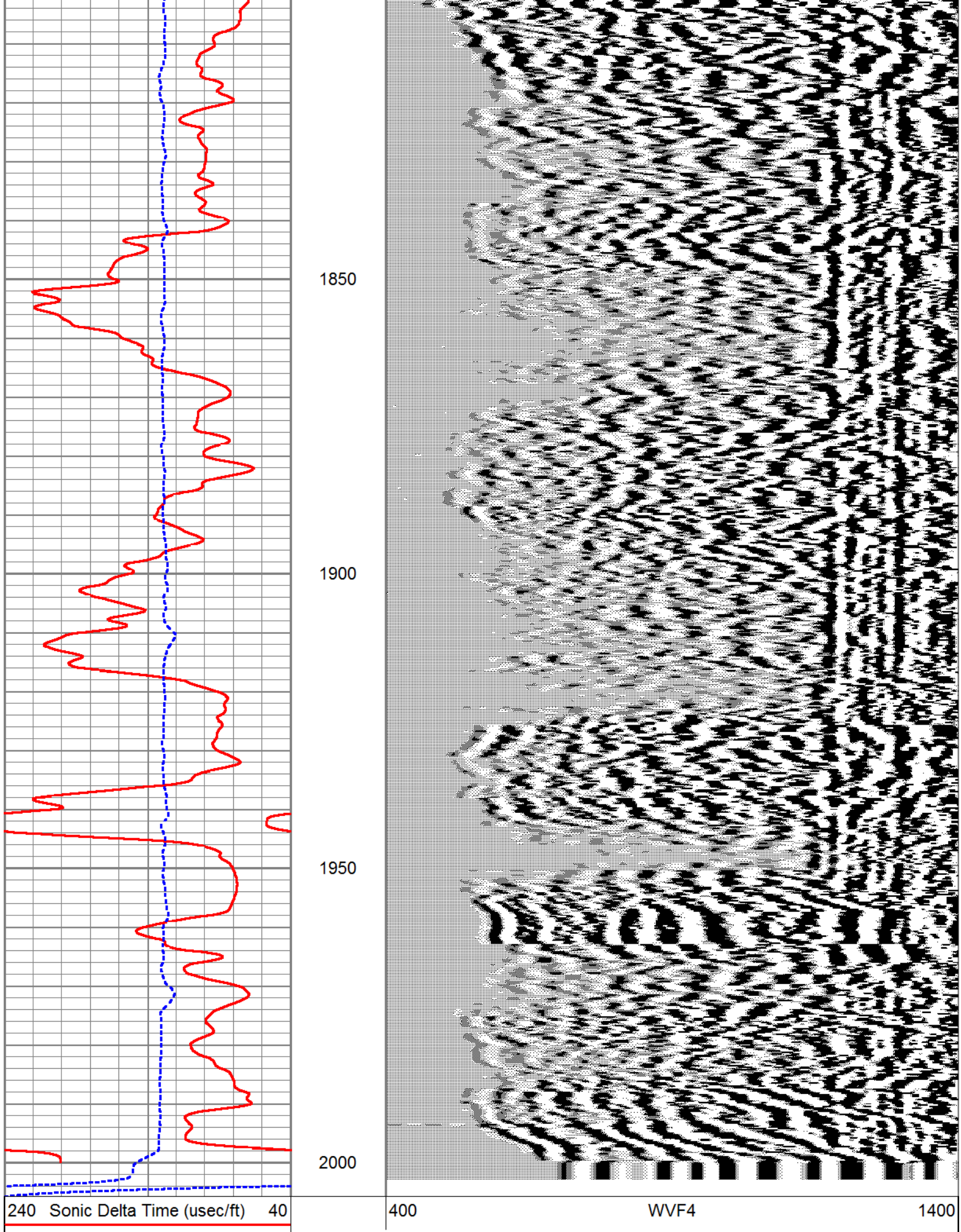

1700
1750
1800
1850
Sonic Delta Time
Caliper Average (in)

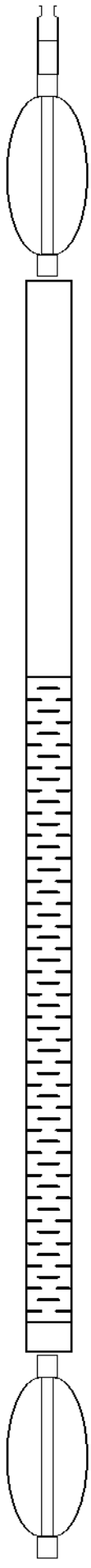


REPEAT SECTION

Database File:	kisspoc109.db
Dataset Pathname:	run6/BHCMP
Presentation Format:	bhc
Dataset Creation:	Sat Aug 04 14:50:27 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240




1850
1900
1950
2000
240 Sonic Delta Time (usec/ft) 40
0 Caliper Average (in) (in) 20
400 WVF4 1400

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CENCBL Centralizer CENCBL	3.00	1.44	10.69
WVF1	13.50					
			SLT-GEAR (SLT1) G0_BHC	15.71	3.50	140.00
WVF2	8.67					
WVF4	7.67					
WVF3	3.00					
			CENCBL Centralizer CENCBL	3.00	1.44	10.69

Dataset: kisspoc109.db: field/well/run6/BHCMP1
Total Length: 22.71 ft
Total Weight: 166.38 lb

O.D.	3.50 in

FLUID CONDUCTIVITY TEMPERATURE LOG

ALLWEBBS ENTERPRISES, INC.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF #109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well OSF #109

Field KISSIMMEE BASIN (LFA-C)

County OSCEOLA State FLORIDA

Location: API # :

SEC TWP RGE

Other Services SEE COMMENTS

Permanent Datum	PAD	Elevation	Elevation
Log Measured From	PAD		K.B.
Drilling Measured From	PAD		D.F.
			G.L.

Date	18-AUG-2012		
Run Number	SIX		
Depth Driller	2001'		
Depth Logger	2002'		
Bottom Logged Interval	2002'		
Top Log Interval	CASING		
Open Hole Size	10.75"		
Type Fluid	WATER		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	00:00		
Time Logger on Bottom	00:00		
Equipment Number	VA-202		
Location	JUPTIER		
Recorded By	LEE		
Witnessed By			

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	12.25"	CASING	303'	FIVE	19"	CASING	1491'
TWO	32"	CASING	303'	SIX	10.75"	CASING	2001'
THREE	12.25"	CASING	920'				
FOUR	25"	CASING	910'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner	12"	.375 W.T	897'	1489'

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

Comments

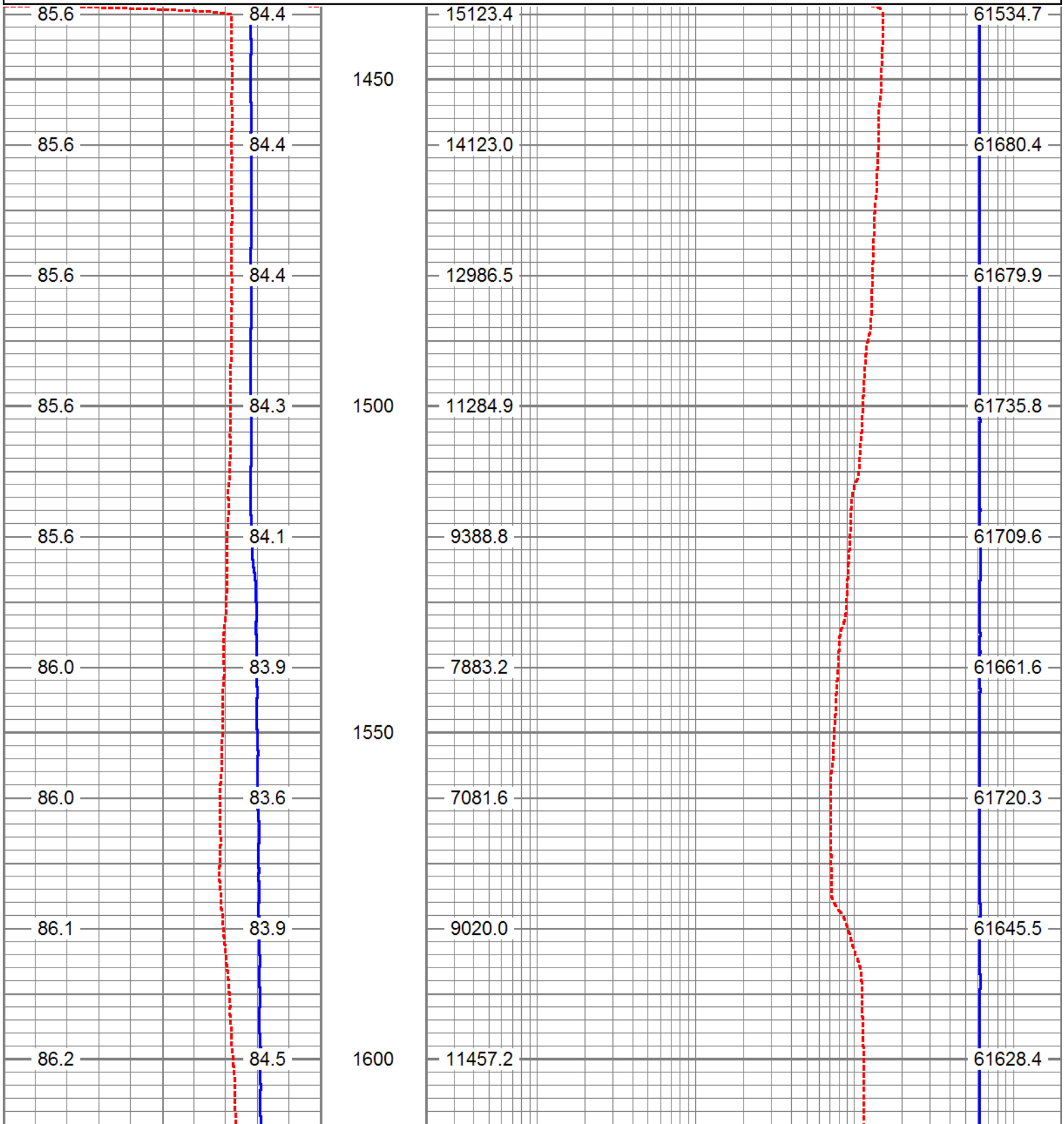
DEVIATION
RES/GR/SP
BHC/SONIC/VDL
DIL/LL3/SP
XYC/GR
FLOWMETER
DHTVS

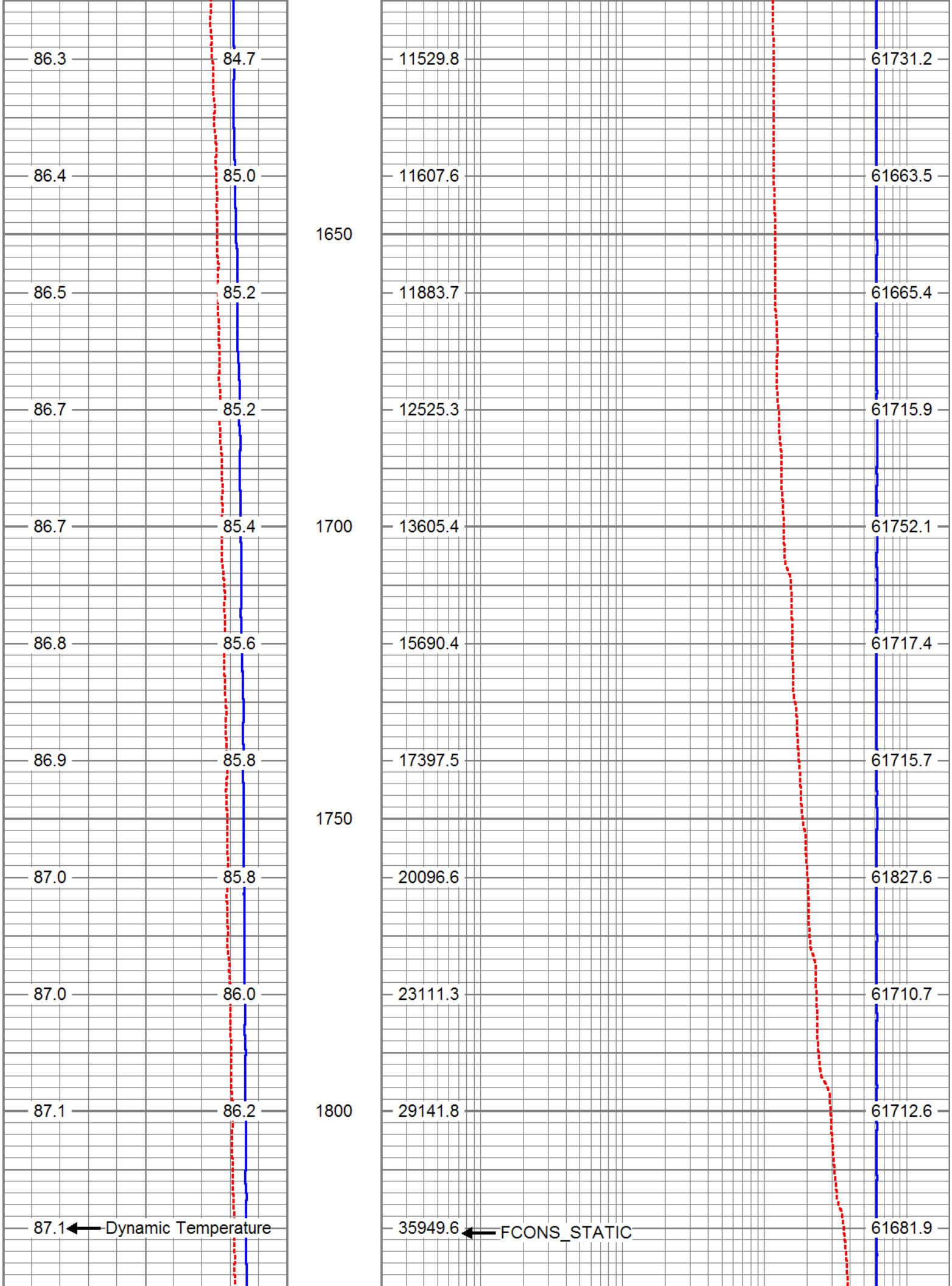
FCT MERGE (3,500 GPM)

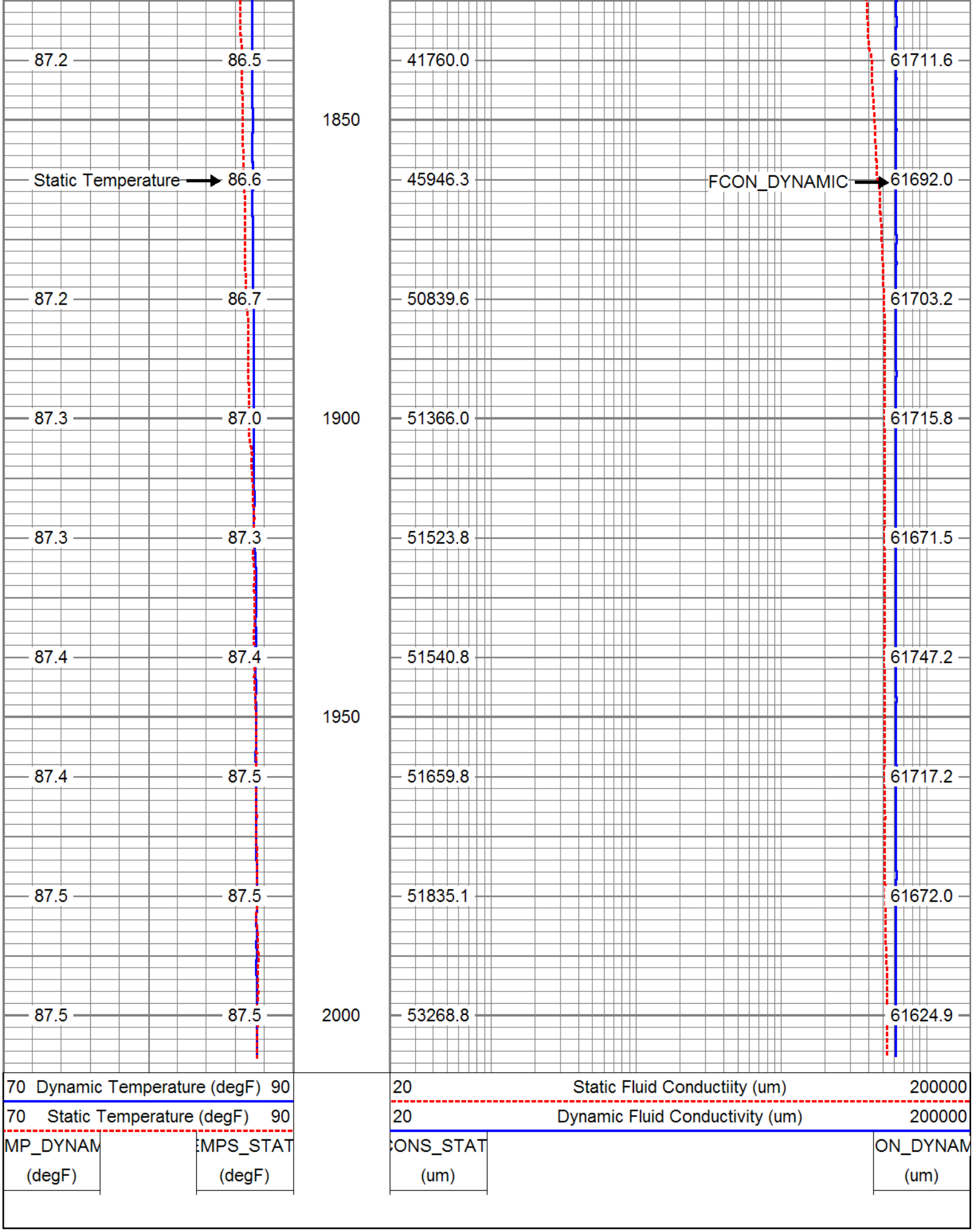
ALLWEBBS

ENTERPRISES, INC.

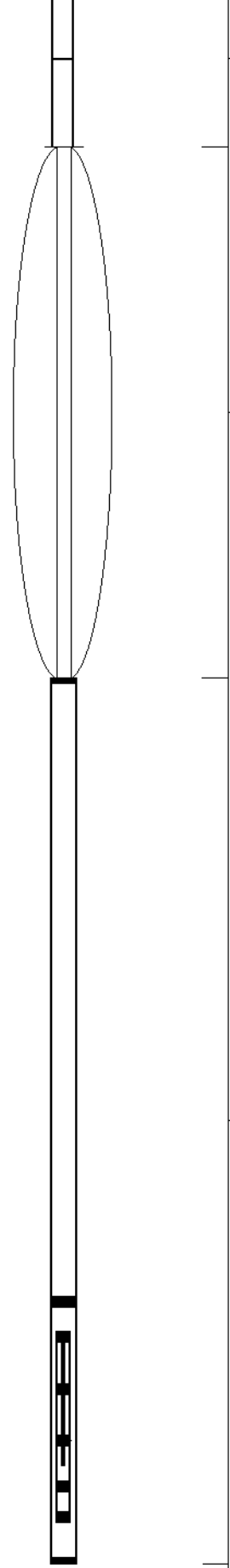
Database File: kisspoc109.db
Dataset Pathname: run6/FCTDY1
Presentation Format: fct
Dataset Creation: Sat Aug 11 06:07:59 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240




86.3
84.7
11529.8
61731.2
86.4
85.0
11607.6
61663.5
1650
86.5
85.2
11883.7
61665.4
86.7
85.2
12525.3
61715.9
86.7
85.4
1700
13605.4
61752.1
86.8
85.6
15690.4
61717.4
86.9
85.8
17397.5
61715.7
1750
87.0
85.8
20096.6
61827.6
87.0
86.0
23111.3
61710.7
87.1
86.2
1800
29141.8
61712.6
87.1
Dynamic Temperature
35949.6
FCONS_STATIC
61681.9



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)



		CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
		CBLINLINE	3.00	1.50	10.00
		FRTEMP-RG (1) RG_FCON	5.00	1.50	25.00
FCON	0.50				
TEMP	0.33				

Dataset:	kisspoc109.db: field/well/run6/FCTDY1
Total Length:	9.00 ft
Total Weight:	40.00 lb
O.D.	1.50 in

ALLWEBBS ENTERPRISES, INC.

FLOWMETER LOG

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF #109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF #109
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA State FLORIDA
Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD
Other Services SEE COMMENTS
Elevation
K.B.
D.F.
G.L.

Date	18-AUG-2012
Run Number	SIX
Depth Driller	2001'
Depth Logger	2002'
Bottom Logged Interval	2002'
Top Log Interval	CASING
Open Hole Size	10.75"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	

Borehole Record

Run Number	Bit	From	To
ONE	12.25"	CASING	303'
TWO	32"	CASING	303'
THREE	12.25"	CASING	920'
FOUR	25"	CASING	910'

Borehole Record

Run Number	Bit	From	To
FIVE	19"	CASING	1491'
SIX	10.75"	CASING	2001'

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner	12"	.375 W.T	897'	1489'

<<< Fold Here >>>

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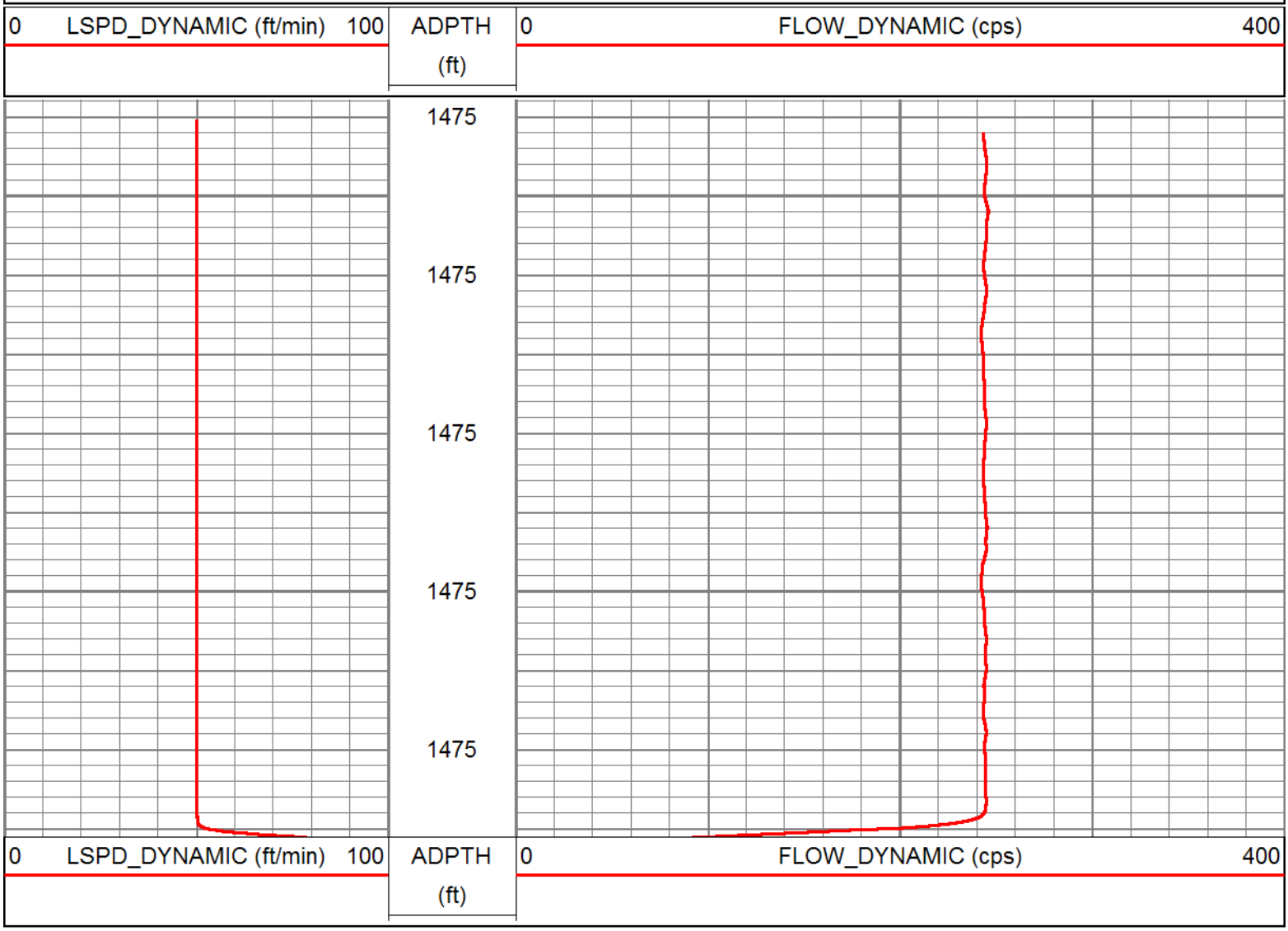
Comments

DEVIATION
RES/GR/SP
BHC/SONIC/VDL
DIL/LL3/SP
XYC/GR
FCT
DHTVS

ALLWEBBS

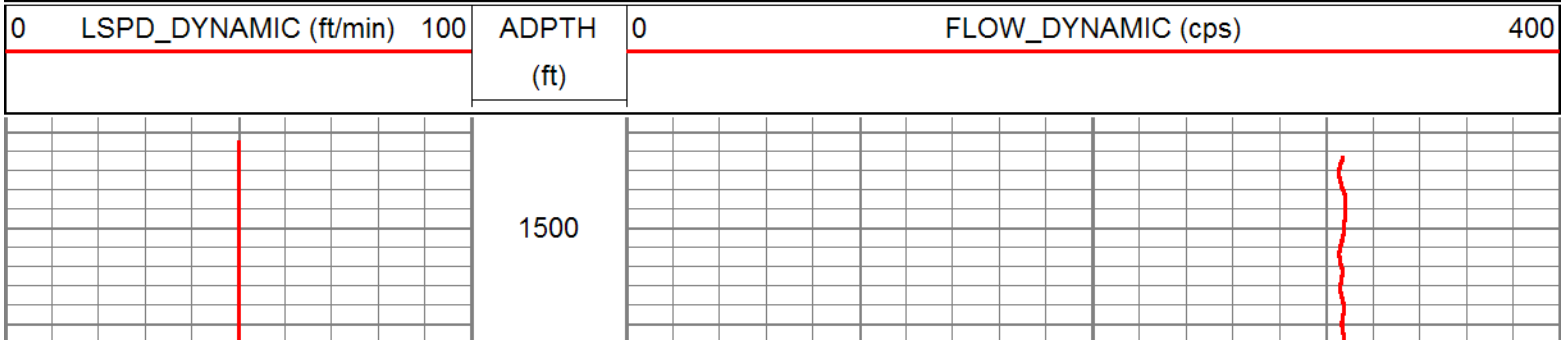
STATION @ 1475'

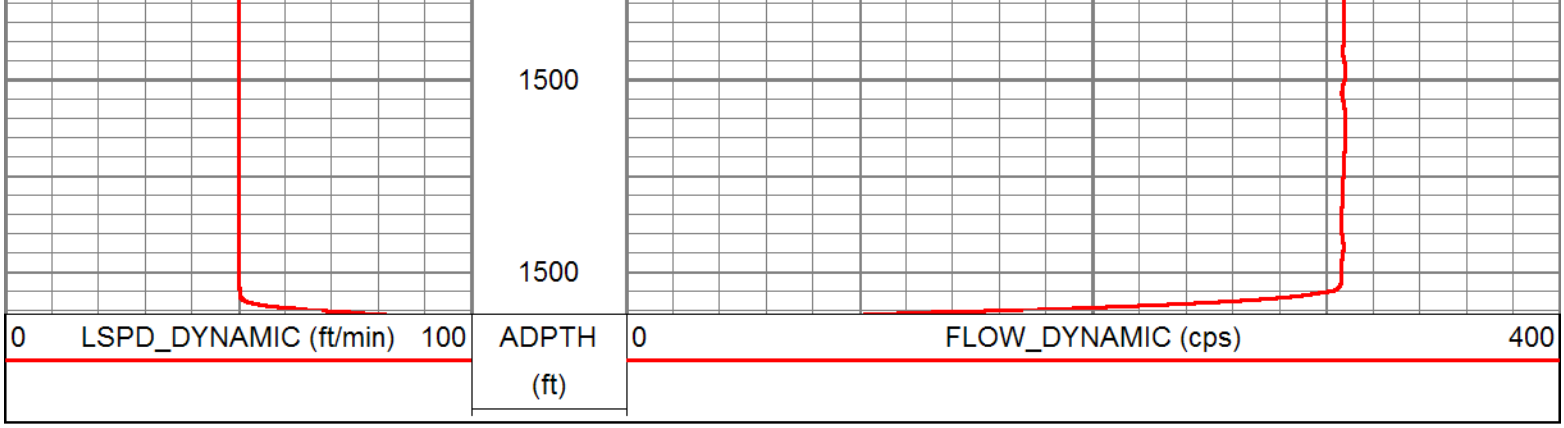
Database File: kisspoc109.db
Dataset Pathname: run6/STAT1475
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 12:02:43 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 1500'

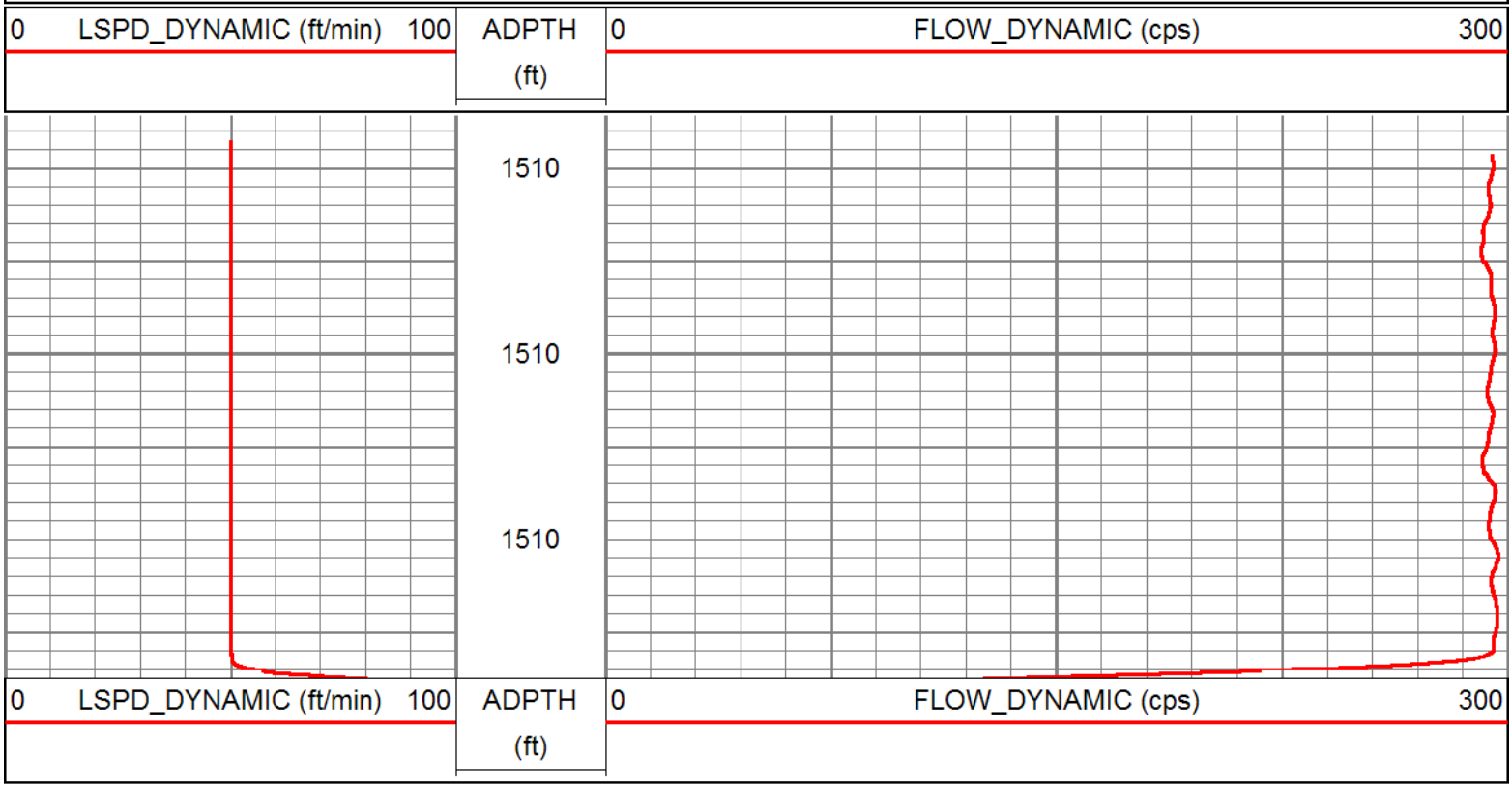
Database File: kisspoc109.db
Dataset Pathname: run6/STAT1500
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 12:00:51 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240





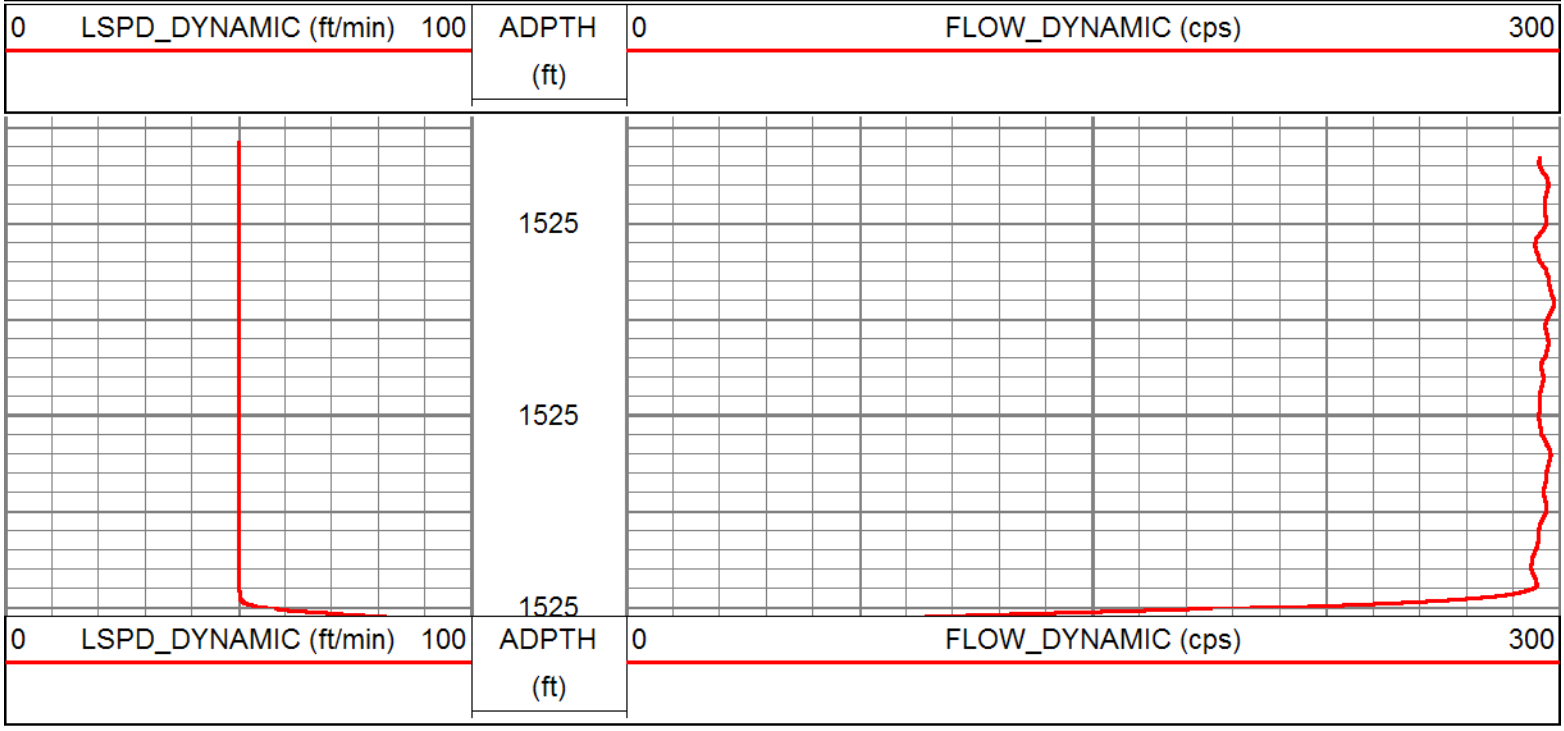
STATION @ 1510'

Database File: kisspoc109.db
Dataset Pathname: run6/STAT1510
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:58:38 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



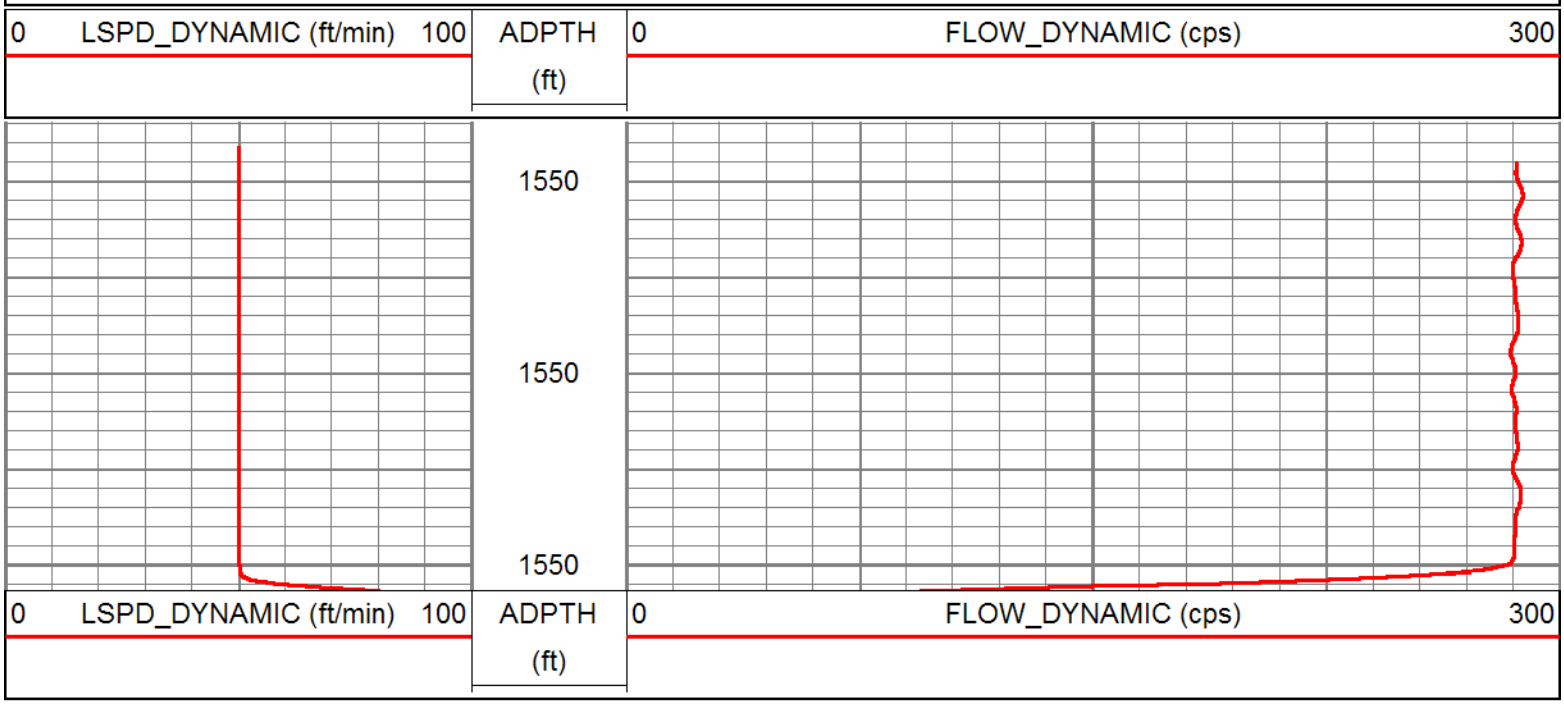
STATION @ 1525'

Database File: kisspoc109.db
Dataset Pathname: run6/STAT1525
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:56:55 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



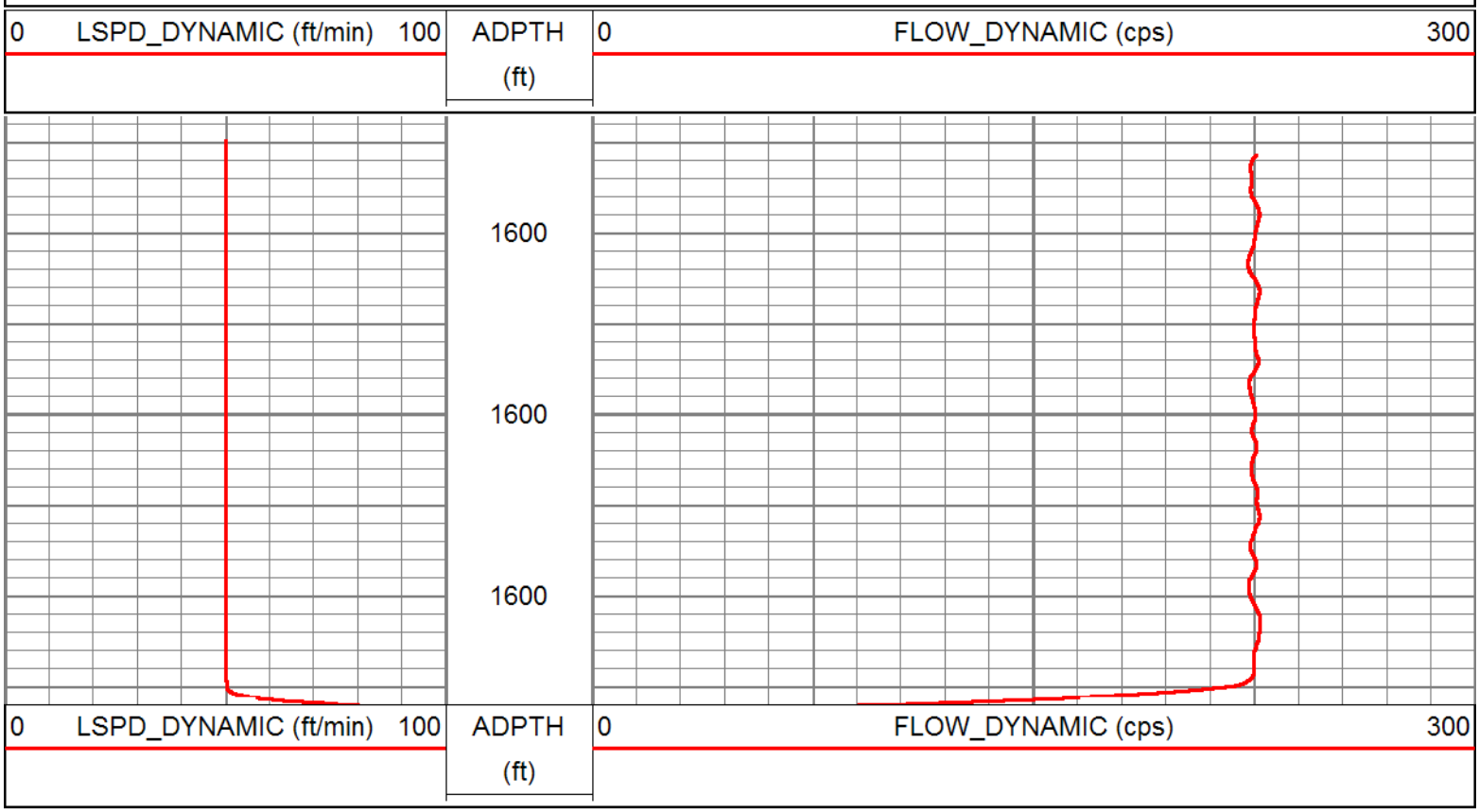
STATION @ 1550'

Database File:	kisspoc109.db
Dataset Pathname:	run6/STAT1550
Presentation Format:	flow_sta
Dataset Creation:	Sat Aug 18 11:55:17 2012 by Log Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240



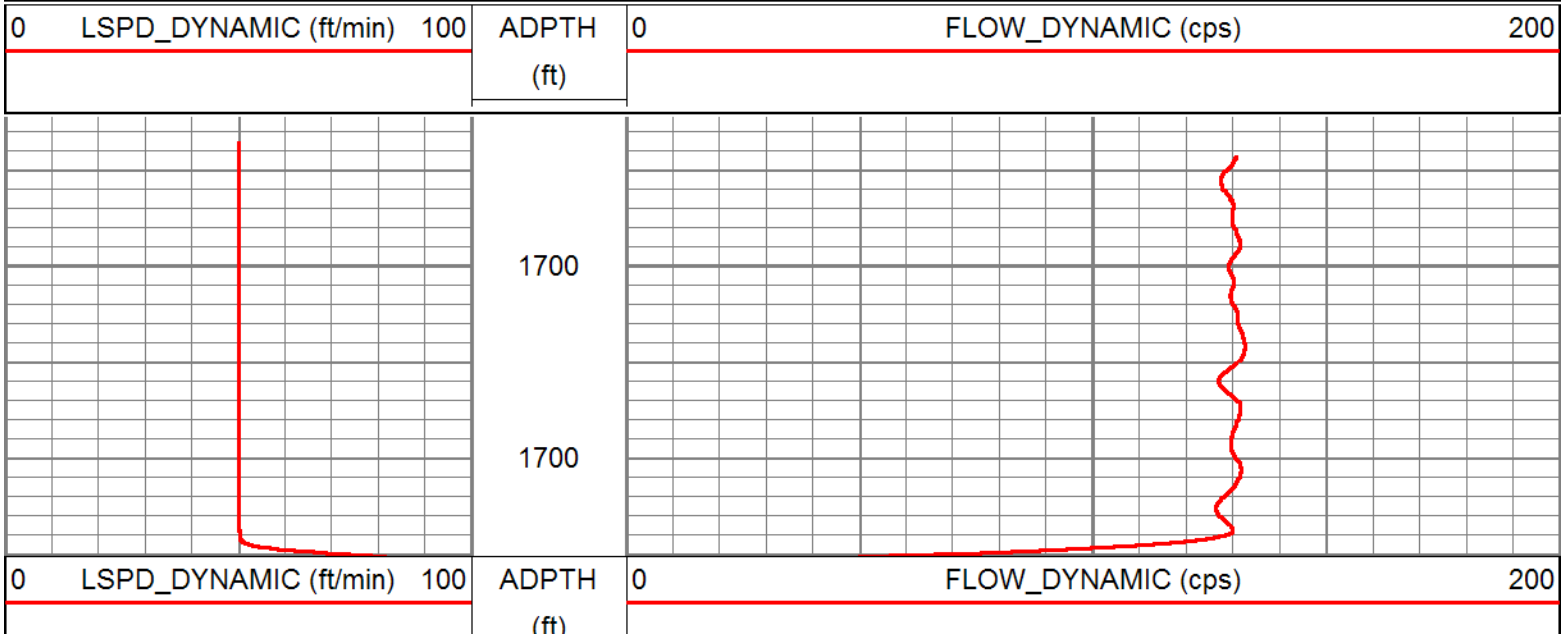
STATION @ 1600'

Database File: kisspoc109.db
Dataset Pathname: run6/STAT1600
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:52:42 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



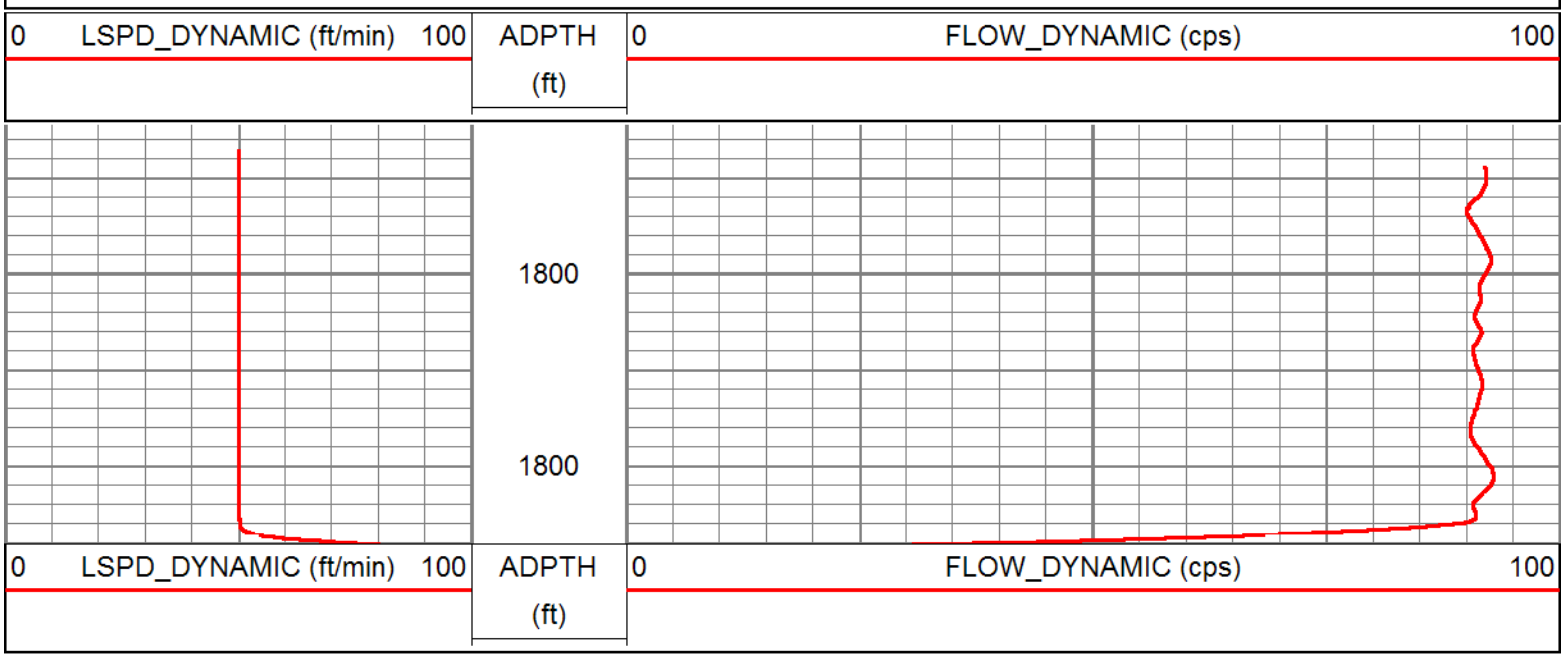
STATION @ 1700'

Database File: kisspoc109.db
Dataset Pathname: run6/STAT1700
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:50:44 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



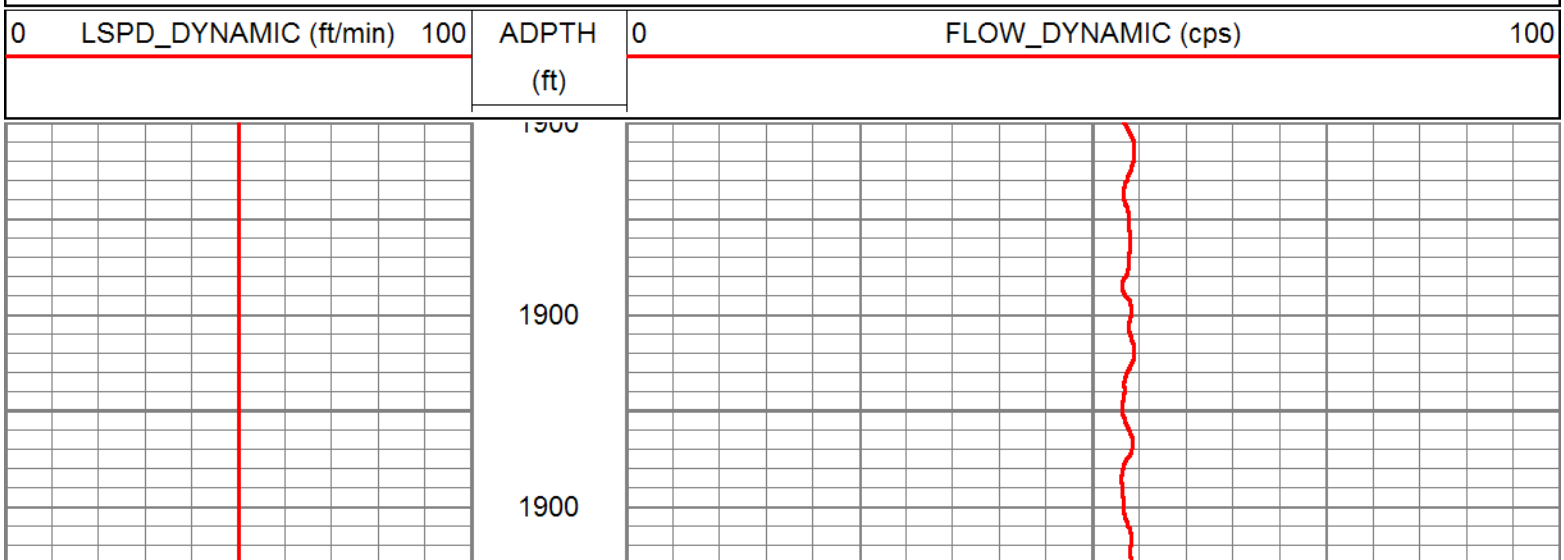
STATION @ 1800'

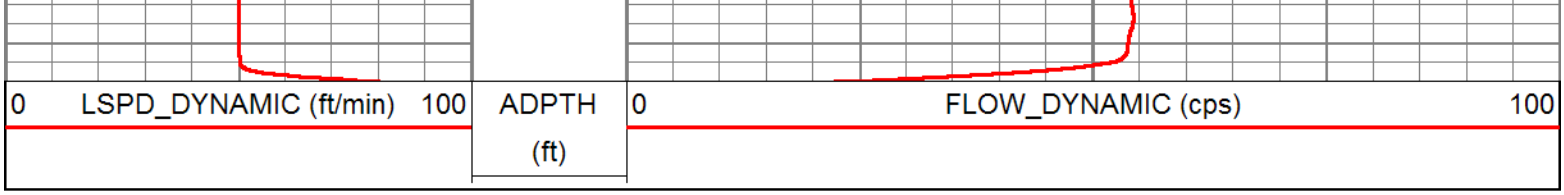
Database File: kisspoc109.db
Dataset Pathname: run6/STAT1800
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:48:47 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 1900'

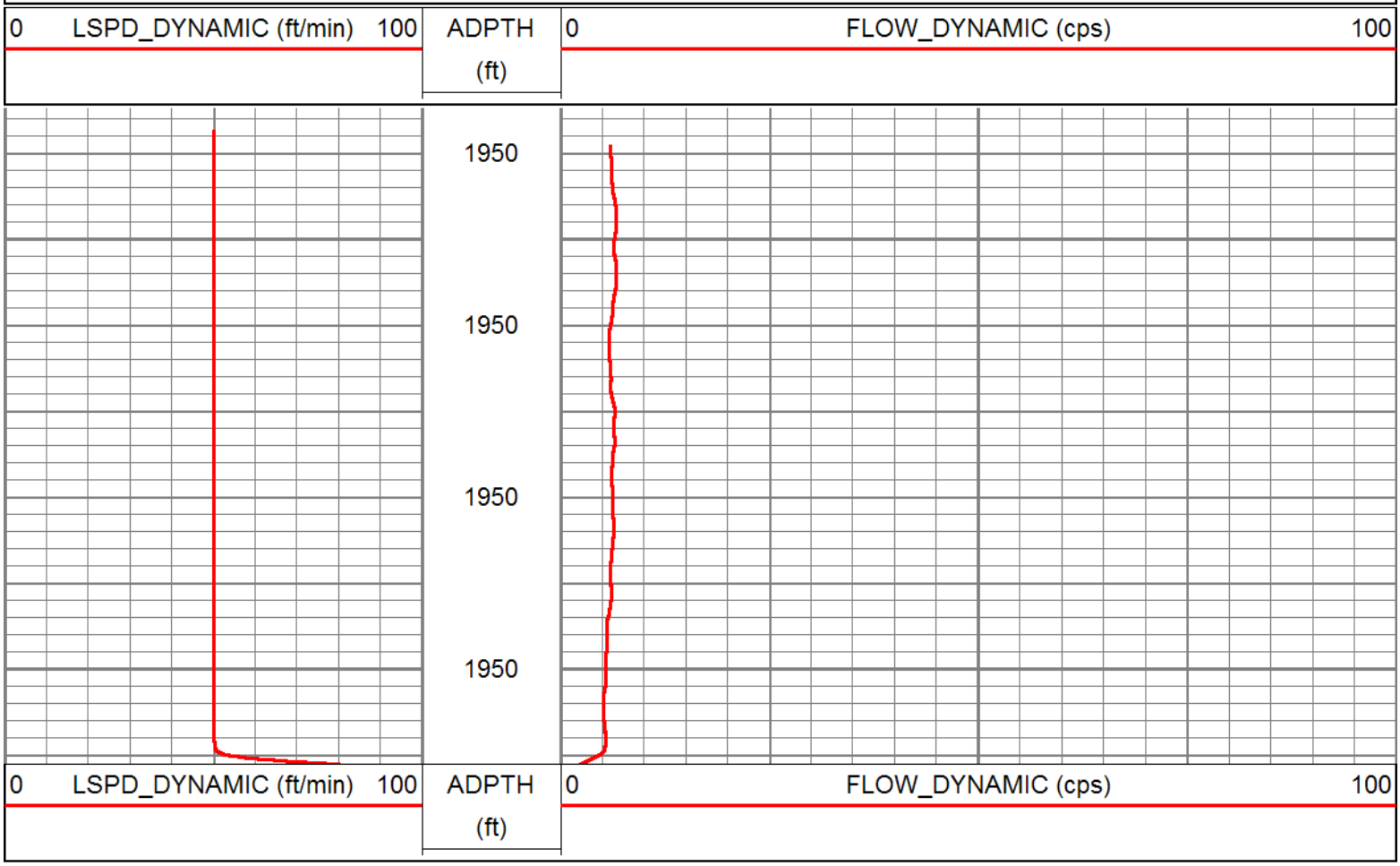
Database File: kisspoc109.db
Dataset Pathname: run6/STAT1900
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:45:52 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240





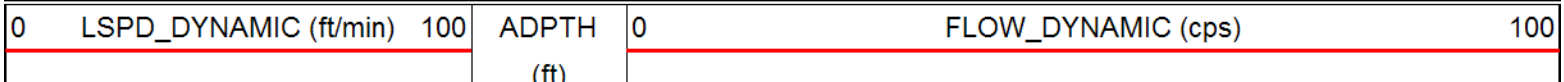
STATION @ 1950'

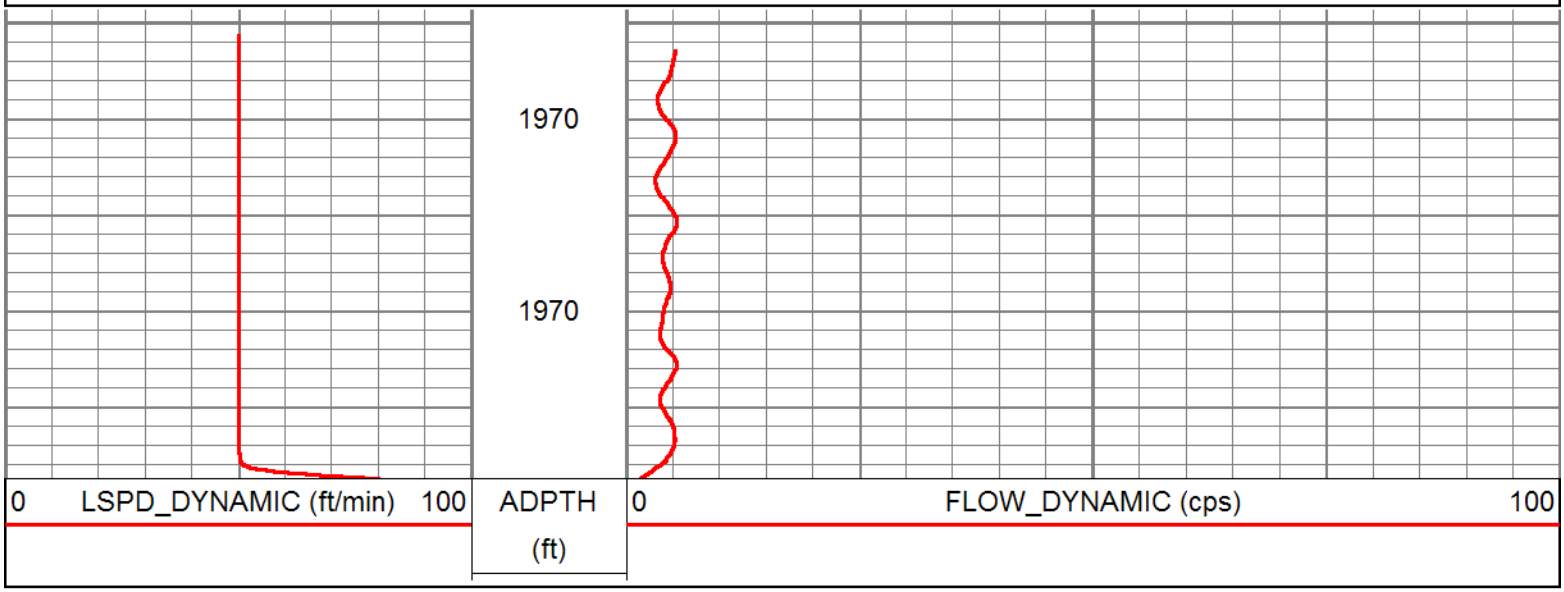
Database File: kisspoc109.db
Dataset Pathname: run6/STAT1950
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:43:07 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



STATION @ 1970'

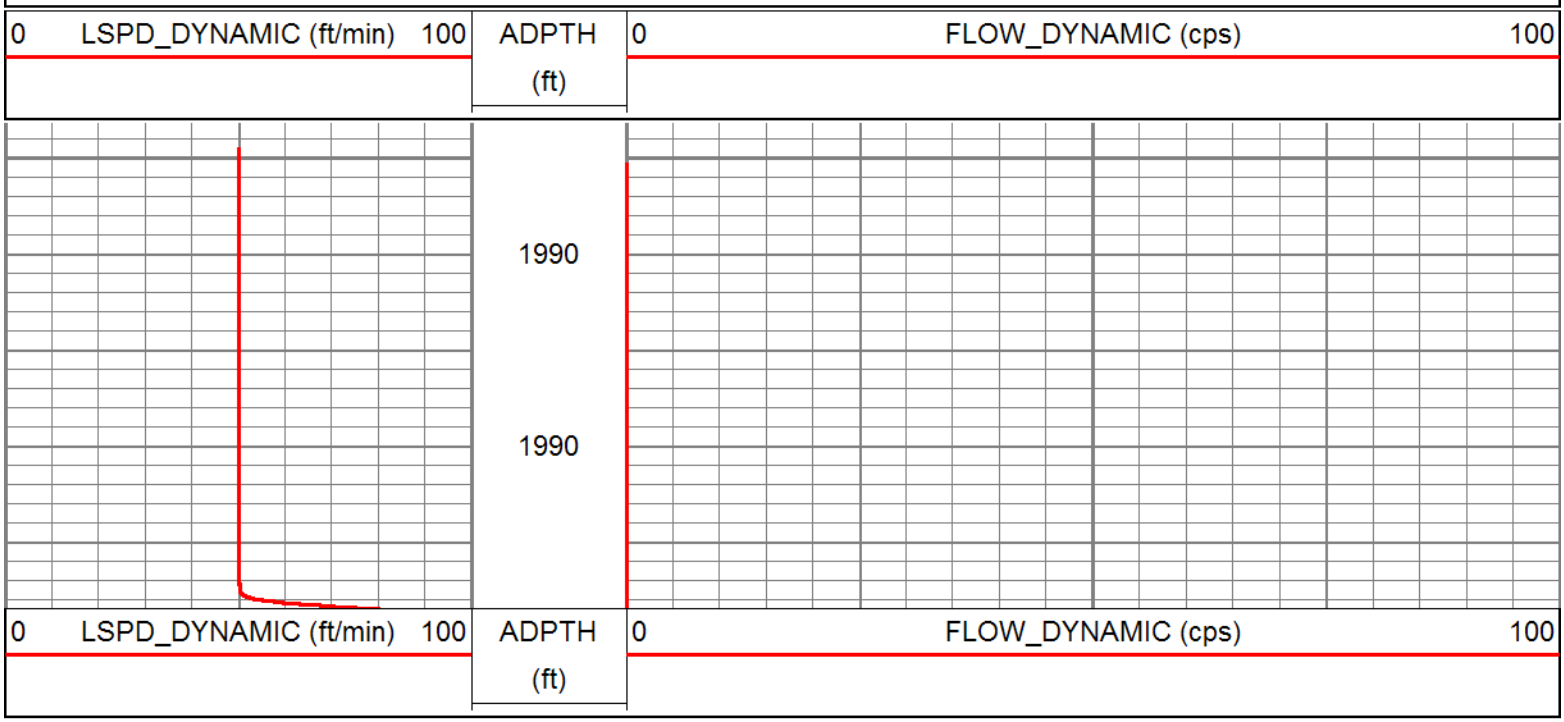
Database File: kisspoc109.db
Dataset Pathname: run6/STAT1970
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:41:24 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240





STATION @ 1990'

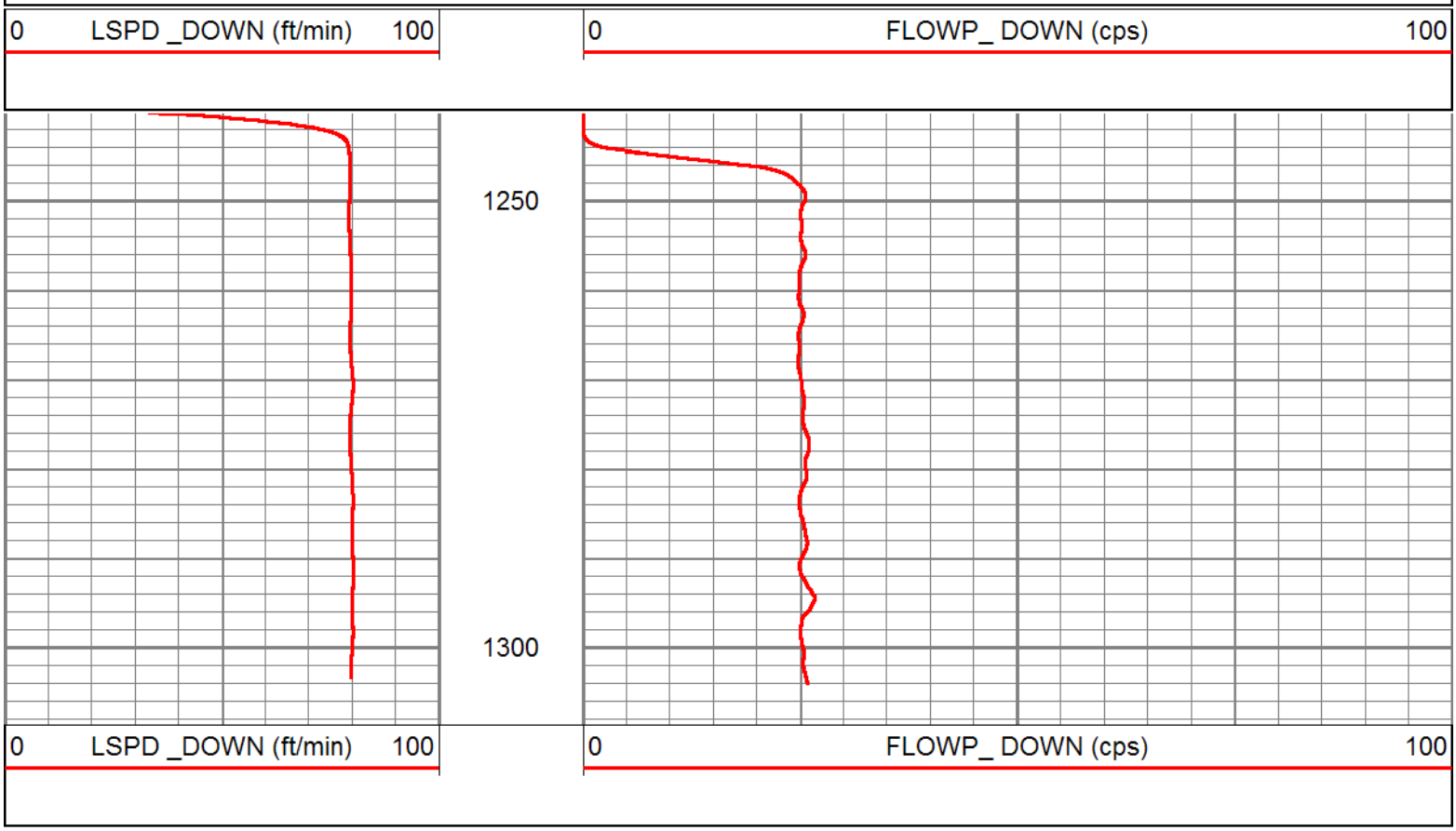
Database File: kisspoc109.db
Dataset Pathname: run6/STAT1990
Presentation Format: flow_sta
Dataset Creation: Sat Aug 18 11:39:24 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



CALS @ 80 FPM

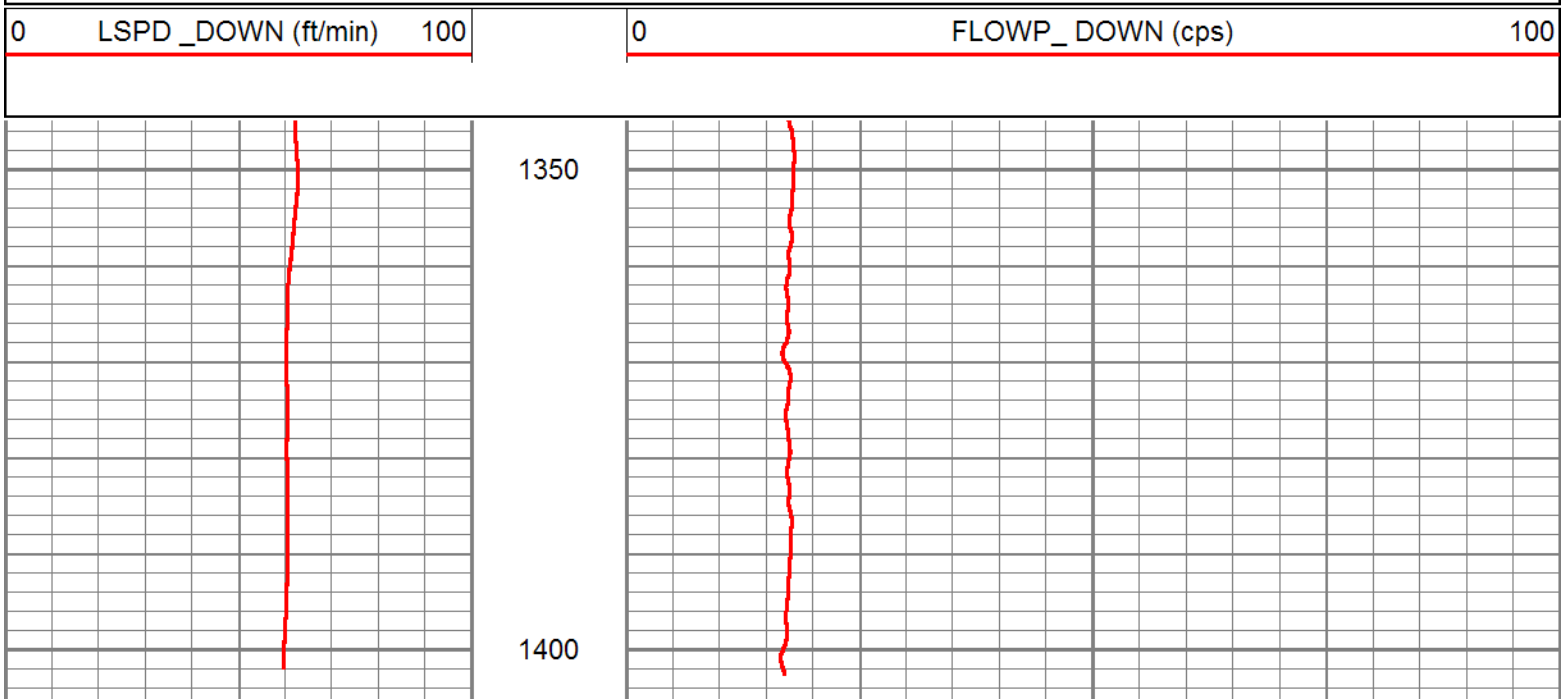
Database File: kisspoc109.db
Dataset Pathname: run6/FMCAL80
Presentation Format: flow

Dataset Creation: Sat Aug 18 11:08:34 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



CALS @ 60 FPM

Database File: kisspoc109.db
Dataset Pathname: run6/FMCAL60
Presentation Format: flow
Dataset Creation: Sat Aug 18 11:04:15 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

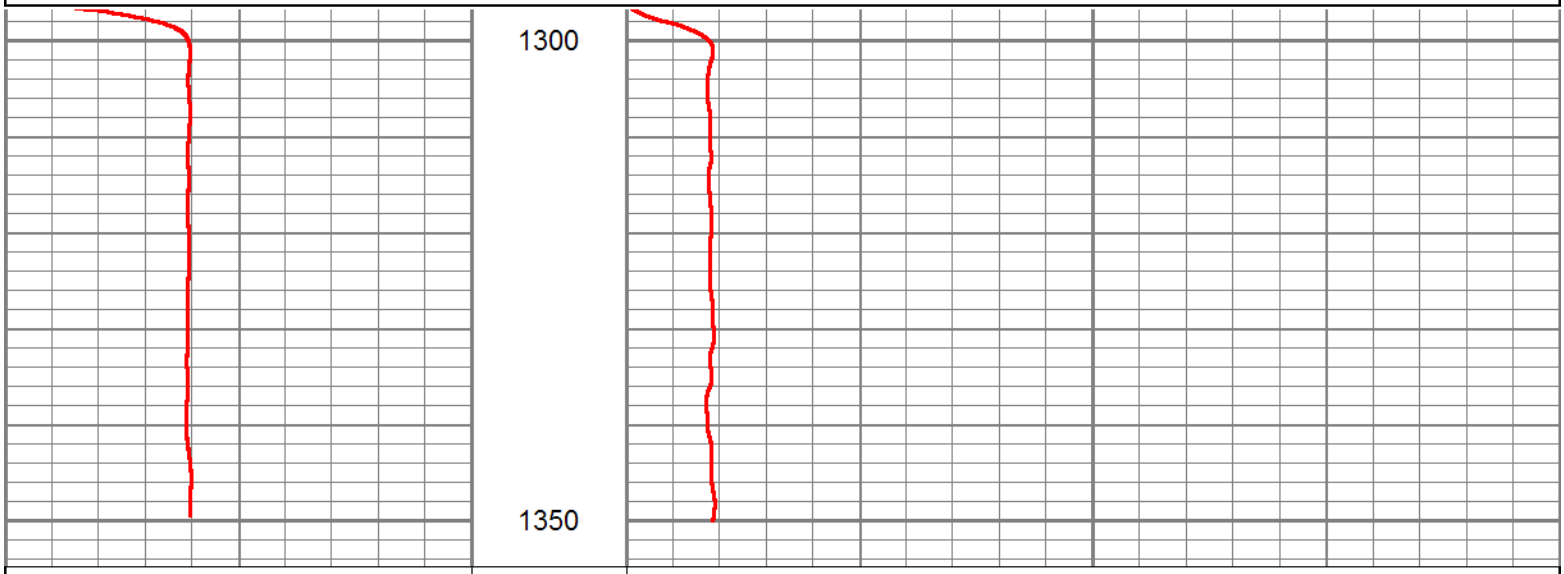


0	LSPD _DOWN (ft/min)	100
0	FLOWP_ DOWN (cps)	100

CALS @ 40 FPM

Database File: kisspoc109.db
Dataset Pathname: run6/FMCAL40
Presentation Format: flow
Dataset Creation: Sat Aug 18 11:00:41 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

0	LSPD _DOWN (ft/min)	100
0	FLOWP_ DOWN (cps)	100



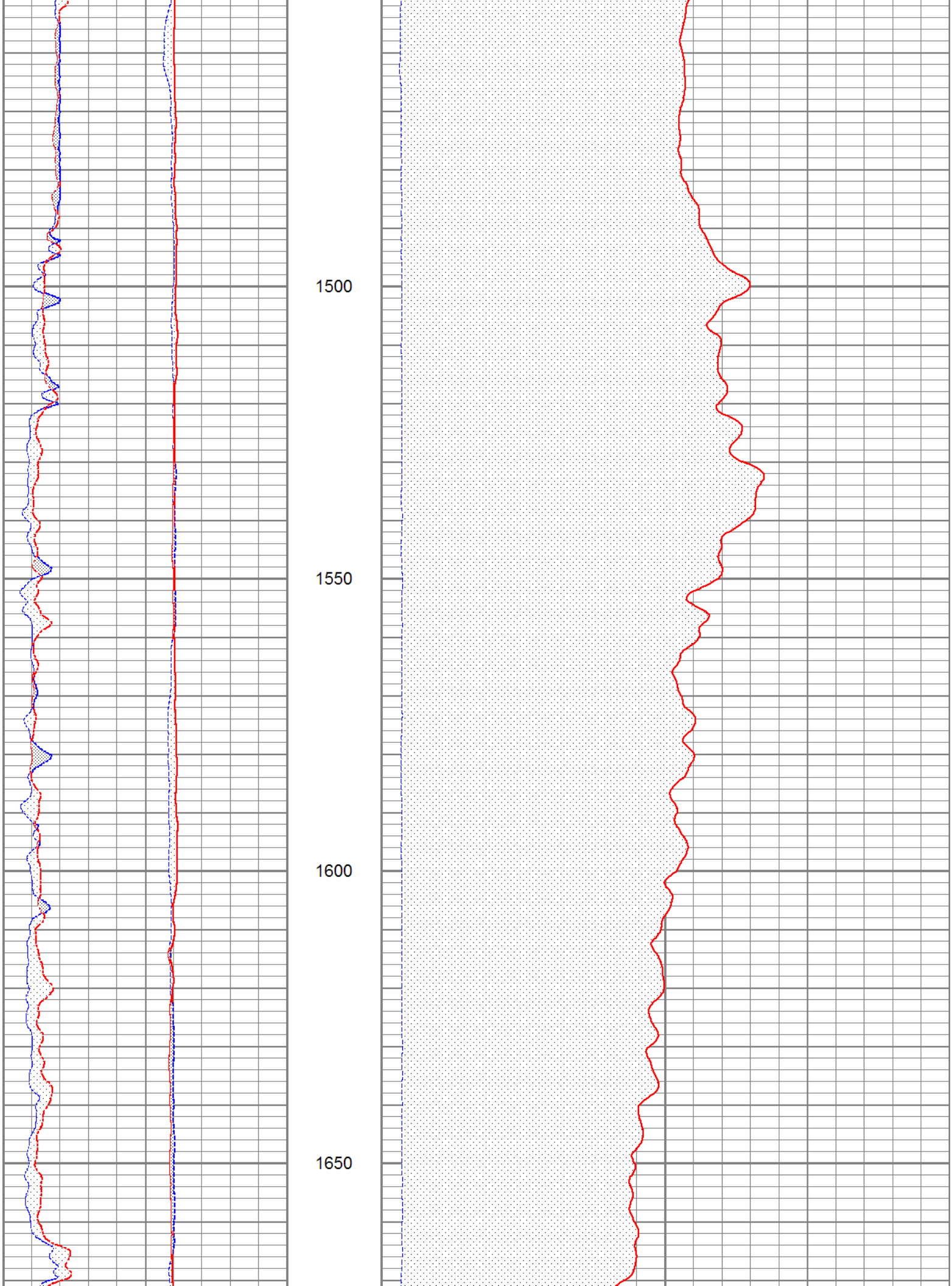
0	LSPD _DOWN (ft/min)	100
0	FLOWP_ DOWN (cps)	100

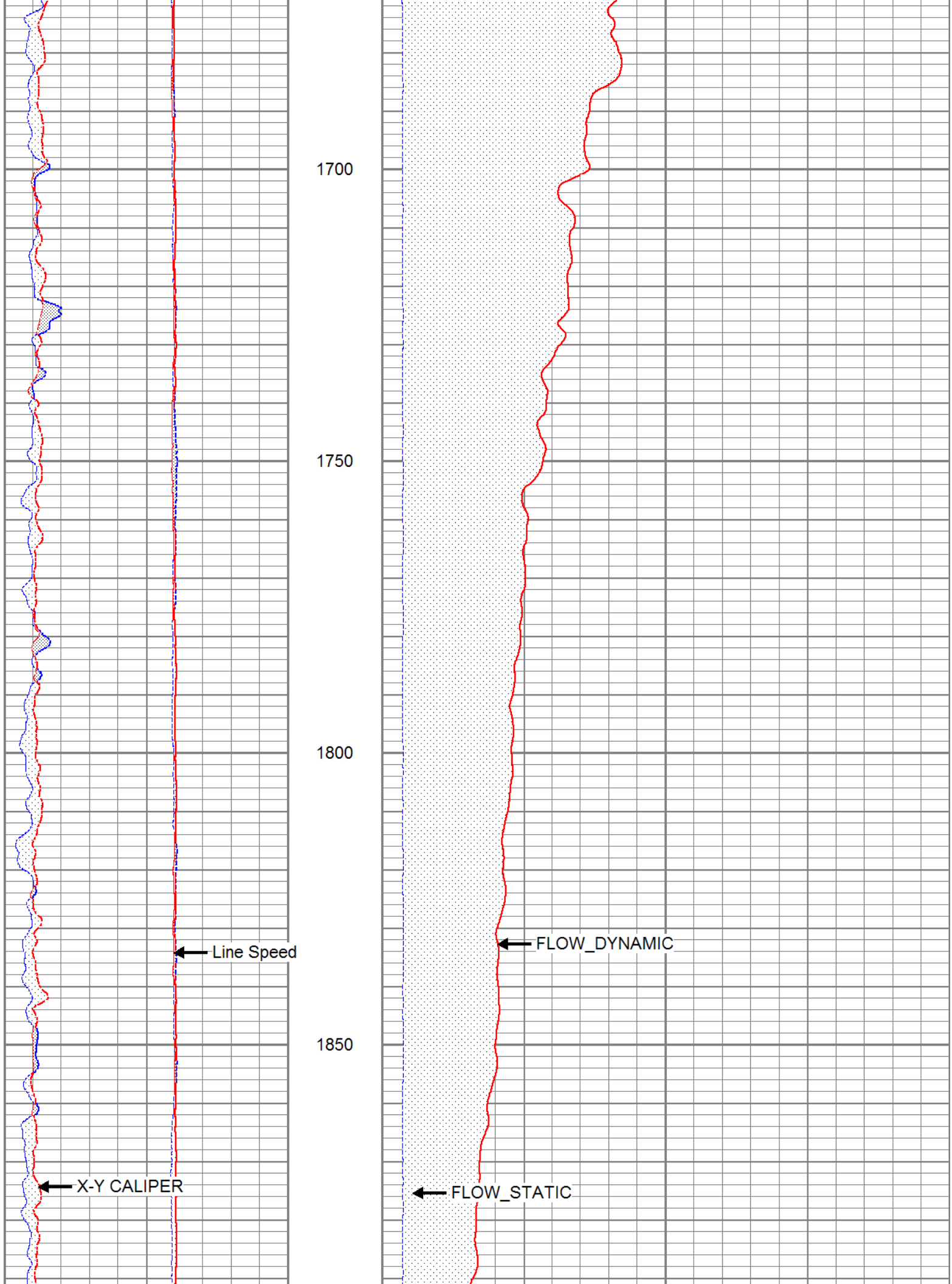
FLOW MERGE (3,500 GPM)

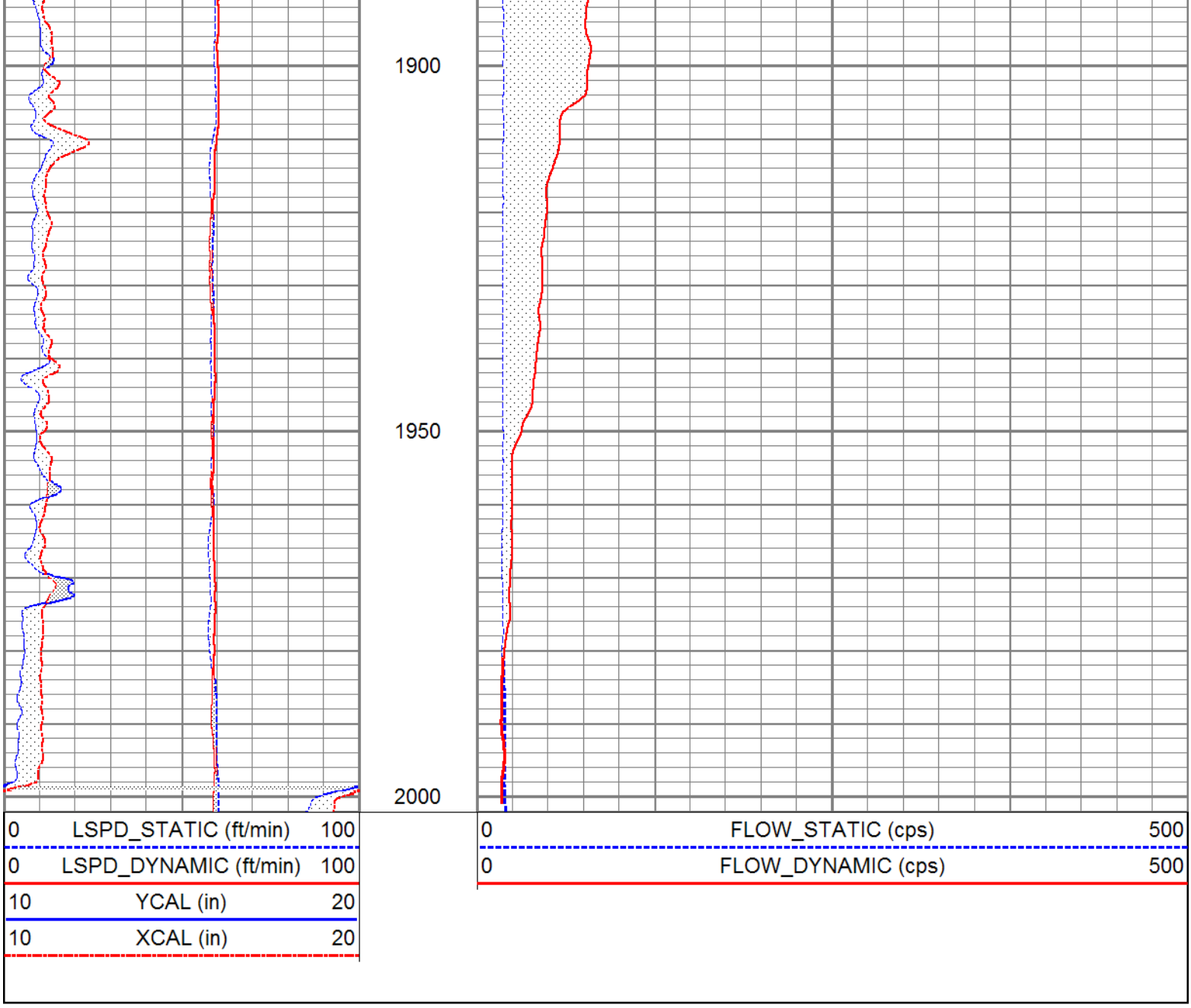
Database File: kisspoc109.db
Dataset Pathname: run6/FMDY601
Presentation Format: flow_mg
Dataset Creation: Sat Aug 18 14:30:25 2012 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

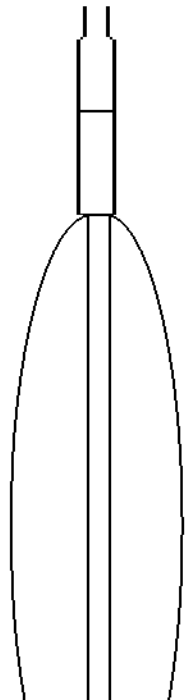
0	LSPD_STATIC (ft/min)	100
0	LSPD_DYNAMIC (ft/min)	100
10	YCAL (in)	20
10	XCAL (in)	20
0	FLOW_STATIC (cps)	500
0	FLOW_DYNAMIC (cps)	500

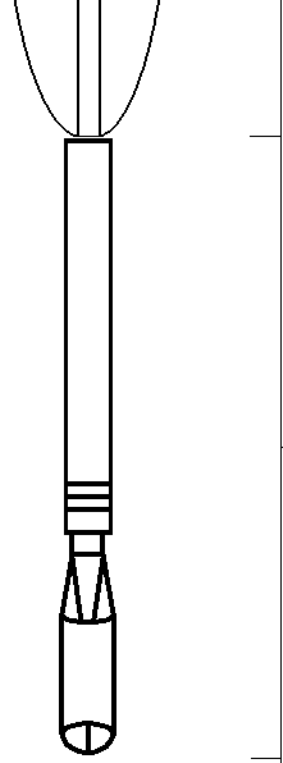



1500
1550
1600
1650


1700
1750
1800
1850
Line Speed
FLOW_DYNAMIC
X-Y CALIPER
FLOW_STATIC



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CBLINLINE	3.00	1.50	10.00



		FLOWMETER-TITAN (TITAN_3") TITIN_3'	3.00	1.69	25.00
FLOWP FLOWN	0.25 0.25				

Dataset:	kisspoc109.db: field/well/run6/FMDY60
Total Length:	7.00 ft
Total Weight:	40.00 lb
O.D.	1.69 in

DEVIATION LOG

ALLWEBBS ENTERPRISES, INC.

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF #109
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well OSF #109

Field KISSIMMEE BASIN (LFA-C)

County OSCEOLA State FLORIDA

Location: API # :

SEC TWP RGE

Other Services SEE COMMENTS

Permanent Datum	PAD	Elevation	Elevation
Log Measured From	PAD		K.B.
Drilling Measured From	PAD		D.F.
			G.L.

Date	4-AUG-2012		
Run Number	SIX		
Depth Driller	2001'		
Depth Logger	2002'		
Bottom Logged Interval	2002'		
Top Log Interval	CASING		
Open Hole Size	10.75"		
Type Fluid	WATER		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	00:00		
Time Logger on Bottom	00:00		
Equipment Number	VA-202		
Location	JUPTIER		
Recorded By	LEE		
Witnessed By			

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	12.25"	CASING	303'	FIVE	19"	CASING	1491'
TWO	32"	CASING	303'	SIX	10.75"	CASING	2001'
THREE	12.25"	CASING	920'				
FOUR	25"	CASING	910'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	36"	.375 W.T	SURFACE	32'
Prot. String	26"	.375 W.T	SURFACE	300'
Production String	20"	.375 W.T	SURFACE	915'
Liner	12"	.375 W.T	897'	1489'

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Comments

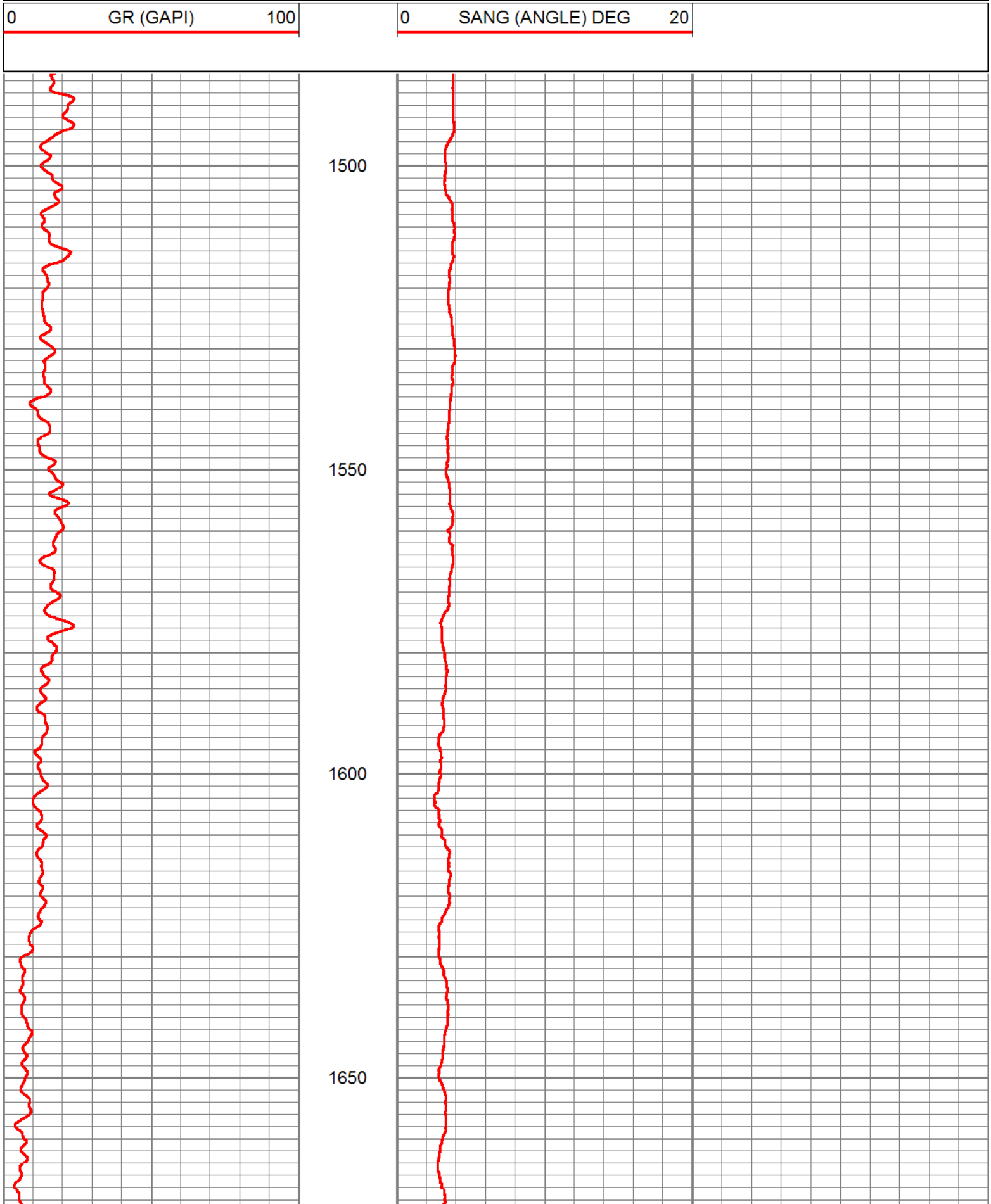
FLOWMETER
RES/GR/SP
BHC/SONIC/VDL
DIL/LL3/SP
XYC/GR
FCT
DHTVS

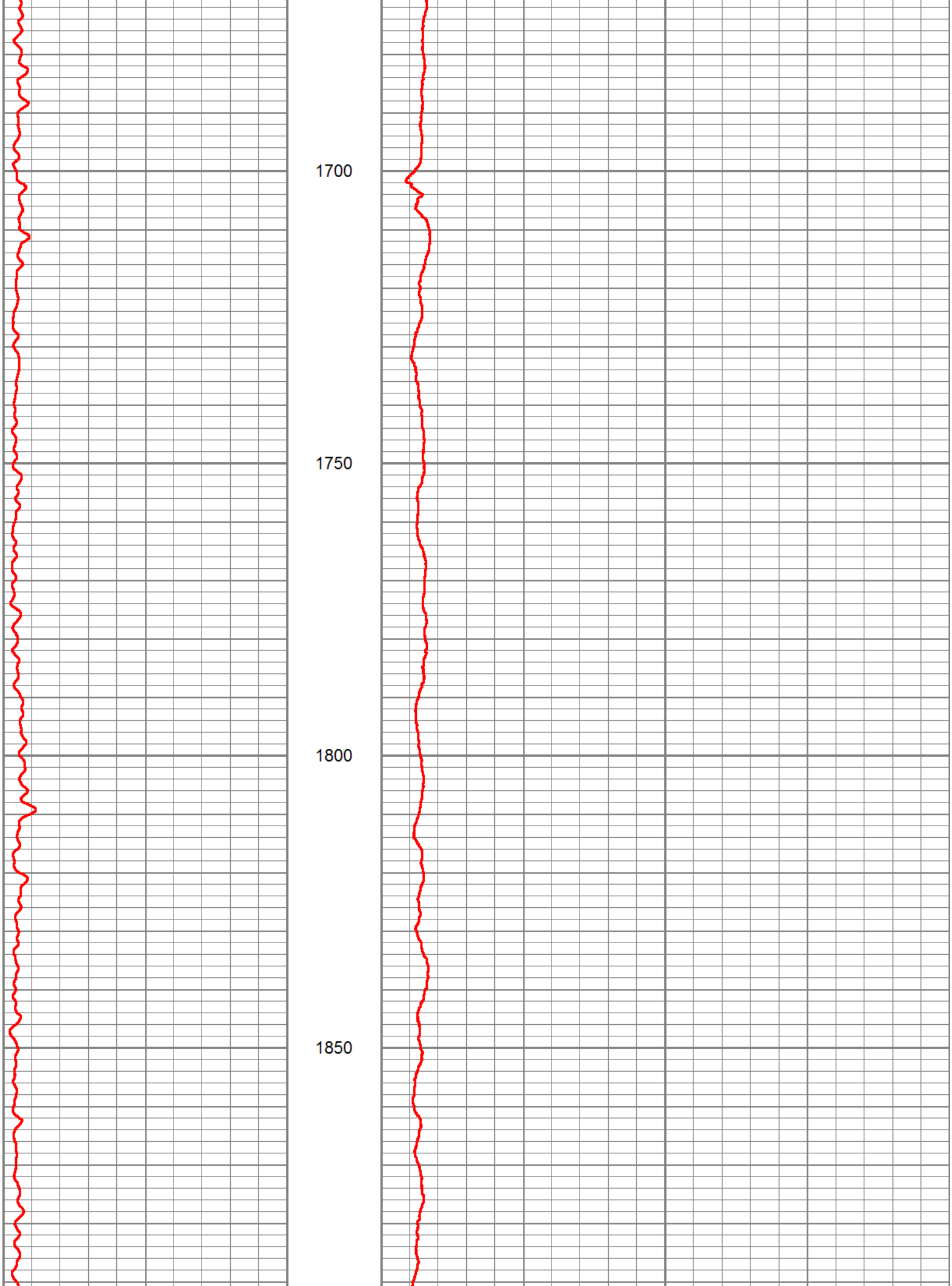
MAG DEVIATION

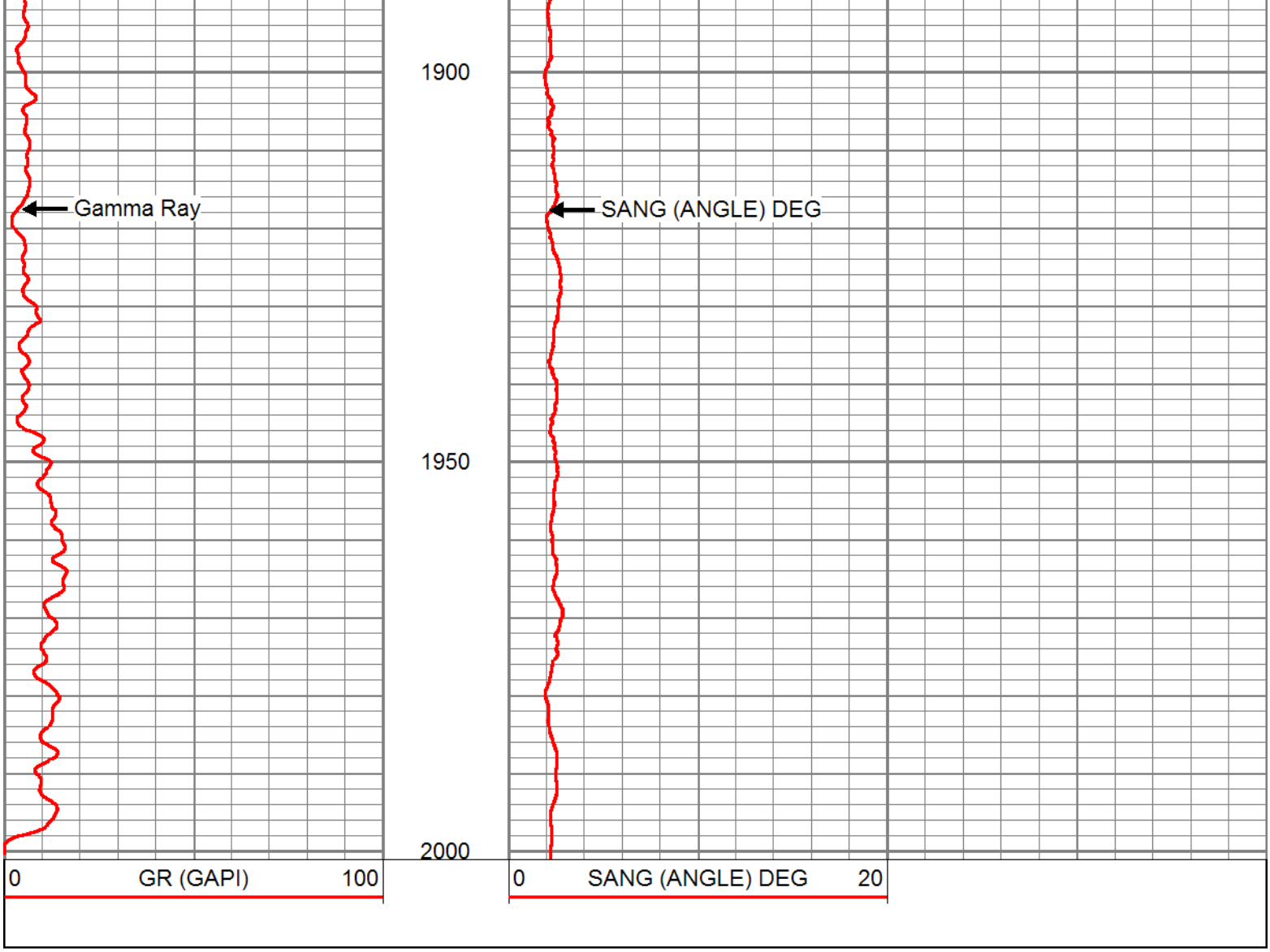
ALLWEBBS

ENTERPRISES, INC.

Database File: kisspoc109.db
Dataset Pathname: run6DEVI/@07242329
Presentation Format: devi
Dataset Creation: Sun Aug 05 01:03:18 2012
Charted by: Depth in Feet scaled 1:240




1700
1750
1800
1850


1900
1950
2000
Gamma Ray
SANG (ANGLE) DEG
0
GR (GAPI)
100
0
SANG (ANGLE) DEG
20

ALLWEBBS ENTERPRISES, INC.

DEVIATION LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF#105
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Date	10-SEPT-2012
Run Number	ONE
Depth Driller	1104'
Depth Logger	1104'
Bottom Logged Interval	1104'
Top Log Interval	CASING
Open Hole Size	12"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	BOUCHIER

Borehole Record

Run Number	Bit	From	To
ONE	12"	CASING	1202'
	10"	1202'	1423'

Borehole Record

Run Number	Bit	From	To

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	12"	.500 W.T	SURFACE	930'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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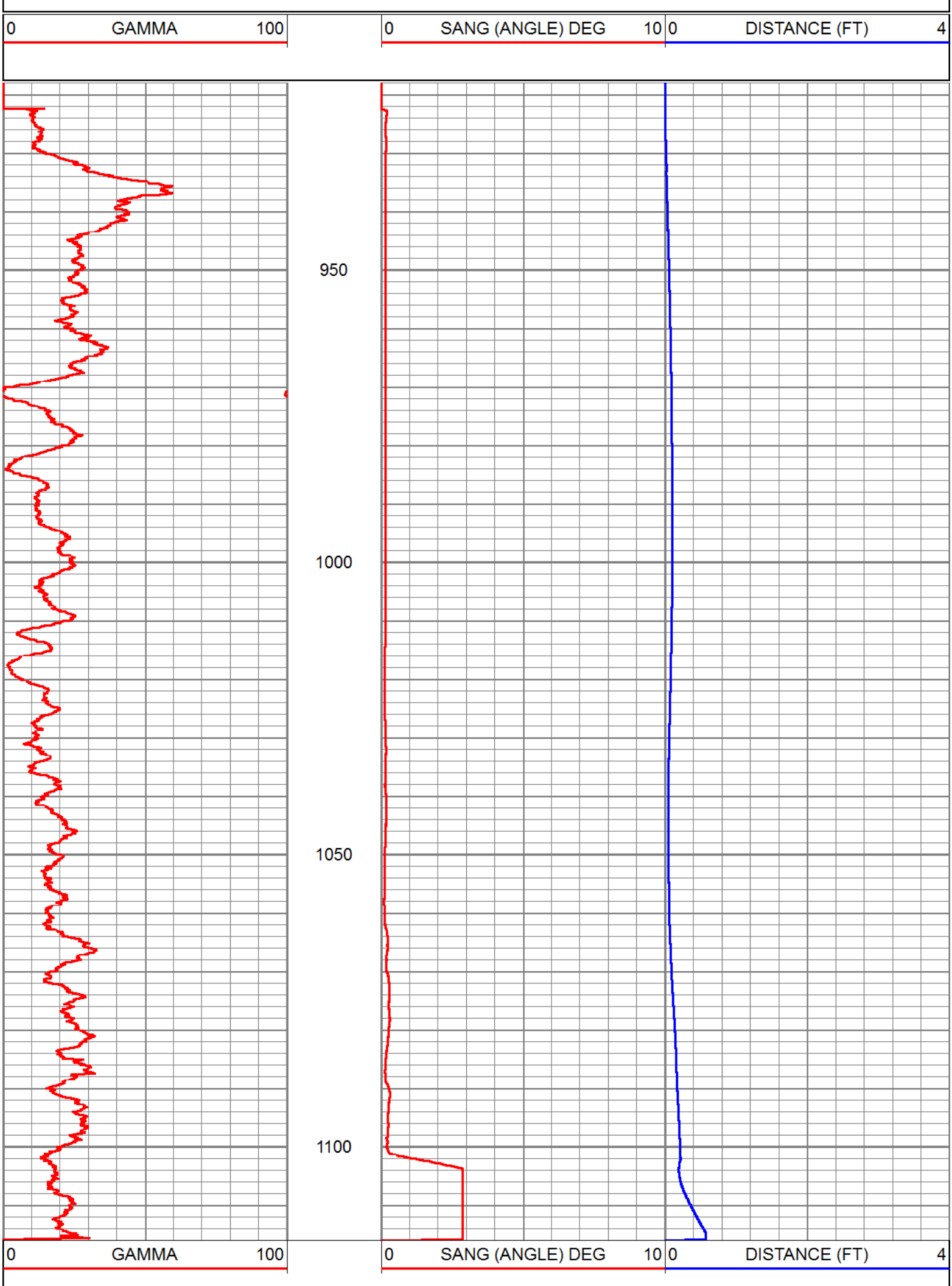
Comments

DHTVS
XYC/GR

Database File:	osf105.db
Dataset Pathname:	run1DEVI/@001d746a
Presentation Format:	DEVIAT~1
Dataset Creation:	Mon Sep 10 23:57:09 2012
Charted by:	Depth in Feet scaled 1:240


0
GAMMA
100
0
SANG (ANGLE) DEG
10
0
DISTANCE (FT)
4
950
1000
1050
1100
0
GAMMA
100
0
SANG (ANGLE) DEG
10
0
DISTANCE (FT)
4

ALLWEBBS ENTERPRISES, INC.

X-Y CALIPER GAMMA RAY LOG

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF#105
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well OSF#105

Field KISSIMMEE BASIN (LFA-C)

County OSCEOLA State FLORIDA

Location: API # :

SEC TWP RGE

Permanent Datum PAD Elevation

Log Measured From PAD

Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Date	10-SEPT-2012
Run Number	ONE
Depth Driller	1104'
Depth Logger	1104'
Bottom Logged Interval	1104'
Top Log Interval	CASING
Open Hole Size	12"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	BOUCHIER

Borehole Record

Run Number	Bit	From	To
ONE	12"	CASING	1202'
	10"	1202'	1423'

Borehole Record

Run Number	Bit	From	To
		Top	Bottom
		SURFACE	930'

Casing Record	Size	Wgt/Ft
Surface String	12"	.500 W.T
Prot. String		
Production String		
Liner		

<<< Fold Here >>>

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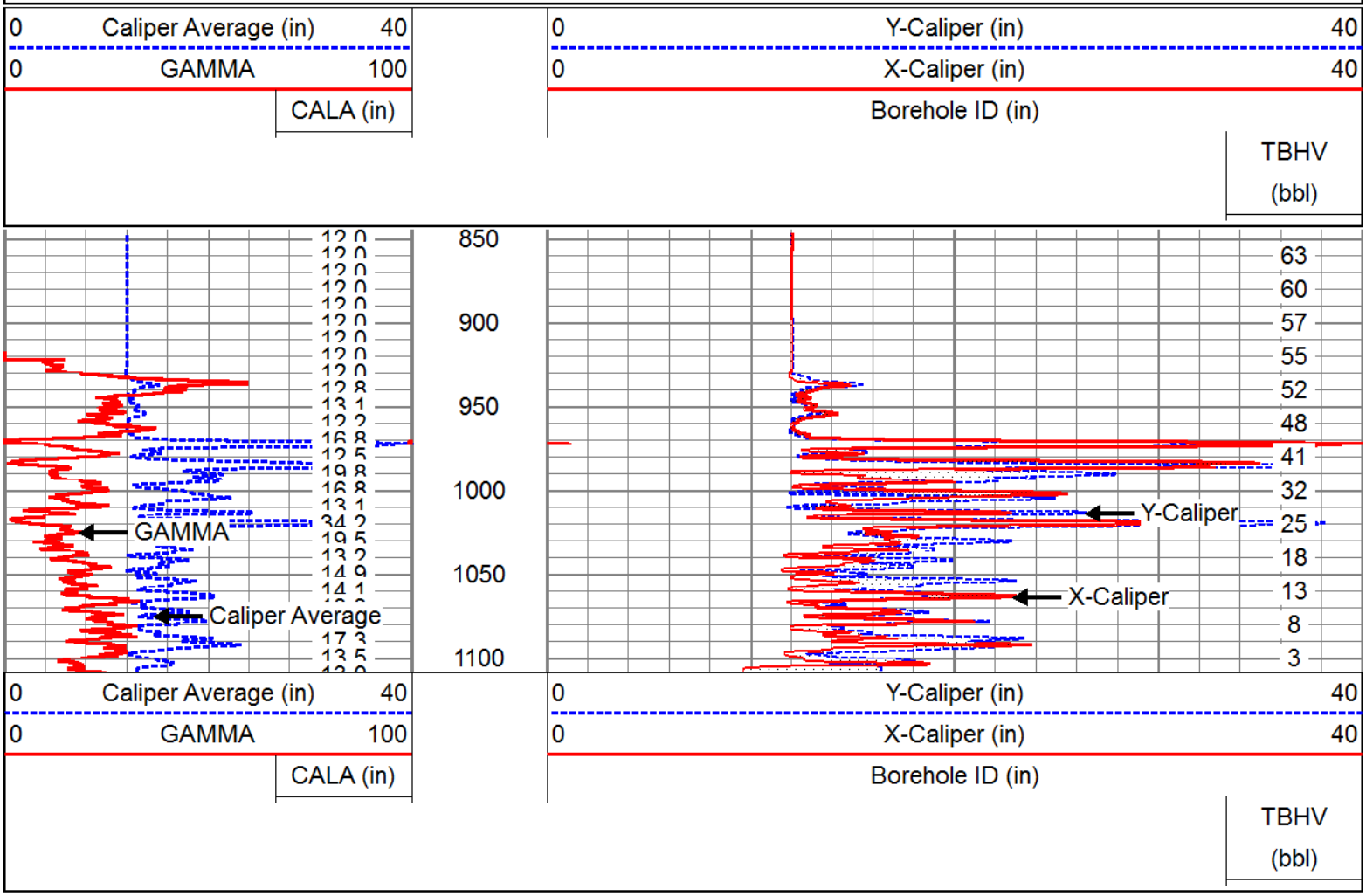
Comments

DHTVS
DEVIATION

ALLWEBBS

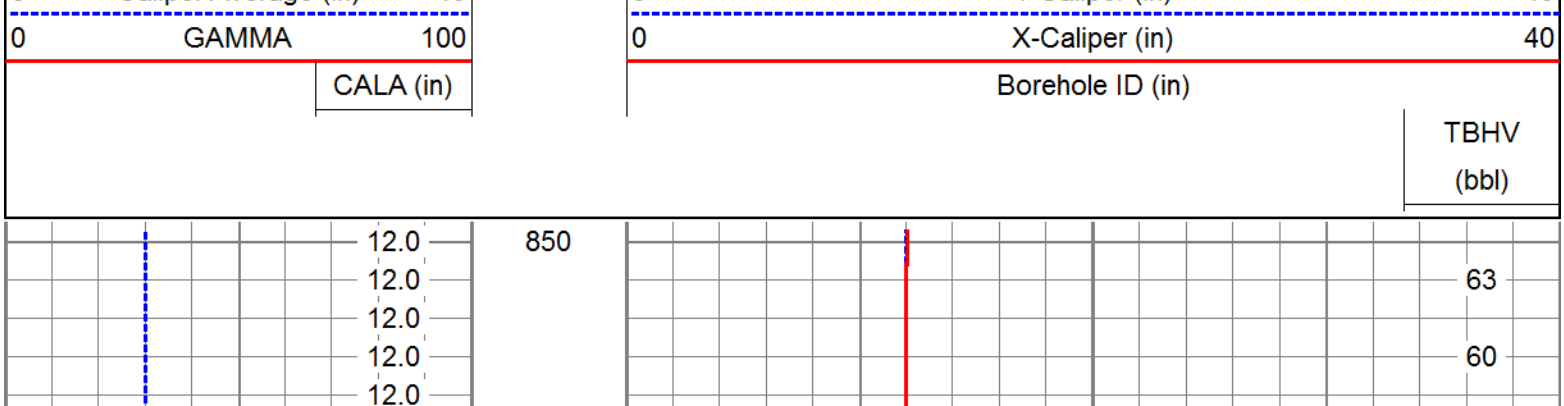
MAIN PASS

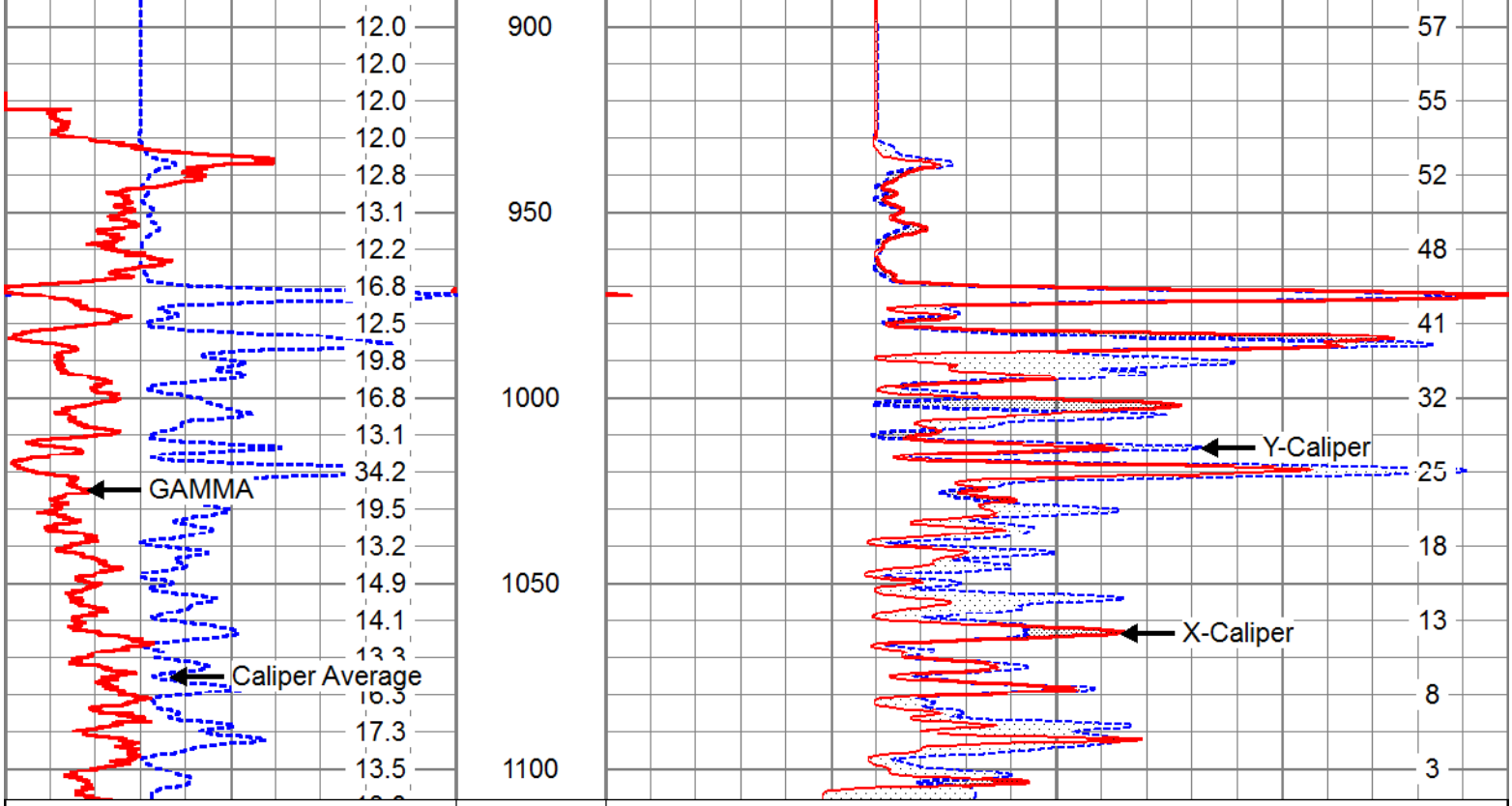
Database File: osf105.db
Dataset Pathname: XYCMP1
Presentation Format: xyc
Dataset Creation: Mon Sep 10 22:58:27 2012 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:1200



MAIN PASS

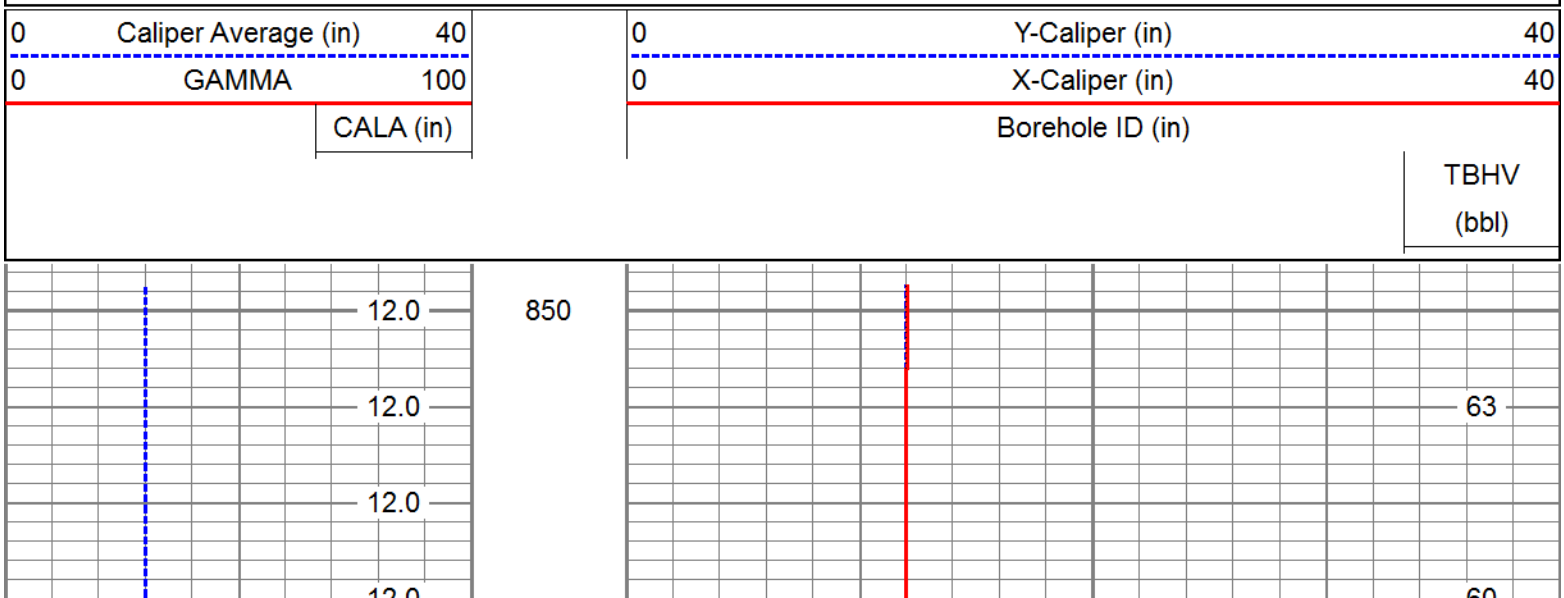
Database File: osf105.db
Dataset Pathname: XYCMP1
Presentation Format: xyc
Dataset Creation: Mon Sep 10 22:58:27 2012 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:600

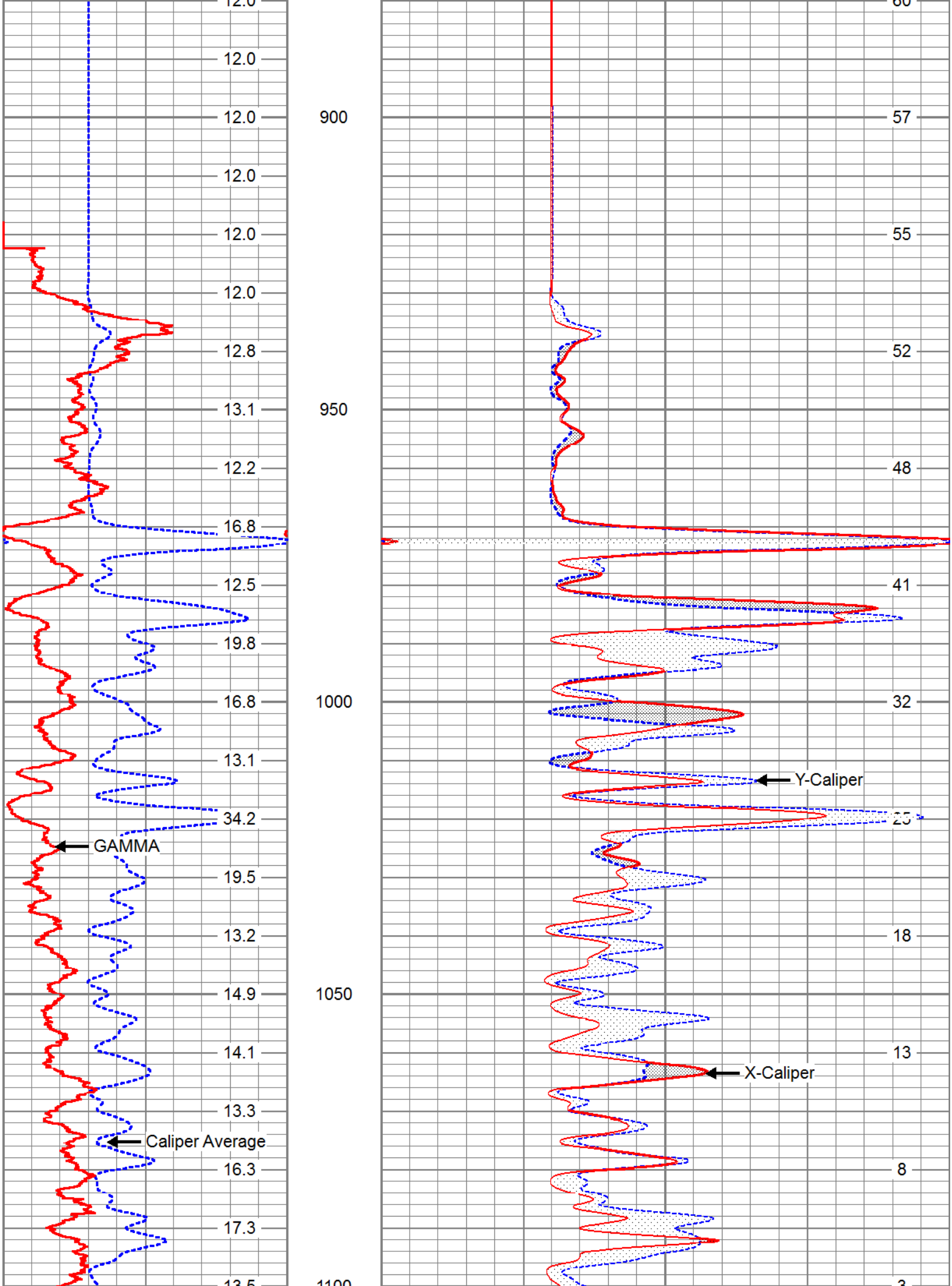


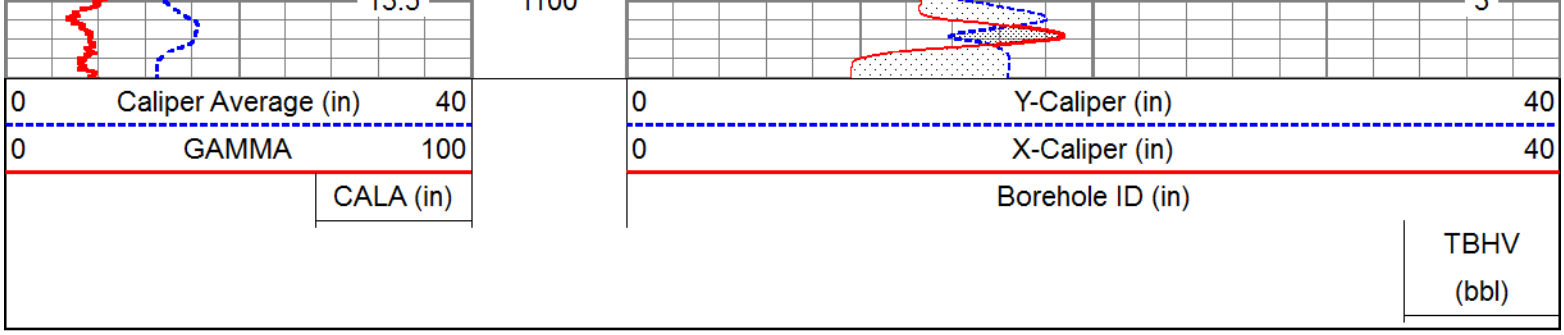


MAIN PASS

Database File:	osf105.db
Dataset Pathname:	XYCMP1
Presentation Format:	xyc
Dataset Creation:	Mon Sep 10 22:58:27 2012 by Calc Open-Cased 071220
Charted by:	Depth in Feet scaled 1:240

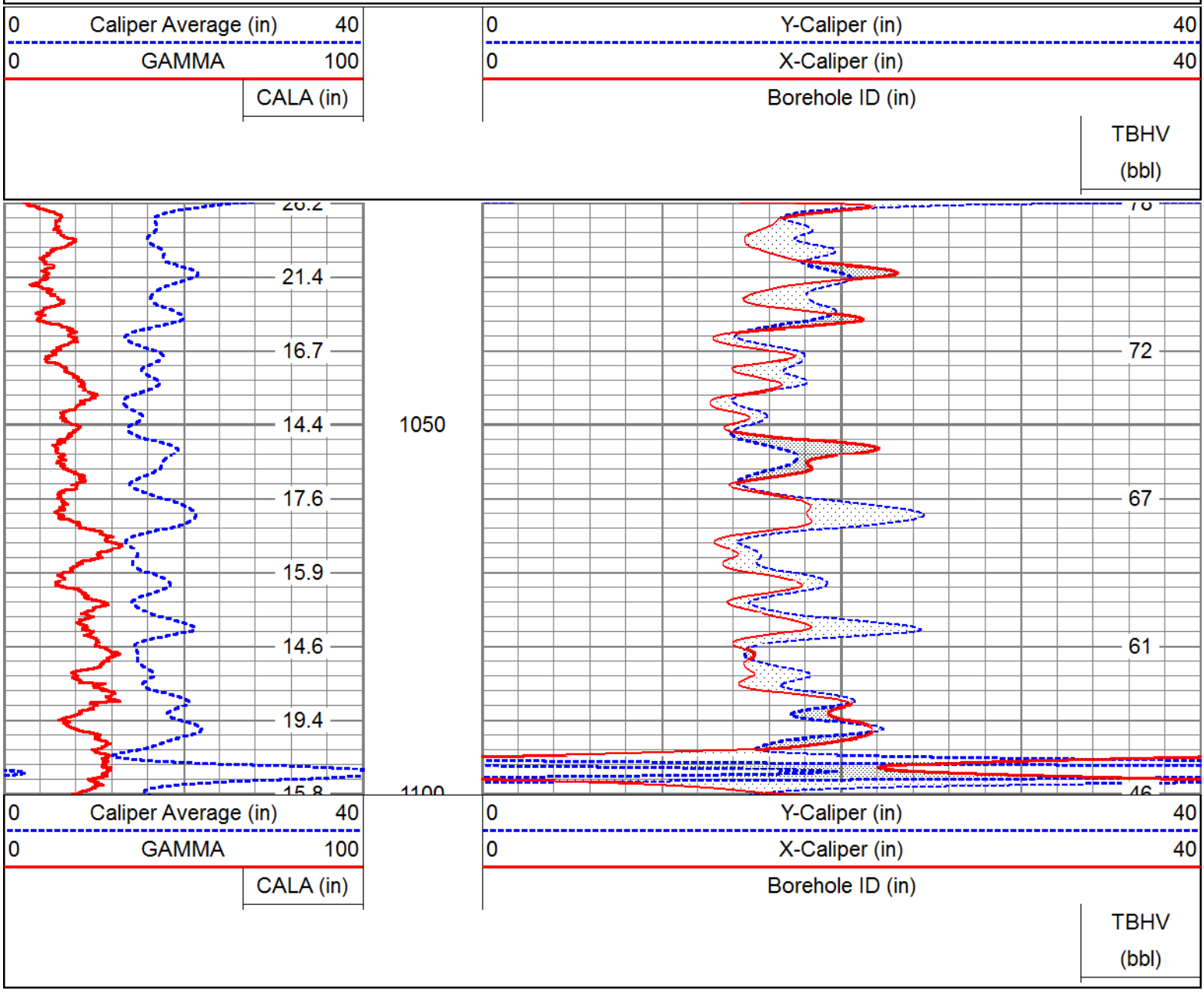



12.0
12.0
12.0
12.0
12.0
12.8
13.1
12.2
16.8
12.5
19.8
16.8
13.1
34.2
GAMMA
19.5
13.2
14.9
14.1
13.3
Caliper Average
16.3
17.3
900
950
1000
1050
60
57
55
52
48
41
32
Y-Caliper
25
18
13
X-Caliper
8
3



REPEAT PASS

Database File: osf105.db
Dataset Pathname: XYC
Presentation Format: xyc
Dataset Creation: Mon Sep 10 21:45:50 2012 by Log Open-Cased 071220
Charted by: Depth in Feet scaled 1:240



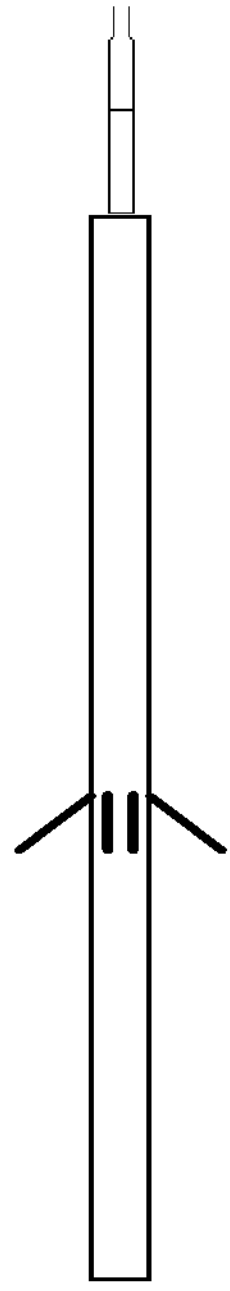
Calibration Report

Database File: osf105.db
Dataset Pathname: XYCMP1
Dataset Creation: Mon Sep 10 22:58:27 2012 by Calc Open-Cased 071220

XY Caliper Calibration Report

Serial Number/Model: Probe1-Probe
Performed: Mon Sep 10 16:41:29 2012

	Ring		X Caliper		Y Caliper	
1:	6	in	348.775	cps	381.802	cps
2:	12	in	434.02	cps	485.81	cps
3:	15.25	in	470.605	cps	518.279	cps
4:	19.25	in	534.5	cps	584.5	cps
5:		in		cps		cps
6:		in		cps		cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			XYC-Probe (Probe1) Probe _AWE-XY Caliper SM	5.17	3.50	99.00
XCAL YCAL	0.75 0.75					

Dataset: osf105.db: field/well/run1/XYCMP1
Total Length: 6.17 ft
Total Weight: 104.00 lb
O.D.: 3.50 in

O.D.	3.50 in

ALLWEBBS ENTERPRISES, INC.

X-Y CALIPER GAMMA RAY LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF#105
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Date	01-OCT-2012
Run Number	TWO
Depth Driller	1750'
Depth Logger	1744'
Bottom Logged Interval	1744'
Top Log Interval	1220'
Open Hole Size	12"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	E. RICHARDSON

Borehole Record

Run Number	Bit	From	To
ONE	12"	CASING	1202'
TWO	10.625"	1202'	1750'

Borehole Record

Run Number	Bit	From	To
TWO	10.625"	SURFACE	930'

Casing Record

	Size	Wgt/Ft
Surface String	12"	.500 W.T
Prot. String		
Production String		
Liner		

<<< Fold Here >>>

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Comments

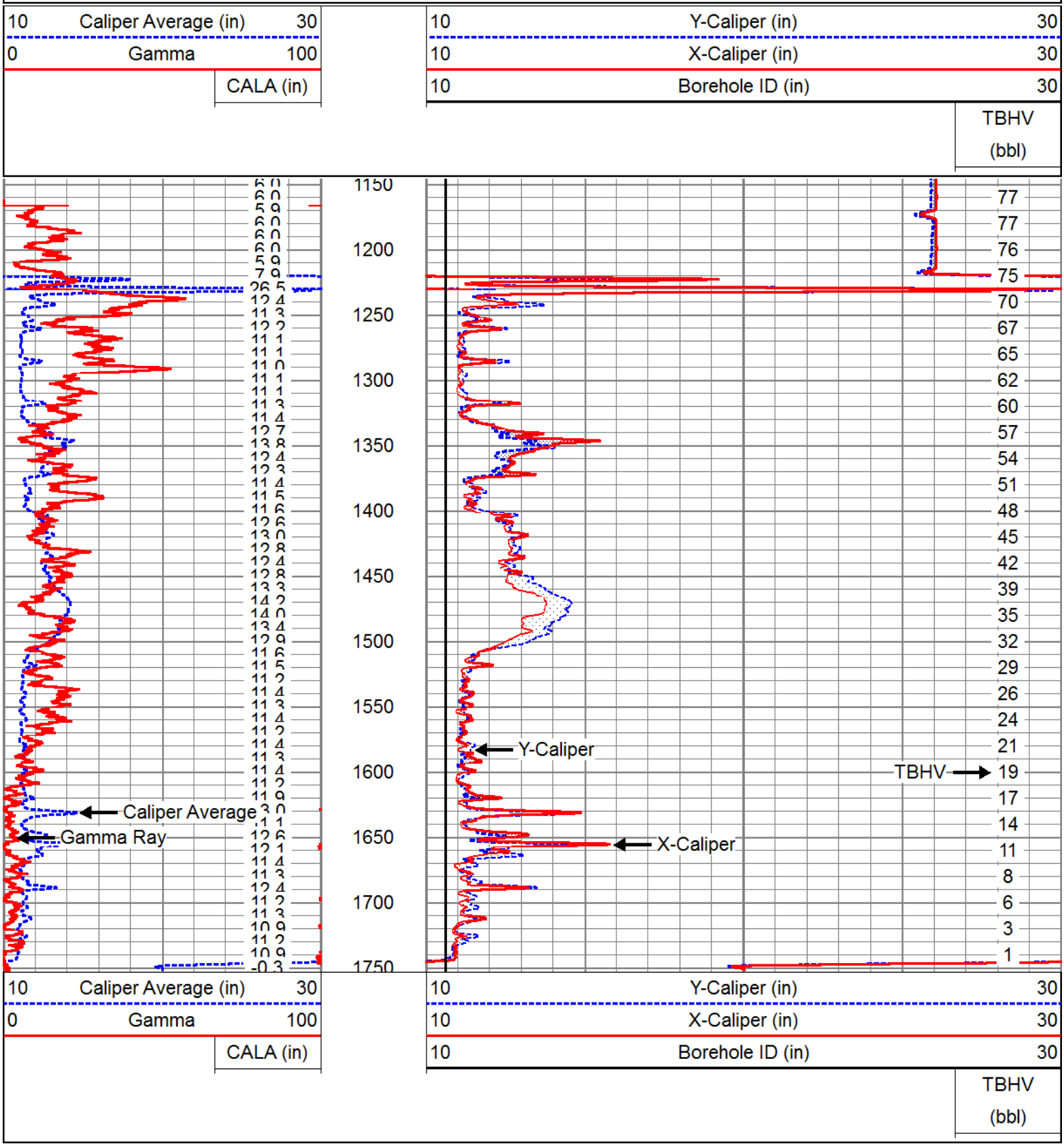
DHTVS
RES/GR/SP
DEVIATION
DIL/GR/SP
BHC/SONIC/VDL
FLOWMETER
FRT

ALLWEBBS

MAIN PASS

ENTERPRISES, INC.

Database File: osf105.db
Dataset Pathname: run2/XYC
Presentation Format: xyc
Dataset Creation: Mon Oct 01 11:22:36 2012 by Log Open-Cased 100827
Charted by: Depth in Feet scaled 1:1200



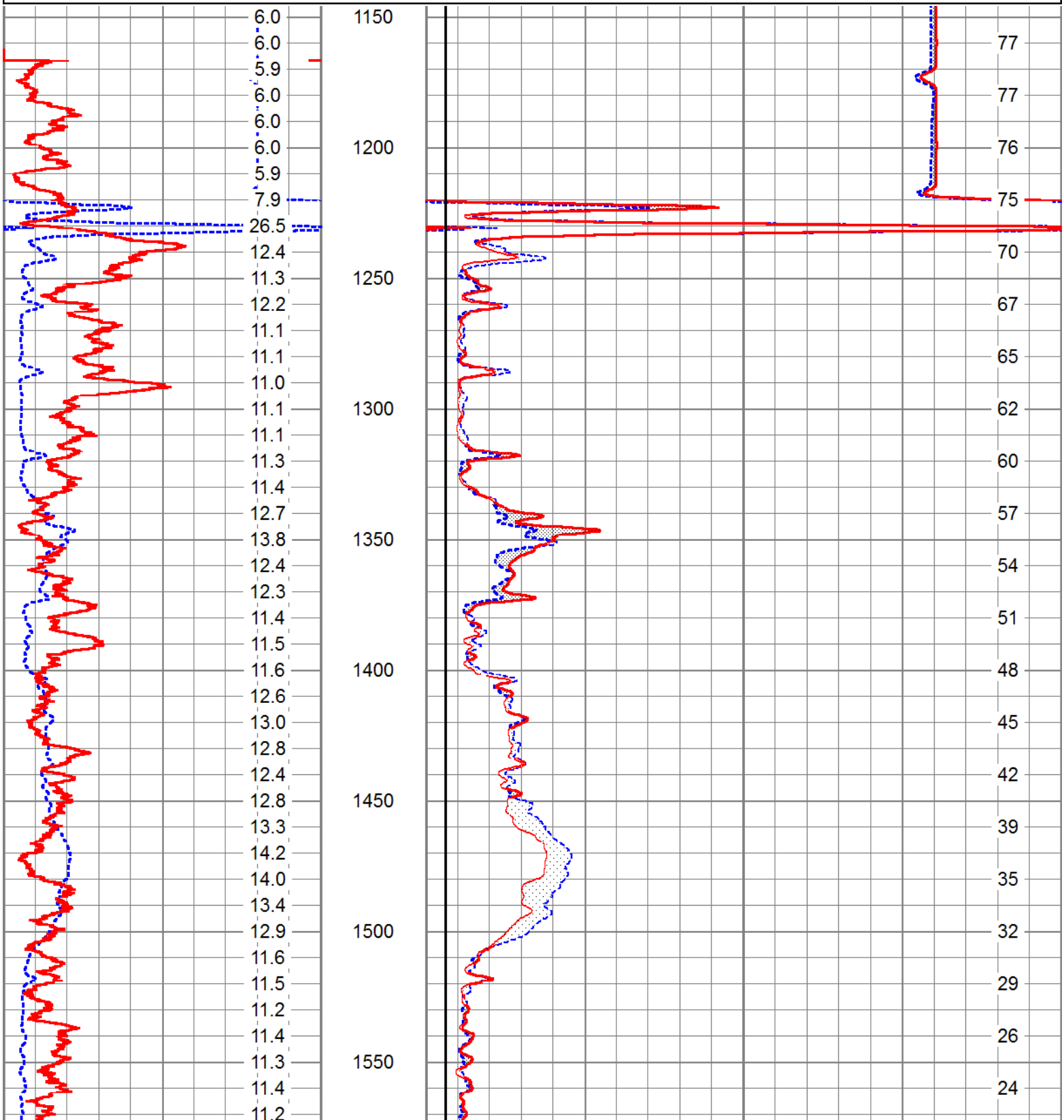
ALLWEBBS

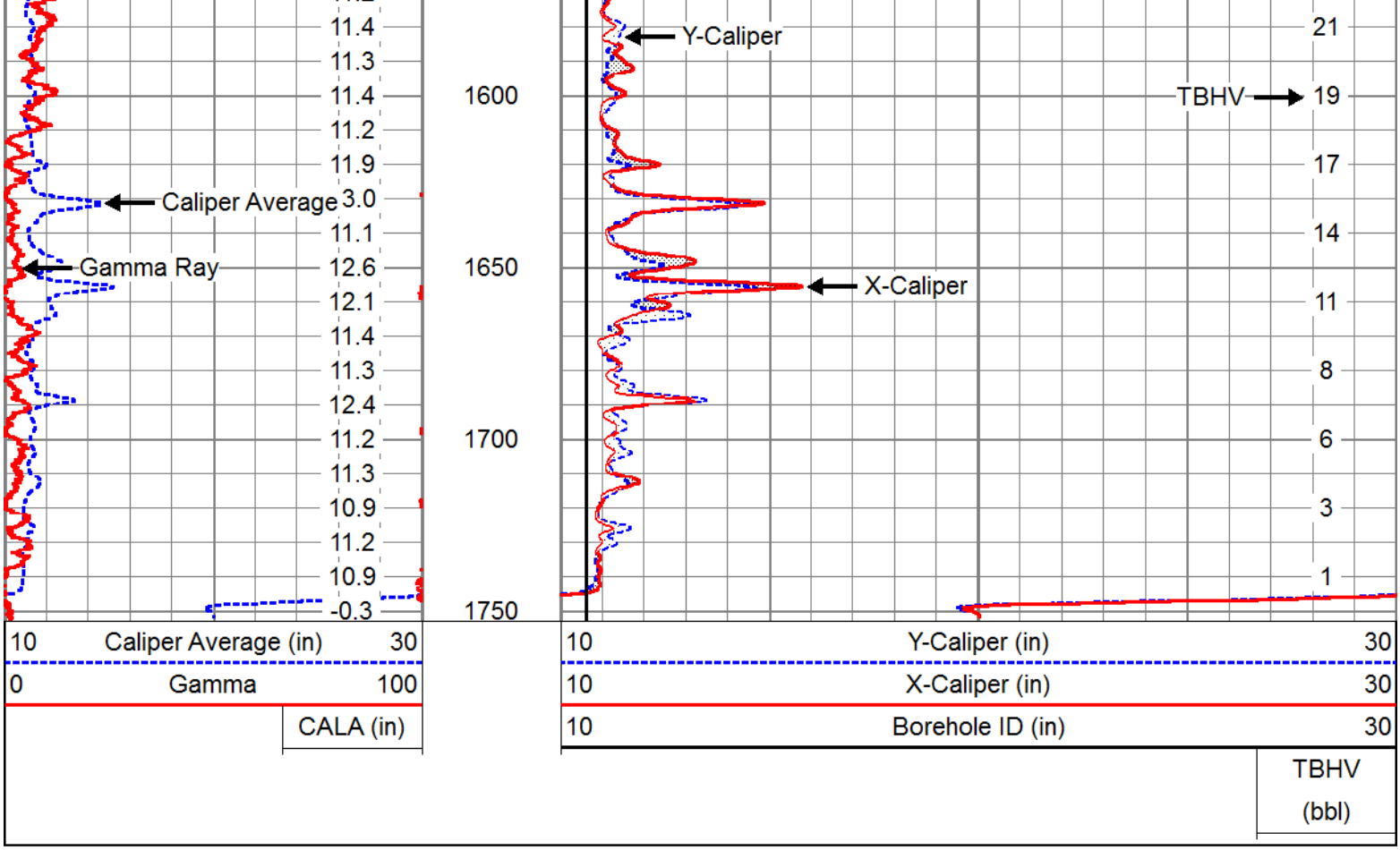
MAIN PASS

Database File:	osf105.db
Dataset Pathname:	run2/XYC
Presentation Format:	xyc
Dataset Creation:	Mon Oct 01 11:22:36 2012 by Log Open-Cased 100827
Charted by:	Depth in Feet scaled 1:600

10	Caliper Average (in)	30
0	Gamma	100
	CALA (in)	

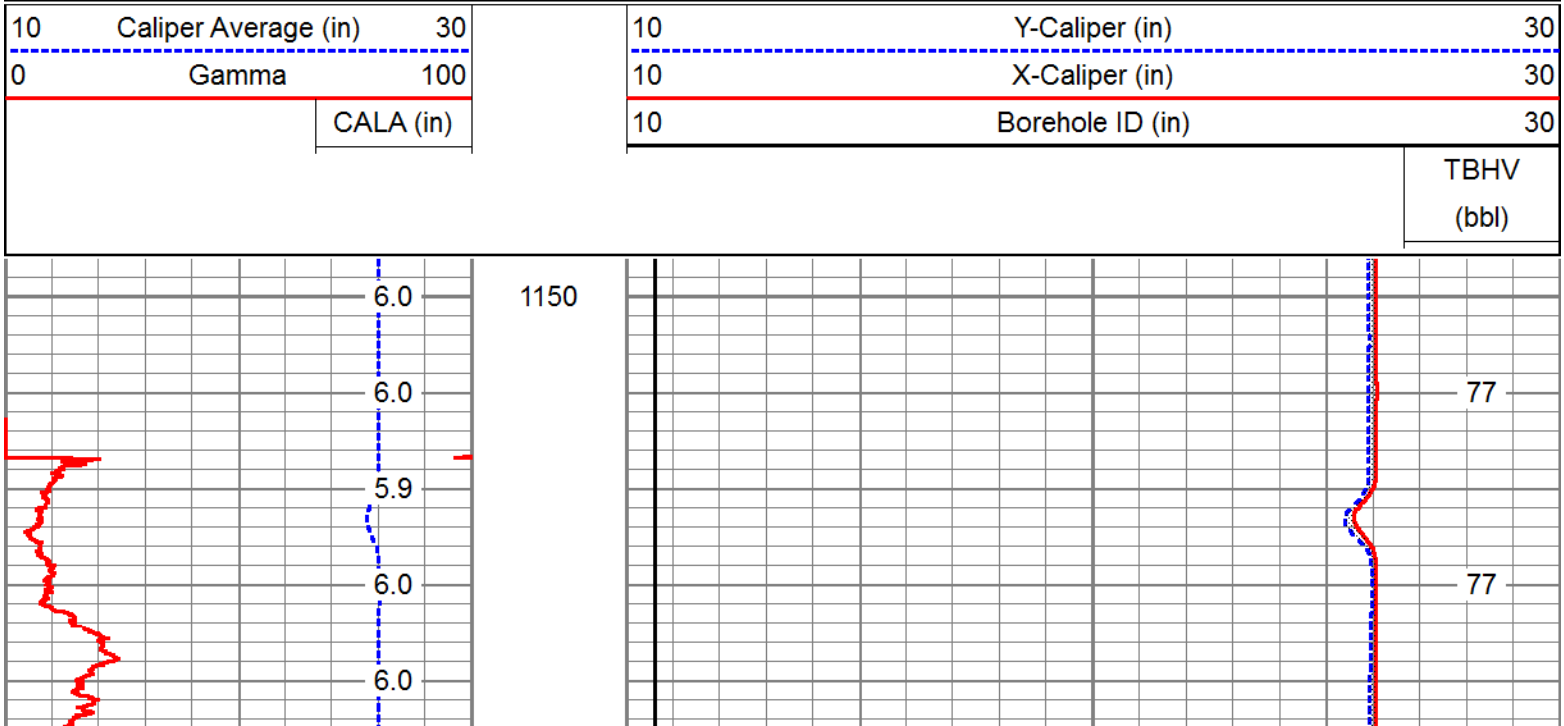
10	Y-Caliper (in)	30
10	X-Caliper (in)	30
10	Borehole ID (in)	30
	TBHV (bbl)	

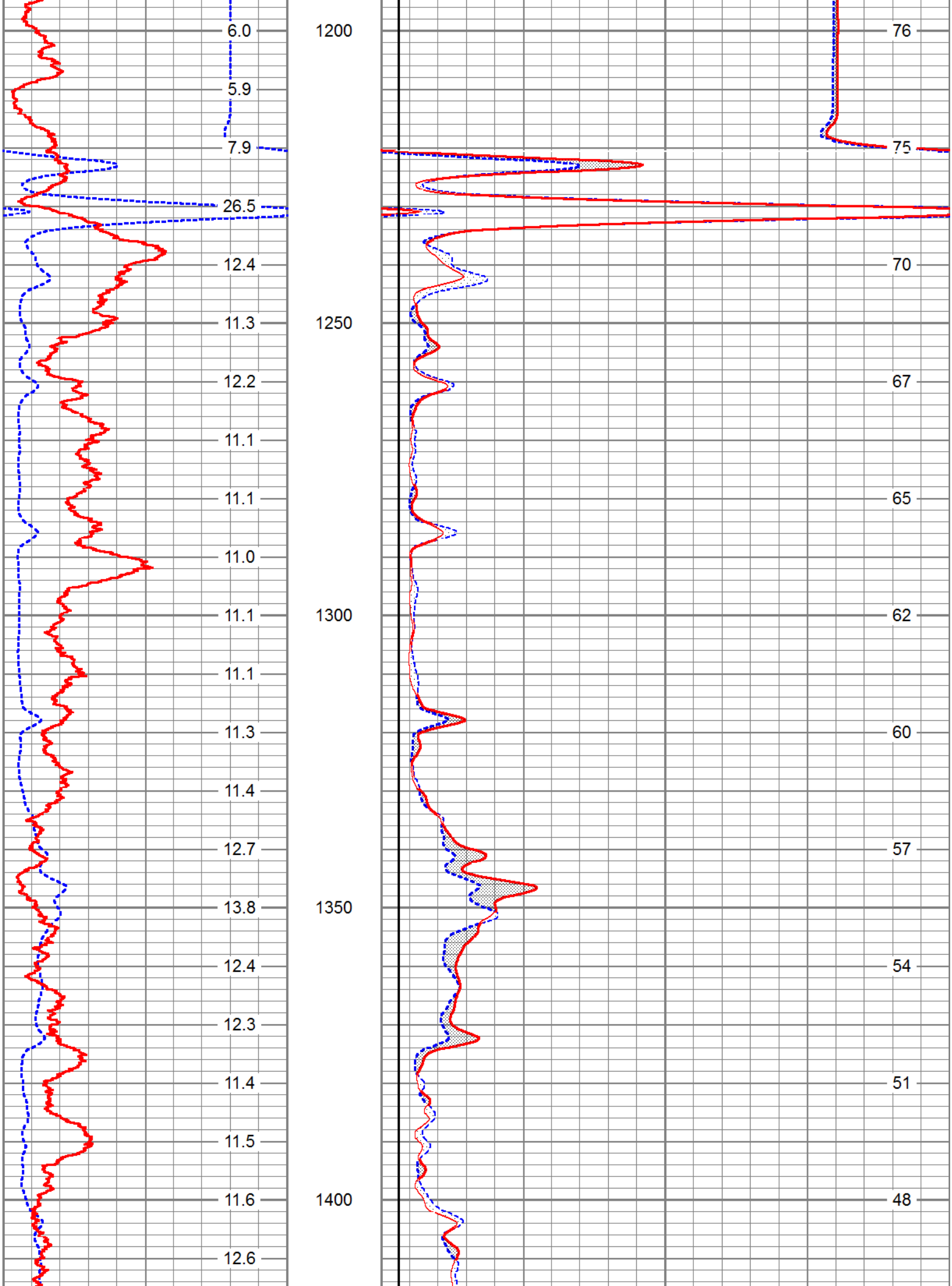




MAIN PASS

Database File:	osf105.db
Dataset Pathname:	run2/XYC
Presentation Format:	xyc
Dataset Creation:	Mon Oct 01 11:22:36 2012 by Log Open-Cased 100827
Charted by:	Depth in Feet scaled 1:240




6.0
5.9
7.9
26.5
12.4
11.3
12.2
11.1
11.1
11.0
11.1
11.1
11.3
11.4
12.7
13.8
12.4
12.3
11.4
11.5
11.6
12.6
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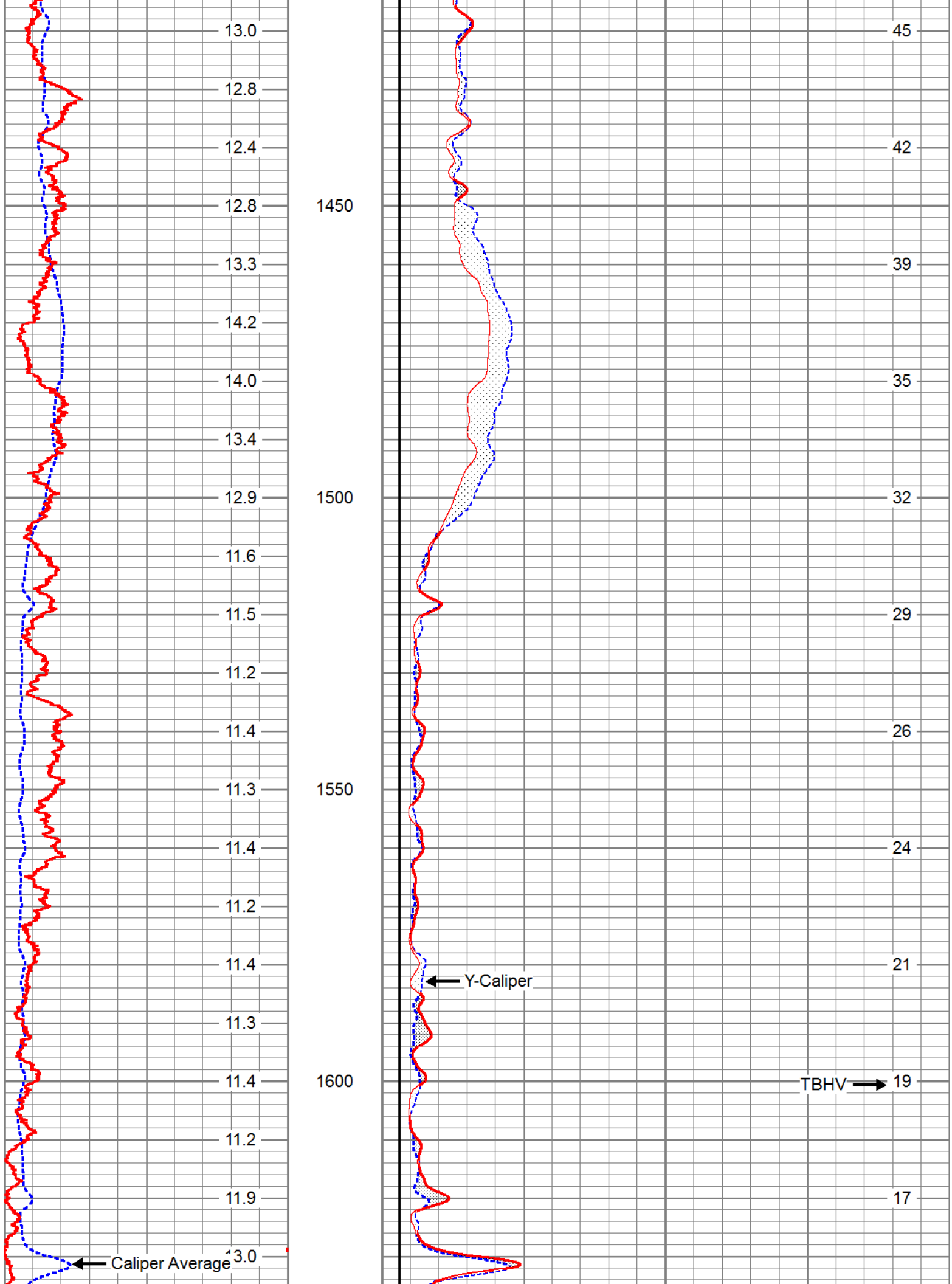
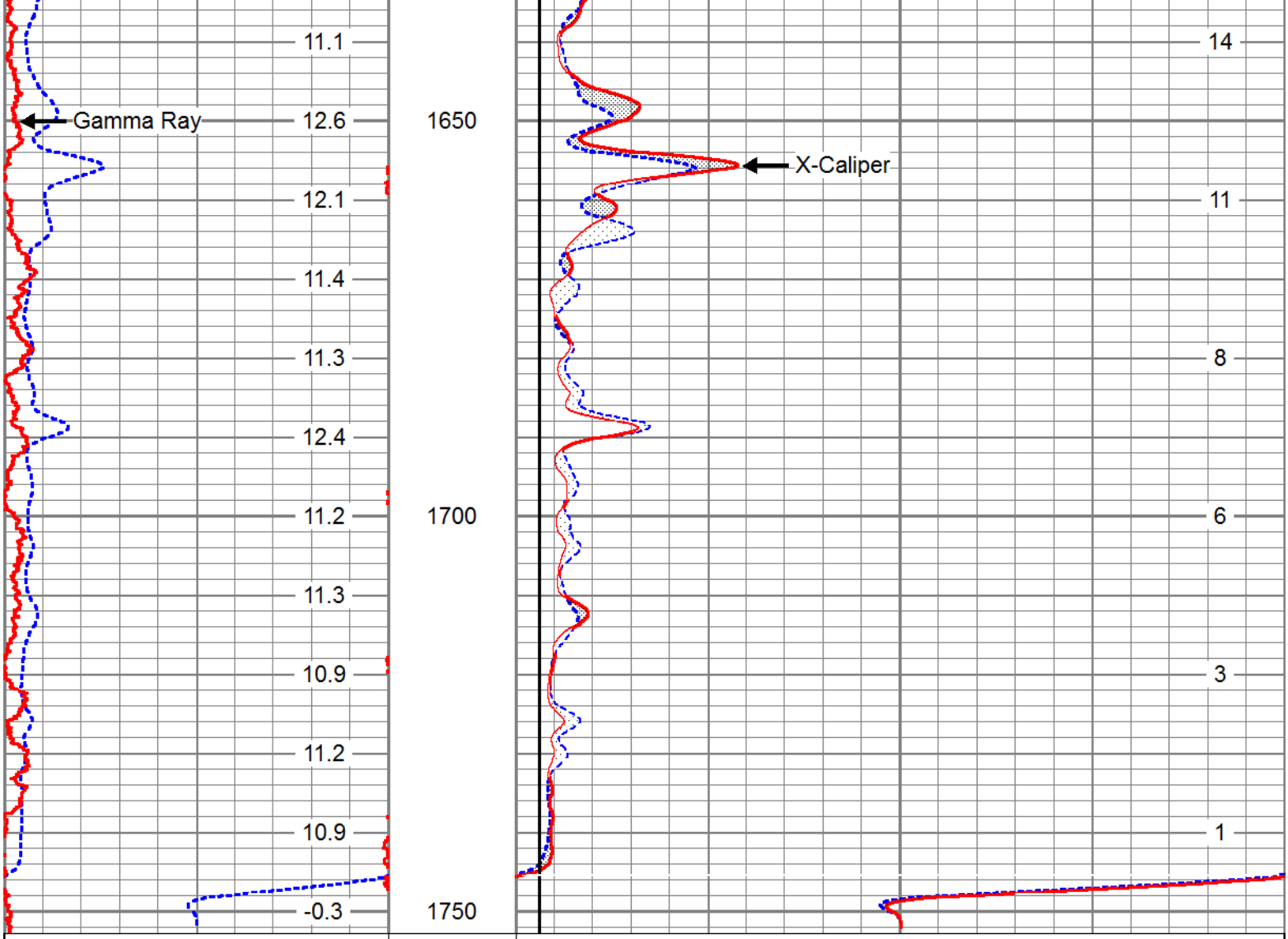
62
60
57
54
51
48


13.0
12.8
12.4
12.8
13.3
14.2
14.0
13.4
12.9
11.6
11.5
11.2
11.4
11.3
11.4
11.2
11.4
11.3
11.4
11.2
11.9
13.0
1450
1500
1550
1600
45
42
39
35
32
29
26
24
21
19
17
Caliper Average
Y-Caliper
TBHV



Calibration Report

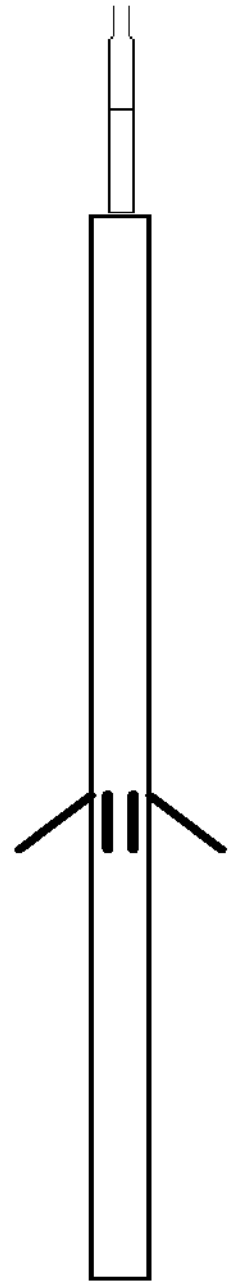
Database File: osf105.db
Dataset Pathname: run2/XYC
Dataset Creation: Mon Oct 01 11:22:36 2012 by Log Open-Cased 100827

XY Caliper Calibration Report

Serial Number/Model: Probe24-60-Probe24"
Performed: Mon Oct 01 10:57:28 2012

	Ring		X Caliper		Y Caliper	
1:	6	in	351.408	cps	395.992	cps
2:	12.25	in	435.125	cps	488.683	cps
3:	15.25	in	475.706	cps	537.061	cps
4:	20	in	535.43	cps	610.102	cps
5:	30	in	707.126	cps	794.519	cps
6:	40	in	911.331	cps	977.599	cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			XYC-Probe24" (Probe24-60) Probe XY Caliper with 24" extensions	5.17	3.50	99.00
XCAL YCAL	0.50 0.50					

Dataset:	osf105.db: field/well/run2/XYC
Total Length:	6.17 ft
Total Weight:	104.00 lb
O.D.	3.50 in

DEVIATION GAMMA LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF#105
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Location: API # :

SEC TWP RGE

Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD

Other Services
SEE COMMENTS

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

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF#105
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Date	03-OCT-2012
Run Number	TWO
Depth Driller	1750'
Depth Logger	1744'
Bottom Logged Interval	1744'
Top Log Interval	1220'
Open Hole Size	12" 10.625"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	BOUCHIER

Borehole Record

Run Number	Bit	From	To
ONE	12"	CASING	1202'
TWO	10.625"	1202'	1750'

Borehole Record

Run Number	Bit	From	To

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	12"	.500 W.T	SURFACE	930'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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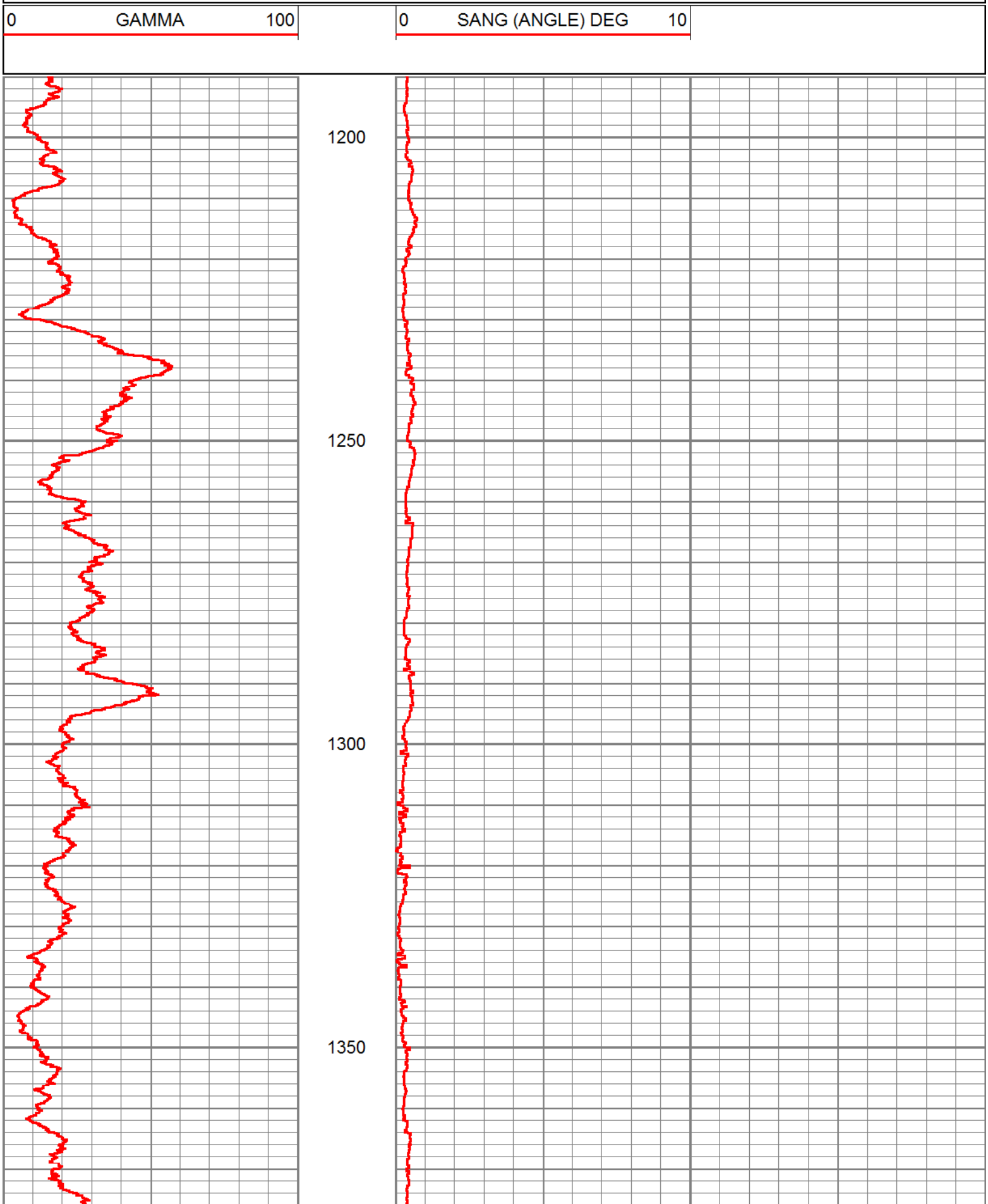
Comments

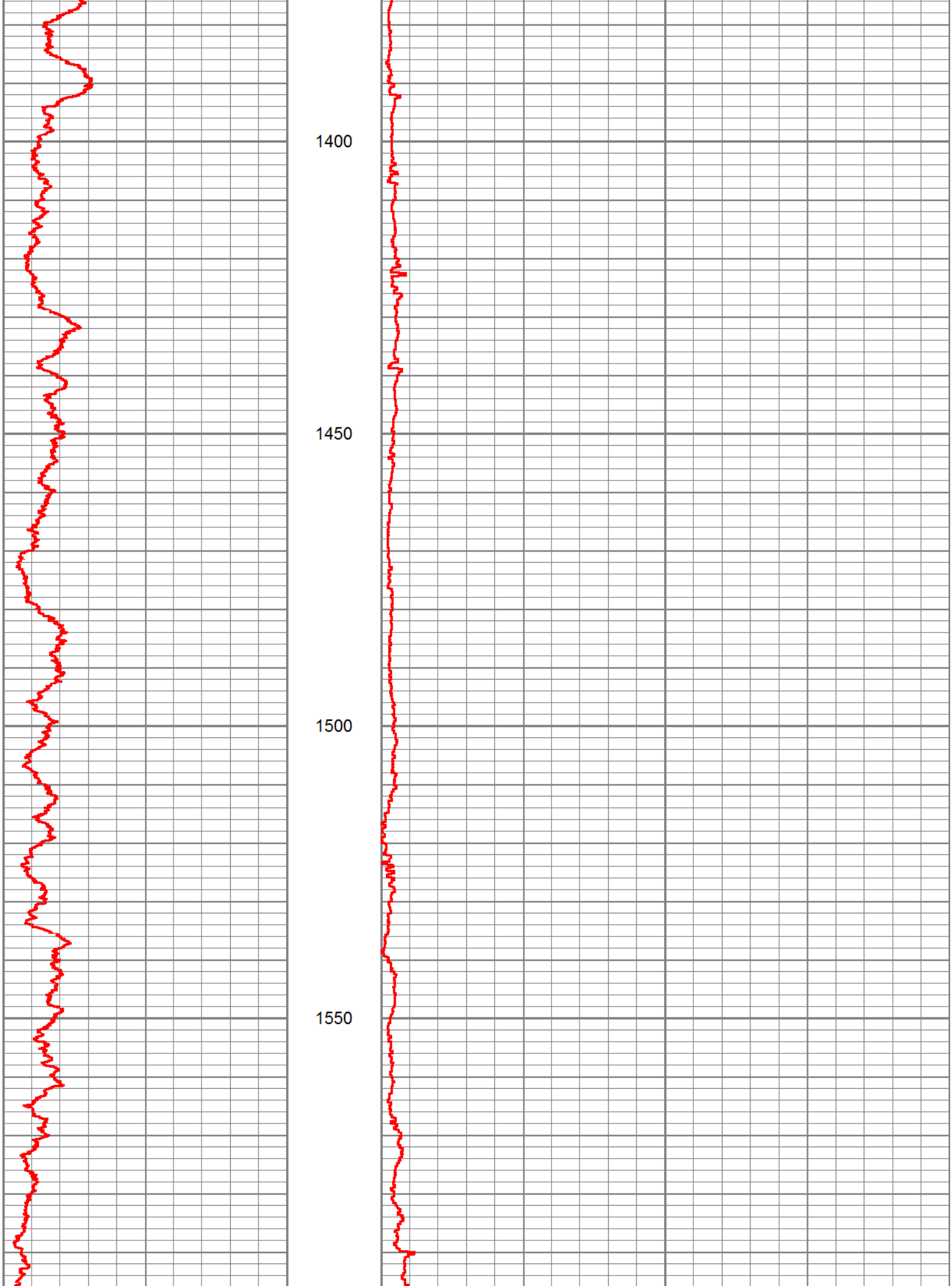
DHTVS
DIL/GR/SP
RES/GR/SP
XYC/GR
BHC/SONIC/VDL
FLOWMETER
FRT

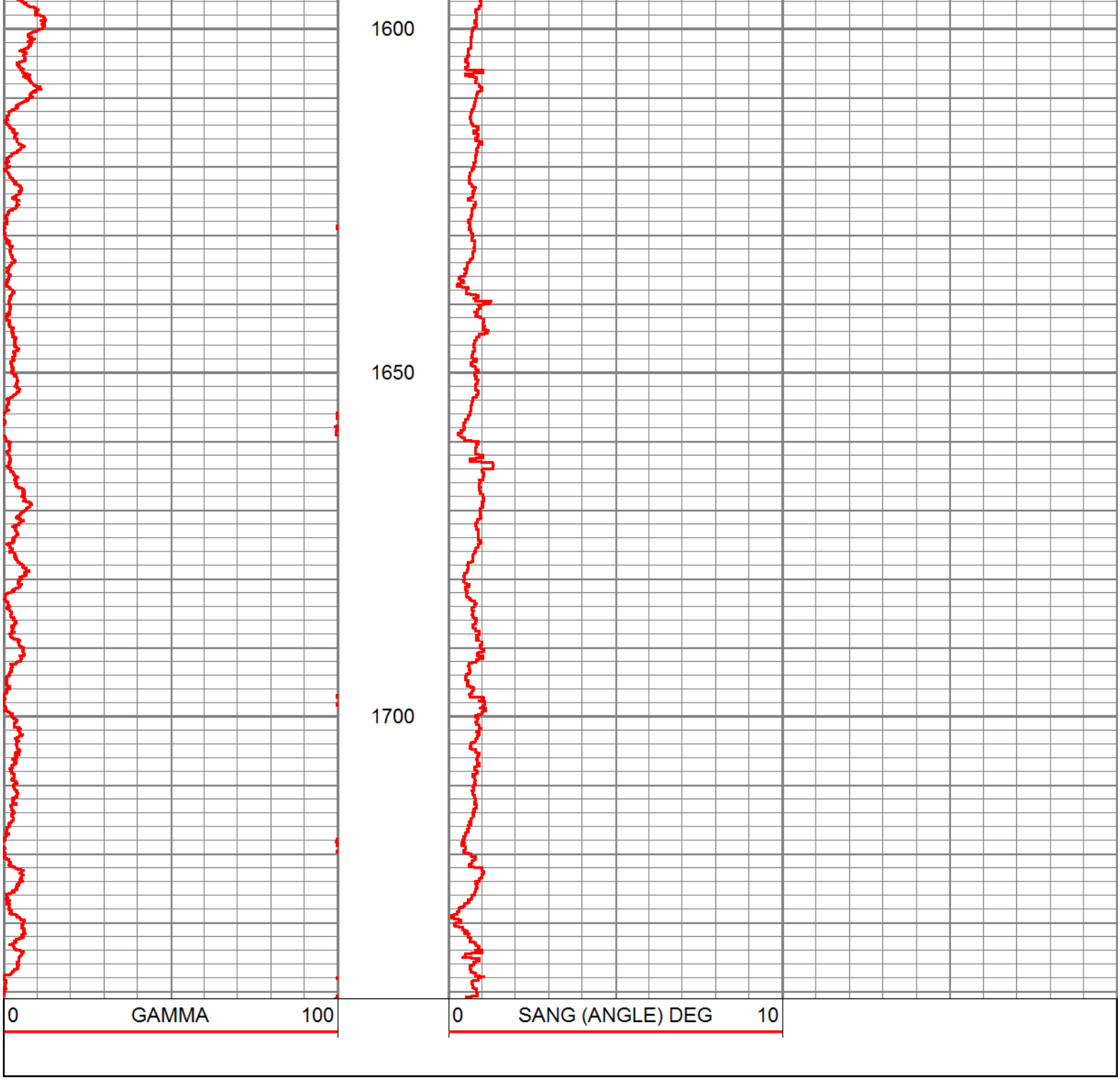
MAIN PASS

ENTERPRISES, INC.

Database File: osf105.db
Dataset Pathname: run2RESMP1/@00374d7a
Presentation Format: devi
Dataset Creation: Thu Oct 04 08:52:47 2012
Charted by: Depth in Feet scaled 1:240




1400
1450
1500
1550


1600
1650
1700
0
GAMMA
100
0
SANG (ANGLE) DEG
10

ALLWEBBS ENTERPRISES, INC.

RESISTIVITY GAMMA/SP LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF#105
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF#105
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA State FLORIDA
Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD
Other Services SEE COMMENTS
Elevation
K.B.
D.F.
G.L.

Date	03-OCT-2012
Run Number	TWO
Depth Driller	1750'
Depth Logger	1744'
Bottom Logged Interval	1744'
Top Log Interval	1220'
Open Hole Size	12" 10.625"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	BOUCHIER

Borehole Record

Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	12"	CASING	1202'				
TWO	10.625"	1202'	1750'				

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	12"	.500 W.T	SURFACE	930'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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Comments

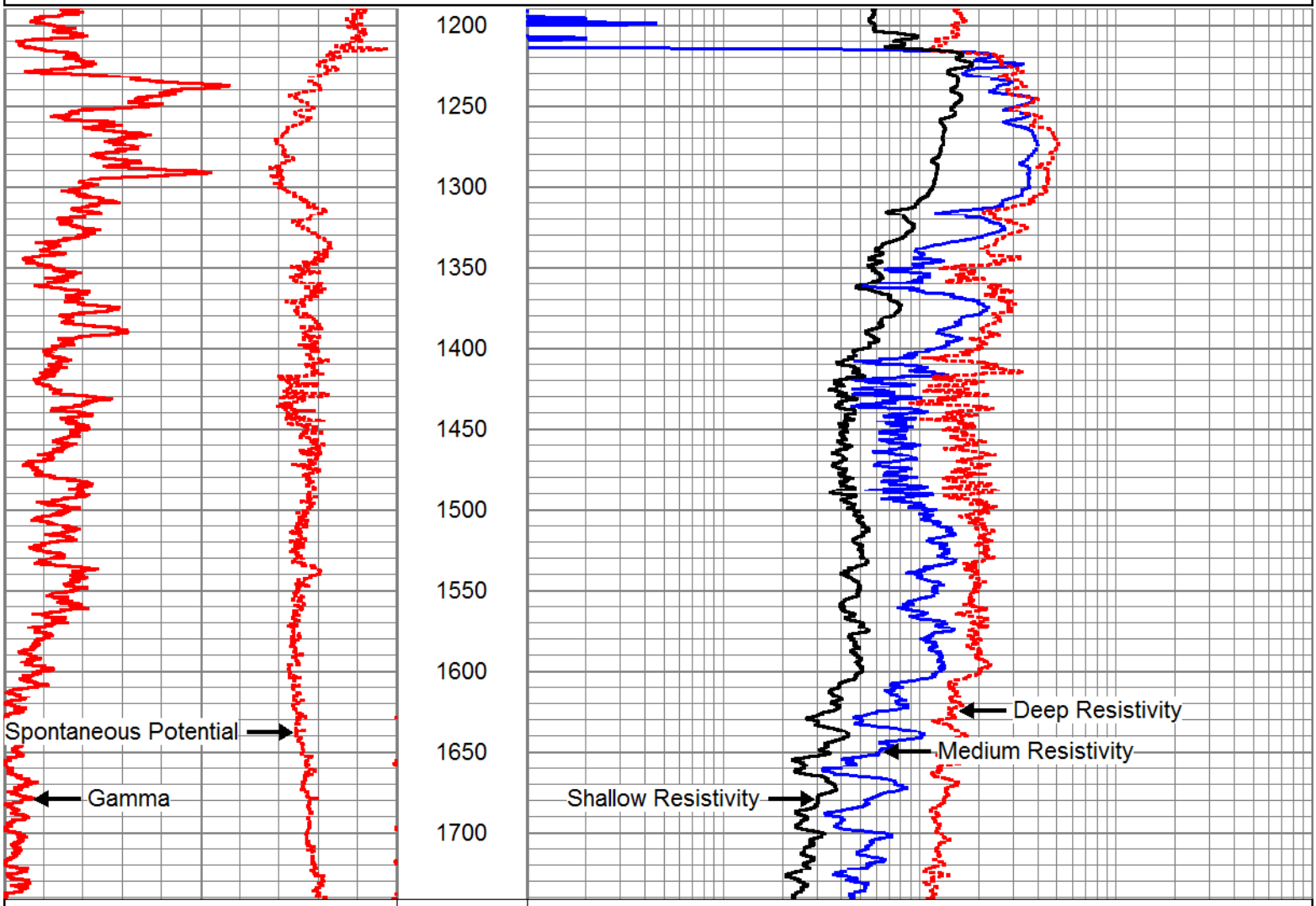
DHTVS
DIL/GR/SP
DEVIATION
XYC/GR
BHC/SONIC/VDL
FLOWMETER
FRT

ALLWEBBS

MAIN PASS

Database File:	osf105.db
Dataset Pathname:	run2RESMP1/@00374d7a
Presentation Format:	dil_cent
Dataset Creation:	Thu Oct 04 08:52:47 2012
Charted by:	Depth in Feet scaled 1:1200

0	Gamma Ray	100	0.2	Medium Induction Resistivity	2000
0	Spontaneous Potential	200	0.2	Deep Induction Resistivity	2000
			0.2	Shallow Resistivity	2000

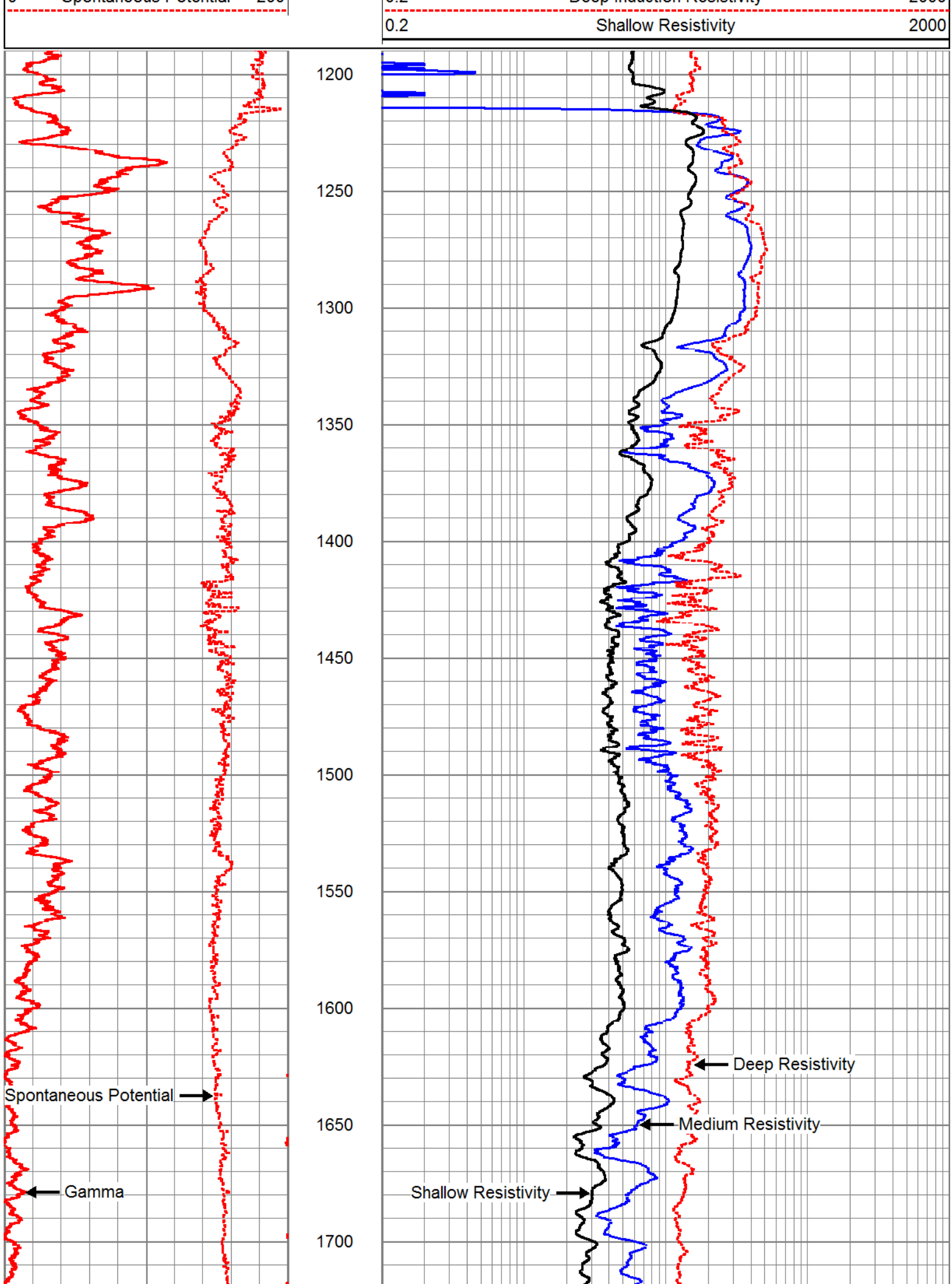


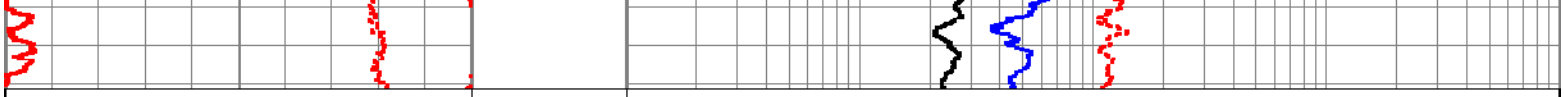
0	Gamma Ray	100	0.2	Medium Induction Resistivity	2000
0	Spontaneous Potential	200	0.2	Deep Induction Resistivity	2000
			0.2	Shallow Resistivity	2000

MAIN PASS

Database File:	osf105.db
Dataset Pathname:	run2RESMP1/@00374d7a
Presentation Format:	dil_cent
Dataset Creation:	Thu Oct 04 08:52:47 2012
Charted by:	Depth in Feet scaled 1:600

0	Gamma Ray	100	0.2	Medium Induction Resistivity	2000
0	Spontaneous Potential	200	0.2	Deep Induction Resistivity	2000


0.2
Shallow Resistivity
2000
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
Spontaneous Potential
Gamma
Deep Resistivity
Medium Resistivity
Shallow Resistivity



0	Gamma Ray	100
0	Spontaneous Potential	200

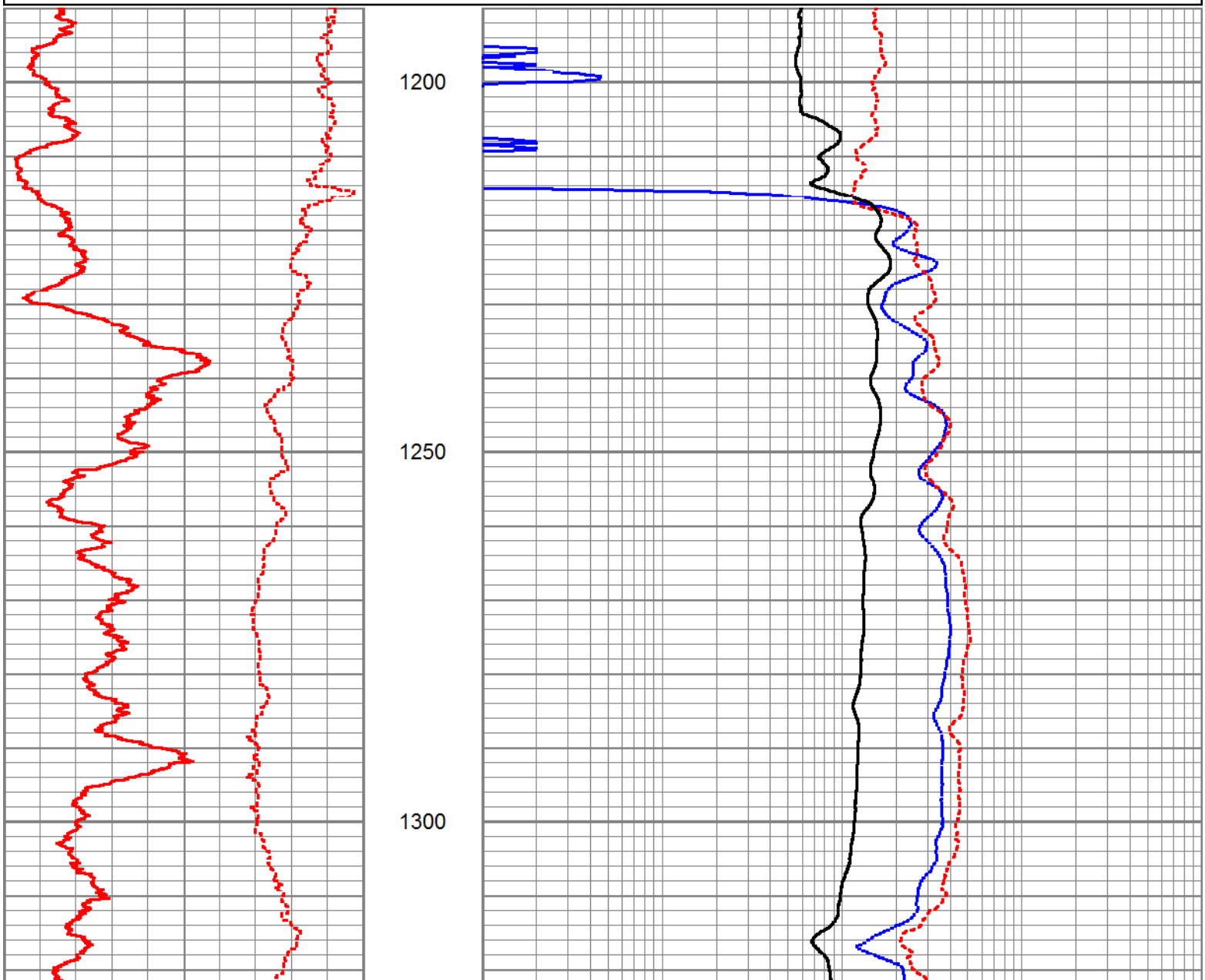
0.2	Medium Induction Resistivity	2000
0.2	Deep Induction Resistivity	2000
0.2	Shallow Resistivity	2000

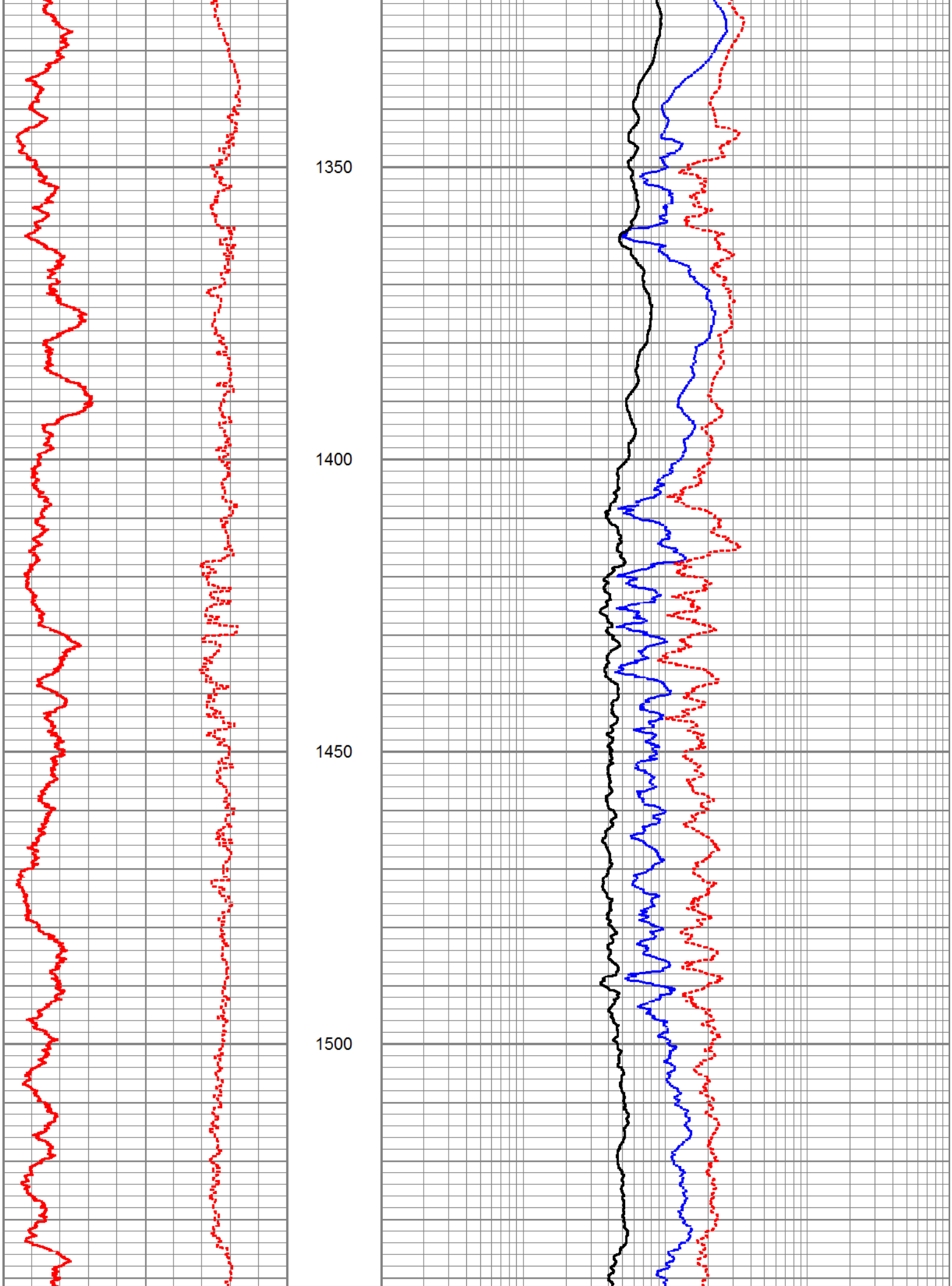
MAIN PASS

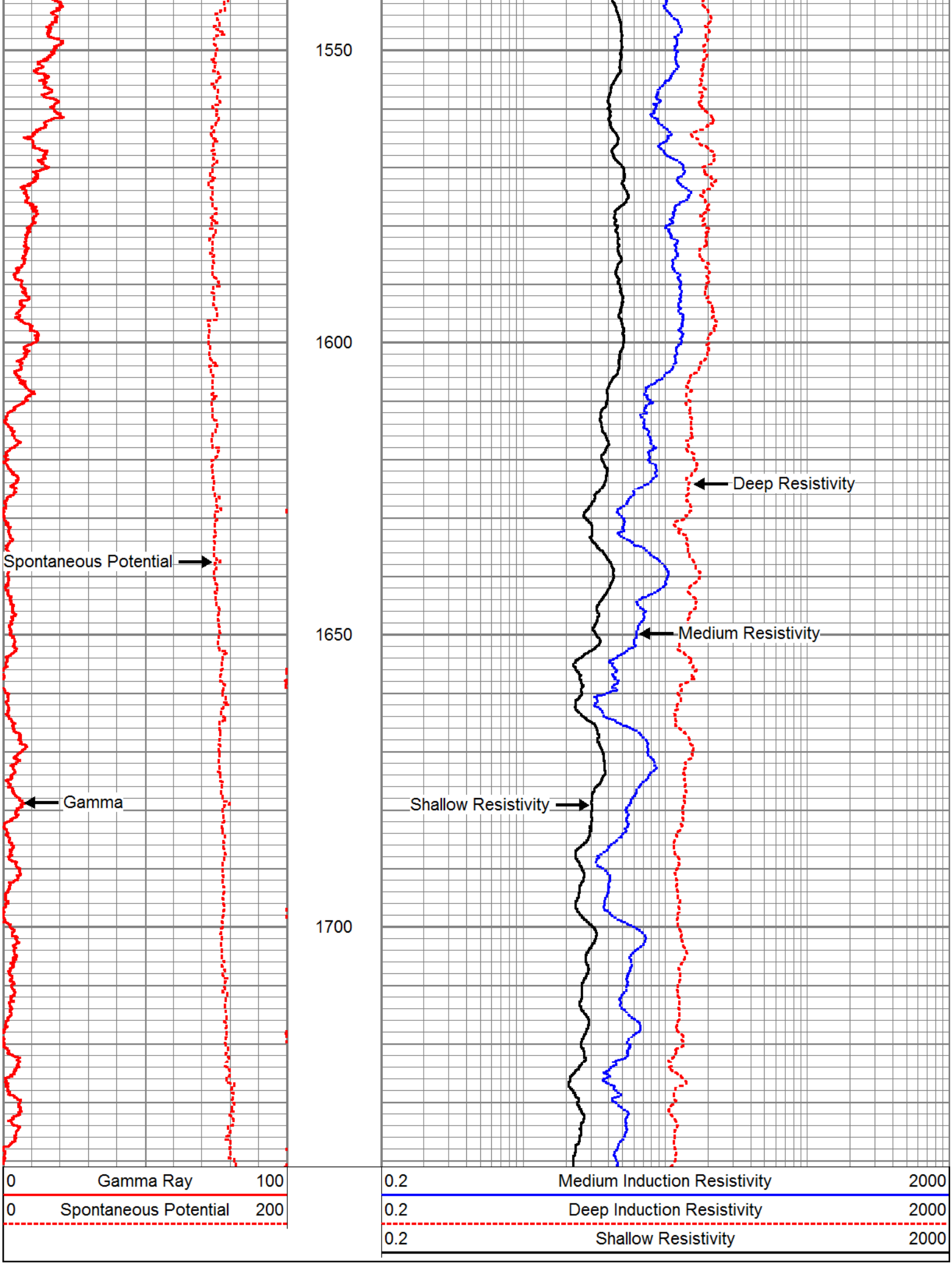
Database File:	osf105.db
Dataset Pathname:	run2RESMP1/@00374d7a
Presentation Format:	dil_cent
Dataset Creation:	Thu Oct 04 08:52:47 2012
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray	100
0	Spontaneous Potential	200

0.2	Medium Induction Resistivity	2000
0.2	Deep Induction Resistivity	2000
0.2	Shallow Resistivity	2000




1350
1400
1450
1500

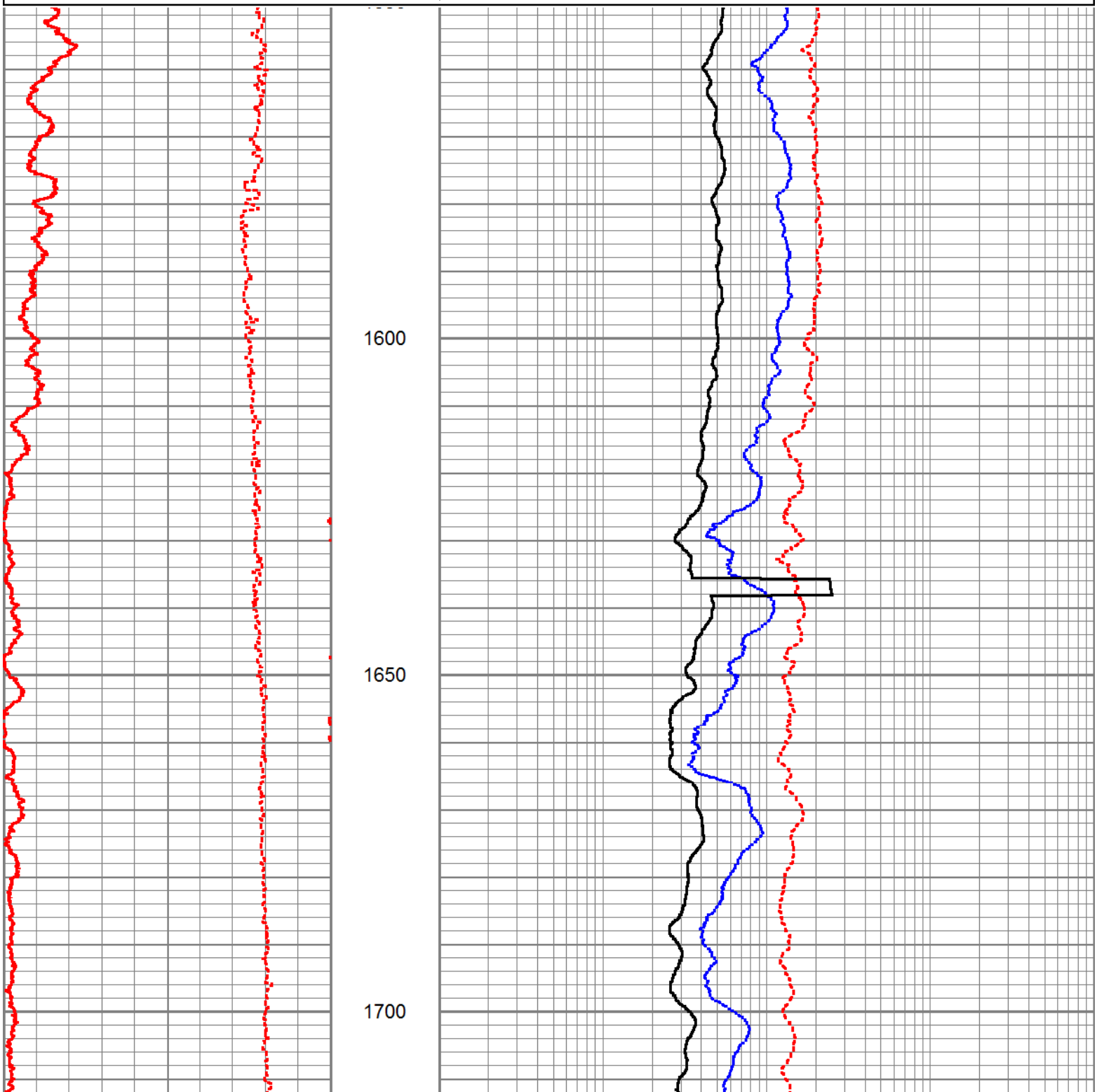

1550
1600
1650
1700
Deep Resistivity
Spontaneous Potential
Medium Resistivity
Gamma
Shallow Resistivity
0
Gamma Ray
100
0
Spontaneous Potential
200
0.2
Medium Induction Resistivity
2000
0.2
Deep Induction Resistivity
2000
0.2
Shallow Resistivity
2000

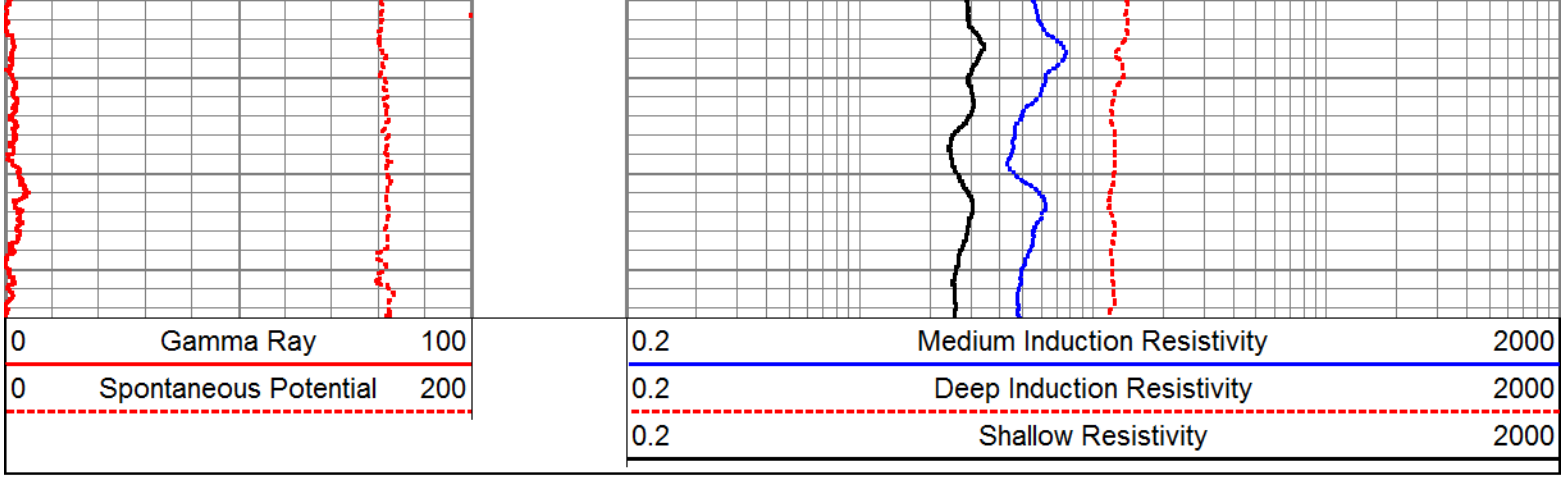
REPEAT PASS

Database File:	osf105.db
Dataset Pathname:	run2RESRP1/@003ee2a1
Presentation Format:	dil_cent
Dataset Creation:	Wed Oct 03 17:16:39 2012
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray	100
0	Spontaneous Potential	200

0.2	Medium Induction Resistivity	2000
0.2	Deep Induction Resistivity	2000
0.2	Shallow Resistivity	2000




0 Gamma Ray 100
0 Spontaneous Potential 200
0.2 Medium Induction Resistivity 2000
0.2 Deep Induction Resistivity 2000
0.2 Shallow Resistivity 2000

DUAL INDUCTION GAMMA/SP LOG

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF#105
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Location: API # :

SEC TWP RGE

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF#105
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA State FLORIDA

Other Services
SEE COMMENTS

Permanent Datum	PAD	Elevation
Log Measured From	PAD	K.B.
Drilling Measured From	PAD	D.F.
		G.L.

Elevation

Date	03-OCT-2012
Run Number	TWO
Depth Driller	1750'
Depth Logger	1744'
Bottom Logged Interval	1744'
Top Log Interval	1220'
Open Hole Size	12"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	BOUCHIER

Borehole Record

Run Number	Bit	From	To
ONE	12"	CASING	1202'
TWO	10.625"	1202'	1750'

Borehole Record

Run Number	Bit	From	To
TWO	10.625"	SURFACE	930'

Casing Record

	Size	Wgt/Ft	Top	Bottom
Surface String	12"	.500 W.T	SURFACE	930'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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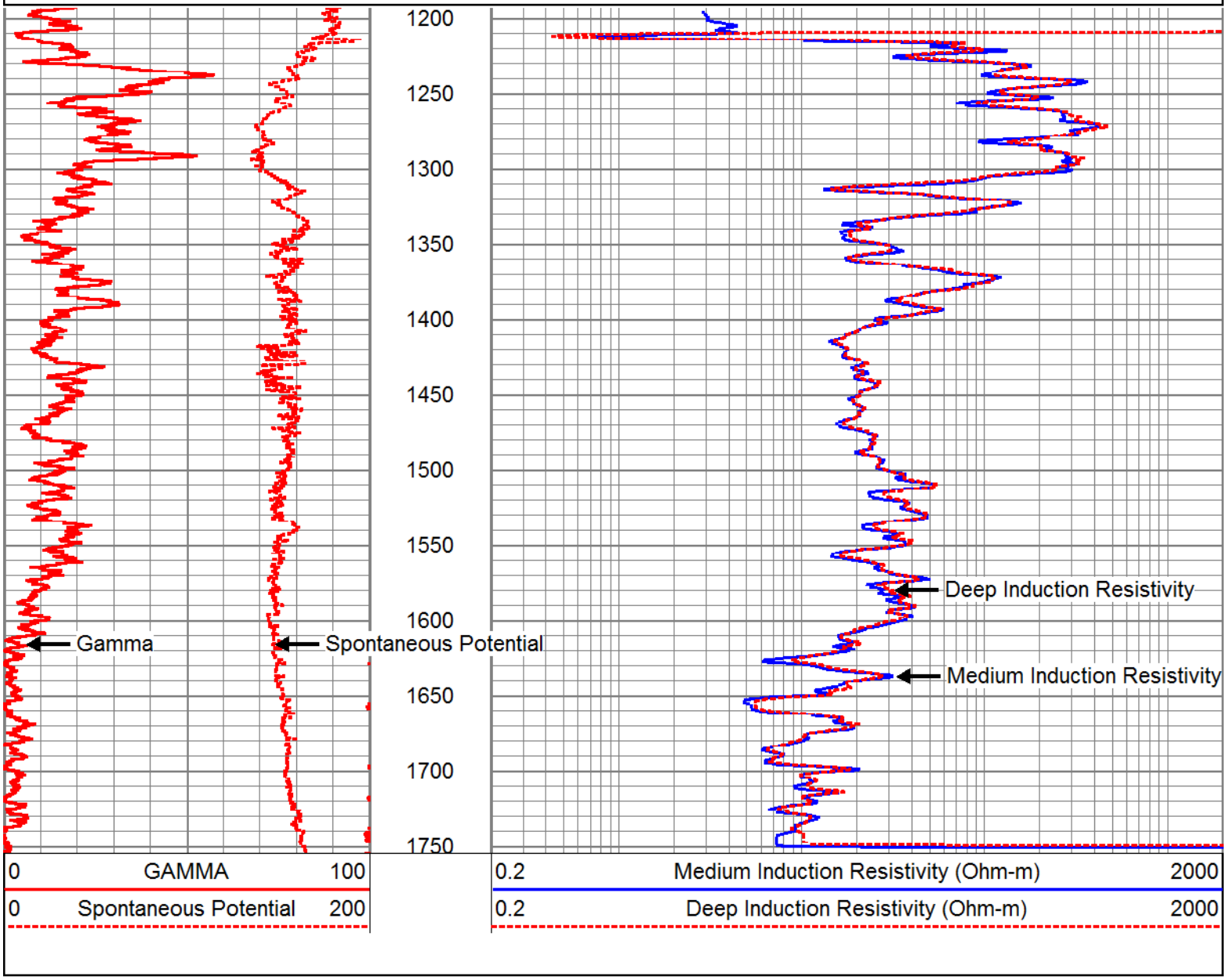
Comments

DHTVS
RES/GR/SP
DEVIATION
XYC/GR
BHC/SONIC/VDL
FRT

MAIN PASS

ENTERPRISES, INC.

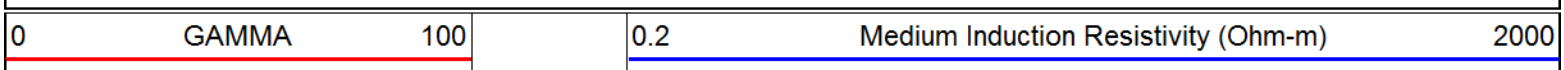
Database File: osf105.db
Dataset Pathname: run2/DILMP
Presentation Format: dil
Dataset Creation: Wed Oct 03 18:33:59 2012
Charted by: Depth in Feet scaled 1:1200

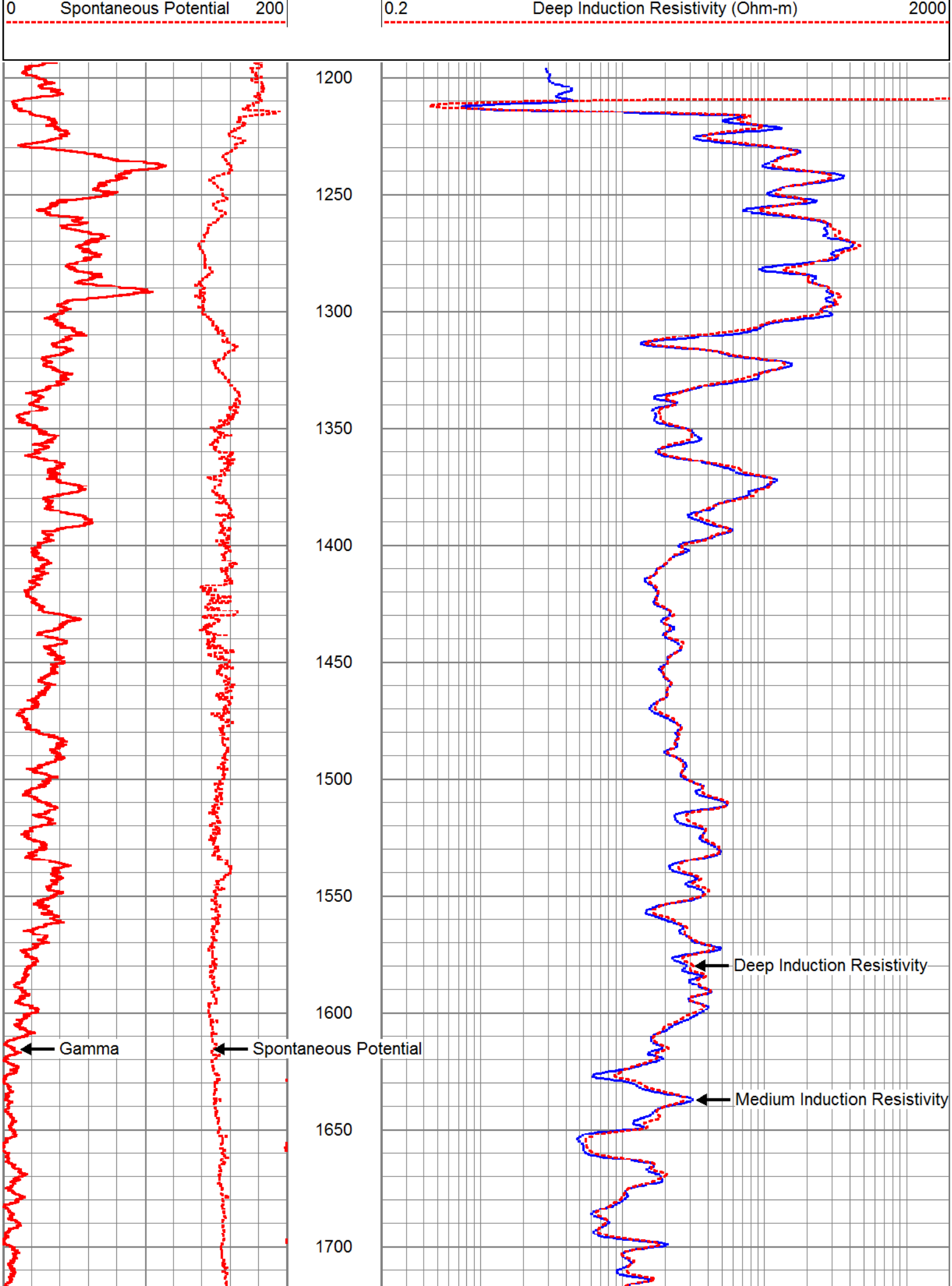


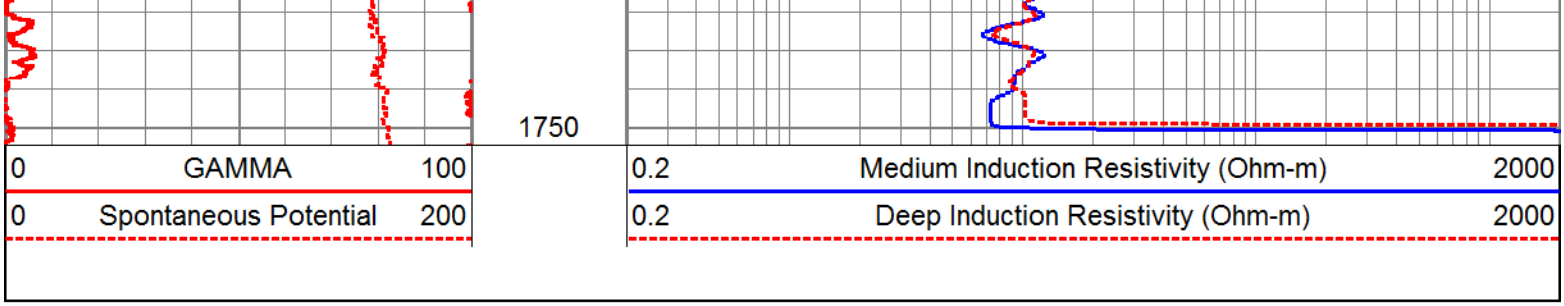
MAIN PASS

ENTERPRISES, INC.

Database File: osf105.db
Dataset Pathname: run2/DILMP
Presentation Format: dil
Dataset Creation: Wed Oct 03 18:33:59 2012
Charted by: Depth in Feet scaled 1:600

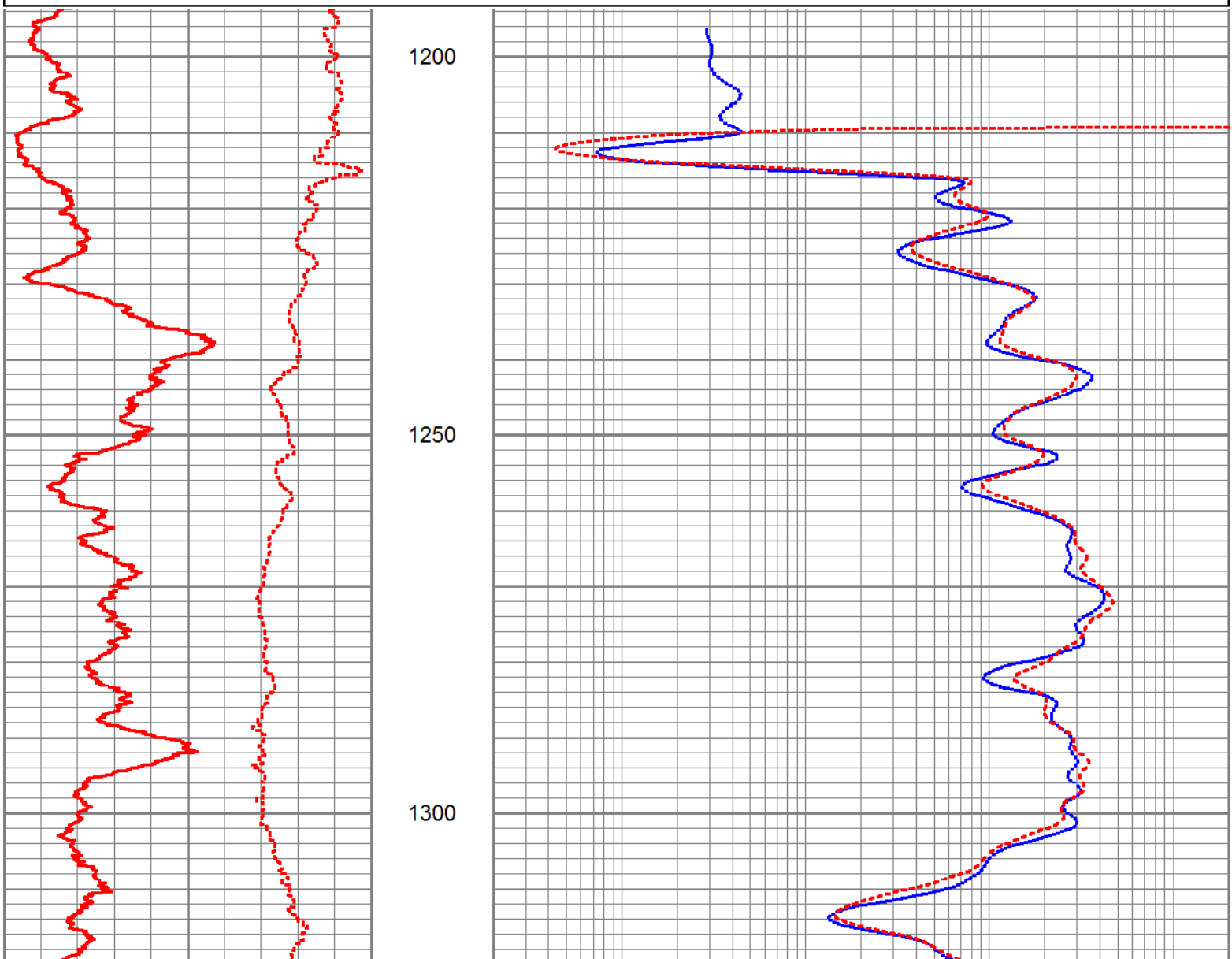


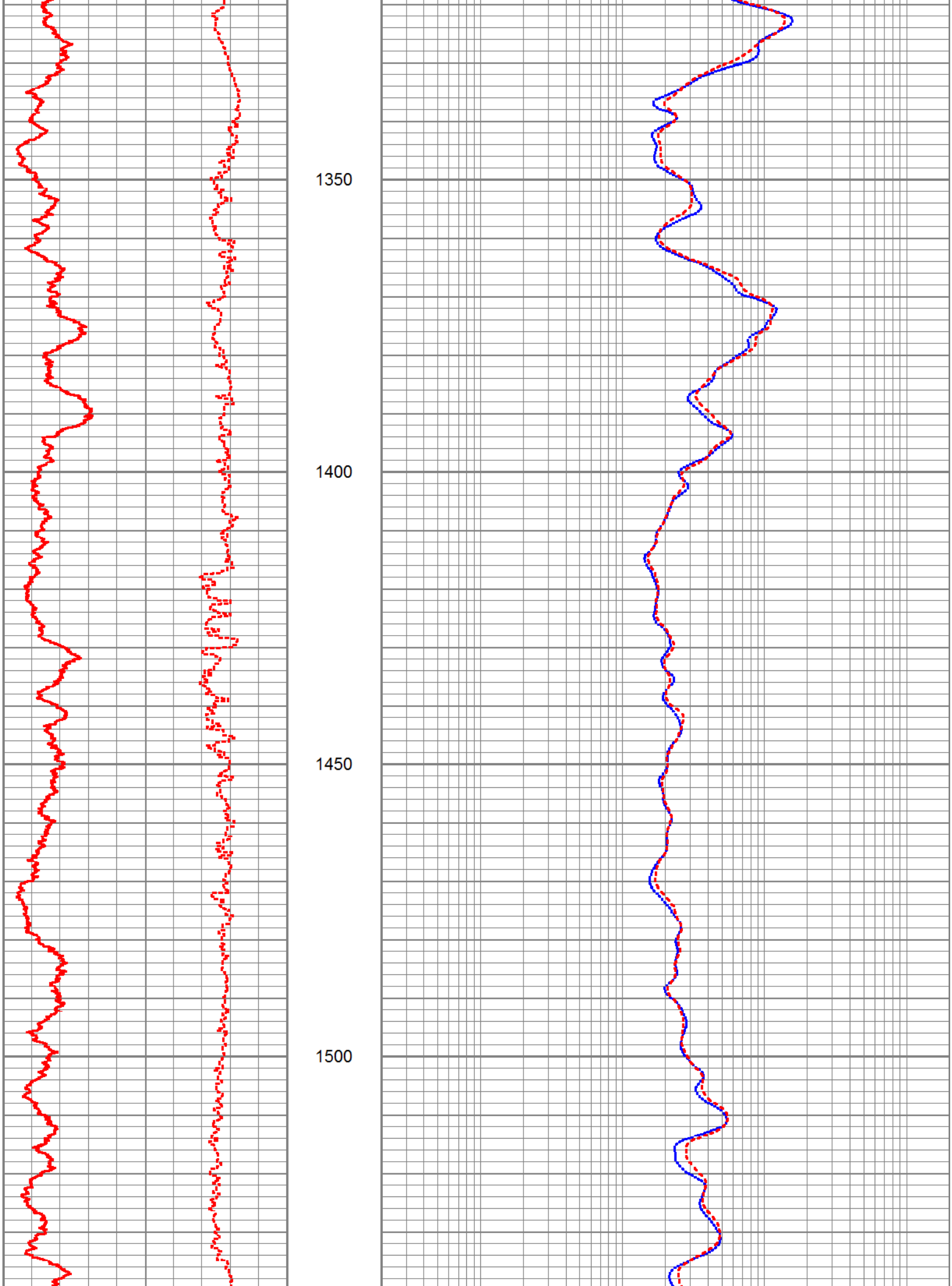

0
Spontaneous Potential
200
0.2
Deep Induction Resistivity (Ohm-m)
2000
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
Gamma
Spontaneous Potential
Deep Induction Resistivity
Medium Induction Resistivity

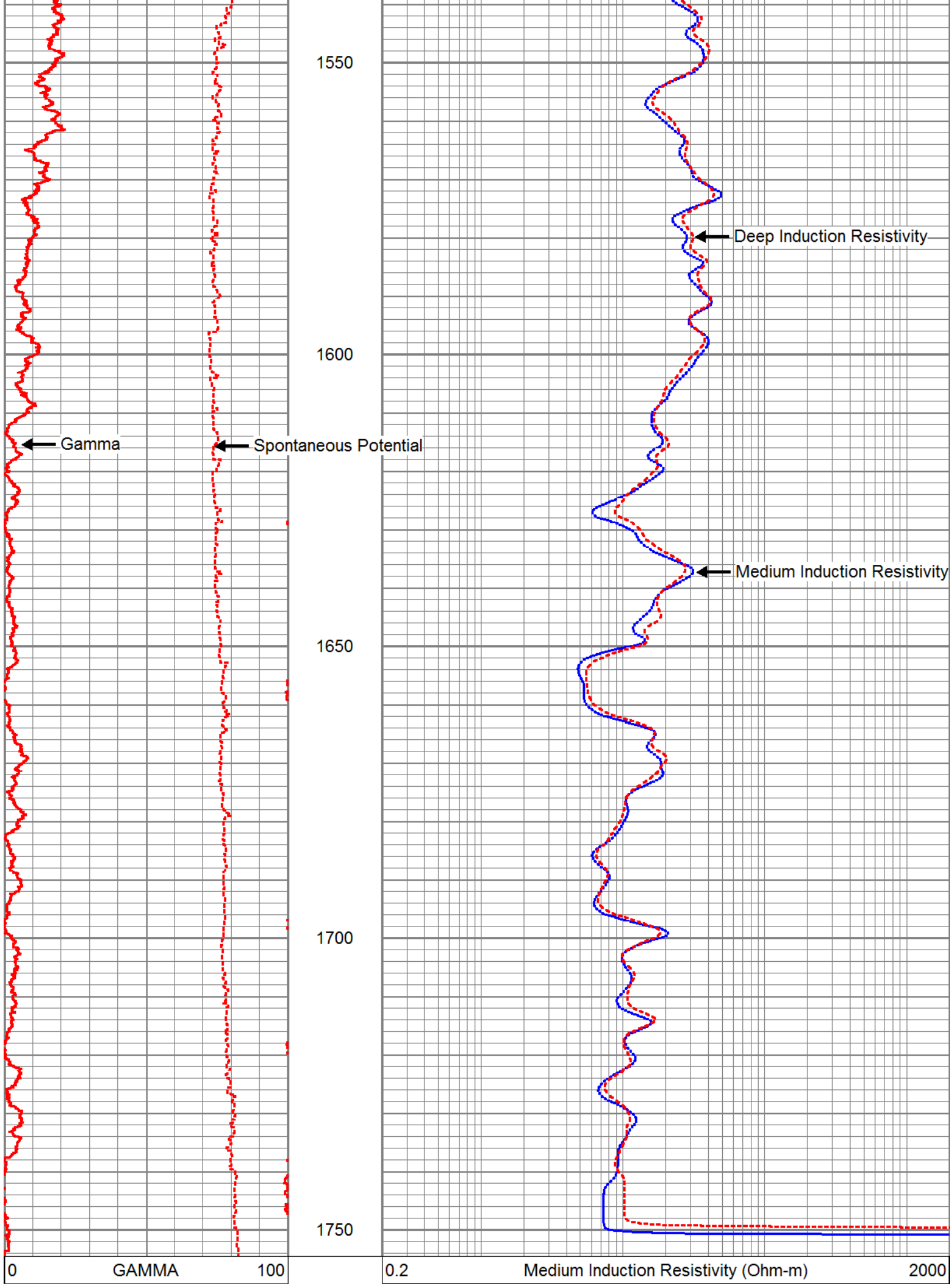


MAIN PASS

Database File:	osf105.db
Dataset Pathname:	run2/DILMP
Presentation Format:	dil
Dataset Creation:	Wed Oct 03 18:33:59 2012
Charted by:	Depth in Feet scaled 1:240




1350
1400
1450
1500


1550
1600
1650
1700
1750
Gamma
Spontaneous Potential
Deep Induction Resistivity
Medium Induction Resistivity
0
GAMMA
100
0.2
Medium Induction Resistivity (Ohm-m)
2000

0	Spontaneous Potential	200

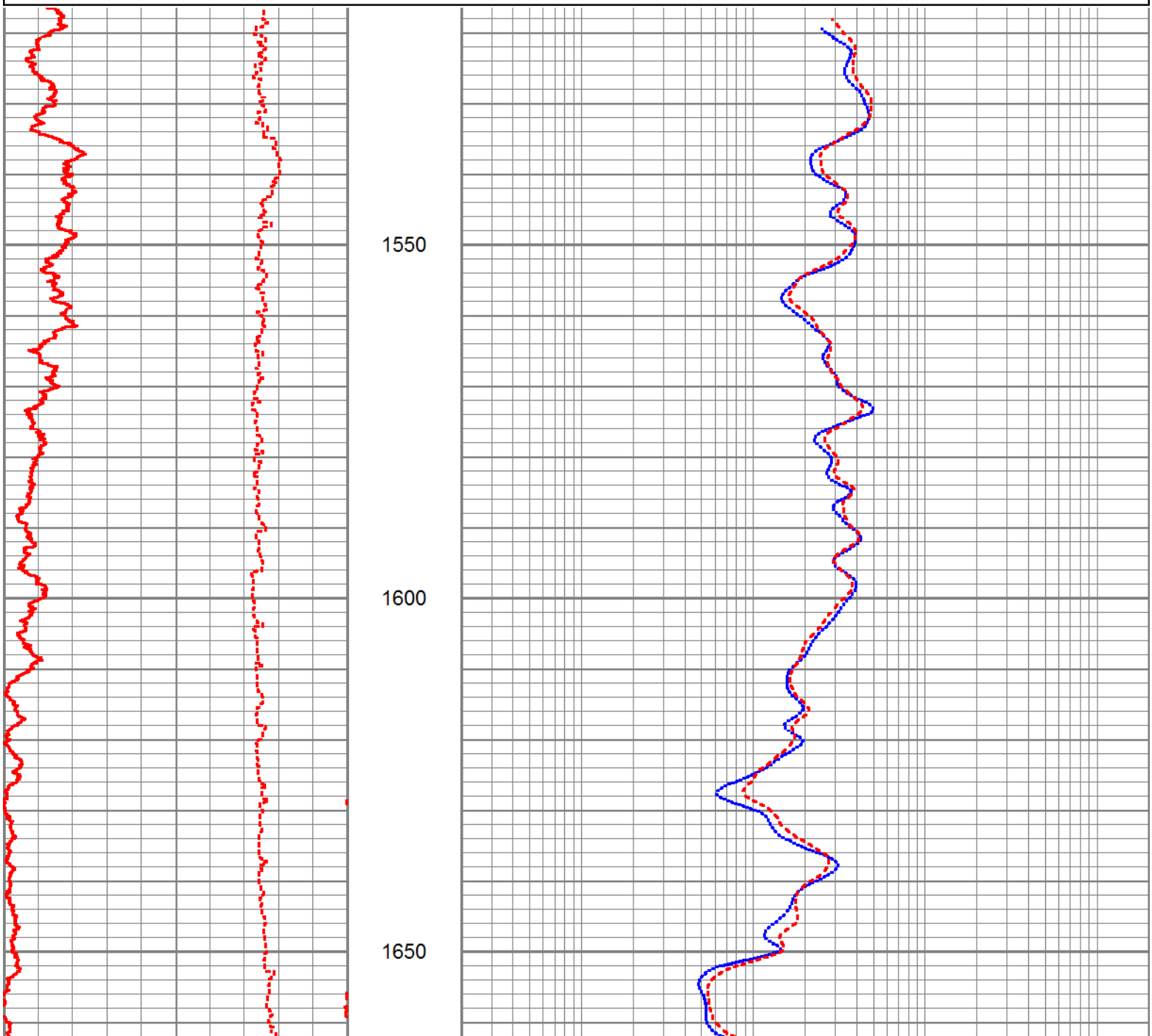
0.2	Deep Induction Resistivity (Ohm-m)	2000

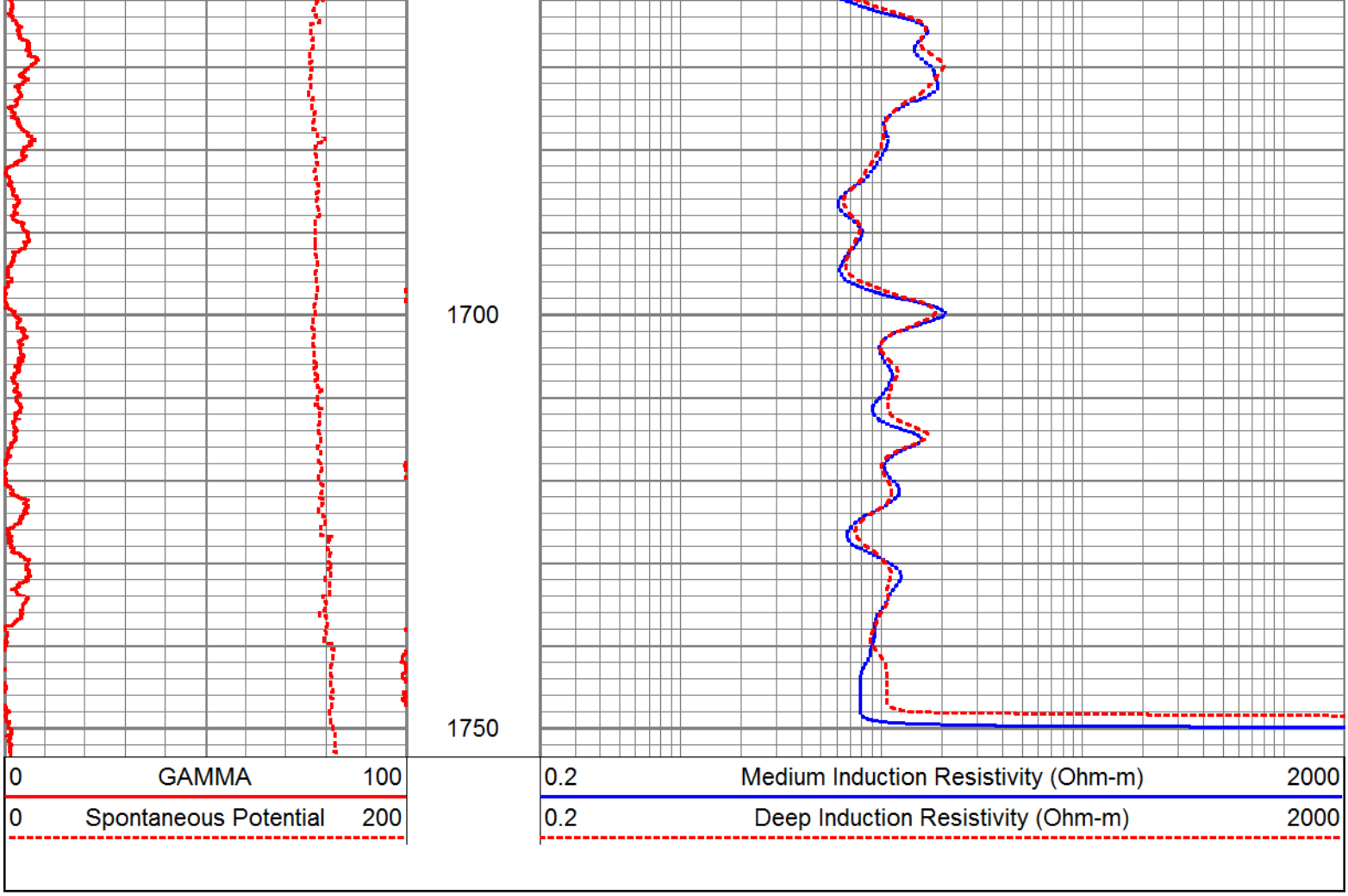
REPEAT PASS

Database File:	osf105.db
Dataset Pathname:	run2/DILRP
Presentation Format:	dil
Dataset Creation:	Wed Oct 03 18:33:59 2012
Charted by:	Depth in Feet scaled 1:240

0	GAMMA	100
0	Spontaneous Potential	200

0.2	Medium Induction Resistivity (Ohm-m)	2000
0.2	Deep Induction Resistivity (Ohm-m)	2000





Calibration Report

Database File: osf105.db
Dataset Pathname: run2/DILRP
Dataset Creation: Wed Oct 03 18:33:59 2012

Gamma Ray Calibration Report

Serial Number:	5562	
Tool Model:	6CHAN	
Performed:	Wed Oct 03 13:00:01 2012	
Calibrator Value:	120.0	GAPI
Background Reading:	1.0	
Calibrator Reading:	117.1	
Sensitivity:	1.0336	GAPI/

Dual Induction Calibration Report

Serial-Model: 5562-6CHAN
Surface Cal Performed:

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	32134.400	41811.700	0.000	1650.000	mmho-m	0.171	-5478.970
Medium	33023.100	50028.000	0.000	3300.000	mmho-m	0.194	-6408.530

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	6.50		RGDILGR-6CHAN (5562) Robertson Geologging Dual Induction Gamma Ray	7.06	1.50	13.67
CILD	2.63					
CILM	1.54					

Dataset:	osf105.db: field/well/run2/DILMP
Total Length:	7.06 ft
Total Weight:	13.67 lb
O.D.	1.50 in

BOREHOLE COMPENSATED SONIC/VDL LOG

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF#105
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Location:		API # :		Other Services	
	SEC	TWP	RGE	SEE COMMENTS	
Permanent Datum	PAD	Elevation		Elevation	K.B.
Log Measured From	PAD				D.F.
Drilling Measured From	PAD				G.L.

Date	03-OCT-2012
Run Number	TWO
Depth Driller	1750'
Depth Logger	1744'
Bottom Logged Interval	1744'
Top Log Interval	1220'
Open Hole Size	12"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	00:00
Time Logger on Bottom	00:00
Equipment Number	VA-202
Location	JUPTIER
Recorded By	LEE
Witnessed By	BOUCHIER

Borehole Record

Run Number	Bit	From	To
ONE	12"	CASING	1202'
TWO	10.625"	1202'	1750'

Borehole Record

Run Number	Bit	From	To
TWO	10.625"	SURFACE	930'

Casing Record	Size	Wgt/Ft
Surface String	12"	.500 W.T
Prot. String		
Production String		
Liner		

<<< Fold Here >>>

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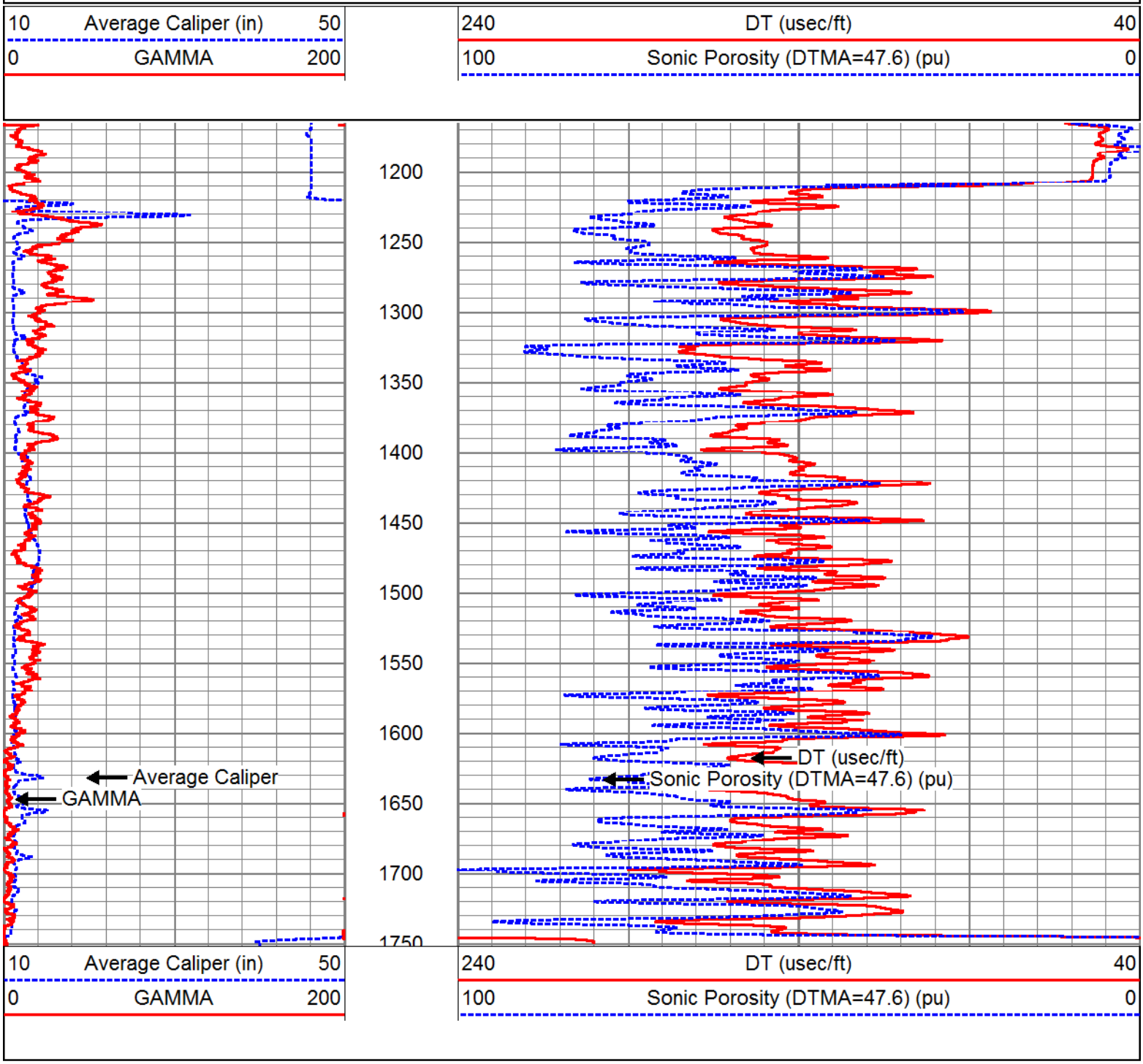
Comments

DHTVS
DIL/GR/SP
RES/GR/SP
XYC/GR
DEVIATION
FLOWMETER
FRT

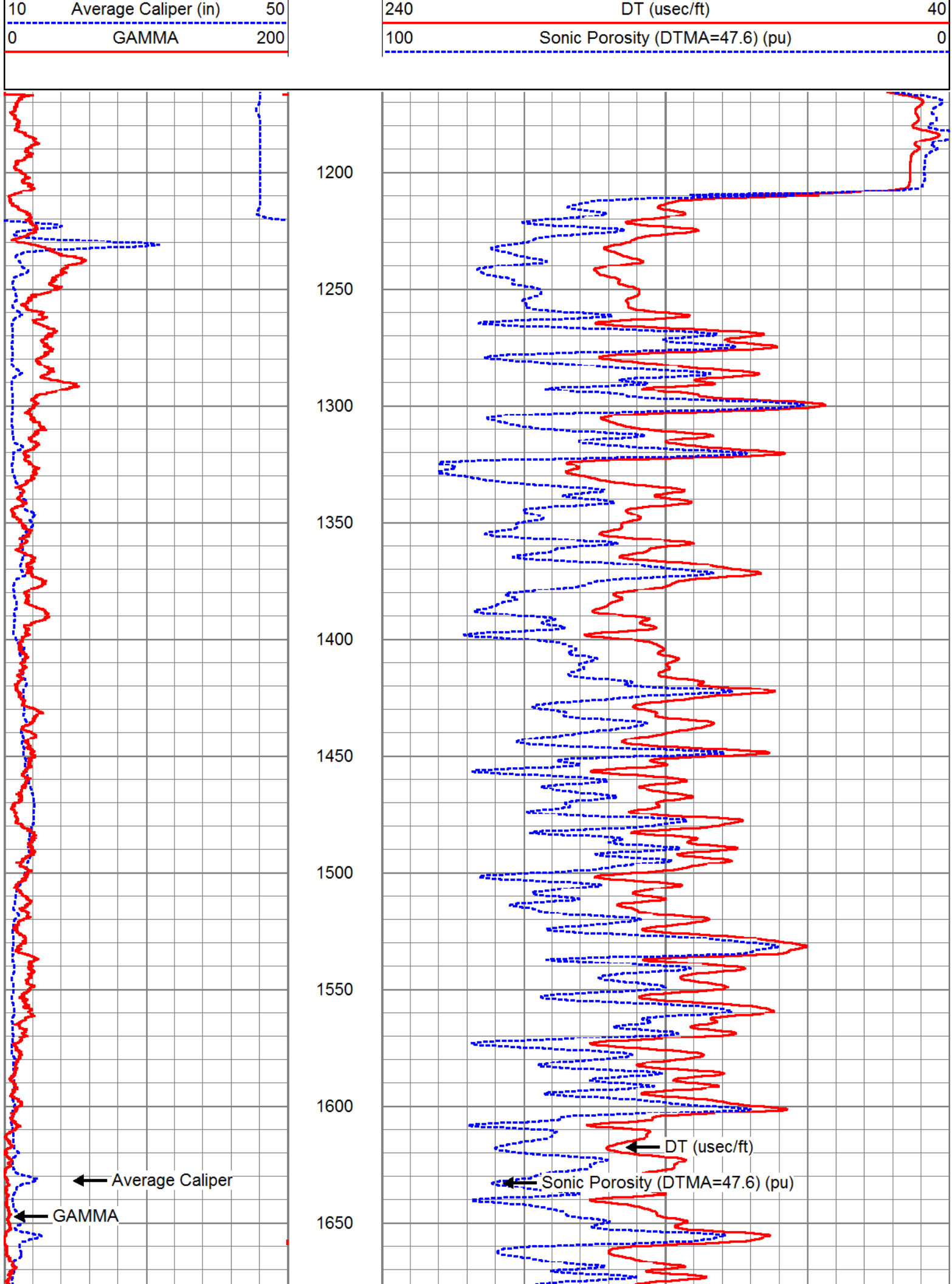
MAIN PASS

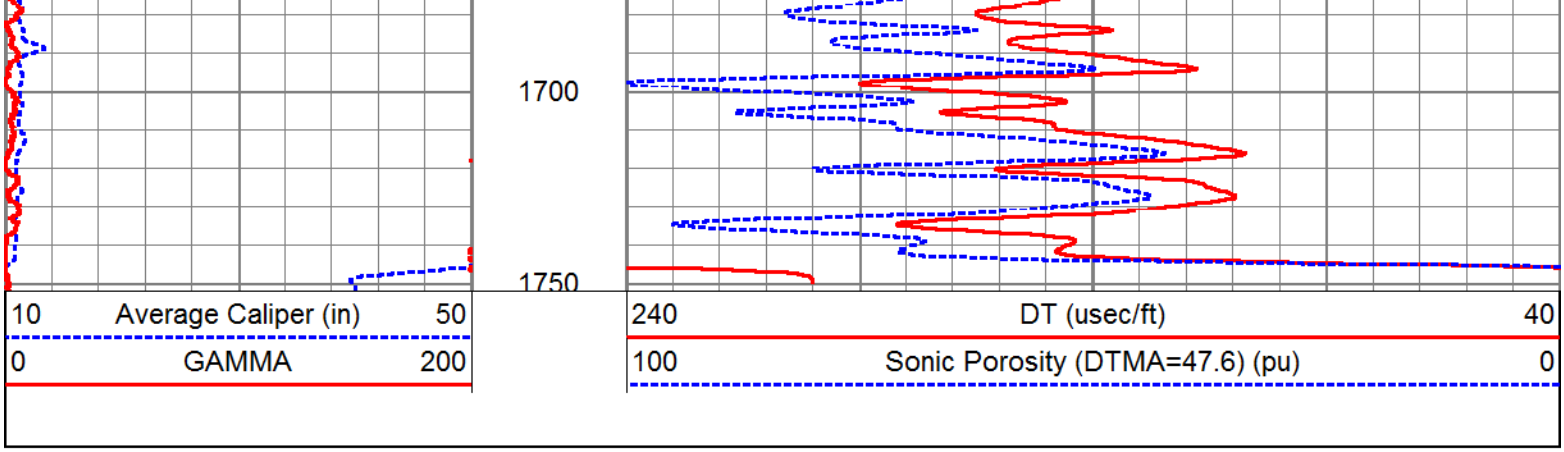
Database File:	osf105.db
Dataset Pathname:	run2/BHCMP1
Presentation Format:	bhc_por
Dataset Creation:	Wed Oct 03 18:33:56 2012
Charted by:	Depth in Feet scaled 1:1200



MAIN PASS

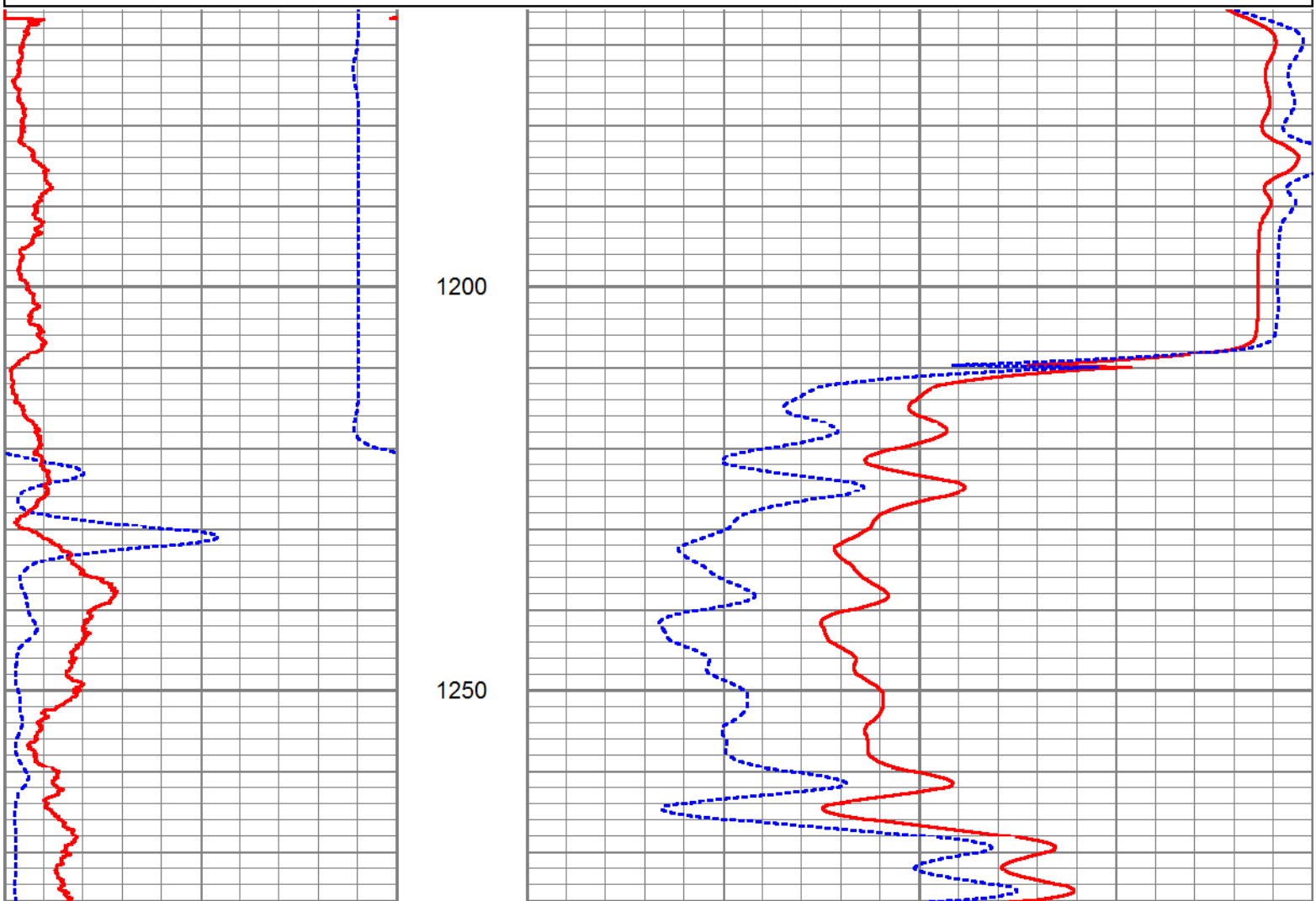
Database File:	osf105.db
Dataset Pathname:	run2/BHCMP1
Presentation Format:	bhc_por
Dataset Creation:	Wed Oct 03 18:33:56 2012
Charted by:	Depth in Feet scaled 1:600

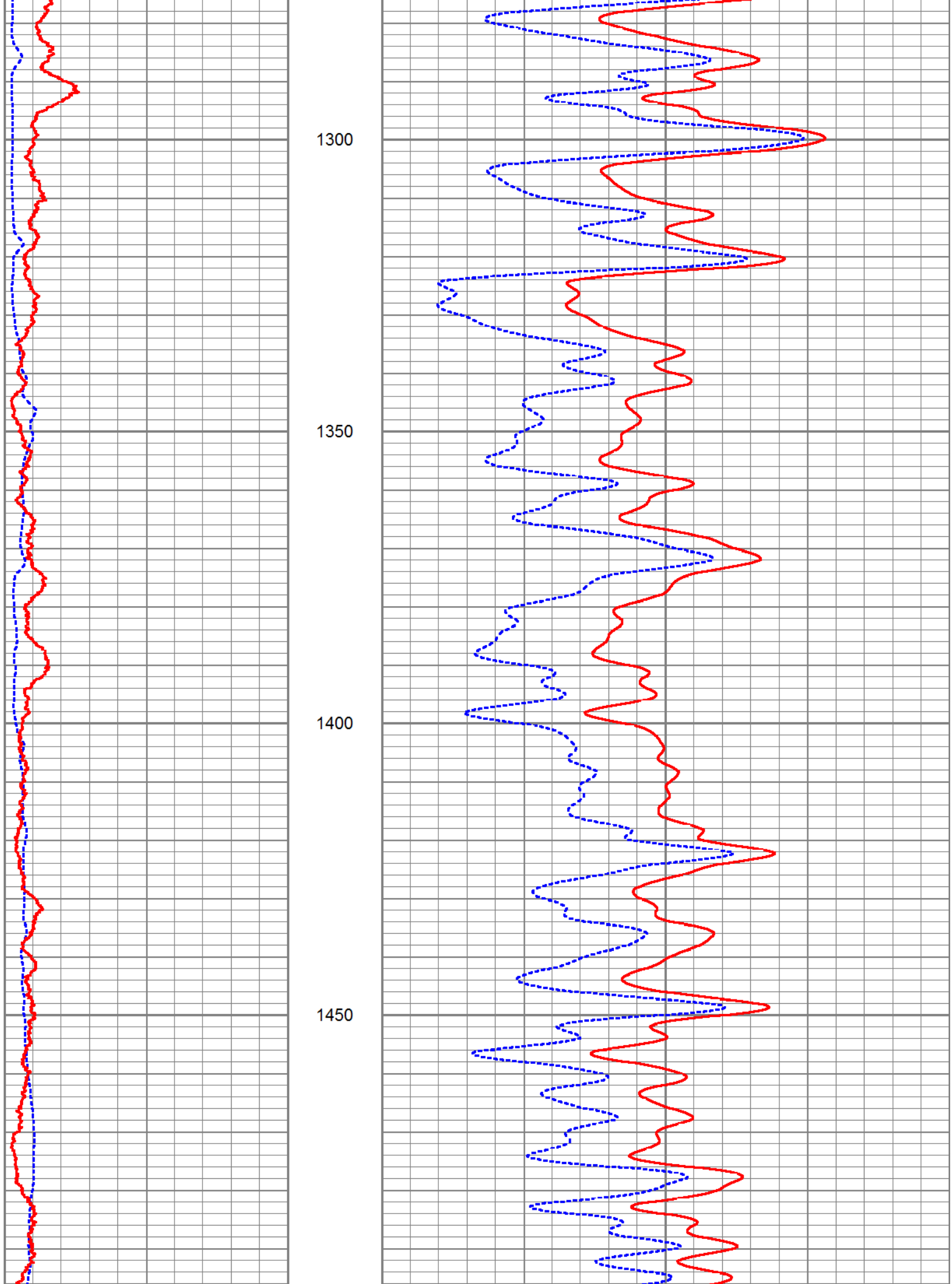

10 Average Caliper (in) 50
0 GAMMA 200
240 DT (usec/ft) 40
100 Sonic Porosity (DTMA=47.6) (pu) 0
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
Average Caliper
GAMMA
DT (usec/ft)
Sonic Porosity (DTMA=47.6) (pu)

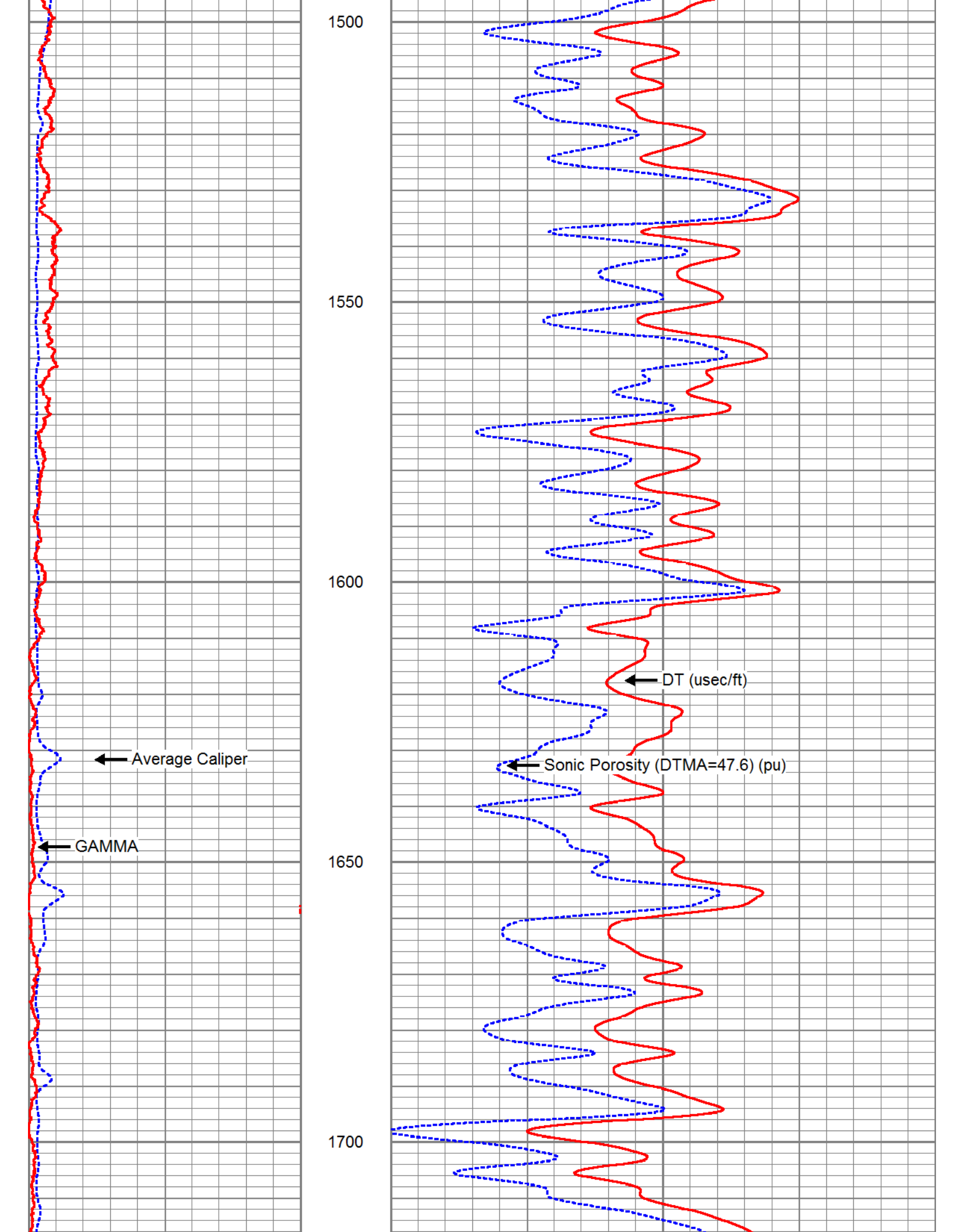


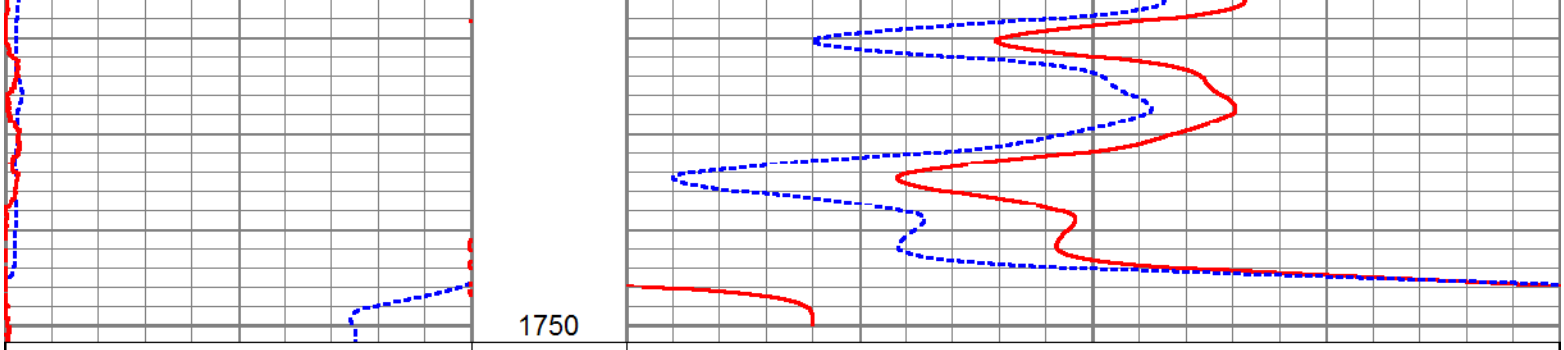
MAIN PASS

Database File: osf105.db
Dataset Pathname: run2/BHCMP1
Presentation Format: bhc_por
Dataset Creation: Wed Oct 03 18:33:56 2012
Charted by: Depth in Feet scaled 1:240



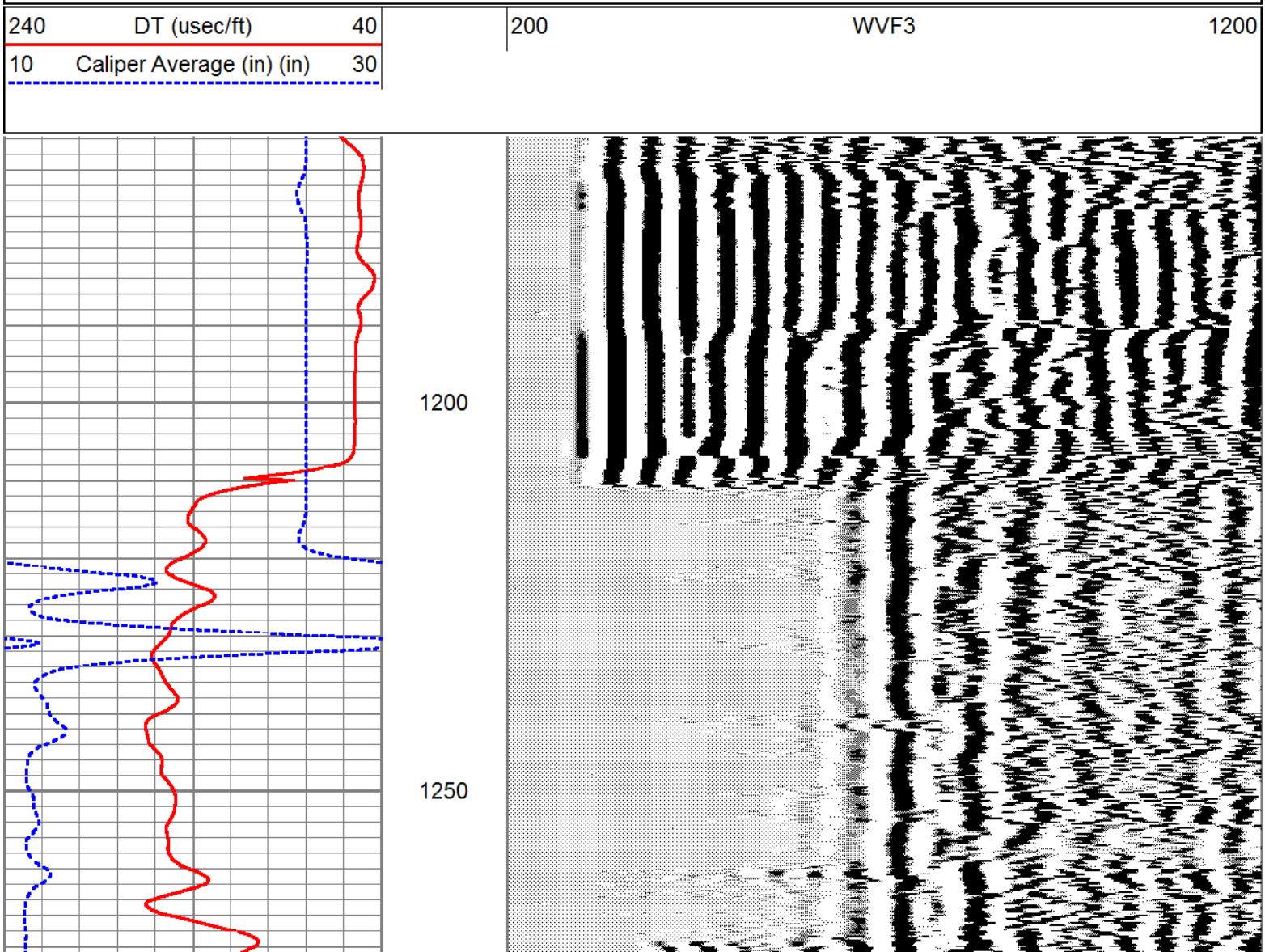

1300
1350
1400
1450

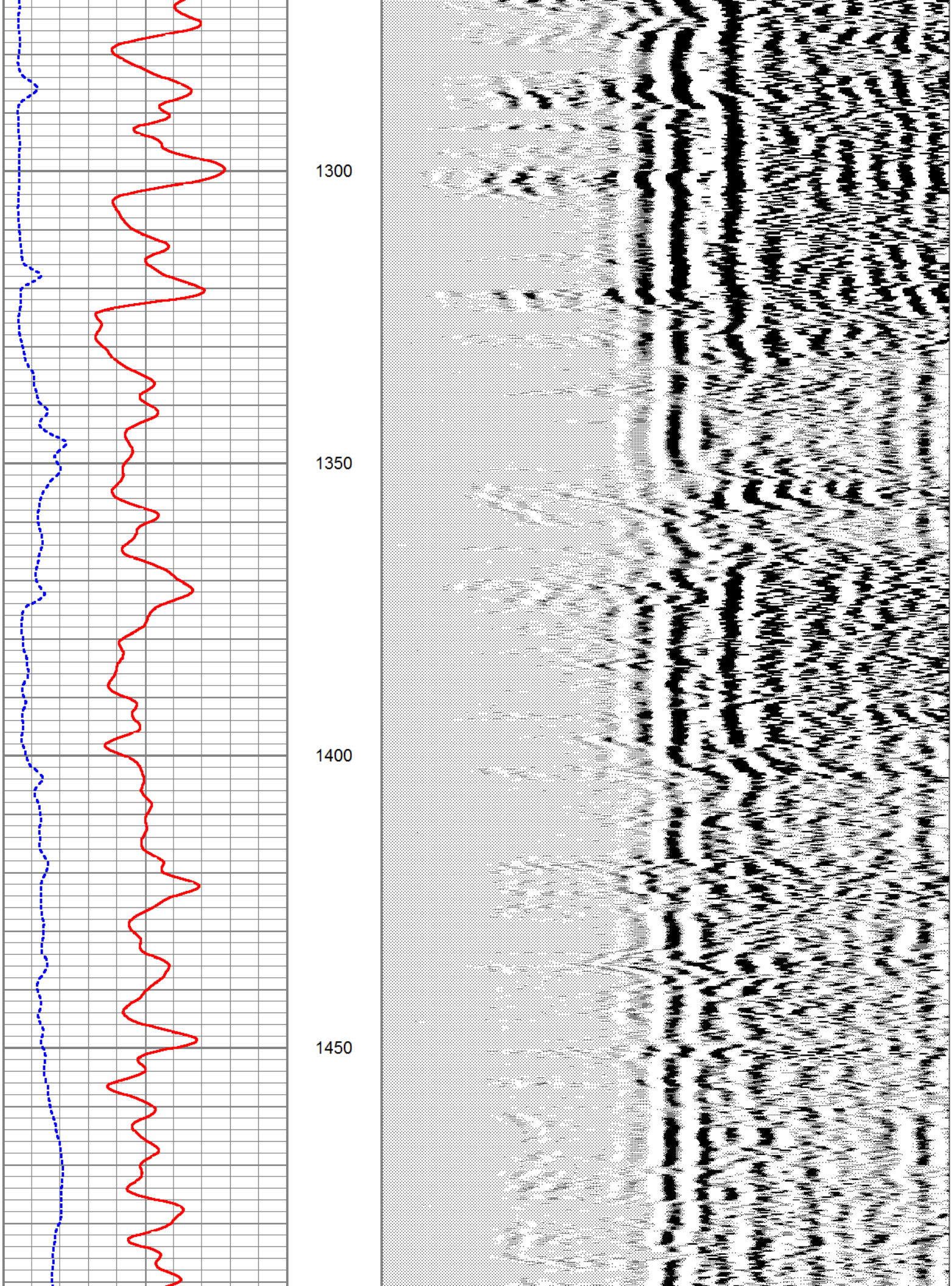

1500
1550
1600
1650
1700
Average Caliper
GAMMA
DT (usec/ft)
Sonic Porosity (DTMA=47.6) (pu)

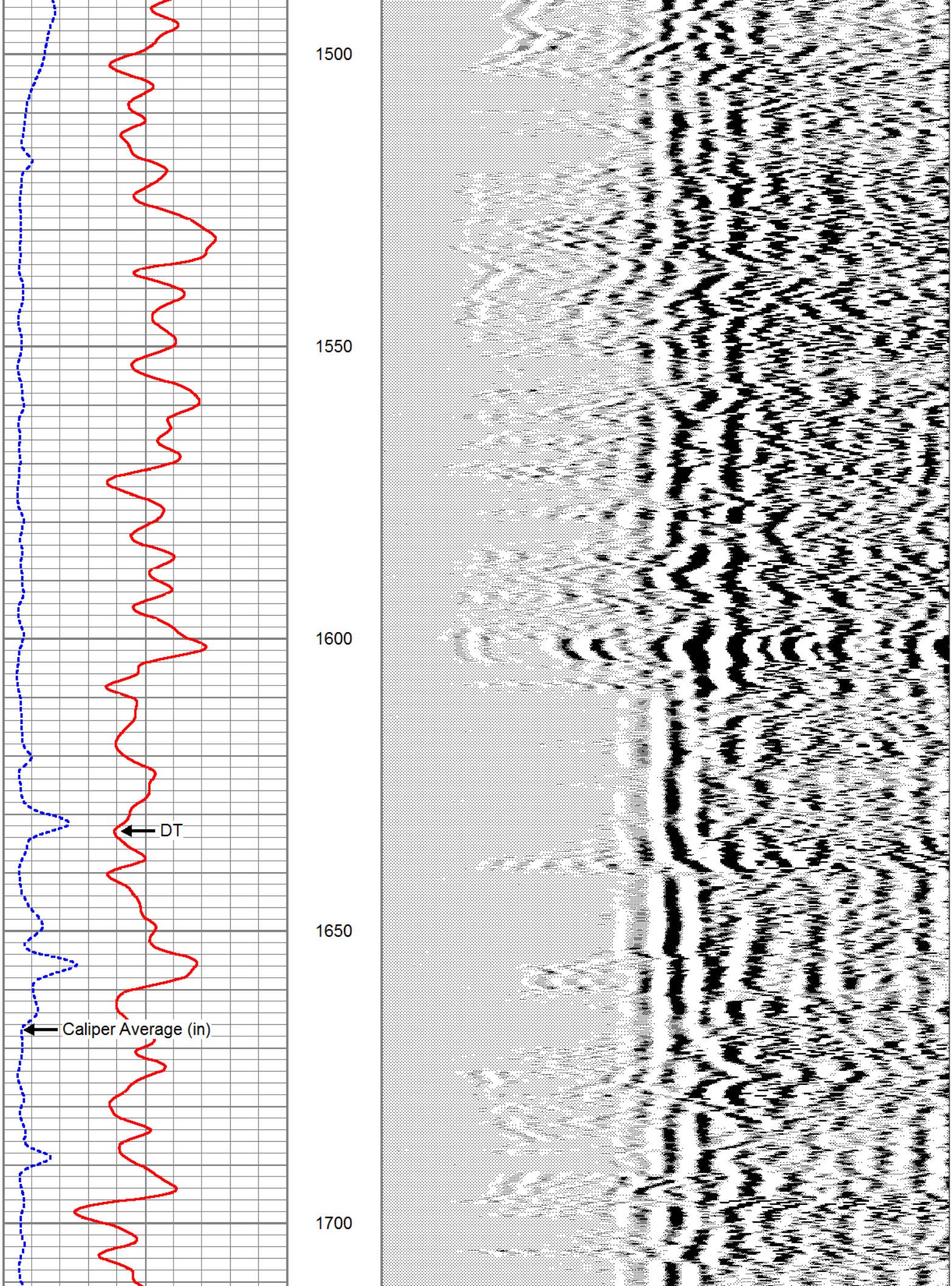


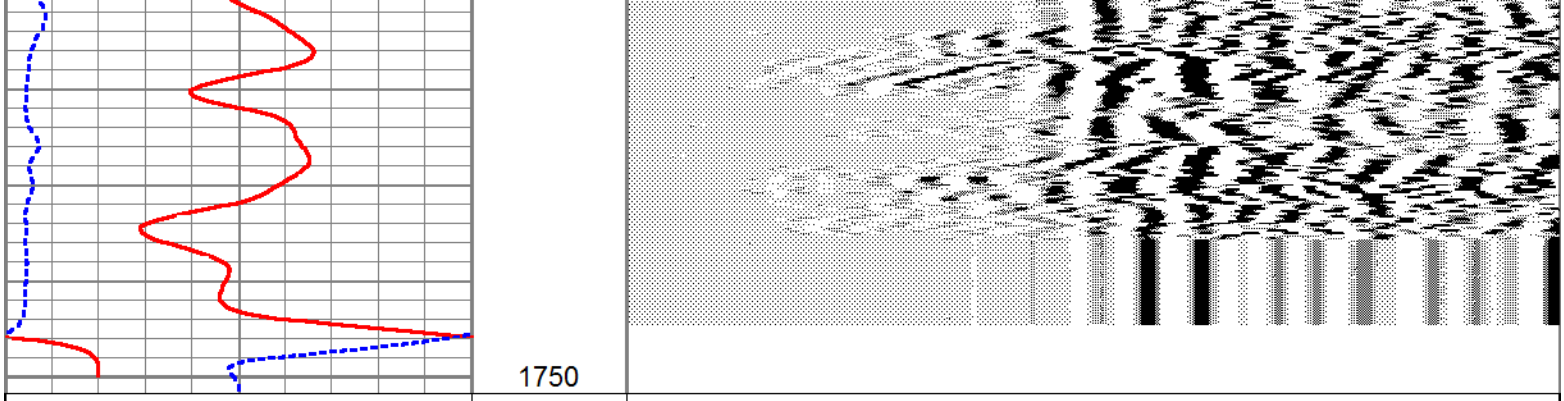
MAIN PASS

Database File:	osf105.db
Dataset Pathname:	run2/BHCMP1
Presentation Format:	bhc
Dataset Creation:	Wed Oct 03 18:33:56 2012
Charted by:	Depth in Feet scaled 1:240

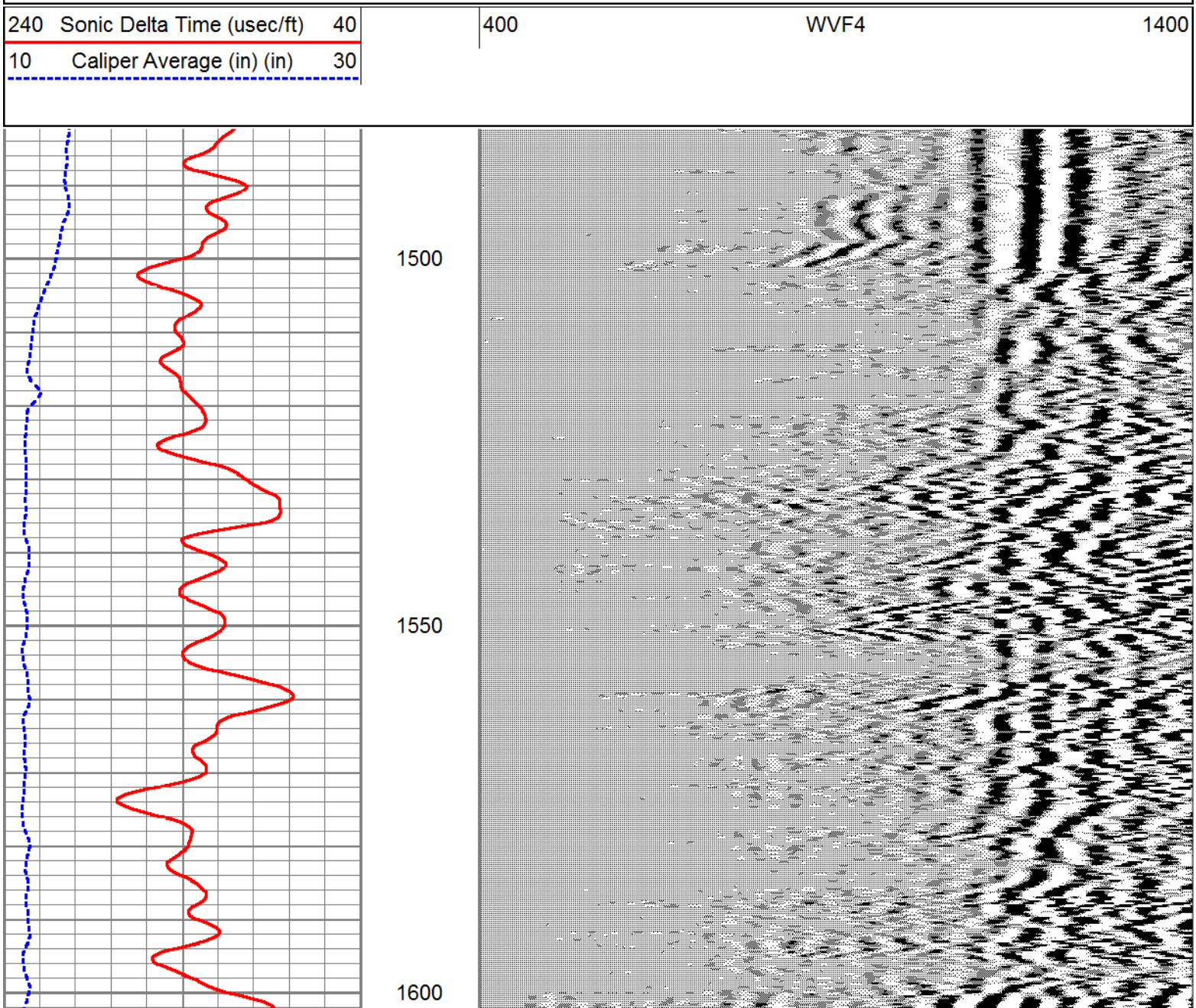


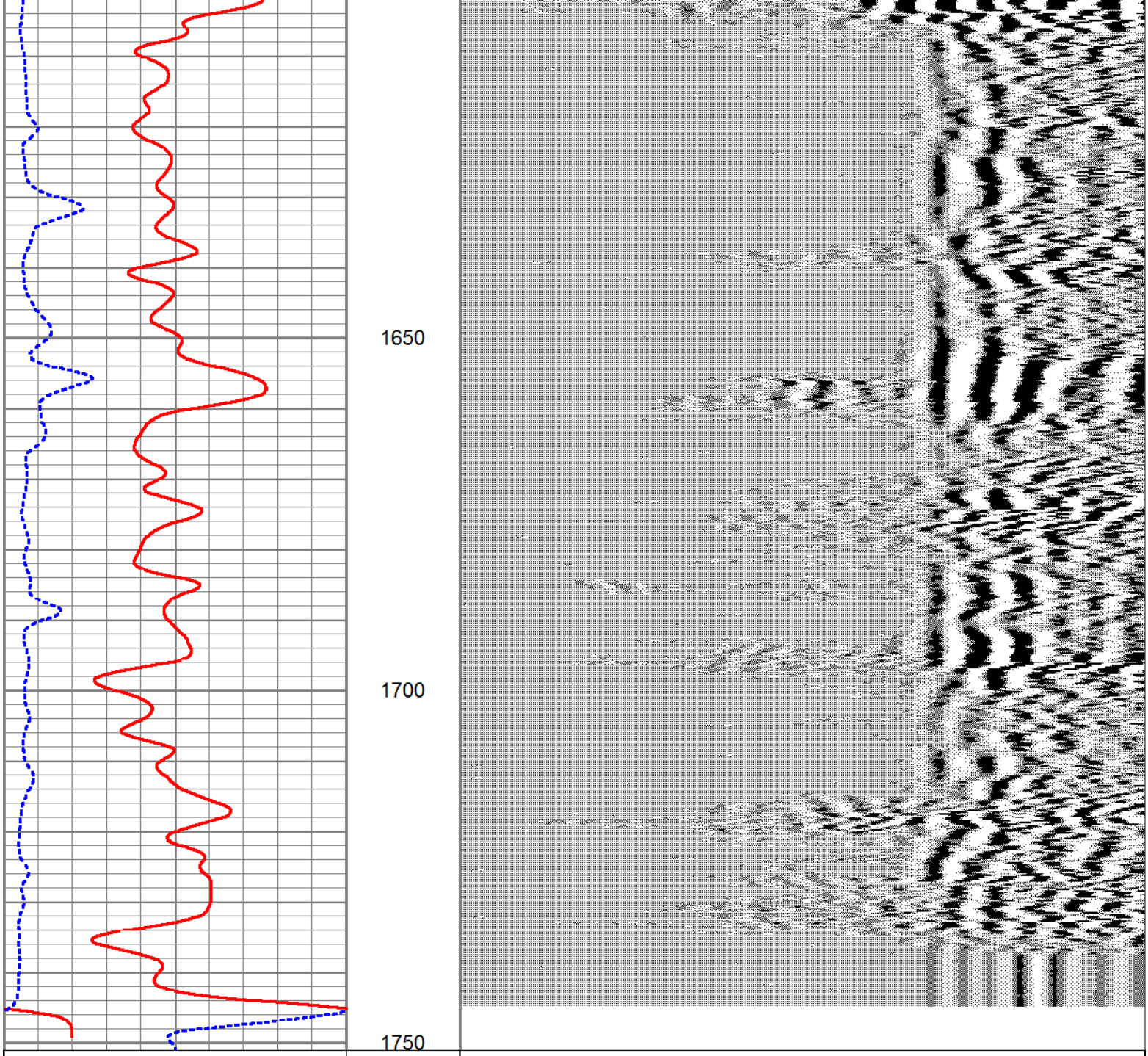

1300
1350
1400
1450


1500
1550
1600
1650
1700
DT
Caliper Average (in)

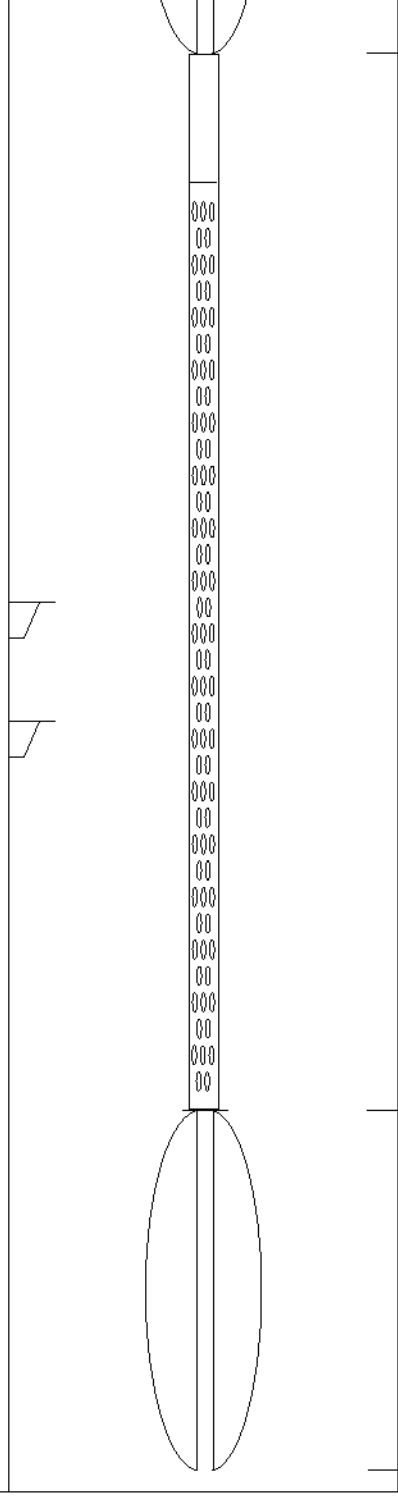


Database File: osf105.db
Dataset Pathname: run2/BHCRP1
Presentation Format: bhc
Dataset Creation: Wed Oct 03 18:33:58 2012
Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-SDSCHD (SDS) Cable Head	1.00	1.50	5.00
			CBLINLINE	3.00	1.50	10.00

WVF1 WVF2 WVF3 WVF4	7.25 7.25 6.25 6.25		SLT2Probe-Probe275(Probe) (1) CBLINLINE	8.83 3.00	2.75 1.50	100.00 10.00

Dataset:	osf105.db: field/well/run2/BHCMP1
Total Length:	15.83 ft
Total Weight:	125.00 lb
O.D.	2.75 in

STATIC FLOWMETER LOG

Company SOUTH FLORIDA MGT. DISTRICT
Well OSF#105
Field KISSIMMEE BASIN (LFA-C)
County OSCEOLA
State FLORIDA
Location: API # :
SEC TWP RGE
Permanent Datum PAD Elevation
Log Measured From PAD
Drilling Measured From PAD
Other Services SEE COMMENTS
Elevation K.B. D.F. G.L.

Date	03-OCT-2012						
Run Number	TWO						
Depth Driller	1750'						
Depth Logger	1744'						
Bottom Logged Interval	1744'						
Top Log Interval	1220'						
Open Hole Size	12"					10.625"	
Type Fluid	WATER						
Density / Viscosity	NA						
Max. Recorded Temp.	NA						
Estimated Cement Top	NA						
Time Well Ready	00:00						
Time Logger on Bottom	00:00						
Equipment Number	VA-202						
Location	JUPTIER						
Recorded By	LEE						
Witnessed By	BOUCHIER						

Borehole Record

Run Number	Bit	From	To
ONE	12"	CASING	1202'
TWO	10.625"	1202'	1750'

Borehole Record

Run Number	Bit	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	12"	.500 W.T	SURFACE	930'
Prot. String				
Production String				
Liner				

<<< Fold Here >>>

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Comments

DHTVS
FRT
DIL/GR/SP
RES/GR/SP
XYC/GR
DEVIATION
BHC/SONIC/VDL

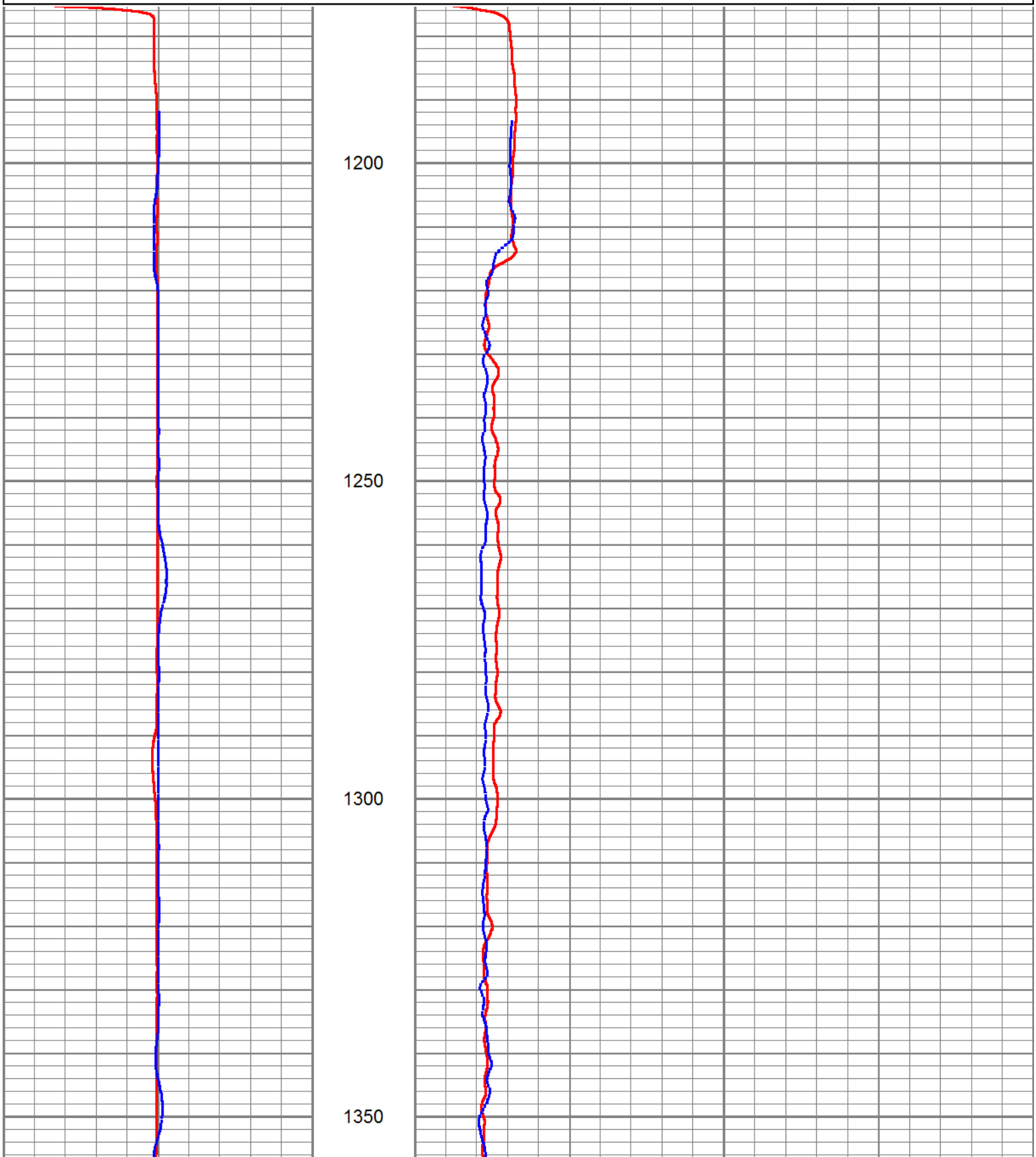
STATIC FLOWMETER

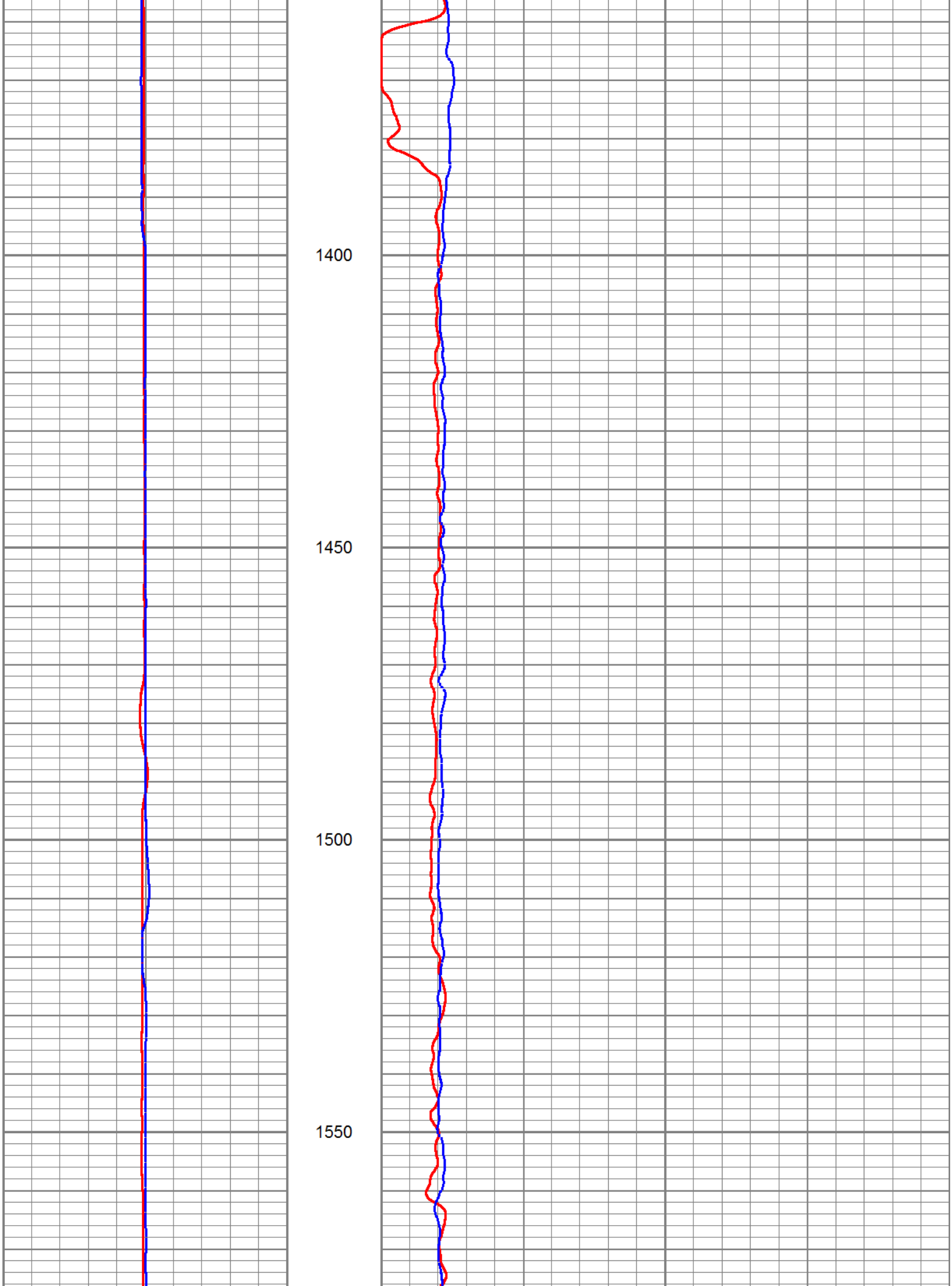
ENTERPRISES, INC.

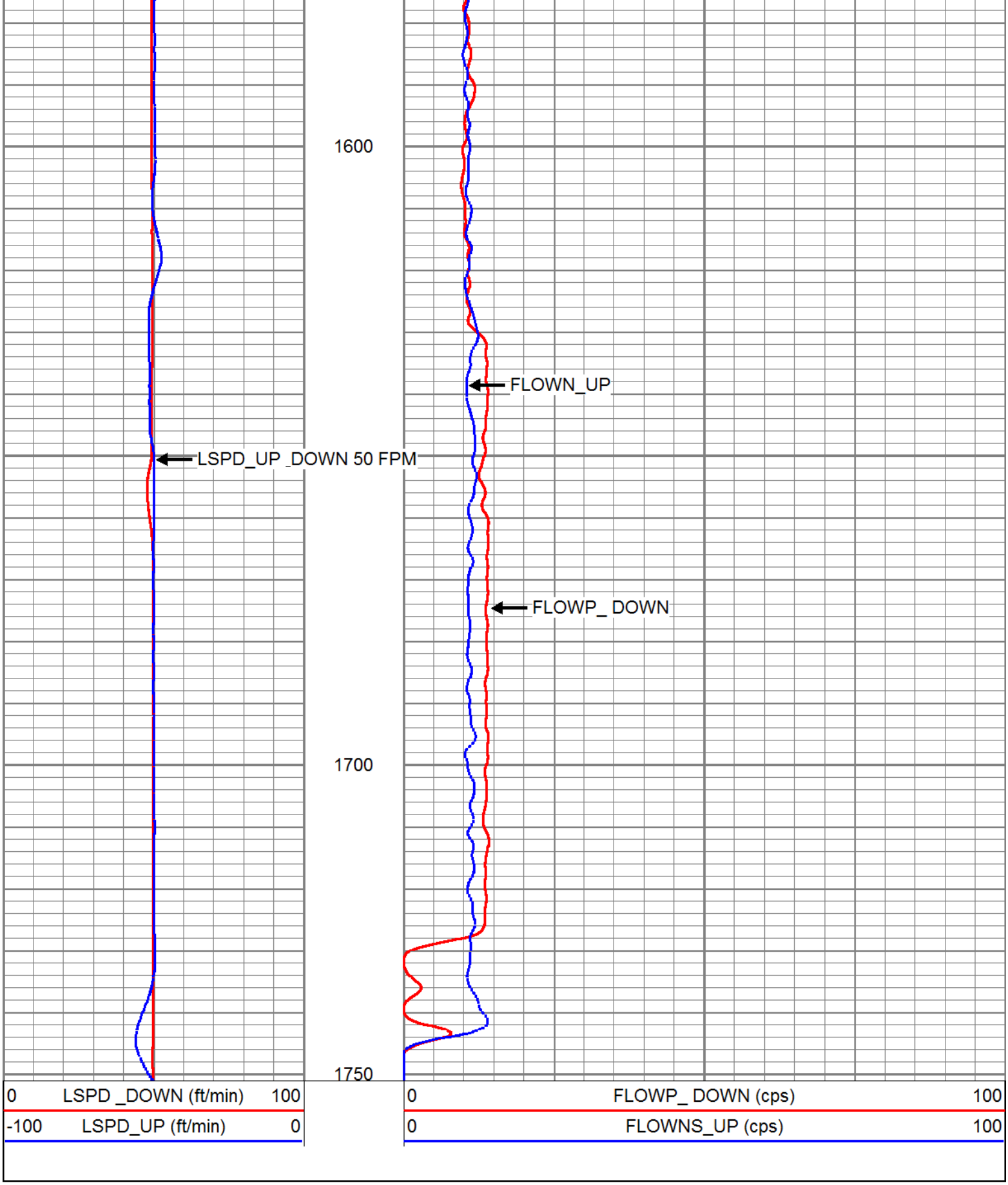
Database File:	osf105.db
Dataset Pathname:	run2/FM
Presentation Format:	flow
Dataset Creation:	Wed Oct 03 18:34:00 2012
Charted by:	Depth in Feet scaled 1:240

0	LSPD _DOWN (ft/min)	100
-100	LSPD_UP (ft/min)	0

0	FLOWP_ DOWN (cps)	100
0	FLOWNS_UP (cps)	100

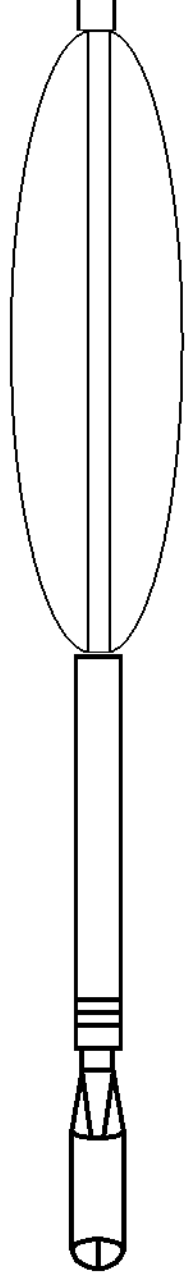



1400
1450
1500
1550



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

			CBLINLINE	3.00	1.50	10.00
			FLOWMETER-TITAN (TITAN_3") TITIN_3'	3.00	1.69	25.00
FLOWP FLOWN	0.25 0.25					



Dataset:	osf105.db: field/well/run2/FMUP
Total Length:	7.00 ft
Total Weight:	40.00 lb
O.D.	1.69 in

FLUID RESISTIVITY TEMPERATURE LOG

Company	SOUTH FLORIDA MGT. DISTRICT
Well	OSF#105
Field	KISSIMMEE BASIN (LFA-C)
County	OSCEOLA
State	FLORIDA

Company SOUTH FLORIDA MGT. DISTRICT

Well OSF#105

Field KISSIMMEE BASIN (LFA-C)

County OSCEOLA State FLORIDA

Location: API # :

SEC TWP RGE

Permanent Datum PAD Elevation

Log Measured From PAD

Drilling Measured From PAD

Other Services
SEE
COMMENTS

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

Date	03-OCT-2012		
Run Number	TWO		
Depth Driller	1750'		
Depth Logger	1744'		
Bottom Logged Interval	1744'		
Top Log Interval	1220'		
Open Hole Size	12"	10.625"	
Type Fluid	WATER		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	00:00		
Time Logger on Bottom	00:00		
Equipment Number	VA-202		
Location	JUPTIER		
Recorded By	LEE		
Witnessed By	BOUCHIER		

Borehole Record

Run Number	Bit	From	To
ONE	12"	CASING	1202'
TWO	10.625"	1202'	1750'

Borehole Record

Run Number	Bit	From	To
		Top	Bottom
		SURFACE	930'

Casing Record	Size	Wgt/Ft
Surface String	12"	.500 W.T
Prot. String		
Production String		
Liner		

<<< Fold Here >>>

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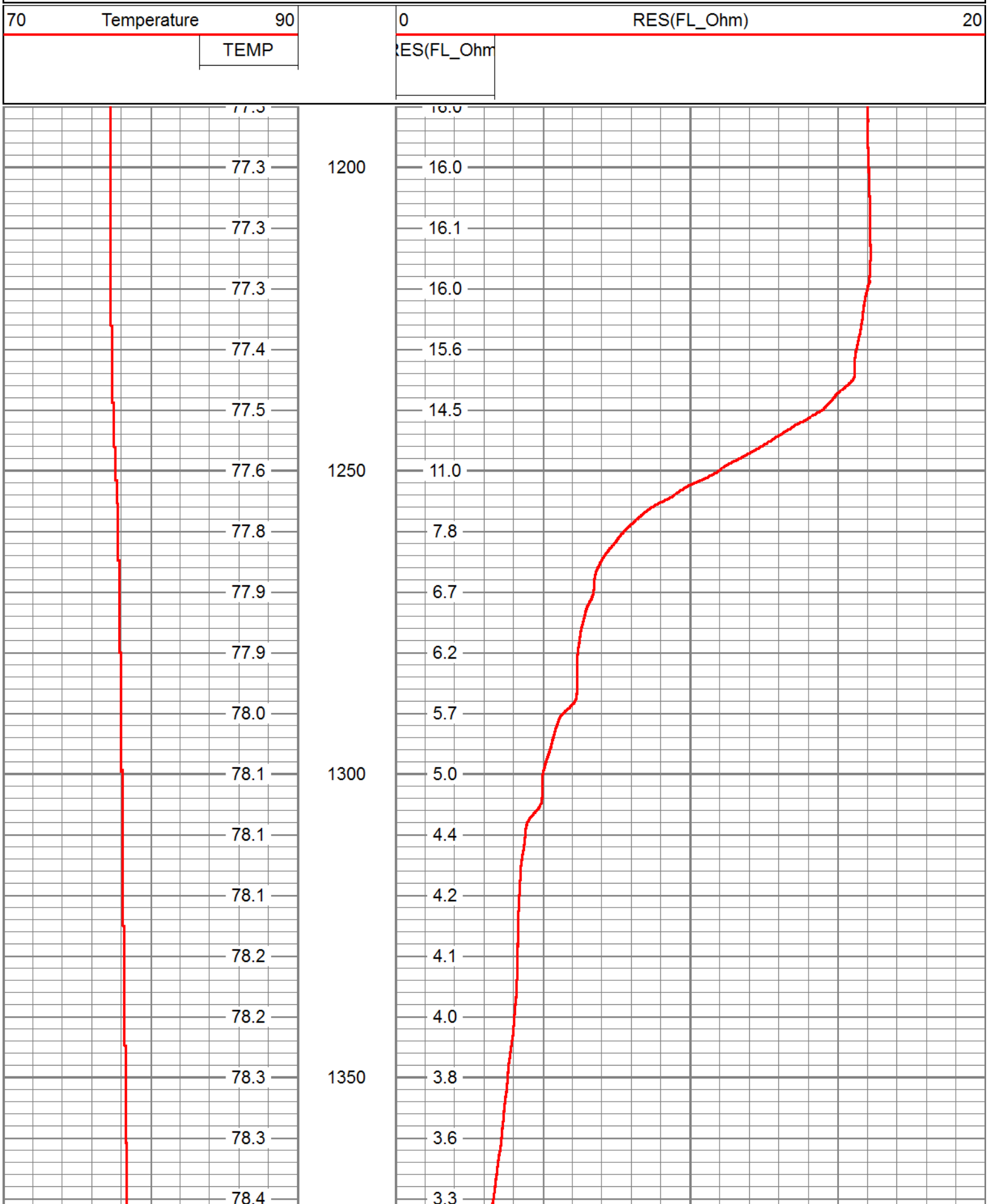
Comments

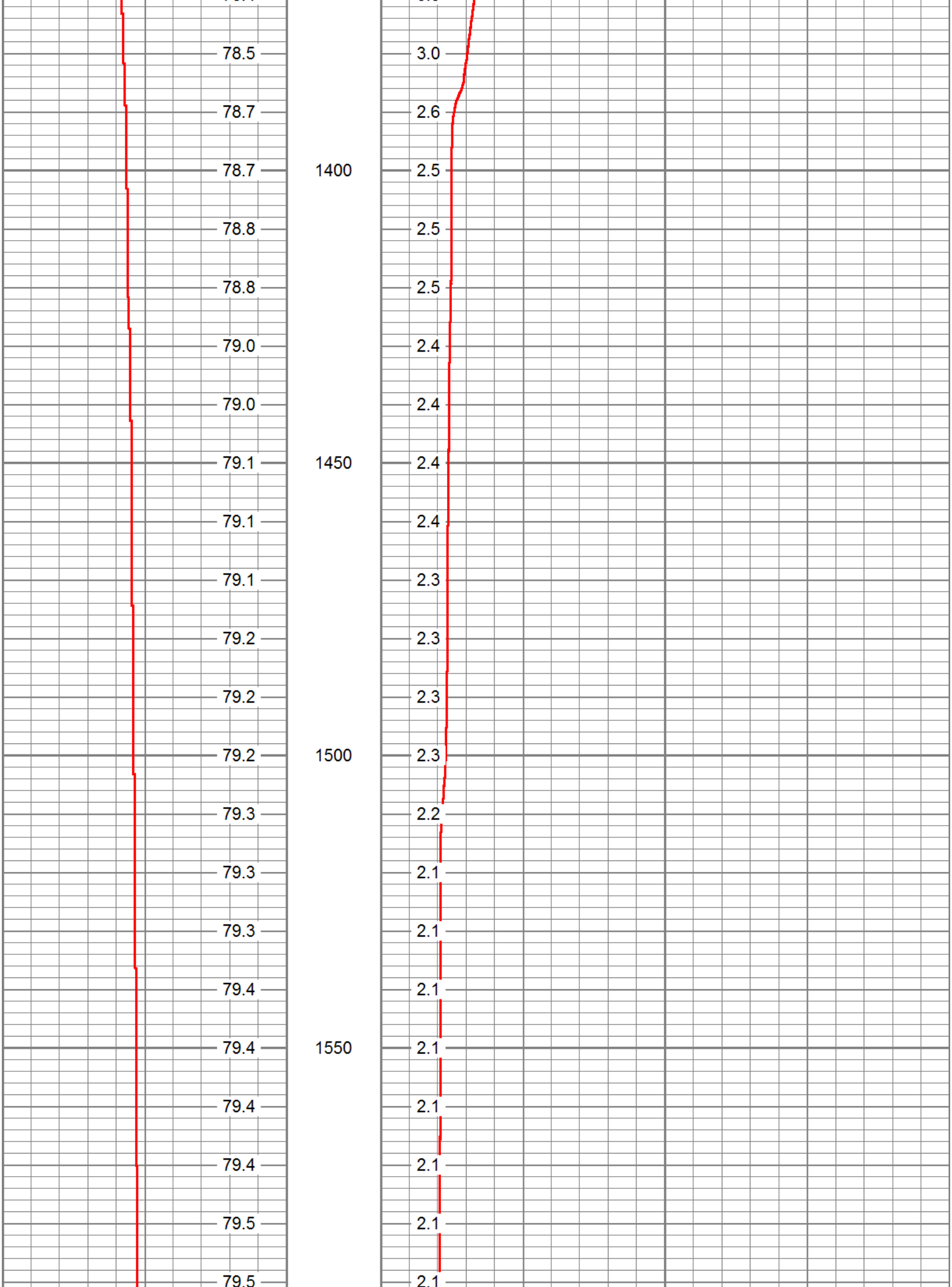
DHTVS
DIL/GR/SP
RES/GR/SP
XYC/GR
DEVIATION
FLOWMETER
BHC/SONIC/VDL

MAIN PASS

ENTERPRISES, INC.

Database File:	osf105.db
Dataset Pathname:	run2RESMP1/@00374d7a
Presentation Format:	frt_cent
Dataset Creation:	Thu Oct 04 08:52:47 2012
Charted by:	Depth in Feet scaled 1:240




78.5
78.7
78.7
78.8
78.8
79.0
79.0
79.1
79.1
79.1
79.2
79.2
79.2
79.3
79.3
79.3
79.4
79.4
79.4
79.4
79.5
79.5
1400
1450
1500
1550
3.0
2.6
2.5
2.5
2.5
2.4
2.4
2.4
2.4
2.3
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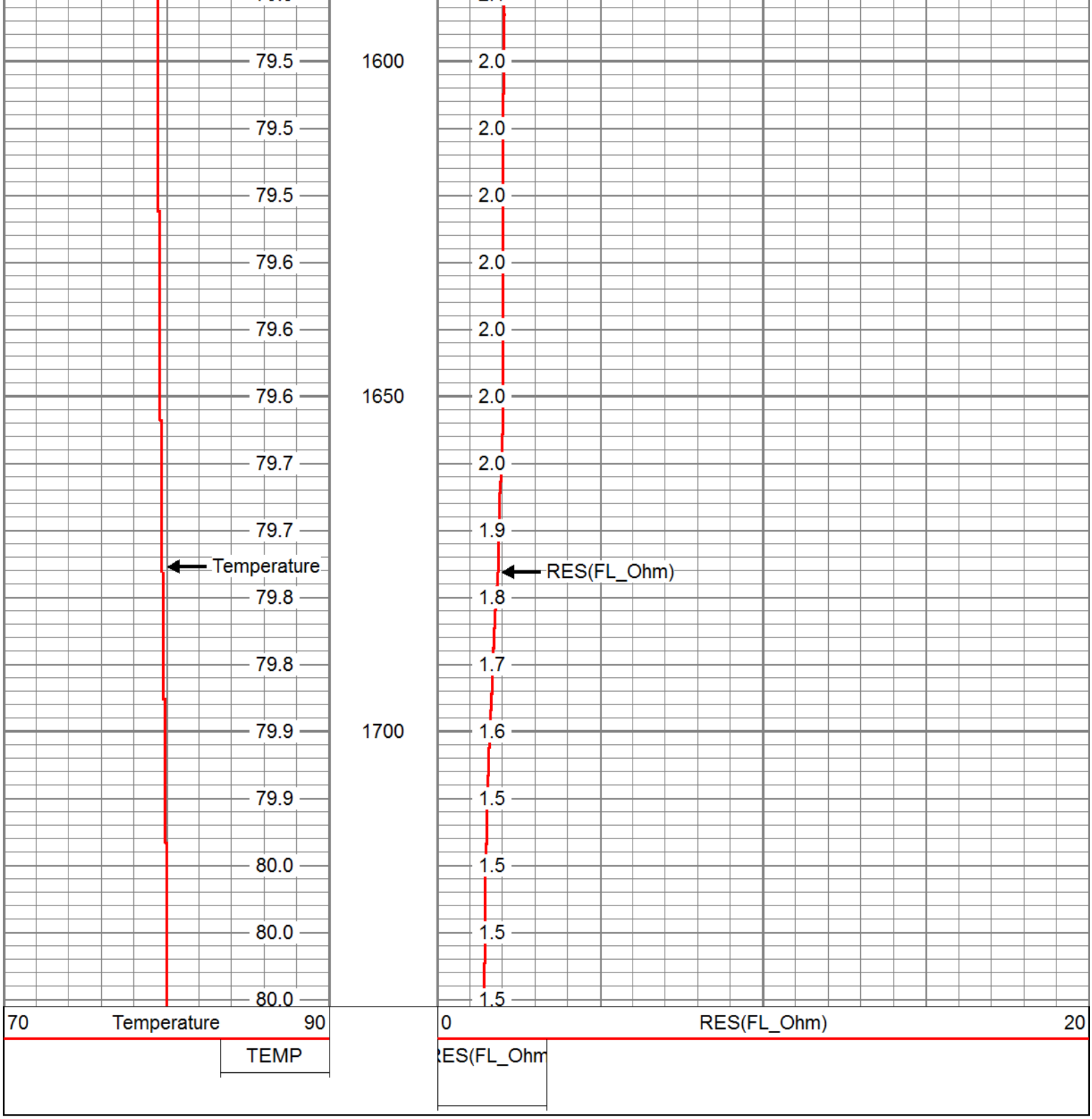
2.1
2.1
2.1
2.1


79.5
79.5
79.5
79.6
79.6
79.6
79.7
79.7
79.8
79.8
79.9
79.9
80.0
80.0
80.0
1600
1650
1700
2.0
2.0
2.0
2.0
2.0
2.0
2.0
1.9
1.8
1.7
1.6
1.5
1.5
1.5
1.5
Temperature
RES(FL_Ohm)
70
Temperature
90
0
RES(FL_Ohm)
20
TEMP
RES(FL_Ohm

Borehole Image Logs: Site C

1ft:10ft

OSF-105 (USGS: OBI 40, 720 Turns)

0° 90° 180° 270° 0°

OSF-109 (USGS: OBI 40, 360 Turns)

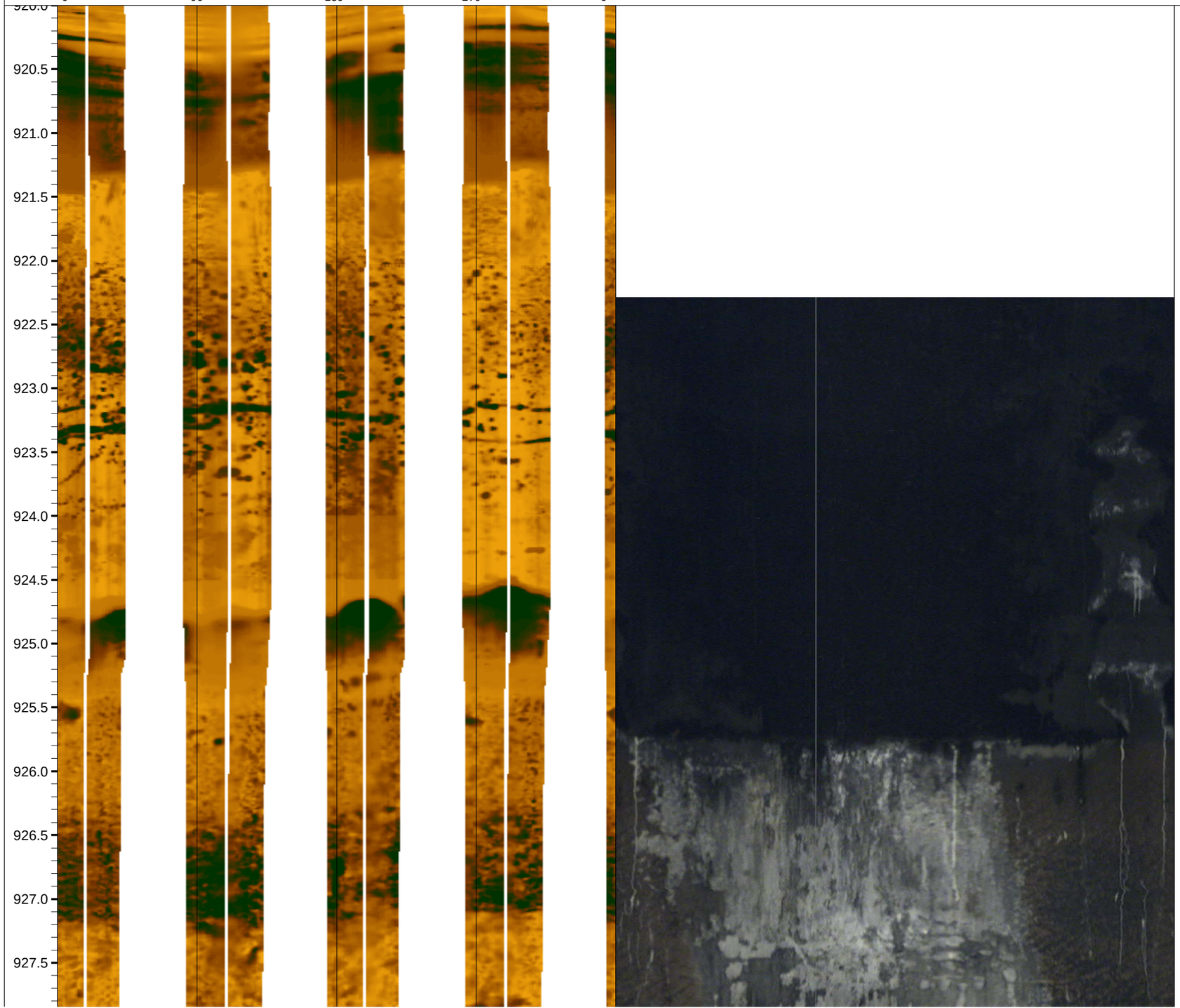
0° 90° 180° 270° 0°

OSF-105 (USGS: OBI 40, 360 Turns)

0° 90° 180° 270° 0°

OSF-104 (Schlumberger FMI)

0° 90° 180° 270° 0°



928.0
928.5
929.0
929.5
930.0
930.5
931.0
931.5
932.0
932.5
933.0
933.5
934.0
934.5
935.0
935.5
936.0
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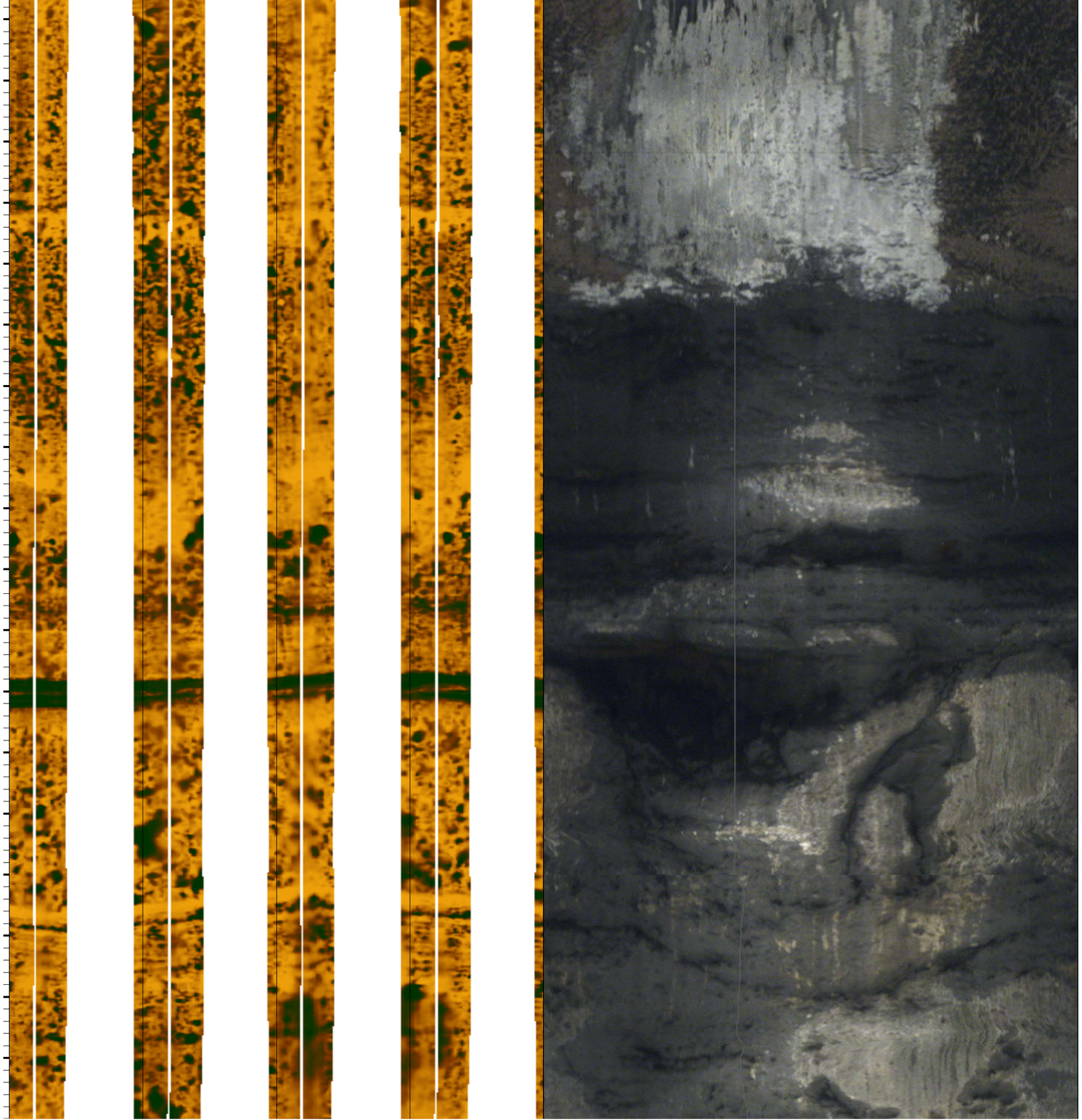

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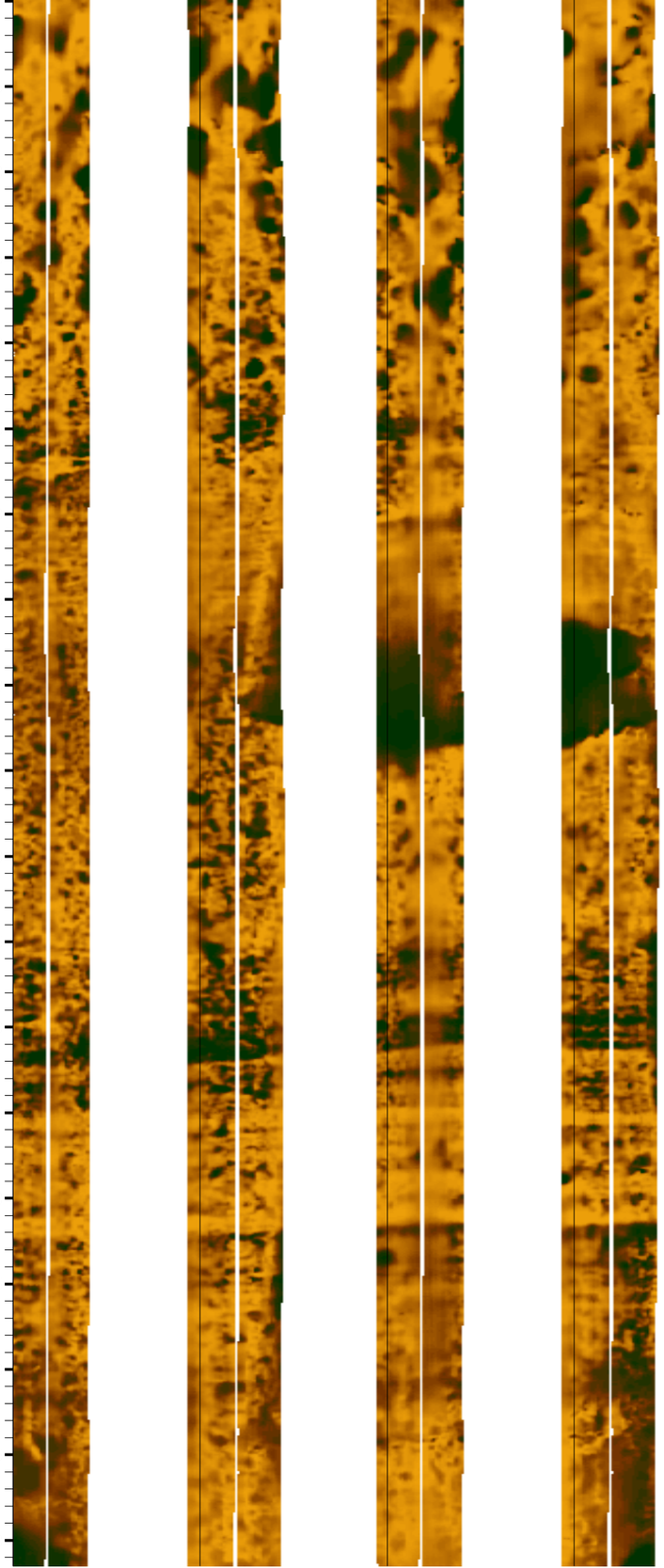



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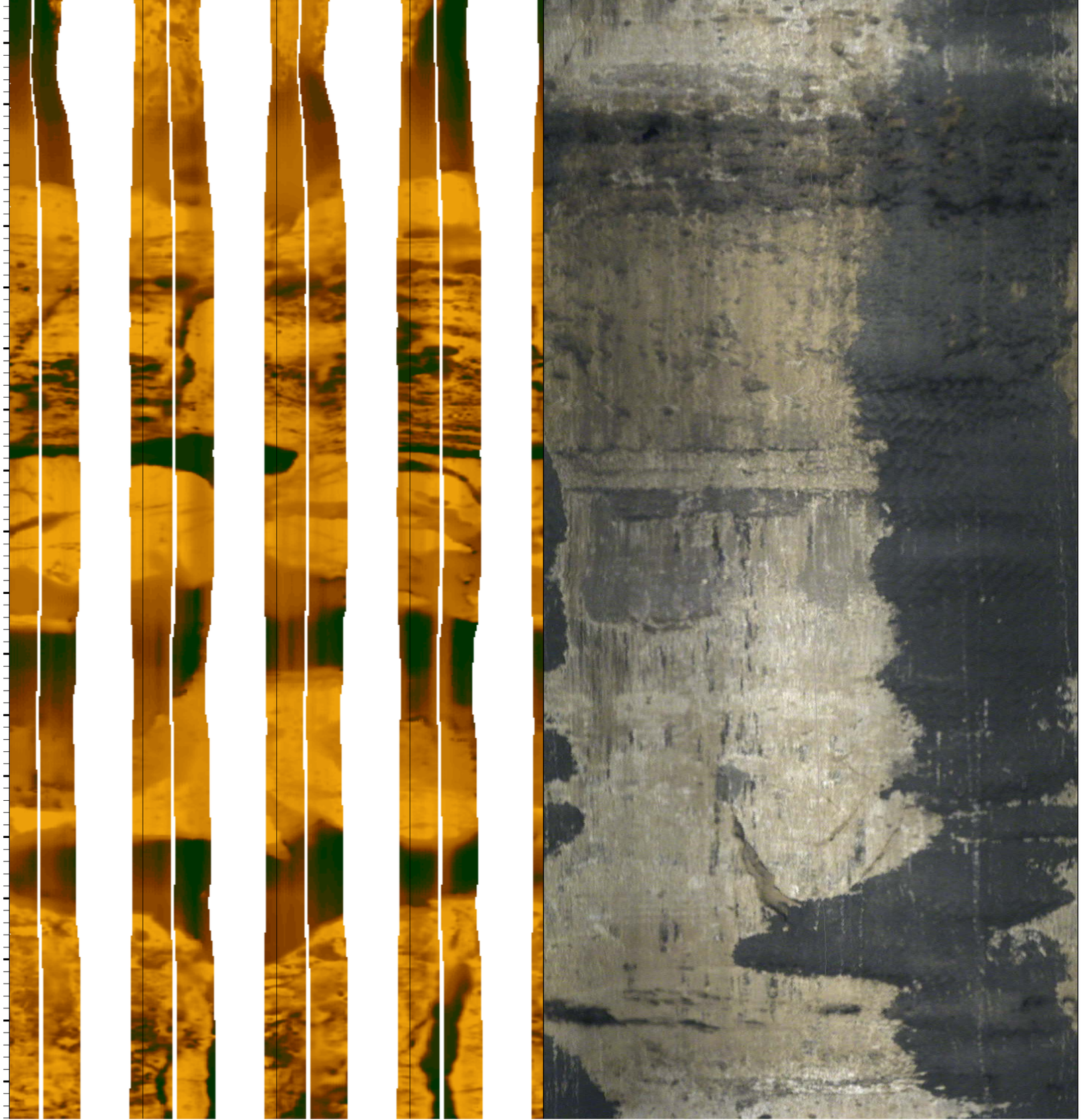

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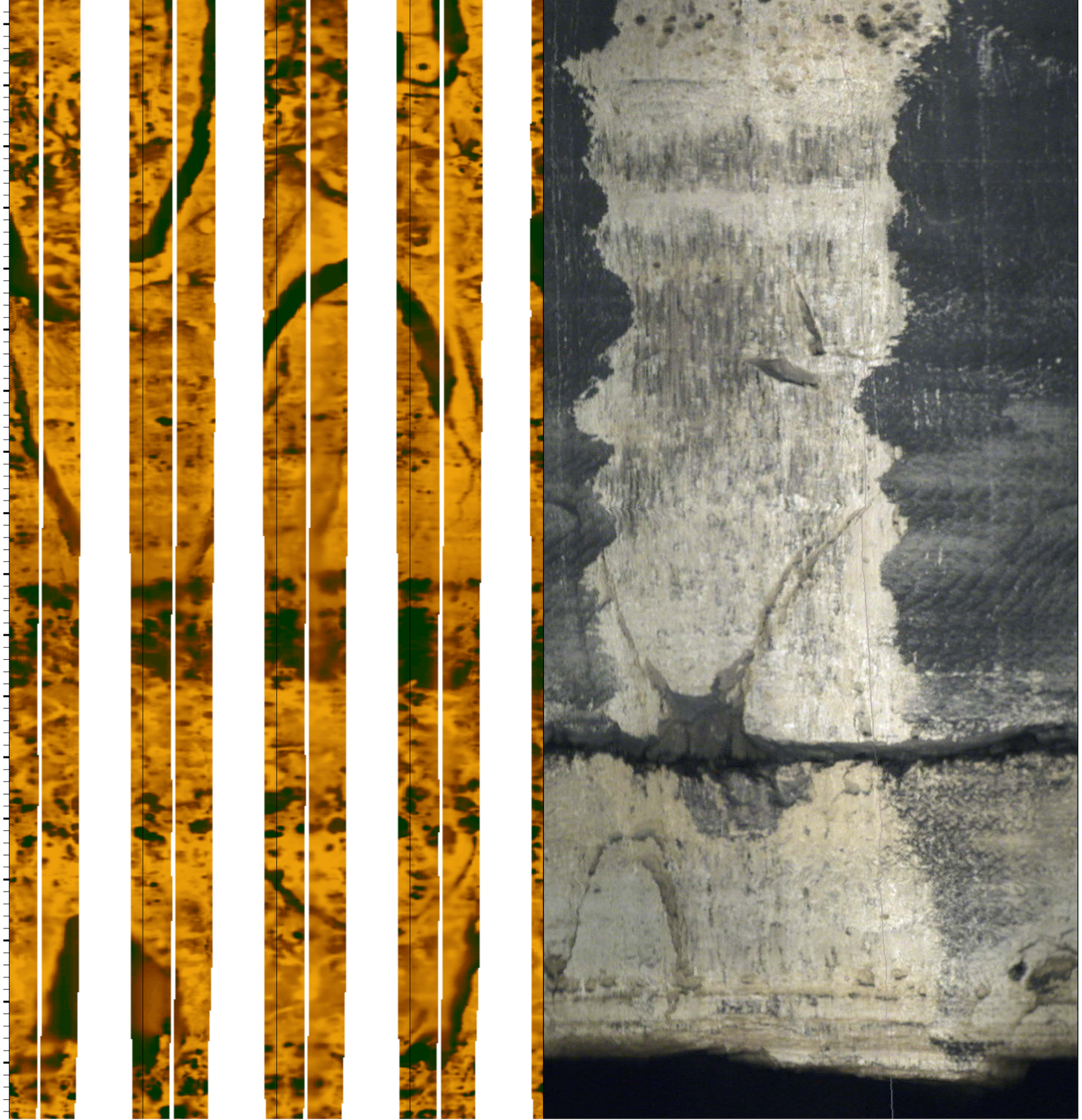

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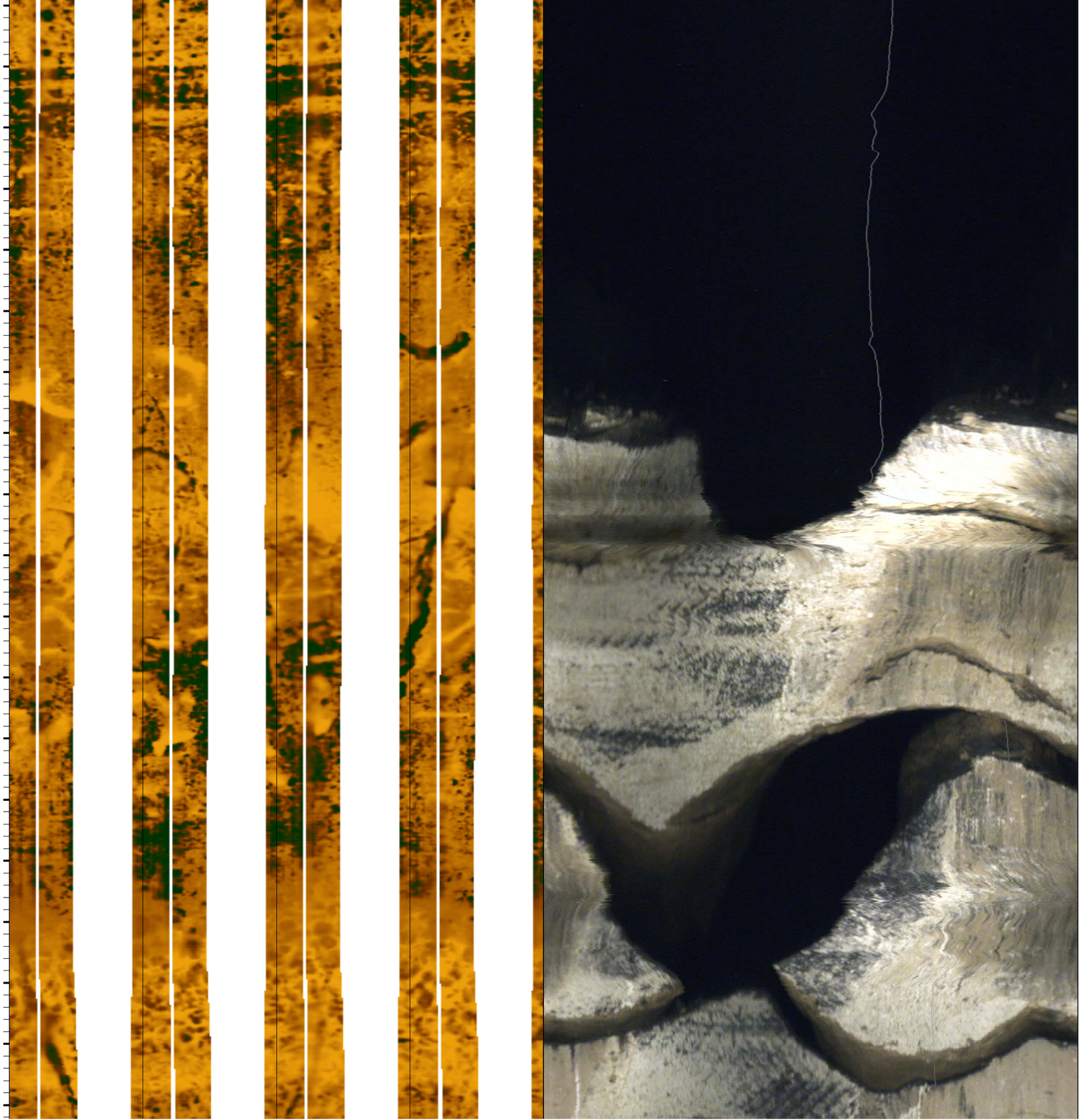

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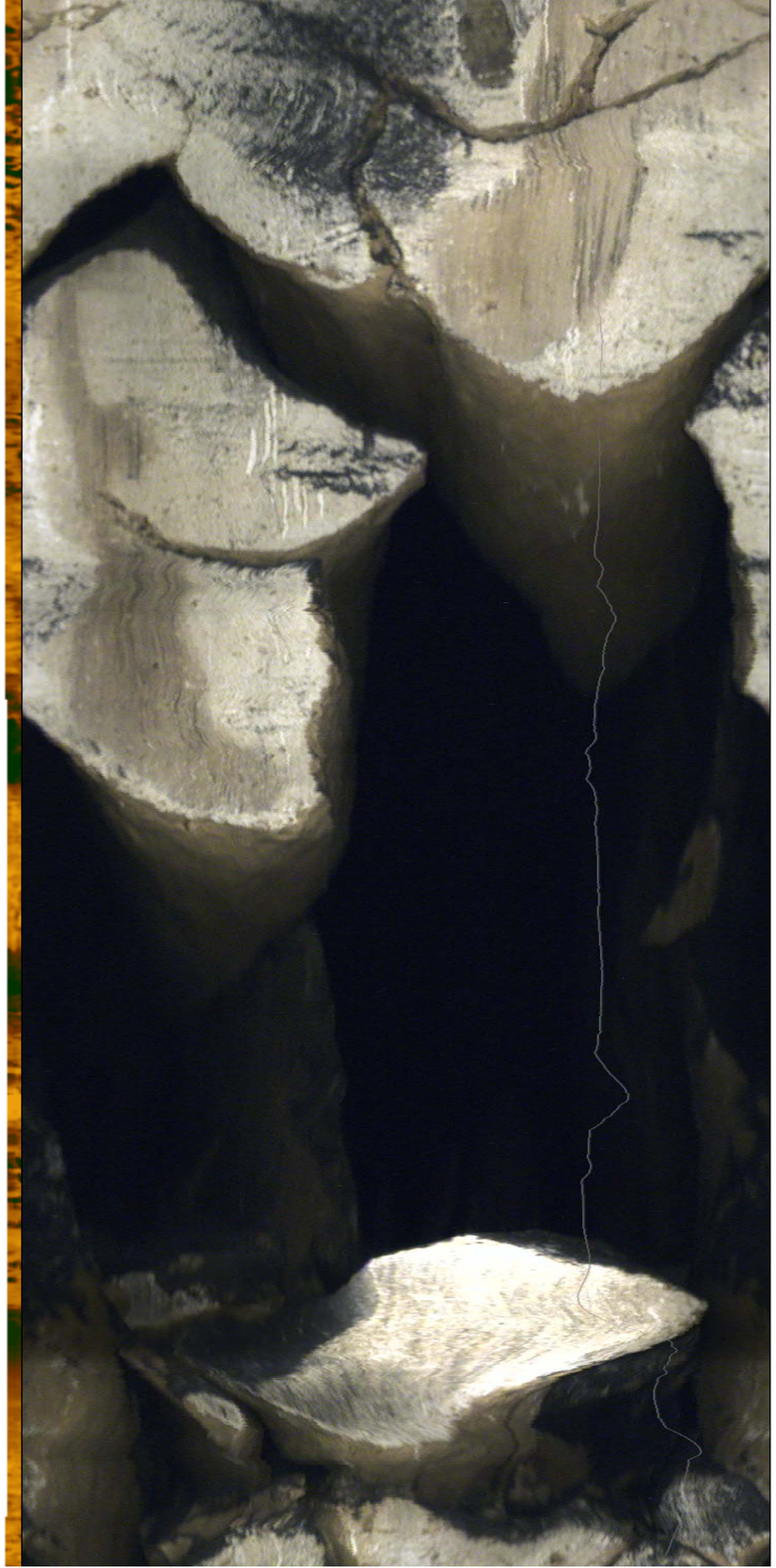

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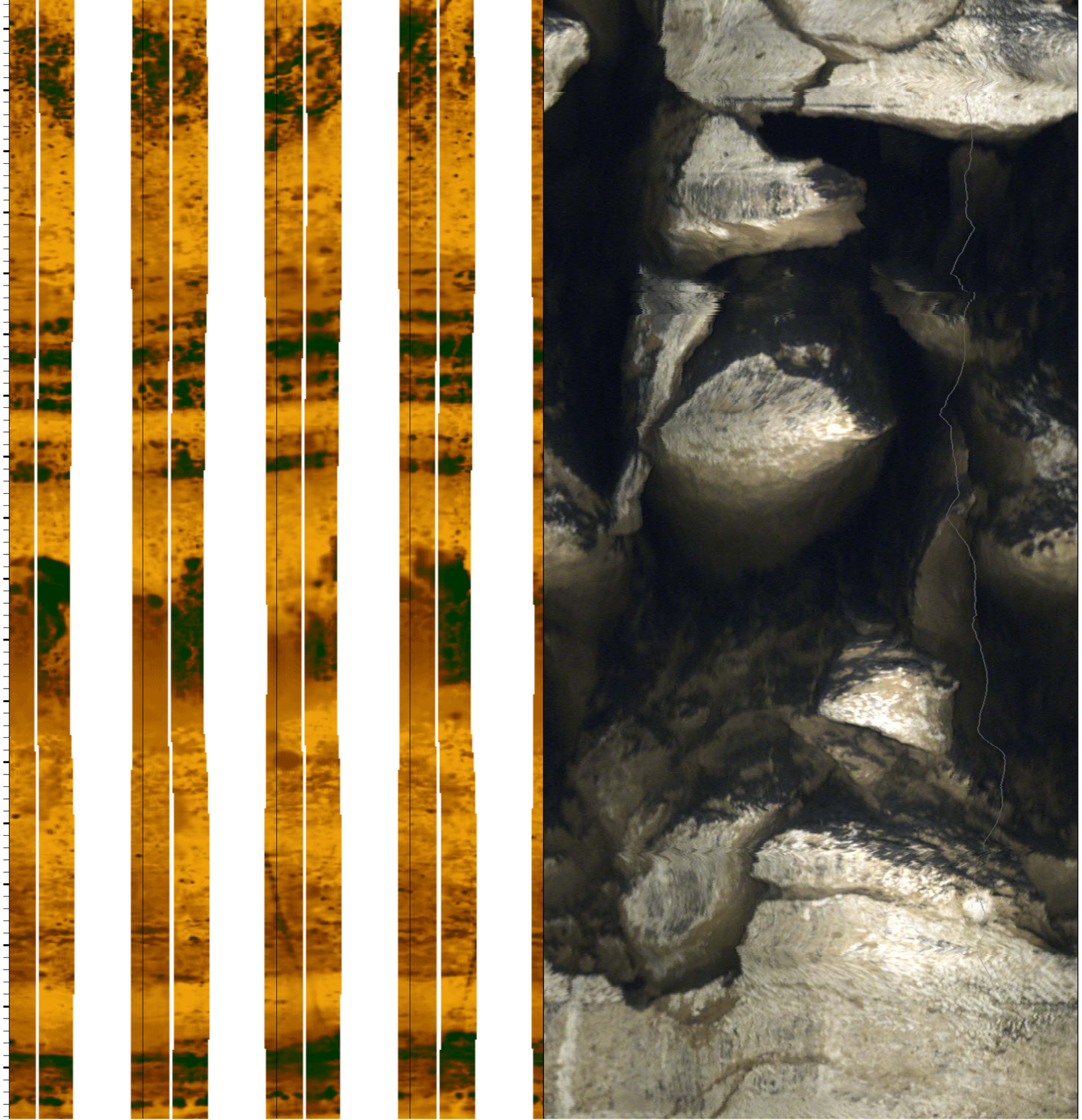

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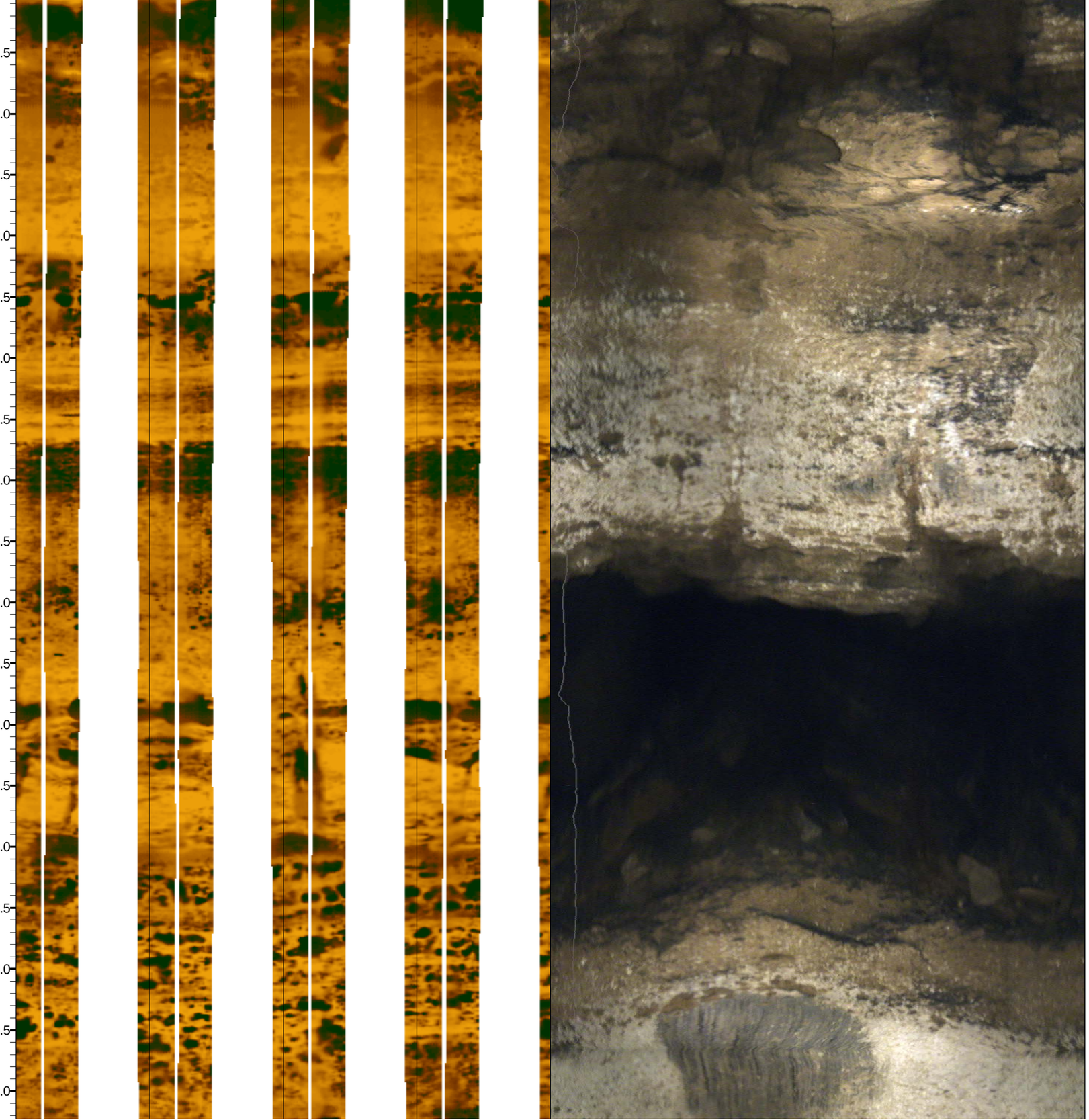

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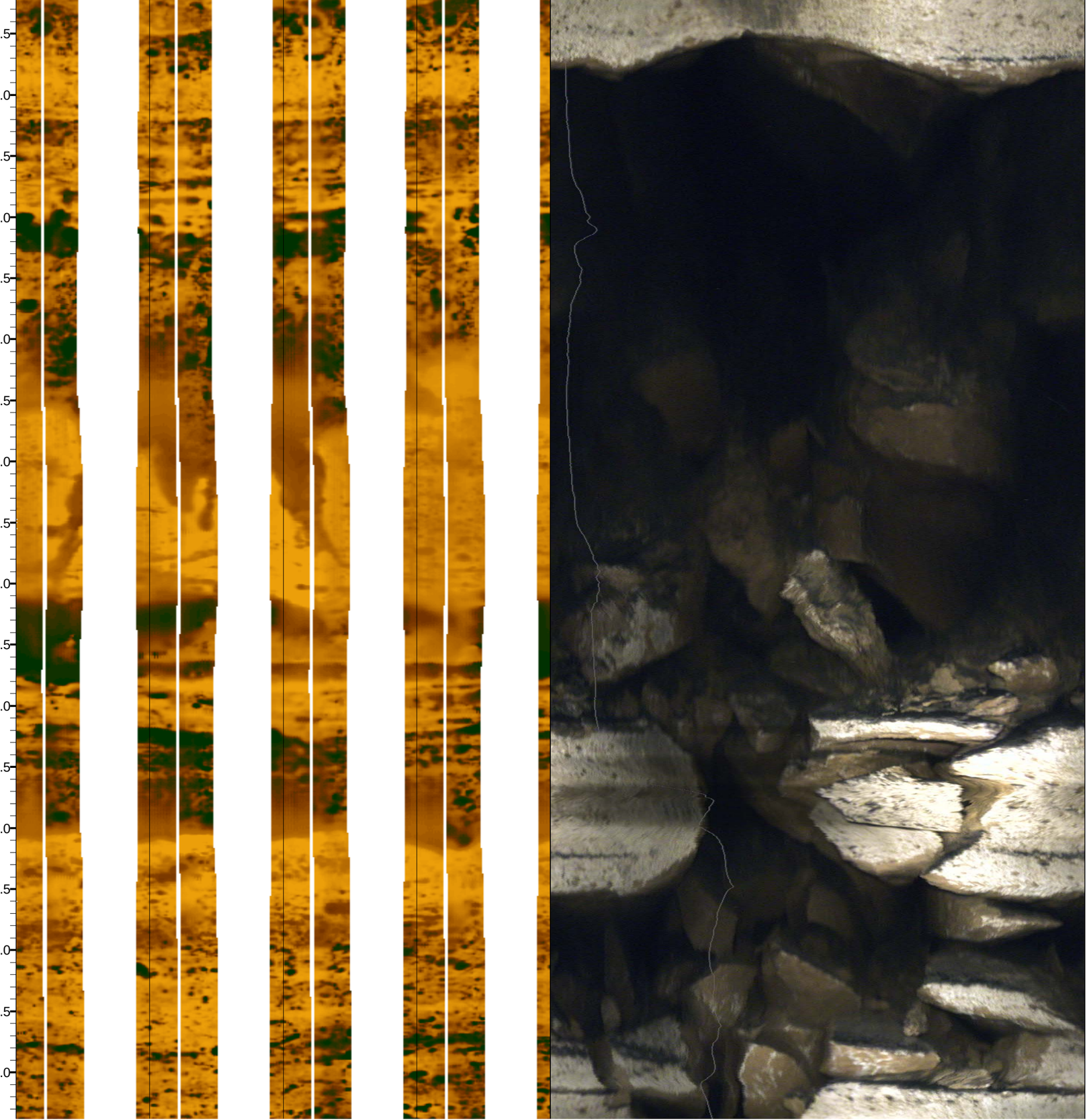

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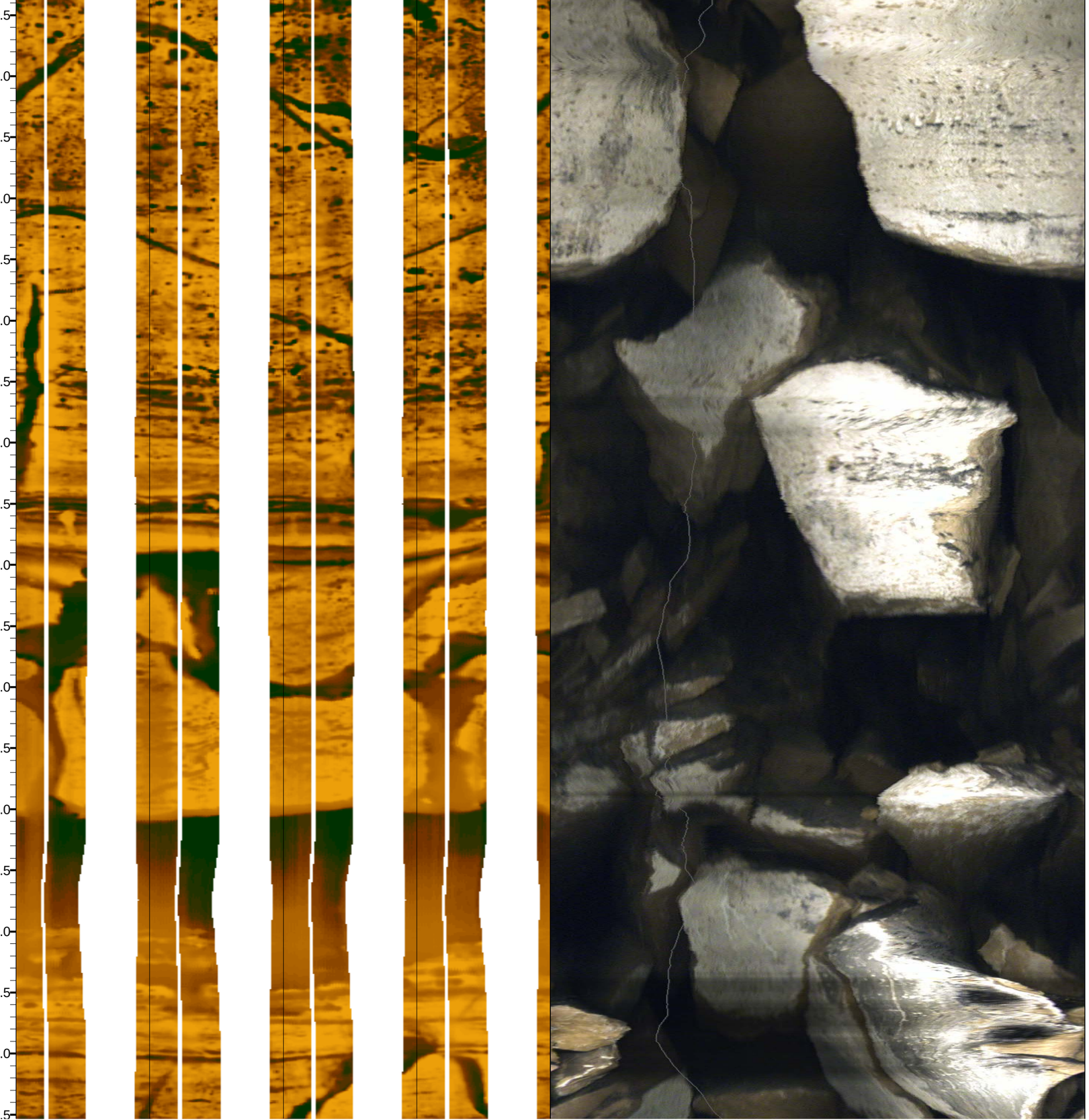

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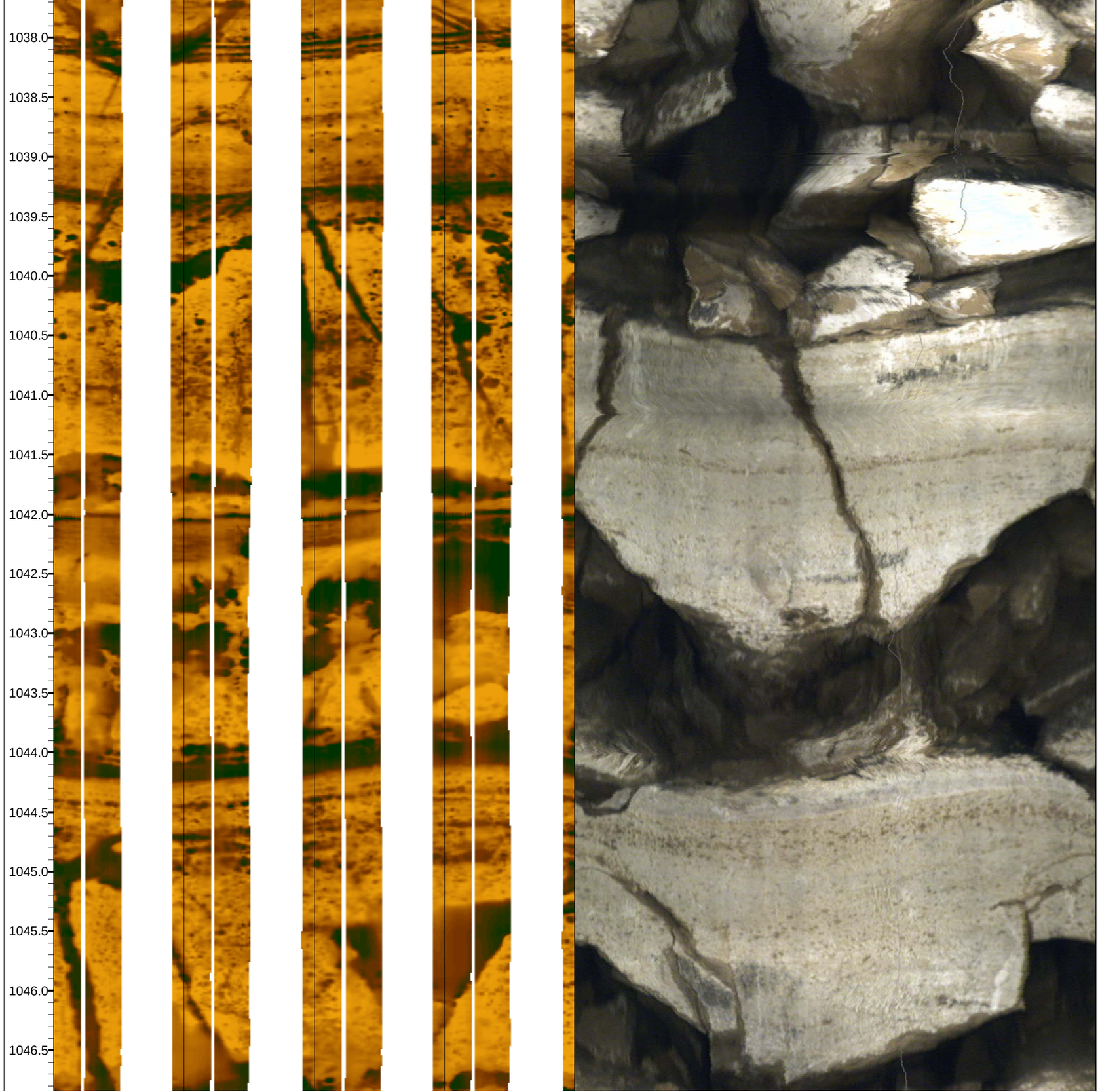
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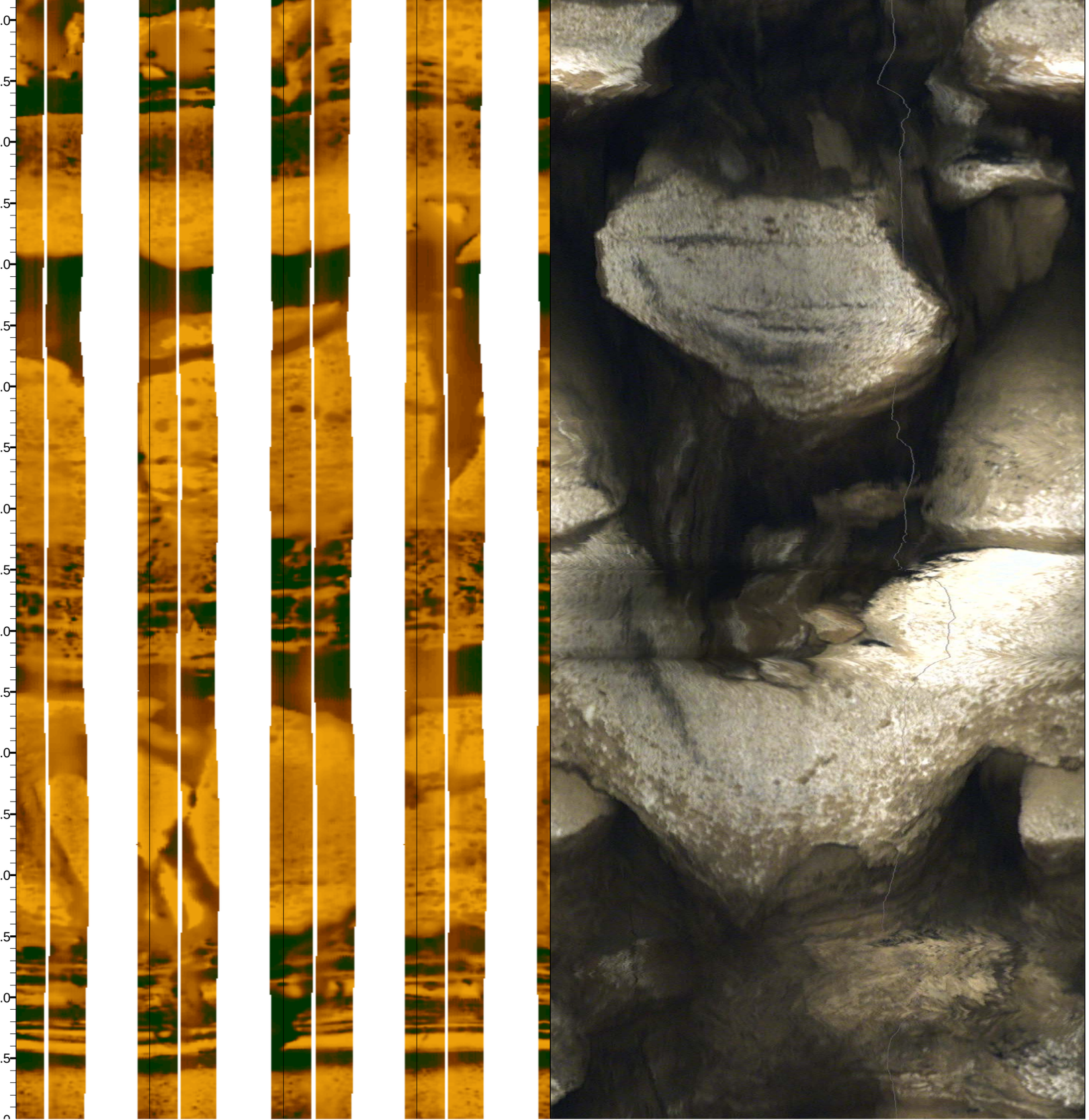

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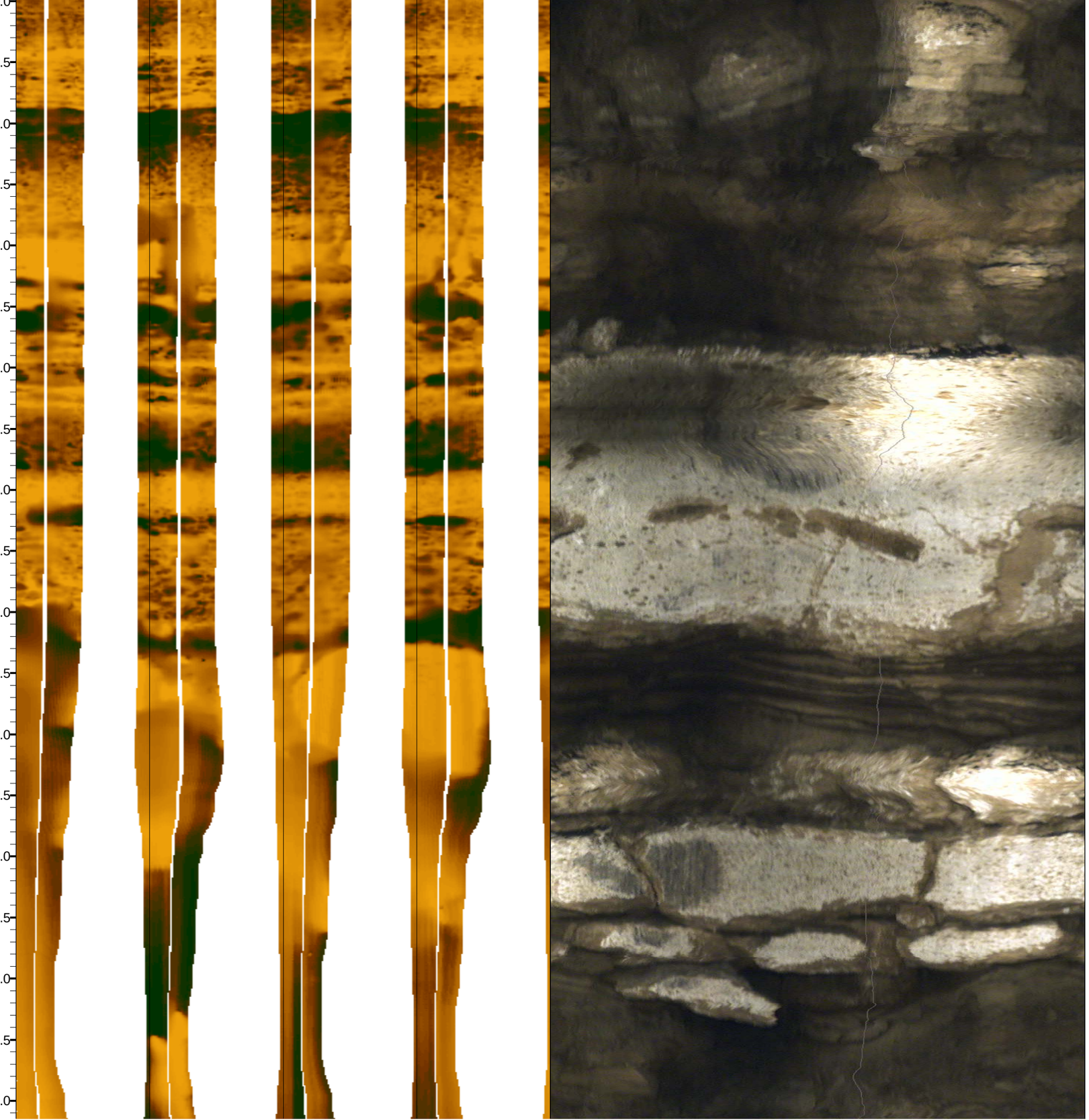

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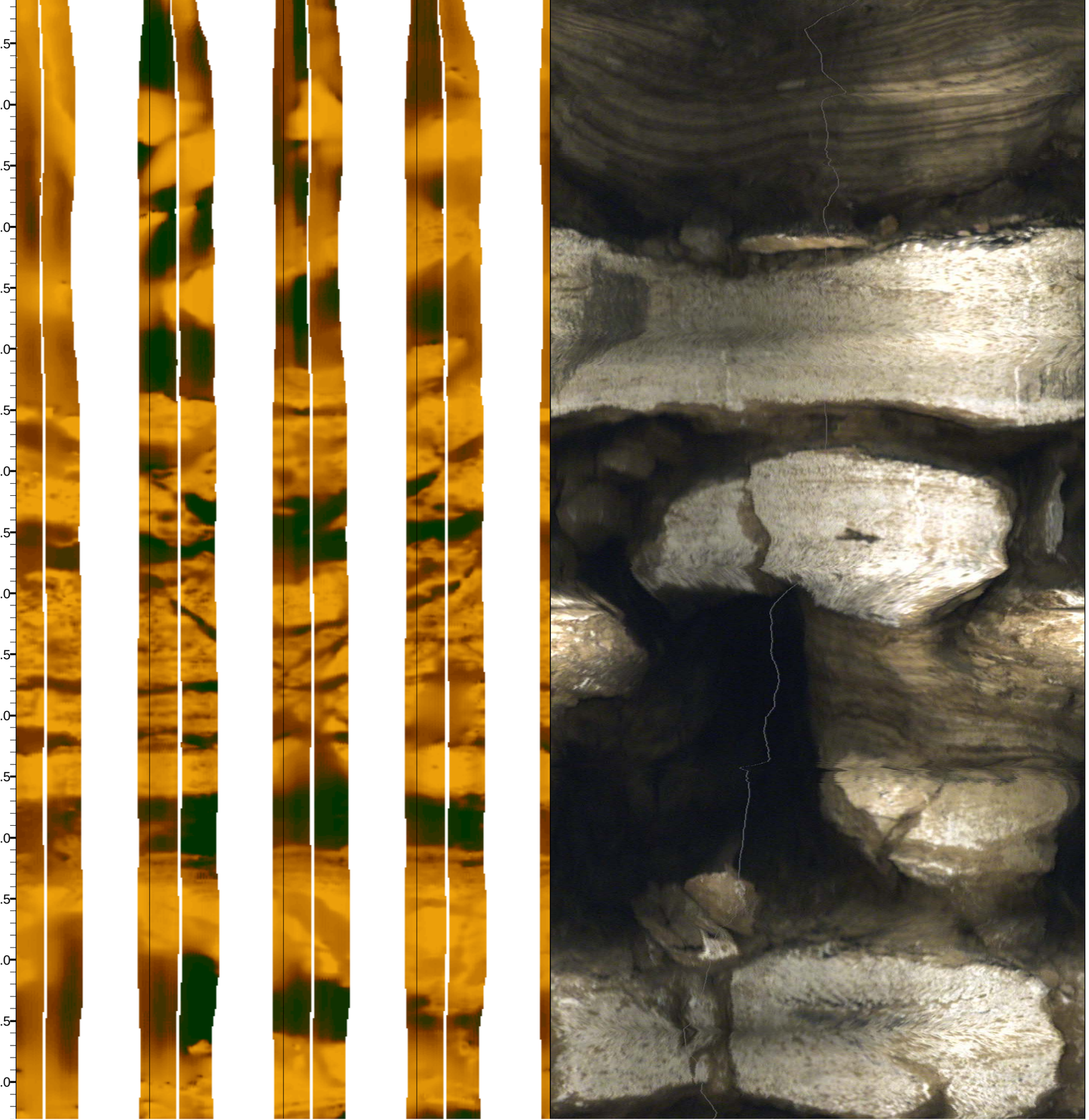

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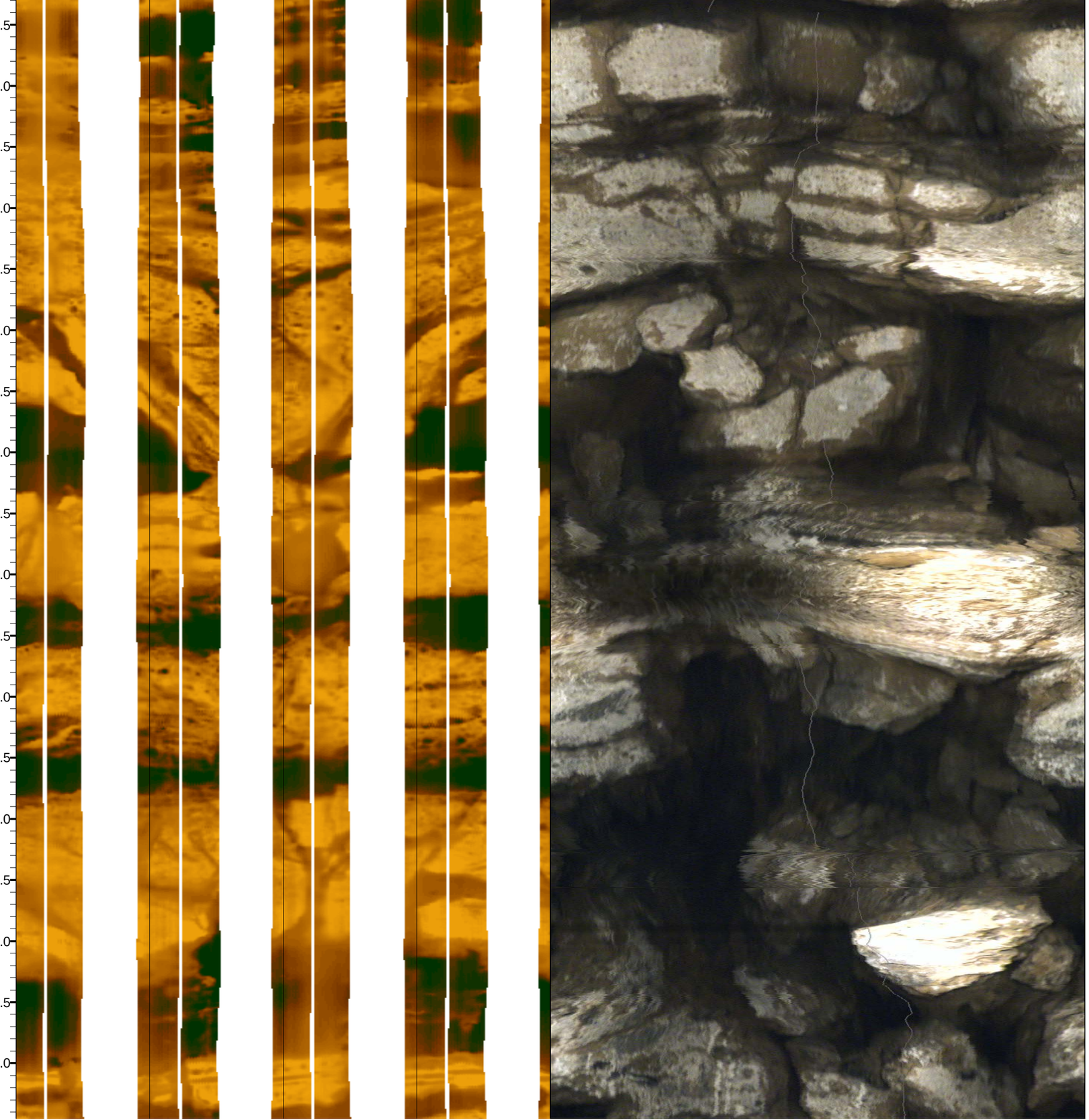

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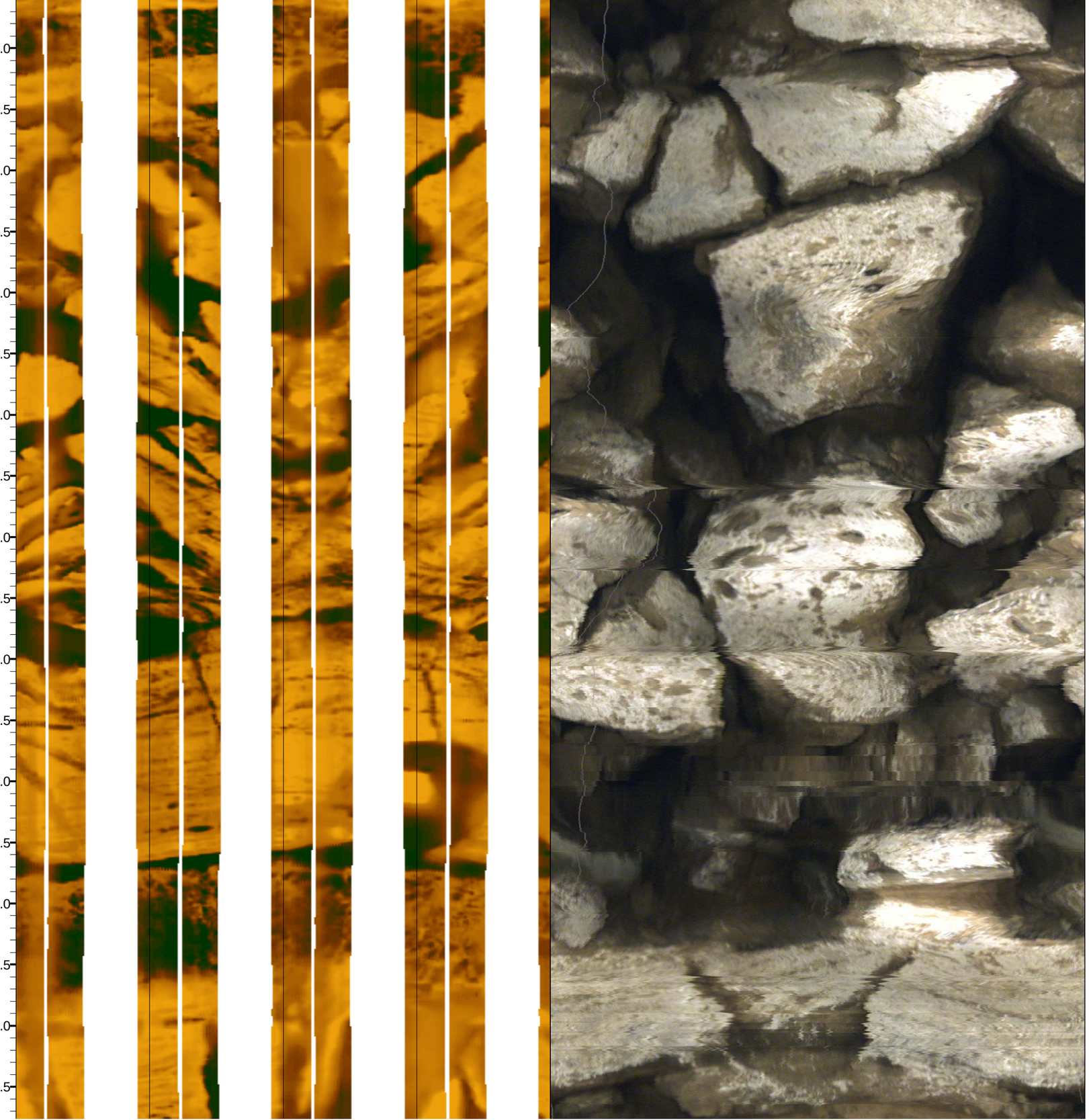

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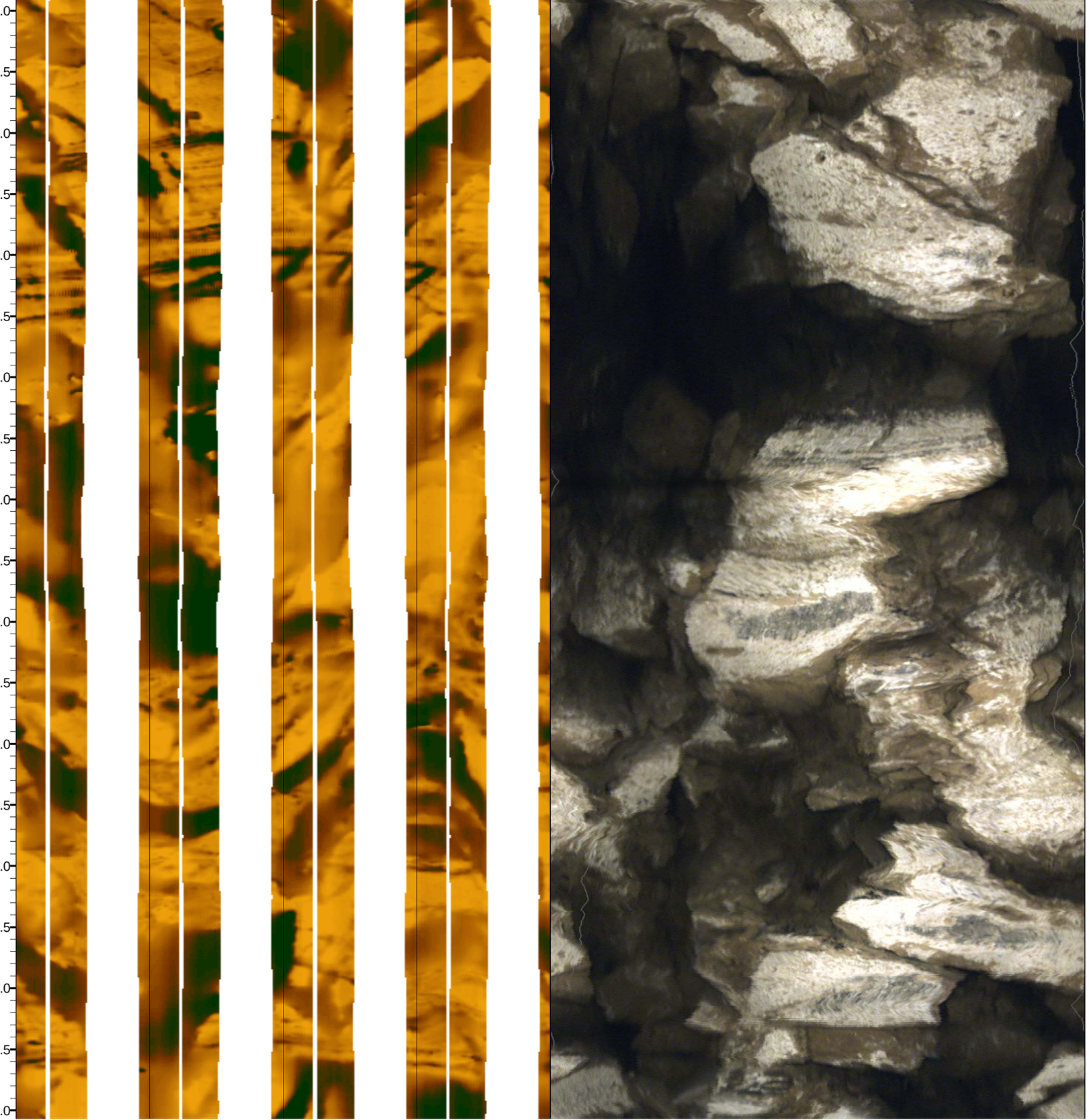

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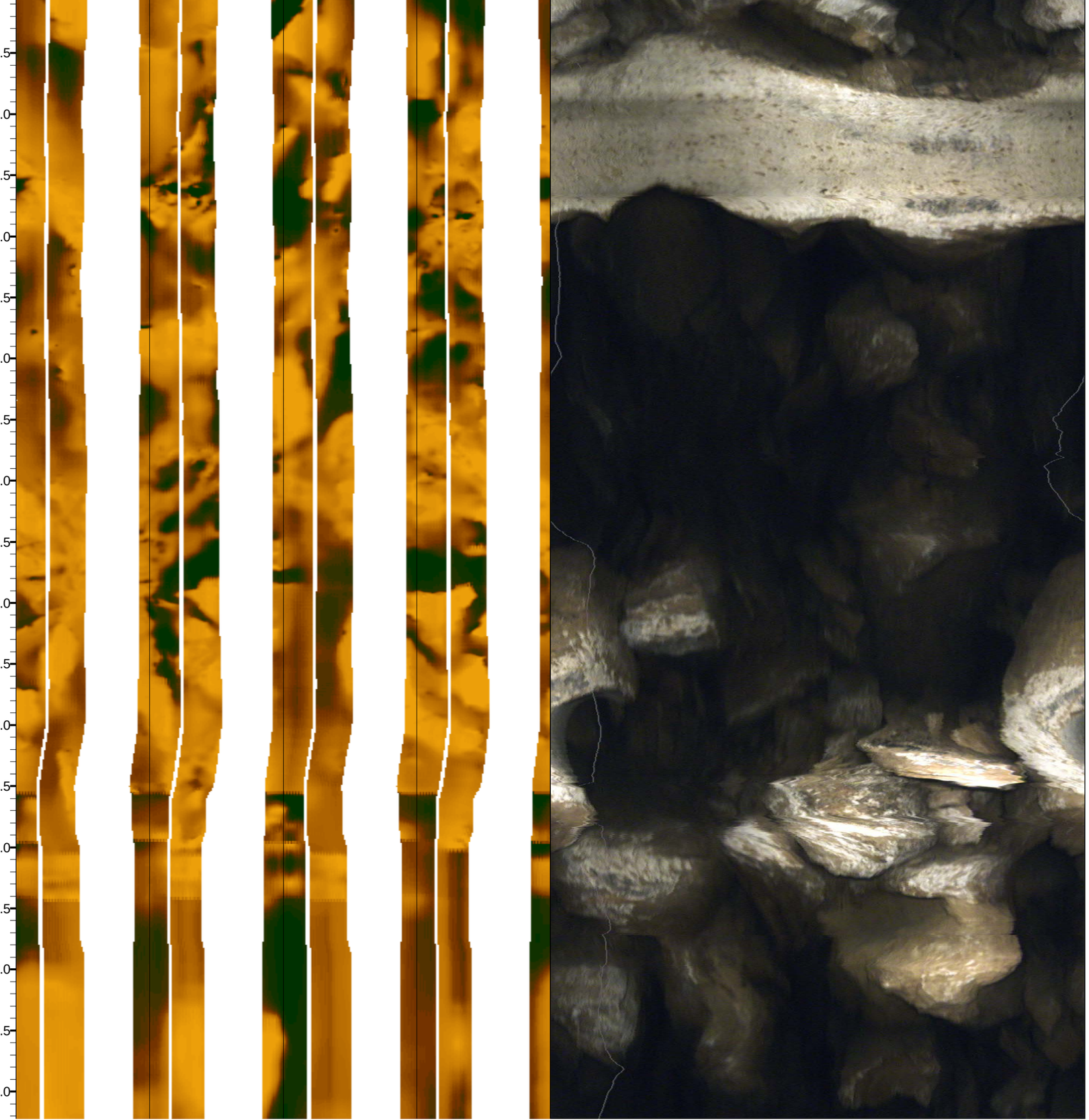

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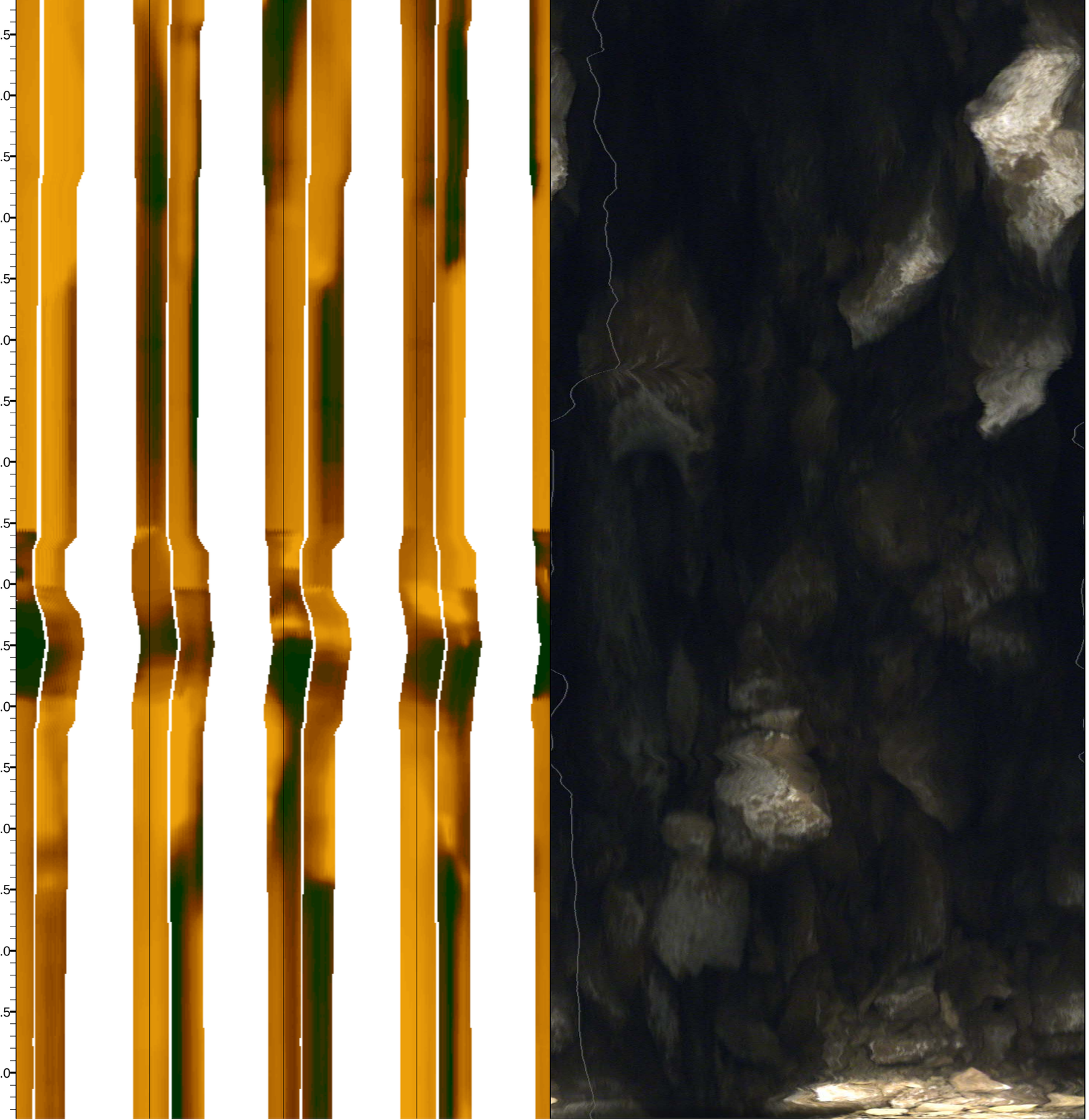

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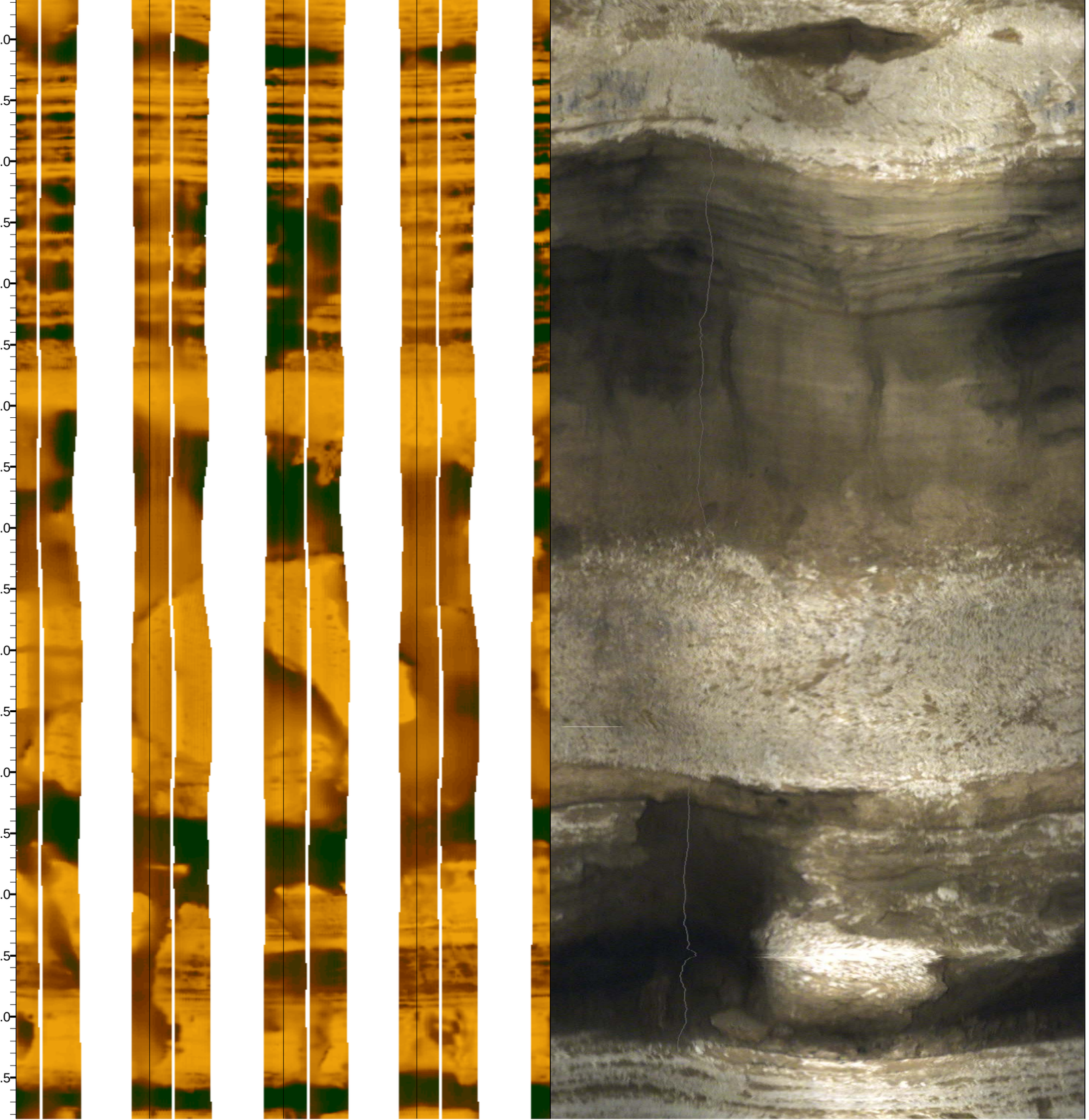

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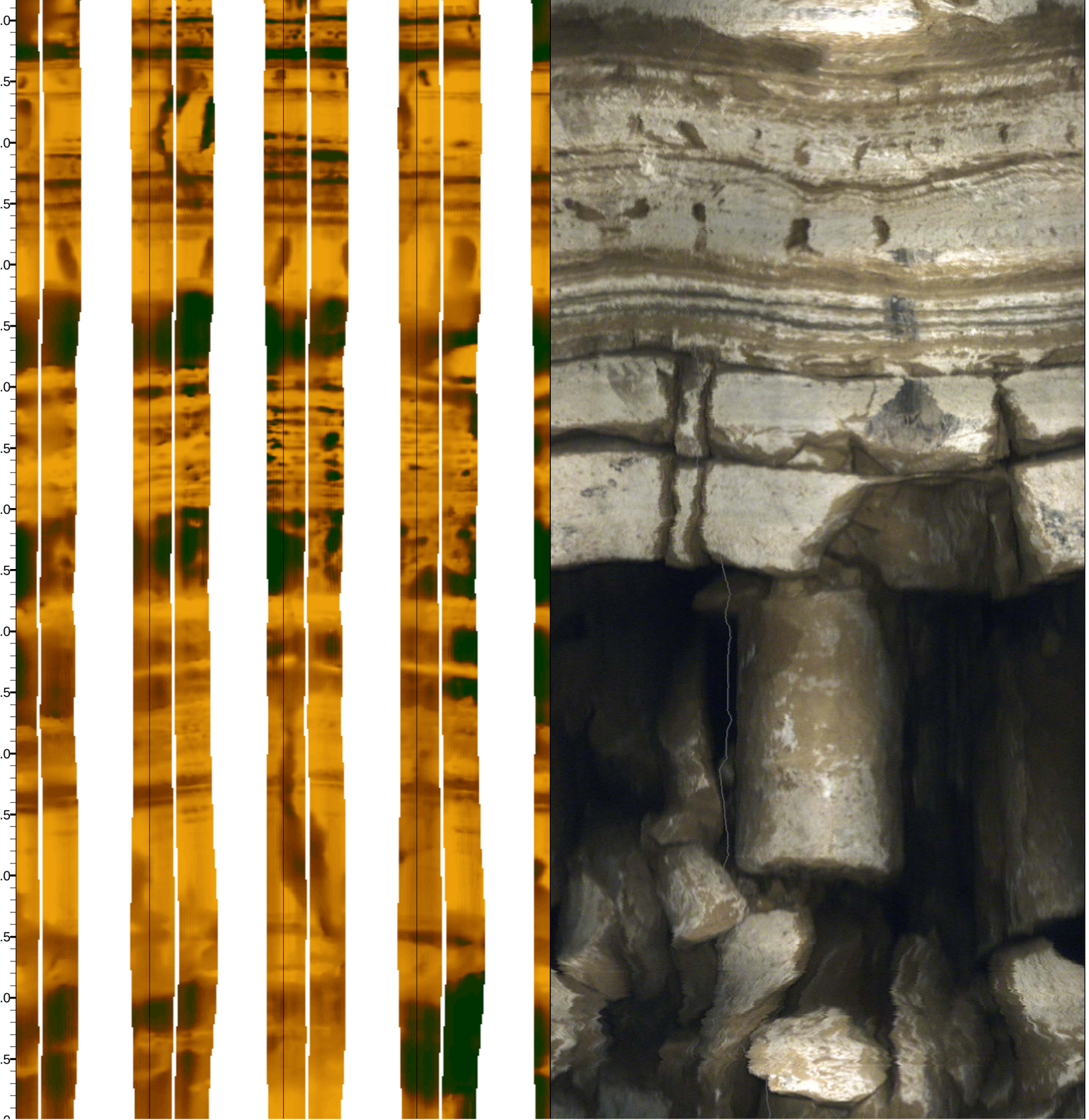

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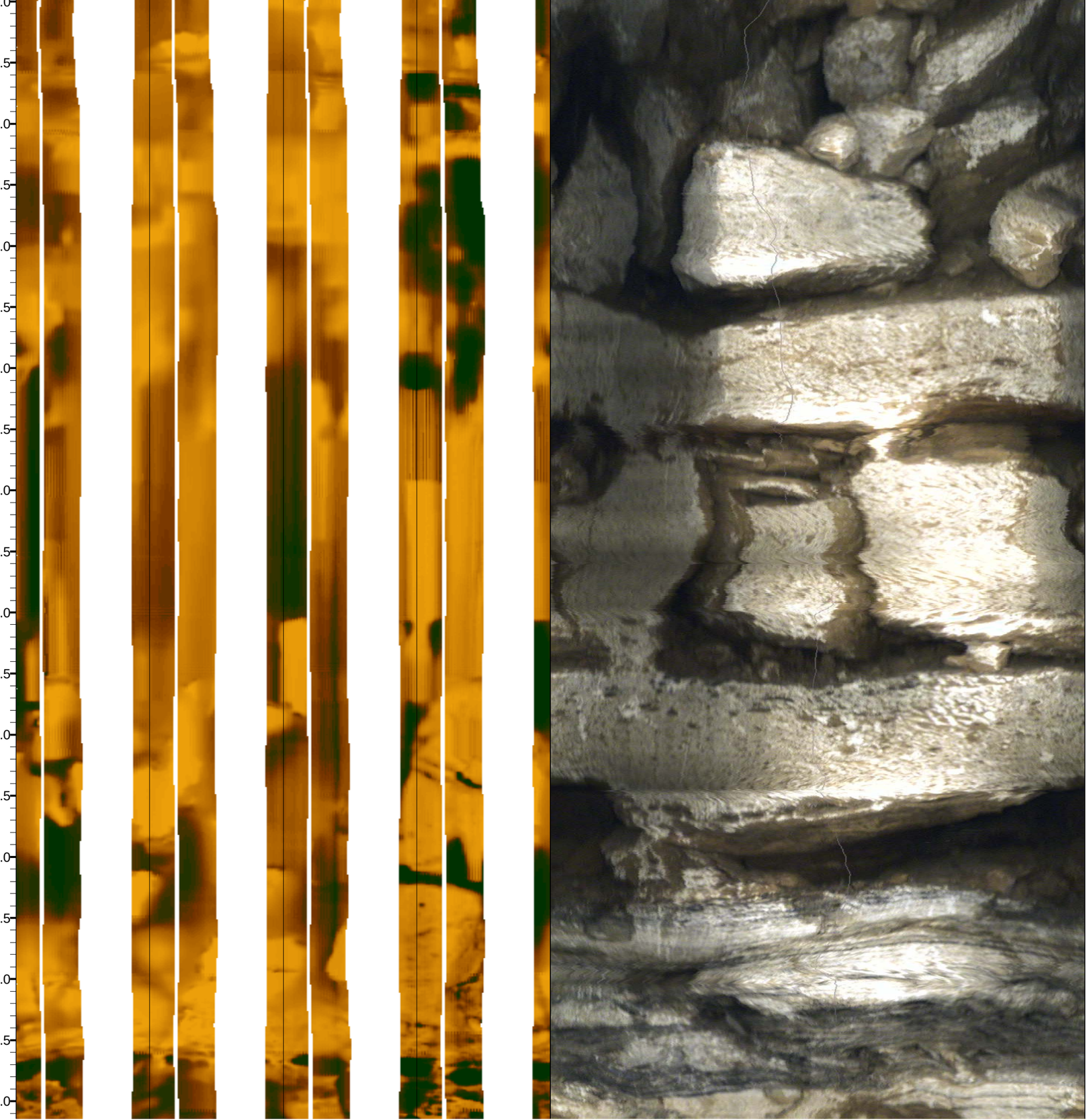

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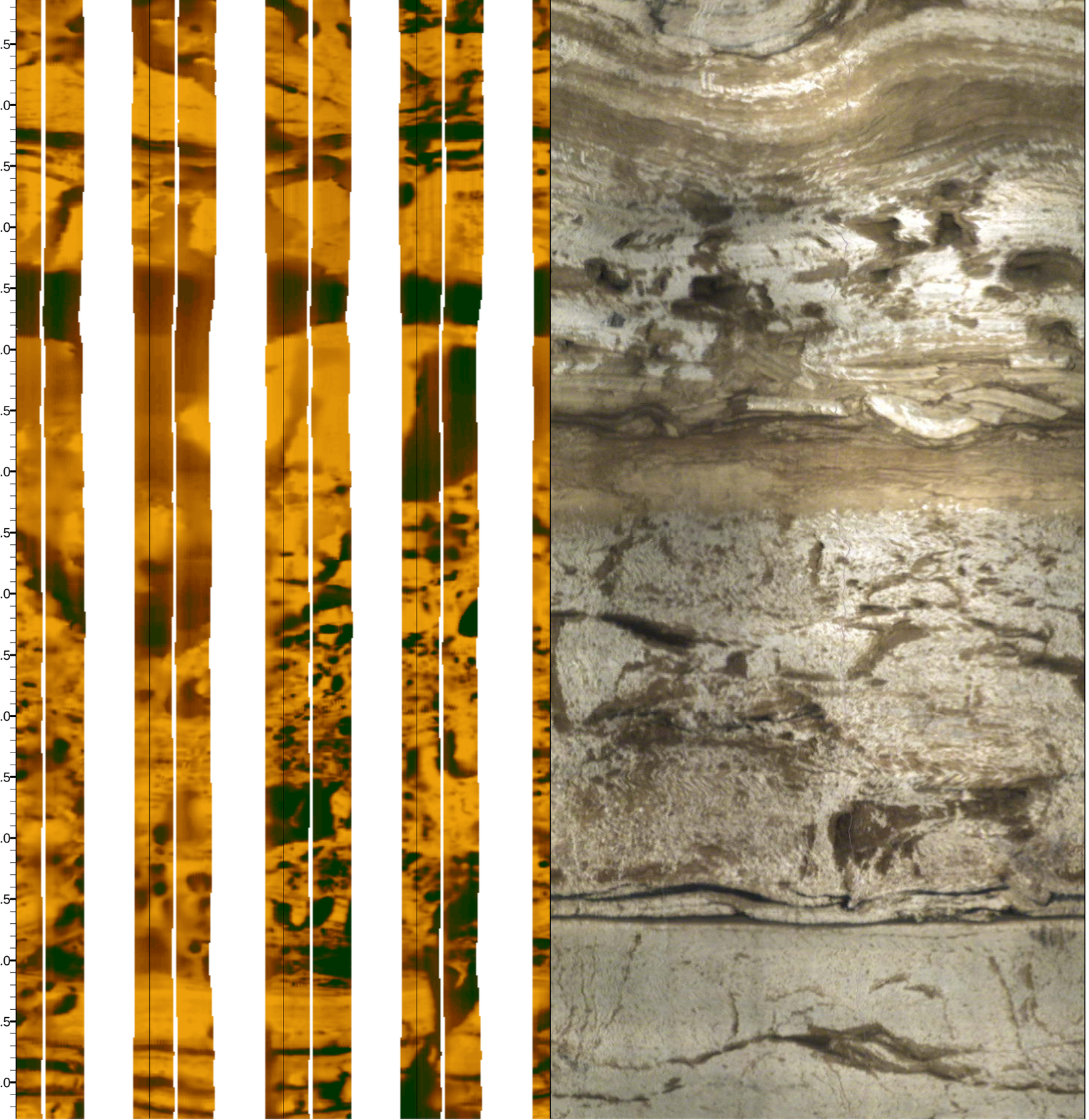

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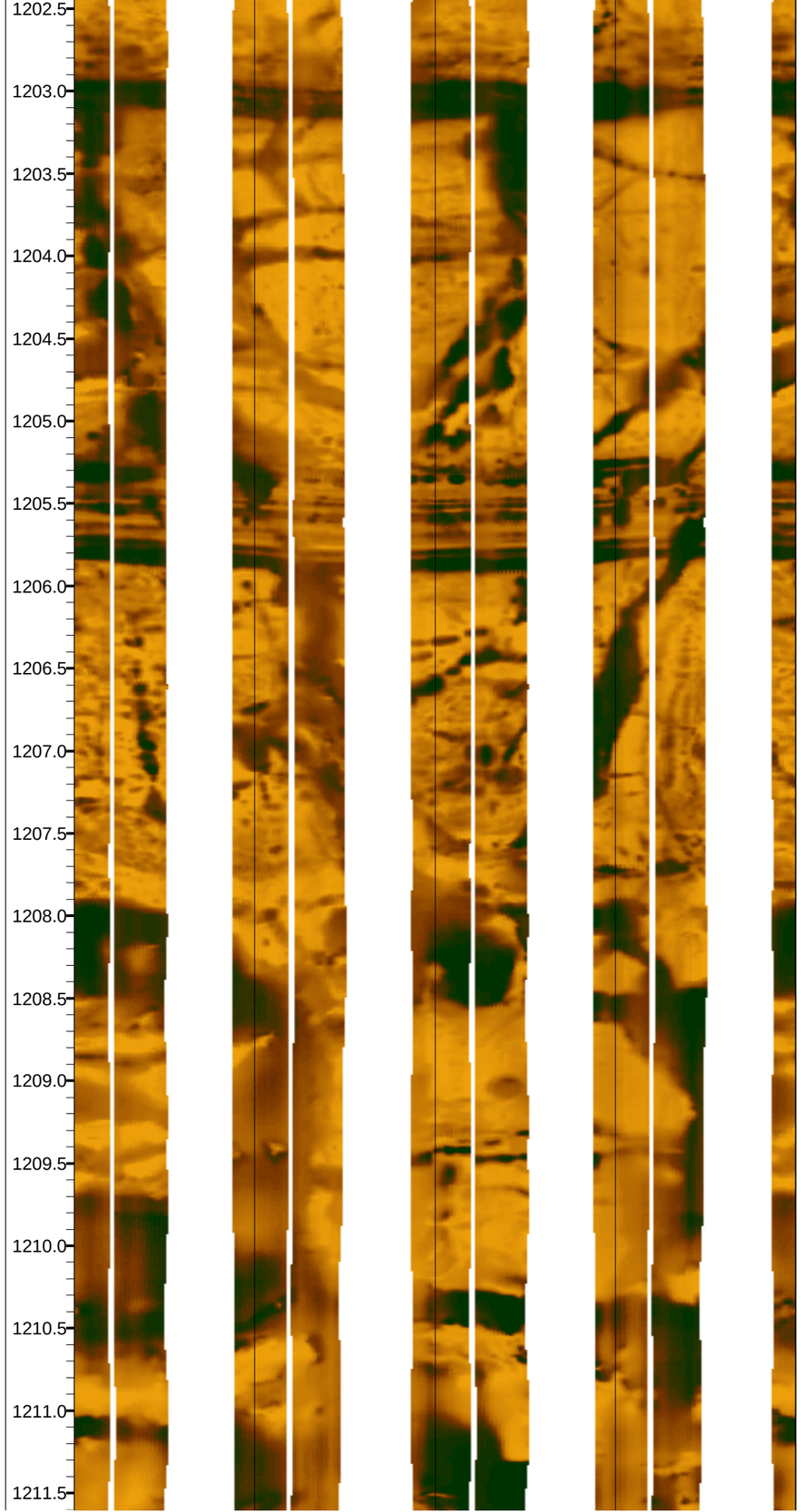
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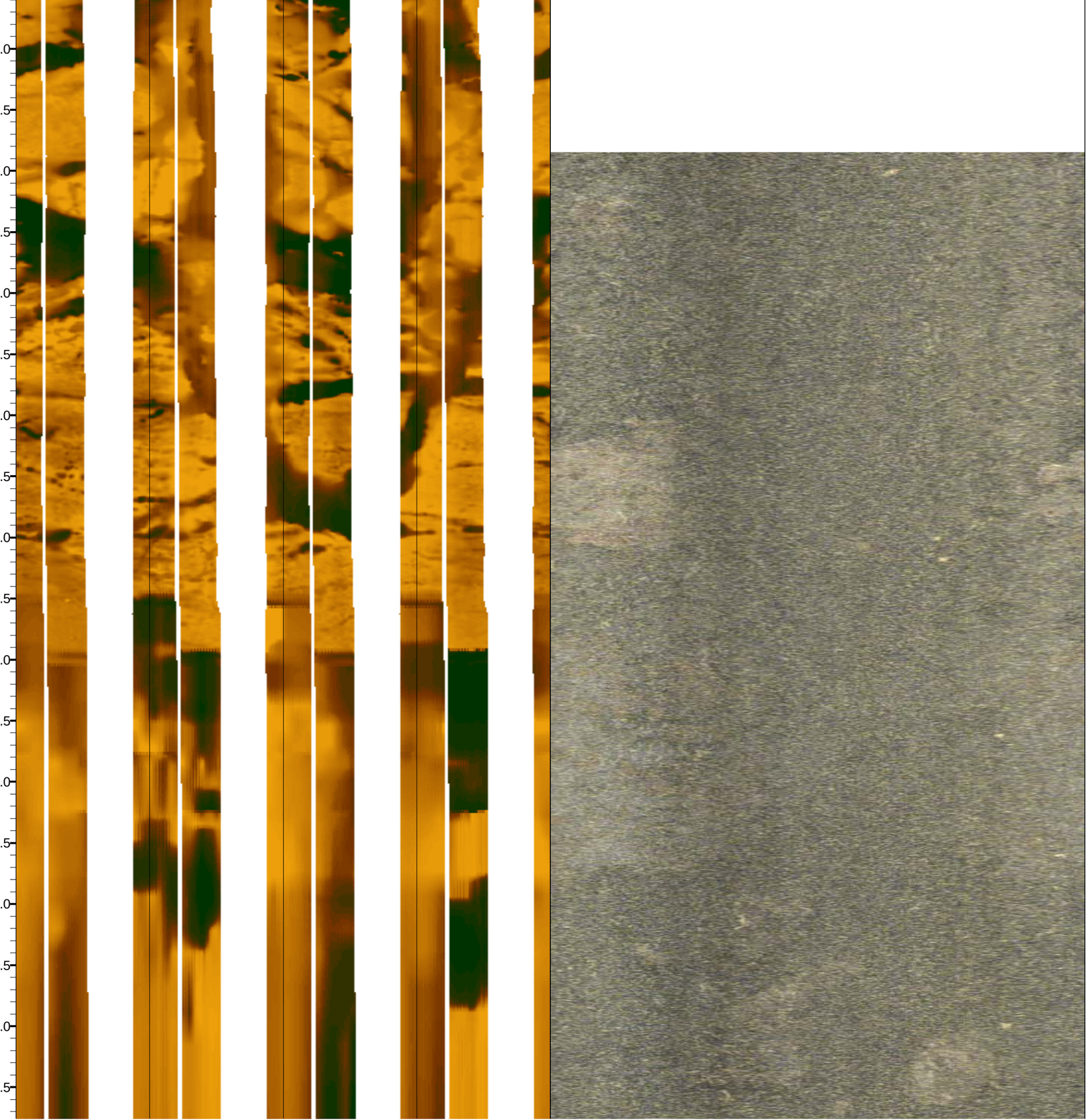

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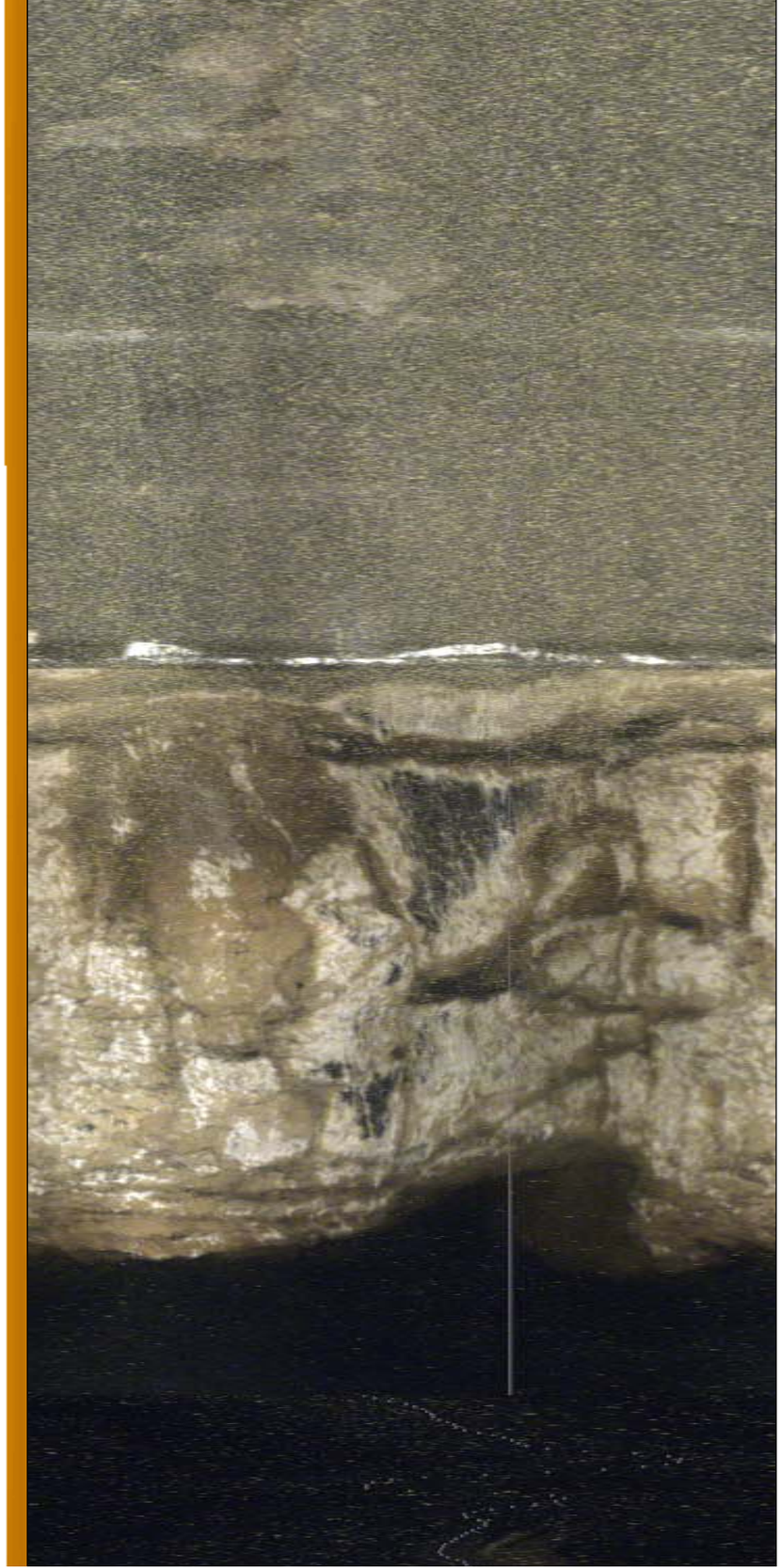

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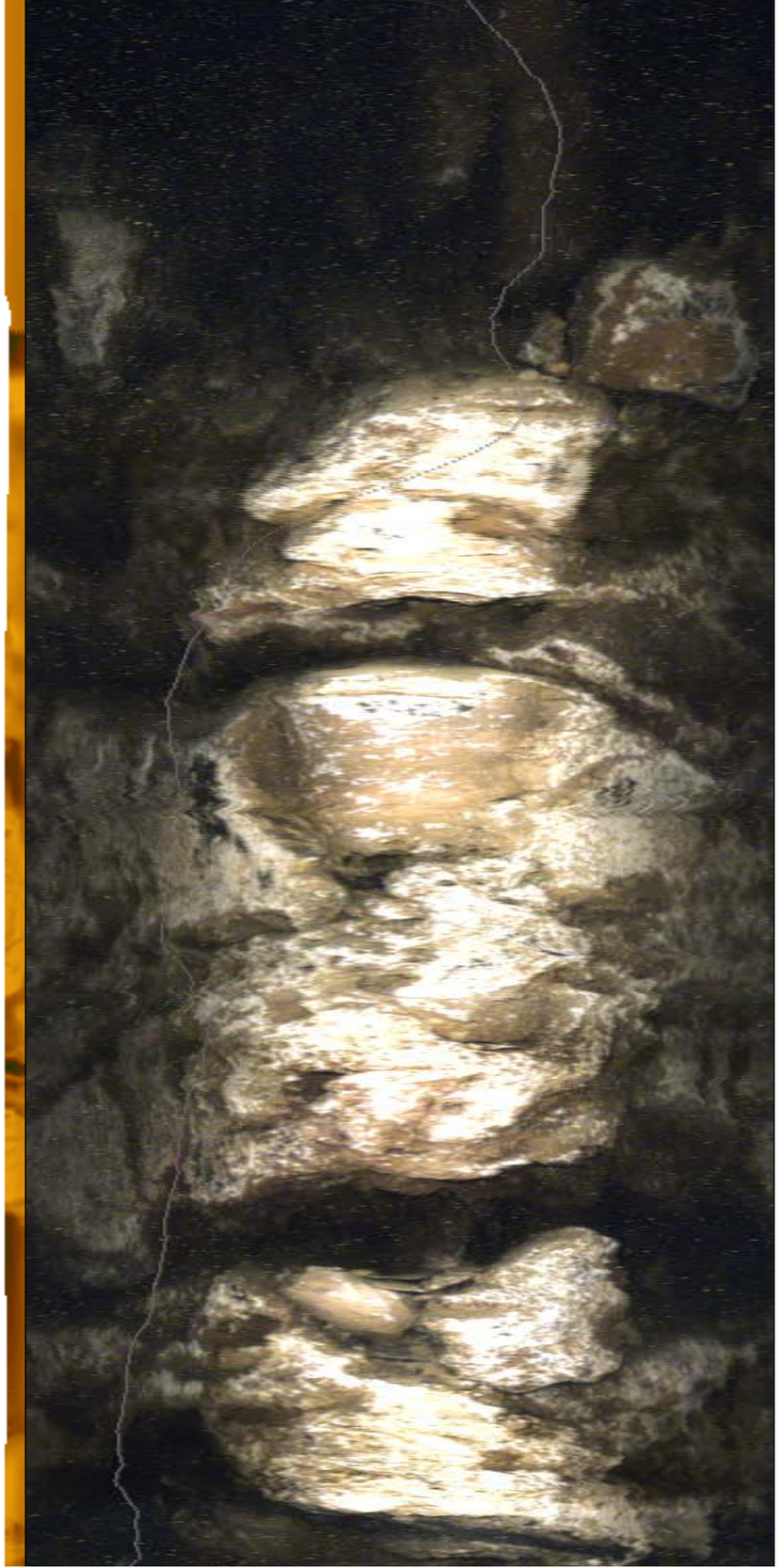

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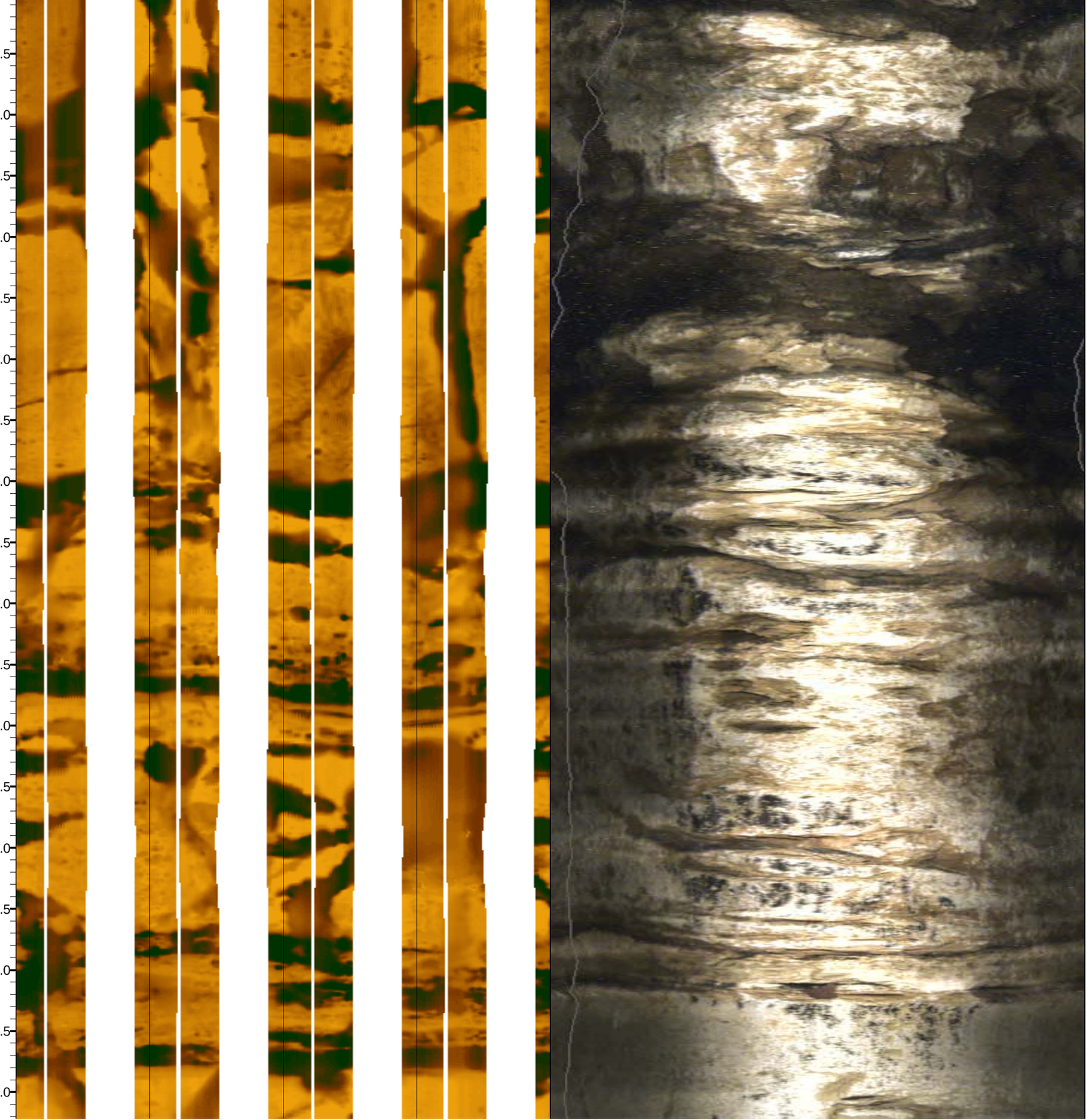

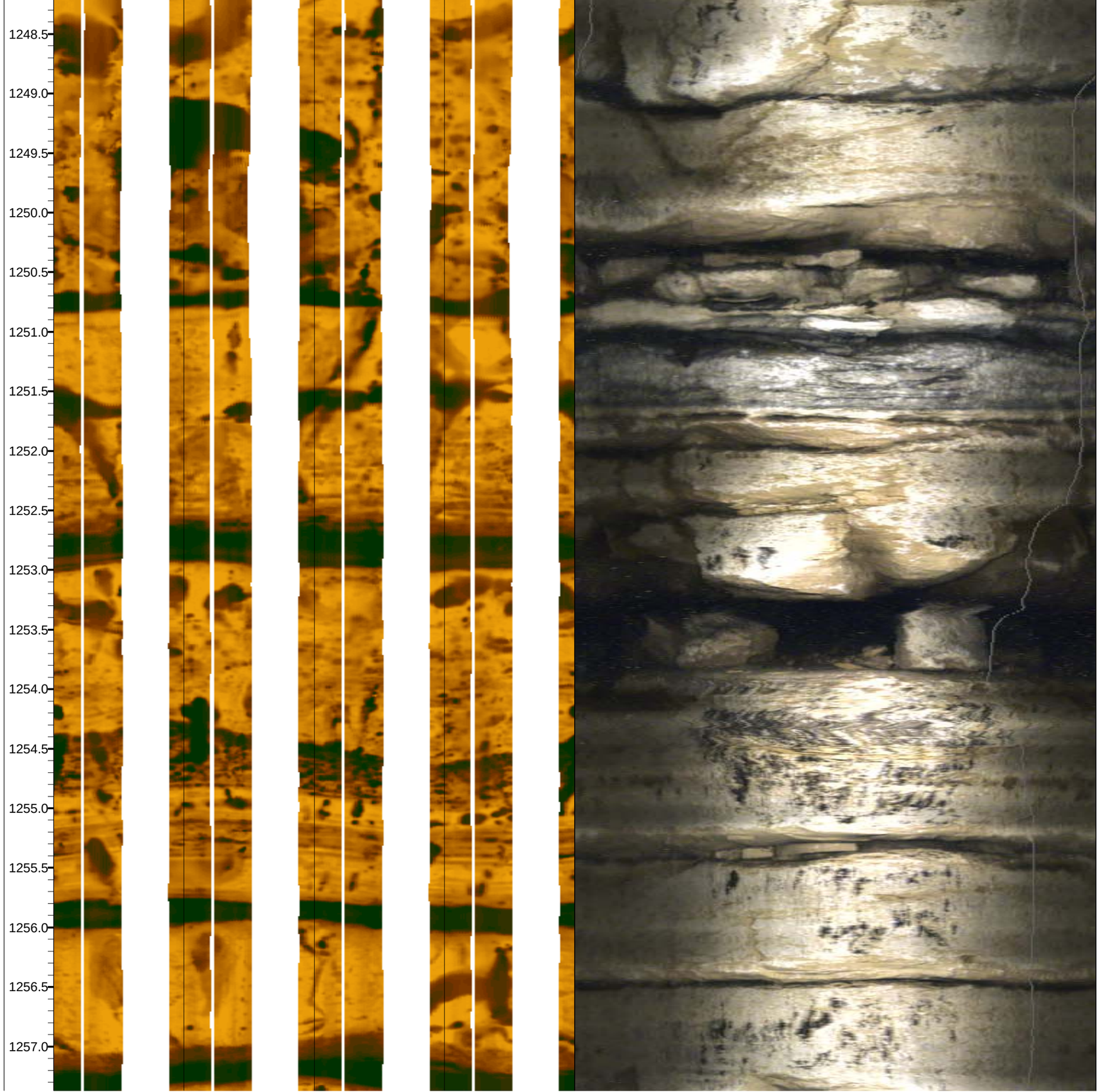
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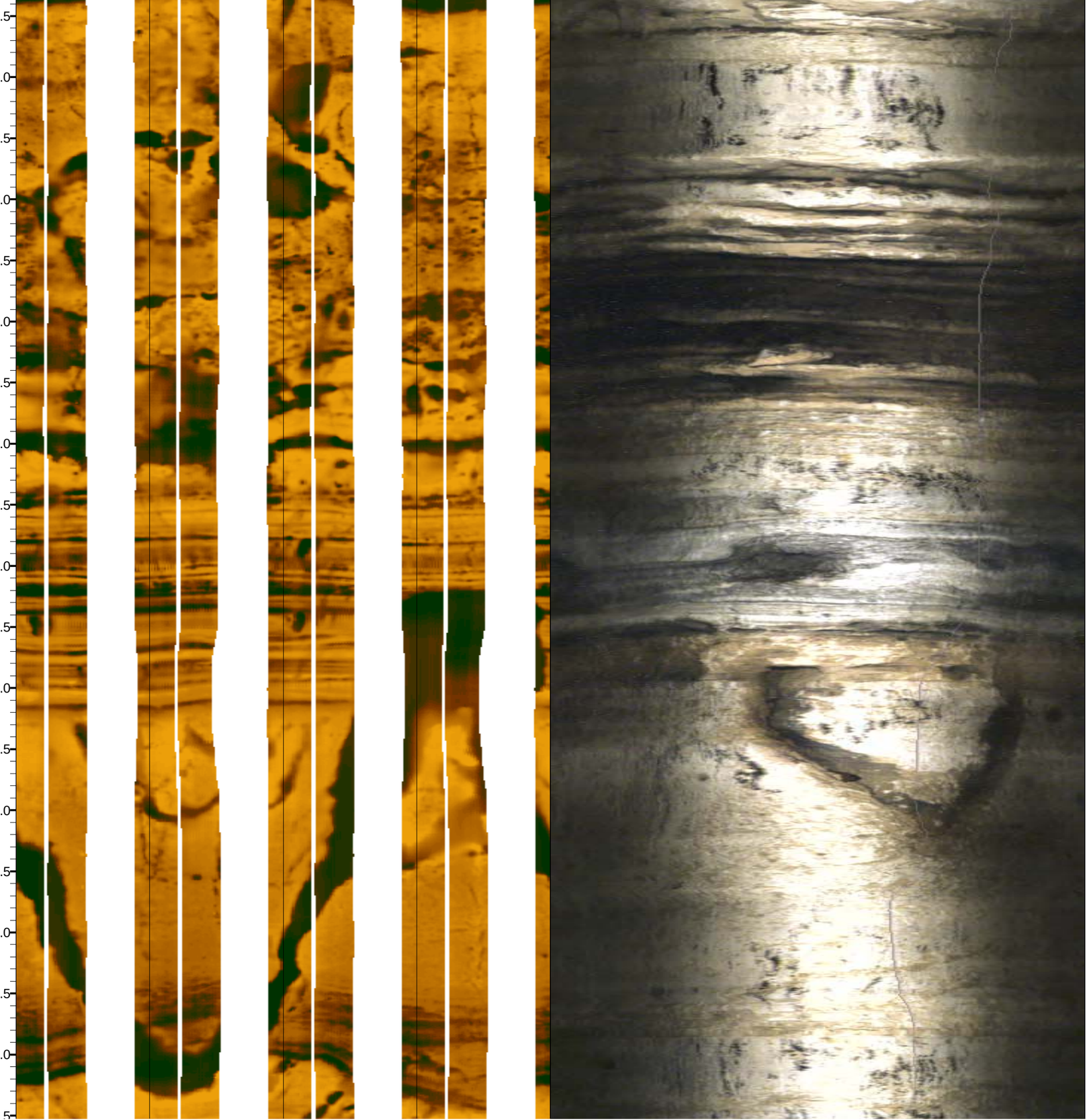

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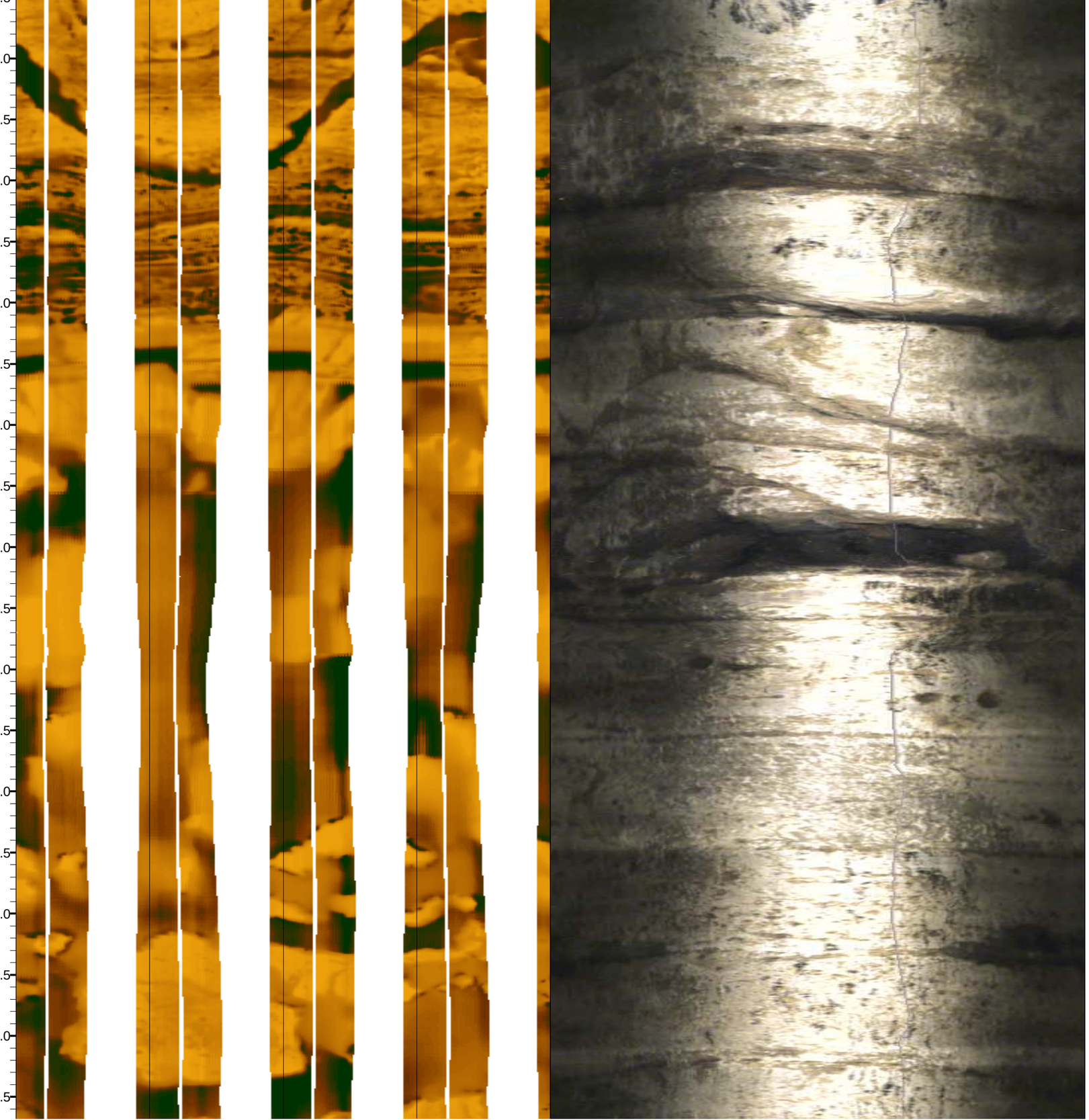

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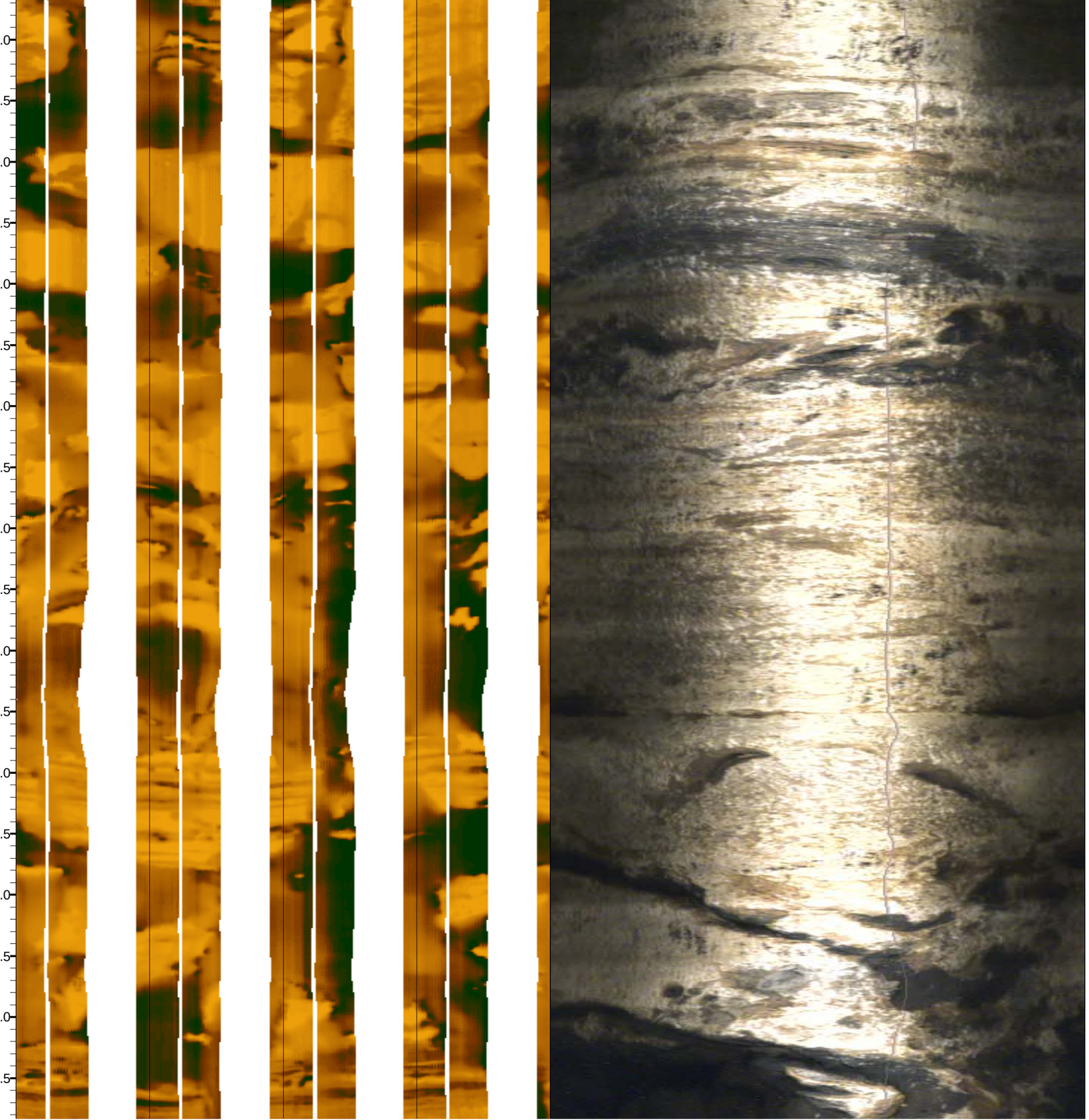

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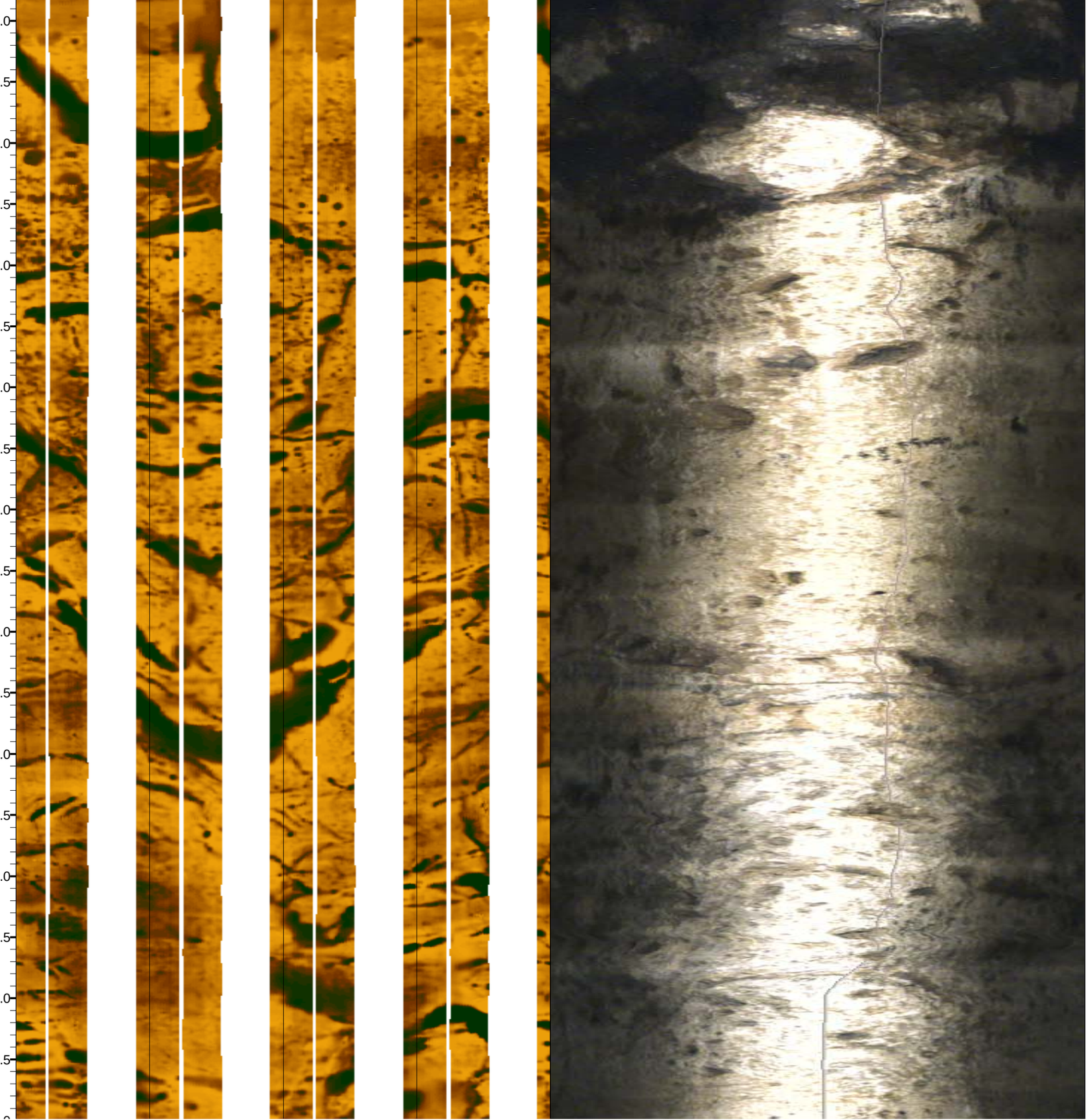

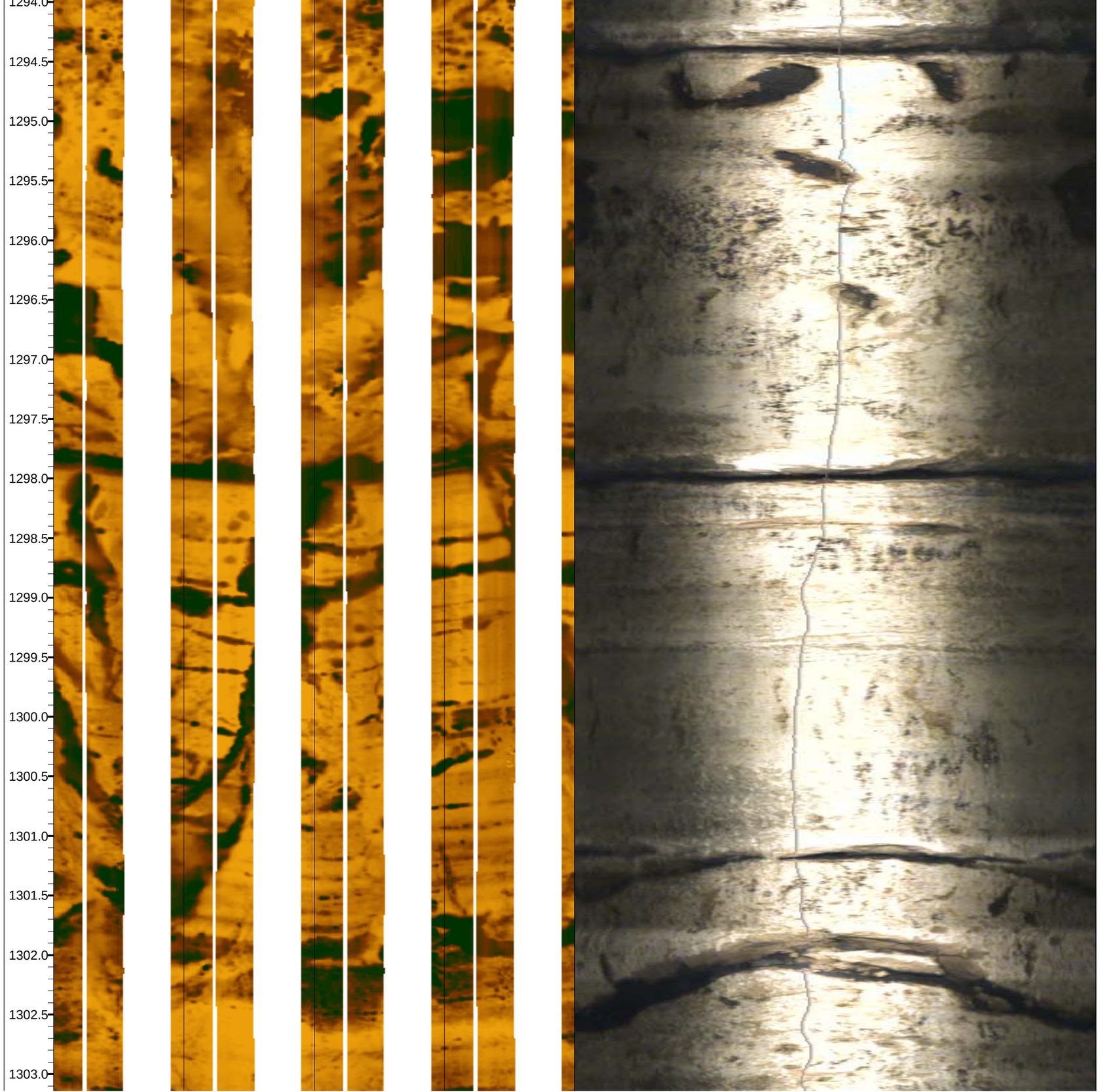
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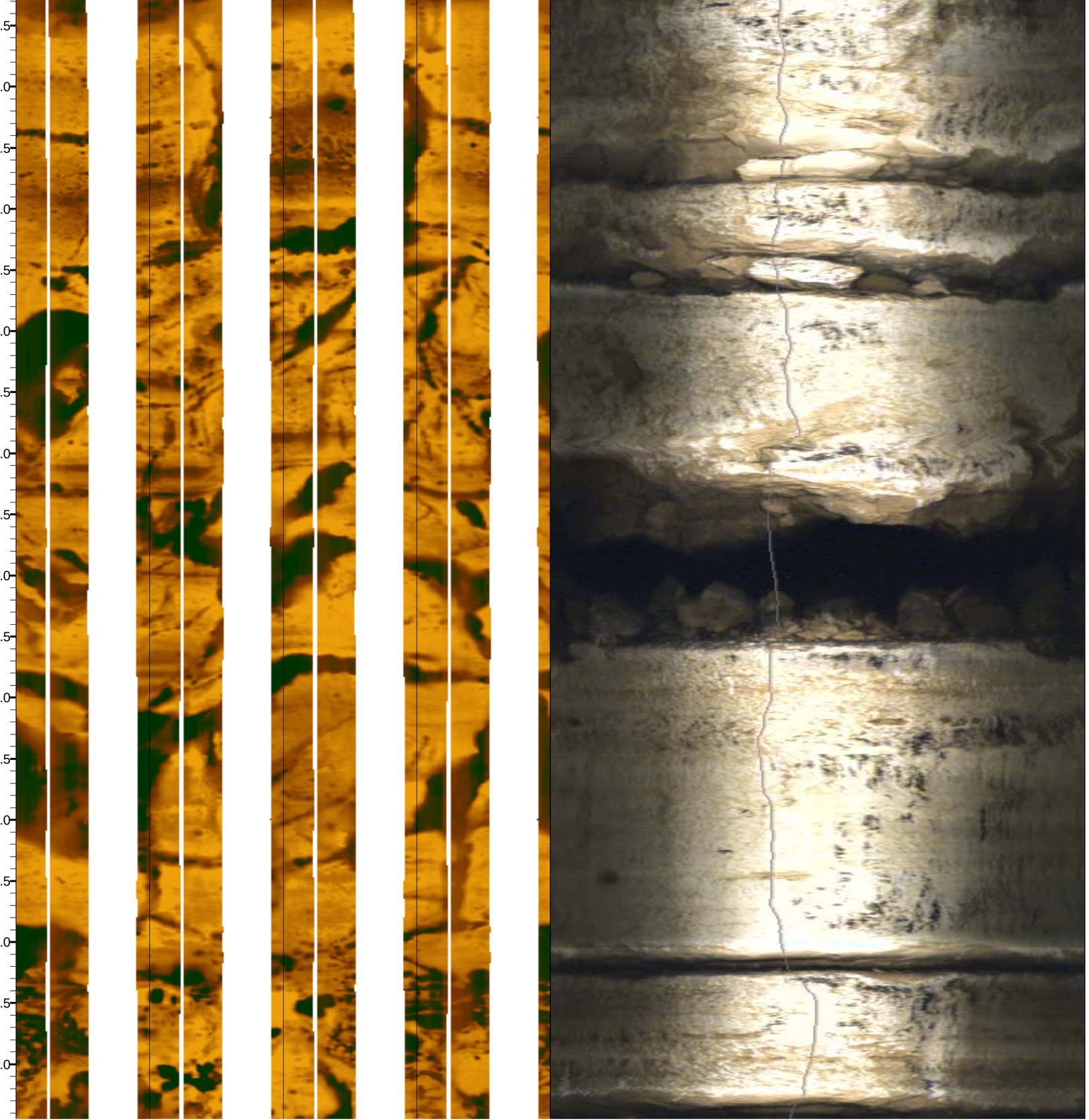

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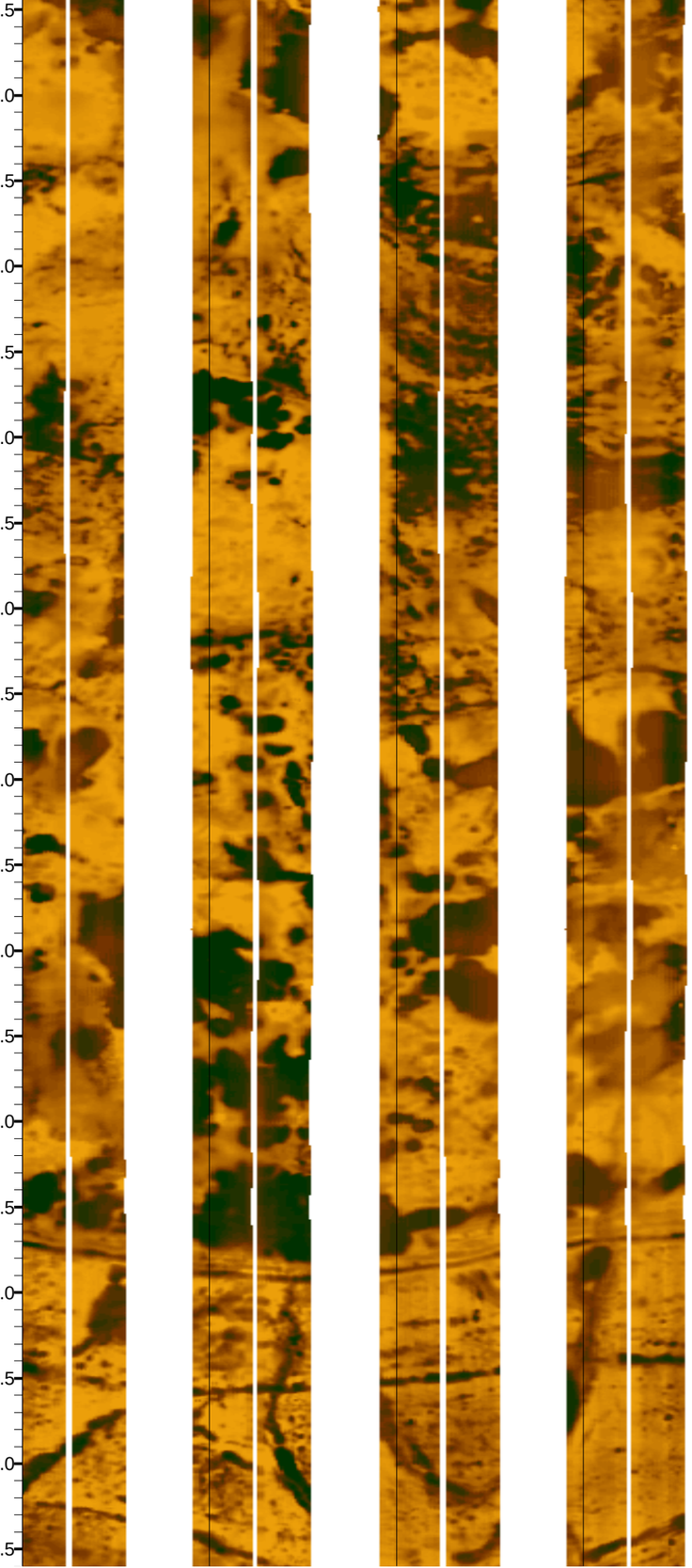



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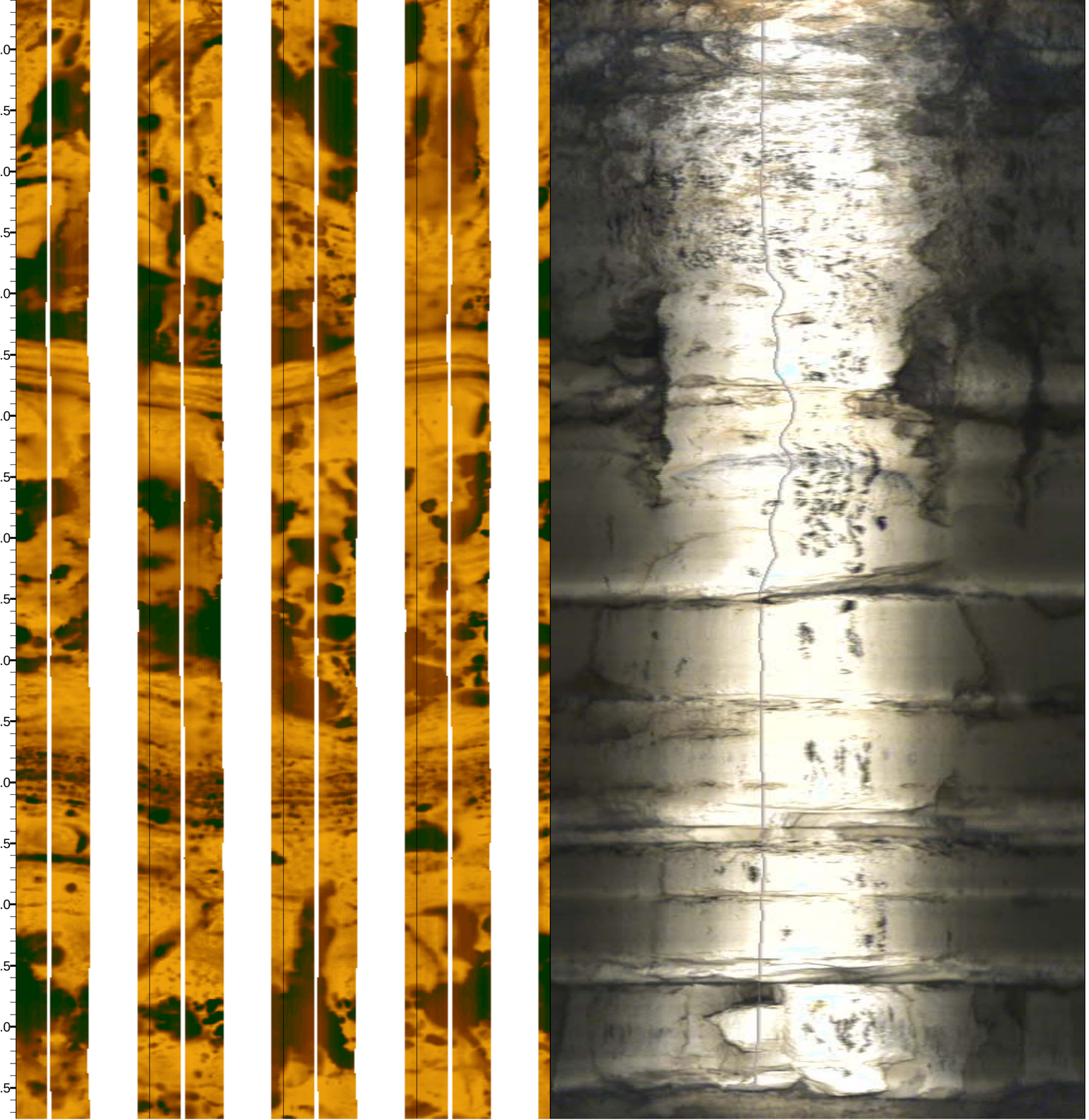

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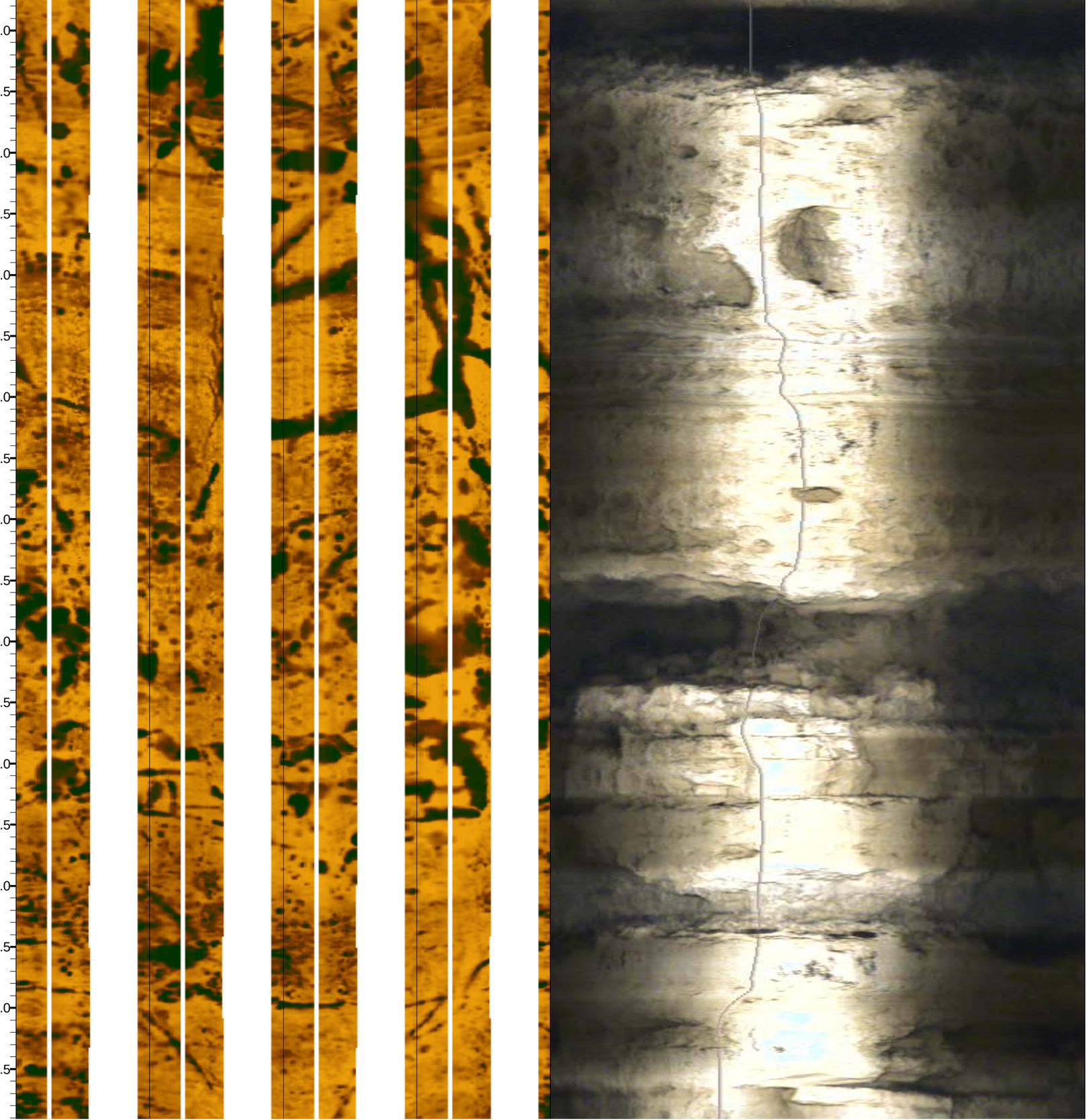

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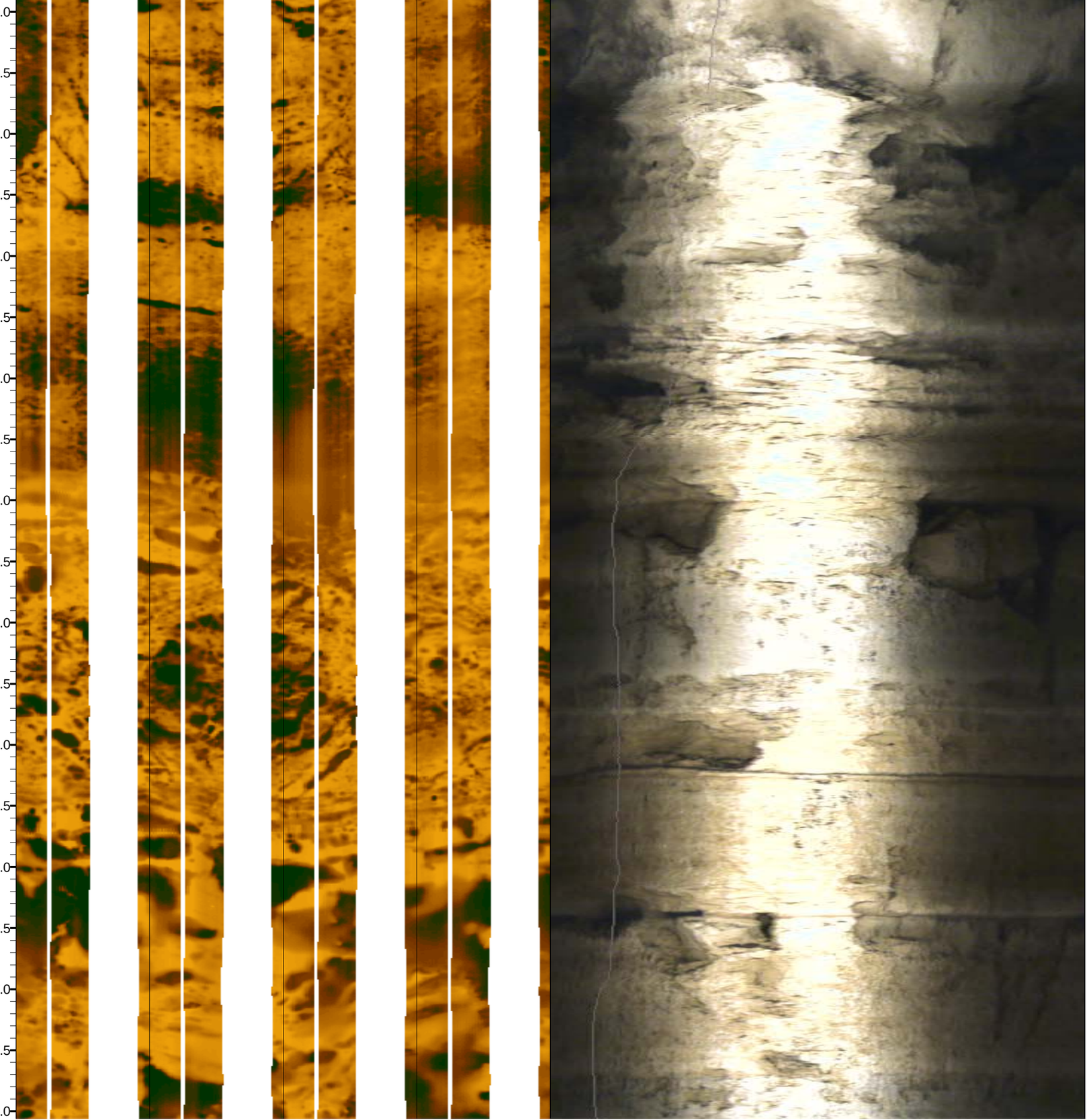


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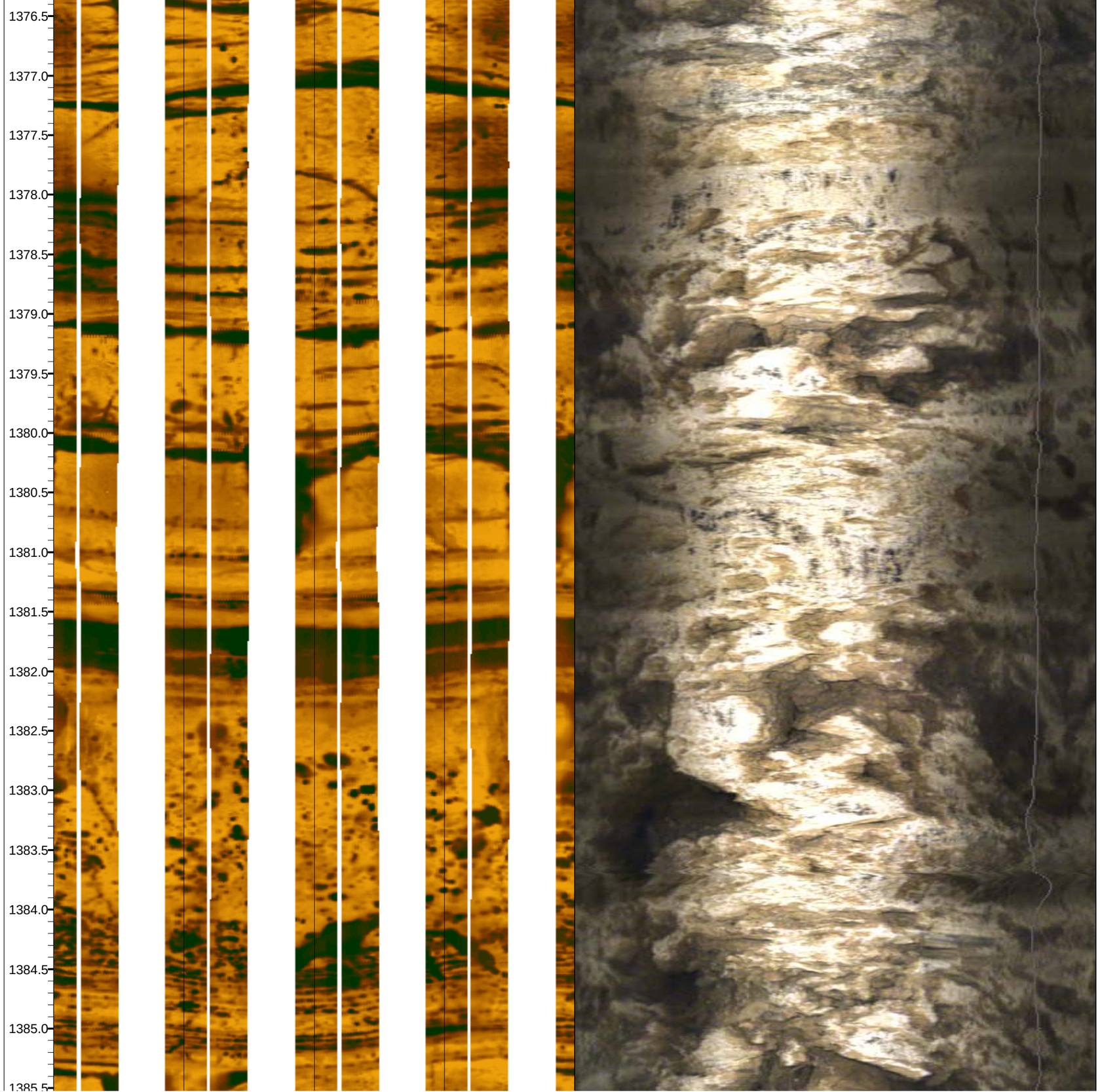
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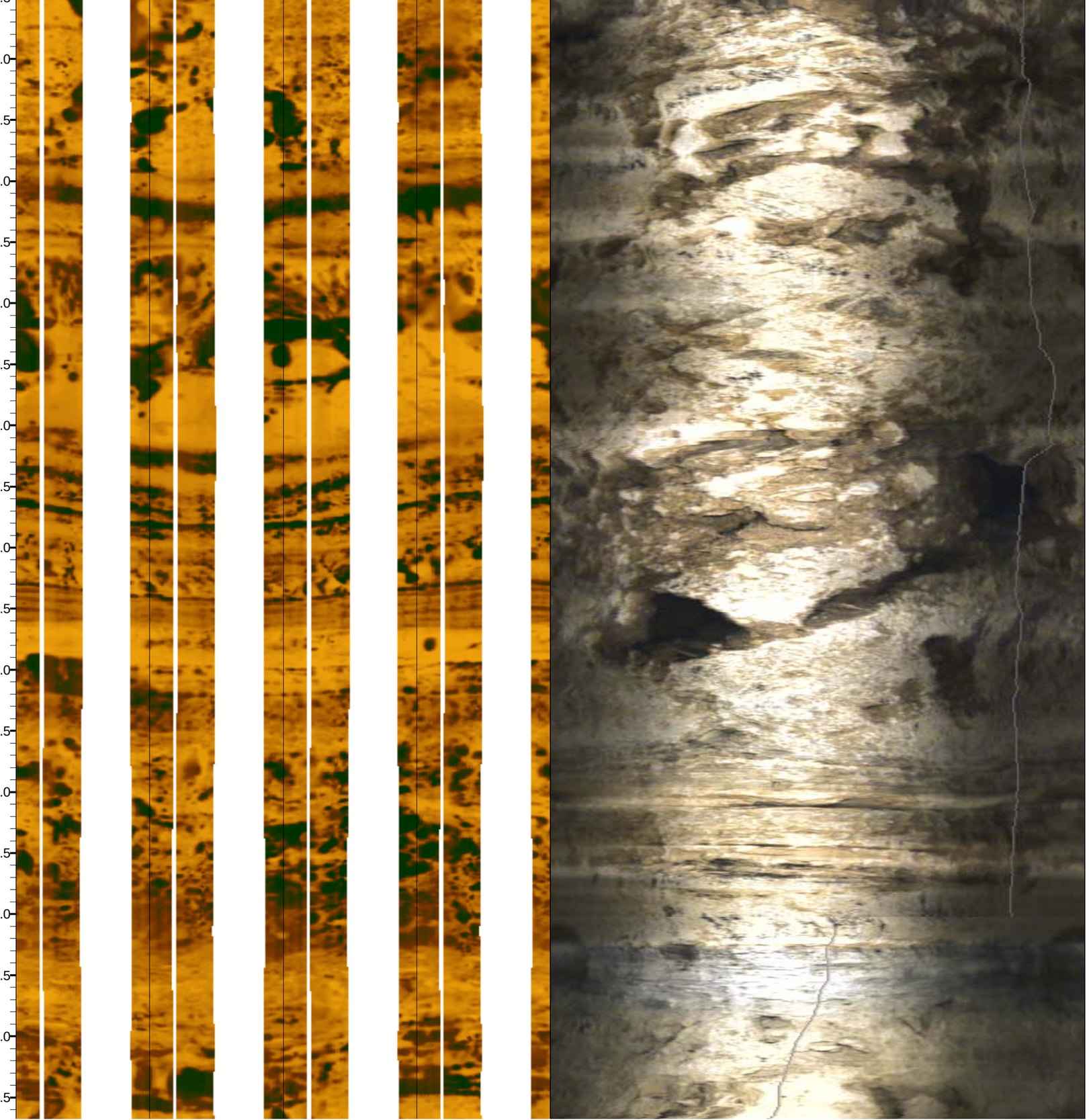

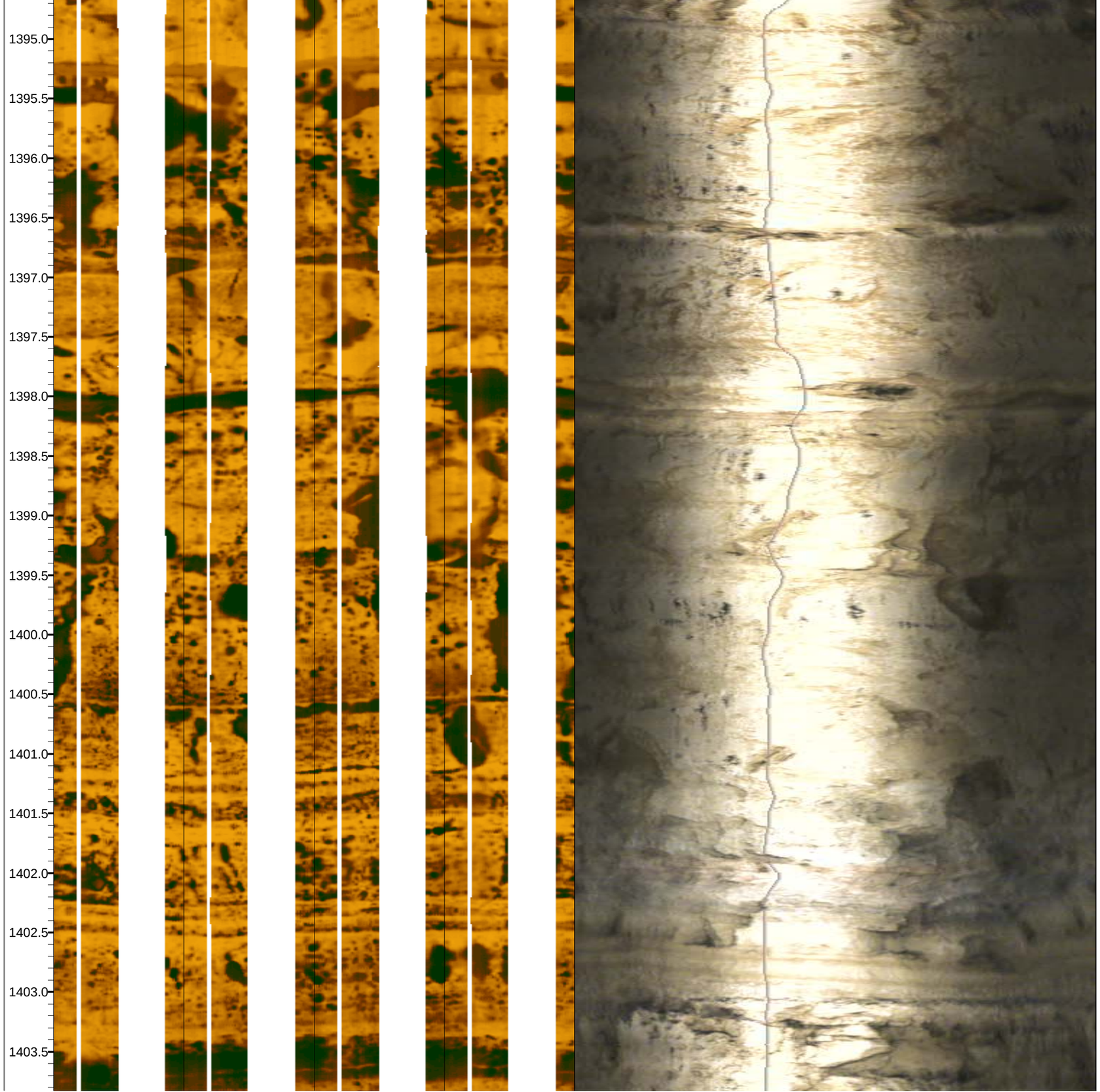
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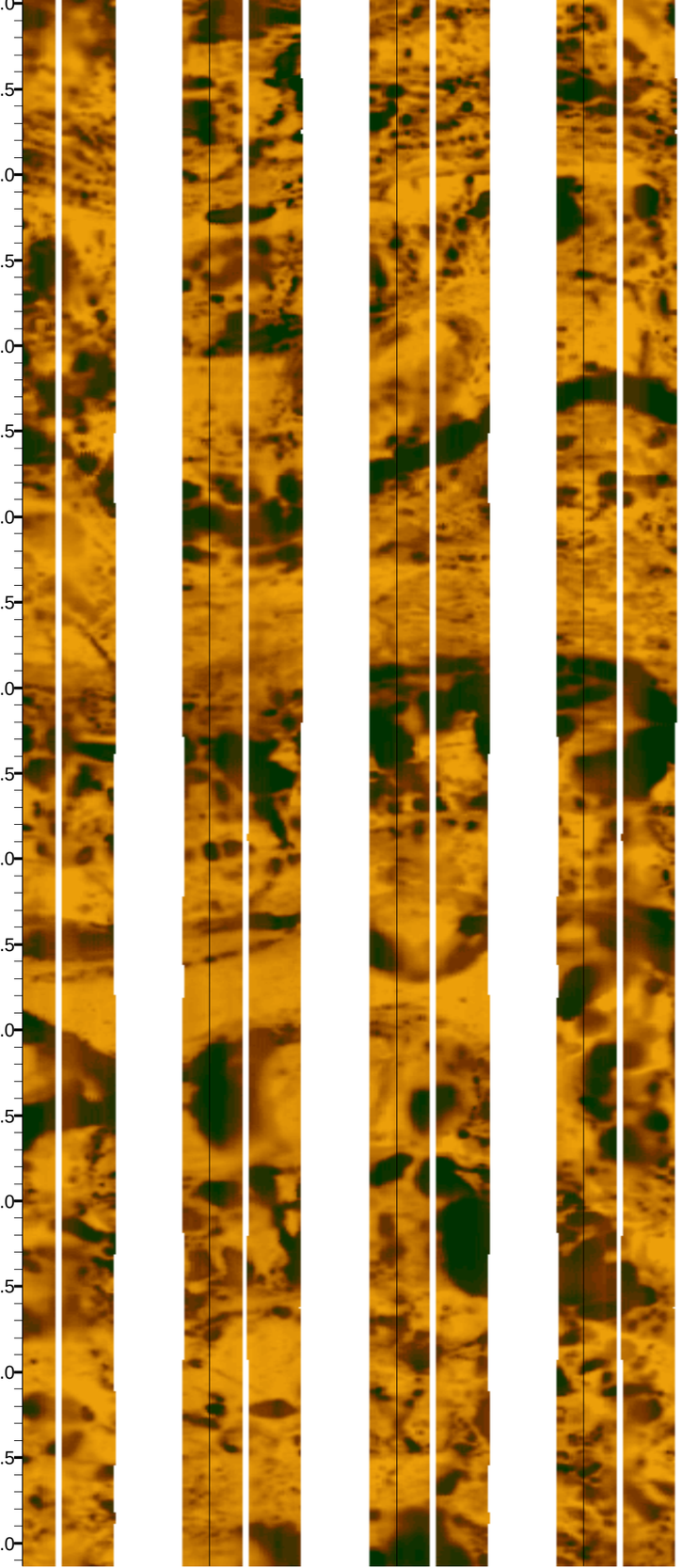




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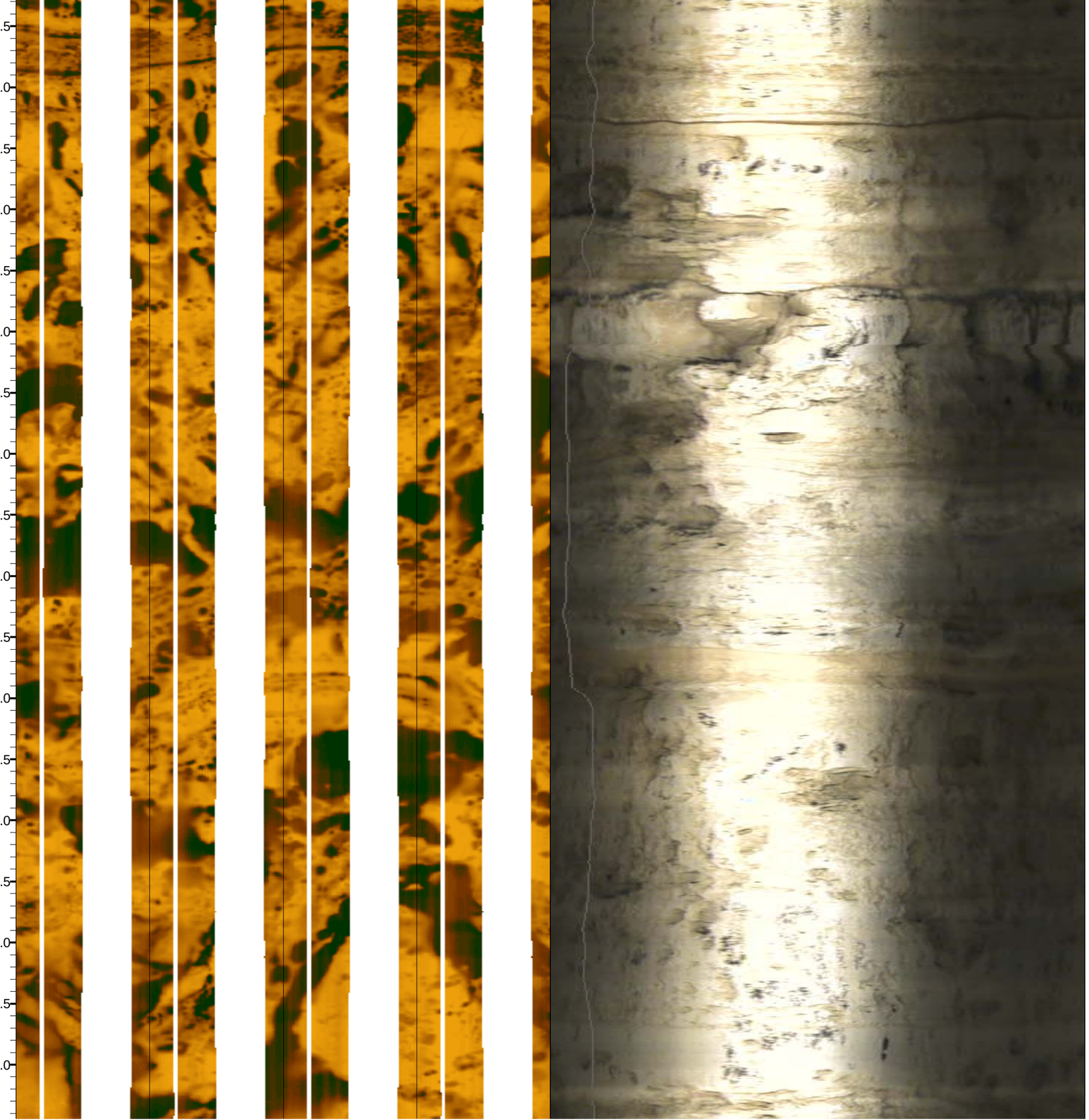

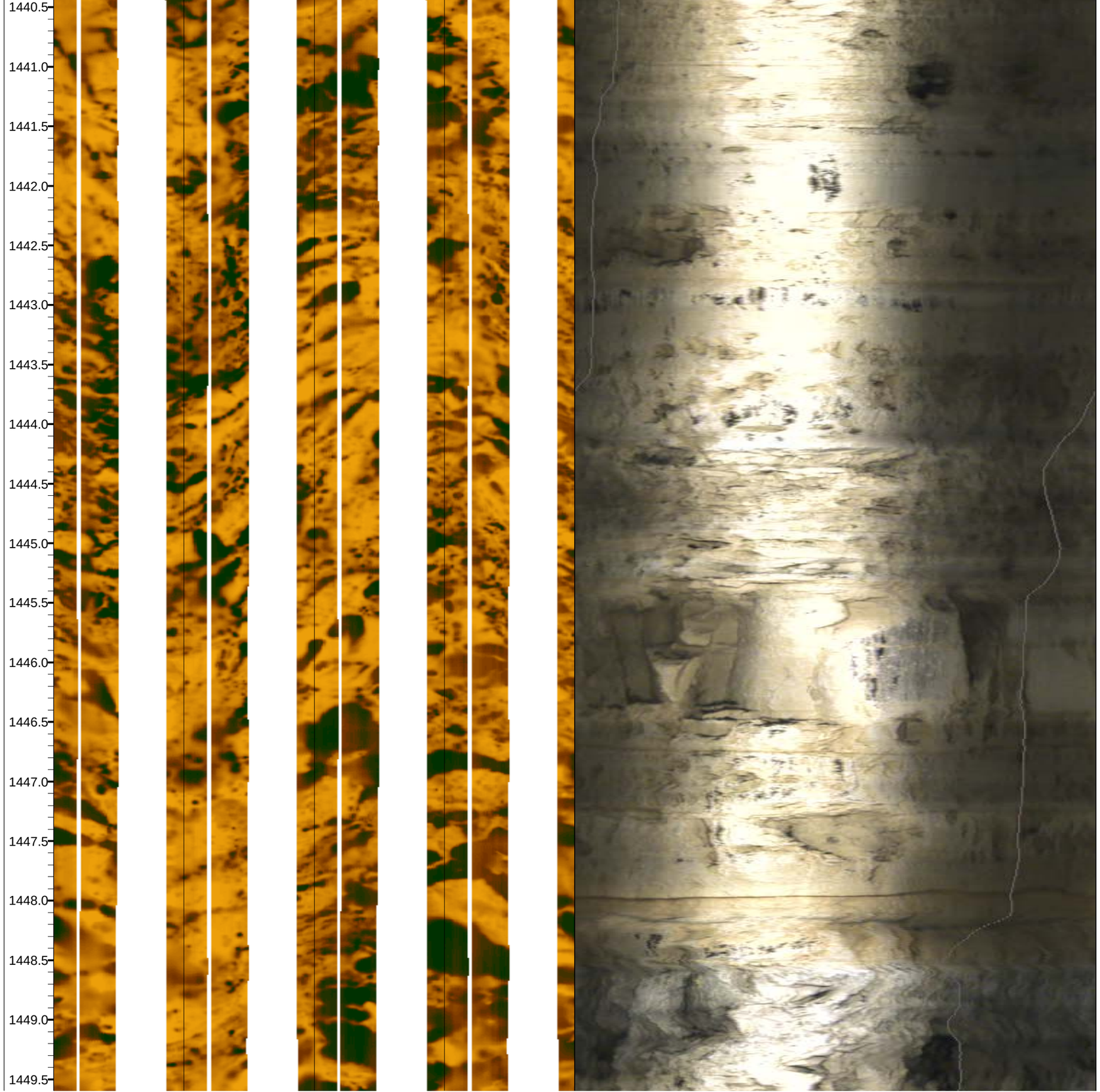
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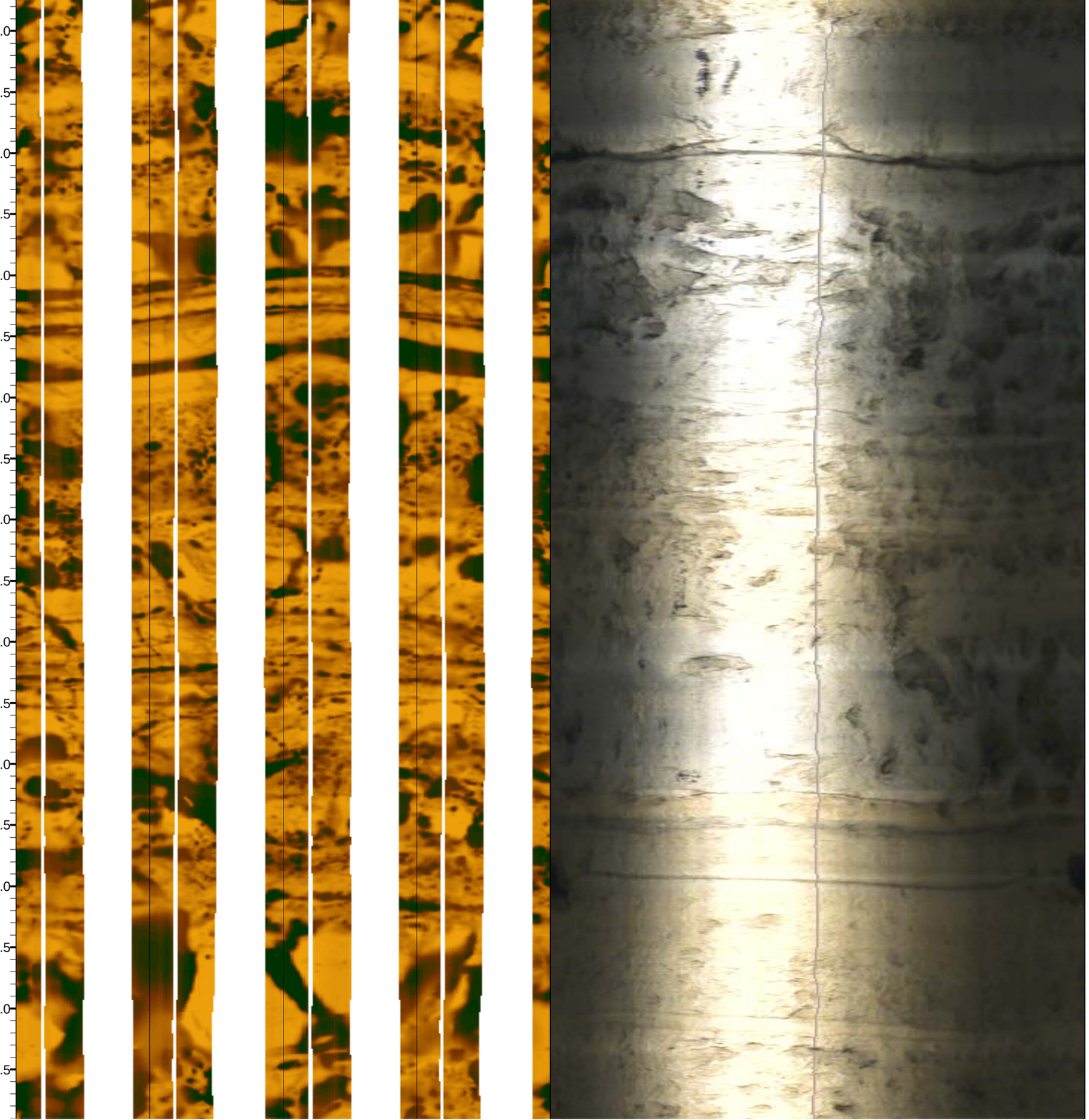

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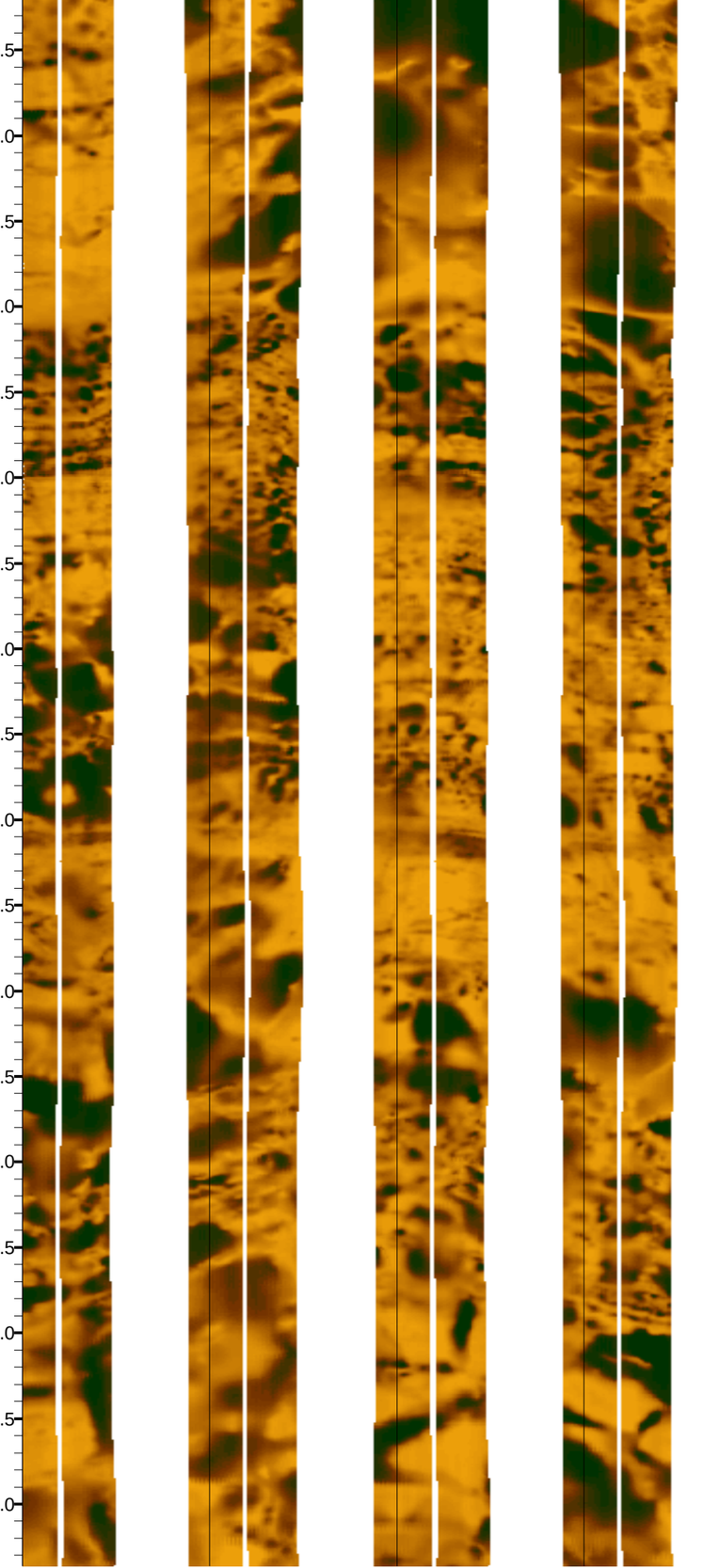





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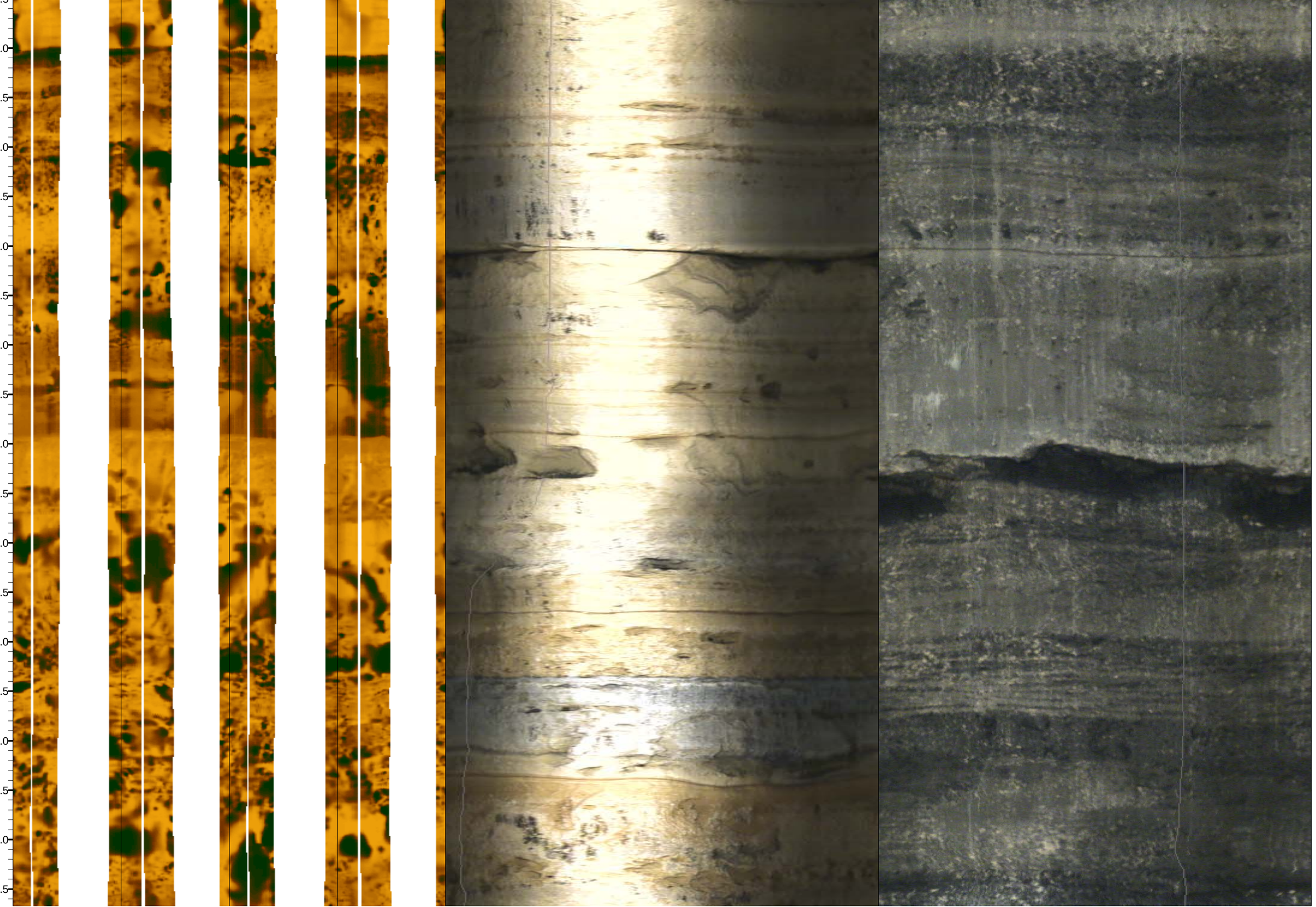

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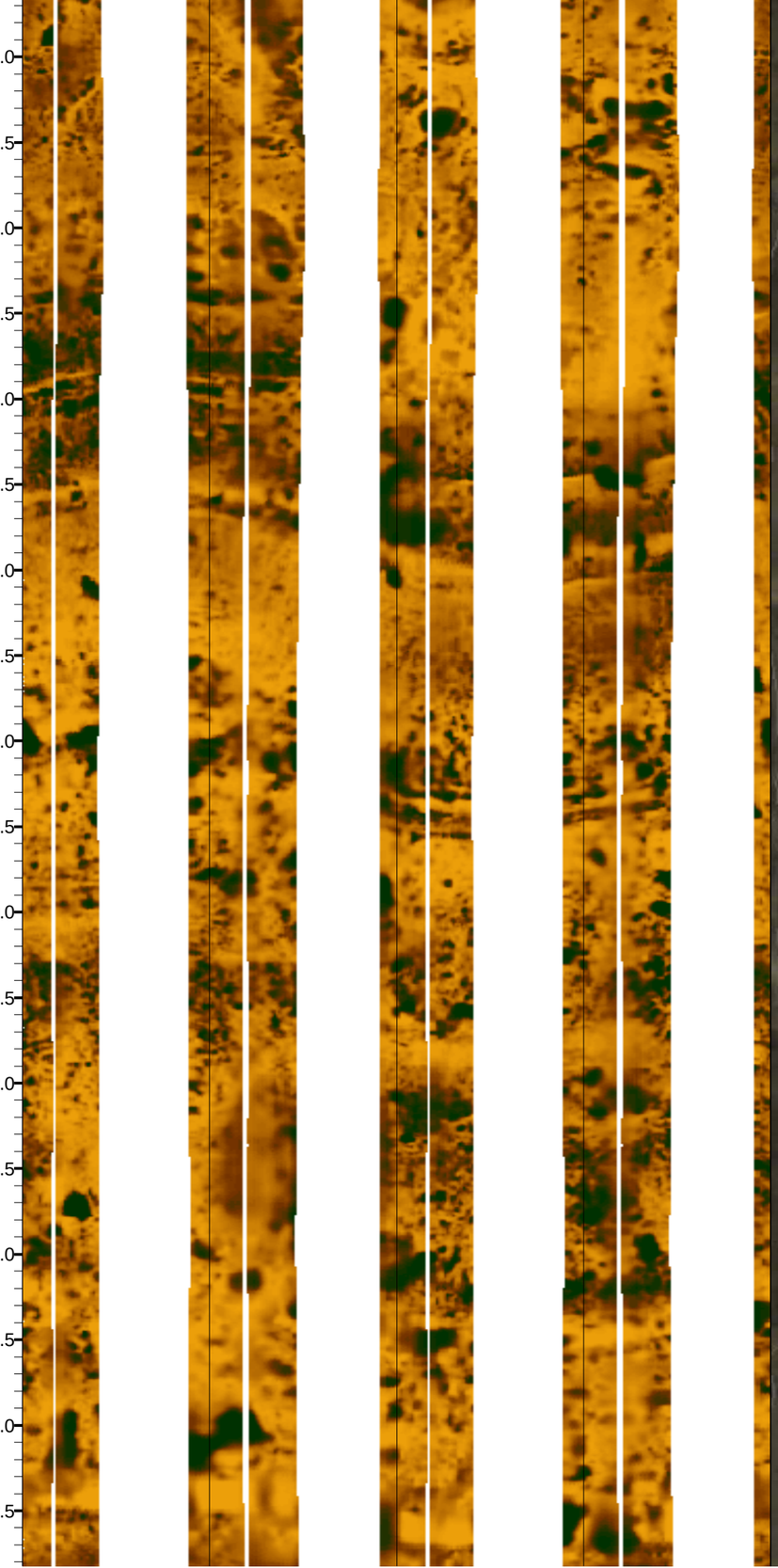



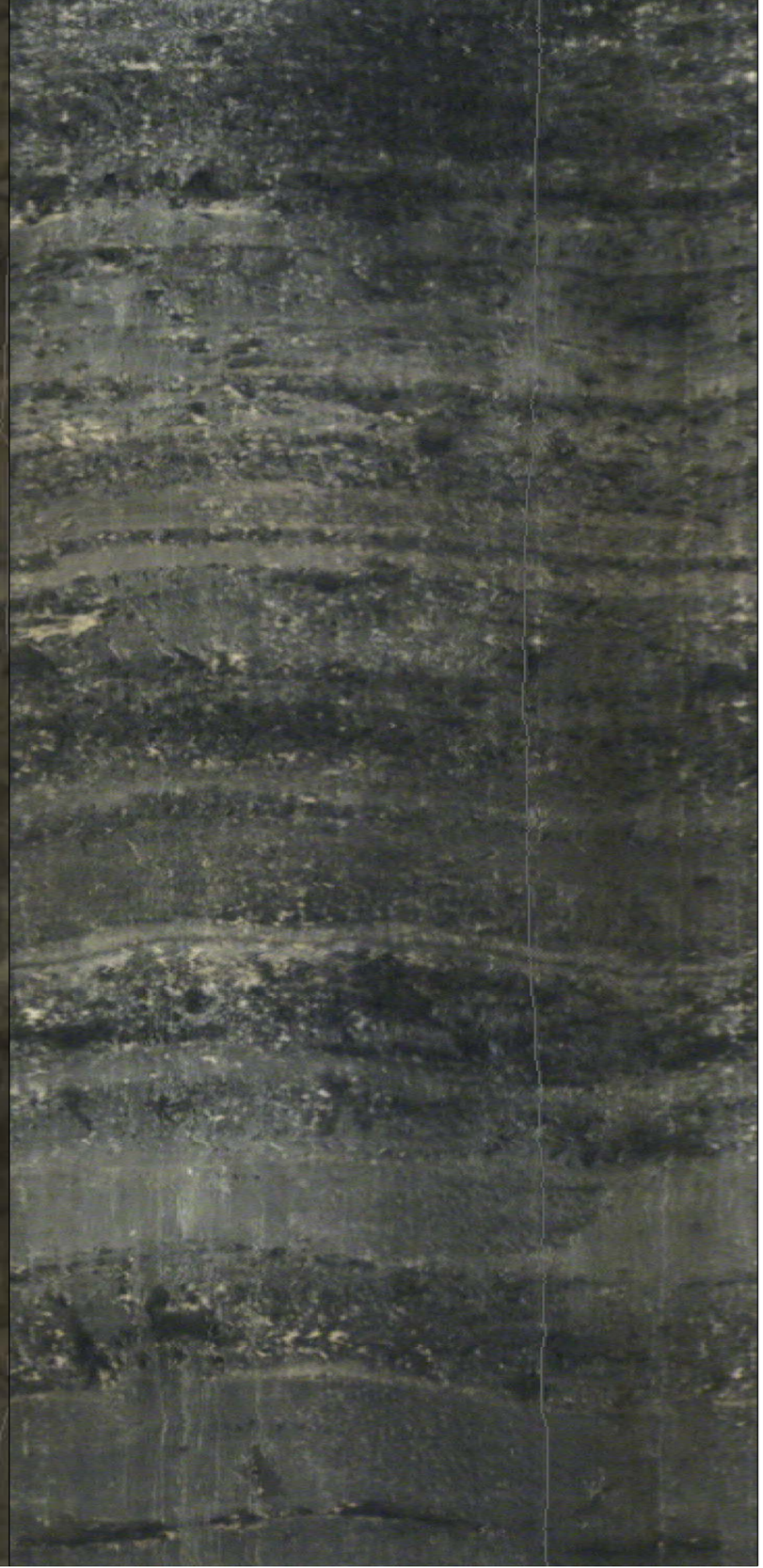

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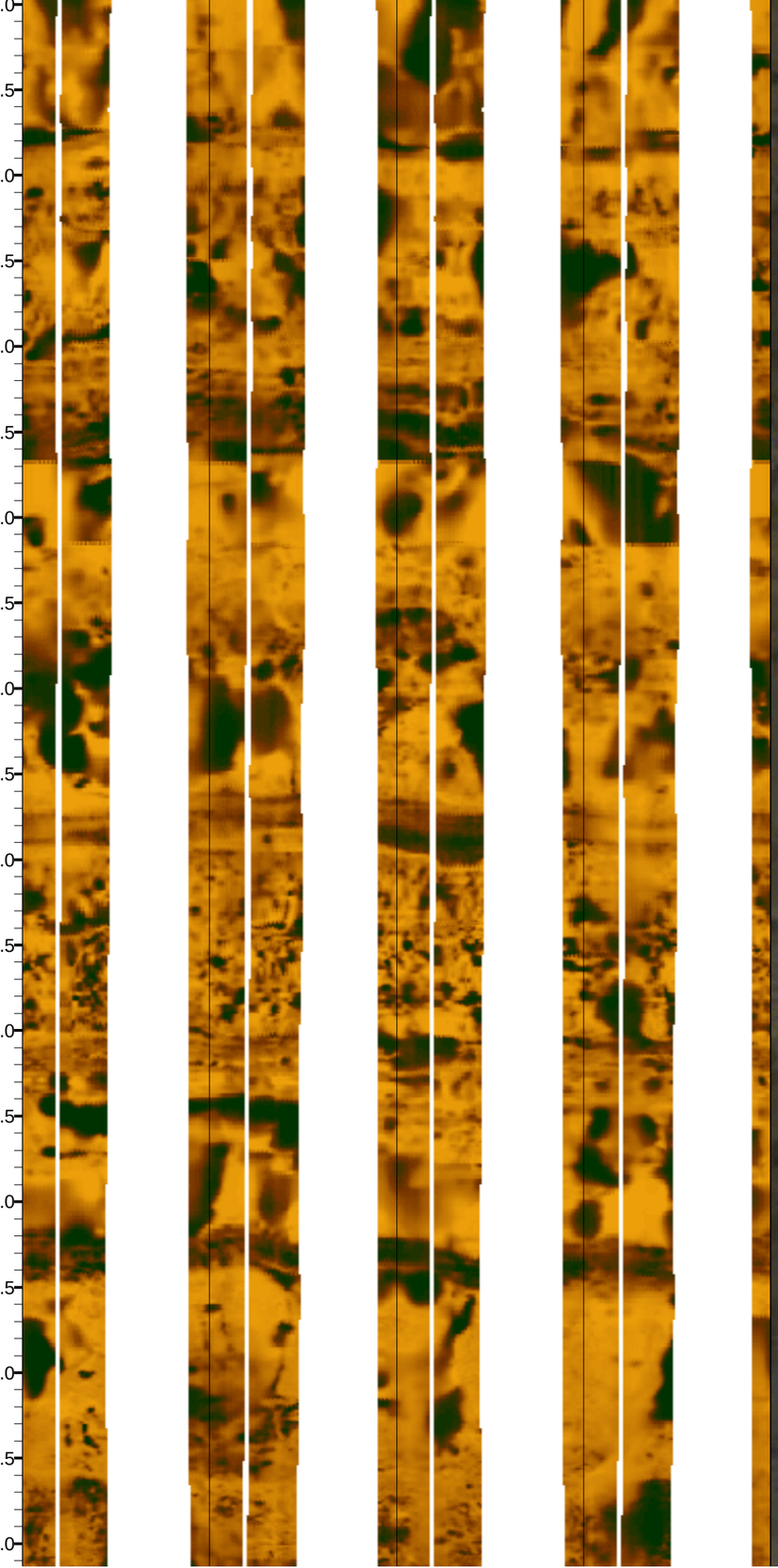





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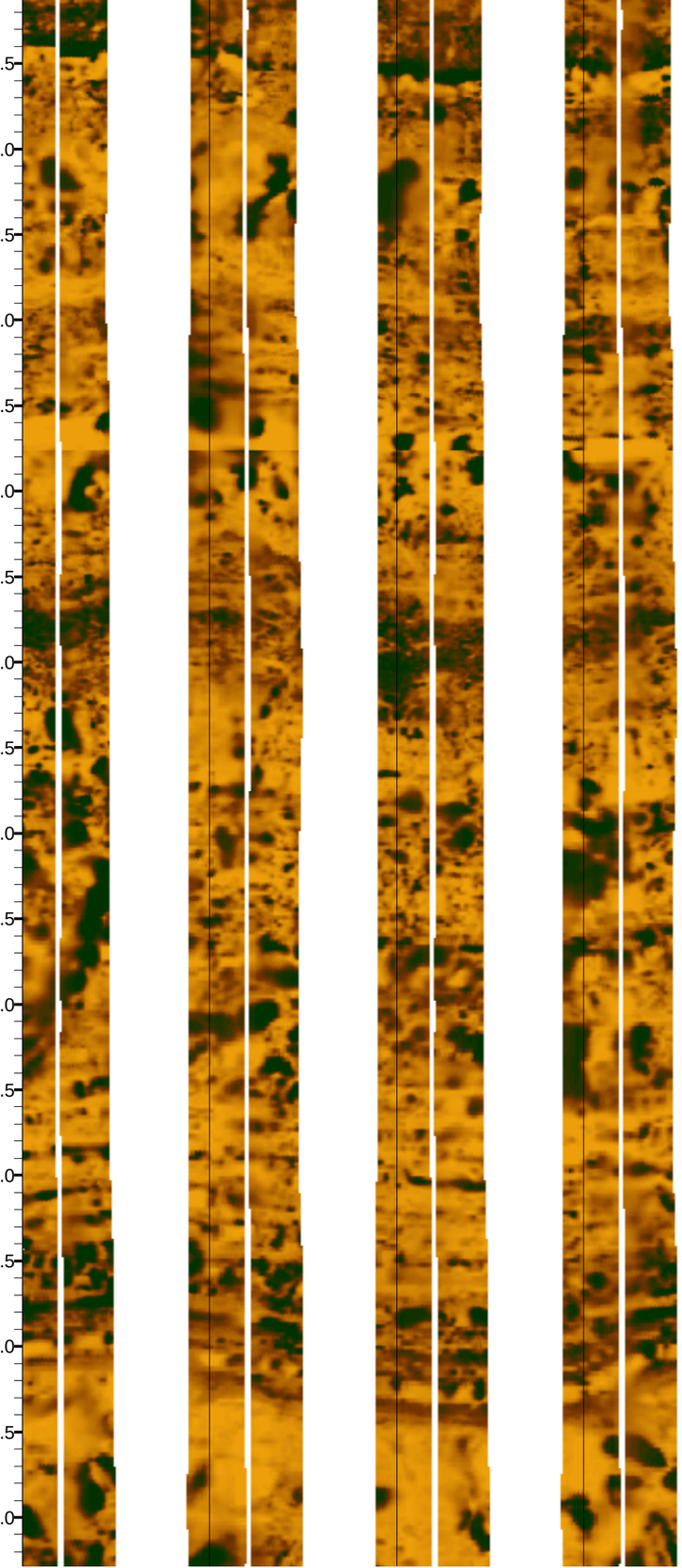





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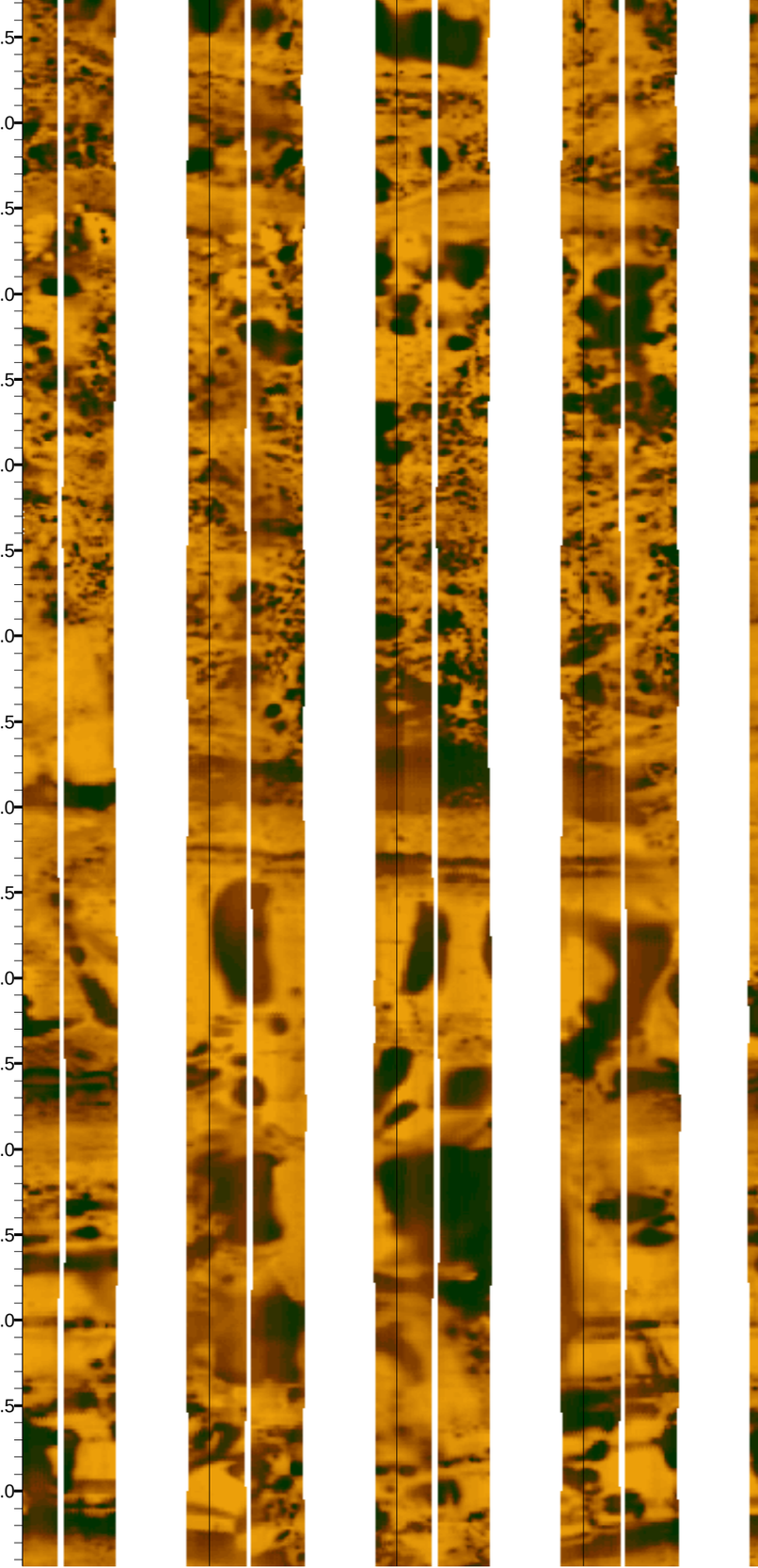





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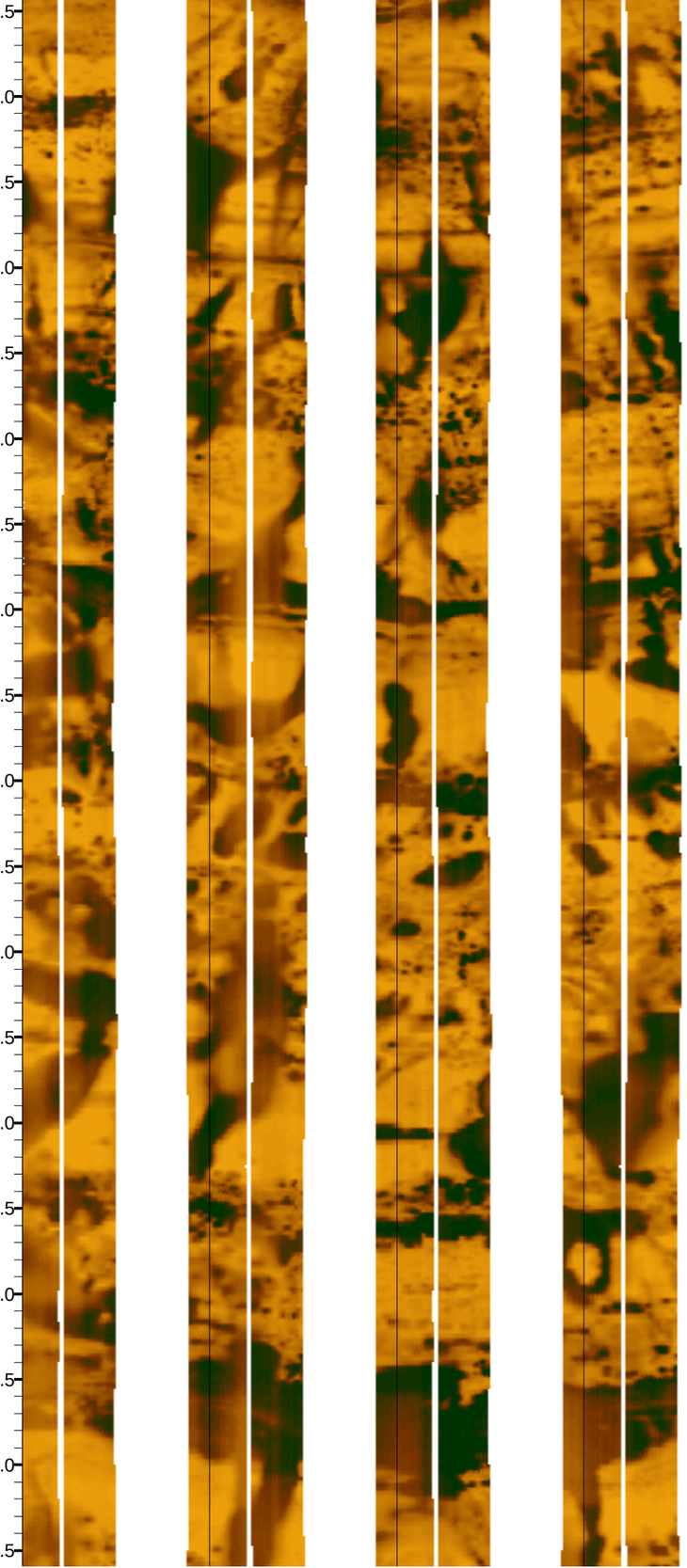





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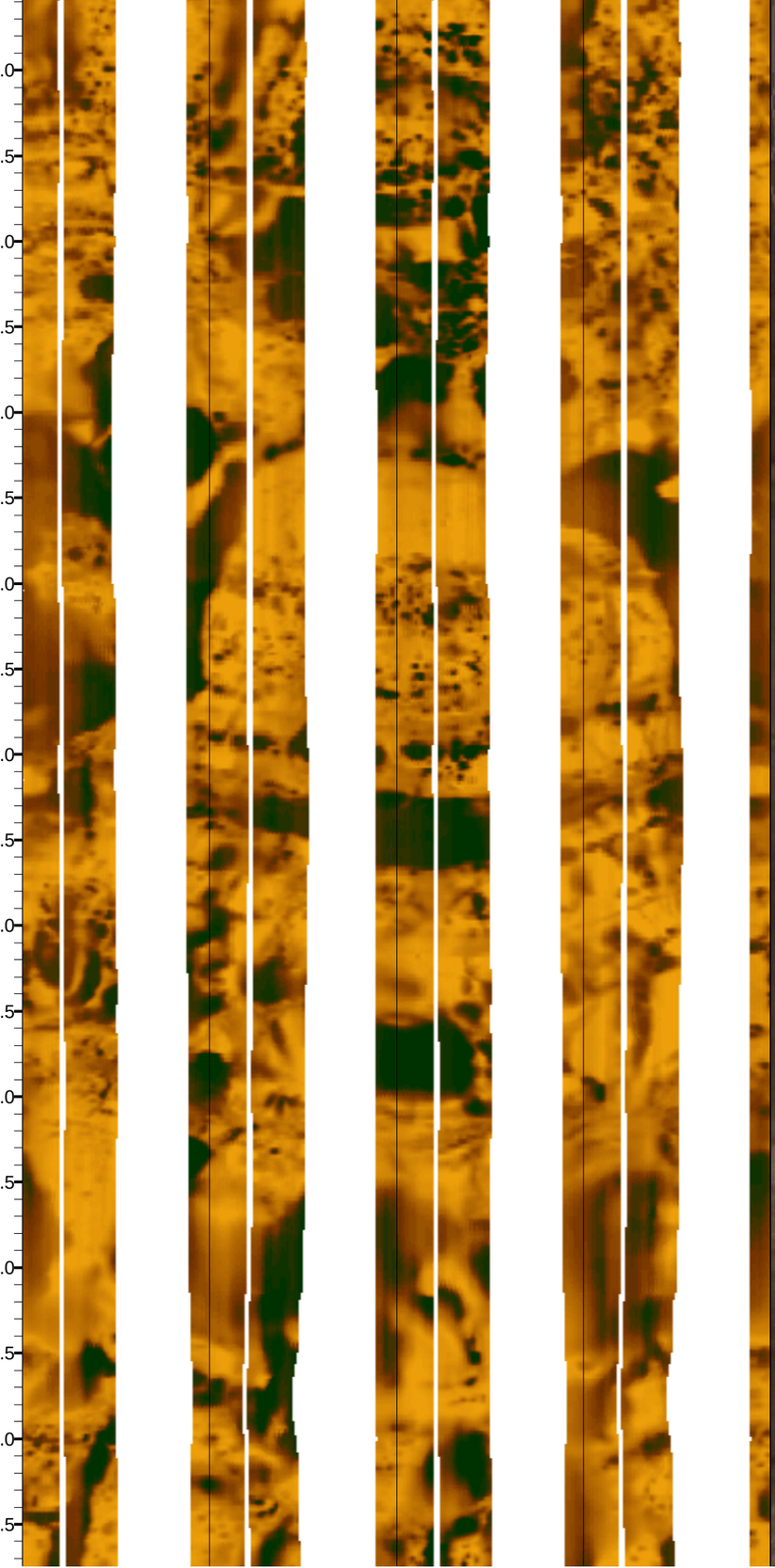





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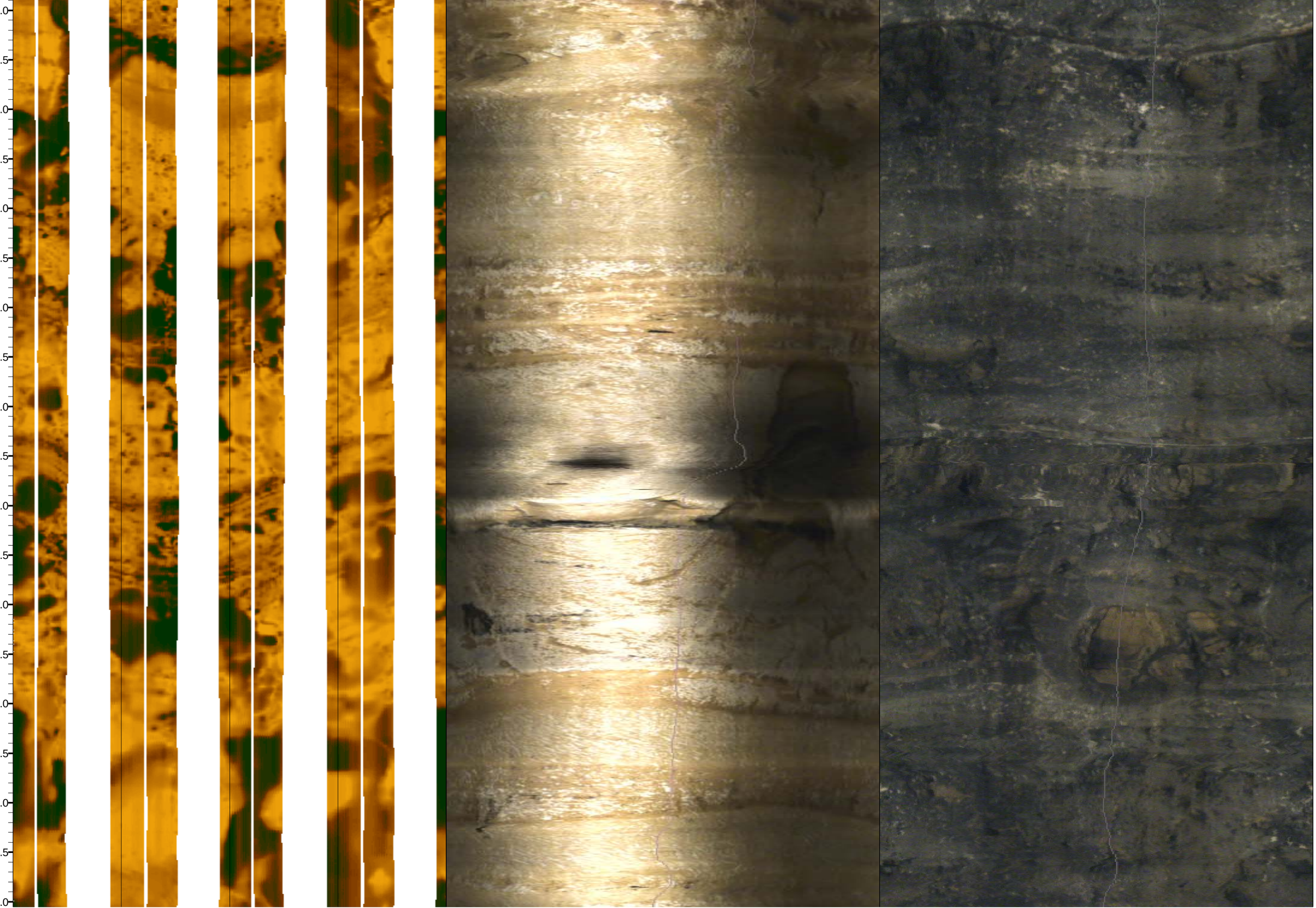

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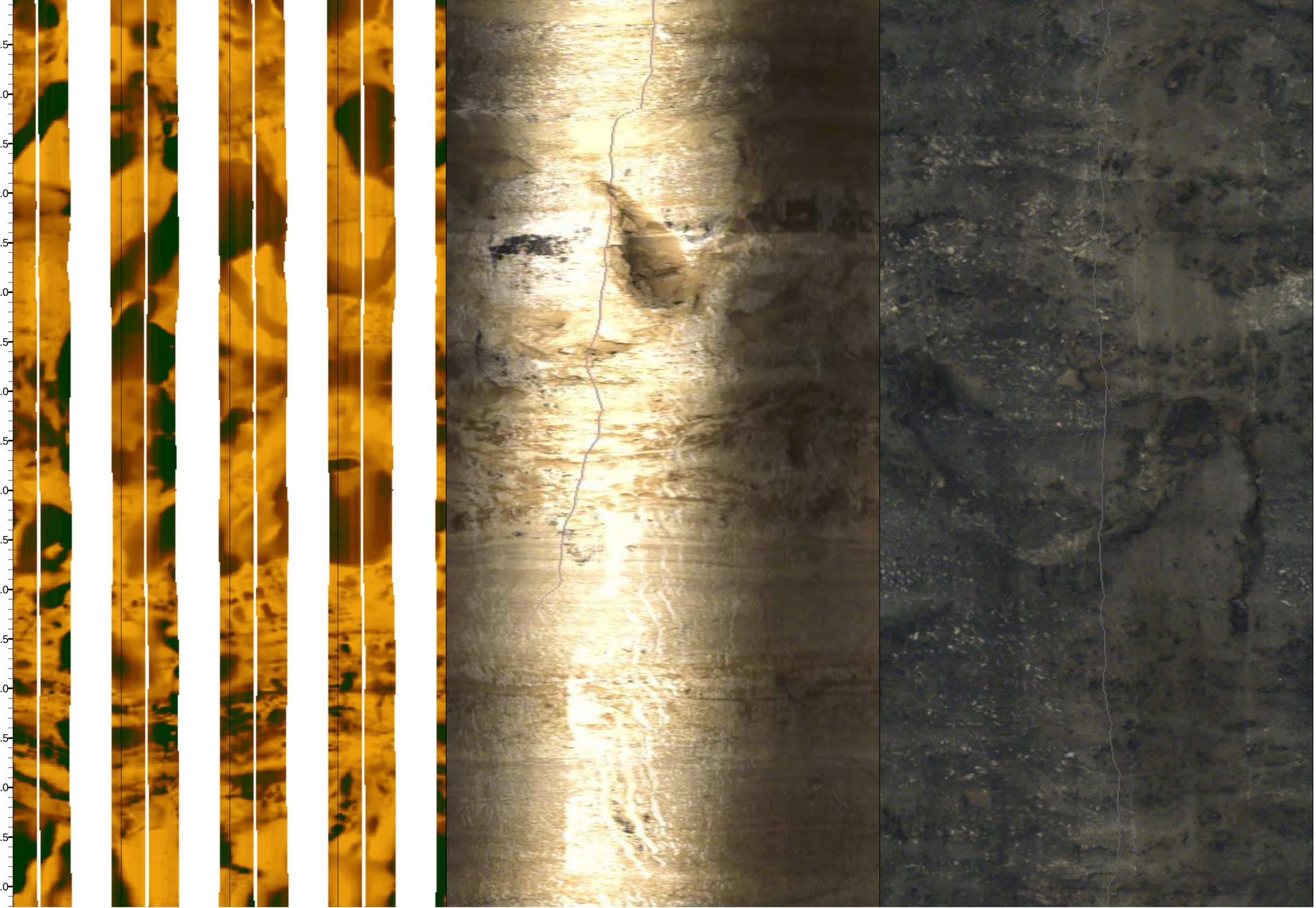

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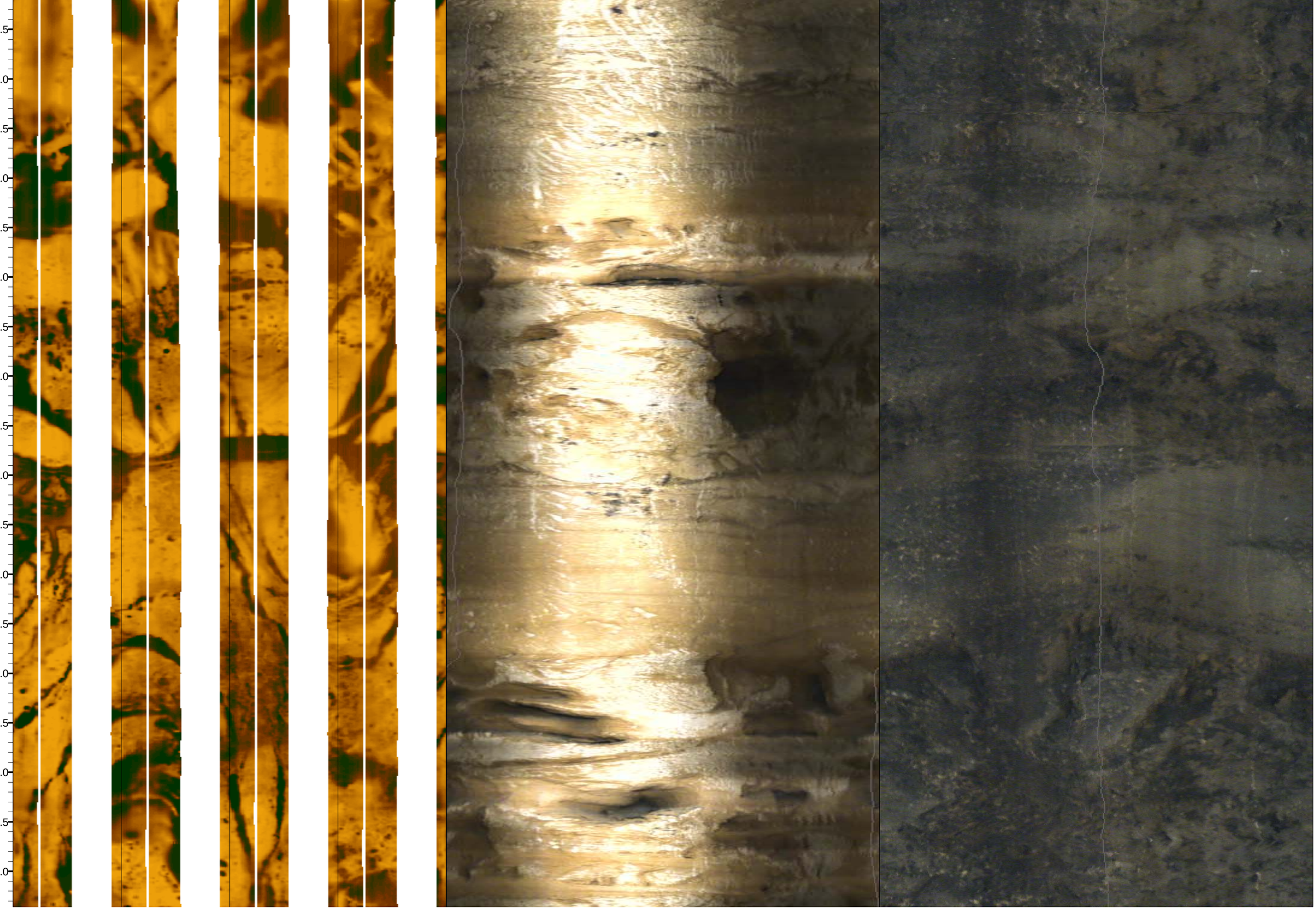

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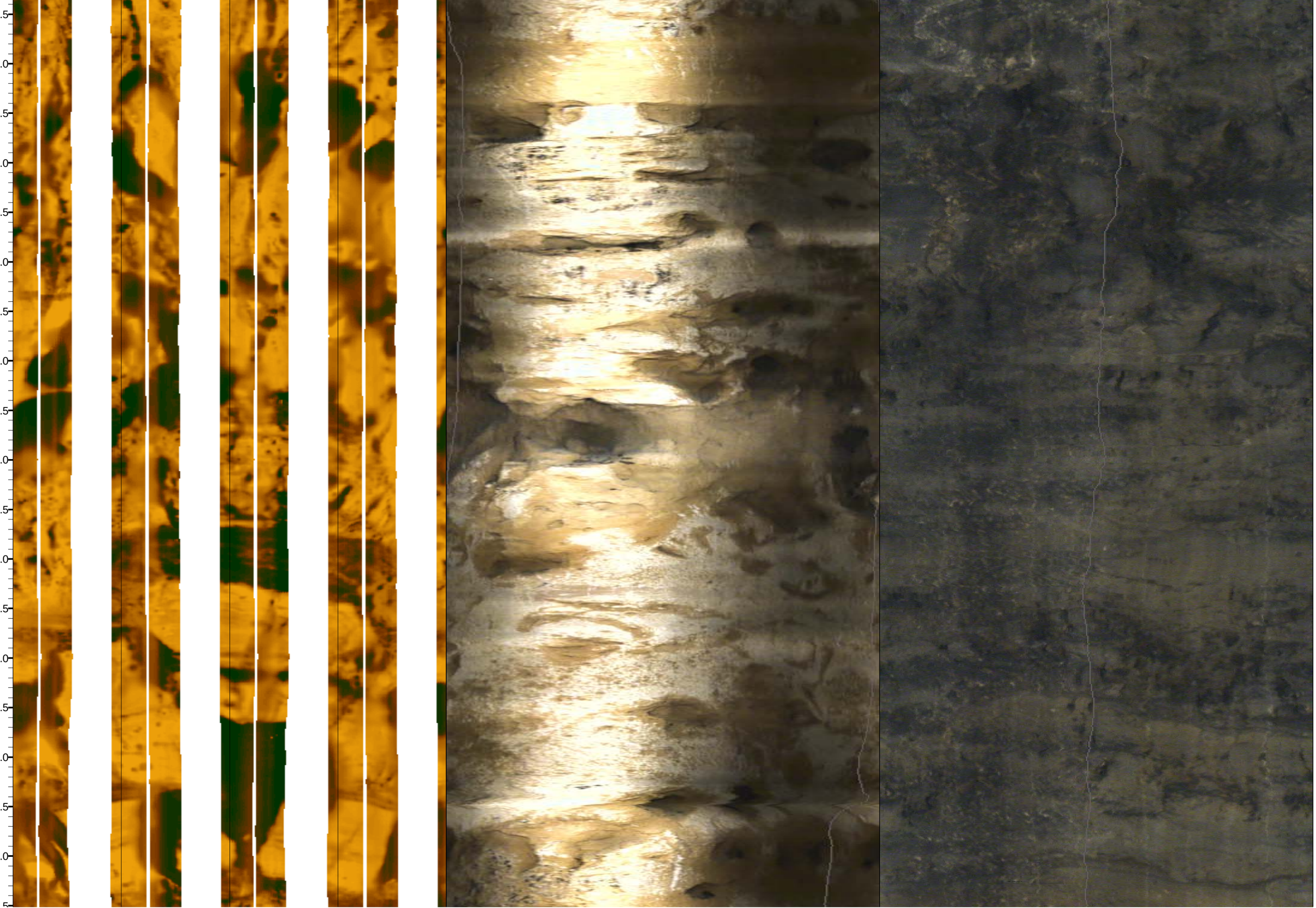

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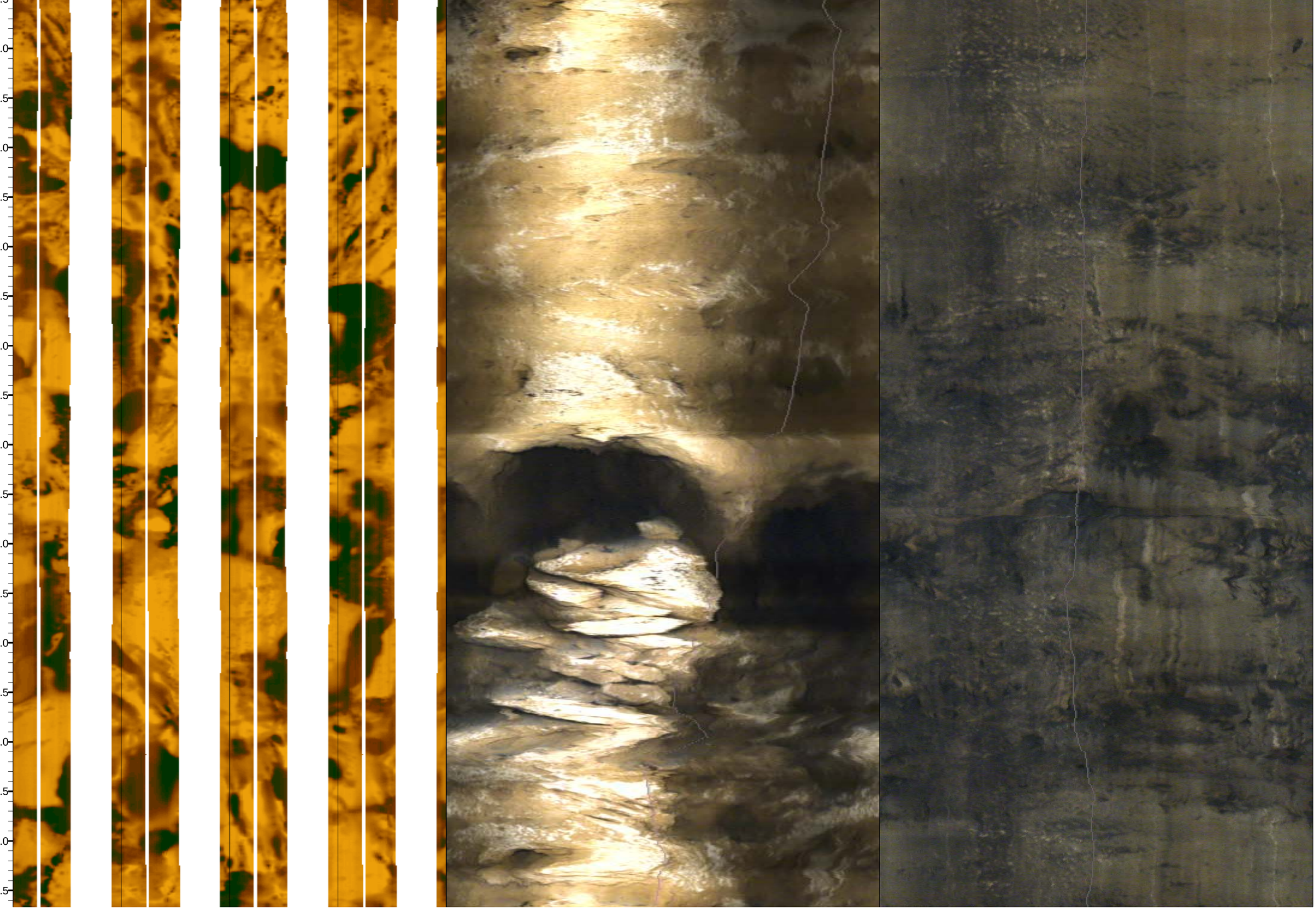

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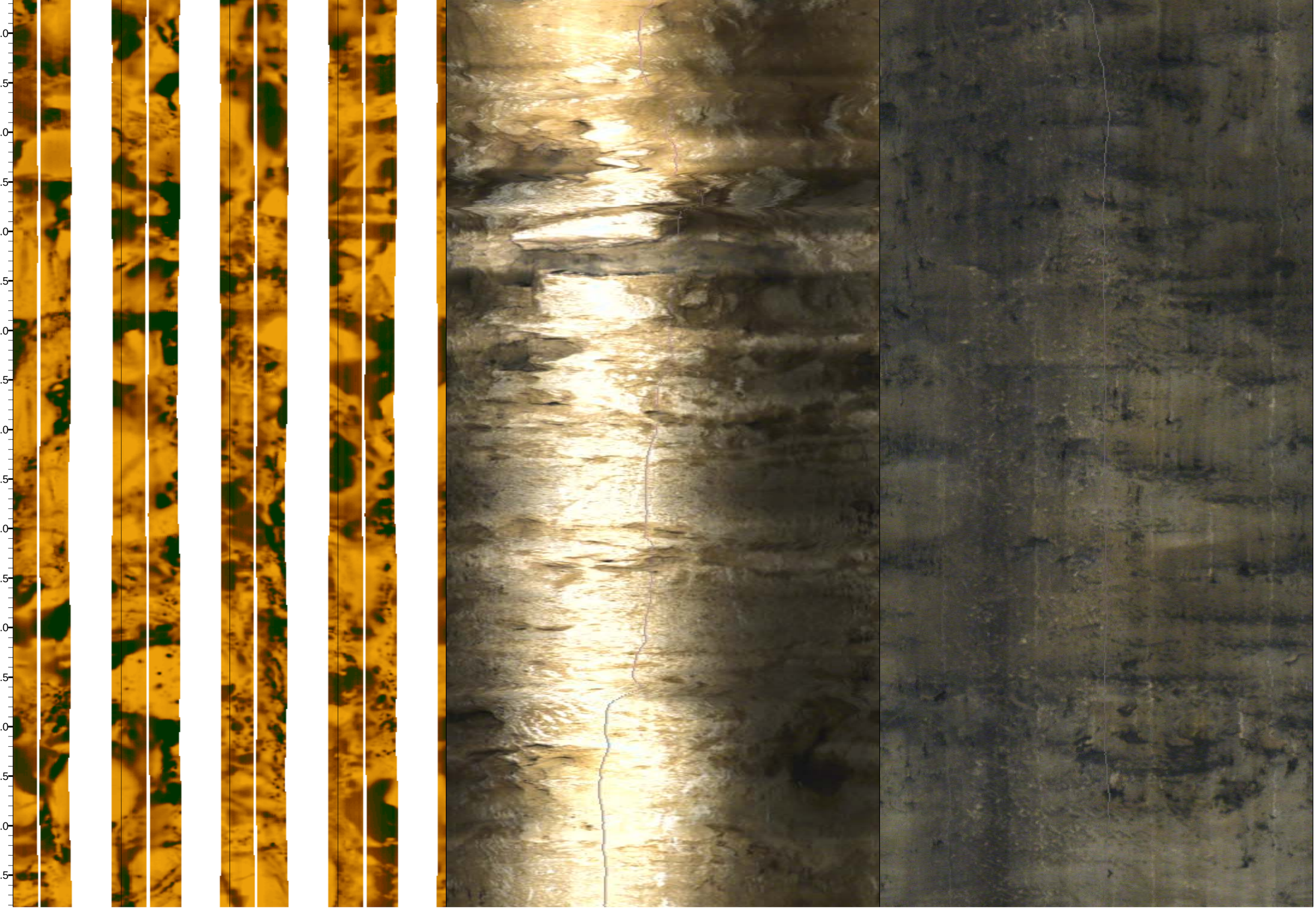

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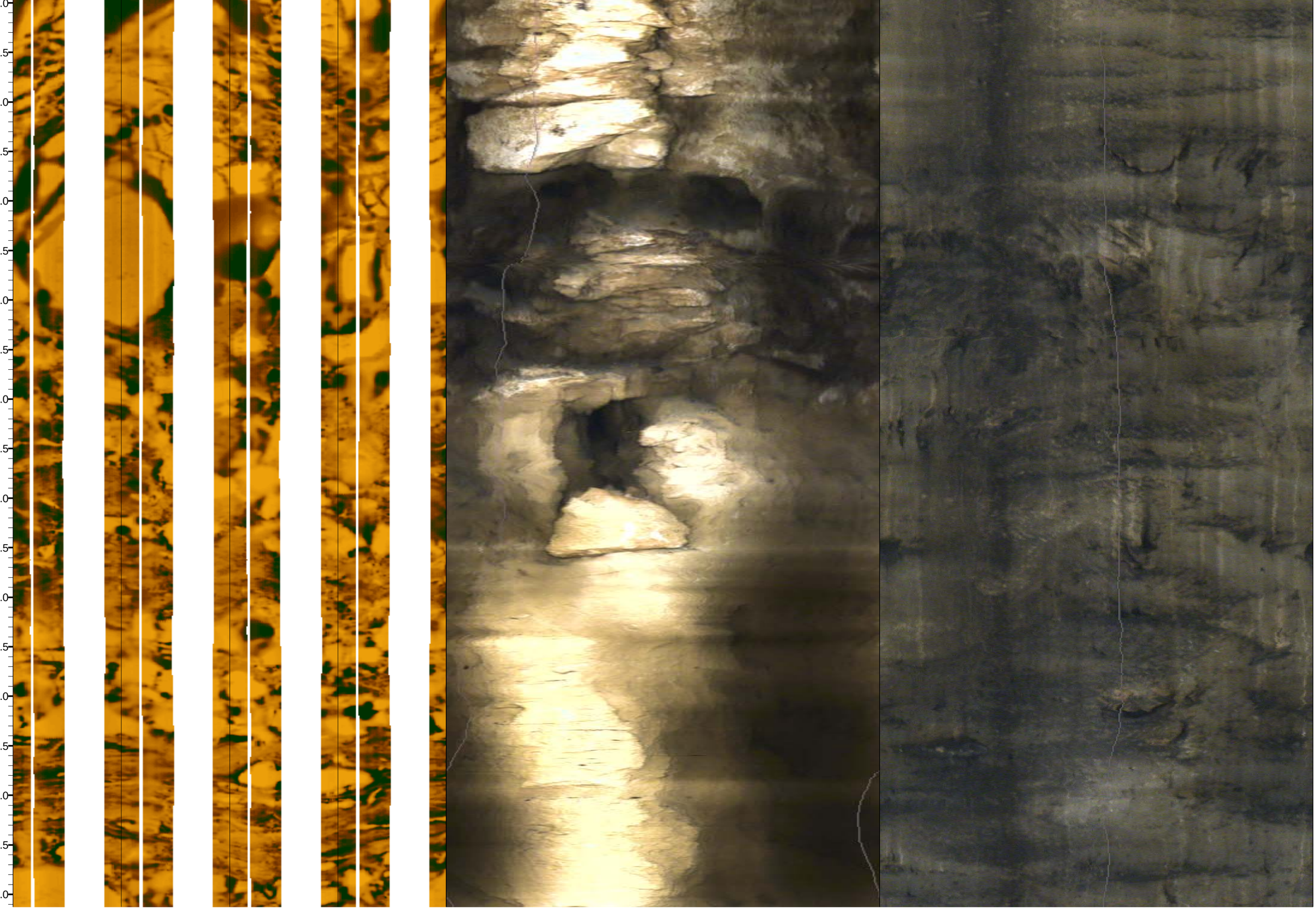

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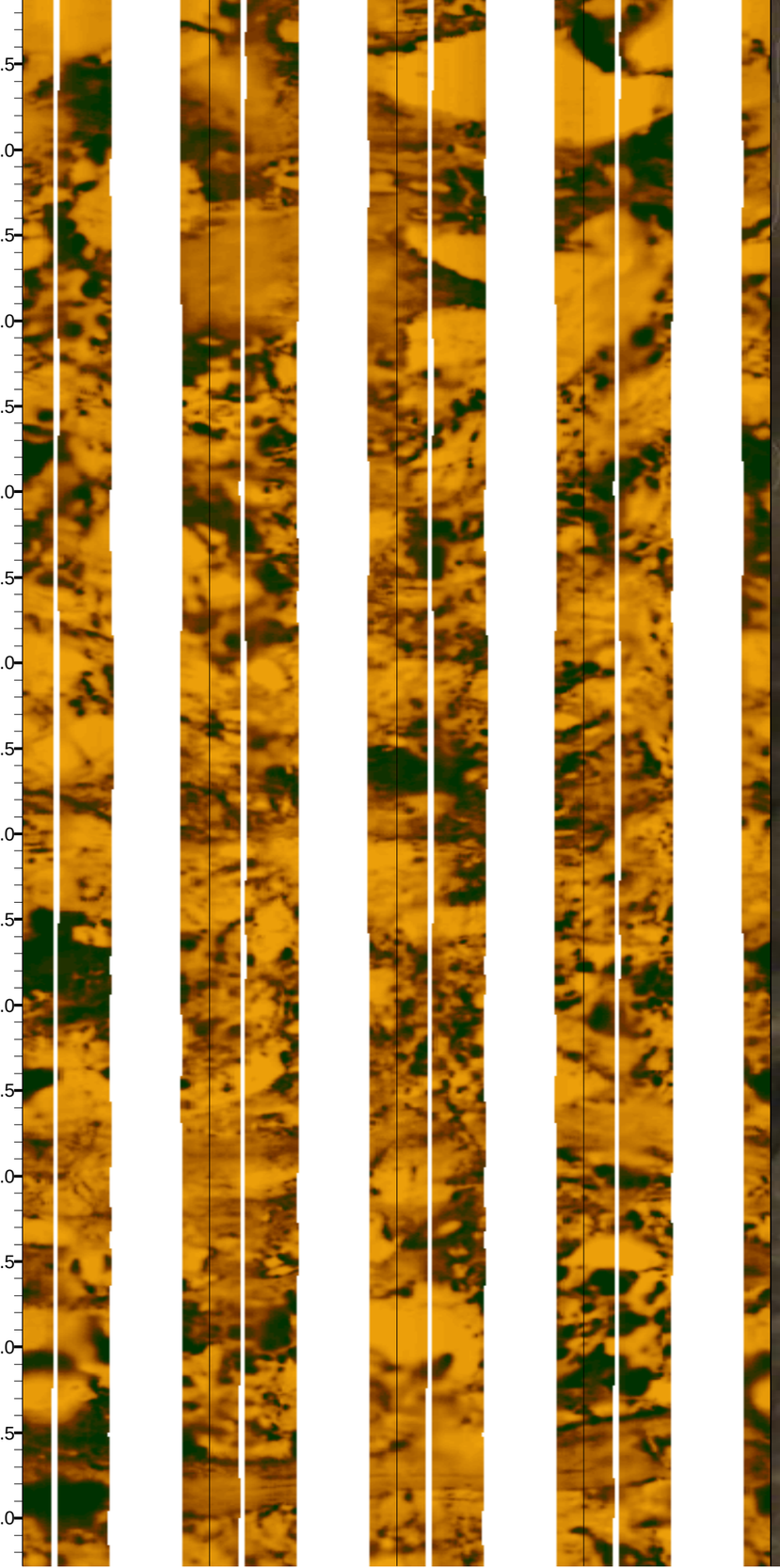





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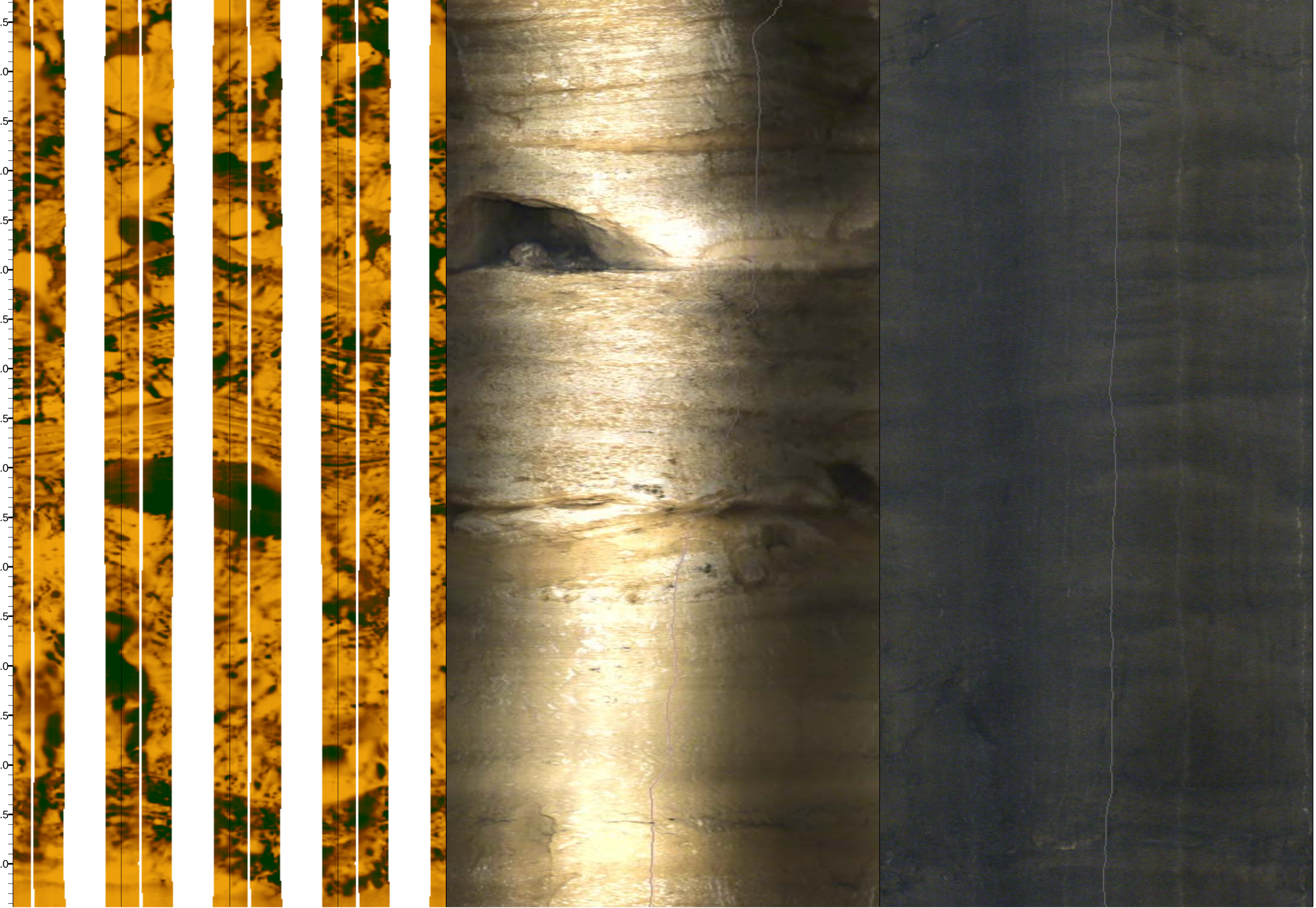

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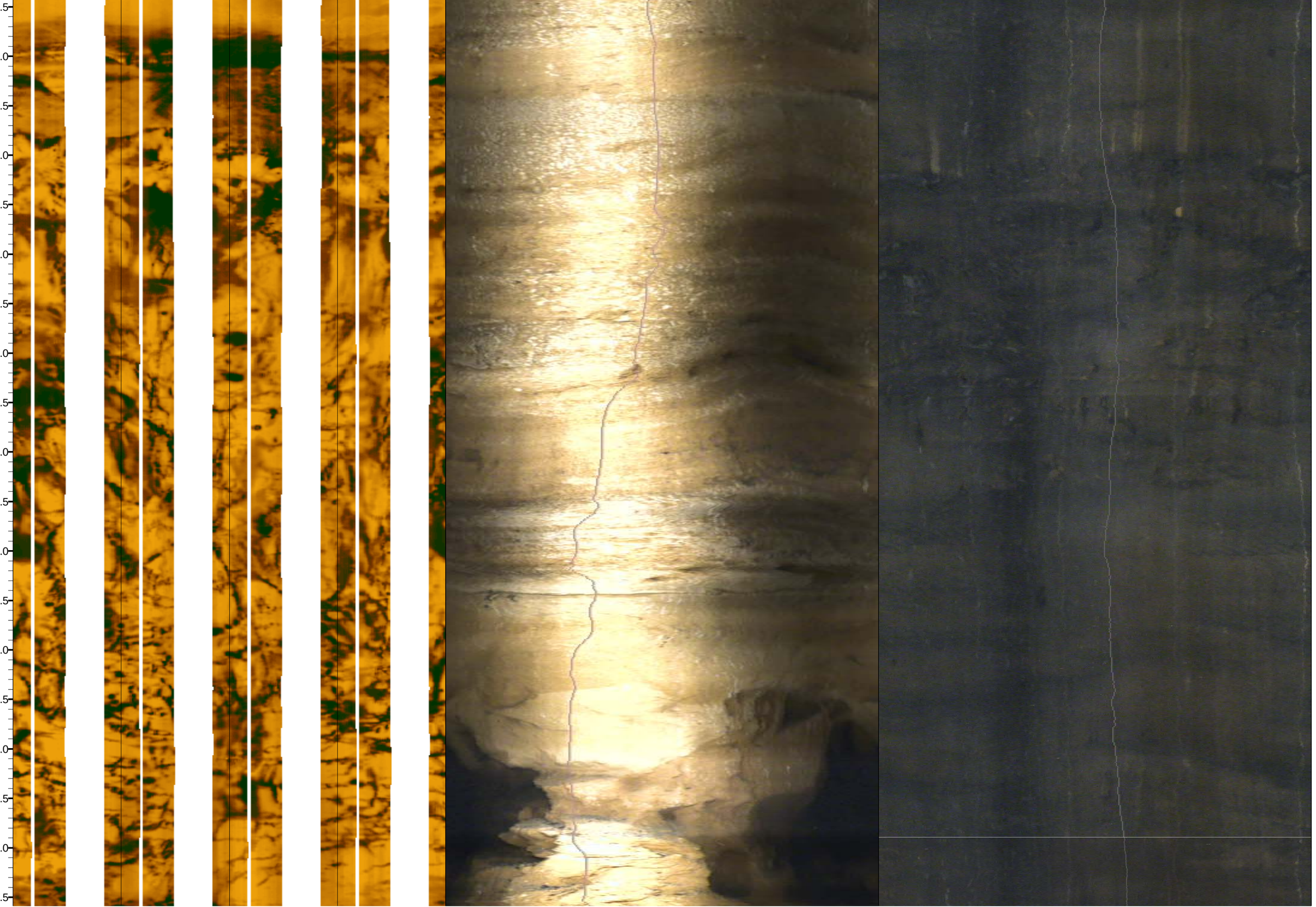

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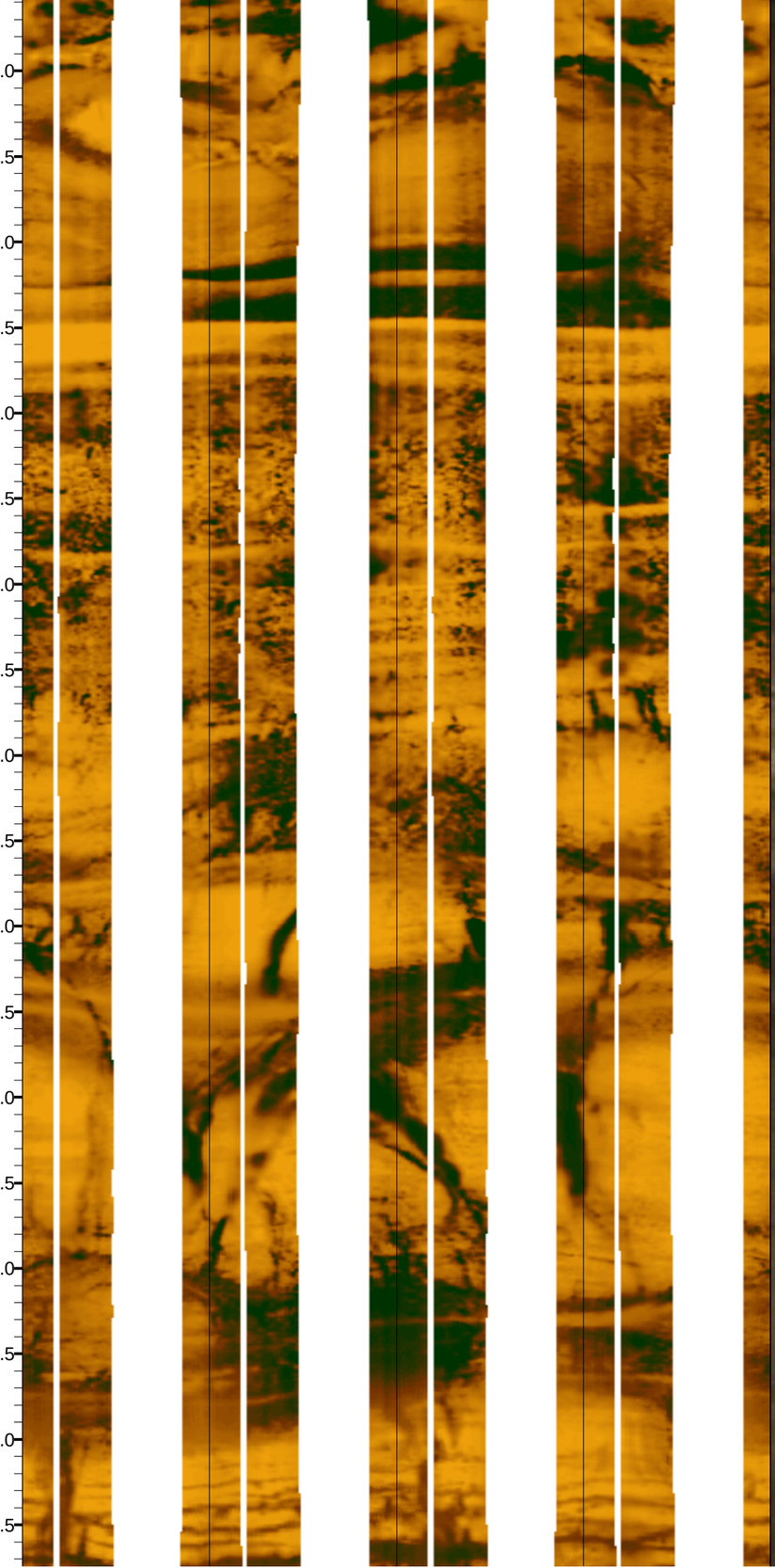





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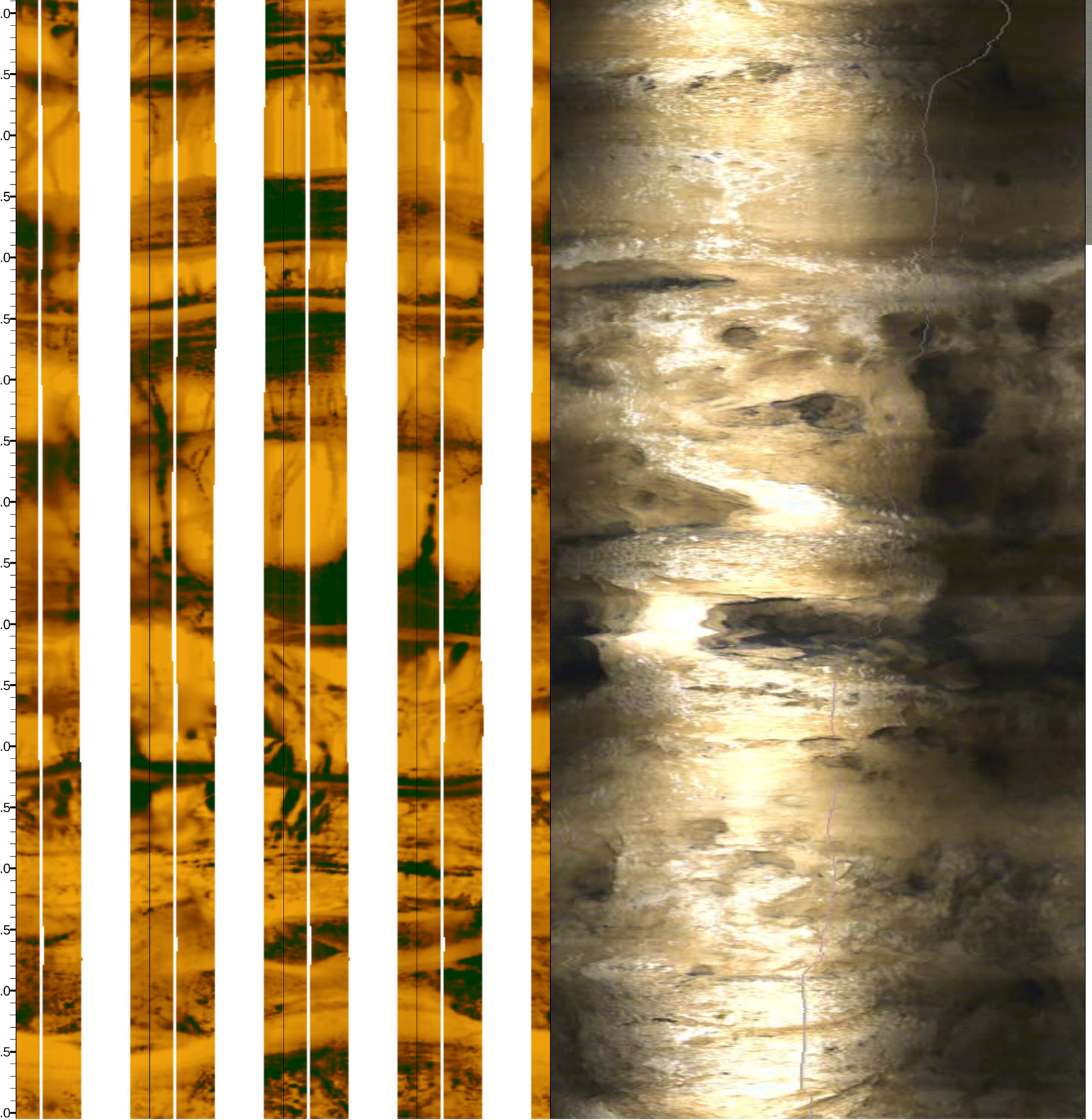

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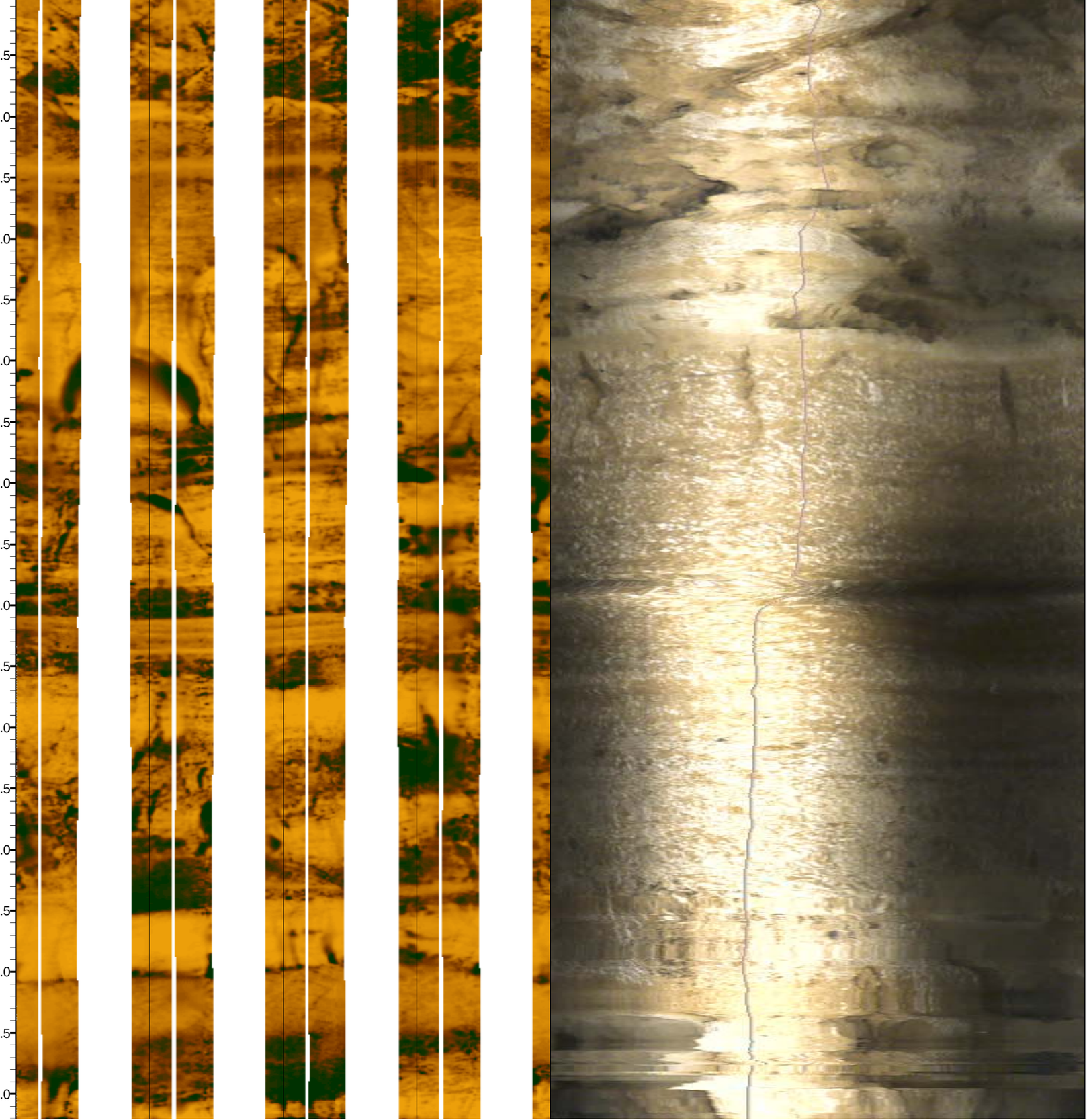

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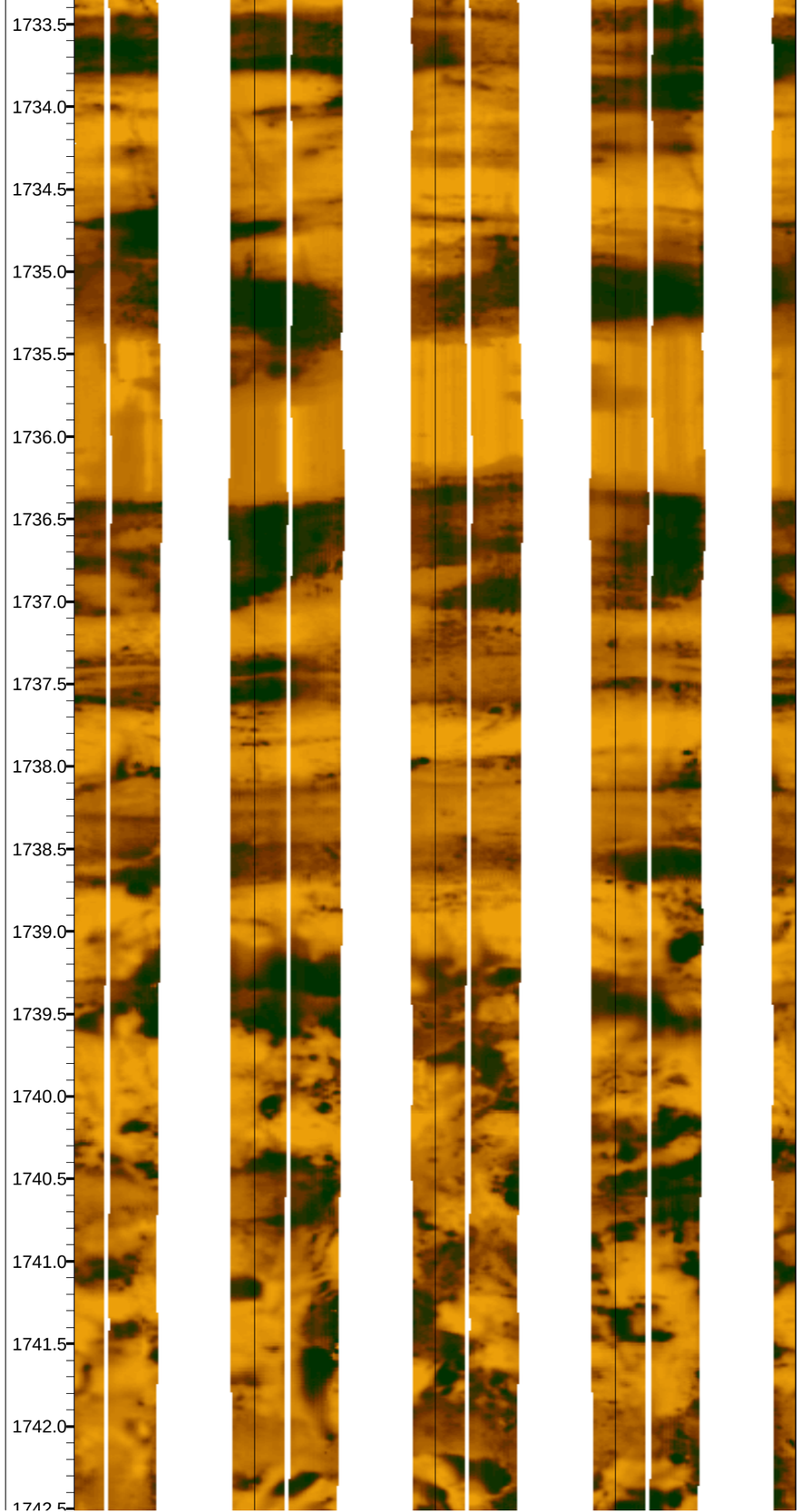
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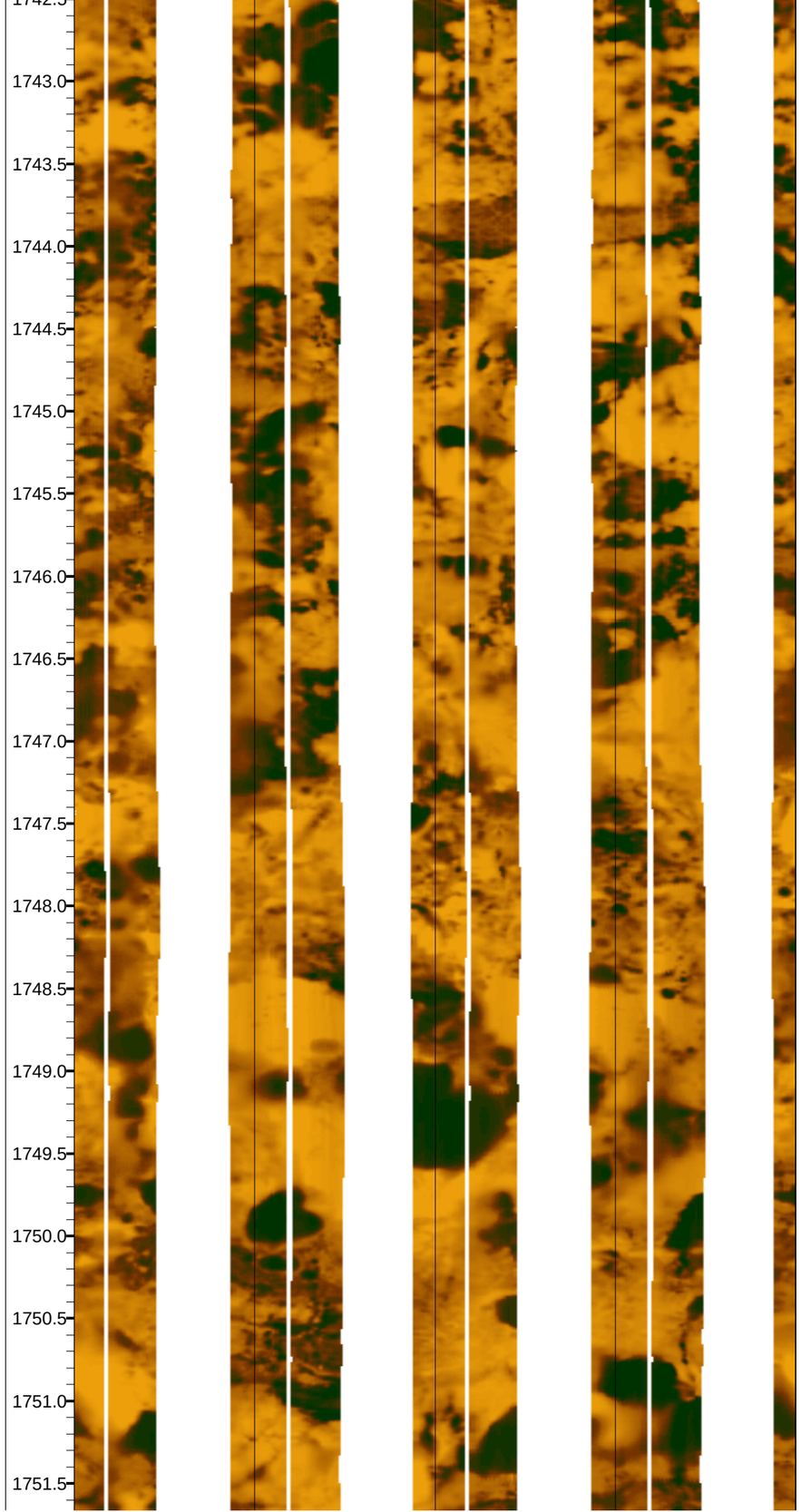
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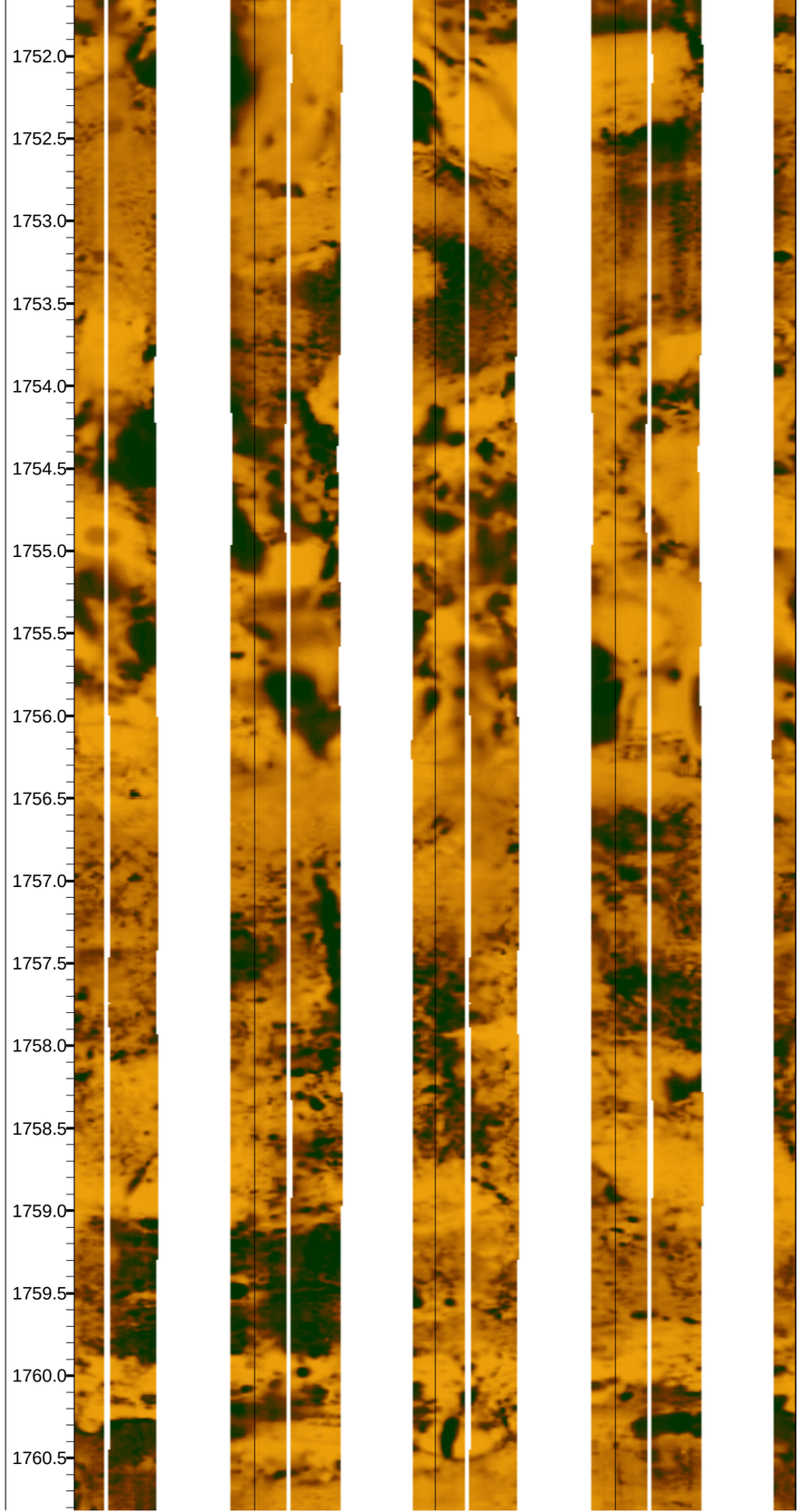
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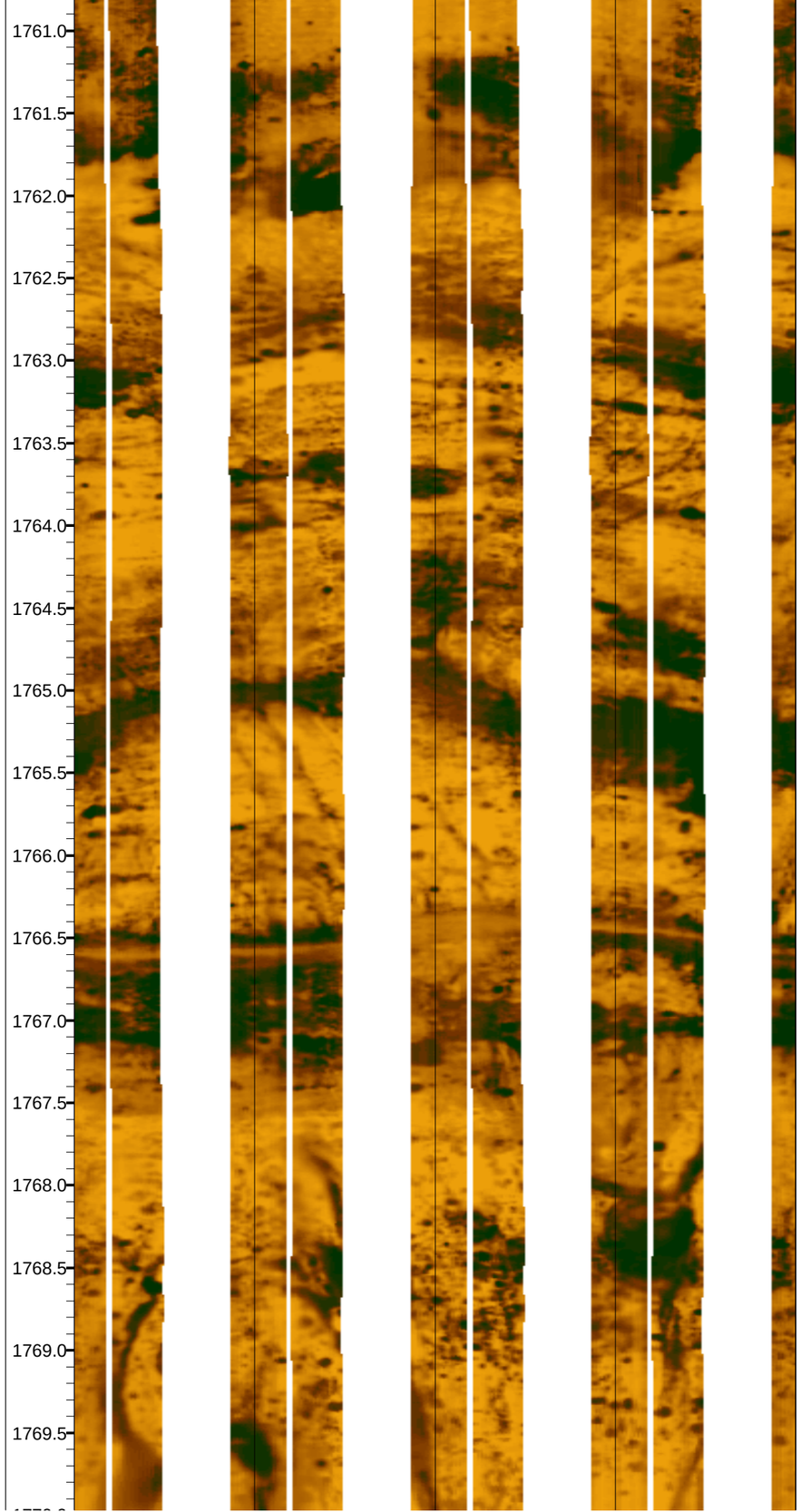
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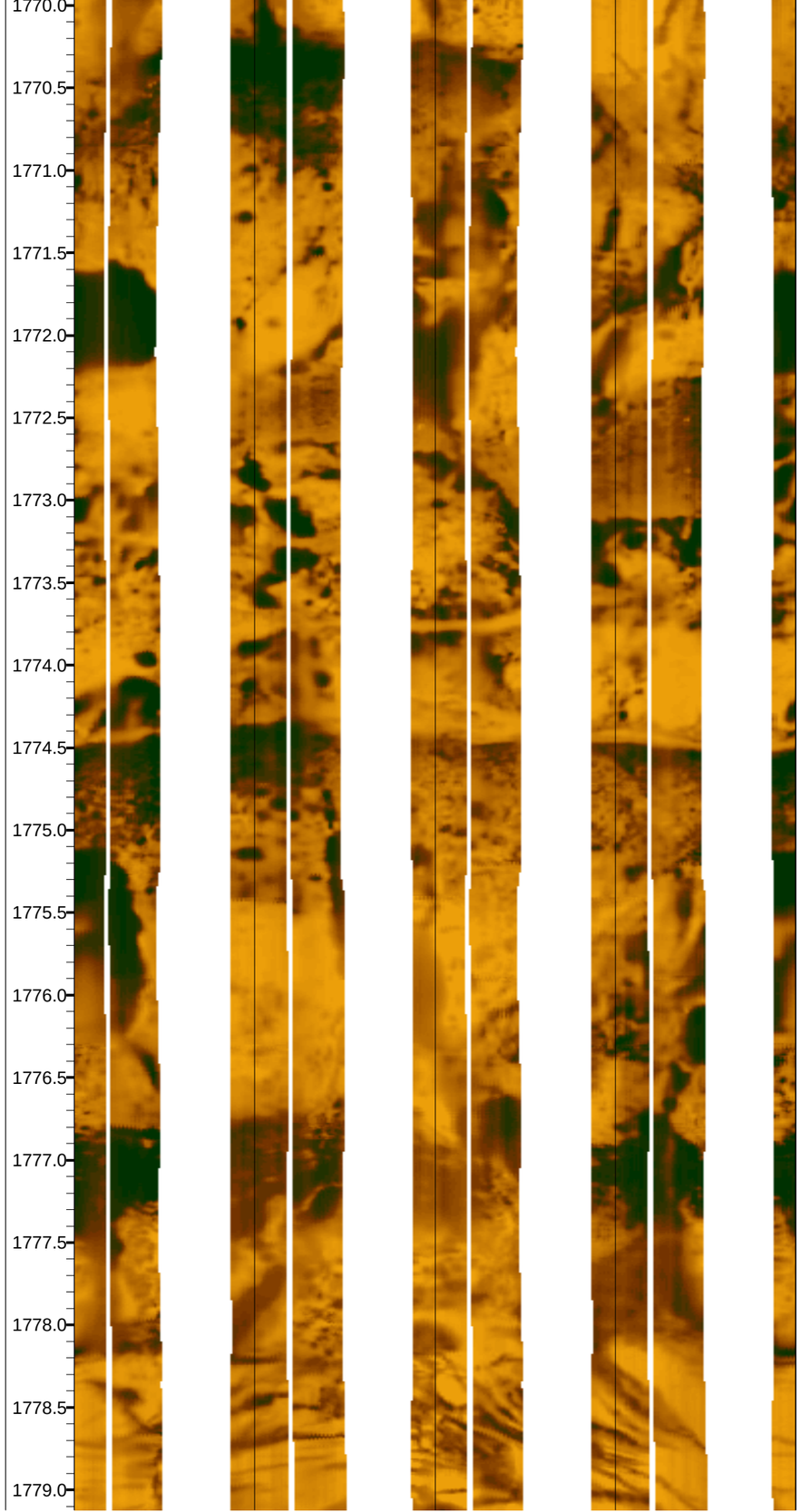
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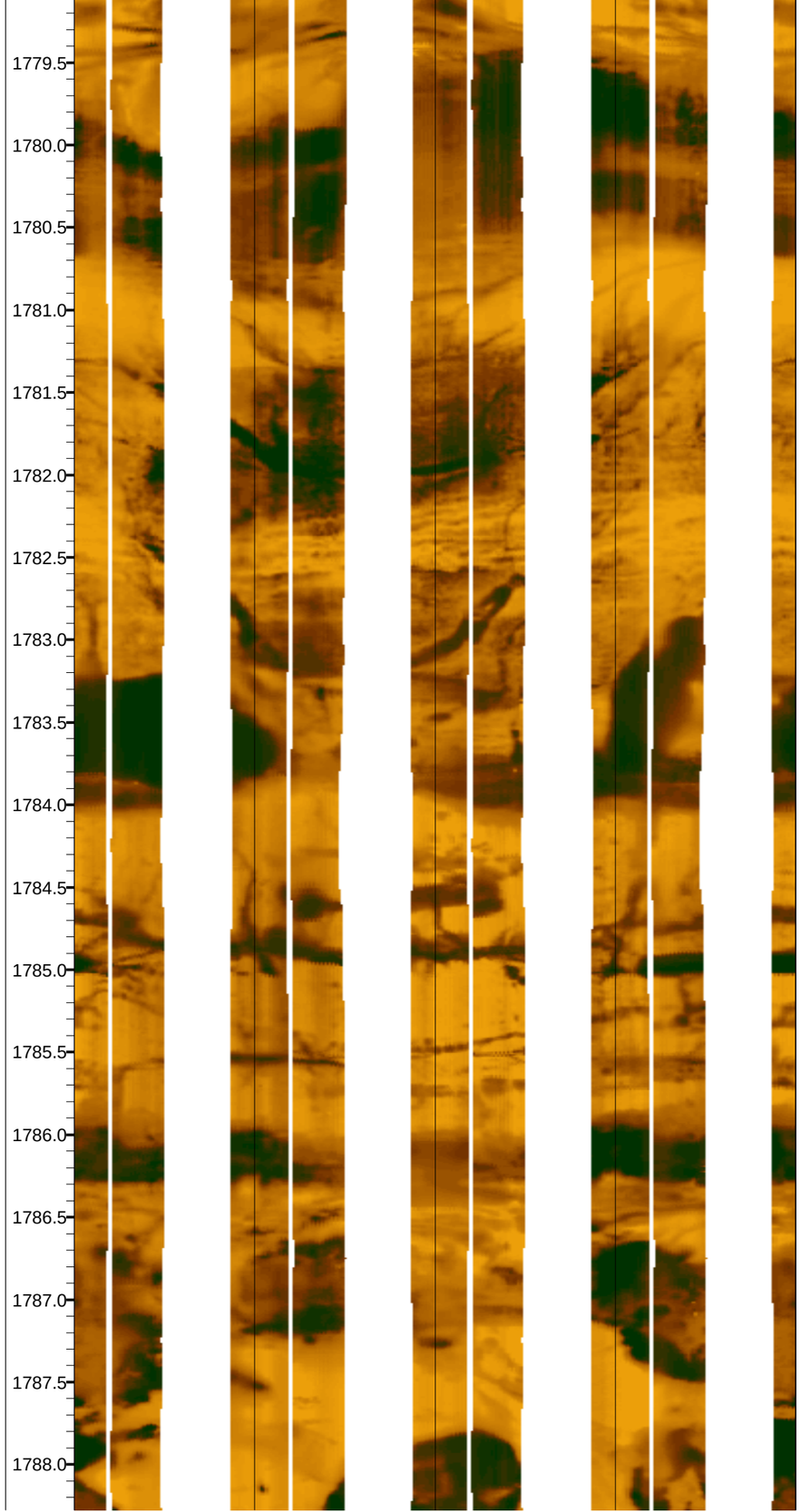
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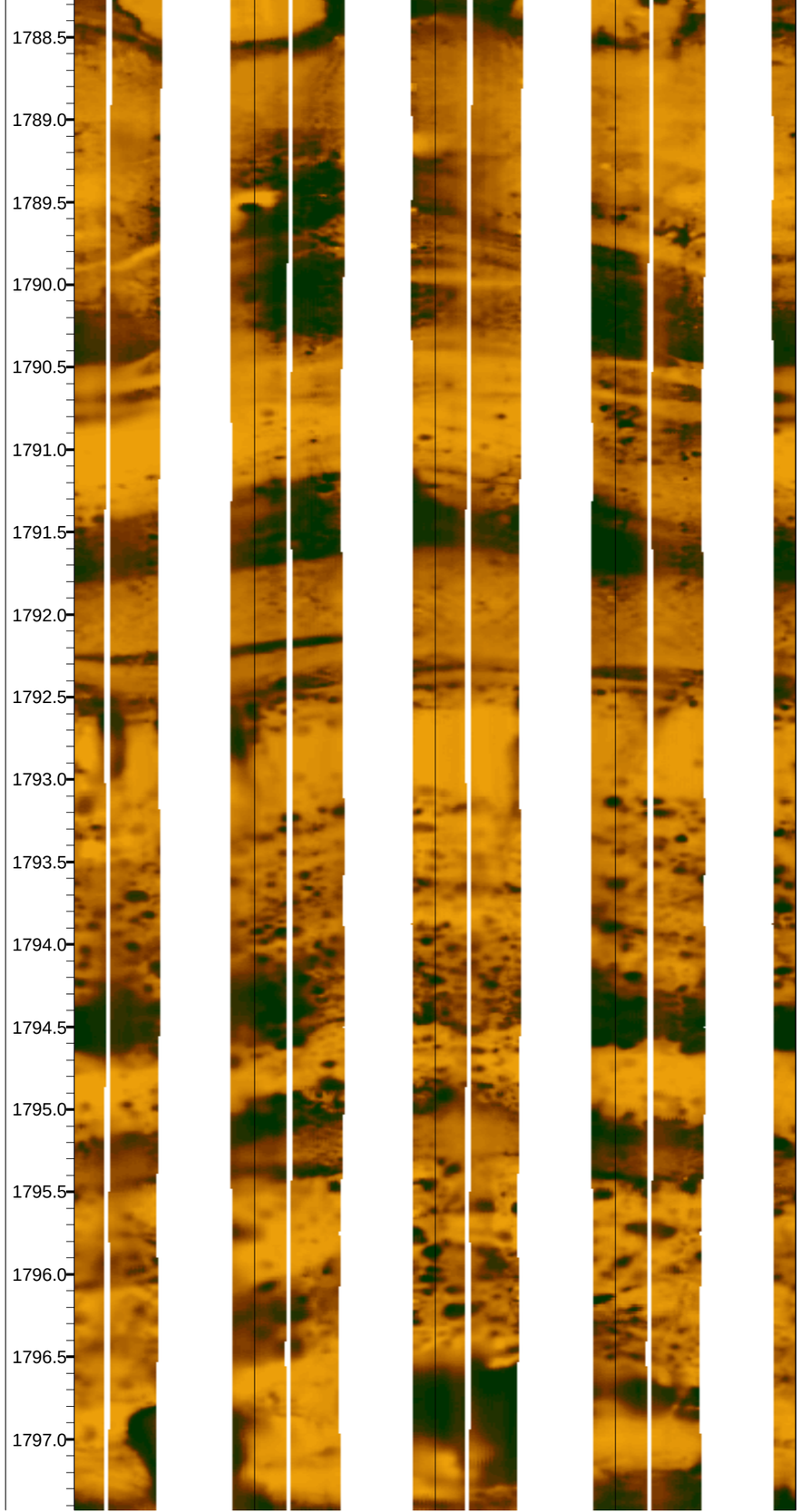
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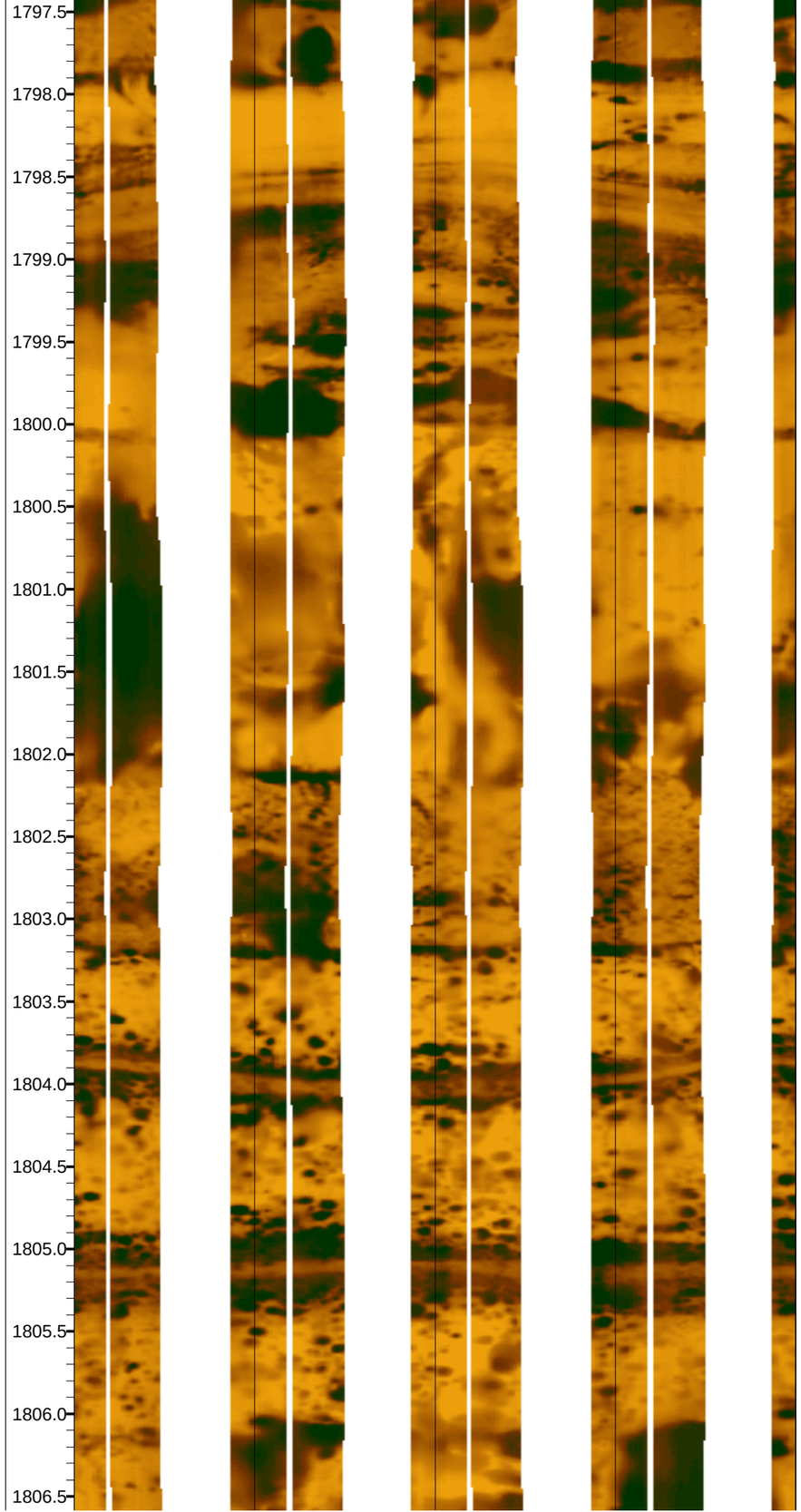
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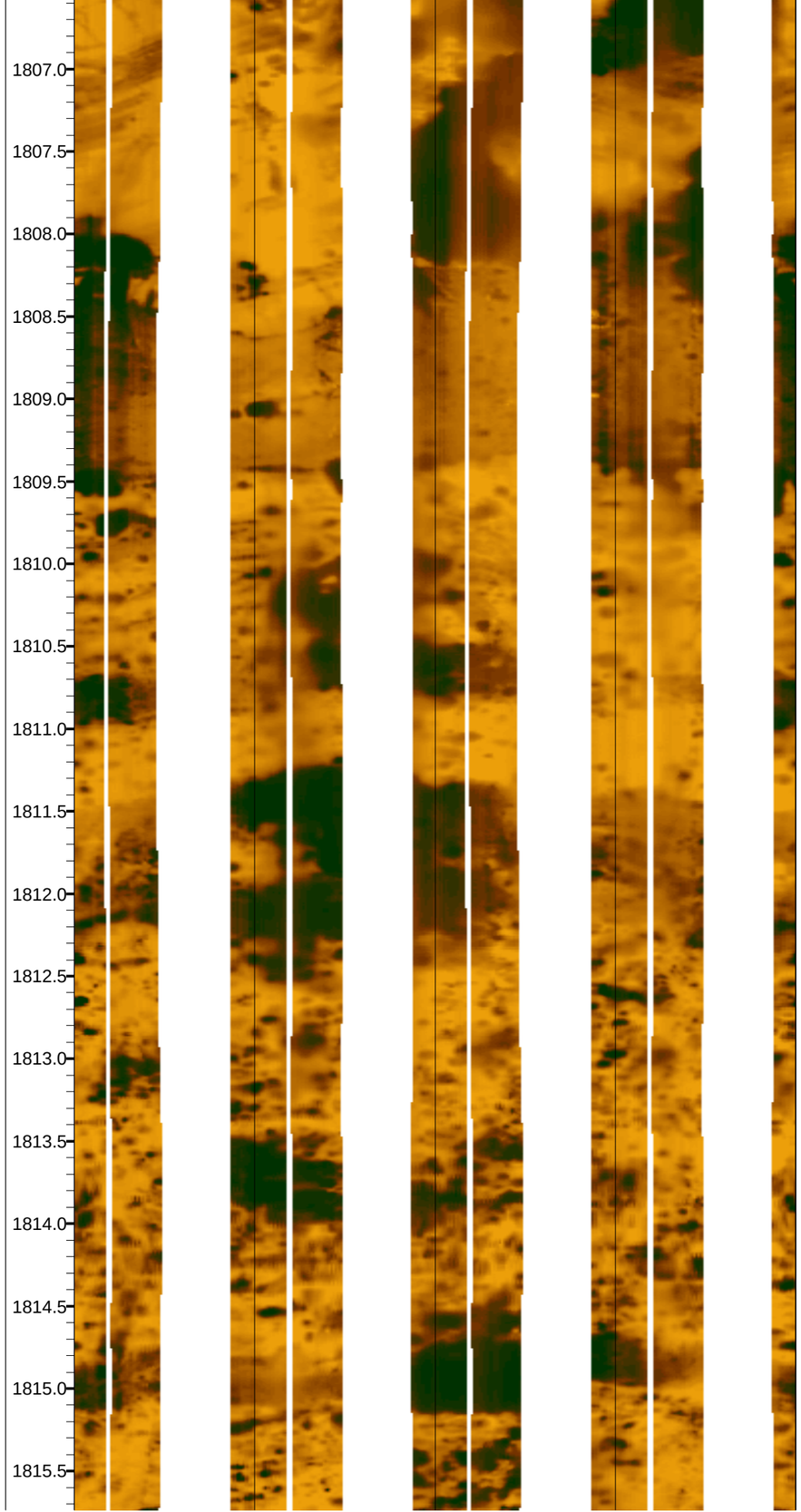
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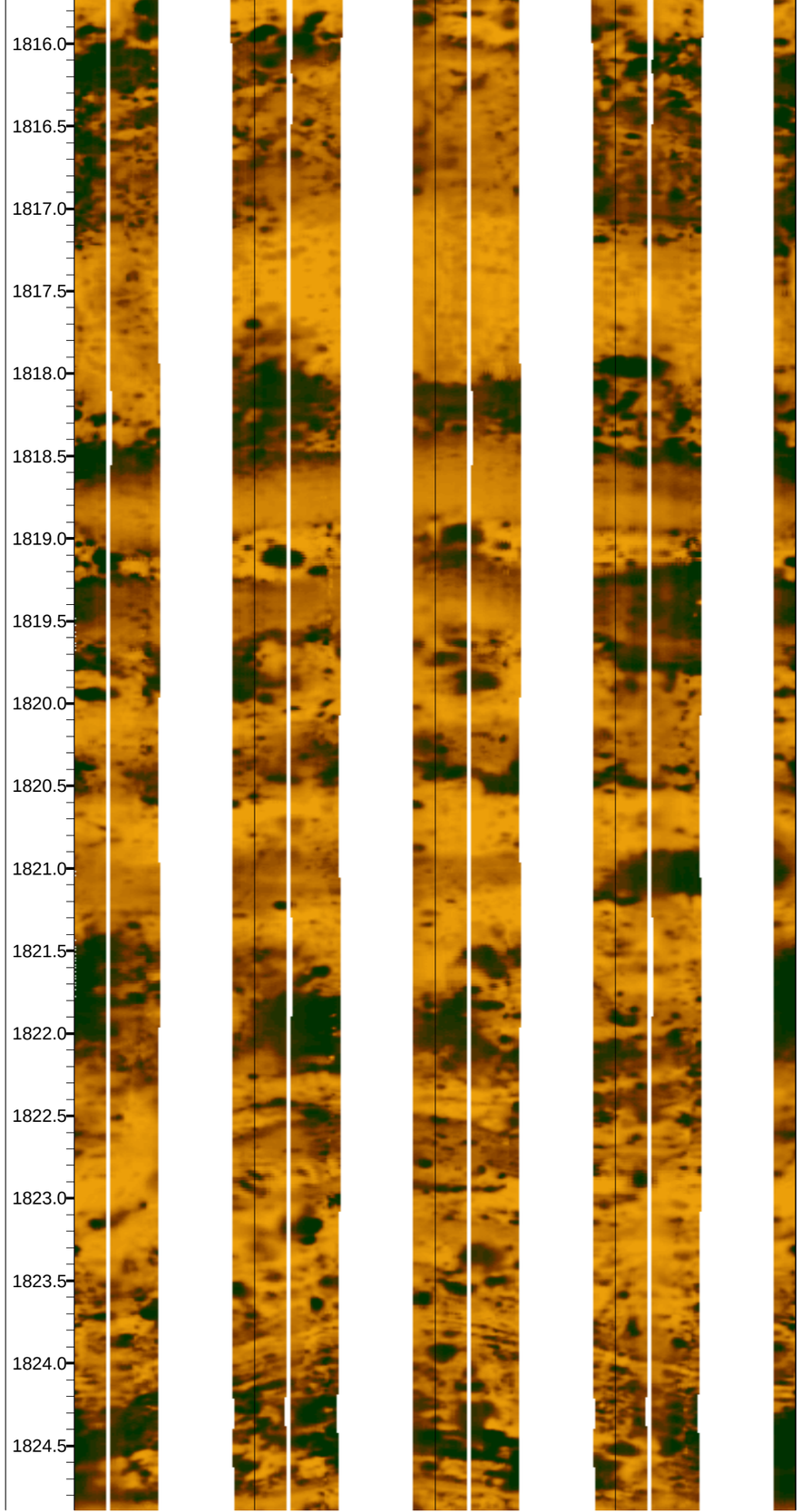
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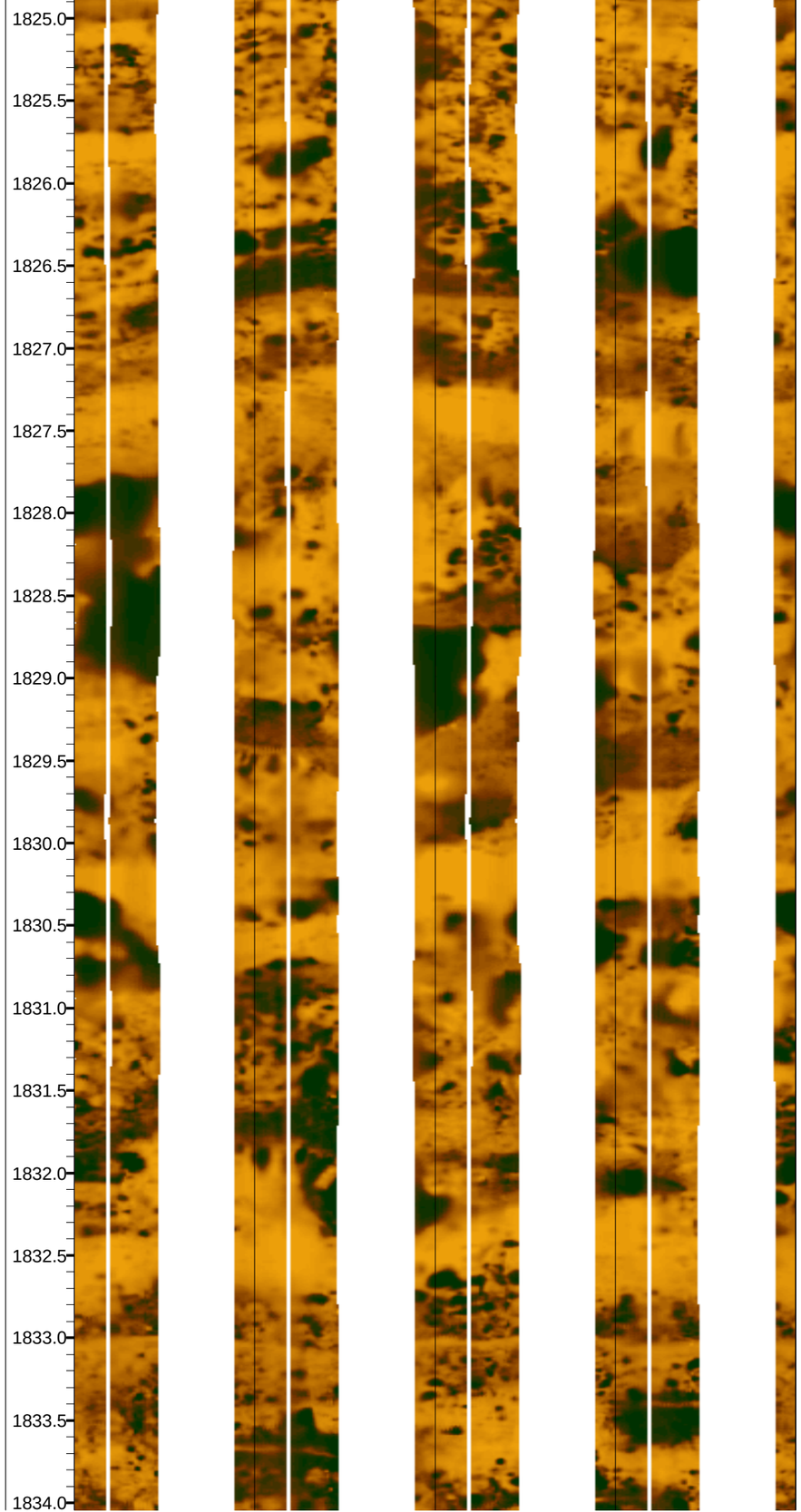
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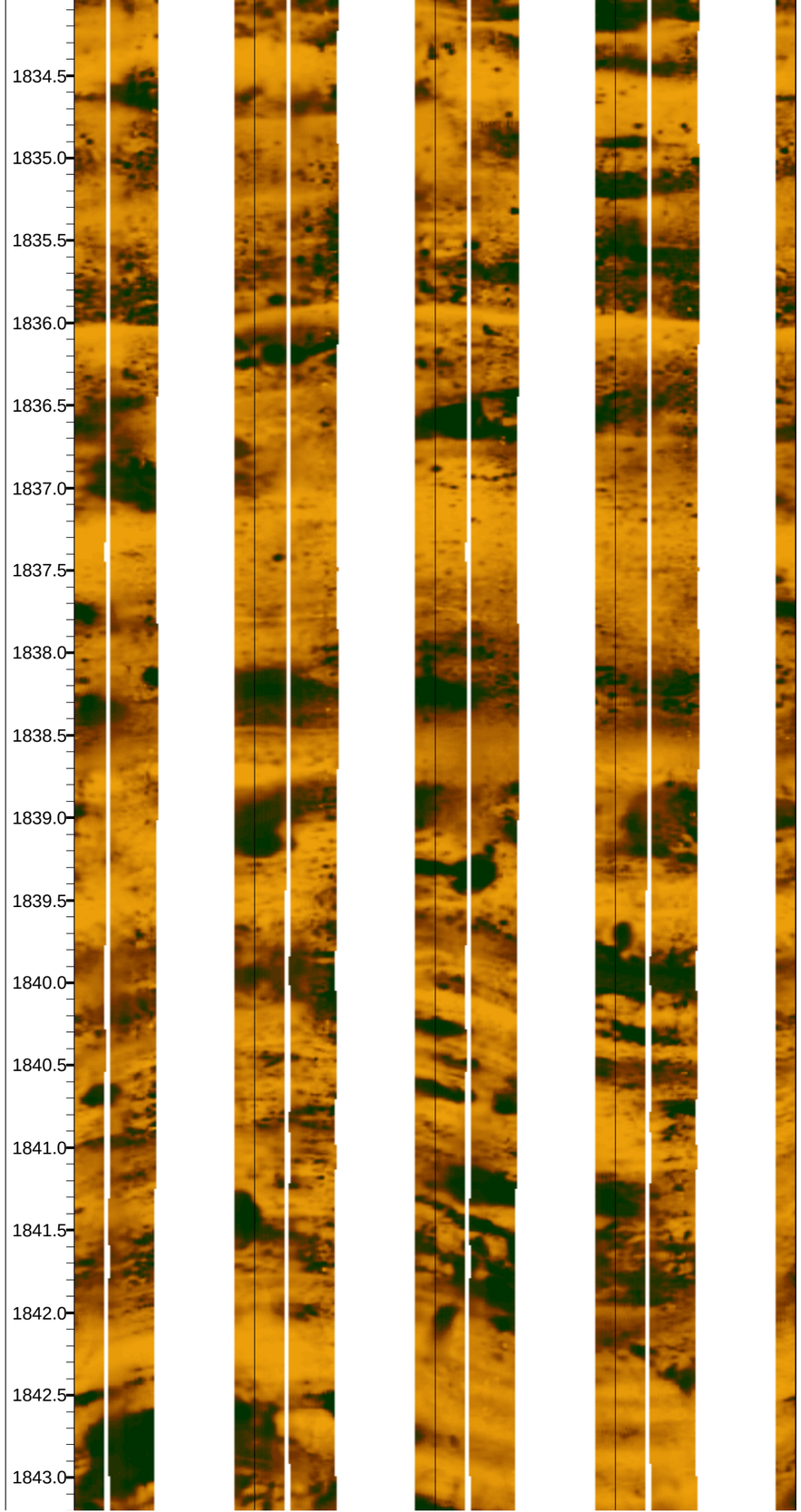
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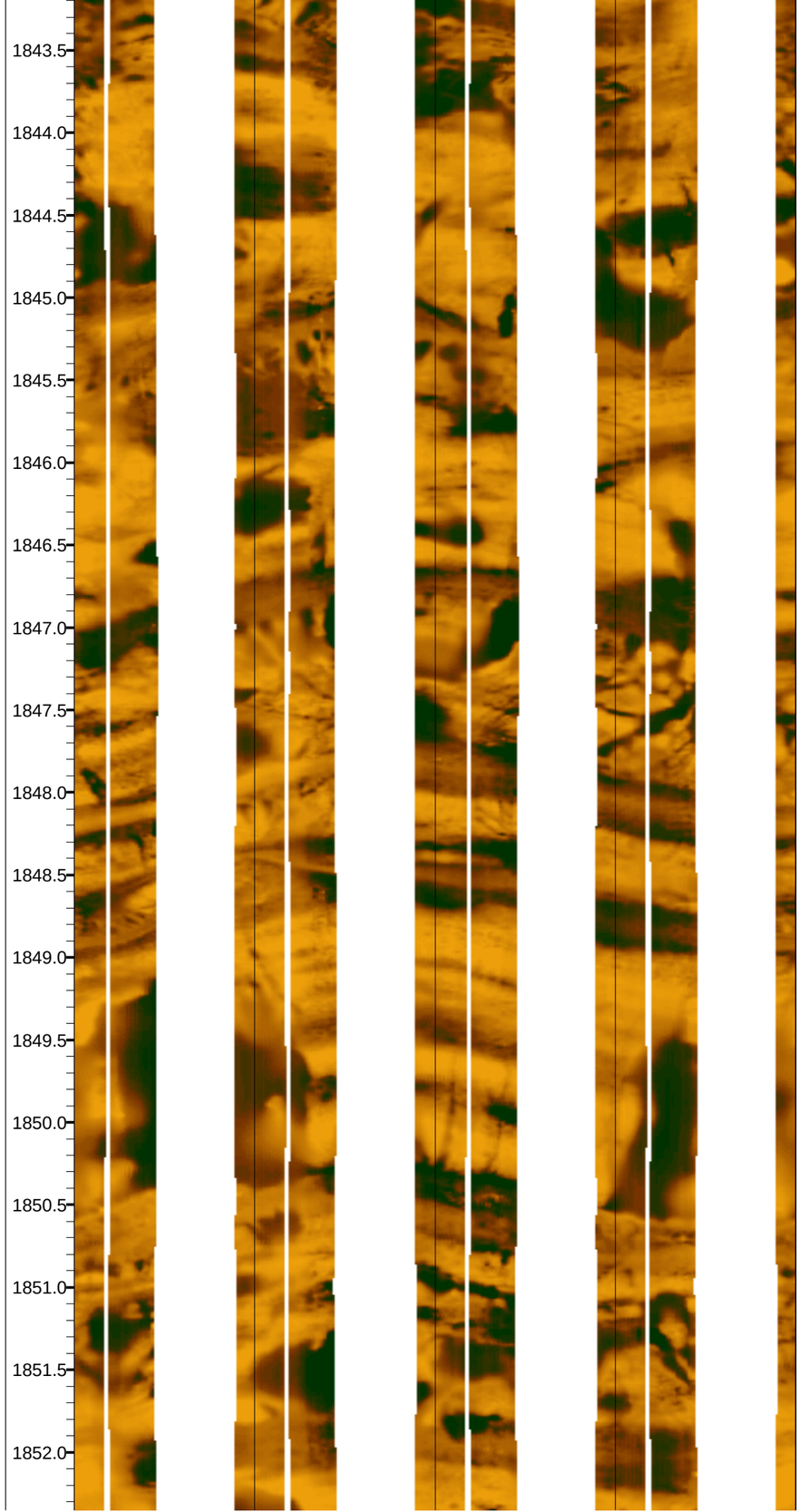
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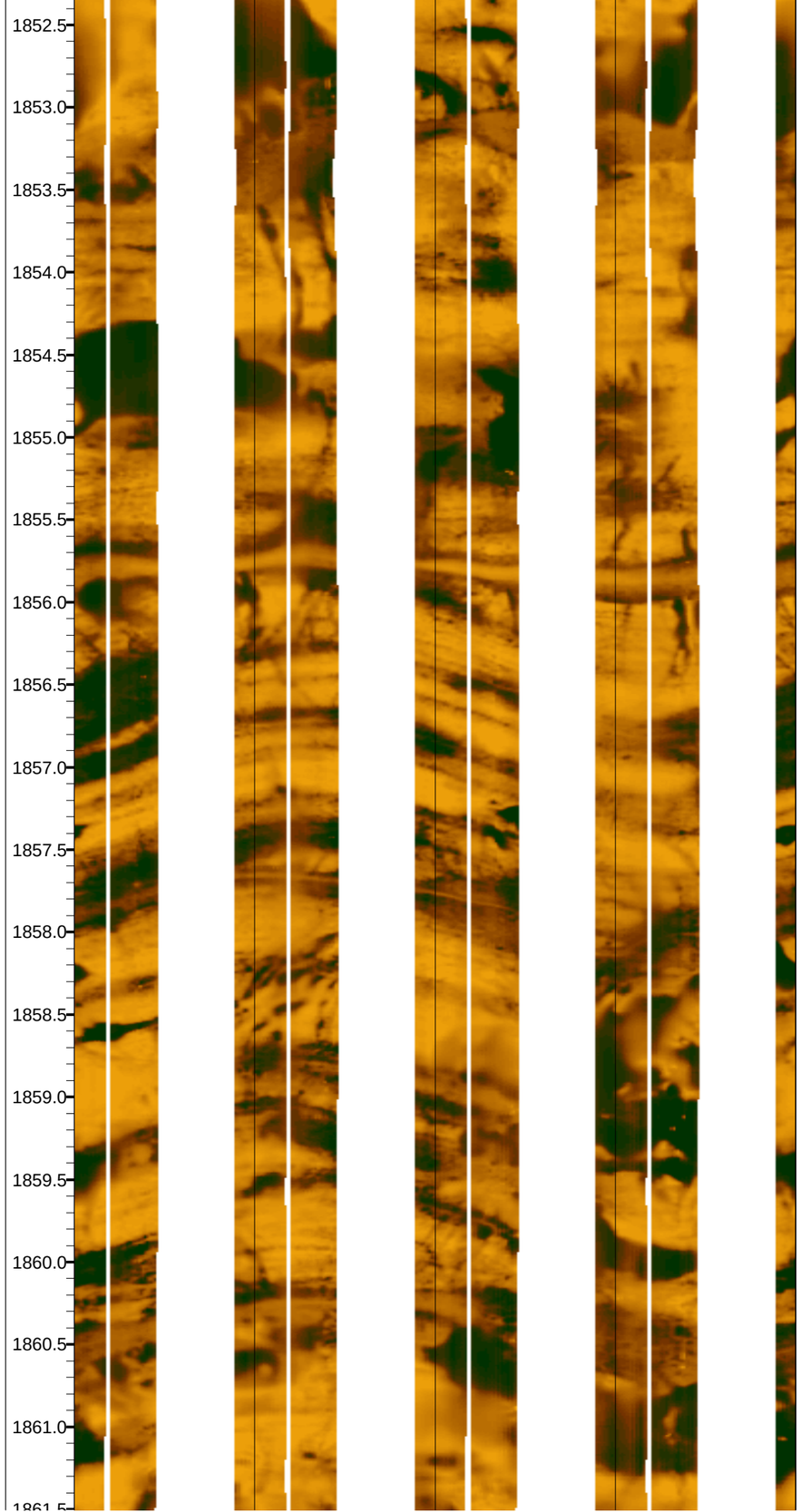
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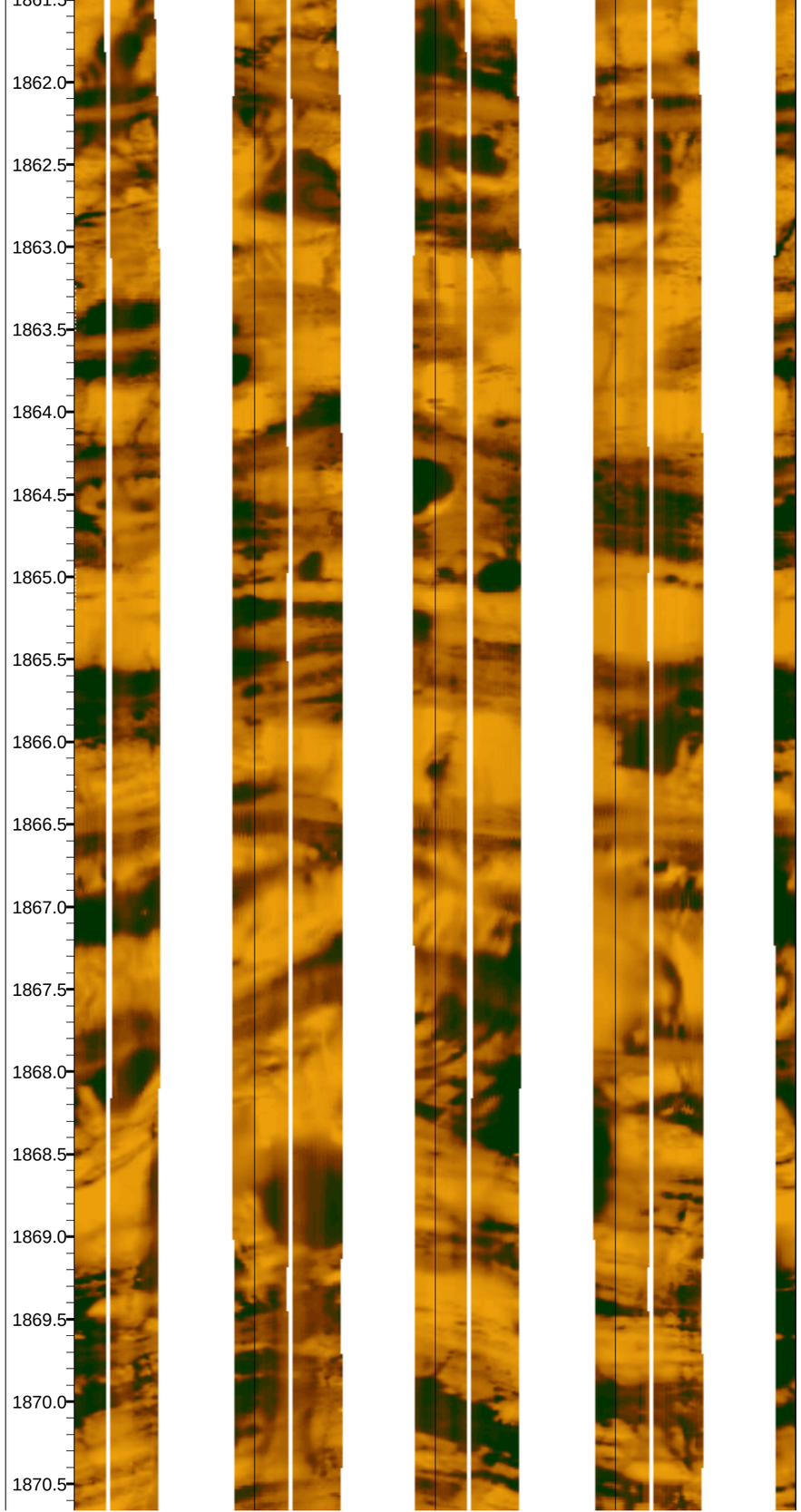
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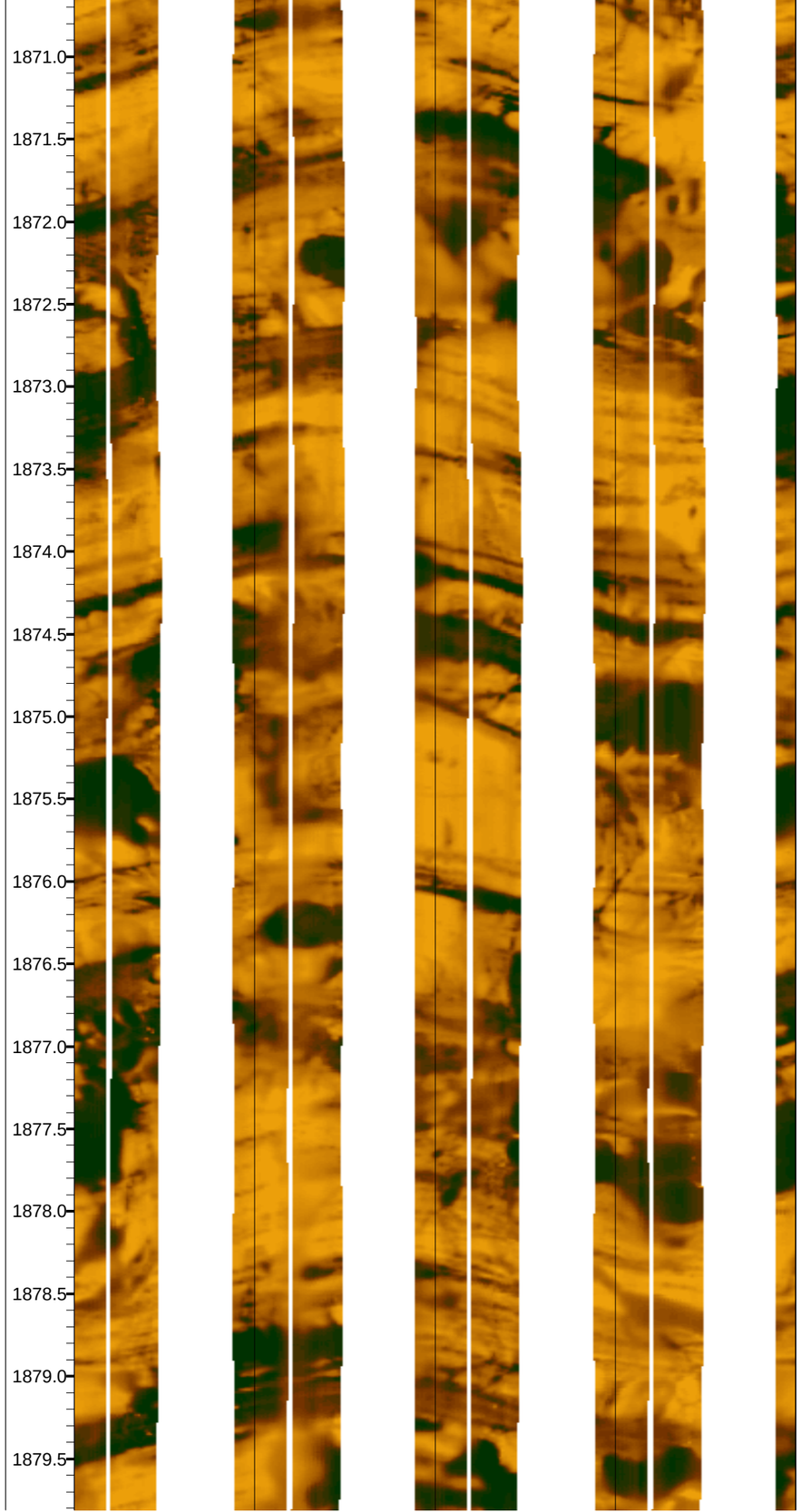
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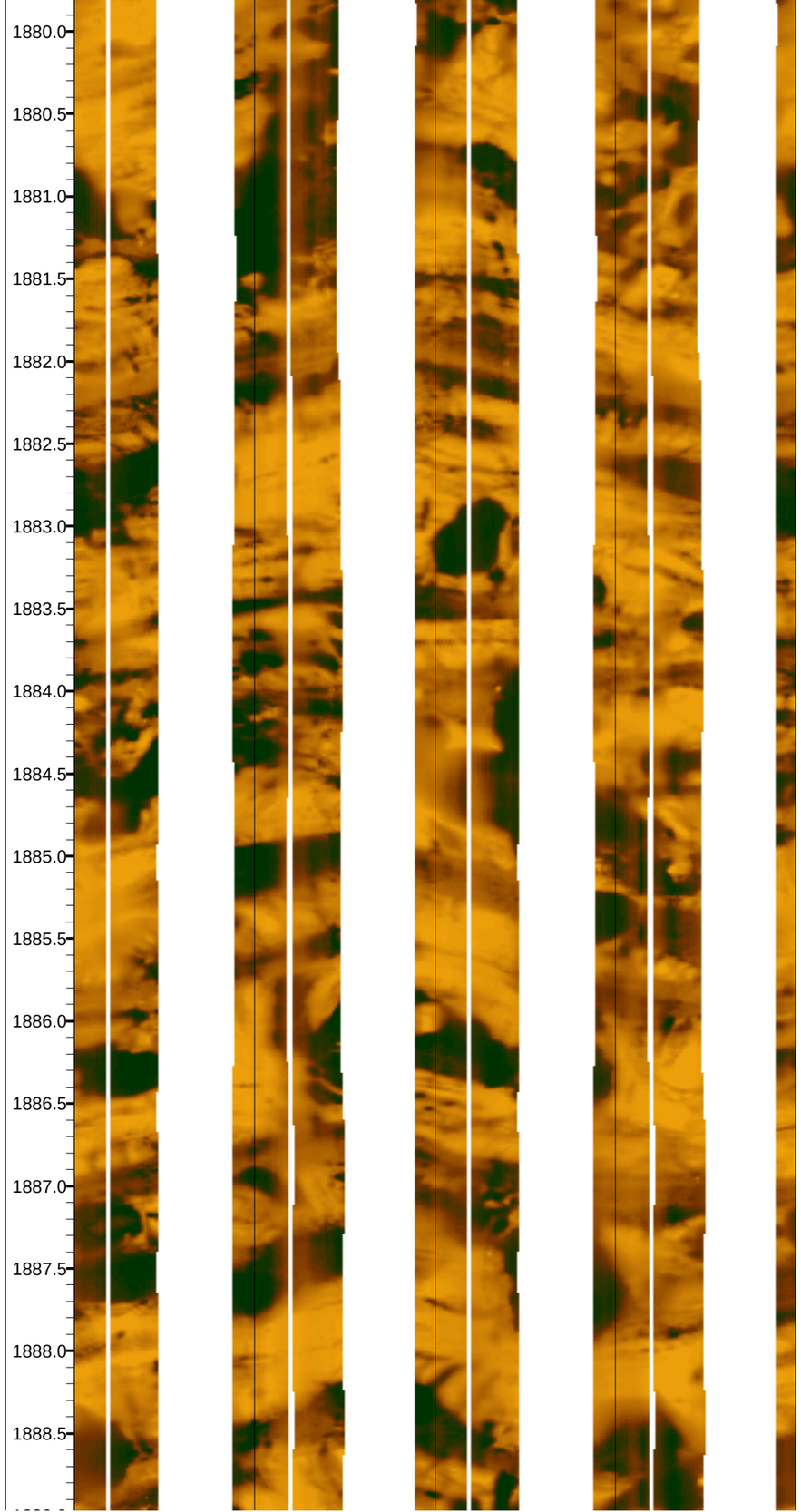
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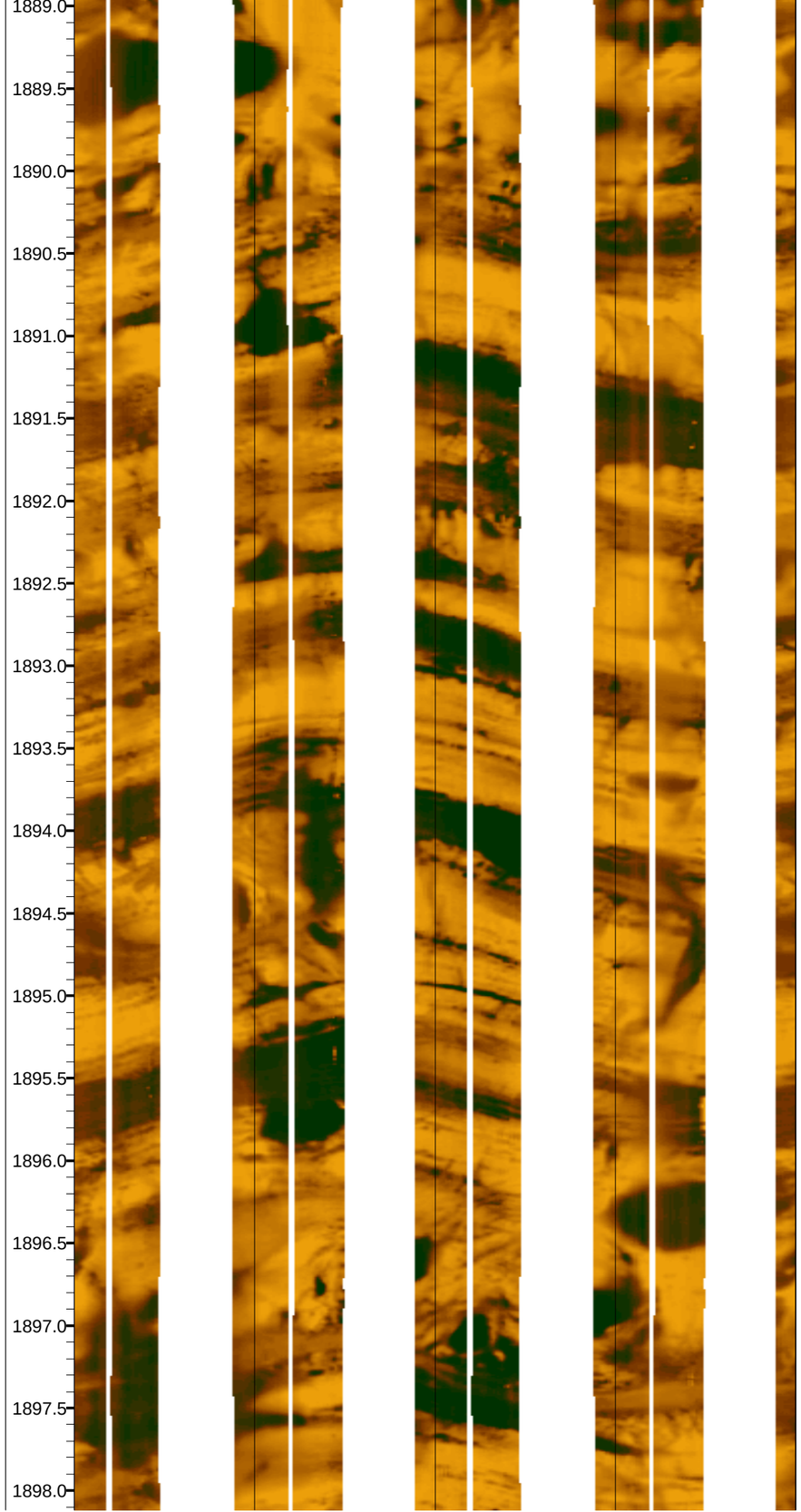
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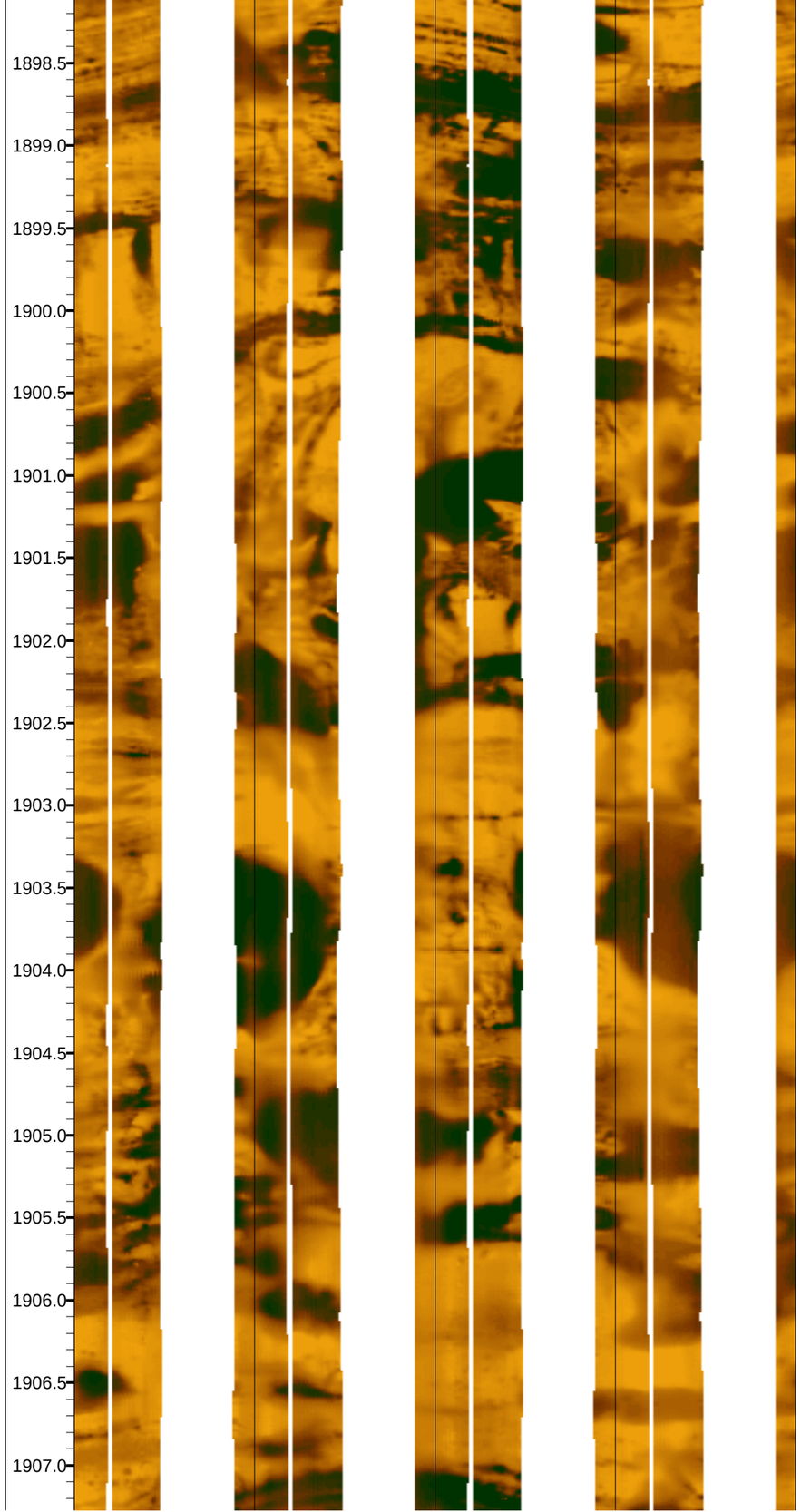
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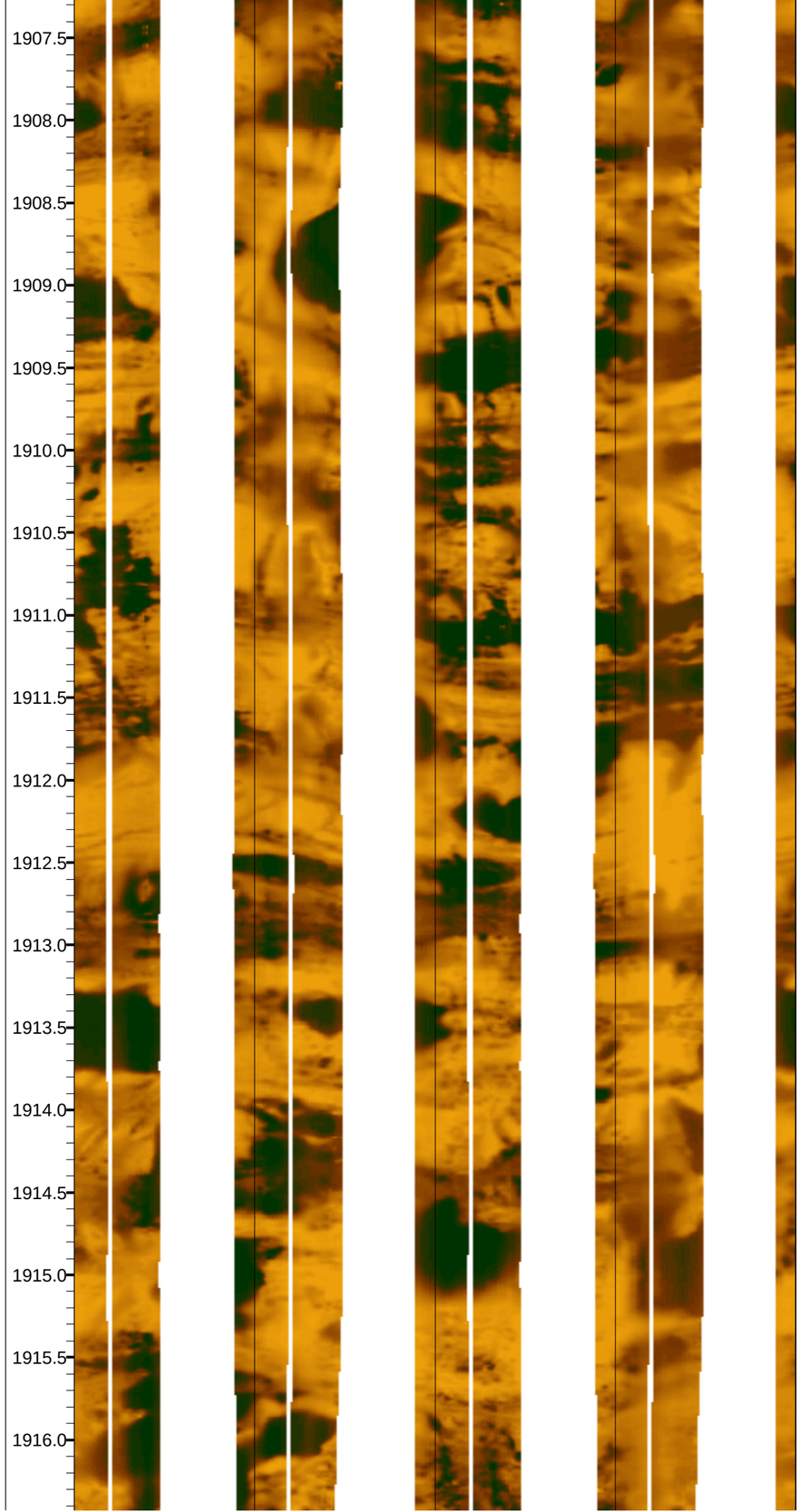
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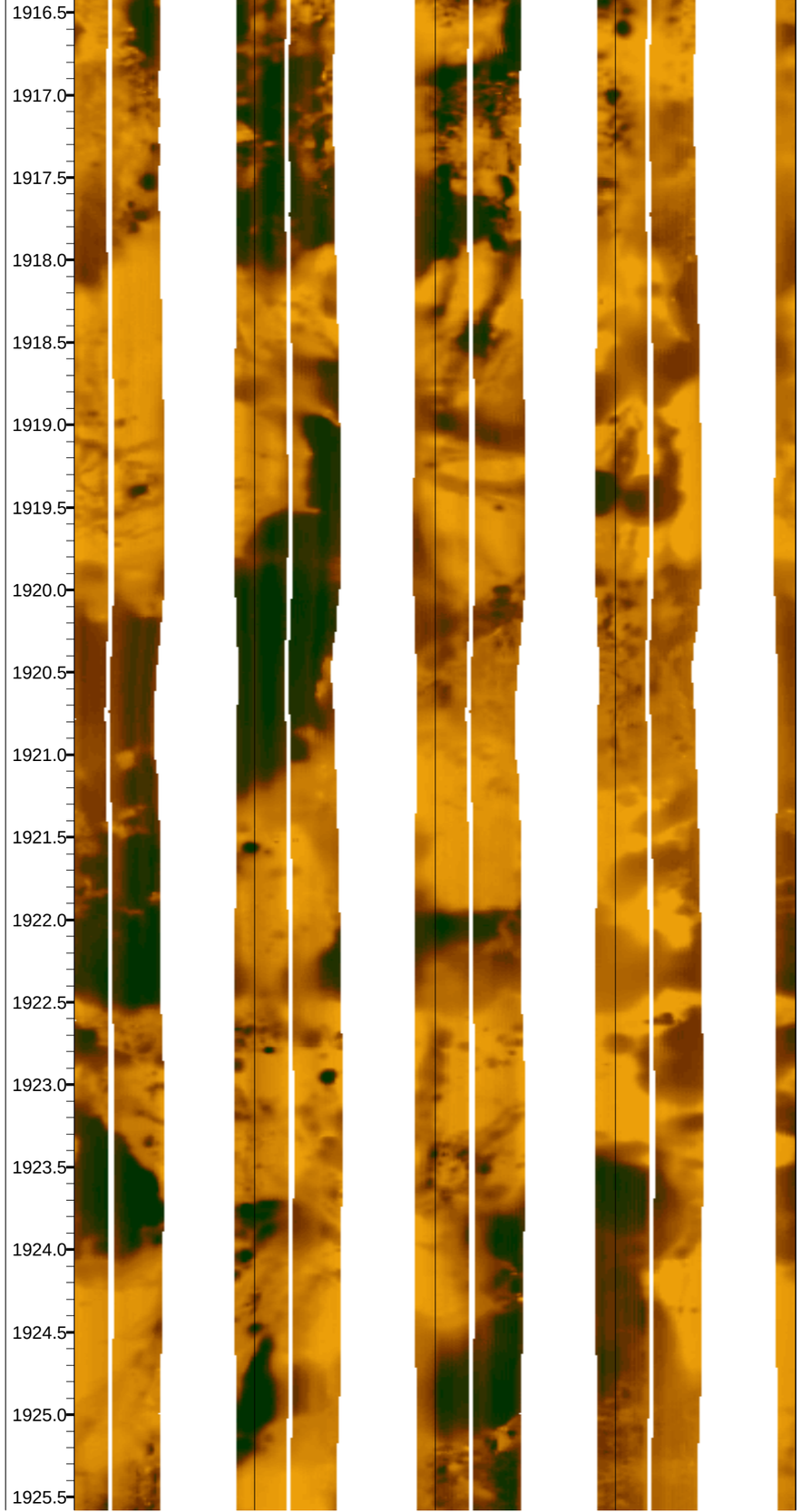
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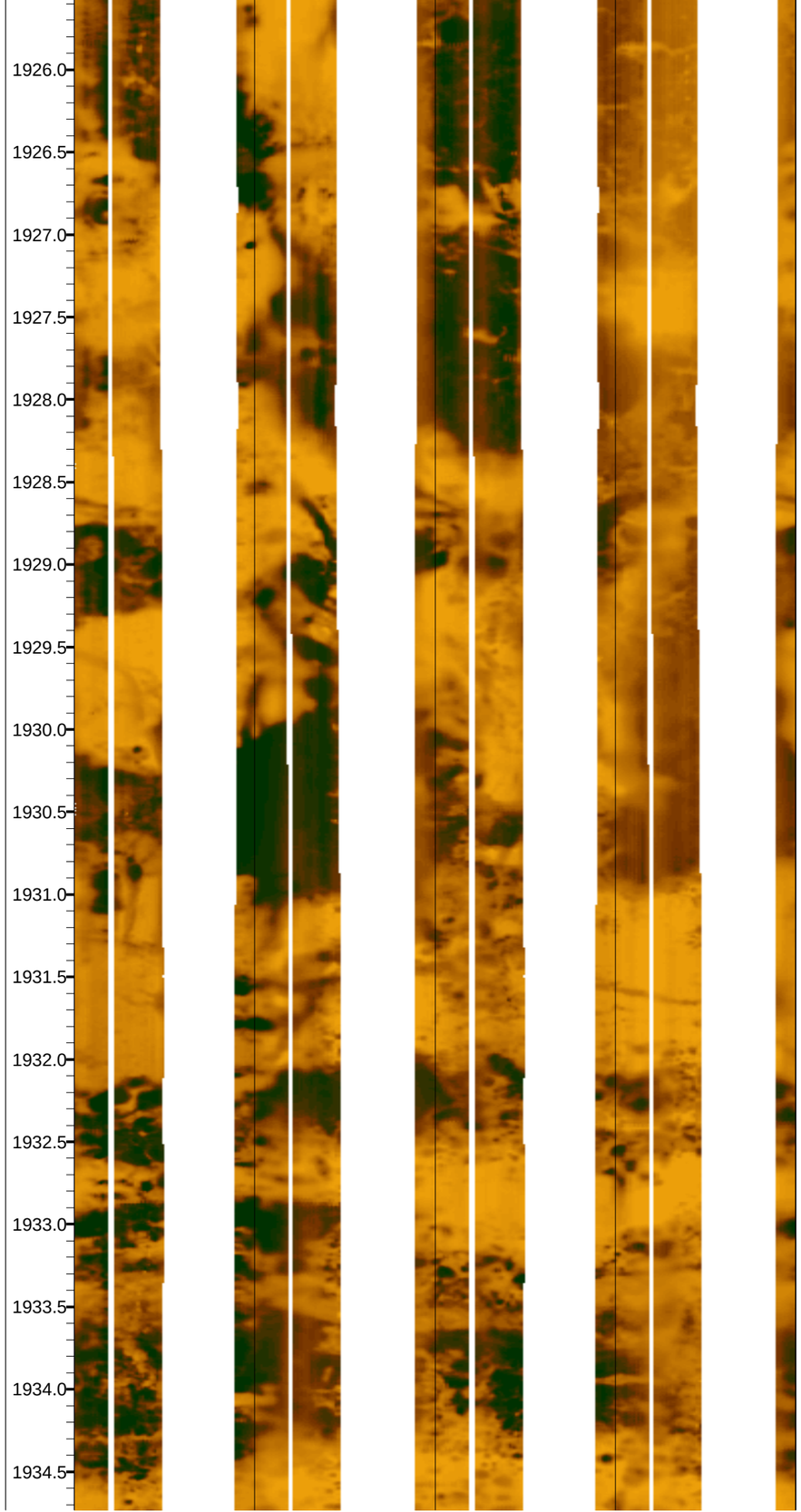
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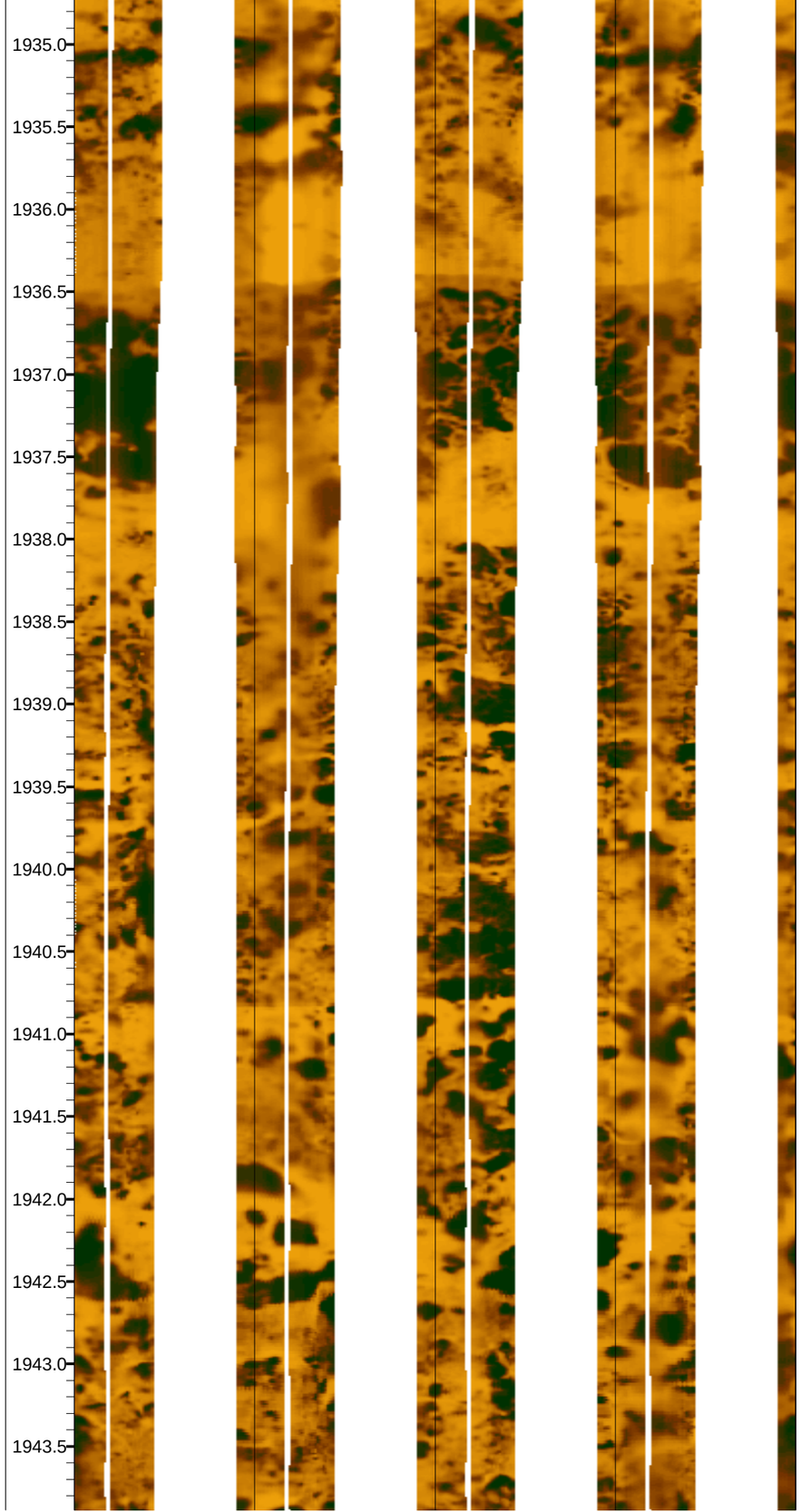
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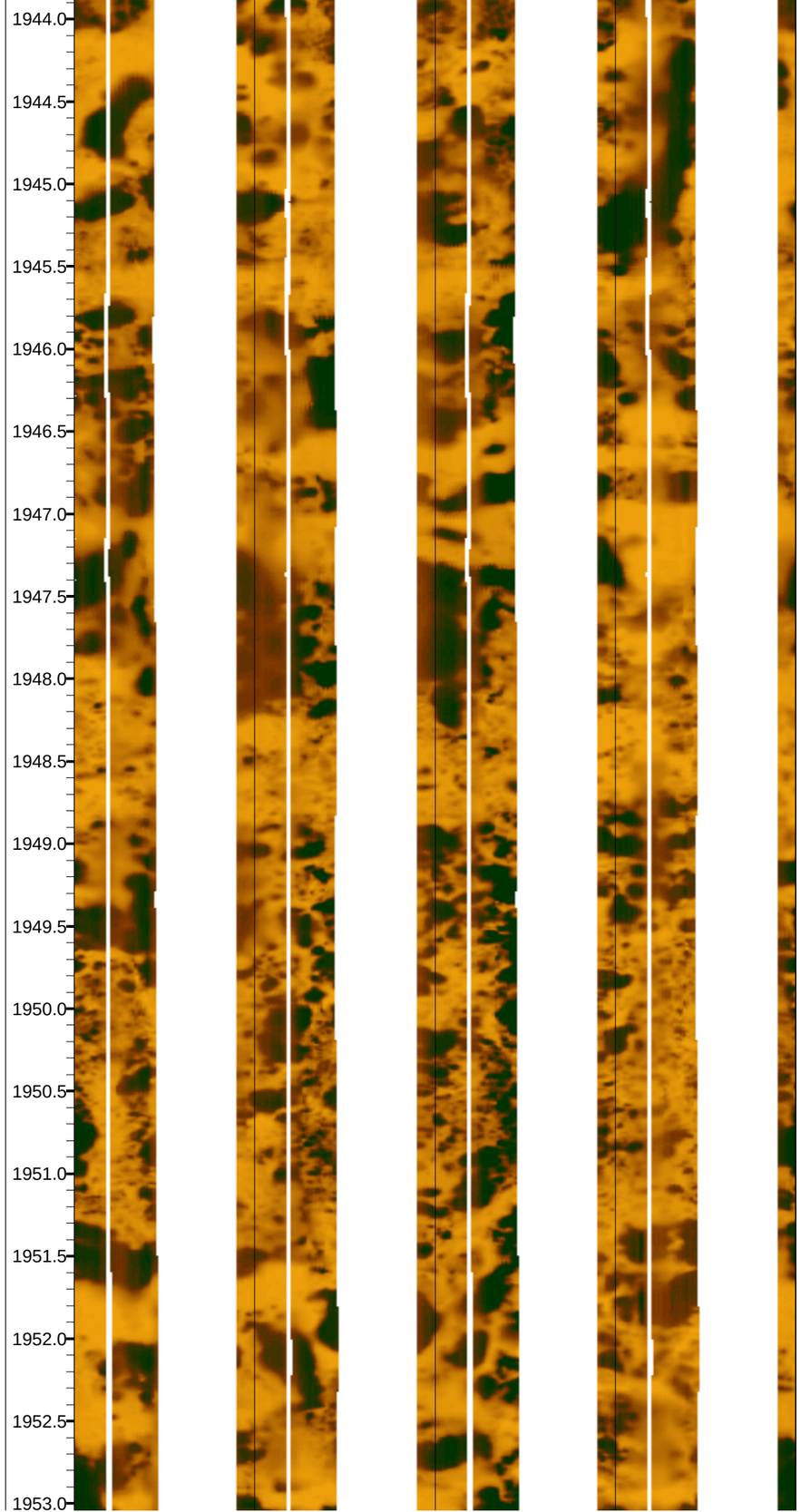
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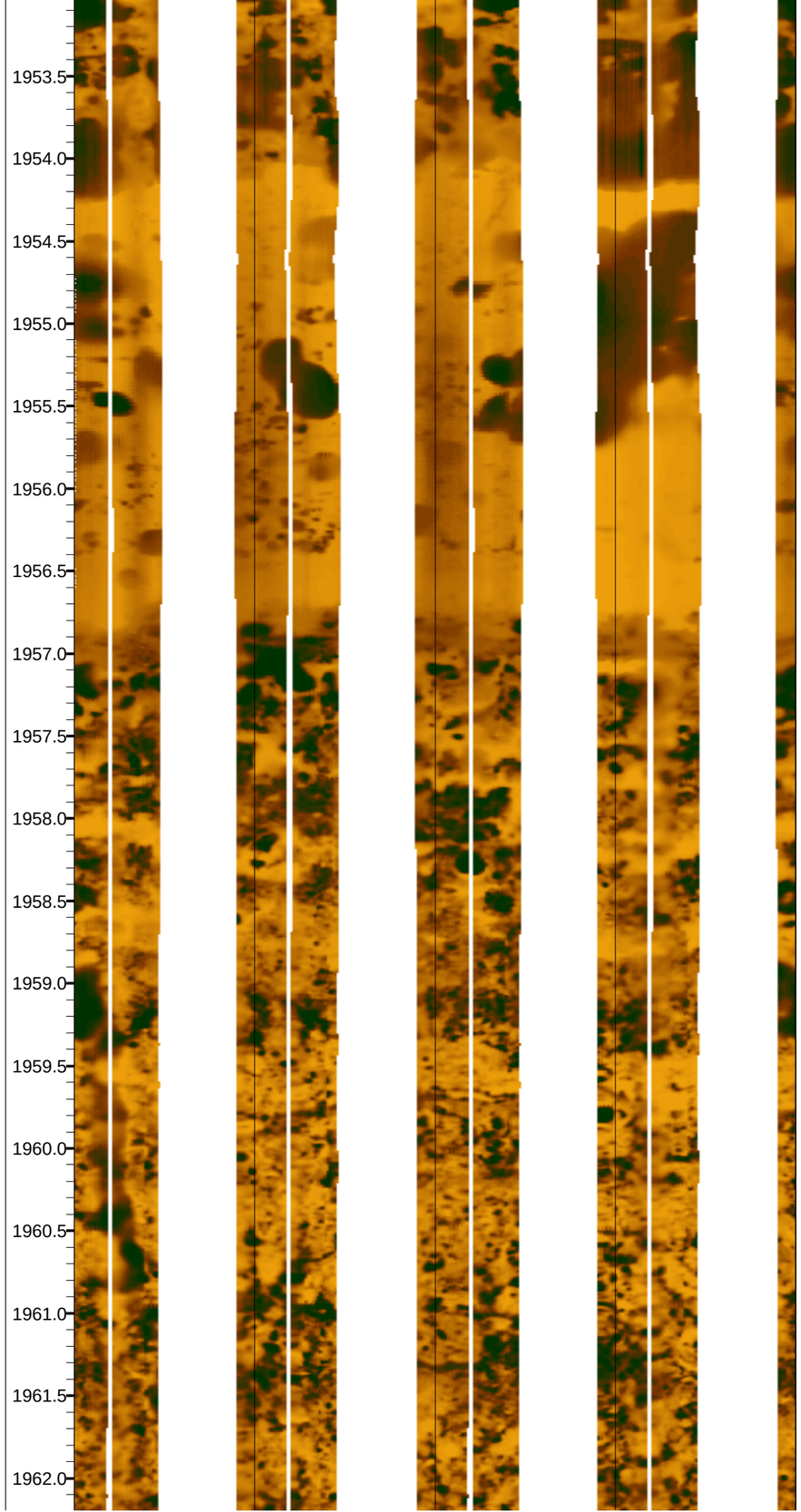
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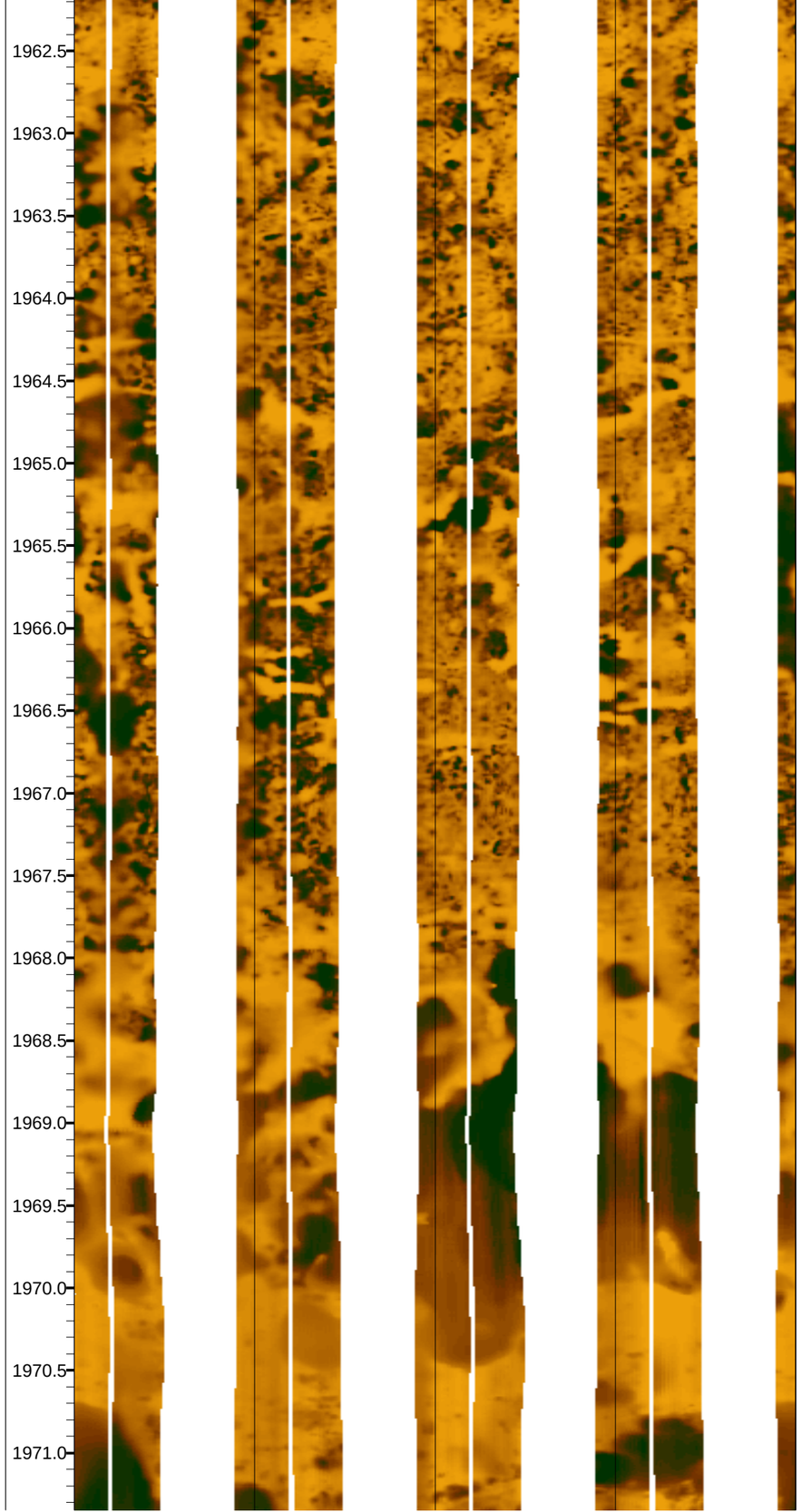
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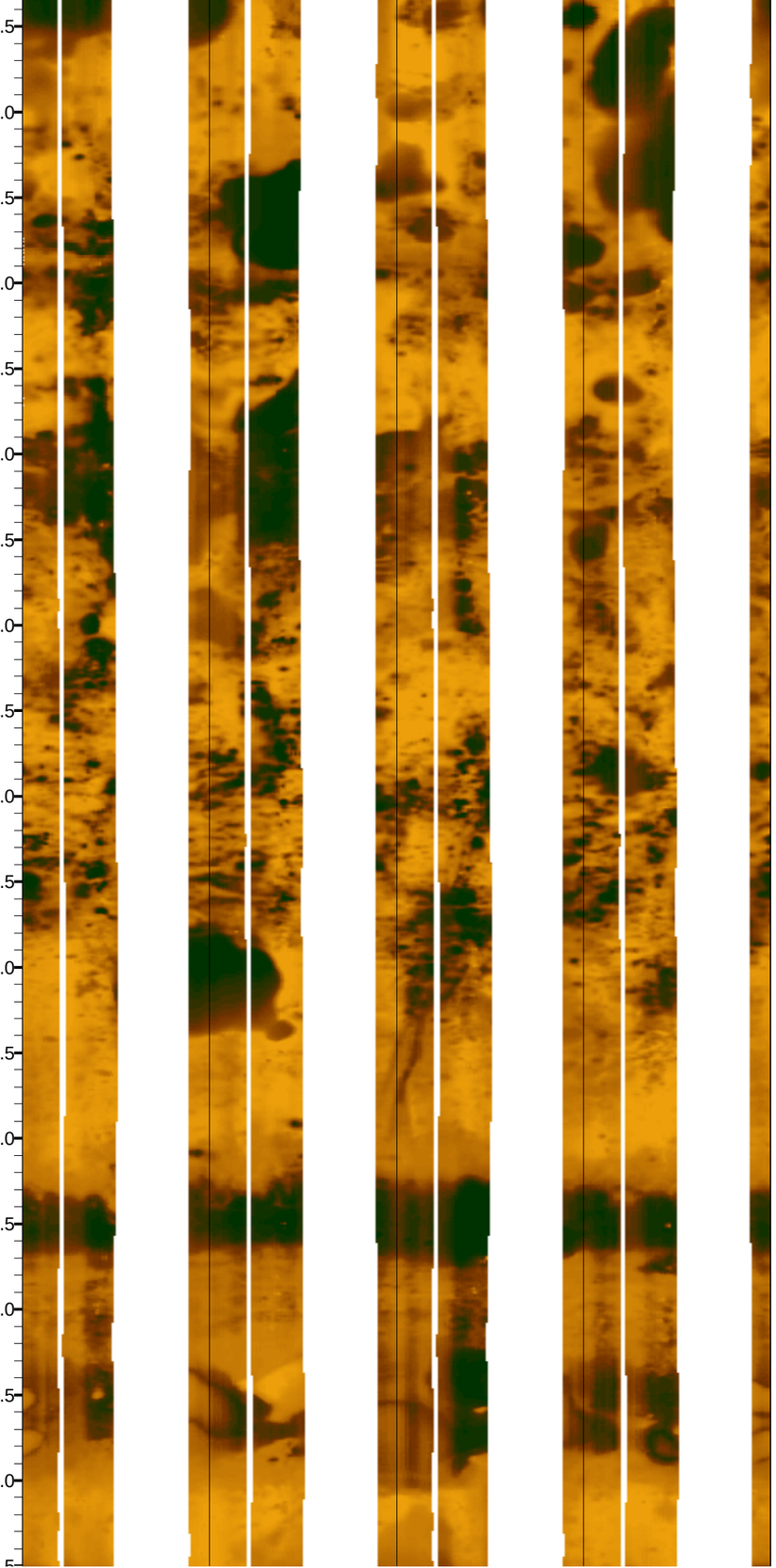
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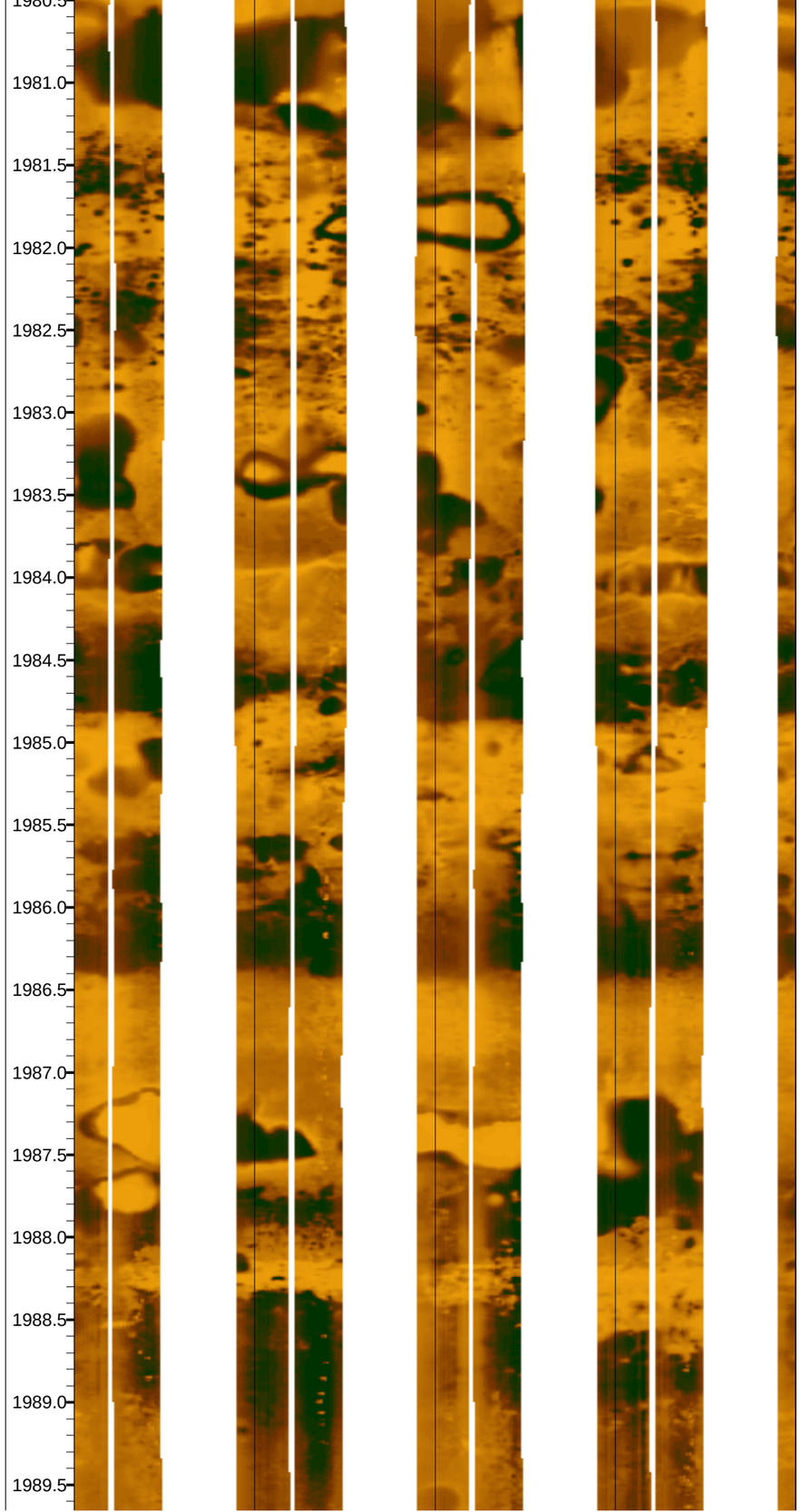
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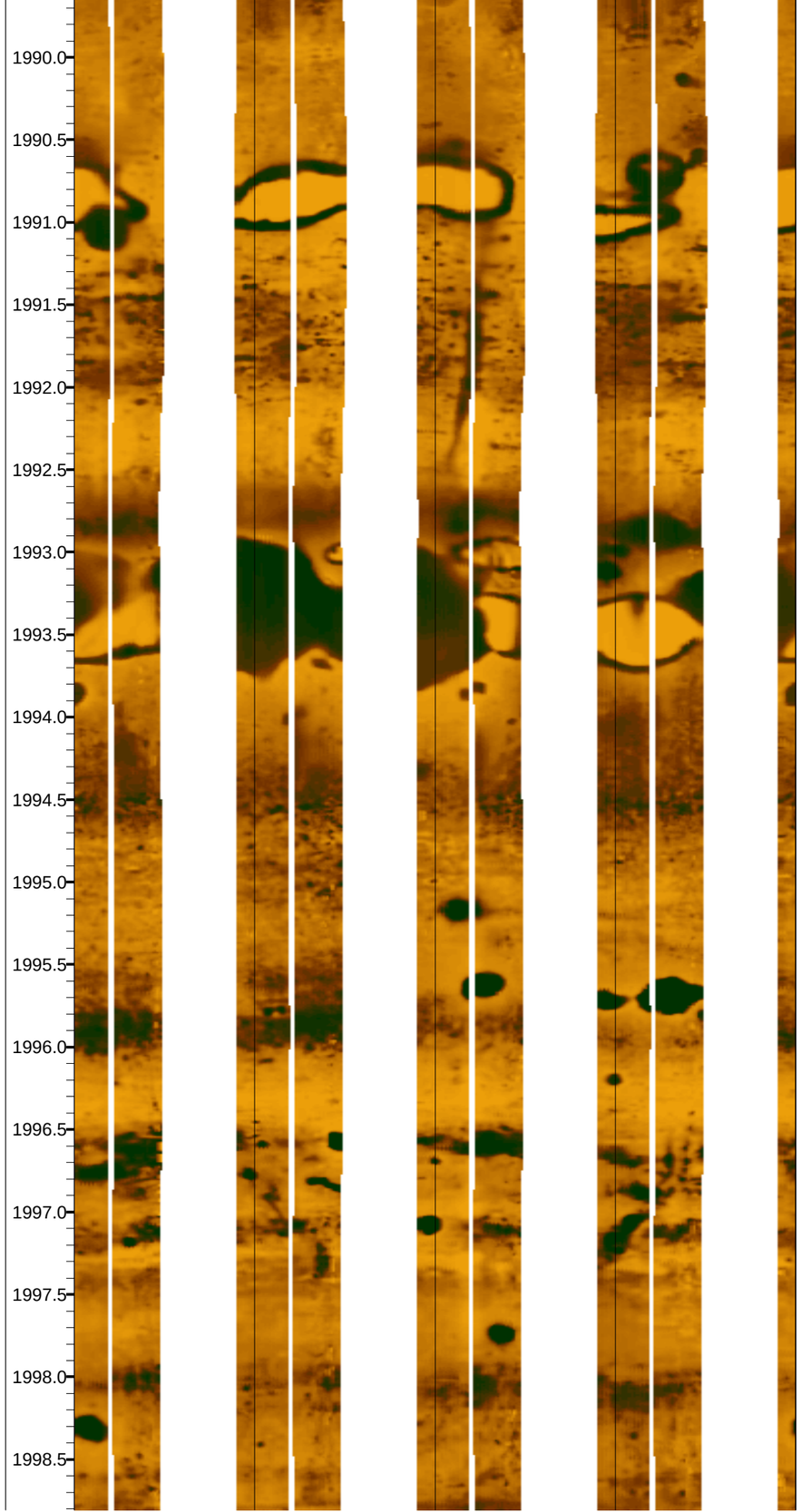
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DEPTH_FROM	DEPTH_TO	Casing	Drilling_Induced	Structural	Stratigraphic	Borehole_Shape	Flow	Visibility	Diagenetic	Comments
892	915						Apparent Upward Flow	Decreasing Water Clarity		20-inch casing
916	916	Base of Casing						Good Water Clarity		No OBI Run 892-1492
916	938			Cavernous - cause uncertain	Cavity - tunnel	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		top AP at 920
938	943				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
943	952				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
952	954			Fracture	Vuggy	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
954	963				Vuggy	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
963	967			Fracture	Vuggy	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
967	982					Guage Borehole	Apparent Upward Flow	Good Water Clarity		few vugs
982	982				Cavity - tunnel	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
982	986					Guage Borehole	Apparent Upward Flow	Good Water Clarity		few vugs
986	990				Vuggy	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
990	1002					Guage Borehole	Apparent Upward Flow	Good Water Clarity		few vugs
1002	1012				Vuggy	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1012	1014					Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1014	1014				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		single cavety
1014	1033			Fracture Swarm	Cavity	Irregular Borehole		Good Water Clarity		vertical fractures and caveties
1033	1040				Vuggy - vug field	Irregular Borehole		Good Water Clarity		
1040	1041			Fracture Swarm	Cavity	Irregular Borehole		Good Water Clarity		vertical fractures and caveties
1041	1048					Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1048	1049				Vuggy - vug field	Irregular Borehole		Good Water Clarity		
1049	1055					Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1055	1056				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1056	1061					Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1061	1066				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1066	1066				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		single cavety
1066	1070				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1070	1071				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1071	1074			Fracture	Vuggy	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		Horizontal fracture
1071	1074				Vuggy	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1078	1083			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many caveties and horizontal fractures
1083	1100				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1100	1107			Fracture Swarm	Cavity - tunnel	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many caveties and horizontal fractures
1107	1112				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1112	1132			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many caveties and horizontal fractures
1132	1136				Vuggy - vug field	Irregular Borehole		Good Water Clarity		
1136	1137			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many caveties and horizontal fractures
1137	1168				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1148	1151			Fracture						
1168	1170			Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1170	1183				Vuggy	Guage Borehole		Good Water Clarity		
1183	1183				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1183	1186			Fracture Swarm	Vuggy - vug field	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1193	1196			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1196	1213				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1201	1202			Fracture	Vuggy	Irregular Borehole				
1206	1209			Fracture	Vuggy	Irregular Borehole				
1213	1222			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1222	1226				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1227	1240			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many caveties and horizontal fractures
1241	1242				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1242	1250			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1250	1259				Vuggy - vug field	Irregular Borehole		Good Water Clarity		

1257	1262			Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1262	1294				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1283	1285			Fracture	Vuggy	Irregular Borehole				vertical
1289	1289				Cavity	Irregular Borehole		Good Water Clarity		
1290	1292			Fracture	Vuggy	Irregular Borehole				vertical
1294	1302			Fracture Swarm	Vuggy - vug field	Irregular Borehole		Good Water Clarity		
1302	1310				Vuggy	Guage Borehole		Good Water Clarity		
1310	1312			Fracture	Cavity	Irregular Borehole		Good Water Clarity		
1312	1333				Vuggy	Guage Borehole		Good Water Clarity		
1322	1322			Fracture		Irregular Borehole				vertical
1333	1340			Fracture Swarm	Cavity	Irregular Borehole		Good Water Clarity		
1340					Vuggy	Guage Borehole		Good Water Clarity		
1380	1382			Fracture	Cavity	Irregular Borehole				
1381	1396				Vuggy	Guage Borehole		Good Water Clarity		
1396	1398			Brecciated	Cavity	Irregular Borehole		Good Water Clarity		
1398	1402				Vuggy					
1402	1405			Brecciated	Cavity	Irregular Borehole		Good Water Clarity		
1407	1411			Cavernous - cause uncertain	Cavity - tunnel	Borehole Wash-out	Apparent Upward Flow	Good Water Clarity		Sonic log shows this feature at 1410 to 1414
1413	1414			Fracture	Vuggy - vug chain	Irregular Borehole		Poor Water Clarity		
1414	1417				Vuggy	Guage Borehole				
1420	1421				Vuggy - vug chain					
1421	1424				Inter-bedded					
1424	1425				Vuggy					
1425	1432				Inter-bedded					few vugs
1432	1434				Vuggy - vug field					
1434	1435				Inter-bedded					
1435	1439				Vuggy					
1439	1440				Inter-bedded					few vugs
1440	1442				Vuggy - vug field			Poor Water Clarity		
1442	1456				Inter-bedded	Guage Borehole		Poor Water Clarity		few vugs
1456	1466				Vuggy - vug field	Guage Borehole		Poor Water Clarity		
1466	1469				Change in Lithology	Guage Borehole		Poor Water Clarity		few vugs
1469	1471			Brecciated	Cavity	Irregular Borehole		Good Water Clarity		
1471	1476				Inter-bedded					few vugs
1476	1476				Vuggy - vug field			Poor Water Clarity		
1476	1476				Bedding Boundary					
1476	1482							Poor Water Clarity		few vugs
1482	1482				Bedding Boundary			Poor Water Clarity		
1482	1485				Vuggy - vug field					
1485	1492					Guage Borehole		Poor Water Clarity		
1494	1494	Base of Casing								lower logging run
1496	1497			Fracture Swarm						
1495	1495				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1513	1513			Fracture						Horizontal
1495	1506		Reaming Marks		Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1506	1507			Fracture	Cavity					
1507	1515				Vuggy	Guage Borehole				
1515	1516				Cavity	Irregular Borehole	Apparent Upward Flow	Poor Water Clarity		
1516	1519		Reaming Marks		Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1519	1520				Cavity	Irregular Borehole	Apparent Upward Flow	Poor Water Clarity		
1520	1536		Reaming Marks		Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1531	1531			Fracture						
1536	1536			Fracture Swarm	Cavity	Irregular Borehole				
1536	1550				Vuggy	Guage Borehole				

1542	1542			Fracture Swarm							
1547	1547			Fracture Swarm							
1550	1553		Reaming Marks	Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		halocline
1553	1560		Reaming Marks		Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1556	1557			Fracture Swarm	Cavity	Irregular Borehole				
1560	1563		Reaming Marks		Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		halocline, two cavities
1563	1564			Fracture Swarm	Cavity					
1563	1573		Reaming Marks		Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1573	1577		Reaming Marks	Solution Enhanced Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1557	1583		Reaming Marks		Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1583	1584		Reaming Marks	Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1586	1586			Fracture						
1584	1593				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		chalky, fewer vugs, lamination
1593	1594				Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1594	1597				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1597	1600			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1600	1607				Vuggy	Irregular Borehole	Apparent Upward Flow	Poor Water Clarity		
1607	1608			Fracture	Cavity	Irregular Borehole				verticle fracture
1608	1615				Vuggy	Irregular Borehole	Apparent Upward Flow	Poor Water Clarity		few pieces of white evaporite?
1615	1616				Cavity	Irregular Borehole		Good Water Clarity		
1616	1620			Solution Enhanced Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Poor Water Clarity		verticle fracture
1620	1622				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1622	1623			Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		verticle fracture, salinity change, few evaps.
1623	1626			Solution Enhanced Fracture	Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		stylolitic
1627	1627									
1627	1634				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1634	1636			Fracture	Cavity	Irregular Borehole	Apparent Upward Flow			evaporites
1636	1648				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1648	1650			Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		evaporites
1650	1658				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1658	1659			Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		diagonal fracture
1659	1666				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1666	1667				Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1667	1671			Brecciated	Cavity	Irregular Borehole	Apparent Upward Flow	Poor Water Clarity		
1671	1676				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1676	1677			Fracture Swarm	Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		horizontal fractures
1677	1682				Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		
1682	1683			Fracture Swarm	Vuggy	Guage Borehole	Apparent Upward Flow	Poor Water Clarity		horizontal fractures
1689	1689				Cavity	Irregular Borehole		Good Water Clarity		
1683	1699				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1699	1705			Cavernous - cause uncertain	Cavity	Irregular Borehole	Visible Flow in borehole	Good Water Clarity		outward flow observed in up-hole video @1704, , evaporites
1705	1717				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1717	1719				Cavity	Irregular Borehole		Good Water Clarity		
1719	1719			Fracture						verticle fracture
1719	1726				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1727	1728			Fracture	Cavity	Irregular Borehole		Good Water Clarity		
1731	1739				Cavity	Irregular Borehole		Good Water Clarity		lots of vugs and small cavities
1739	1744				Vuggy - vug field	Guage Borehole	Apparent Upward Flow	Good Water Clarity		very vuggy
1744	1745				Cavity	Irregular Borehole		Good Water Clarity		
1745	1748				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1748	1748				Cavity	Irregular Borehole		Decreasing Water Clarity		
1748	1751				Vuggy - vug field	Guage Borehole	Apparent Upward Flow	Good Water Clarity		very vuggy
1752	1755			Brecciated	Cavity	Irregular Borehole	Apparent Upward Flow	Poor Water Clarity		

1755	1771				Vuggy	Guage Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1771	1771				Cavity	Irregular Borehole				
1775	1775			Fracture						
1771	1782				Vuggy	Guage Borehole	Apparent Upward Flow	Decreasing Water Clarity		vuggy to very vuggy
1782	1785				Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1785	1813				Vuggy	Guage Borehole	Apparent Upward Flow	Decreasing Water Clarity		vuggy to very vuggy
1813	1813				Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1813	1822				Vuggy	Guage Borehole	Apparent Upward Flow	Decreasing Water Clarity		vuggy to very vuggy
1822	1823				Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1823	1833				Vuggy	Guage Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1833	1833				Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1833	1841				Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		Evaporite at 1838
1841	1844				Cavity	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		many cavites and vugs
1844	1848				Vuggy - vug field	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1848	1853			Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many cavites and vugs
1853	1855				Vuggy - vug field	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1855	1857				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many cavites and vugs
1857	1859				Vuggy - vug field	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1859	1864			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many cavites and vugs
1864	1872				Vuggy - vug field	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1872	1873				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1873	1877				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1877	1878				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1878	1884				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1884	1886				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		
1886	1888				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1888	1891			Fracture	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many cavites and vugs
1891	1896				Vuggy	Guage Borehole	Apparent Upward Flow	Good Water Clarity		
1896	1910			Fracture Swarm	Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many cavites and vugs
1910	1913				Cavity - tunnel	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many cavites and vugs
1913	1917				Cavity	Irregular Borehole	Apparent Upward Flow	Good Water Clarity		many cavites and vugs
1917	1928				Vuggy	Guage Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1928	1929				Vuggy - vug field	Irregular Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1929	1937				Vuggy	Guage Borehole	Apparent Upward Flow	Decreasing Water Clarity		
1937	1945				Cavity	Irregular Borehole	Apparent Upward Flow	Increasing Water Clarity		many cavites and vugs
1947	1948			Fracture	Vuggy	Guage Borehole				horizontal, stylolite
1946	1960				Vuggy	Guage Borehole	Apparent Upward Flow	Increasing Water Clarity		Chaulky, Oldsmar
1960	1964				Cavity	Irregular Borehole	Apparent Upward Flow	Increasing Water Clarity		
1964	1969				Vuggy	Guage Borehole		Good Water Clarity		
1970	1970				Inter-bedded	Guage Borehole		Good Water Clarity		chert
1969	1975				Cavity	Irregular Borehole		Good Water Clarity		
1975	1981				Vuggy	Guage Borehole		Good Water Clarity		
1978	1978				Inter-bedded	Guage Borehole		Good Water Clarity		chert
1981	1982				Cavity	Irregular Borehole		Good Water Clarity		
1982	1984				Vuggy	Guage Borehole		Good Water Clarity		
1984	1984				Cavity	Irregular Borehole		Good Water Clarity		
1984	1986				Vuggy	Guage Borehole		Good Water Clarity		
1986	1986				Cavity	Irregular Borehole		Good Water Clarity		
1986	2002					Guage Borehole		Decreasing Water Clarity		chaulky

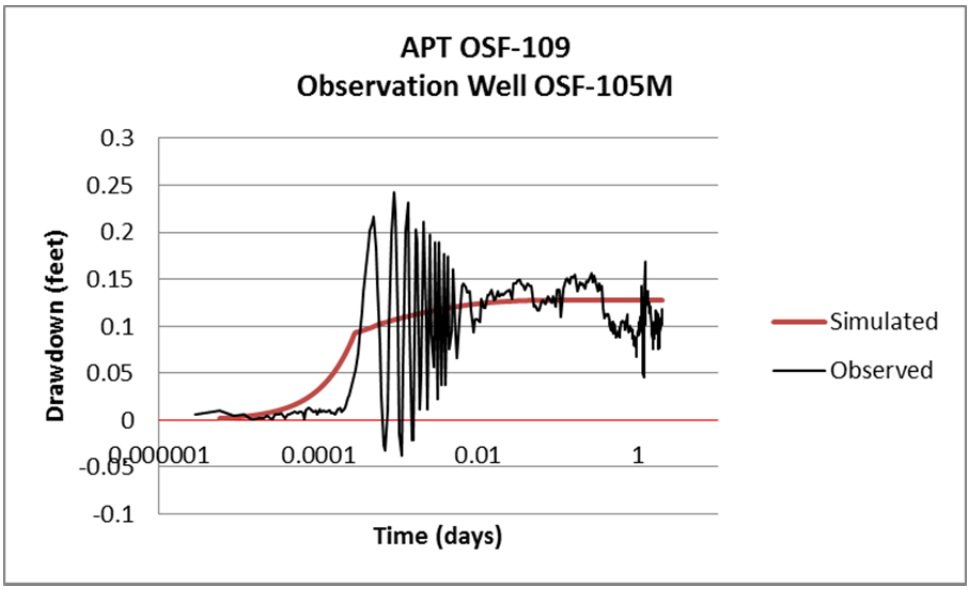
DEPTH_FROM	DEPTH_TO	Casing	Drilling_Induced	Structural	Stratigraphic	Borehole_Shape	Flow	Visibility
933	933	Base of Casing						Good Water Clarity
933	938				Vuggy	Irregular Borehole		Good Water Clarity
938	942			Brecciated	Cavity	Irregular Borehole		Good Water Clarity
942	944				Cavity	Irregular Borehole		Good Water Clarity
944	948				Vuggy	Irregular Borehole		Good Water Clarity
948	949				Cavity	Irregular Borehole		Good Water Clarity
949	951				Vuggy	Irregular Borehole		Good Water Clarity
951	958				Cavity	Irregular Borehole		Good Water Clarity
958	964				Vuggy	Irregular Borehole		Good Water Clarity
960	960			Fracture	Vuggy	Irregular Borehole		Good Water Clarity
964	967				Cavity - tunnel	Irregular Borehole		Good Water Clarity
967	968			Fracture	Cavity - tunnel	Irregular Borehole		
969	969			Fracture				
970	975			Cavernous - cause uncertain		Irregular Borehole		Good Water Clarity
977	978				Cavity	Irregular Borehole		Good Water Clarity
978	982			Fracture Swarm				
982	997			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1000	1010			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1010	1013				Vuggy	Irregular Borehole		Good Water Clarity
1013	1016				Cavity - tunnel	Irregular Borehole		Good Water Clarity
1019	1019							Decreasing Water Clarity
1017	1039			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1041	1048			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1050	1052			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1054	1067			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1068	1075				Cavity - tunnel	Irregular Borehole		Good Water Clarity
1077	1109			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1109	1115			Fracture Swarm	Cavity	Irregular Borehole		Good Water Clarity
1115	1117				Vuggy	Guage Borehole		Good Water Clarity
1117	1158			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1160	1163			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1163	1168				Vuggy	Guage Borehole		Good Water Clarity
1168	1170				Cavity	Irregular Borehole		Decreasing Water Clarity
1170	1172				Vuggy	Guage Borehole		Decreasing Water Clarity
1172	1174				Cavity - tunnel	Irregular Borehole		
1174	1177				Vuggy - vug field	Guage Borehole		Decreasing Water Clarity
1177	1190			Brecciated	Cavity - tunnel	Irregular Borehole		Good Water Clarity
1190	1193			Fracture	Cavity	Irregular Borehole		
1193	1203				Cavity	Irregular Borehole		Decreasing Water Clarity
1203	1210			Fracture	Cavity	Irregular Borehole		
1210	1212			Brecciated	Cavity - tunnel	Irregular Borehole		Decreasing Water Clarity
1212	1215			Fracture	Cavity - tunnel	Irregular Borehole		Decreasing Water Clarity
1215	1221			Brecciated	Cavity - tunnel	Irregular Borehole		Decreasing Water Clarity
1224	1227				Vuggy			
1227	1232				Cavity - tunnel	Irregular Borehole		
1232	1243			Fracture Swarm	Cavity			
1243	1250				Vuggy			

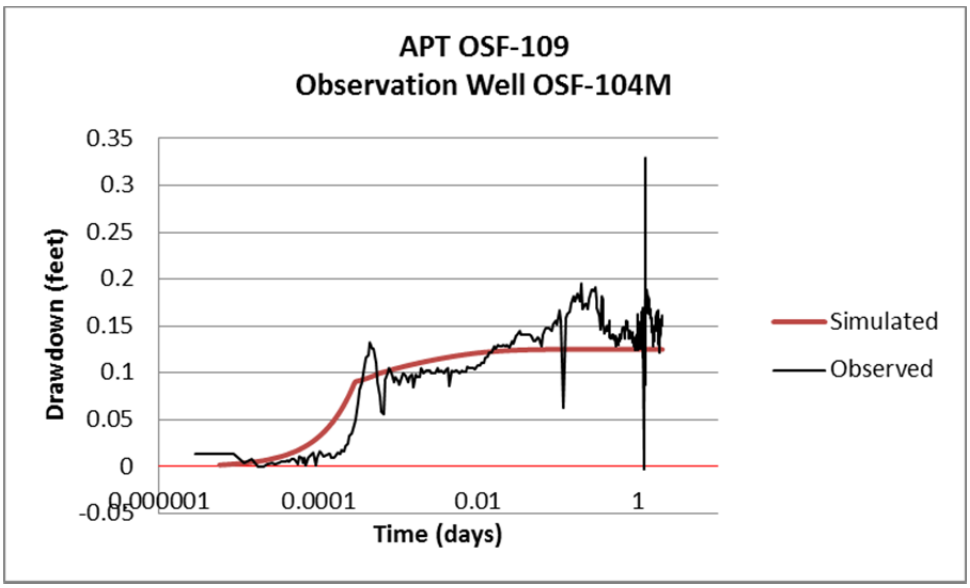
1250	1254			Fracture Swarm	Cavity			
1254	1263			Fracture Swarm	Vuggy			
1263	1268				Vuggy			
1268	1271			Fracture Swarm	Cavity			
1271	1282				Vuggy			
1282	1285			Fracture Swarm	Cavity			
1294	1294			Fracture				
1316	1317				Cavity - tunnel			
1298	1298			Fracture				
1320	1322			Fracture				
1317	1350				Vuggy			
1339	1339				Cavity - tunnel			
1344	1345				Cavity - tunnel			
1350	1353				Cavity			
1353	1370				Vuggy			
1370	1373				Cavity - tunnel			
1373	1382				Vuggy			
1382	1391				Cavity			
1391	1445				Vuggy			
1445	1449				Cavity			
1449	1574				Vuggy			
1490	1490			Fracture				
1574	1576			Fracture	Cavity			
1576	1608				Vuggy			
1608	1609				Cavity			
1610	1623				Vuggy - vug field			
1628	1656			Fracture Swarm	Cavity - tunnel			
1656	1660							
1665	1669			Fracture				
1671	1672			Fracture	Cavity			
1672	1685				Vuggy			
1685	1687				Cavity - tunnel			
1687	1698							
1698	1704			Fracture	Vuggy - vug field			
1707	1717				Cavity			
1723	1725				Cavity			
1727	1729				Cavity			

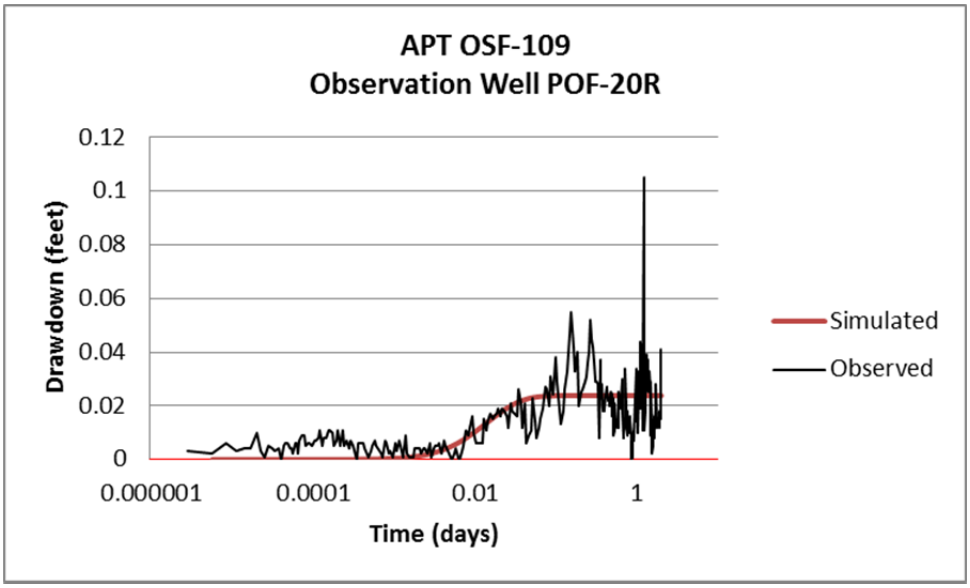
APPENDIX D
Aquifer Performance Testing Data

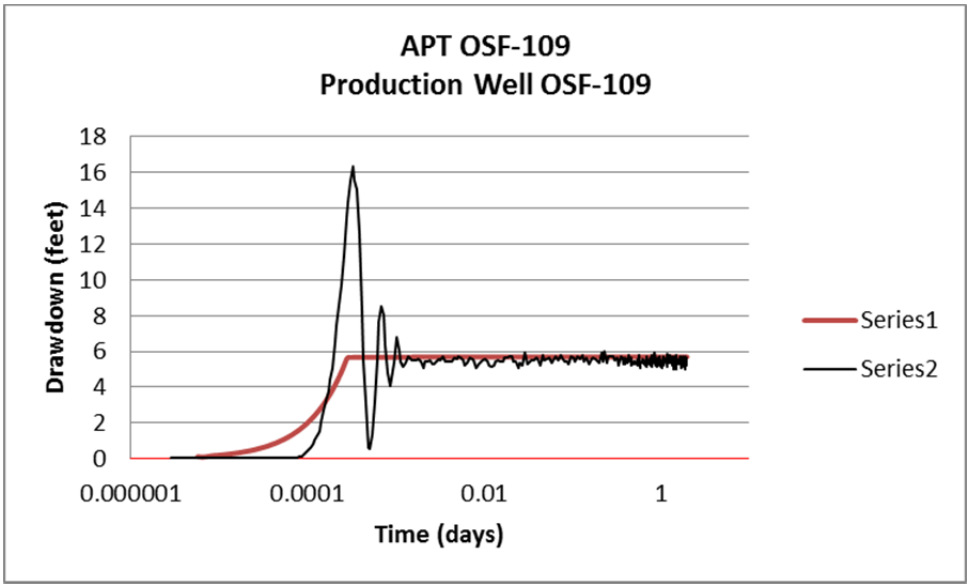
Observation Well Fit from Optimized Model

APPZ Test June, 2012






APT OSF-109
Observation Well POF-20R
Drawdown (feet)
0.12
0.1
0.08
0.06
0.04
0.02
0
0.000001
0.0001
0.01
1
Time (days)
Simulated
Observed


APT OSF-109
Production Well OSF-109
Drawdown (feet)
18
16
14
12
10
8
6
4
2
0
0.000001
0.0001
0.01
1
Time (days)
Series1
Series2

APPENDIX E

Final Survey and

As-Built Drawings



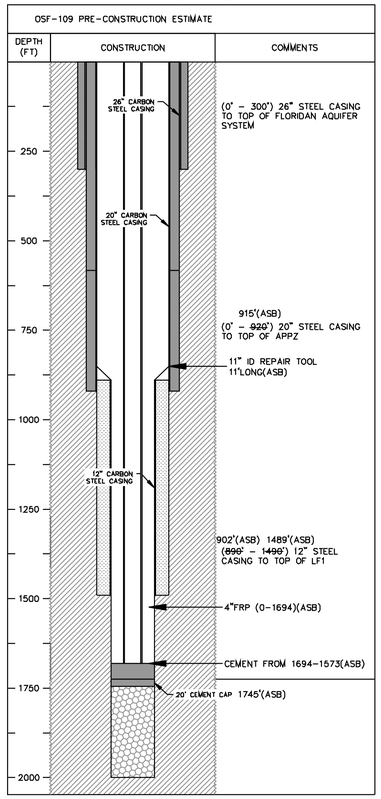
WELL INFORMATION

OSF-109
GRID N:1209703.34
GRID E:936726.74
LATITUDE: 27°39'32.25"
LONGITUDE: -80°07'59.85"
FLANGE ELEVATION NAVD1988=52.68'
DISC ELEVATION NAVD1988=51.02'
GROUND ELEVATION NAVD1988=50.9'
GRID N:1209705.56
GRID E:936726.08

OSF-105
GRID N:1209474.94
GRID E:936833.64
LATITUDE: 27°39'29.98"
LONGITUDE: -80°07'58.68"
FLANGE ELEVATION NAVD1988=50.32'
GROUND ELEVATION NAVD1988=48.1'
DISC ELEVATION NAVD1988=48.77'
GRID N:1209476.95
GRID E:936832.94

WELL: OSF-109 (ASB)
LOCATION: LATITUDE: 27°39'32.249" LONGITUDE: -80°07'59.849"
PROJECT: KPA LOWER FLORIDAN RECONNAISANCE - SITE C
ELEVATION: 52.68 FEET (NAVD 1988)
WELL DEPTH: 2,000 FEET

OSF-109

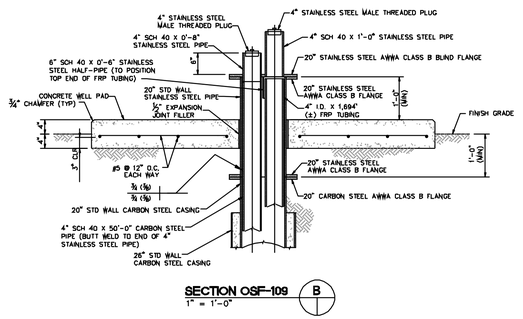


LEGEND

GROUT
OPEN
EARTH
BACKFILL MATERIAL (E.G. GRAVEL)

AS-BUILT DEPTHS WELL OSF-109

DESCRIPTION	DEPTH
26" CASING	300'
20" CASING	915'
4" CASING	1694'
12" CASING	587'



SECTION OSF-109 (B)
1" = 1'-0"

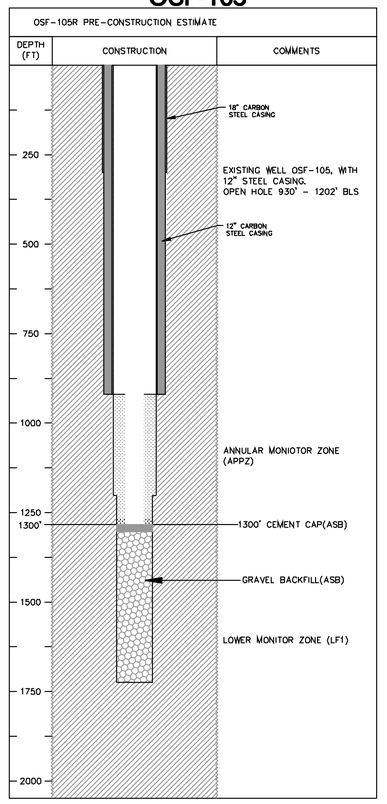
CONTROL INFORMATION

POINT Z473
PID=AH8845
GRID N:1210229.25
GRID E:937124.14
LATITUDE: 27°39'37.42"
LONGITUDE: -80°07'55.39"
ELEVATION NAVD1988=52.76'

GRAPHIC SCALE
0 20 40 80
SCALE IN FEET
1"=40'

WELL: OSF-105R (ASB)
LOCATION: LATITUDE: 27°39'29.950" LONGITUDE: -80°07'58.676"
PROJECT: KPA LOWER FLORIDAN RECONNAISANCE - SITE C
ELEVATION: 50.32 FEET (NAVD 1988)
WELL DEPTH: 1,300 FEET

OSF-105

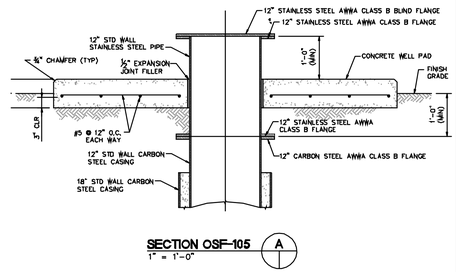


LEGEND

GROUT
OPEN
EARTH

AS-BUILT DEPTHS WELL OSF-105

DESCRIPTION	DEPTH
12" CASING	1300'
8" OPEN HOLE	272'



SECTION OSF-105 (A)
1" = 1'-0"

SURVEYOR's NOTES:

1.) North and coordinates shown hereon are based on the East Zone of the Florida State Plane Coordinate System, North American Datum (NAD83). Vertical information shown hereon is based on North American Vertical Datum of 1988 (NAVD1988) based on published Z473 and EGPS horizontal and vertical control network. The asbuilt elevations shown hereon were derived from a 3rd order level run.

2.) This survey is for as-built information only and is not a certification of correctness.

NO.	DATE	REVISION

THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

Drawn By: DLP | Party Chief: DR | Field Book: 13 | FILE NAME: 450 kissimmee well osb-105L.dwg

Peavey & Associates
SURVEYING & MAPPING PA
9399 N. LAKE BUFFUM ROAD
BARTOW, FL. 33830
PHONE: 863-738-4960
FLORIDA BUSINESS NO. 7779

CLIENT:
All Webb's Enterprises, Inc.
309 Commerce Way
Jupiter, FL 33458

AS-BUILT SURVEY OF OSF-109 & OSF-105 KISSIMMEE BASIN LOWER FLORIDAN AQUIFER DRILLING AND TESTING SITE C

DEBORAH L. PEAVEY, P.S.M.
FLORIDA REGISTRATION NO. 6345
PEAVEY & ASSOCIATES
SURVEYING & MAPPING PA
LICENSE BUSINESS NO. 7779
11/13/2012
SURVEY DATE

SCALE	DRAWING NO.
1"=40'	224
PROJECT NO.	SHEET
450	1