PROJECT NAVIGATOR, LTD.®

Project Navigator, Ltd.

Malone Service Superfund Site
Texas City, Texas

2014
Workover Report
for
Plant Injection Well No. 1
WDW-73

September 2014

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Professional Geoscientist Certification
2014 Workover and Mechanical Integrity Test Report

Project Navigator, Ltd.
Malone Service Superfund Site
Texas City, Texas

Plant Injection Well No. 1 (WDW-73)

I, T. Michael Grant, Professional Geoscientist
(technical report supervisor) (Title)

certify under penalty of law that this document and all attachments herein were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information, recommendations and specifications submitted are, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

STATE OF TEXAS
T. MICHAEL GRANT
GEOLOGY
1324
LICENSED
PROFESSIONAL GEOSCIENTIST

Signature: T Michael Grant Date: 9/23/14

State of Texas, Registered Professional Geoscientist #1324

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EXECUTIVE SUMMARY

Remedial work to restore the mechanical integrity of WDW73 was conducted in the period from July 14, 2014, through July 30, 2014. Final mechanical integrity testing on WDW73 was completed on August 8, 2014.

The existing 2-7/8-inch injection tubing and the injection packer were pulled from the well. Pressure testing of the 5-inch casing demonstrated the integrity of the casing from 4,745 feet to the surface. Additionally, a casing inspection survey logged over the 5-inch casing from 4,833 feet to the surface indicated only minor pitting over the entire length of the wellbore. Formation fill material was removed from the wellbore to allow improved injection fluid access to the perforated injection interval below 4,900 feet. Additionally, the injection interval was stimulated with a two-stage acid treatment to alleviate near wellbore damage and improve the well's injectivity.

A new injection packer was run and set in the 5-inch casing on new 2-3/8-inch, J-55 injection tubing. Mechanical integrity testing including an annulus pressure test (APT), a differential temperature survey (DTS), and a radioactive tracer survey (RTS) following the replacement of the injection tubing.

The APT demonstrated the integrity of the wellhead, completion casing, injection tubing, and injection packer. The DTS confirmed there was no vertical fluid movement into an underground source of drinking water through channels adjacent to the wellbore. The RTS demonstrated that injected fluids are entering and remaining in the permitted injection interval of the well. The MIT successfully demonstrated the well's continued mechanical integrity and satisfied all Texas Commission on Environmental Quality (TCEQ) and United States Environmental Protection Agency (USEPA) regulatory requirements.

1 INTRODUCTION

The Malone Service Company (MSC) Superfund Site is located south of Texas City, Texas, near the southwest shore of Swan Lake in Galveston County, Texas. Aqueous wastes have been disposed of onsite by deep well injection into the Miocene Formation, as authorized by the United States Environmental Protection Agency (USEPA). The facility currently collects contact storm water from selected units on site. The waters are managed in separate above ground areas and disposed of, as needed, into WDW138 (Plant Well No. 2). Remedial operations on WDW138 were also completed in July 2014, and the workover and testing results were previously submitted to the regulatory agencies. Both wells were permitted by the TCEQ for injection into the Miocene Sand Formation. Authorization for continued use of the wells is permitted pursuant to the USEPA exemption to the Hazardous Waste Disposal Injection Restrictions (HWDIR) approved on September 28, 1990. Please refer to Figure 1 for a map of the MSC disposal wells.

Future Remedial Action operations at the site will require additional disposal capacity to adequately handle the water volumes generated during the remediation of the site. Both wells will be utilized in accordance to their permit to manage the facility water disposal needs.

This report presents the results of the remedial operations and mechanical integrity testing operations on WDW73. The tests were performed in accordance with the Code of Federal Regulations (CFR) Title 40, §146.68(d)(1), and (d)(2). The tests are also compliant with Texas Commission on Environmental Quality (TCEQ) Title 30 TAC 331.64 (e)(1) and (2). This report includes a work summary, test data, and analysis.

On behalf of the Malone Cooperating Parties and at the request of Project Navigator, LTD (PNL), Sandia Technologies, LLC (Sandia) planned the work, contracted necessary vendors, and supervised the remedial operations tests on WDW73. Field operations ended on August 8, 2014, with the completion of the required mechanical integrity testing.

1.1. Facility Information

Facility:	Malone Service Company
Address:	Campbell Bayou Road Texas City, Texas
Authorized Agent:	Brian Moore Project Navigator, Ltd. 10497 Town & Country Way, Ste. 830 Houston, TX 77024
Telephone:	(713) 468-5961
Fax:	(713) 468-4515

2 BACKGROUND

2.1. Geology

The Malone Plant's injection zones and confining zone are composed of Miocene-age Fleming Group sediments. The Fleming Group is subdivided into the Oakville and Lagarto Formations. Due to fluctuating sea levels at the time of deposition, the thick Miocene aged sediments alternate between sands and shales. To the northwest of the plant site lies the Dickenson salt dome with radial fractures extending down and throughout the local area. The faulting associated with this deep-seated salt feature, typical of domal structures in the Texas and Louisiana Tertiary Salt Basins, exhibits a major crested graben with large displacement faults and down-to-the-dome cross faulting with lesser throws. Approximately three miles to the west of the plant site lies Hitchcock field, and approximately 2 miles to the Northwest lies Gillick field. The oil and gas accumulations, which are located several thousand feet below the zone being utilized for injection operations at the plant site, are a result of the migration of hydrocarbons into the numerous structural traps formed by the faulting of the stratigraphic section above the salt.

The injection zones at the Malone Plant site occur in the upper and middle Oakville Formation. The top of the injection zone lies near the contact of the Oakville and Lagarto Formations. The Oakville-Lagarto contact is not well defined, based on electric log characteristics in the Malone Plant area, but it is generally placed at the boundary between the sand-dominated sequence and the overlying shale-dominated sequence. The upper and lower injection intervals are separated by laterally continuous shale beds.

The dominant facies of the injection zones are described as very fine grained to medium grained sand with some limestone and shale inclusions. The sands are interbedded with thin layers of shale. The upper confining zone, comprised of the Lagarto Formation, is dominated by massive-to-medium bedded shales with predominately thin, laterally discontinuous sands. Beneath the lower injection zone is the Oligocene Anahuac Shale, which provides lower confinement for the injected waste. The Anahuac's inherent low permeability, plastic deformation characteristics, and extensive lateral continuity, make the shale an excellent lower confining unit.

2.2. Remedial Operations Summary

PNL notified the USEPA and TCEQ of the WDW73 remedial operations plan, and approval to proceed with the operations was granted by Mr. Abshire of the USEPA on May 29, 2014.

Sandia supervised and managed the remedial operations for PNL. Appendix A contains a copy of the regulatory correspondence for the project.

Appendix B includes a log of daily operations conducted during the remedial work. The well completion schematic for WDW73 is presented in Figure 2. Table 2-1 presents the current well completion data.

Table 2-1
WDW73 Well Completion Data

Completion Data	Depth (feet KB)
Packer Depth	4,699 to 4,706 feet
Perforated Completion Interval	4,912 to 4,942 feet 4,950 to 4,995 feet
Top of Solids Fill	5,055 feet
Plug Back Total Depth	5,080 feet

2.2.1. Rig Mobilization

Pioneer Well Service moved Rig No. 92 from the WDW138 location to the WDW73 wellsite on July 14, 2014. Pipe racks, fluid tank, pump, frac tanks, rental tools, and other ancillary equipment were spotted on the location. The derrick was raised, and all equipment was rigged up to the well. Seventy-five barrels of 9.0 pounds per gallon (ppg) sodium chloride (NaCl) brine were pumped down the injection tubing to kill the well. Pressure communication between the injection tubing and casing was recorded during the pumping operations confirming a failure of the injection tubing and/or injection packer.

The 7-1/16-inch, 3,000 pounds per square inch (psi) wellhead was nippled up, and rig personnel attached a 2-7/8-inch outside diameter (OD) pup joint into the tubing hanger. Straight upward pull of 30,000 pounds was applied. String over pull was released and 5,000 pounds of tubing weight was set down on the packer. The tubing string was rotated to release the packer. The string was picked up and the packer appeared to release when the string weight reached 22,000 pounds.

An adapter flange was installed and blowout preventers (5,000 psi double ram) were nippled up to the wellhead. The injection tubing and packer were removed from the wellbore, however, only the inner packer mandrel with the upper hold down section of the Otis MH-2 packer was recovered. A total of 156 joints of 2-7/8-inch injection tubing was recovered (note: tubing joints varied in length from ~30 feet to 32 feet).

2.2.2. Casing Pressure Testing

A casing scraper designed for 5-inch, 23.20 pounds per foot (ppf), C-95 casing was lowered into the wellbore to the depth of the packer (~4,799 feet). The wellbore was circulated clean with 200 barrels of 9.0 ppg brine pumped at 3.5 barrels per minute (bpm). The scraper assembly was removed from the wellbore.

Baker Oil Tools was contacted, and a test packer was ordered to confirm the integrity of the 5-inch casing. A Baker test packer was picked up and lowered into the wellbore. The test packer was set at 4,745 feet (~44 feet above the injection packer). The annulus was filled with 9.0 ppg brine. The pipe rams were closed, and the annulus was pressurized to approximately 1,450 pounds per square inch gauge (psig). Minor pressure loss was recorded. The annulus was re-pressurized to approximately 1,440 psig, and the casing pressure was recorded overnight.

A consistent pressure loss of approximately 11 psi per 30 minutes was recorded. The test verified the integrity of 5-inch casing from the surface to 4,745 feet. The test was ended, and the Baker test packer was removed from the wellbore. The workstring and test packer were laid down.

2.2.3. Fishing Operations to Recover Baker Injection Packer

A fishing assembly, consisting of a 2-7/8-inch grapple, oil jars, bumper sub, 4 drill collars, and accelerator, was lowered into the wellbore. The packer was tagged at 4,802 feet, and a total of 2,000 pounds was set down on the fish to engage the grapple in the packer. The assembly was picked up, and a weight increase of 19,000 pounds over the string weight was recorded. The fishing assembly was removed, and the element section, packer slip segments, drag blocks, and J-latch were successfully recovered. The lower mandrel sub with a 2-3/8-inch pin approximately 7 inches in length was left in the wellbore.

The fishing assembly was lowered back into the wellbore and tagged the fish (lower mandrel sub) on top of the Baker Model D packer in the 7-inch at approximately 4,863 feet. The

assembly was set down on the fish to engage the grapple. An attempt was made to wash over the fish at 2 bpm, and a total of 4,000 pounds was set down on the fish at the packer depth of 4,863 feet. The assembly was removed from the well, however, the fish was not recovered.

The grapple was removed from the fishing assembly and replaced with a 3-3/4-inch magnet and lowered back into the wellbore. The fish (lower mandrel sub) was tagged on top of the Baker Model D packer at approximately 4,861 feet. The fishing assembly was removed from the well without successful recovery of the fish.

The magnet was removed from the fishing assembly and replaced with a 3-1/2-inch cutlip shoe and lowered into the wellbore. The fish (lower mandrel sub) was tagged on top of the Baker Model D packer at approximately 4,863 feet. Pumping was started down the tubing at approximately 3 bpm, and the workstring was rotated with the power swivel. The sub was worked through the 3-7/8-inch bore of the Baker Model D packer, and the wellbore was circulated clean with 100 barrels of 9.0 brine.

2.2.4. Wellbore Cleanout (7-inch casing)

The cutlip shoe was slowly washed down below the Model D packer and tagged fill at 4,997 feet. Returns were lost and could not be regained with the shoe at 4,997 feet. The assembly was removed from the well.

A 3-inch, 5-bladed speed mill was lowered into the wellbore on the workstring and tagged fill at 4,997 feet. The assembly was washed down to 5,000 feet until excessive torque prevented any further progress. The speed mill was removed from the well and replaced with a 2-3/8-inch muleshoe joint with carbide insert on the face of the shoe.

Cleaning of the wellbore continued with the mule shoe joint. The assembly tagged at 5,000 feet, and solids were circulated from the 7-inch casing to a solid bottom at 5,080 feet. The wellbore was circulated clean.

2.2.5. Stimulation Treatment of Injection Interval

On July 24, 2014, Roywell Services, Inc., Baytown, Texas (Roywell) rigged up equipment for the chemical treatment of the injection interval. Surface pumping lines were rigged up and pressure tested to 3,000 psig. Following a 5-barrel preflush using 9.0 ppg fluid, the following stimulation fluids were pumped through the injection tubing:

STAGE 1 with Mule shoe at 4,906'
150 gallons RWL 721 Mutual Solvent
300 gallons 15% HCl Acid
1080 gallons 12%/3% HCl/HF Acid
360 gallons 15% HCl Acid
Diverter – 210 gallons 3.5% Auroragel (viscosity – 160 centipoise)

STAGE 2 with Mule shoe at 4,906'
100 gallons RWL 721 Mutual Solvent
240 gallons 15% HCl Acid
720 gallons 12%/3% HCl/HF Acid
240 gallons 15% HCl Acid

The stimulation fluids were pumped at a rate of 75 gallons per minute and were allowed to soak for 30 minutes prior to pumping the displacement fluid. The acid treatment was displaced from the wellbore with 300 barrels of 9.0 ppg fluid. After completion of the displacement, the workstring was removed from the wellbore and laid down.

2.2.6. 40-Arm Caliper Log

A Coastal Wireline Services (Coastal) wireline unit was moved in and rigged up to provide hoisting service. A Sondex casing inspection tool provided by Superior Slickline Services was attached to the wireline. The 5-inch casing was logged from 4,833 feet (bottom of 5-inch casing) to the surface. No excessive corrosion or detects were recorded on the log. A copy of the log can be found in Appendix C.

2.2.7. Installation of Completion Equipment

A new 5-inch Baker Hornet packer was picked up and lowered in the well. The packer was set at 4,700 feet on 146 joints of 2-3/8-inch, J-55, 4.7 ppf injection tubing (see Appendix D for injection tubing tally).

After installing the packoff slips in the wellhead, an initial pressure test was conducted on the injection tubing/casing annulus. The test confirmed the integrity of the injection tubing, casing, and injection packer. A schematic of the wellbore completion can be found in Figure 2.

Pioneer Well Service Rig No. 92 was rigged down and released.

3 MECHANICAL INTEGRITY TEST OPERATIONS SUMMARY

Mechanical Integrity Testing (MIT) operations for WDW73 were conducted on August 8, 2014. Coastal provided wireline, wireline tools, and pressure control services. Sandia provided pumping services and fluid for the injection portion of the MIT. Appendix B contains Sandia's detailed reports of daily operations during the testing period.

The current completion schematic for WDW73 is presented in Figure 2. The depth reference for this and subsequent sections of this report is the Kelly bushing (KB) measurement, which is 10 feet above ground level.

3.1. Annulus Pressure Test

The APT was performed on the morning of August 8, 2014. The annular pressure was increased to greater than a 100 psi differential over the maximum permitted surface injection pressure (MSIP) of 1,300 psig. Sandia attached a high-resolution pressure transducer to the annulus of WDW73 and began the APT. The starting test pressure was recorded at 1,439.0 psig at 11:25 a.m. At the completion of the 30-minute testing period, the annular pressure was 1,436.1 psig. The tubing pressure was static throughout the test at 0 psig. The resultant pressure loss of 2.9 psi over the thirty minute duration of the test represented a decrease of 0.2 percent. A record of the APT test data is included in Appendix E.

3.2. Differential Temperature Survey

A DTS was performed on the morning of August 8, 2014. Prior to commencing the DTS, there had been no injection into WDW73 during the previous 15 years except for the minimal injection associated with the stimulation operations and short-term injection test conducted on July 24, 2014, and the pumping of the packer fluid on July 29, 2014.

A combination tool string, consisting of a temperature tool and radioactive tracer tool, was attached to the wireline. A DTS was run from the surface to total depth (tagged fill at 5,055 feet) at an average logging speed of 35 feet per minute. A copy of the DTS is included in Appendix F.

The DTS depicts a natural temperature gradient from the surface to the depth of the injection packer at approximately 4,700 feet. Below that depth, the temperature survey shows

a gradual cooling effect from fluids injected during the workover and long-term injection into the Miocene sands below 4,900 feet. The long-term cooling effect from injection of relatively cool fluids is still readily apparent over the perforated intervals of 4,912 to 4,942 feet and 4,950 to 4,995 feet. The DTS confirms there was no vertical fluid movement into an underground source of drinking water through channels adjacent to the wellbore.

3.3. Radioactive Tracer Survey

On August 8, 2014, following the APT and DTS, a RTS was conducted on WDW73. Coastal conducted the wireline logging under the direction of Sandia. A copy of the survey and an interpretation letter are included in Appendix G. Refer to Table 2-1 for current well completion data.

Tools were lowered into the wellbore following completion of the APT. An initial gamma ray baseline survey was performed from 5,051 feet to 4,500 feet. Two statistical time drive checks were performed with the lower gamma detector positioned at 4,690 feet and 4,900 feet.

Injection of fresh water with potassium chloride substitute (Bio-31) commenced at a rate of 21 gallons per minute (gpm). Two moving flow profile surveys were performed next, while injecting fluid at 21 to 42 gpm. The tracer material was monitored between 4,500 feet and 5,051 feet, with the radioactive slugs exiting the wellbore through the perforations, into the injection interval. Two stationary time-drive surveys were performed at an injection rate of 75 gpm, both with the tool's lower gamma ray detector positioned at 4,900 feet. The surveys showed no evidence of upward fluid flow. A summary of the logging runs is included in Table 3-1.

Table 3-1
Radioactive Tracer Survey Logging Summary

Run No.	Rate (gpm)	Pressure (psig)	Operation
1	0	0	Ran initial baseline gamma ray log from 5,051 feet to 4,500 feet.
2-3	0	0	Perform two statistical checks at 4,690 & 4,900 feet.
4-8	21-42	400	Eject Slug 1 at 4,500 feet. Monitor flow profile with 5 passes.
9-12	21	275	Eject Slug 2 at 4,500 feet. Monitored flow profile with 4 passes.
13	75	670	Ejected slug 3 at 4,694 feet. Ran 21-minute time drive with tool at 4,700 feet.
14	75	670	Ejected slug 4 at 4,694 feet. Ran 21-minute time drive with tool at 4,700 feet.
15	0	150	Ran final baseline gamma ray log from 5,051 feet to 4,500 feet.

Note: Upper detector is six feet above radioactive source and lower detector is six feet below source.

The results of the moving and stationary surveys demonstrate that:

- all wellbore fluid is exiting through the completion equipment, into the injection sand interval, and
- no fluid is flowing vertically out of the injection sand interval behind the casing.

4 CONCLUSIONS

The Mechanical Integrity test conducted on WDW73 successfully fulfilled the 5-year and annual testing requirements for the well. The Annulus Pressure Test on the well demonstrated that no significant leaks exist in the injection tubing, protection casing, packer, and wellhead systems. The Differential Temperature Survey showed no evidence of vertical fluid movement into an underground source of drinking water through channels adjacent to the wellbore. The Radioactive Tracer Survey on WDW73 demonstrated that all injected fluids enter and remain confined within the subsurface sand structures below 4,912 feet.

Prior to the above-mentioned well tests, remedial well work was performed, consisting of: 1) removing the injection tubing; 2) a casing inspection survey of the protection casing; 3) cleanout of fill within the wellbore to the plugback depth of 5,080 feet; and 4) installation of a new packer and new injection tubing. The installation of a new packer and new injection tubing restored the mechanical integrity of WDW73.

The testing successfully demonstrated the well's mechanical integrity and satisfied all TCEQ and USEPA regulatory requirements.

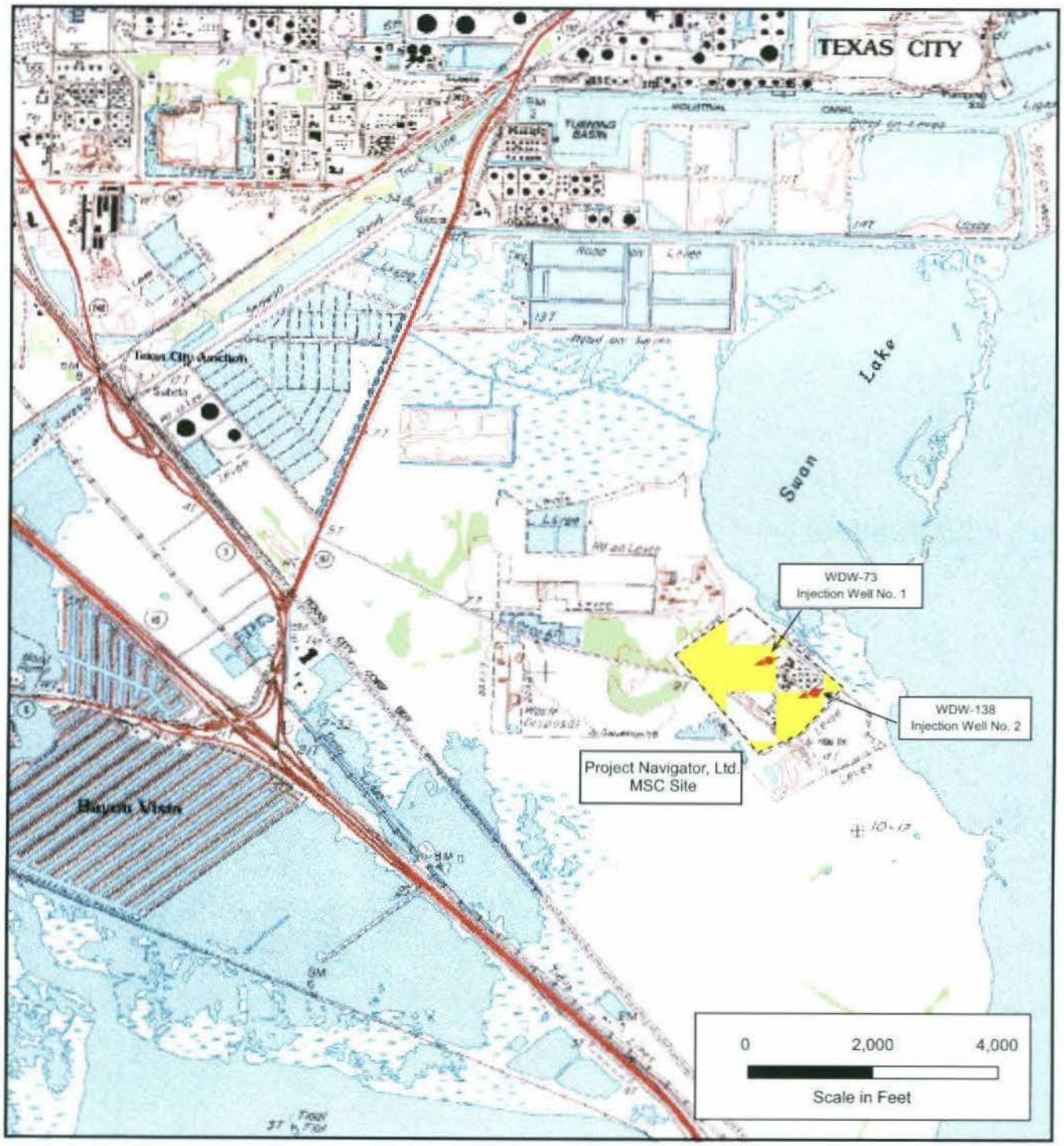
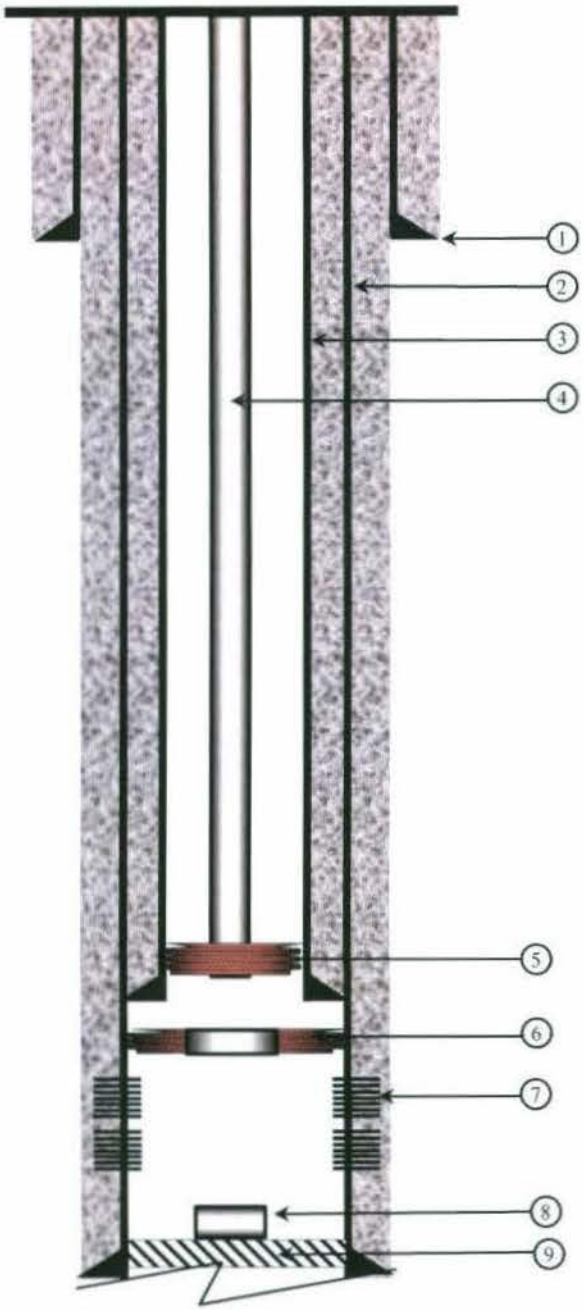


Figure 1: Malone Service Company Injection Well Location

Project Navigator, Ltd.
MSC Site, Texas City, Texas
Plant Injection Well No. 1 (WDW-73)
Well Schematic
Status: Active

All depths referenced to original RKB
KB = 11.5' above LMF

GROUND LEVEL



COMPLETION DETAIL

1. **Surface Casing**: 10-3/4", 45.5 ppf, from surface to 1,181'
2. **Protection Casing:** 7", 26 ppf, from surface to 5,120'
3. **Liner:** 5", 23.2 ppf, C-95 from surface to 4,833'
4. **Tubing:** 2-3/8", 4.7 ppf set to 4,700'
5. **Baker Hornet Packer:** set at 4,700'
6. **Baker Model D Packer:** set at 4,863'
   Minimum ID = 3.875"
   Note: packer utilized as a bridge plug for cementing of 5" liner during workover operations in 1980. Plug removed from packer after completion of cementing.
7. **Perfs:** from 4,912' to 4,942'
   4,950' to 4,995'
8. **Fish left in hole:** Lower mandrel sub with 2-3/8" pin from Baker Model MH packer removed 7/19/2014. Sub pushed through Model D packer at 4,863' and fell to bottom. Fish ~7" long.
9. **Top of Fill:** Tagged at 5,055' – RTS 8/8/14

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Drawn by: KDS	Date: 04/25/14	*Drawing not to scale*
Revised 8/27/14		

Figure 2: Well bore Diagram WDW-73

APPENDIX A

REGULATORY CORRESPONDENCE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

MAY 29 2014

Bob Piniewski
Settling Defendants' Project Coordinator
Project Navigator, Ltd.
10497 Town and Country Way, Suite 830
Houston, TX 77024

Dear Mr. Piniewski:

The Environmental Protection Agency (EPA) Region 6 has reviewed the Malone Cooperating Parties' work over procedures for the Malone Site WDW-73 and WDW-138 hazardous waste injection wells. EPA approved the work over procedures.

If you have any questions, please contact me at 214.665.7188; or via email at – abshire.david@epa.gov.

Sincerely;

Charles David Abshire
for Remedial Project Manager
USEPA, Region 6

cc:
Steven M. Jawetz, Common Counsel

APPENDIX B

SANDIA TECHNOLOGIES, LLC
DAILY OPERATIONS REPORTS

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/14/2014**
Day:: 1

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
14:00	Sandia and Pioneer personnel arrived on site and held PJSA.
14:30	Spot all pump and tanks. Receive 9 ppg fluid.
15:30	Move in and rig up Pioneer Rig #92
17:00	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:		CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:	C-95	CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/15/2014**
Day:: 2

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Continue rigging up pump and receive remainder of 9 ppg fluid.
8:30	Pumped 75 barrels of 9 ppg fluid down tubing at 1.5 BPM with 400 psi. Pressure increased to 800 psi. (Annulus showed partial communication.)
9:30	Rigged down 7-1/16" 3k wellhead. Multiple bolts were broken during operation. Excessive corrosion on all bolts.
14:00	Made up 2-7/8" pup joint in tubing hanger and pulled hanger out of tubing head. Set slips below hanger and removed hanger.
14:30	Made up collar and pup joint to 2-7/8" EUE production tubing. Picked up to 30K to confirm packer was securely set. Slacked off to 25K and rotate tubing 2 rounds with pipe wrenches. Slowly picked up holding torque in tubing. Packer appeared to have released. Pick up weight was recorded at 22k with no drag observed.
15:30	7-1/16 3k to 5k DSA, 7-1/16 5k spacer spool, and 7-1/16 rig BOPs were rigged up to wellhead.
17:00	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:		CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:	C-95	CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/16/2014**
Day:: 3

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Pulled out of hole laying down 156 joints (4,753') of 2-7/8" production tubing. 2-7/8" x 2-3/8" X-over and internal packer mandrel with hold down button housing was all that was retrieved of packer.
13:00	Lunch
13:30	2-3/8" PH-6 rental workstring was received and tallied.
14:30	3-3/4" rock bit and 5" scraper was made up on workstring and lowered in hole on 68 joints placing bit at 2,108'.
17:00	Secured well. All personnel exited facility.

Notes: Packer parts indicated that packer was not an Otis Perma-Latch but an Otis MH packer

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:		CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:	C-95	CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/17/2014**
Day:: 4

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Continued lowering 5" scraper assembly into well on workstring.
9:00	Suspend operation due to lightning.
10:30	Continue lowering 5" scraper assembly into well.
12:00	Lunch
12:30	Continue lowering 5" scraper assembly into well.
14:00	Tag top of packer at 4,799' with 155 joints of workstring in well.
14:30	Circulate 200 barrels of 9 ppg fluid at 3.5 BPM with 1,000 psi to clean well.
16:00	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:		CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:	C-95	CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/18/2014**
Day:: 5

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Pull 5" scraper assembly from well.
9:30	Pick up Baker test packer and lower in well.
11:30	Set packer at 4,745'.
12:00	Test casing to 1,450 psig. Pressure dropped to 1,400 psig in ~45 minutes.
12:45	Shut down due to lightning
15:00	Pressure backside up to 1,438 psig to monitor conditions overnight.
15:30	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:		CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:	C-95	CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:
Description: Length: ft.

BHA WT: Below Jars: ROT WT:
PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/19/2014**
Day:: 6

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Casing pressure was 1,212 psig down from 1,438 psig in 15 hours. Test good.
8:00	Release packer and circulate 135 barrels at 4.2 BPM with 400 psi.
9:00	Pull packer assembly from well.
11:30	Pick up Weatherford spear and bumper sub. Lower assembly in well.
12:00	Lunch
12:30	Continue lowering spear assembly in well.
14:30	Tag top of fish at 4,802'. Set down 2k on top of fish. Picked up slowly to 44k (19k over the 25k neutral pick up.)
15:00	Pull fishing assembly out of well with 1 to 4K drag observed. Laid down Slip segments, drag blocks, element housing and the J-latch of packer.
17:00	Secured well. All personnel exited facility.

Notes: Lower mandrel sub still in well

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/21/2014**
Day:: 7

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Make up spear assembly and lower in well. Tag fish sitting on top of Baker Model D packer in the 7" casing at 4,863'.
10:00	Attempt to wash down at 2 BPM. Set down 4K at 4,863'.
10:30	Pull spear assembly out of well
12:00	Lunch
12:30	Continue lowering spear assembly in well.
13:00	Pick up 3-3/4" magnet and lower in well. Tag top of fish at 4,861'.
15:00	Pull magnet assembly out of well.
17:00	Secured well. All personnel exited facility.

Notes: No marks on spear grapple to indicate entry into lower sub.

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/22/2014**
Day:: 8

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Pick up 3-1/2" cutlip shoe. Lower assembly into well. Tag up at 4,863'.
10:00	Pump down tubing at 3 BPM with 500 psi. Rotate tubing with power swivel and work packer sub through 3-7/8" hole in Model D packer.
10:30	Circulate 100 BBLs to clean well
11:30	Began pumping down backside and slowly washing down. Tagged up at 4,997'. Lost full returns.
13:00	Pick up and began pumping down tubing to regain circulation.
13:30	Attempt to wash down past 4,997' with no success.
14:00	Pull cutlip shoe assembly out of well
16:30	Secured well. All personnel exited facility.

Notes: Lost a total of 114 Barrels while washing.

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/23/2014**
Day:: 9

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Pick up 3" speed mill. Lower assembly into well. Tag up at 4,997'.
10:00	Pump down tubing at 4 BPM with 1,000 psi. Rotate tubing with power swivel. Washed down to 5,000' until excessive torque stopped progress.
10:30	Circulate 100 BBLs to clean well
11:30	Pull out of hole
12:00	Lunch
12:30	Continue pulling mill assembly out of well. Laid down 3" speed mill.
14:00	Pick up 2-3/8" mule shoe with carbide on face of shoe. Lower assembly in well and tag up at 5,000'.
15:30	Wash down to 5,080'. Tagged up solid.
16:00	Circulated well clean at 4 BPM with 800 psi.
17:00	Pull mule shoe assembly out of well to 4,906'. (6' above perforations.)
17:30	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:
Description: Length: ft.

BHA WT: Below Jars: ROT WT:
PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/24/2014**
Day:: 10

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS

7:00 Sandia and Pioneer personnel arrived on site and held PJSA.

7:30 Move in and rig up Roywell acid trucks and tanks

8:30 Test lines to 3,000 psi. Began pumping stage 1 acid at 75 gpm with 560 psi. During pumping pressure increased to 810 psi on pump and slowly decreased to 540 psi.

9:00 Pumped high viscosity gel diverter pill and began pumping stage 2. Pressure increased to 630 psi and then decreased to 440 psi. Displaced acid out of tubing with 20 Barrels of 9 ppg filtered brine. Stopped pumping and pressure bled off to 0 psi in 3 minutes. Allowed acid to soak.

11:00 Pumped 300 Barrels of filtered 9 ppg brine at 75 gpm with 650 psi on pump and 283 psig on backside. Pump pressure increased to 700 psi on pump and 313 psig on backside. Stopped pumping and pressure bled off from 253 psig to 0 in 4 mins.

15:00 Lowered 6 joints in well to check fill. No fill observed.

15:30 Pulled out of hole laying down 10 joints of PH-6 workstring placing mule shoe at 4,773'.

16:30 Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/25/2014**
Day:: 11

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Continue pulling mule shoe assembly out of well laying down the PH-6 workstring.
10:00	Load up and ship out 2-3/8" PH-6 workstring.
10:30	Move in and rig up Coastal wireline service.
11:00	Make up 2-3/4" sinker bar with collar locator (CCL). Lowered in well to check clearance. Pull out of well.
11:30	Make up Sondex casing inspection tool and lower in well to top of Model D packer at 4,863'. Log up and found anomaly at 3,373' corrected wireline measure. Dropped back down and re-logged area of concern.
16:30	Rigged down Coastal wireline.
17:00	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/28/2014**
Day:: 12

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Pick up Baker 5" Hornet packer and attempt to lower in well. Excessive drag prevented packer from going in well beyond 45'.
8:30	Sent packer back into Baker to inspect drag blocks.
14:00	Baker pulled center spring out from under all 4 drag blocks. Baker 5" Hornet packer was picked up and lowered into well on 100 new 2-3/8" J-55 4.7# tubing placing the packer at 3,264'.
17:00	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/29/2014**
Day:: 13

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Continued lowering Baker 5" Hornet packer on 45 more joints of new tubing. Made up 2-3/8" EUE x 2-7/8" EUE X-over and 2' x 2-7/8" pup joint.
9:00	Spotted 50 barrels of packer fluid on backside.
9:30	Set Baker packer at 4,710' with 5k lbs down. Set hanger in tubing head.
10:00	Test packer to 1,382 psi. Pressure came up to 1,427 psi in 45 minutes. Test good.
11:00	Rig down BOPs and make up 7-1/16" wellhead.
14:00	Rig down Pioneer Rig #92
17:00	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1919-PH-14 Report Date: **7/30/2014**
Day:: 14

Site Supv. 1:	Hodges	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	92
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Workover and Cleanout

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Continued rigging down all equipment.
9:00	Loaded up and shipped out all equipment.
9:30	Pioneer rig and crew departed facility.
18:30	Sandia personnel departed facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

Project Navigator, Ltd - MSC Site - WDW73

Sandia Proj. No: 1953-PH-14 Report Date: **8/8/2014**
Day:: 1

Site Supv. 1:	Grant	RKB-LMF:	11.5	PBTD:	5,080	Casing Size:	5"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:	5,080	Casing Depth:	4,833 ft.	BOP Test:	

Current Operation: Mechanical Integrity Testing

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:45	Sandia and Coastal Wireline personnel arrived at site. Move to WDW-73 location. and held PJSA.
7:00	Conduct safety meeting and JSA on installation of crown valve and integrity testing.
7:15	Remove top flange. Install 3-1/8, 3M gate valve on wellhead.
8:30	Rig up wireline unit with RTS/Temp tool. Install pressure control lubricator.
9:35	Run temperature log from surface to 5063'. Fluid level recorded at ~128'.
10:45	Pressurize annulus to 1450 psi.
11:25	Start APT with initial pressure of 1,439.0 psig.
11:55	End APT with final pressure of 1436.1 psig after 30 minutes. Successful test.
12:00	Complete Temp log. Tag fill at 5063'. Rig up fluid pumper and filter unit.
12:10	Run RTS. Run base pass from 5051'-4500'and statistical checks at 4690' and 4900'.
13:00	Conduct 2 moving flow profile surveys from 4500'-5051' while injecting at 21-42 gpm @ 275-400 psi.
14:10	Conduct stationary time-drive #1 at 4900' while injecting at 75 gpm at ~670 psi. No upflow recorded.
14:30	Conduct stationary time-drive #2 at 4900' while injecting at 75 gpm at ~670 psi. No upflow recorded.
15:00	Stop injection and record final base log from 5051'-4500'. No anomalies.
15:15	Remove logging tools from wellbore. Rig down and release wireline unit.
16:00	Pump 10 ppg brine at ~1 bpm to kill well.
16:40	Complete brine. Total pumped - 43 barrels. Well dead. Rig down fluid pumper.
17:00	Coastal and fluid pumper exit site.
17:45	Sandia exits site.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m): Gel (30)::

pH: Filt: Alk: Cl: Ca: Solids: % Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	5"	CSG1 Grade:	C-95	CSG1 Wt.:	18	CSG1 Conn.:	LTC	CSG1 TD:	4833
	CSG2 Size:	7"	CSG2 Grade:		CSG2 Wt.:	23.2	CSG2 Conn.:	LTC	CSG2 TD:	5120
	CSG3 Size:		CSG3 Grade:		CSG3 Wt:		CSG3 Conn.:		CSG 3 TD:	
	CSG4 Size:		CSG4 Grade:		CSG4 Wt.:		CSG4 Conn.:		CSG4 TD:	
			Liner1 Grade:		Liner1 Wt.:		Liner1 Conn.:		Liner1 Depth:	
	Liner2 Size:		Liner2 Grade:		Liner2 Wt.:		Liner2 Conn.:		Liner2 Depth:	
	Liner3 Size:		Liner3 Grade:		Liner3 Wt.:		Liner3 Conn.:		Liner3 Depth:	
INJECTION TUBING	TBG1 Size:		TBG1 Grade:		TBG1 Wt.:		TBG1 Conn.:		TBG1 TD:	
	TBG2 Size:		TBG2 Grade:		TBG2 Wt.:		TBG2 Conn.:		TBG2 TD:	

COMPLETION DETAIL: Seal Assembly: PBR: Open Hole Inter: TOF Depth:

WORKSTRING DATA	Pipe1 Size:	Pipe1 Grade:	Pipe1 Wt.:	Pipe1 Tool Jt.:	Pipe1 Length:	ft.
	Pipe2 Size:	Pipe2 Grade:	Pipe2 Wt.:	Pipe2 Tool Jt.:	Pipe2 Length:	ft.
	DC1 Size:	DC1 Wt.:	DC1 #Jts:	DC1 Tool Jt.:	DC1 Length:	ft.
	DC2 Size:	DC2 Wt.:	DC2 #Jts:	DC2 Tool Jt.:	DC2 Length:	ft.

BHA:

Description: Length: ft.

BHA WT: Below Jars: ROT WT:

PUWT: SOWT: Jar S/N: Hrs. on Jars:

APPENDIX C

SUPERIOIR SLICKLINE SERVICES
40-ARM CALIPER SURVEY

MIT Report Overview

Well:	WDW #73	Survey Date:	7/25/2014
Field:	Texas City	Tool Type:	Sondex Multifinger Imaging Tool
Company:	Project Navigator, LTD.-MSC Site	Tool Size:	2 3/4"
Country:	USA	No. of Fingers:	40
		Analyst:	E. Decuir

Pipe:	Nom.OD	Weight	Grade & Thread	Nom.ID	Nom. Upset	Upper len.	Lower len.
	5.000 ins	23.2 ppf		4.044 ins	5.365 ins	24.0 ins	24.0 ins

Analysis Overview

These results were generated semi-automatically, using Sondex MITPro software Version 3.04. The data was acquired using a Sondex Multifinger Imaging Tool. Sondex accepts no responsibility for the accuracy of the results that are presented.

All items in the string are referred to as 'Joints'. This includes completion items such as cross-overs. Normal joints are identified by integer numbers, sequential in depth. Short joints and completion items are identified by numbers after the decimal point.

All penetrations and projections are measured by local, surface shape analysis, where this is effective. The damage classification scheme is described at the end of the Joint Tabulations.

A total of 120 joints were analysed, of which 0 have possible holes.

The most deeply penetrated joints:
pit depths to 0.129 ins in Joint 120
pit depths to 0.103 ins in Joint 119

The most restricted joints:

Disclaimer

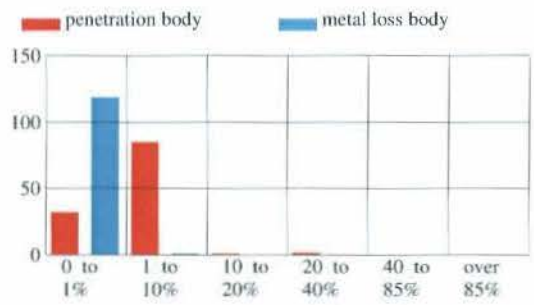
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

MIT Report Overview
Body Region Analysis

Well:	WDW #73	Survey Date:	7/25/2014
Field:	Texas City	Tool Type:	Sondex Multifinger Imaging Tool
Company:	Project Navigator, LTD.-MSC Site	Tool Size:	2 3/4"
Country:	USA	No. of Fingers:	40
		Analyst:	E. Decuir

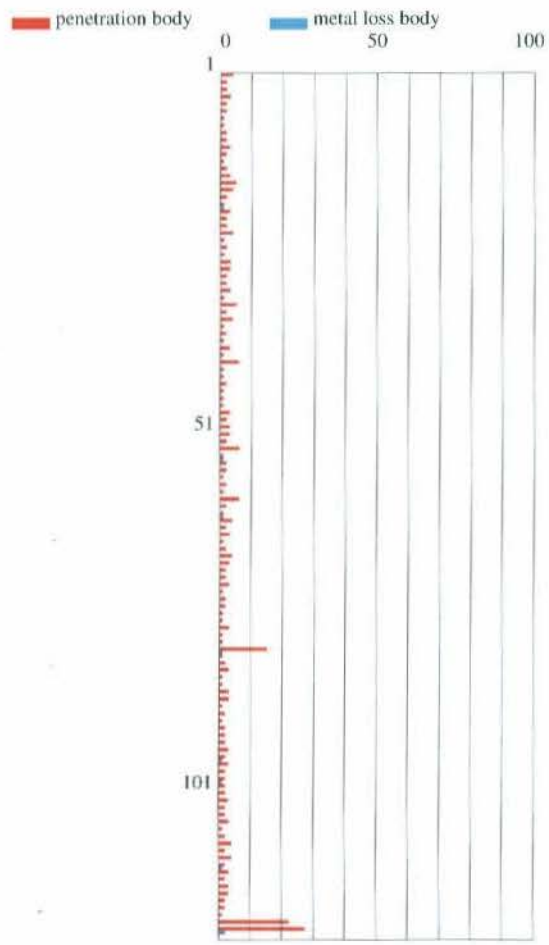
Pipe:	Nom.OD	Weight	Grade & Thread	Nom.ID	Nom. Upset	Upper len.	Lower len.
	5.000 ins	23.2 ppf		4.044 ins	5.365 ins	24.0 ins	24.0 ins

Penetration and Metal Loss (% wall)



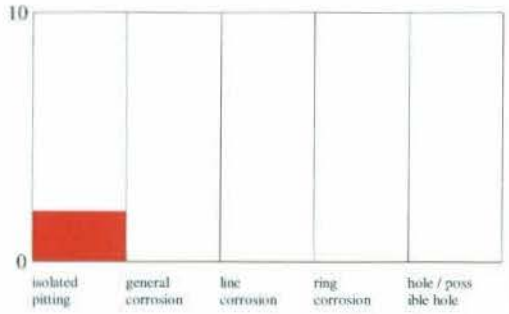
Number of joints analysed (total = 120)						
pen.	32	85	1	2	0	0
loss	119	1	0	0	0	0

Damage Profile (% wall)



Bottom of Survey = 120.01

Damage Configuration (body)



Number of joints damaged (total = 2)				
2	0	0	0	0

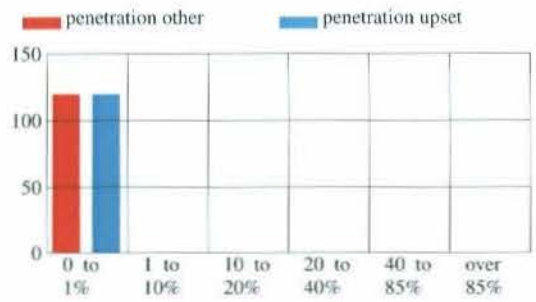
see the disclaimer on Overview page 1

MIT Report Overview
Coupling Region Analysis

Well:	WDW #73	Survey Date:	7/25/2014
Field:	Texas City	Tool Type: *	Sondex Multifinger Imaging Tool
Company:	Project Navigator, LTD.-MSC Site	Tool Size:	2 3/4"
Country:	USA	No. of Fingers:	40
		Analyst:	E. Decuir

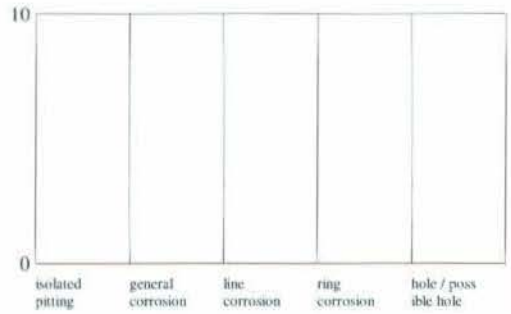
Pipe:	Nom.OD	Weight	Grade & Thread	Nom.ID	Nom. Upset	Upper len.	Lower len.
	5.000 ins	23.2 ppf		4.044 ins	5.365 ins	24.0 ins	24.0 ins

Penetration in couplings (% wall)



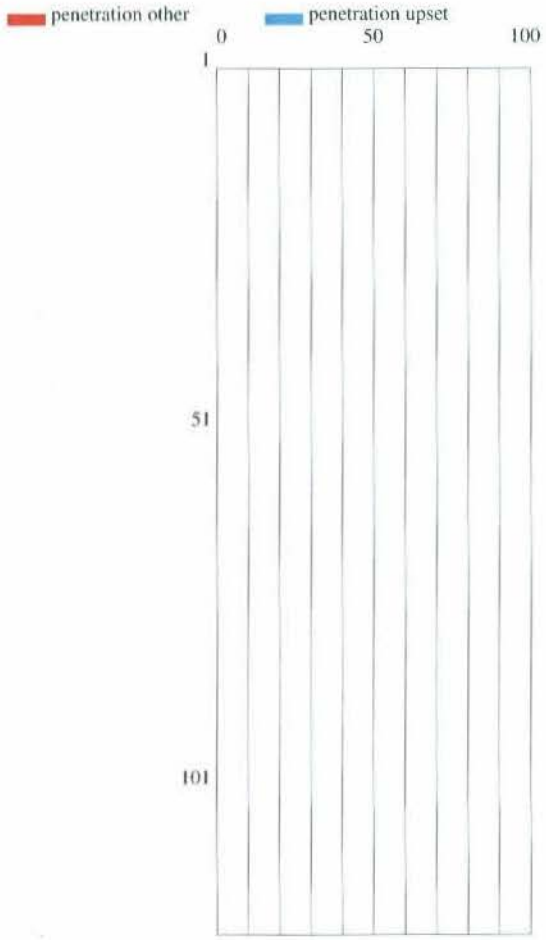
	Number of joints analysed (total = 120)					
other	120	0	0	0	0	0
upset	120	0	0	0	0	0

Damage Configuration (couplings)



Number of joints damaged (total = 0)				
0	0	0	0	0

Damage Profile (% wall)



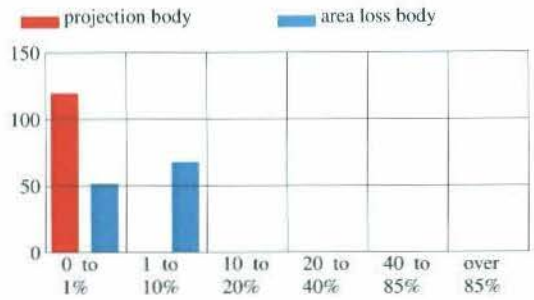
Bottom of Survey = 120.01

MIT Report Overview
Body Region Analysis

Well:	WDW #73	Survey Date:	7/25/2014
Field:	Texas City	Tool Type:	Sondex Multifinger Imaging Tool
Company:	Project Navigator, LTD.-MSC Site	Tool Size:	2 3/4"
Country:	USA	No. of Fingers:	40
		Analyst:	E. Decuir

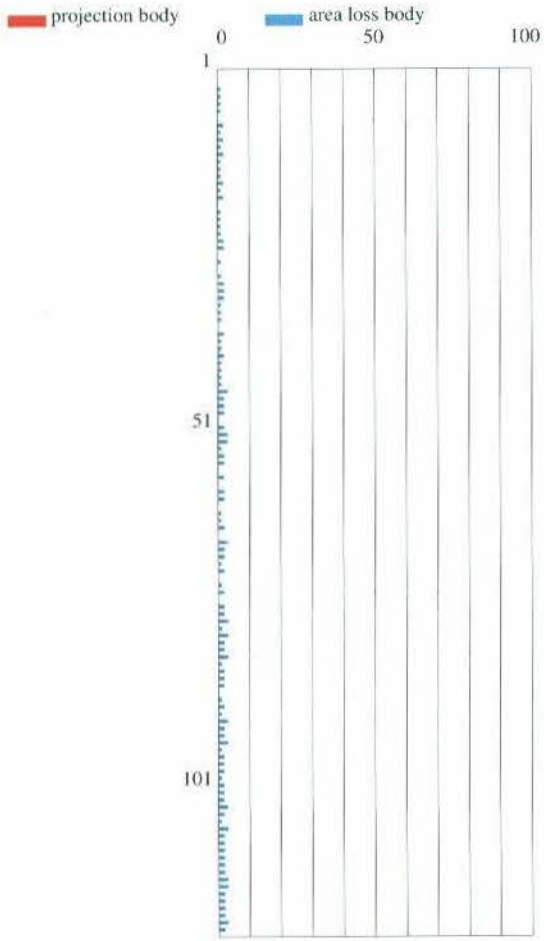
Pipe:	Nom.OD	Weight	Grade & Thread	Nom.ID	Nom. Upset	Upper len.	Lower len.
	5.000 ins	23.2 ppf		4.044 ins	5.365 ins	24.0 ins	24.0 ins

Projection and Area Loss (% radius)



Number of joints analysed (total = 120)						
proj.	120	0	0	0	0	0
loss	52	68	0	0	0	0

Projection Profile (% radius)



Bottom of Survey = 120.01

see the disclaimer on Overview page 1

MIT REPORT JOINT TALLY SHEET

Pipe: 5 ins 23.2 ppf
Wall thickness: Body = 0.478 ins Upset = 0.660 ins
Nominal ID: 4.044 ins

Well: WDW #73
Field: Texas City
Company: Project Navigator, LTD.-MSC Site
Country: USA
Survey Date: 7/25/2014

Joint No.	Depth feet	Length feet	Modal ID inches	Mean ID inches	Nominal ID inches	Nominal OD inches	Type
1	4.25	36.15	4.071	4.071	4.044	5.000	
2	40.40	40.15	4.073	4.069	4.044	5.000	
3	80.55	37.24	4.061	4.058	4.044	5.000	
4	117.79	40.57	4.052	4.053	4.044	5.000	
5	158.36	40.36	4.047	4.047	4.044	5.000	
6	198.72	38.90	4.057	4.056	4.044	5.000	
7	237.62	41.68	4.071	4.069	4.044	5.000	
8	279.30	39.32	4.035	4.032	4.044	5.000	
9	318.62	40.57	4.050	4.049	4.044	5.000	
10	359.19	39.94	4.051	4.045	4.044	5.000	
11	399.13	40.02	4.046	4.046	4.044	5.000	
12	439.15	40.22	4.046	4.040	4.044	5.000	
13	479.37	40.22	4.061	4.056	4.044	5.000	
14	519.59	38.35	4.059	4.056	4.044	5.000	
15	557.94	41.06	4.072	4.068	4.044	5.000	
16	599.00	41.26	4.072	4.062	4.044	5.000	
17	640.26	41.68	4.067	4.063	4.044	5.000	
18	681.94	41.12	4.044	4.040	4.044	5.000	
19	723.06	42.37	4.081	4.079	4.044	5.000	
20	765.43	40.78	4.065	4.058	4.044	5.000	
21	806.21	39.46	4.043	4.039	4.044	5.000	
22	845.67	40.57	4.063	4.058	4.044	5.000	
23	886.24	38.35	4.062	4.057	4.044	5.000	
24	924.59	40.29	4.054	4.047	4.044	5.000	
25	964.88	40.50	4.040	4.034	4.044	5.000	
26	1005.38	41.40	4.075	4.072	4.044	5.000	
27	1046.78	40.84	4.068	4.063	4.044	5.000	
28	1087.62	40.85	4.075	4.070	4.044	5.000	
29	1128.47	37.93	4.055	4.049	4.044	5.000	
30	1166.40	39.11	4.037	4.030	4.044	5.000	
31	1205.51	40.43	4.058	4.054	4.044	5.000	
32	1245.94	40.57	4.048	4.042	4.044	5.000	
33	1286.51	41.40	4.074	4.069	4.044	5.000	
34	1327.91	38.63	4.058	4.053	4.044	5.000	
35	1366.54	40.99	4.070	4.064	4.044	5.000	
36	1407.53	40.63	4.074	4.067	4.044	5.000	
37	1448.16	39.60	4.059	4.055	4.044	5.000	
38	1487.76	37.24	4.070	4.063	4.044	5.000	
39	1525.00	40.43	4.046	4.044	4.044	5.000	
40	1565.43	40.36	4.038	4.038	4.044	5.000	
41	1605.79	39.05	4.049	4.046	4.044	5.000	
42	1644.84	37.79	4.051	4.047	4.044	5.000	
43	1682.63	41.68	4.066	4.059	4.044	5.000	
44	1724.31	41.26	4.080	4.070	4.044	5.000	
45	1765.57	40.64	4.039	4.034	4.044	5.000	
46	1806.21	41.19	4.051	4.045	4.044	5.000	
47	1847.40	39.67	4.044	4.037	4.044	5.000	
48	1887.07	38.35	4.045	4.040	4.044	5.000	
49	1925.42	40.29	4.084	4.075	4.044	5.000	
50	1965.71	40.50	4.032	4.024	4.044	5.000	
51	2006.21	36.54	4.007	4.005	4.044	5.000	
52	2042.75	43.07	4.060	4.046	4.044	5.000	
53	2085.82	38.35	4.057	4.053	4.044	5.000	
54	2124.17	40.29	4.048	4.043	4.044	5.000	
55	2164.46	38.84	4.055	4.047	4.044	5.000	
56	2203.30	40.43	4.067	4.062	4.044	5.000	
57	2243.73	40.56	4.050	4.042	4.044	5.000	
58	2284.29	42.65	4.092	4.086	4.044	5.000	
59	2326.94	41.13	4.050	4.044	4.044	5.000	
60	2368.07	39.94	4.030	4.023	4.044	5.000	
61	2408.01	41.40	4.085	4.080	4.044	5.000	
62	2449.41	41.40	4.058	4.053	4.044	5.000	
63	2490.81	40.92	4.070	4.065	4.044	5.000	
64	2531.73	38.28	4.032	4.031	4.044	5.000	
65	2570.01	41.95	4.084	4.078	4.044	5.000	
66	2611.96	38.84	4.023	4.020	4.044	5.000	
67	2650.80	39.04	4.040	4.036	4.044	5.000	
68	2689.84	38.70	4.051	4.046	4.044	5.000	
69	2728.54	39.53	4.070	4.065	4.044	5.000	
70	2768.07	41.19	4.044	4.038	4.044	5.000	
71	2809.26	41.89	4.100	4.092	4.044	5.000	
72	2851.15	40.22	4.067	4.060	4.044	5.000	
73	2891.37	37.65	4.047	4.043	4.044	5.000	
74	2929.02	42.65	4.095	4.090	4.044	5.000	
75	,2971.67	40.71	4.043	4.037	4.044	5.000	
76	3012.38	40.22	4.043	4.037	4.044	5.000	
77	3052.60	39.88	4.031	4.026	4.044	5.000	
78	3092.48	38.21	4.061	4.055	4.044	5.000	
79	3130.69	40.01	4.023	4.016	4.044	5.000	
80	3170.70	41.54	4.041	4.036	4.044	5.000	
81	3212.24	39.25	4.028	4.022	4.044	5.000	
82	3251.49	40.16	4.023	4.023	4.044	5.000	
83	3291.65	41.40	4.052	4.047	4.044	5.000	
84	3333.05	41.95	4.034	4.026	4.044	5.000	
84.01	3375.00	4.02	N/A	N/A	4.044	5.000	dv tool
85	3379.02	40.85	4.044	4.038	4.044	5.000	
86	3419.87	39.46	4.034	4.032	4.044	5.000	
87	3459.33	42.16	4.084	4.080	4.044	5.000	
88	3501.49	39.18	4.047	4.042	4.044	5.000	
89	3540.67	40.16	4.043	4.037	4.044	5.000	
90	3580.83	41.81	4.079	4.070	4.044	5.000	
91	3622.64	40.02	4.019	4.015	4.044	5.000	
92	3662.66	40.08	4.041	4.039	4.044	5.000	
93	3702.74	40.29	4.039	4.034	4.044	5.000	
94	3743.03	40.22	4.016	4.016	4.044	5.000	
95	3783.25	41.89	4.061	4.054	4.044	5.000	
96	3825.14	40.15	4.039	4.032	4.044	5.000	
97	3865.29	40.36	4.049	4.043	4.044	5.000	
98	3905.65	39.32	4.033	4.030	4.044	5.000	
99	3944.97	41.40	4.065	4.061	4.044	5.000	
100	3986.37	40.57	4.043	4.038	4.044	5.000	
101	4026.94	39.95	4.045	4.039	4.044	5.000	
102	4066.89	41.61	4.052	4.049	4.044	5.000	
103	4108.50	40.22	4.034	4.028	4.044	5.000	
104	4148.72	41.40	4.053	4.045	4.044	5.000	
105	4190.12	38.21	4.061	4.054	4.044	5.000	
106	4228.33	40.85	4.045	4.039	4.044	5.000	
107	4269.18	40.91	4.034	4.034	4.044	5.000	
108	4310.09	41.54	4.041	4.036	4.044	5.000	
109	4351.63	36.96	4.030	4.025	4.044	5.000	
110	4388.59	39.88	4.026	4.020	4.044	5.000	
111	4428.47	40.15	4.038	4.034	4.044	5.000	
112	4468.62	40.43	4.043	4.041	4.044	5.000	
113	4509.05	39.39	4.011	4.011	4.044	5.000	
114	4548.44	39.88	4.030	4.026	4.044	5.000	
115	4588.32	40.29	4.036	4.035	4.044	5.000	

see the disclaimer on Overview page 1

MIT REPORT JOINT TALLY SHEET

Pipe: 5 ins 23.2 ppf
Wall thickness: Body = 0.478 ins Upset = 0.660 ins
Nominal ID: 4.044 ins

Well: WDW #73
Field: Texas City
Company: Project Navigator, LTD.-MSC Site
Country: USA
Survey Date: 7/25/2014

Joint No.	Depth feet	Length feet	Modal ID inches	Mean ID inches	Nominal ID inches	Nominal OD inches	Type
116	4628.61	40.57	4.035	4.033	4.044	5.000	
117	4669.18	40.22	4.043	4.041	4.044	5.000	
118	4709.40	40.98	4.049	4.046	4.044	5.000	
119	4750.38	40.57	4.021	4.021	4.044	5.000	
120	4790.95	41.88	4.073	4.069	4.044	5.000	
120.01	4832.83	N/A	N/A	N/A	4.044	5.000	tail

Joint No.	Depth feet	Length feet	Modal ID inches	Mean ID inches	Nominal ID inches	Nominal OD inches	Type

see the disclaimer on Overview page 1

MIT REPORT JOINT TABULATION SHEET

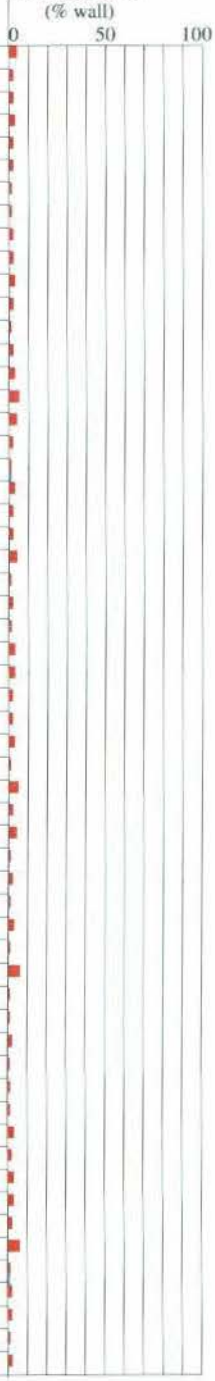
Pipe: 5 ins 23.2 ppf
Wall thickness: Body = 0.478 ins Upset = 0.660 ins
Nominal ID: 4.044 ins

Well: WDW #73
Field: Texas City
Company: Project Navigator, LTD.-MSC Site
Country: USA
Survey Date: 7/25/2014

penetration body
metal loss body

Joint No.	Penetration Upset inches	Penetration Other inches	Penetration Body inches	Penetration %	Metal Loss %	Projection Cplng inches	Projection Body inches	Minimum ID inches	Comments
1	0	0	.018	4	0	0	0	4.012	
2	0	0	.010	2	0	0	0	4.011	
3	0	0	.008	2	0	0	0	4.002	
4	0	0	.014	3	0	0	0	3.974	
5	0	0	.008	2	0	0	0	3.990	
6	0	0	.008	2	0	0	0	3.983	
7	0	0	.005	1	0	0	0	3.976	
8	0	0	.007	1	0	0	0	3.964	
9	0	0	.008	2	0	0	0	3.980	
10	0	0	.008	2	0	0	0	3.960	
11	0	0	.012	3	0	0	0	3.982	
12	0	0	.009	2	0	0	0	3.972	
13	0	0	.004	1	0	0	0	3.983	
14	0	0	.008	2	0	0	0	3.987	
15	0	0	.016	3	0	0	0	3.990	
16	0	0	.024	5	0	0	0	3.974	
17	0	0	.018	4	0	0	0	3.942	
18	0	0	.010	2	0	0	0	3.969	
19	0	0	.007	1	1	0	0	3.966	
20	0	0	.016	3	0	0	0	3.996	
21	0	0	.010	2	0	0	0	3.998	
22	0	0	.008	2	0	0	0	3.981	
23	0	0	.018	4	0	0	0	3.999	
24	0	0	.006	1	0	0	0	3.934	
25	0	0	.010	2	0	0	0	3.982	
26	0	0	.006	1	0	0	0	3.955	
27	0	0	.012	3	0	0	0	3.968	
28	0	0	.012	3	0	0	0	3.996	
29	0	0	.010	2	0	0	0	3.977	
30	0	0	.009	2	0	0	0	3.972	
31	0	0	.012	3	0	0	0	3.974	
32	0	0	.006	1	0	0	0	3.930	
33	0	0	.025	5	0	0	0	3.996	
34	0	0	.010	2	0	0	0	3.989	
35	0	0	.020	4	0	0	0	4.000	
36	0	0	.006	1	0	0	0	3.992	
37	0	0	.009	2	0	0	0	3.973	
38	0	0	.006	1	0	0	0	3.994	
39	0	0	.012	3	0	0	0	3.980	
40	0	0	.006	1	0	0	0	3.978	
41	0	0	.027	6	0	0	0	3.974	
42	0	0	.007	1	0	0	0	3.994	
43	0	0	.005	1	0	0	0	3.980	
44	0	0	.009	2	0	0	0	3.996	
45	0	0	.005	1	0	0	0	3.954	
46	0	0	.004	1	0	0	0	3.971	
47	0	0	.004	1	0	0	0	3.962	
48	0	0	.012	3	0	0	0	3.988	
49	0	0	.010	2	0	0	0	4.000	
50	0	0	.012	3	0	0	0	3.958	
51	0	0	.013	3	0	0	0	3.938	
52	0	0	.008	2	0	0	0	3.962	
53	0	0	.030	6	0	0	0	4.004	
54	0	0	.006	1	1	0	0	3.976	
55	0	0	.010	2	0	0	0	3.970	
56	0	0	.010	2	0	0	0	3.992	
57	0	0	.007	1	0	0	0	3.940	
58	0	0	.008	2	0	0	0	4.008	

Damage Profile (% wall)



see the disclaimer on Overview page 1

MIT REPORT JOINT TABULATION SHEET

Pipe: 5 ins 23.2 ppf
Wall thickness: Body = 0.478 ins Upset = 0.660 ins
Nominal ID: 4.044 ins

Well: WDW #73
Field: Texas City
Company: Project Navigator, LTD.-MSC Site
Country: USA
Survey Date: 7/25/2014

penetration body
metal loss body

Joint No.	Penetration Upset inches	Penetration Other inches	Penetration Body inches	Penetration %	Metal Loss %	Projection Cplng inches	Projection Body inches	Minimum ID inches	Comments
59	0	0	.007	1	0	0	0	3.948	
60	0	0	.030	6	0	0	0	3.952	
61	0	0	.008	2	0	0	0	3.999	
62	0	0	.004	1	1	0	0	3.979	
63	0	0	.019	4	0	0	0	4.002	
64	0	0	.011	2	0	0	0	3.974	
65	0	0	.016	3	0	0	0	4.000	
66	0	0	.005	1	0	0	0	3.947	
67	0	0	.009	2	0	0	0	3.973	
68	0	0	.018	4	0	0	0	3.954	
69	0	0	.012	3	0	0	0	4.002	
70	0	0	.008	2	0	0	0	3.956	
71	0	0	.009	2	0	0	0	3.992	
72	0	0	.016	3	0	0	0	3.990	
73	0	0	.006	1	0	0	0	3.978	
74	0	0	.010	2	0	0	0	4.015	
75	0	0	.008	2	0	0	0	3.925	
76	0	0	.006	1	0	0	0	3.928	
77	0	0	.006	1	0	0	0	3.942	
78	0	0	.012	3	0	0	0	3.989	
79	0	0	.005	1	0	0	0	3.922	
80	0	0	.006	1	0	0	0	3.955	
81	0	0	.072	15	1	0	0	3.936	
82	0	0	.005	1	0	0	0	3.928	
83	0	0	.008	2	0	0	0	3.954	
84	0	0	.012	3	0	0	0	3.941	
84.01	0	0	0	0	0	0	0	N/A	DV TOOL Not measured.
85	0	0	.003	1	0	0	0	3.952	
86	0	0	.006	1	0	0	0	3.920	
87	0	0	.012	3	0	0	0	3.991	
88	0	0	.012	3	0	0	0	3.974	
89	0	0	.004	1	0	0	0	3.922	
90	0	0	.010	2	0	0	0	3.969	
91	0	0	.007	1	0	0	0	3.934	
92	0	0	.008	2	0	0	0	3.982	
93	0	0	.010	2	0	0	0	3.935	
94	0	0	.008	2	0	0	0	3.946	
95	0	0	.012	3	0	0	0	3.986	
96	0	0	.008	2	1	0	0	3.947	
97	0	0	.014	3	0	0	0	3.966	
98	0	0	.008	2	0	0	0	3.928	
99	0	0	.009	2	1	0	0	3.958	
100	0	0	.008	2	0	0	0	3.943	
101	0	0	.010	2	0	0	0	3.982	
102	0	0	.012	3	0	0	0	3.950	
103	0	0	.011	2	0	0	0	3.958	
104	0	0	.010	2	0	0	0	3.978	
105	0	0	.014	3	0	0	0	3.994	
106	0	0	.006	1	0	0	0	3.953	
107	0	0	.008	2	0	0	0	3.950	
108	0	0	.018	4	0	0	0	3.955	
109	0	0	.011	2	0	0	0	3.972	
110	0	0	.020	4	0	0	0	3.959	
111	0	0	.010	2	1	0	0	3.953	
112	0	0	.012	3	0	0	0	3.956	
113	0	0	.010	2	0	0	0	3.952	
114	0	0	.013	3	0	0	0	3.932	
115	0	0	.016	3	0	0	0	3.960	

Damage Profile (% wall)

see the disclaimer on Overview page 1

MIT REPORT JOINT TABULATION SHEET

Pipe: 5 ins 23.2 ppf
Wall thickness: Body = 0.478 ins Upset = 0.660 ins
Nominal ID: 4.044 ins

Well: WDW #73
Field: Texas City
Company: Project Navigator, LTD.-MSC Site
Country: USA
Survey Date: 7/25/2014

penetration body
metal loss body

Joint No.	Penetration Upset inches	Penetration Other inches	Penetration Body inches	Penetration %	Metal Loss %	Projection Cplng inches	Projection Body inches	Minimum ID inches	Comments
116	0	0	.008	2	0	0	0	3.960	
117	0	0	.008	2	0	0	0	3.969	
118	0	0	.006	1	0	0	0	3.942	
119	0	0	.103	22	0	0	0	3.932	Isolated pitting in body.
120	0	0	.129	27	2	0	0	3.946	Isolated pitting in body.
120.01	0	0	0	0	0	0	0	N/A	TAIL Not measured.

Damage Profile (% wall)

Damage classification scheme
Penetration / projection class, in order of damage severity
Hole - penetration exceeds 90% of nominal wall thickness
Ring - damage area exceeds 50% of circumference, but depth range does not exceed 2 * pipe ID
Line - damage depth range exceeds 4 * pipe ID, but extends less than 30% of circumference.
General - damage depth range exceeds 2 * pipe ID and/or extends more than 30% of circumference.
Isolated - damage depth range does not exceed 4 * pipe ID or extend more than 30% of circumference.
Damage reporting threshold = 96 thou inches deviation in body, 96 thou in coupling.
Modal line length = 0.673 feet.

Background shading percentage thresholds
penetration:
0 - 20% 21 - 40% 41 - 50% 51 -100%
metal loss:
0 - 20% 21 - 40% 41 - 50% 51 -100%

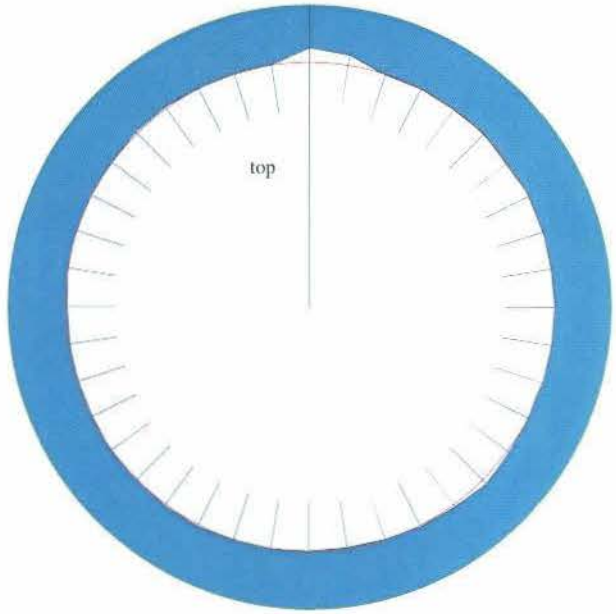
see the disclaimer on Overview page 1

MIT Report Cross Sections

Well:	WDW #73	Survey Date:	7/25/2014
Field:	Texas City	Tool Type:	Sondex Multifinger Imaging Tool
Company:	Project Navigator, LTD.-MSC Site	Tool Size:	2 3/4"
Country:	USA	No. of Fingers:	40
Pipe:	5 ins 23.2 ppf	Analyst:	E. Decuir

Cross Section for Joint 120 at depth 4817.03 ft

Tool speed = 40
Nominal ID = 4.044
Nominal OD = 5.000
Remaining wall area = 99 %
Tool deviation = 3 °



Finger 1 Penetration = 0.129 ins

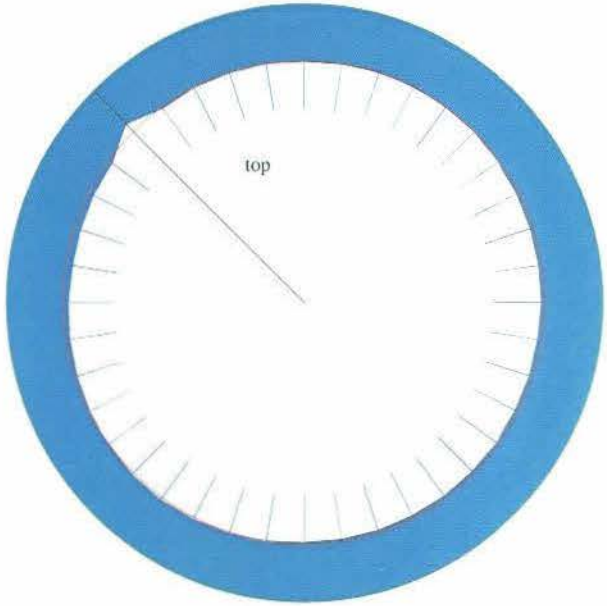
see the disclaimer on Overview page 1

MIT Report Cross Sections

Well:	WDW #73	Survey Date:	7/25/2014
Field:	Texas City	Tool Type:	Sondex Multifinger Imaging Tool
Company:	Project Navigator, LTD.-MSC Site	Tool Size:	2 3/4"
Country:	USA	No. of Fingers:	40
Pipe:	5 ins 23.2 ppf	Analyst:	E. Decuir

Cross Section for Joint 119 at depth 4753.5 ft

Tool speed = 40
Nominal ID = 4.044
Nominal OD = 5.000
Remaining wall area = 99 %
Tool deviation = 4 °



Finger 36 Penetration = 0.103 ins

see the disclaimer on Overview page 1

SUPERIOR SLICKLINE SERVICES

40 Arm Caliper Survey

Company Project Navigator, LTD.-MSC Site
Well WDW #73
Field Texas City
County Galveston
State Texas

Company	Project Navigator, LTD.-MSC Site
Well	WDW #73
Field	Texas City
County	Galveston State Texas

Location: API # :

SEC TWP RGE

Other Services

Permanent Datum	BHF	Elevation
Log Measured From	KB 11.5 above BHF	K.B.
Drilling Measured From	Kelly Bushing	D.F.
		G.L.

Elevation

Date	7/25/2014		
Run Number	One		
Depth Driller	N/A		
Depth Logger	4855'		
Bottom Logged Interval	4855'		
Top Log Interval	Surface		
Open Hole Size	N/A		
Type Fluid	N/A		
Density / Viscosity	N/A		
Max. Recorded Temp.	N/A		
Estimated Cement Top	N/A		
Time Well Ready	Upon Arrival		
Time Logger on Bottom	4 hrs		
Equipment Number	G.E.		
Location	Broussard, La.		
Recorded By	Ryan Romero		
Witnessed By	Jonathan Hodges		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	10 3/4"	45.5#	Surface	1181'
Prot. String	7"	26#	Surface	5120'
Production String	5"	23.2#	Surface	4833'
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

All depth are in measured depth.

Database File: c:\superior\empty 3\gcwa\urs malone\stat\coastal\wdw73.db
Dataset Pathname: pass2.1
Presentation Format: 5_23_40
Dataset Creation: Sat Jul 26 08:46:28 2014
Charted by: Depth in Feet scaled 1:240

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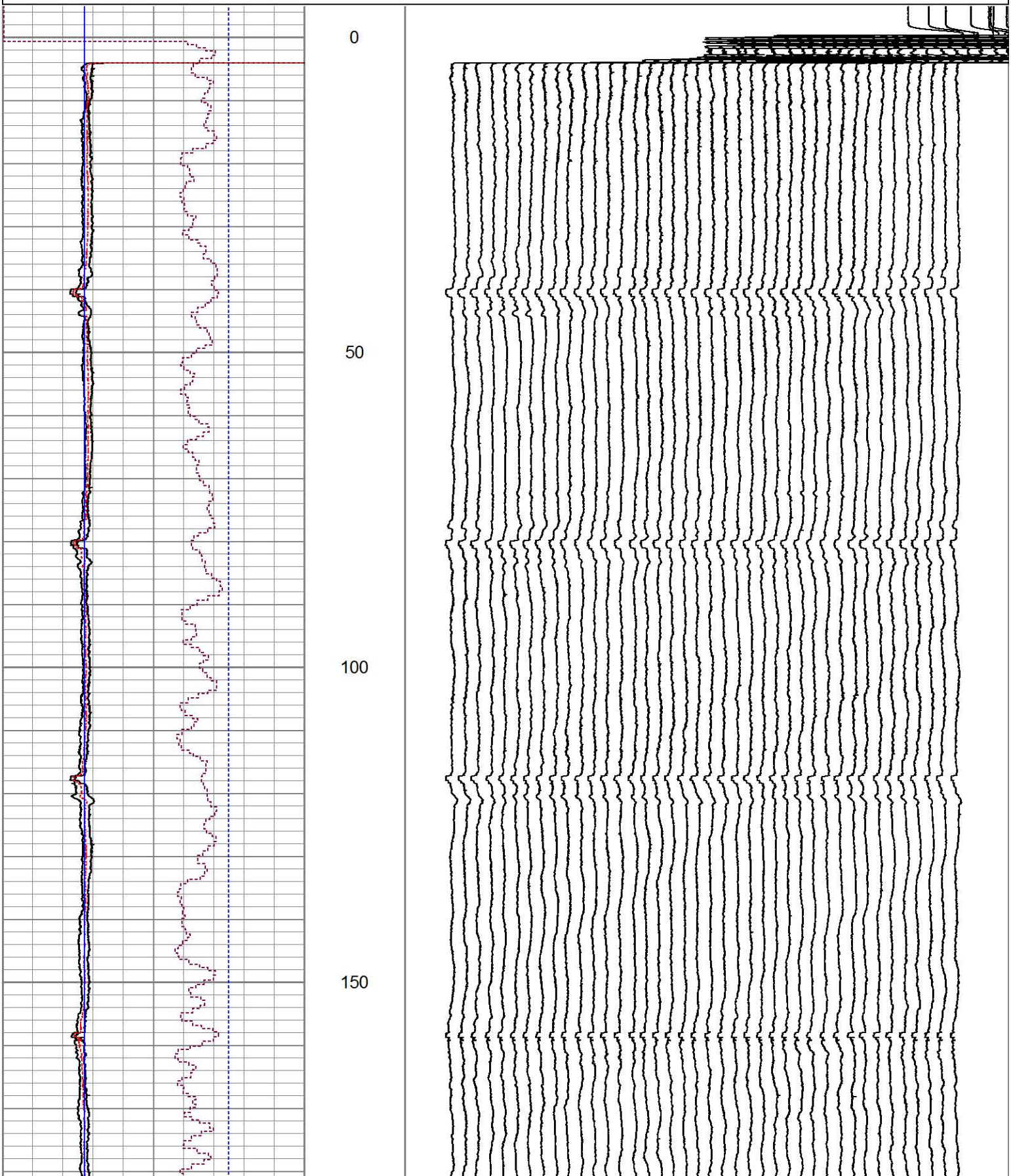
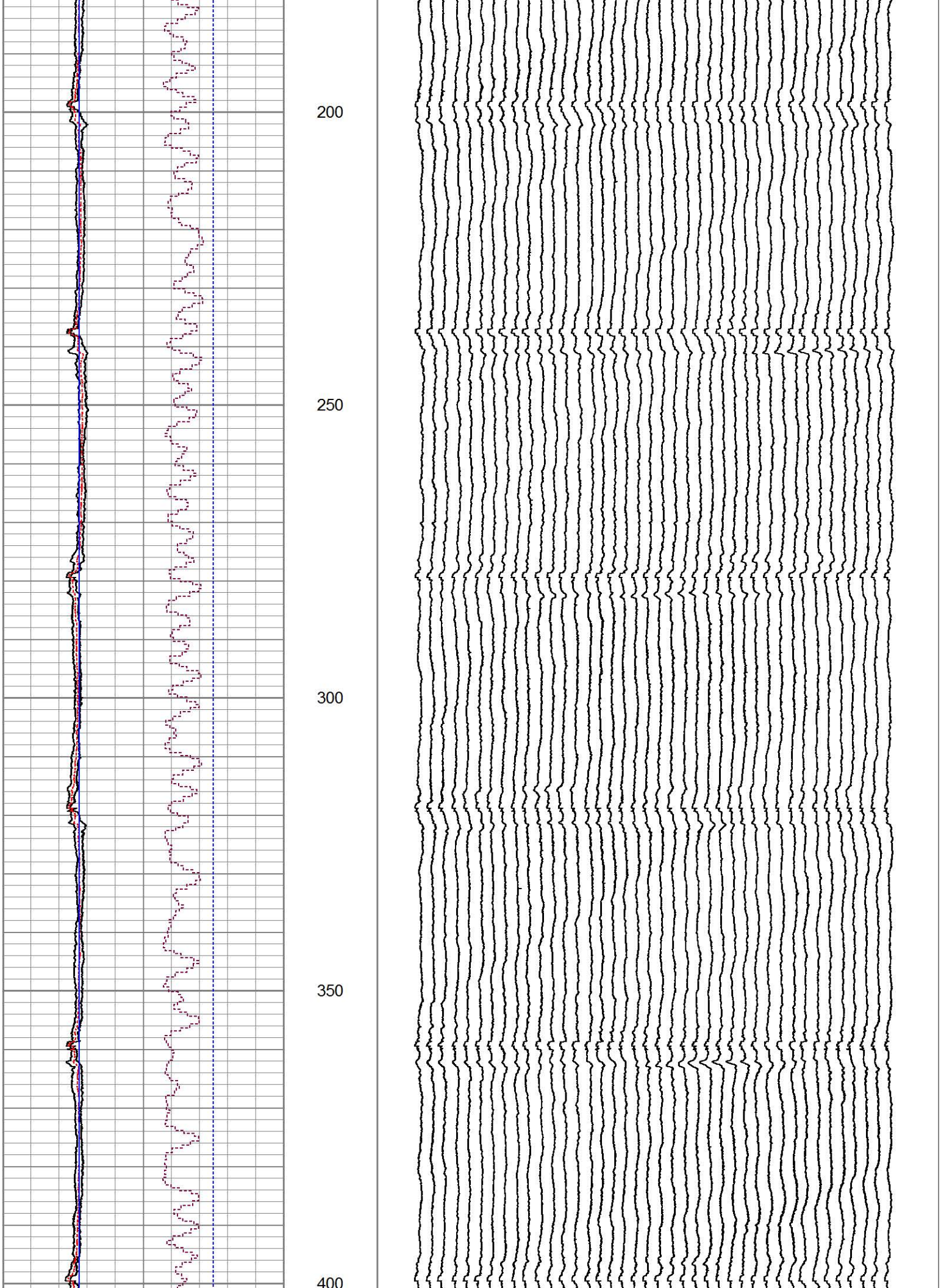
3.5	MINDIA (in)	5.5
3.5	AVEDIA (in)	5.5
0	LSPD (ft/min)	-60
3.5	CASEID (in)	5.5
3.5	CASEOD (in)	5.5

1.75	FING01 (in)	5.25
1.675	FING02 (in)	5.175
-1.1	FING39 (in)	2.4
-1.175	FING40 (in)	2.325

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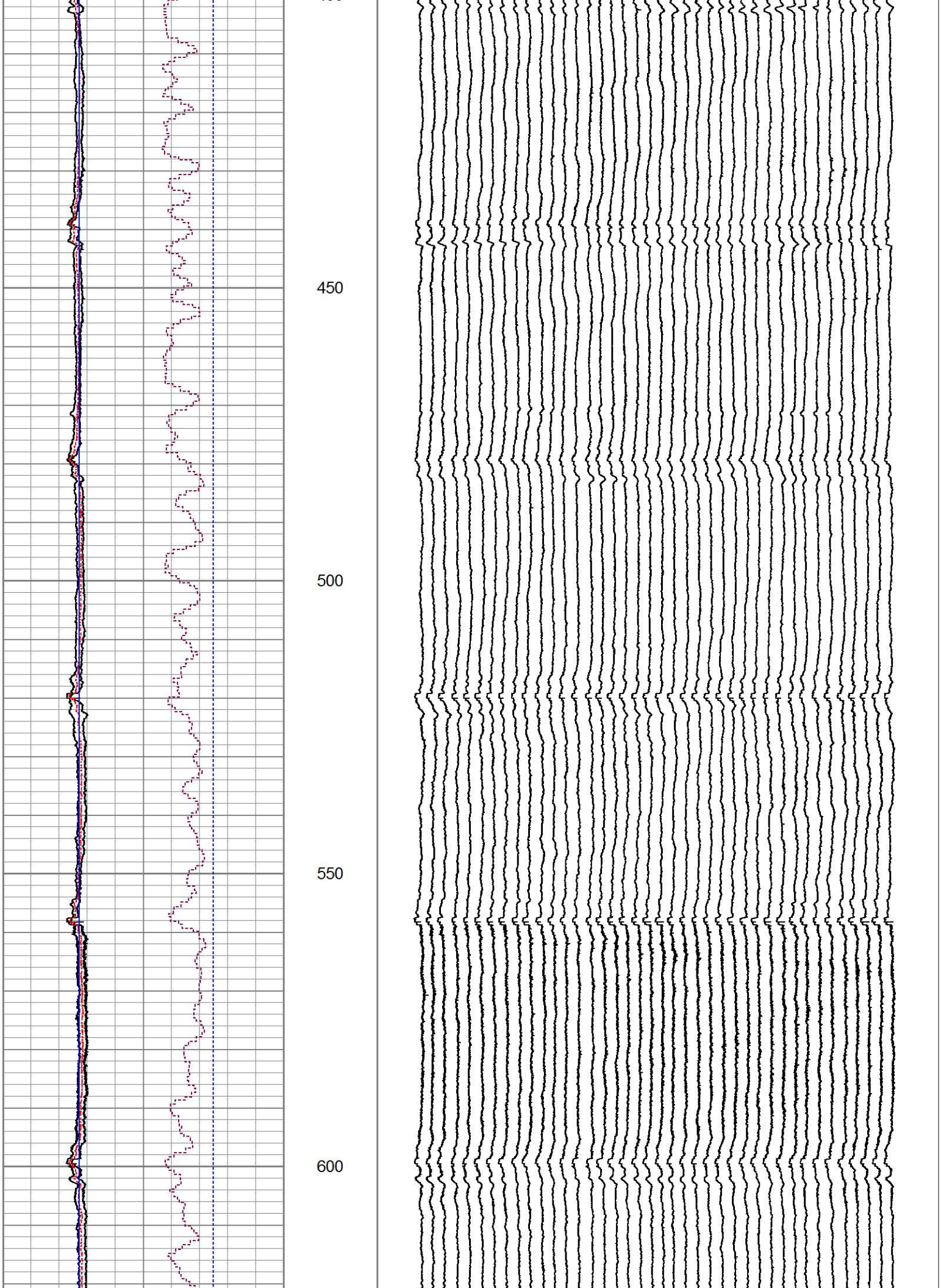
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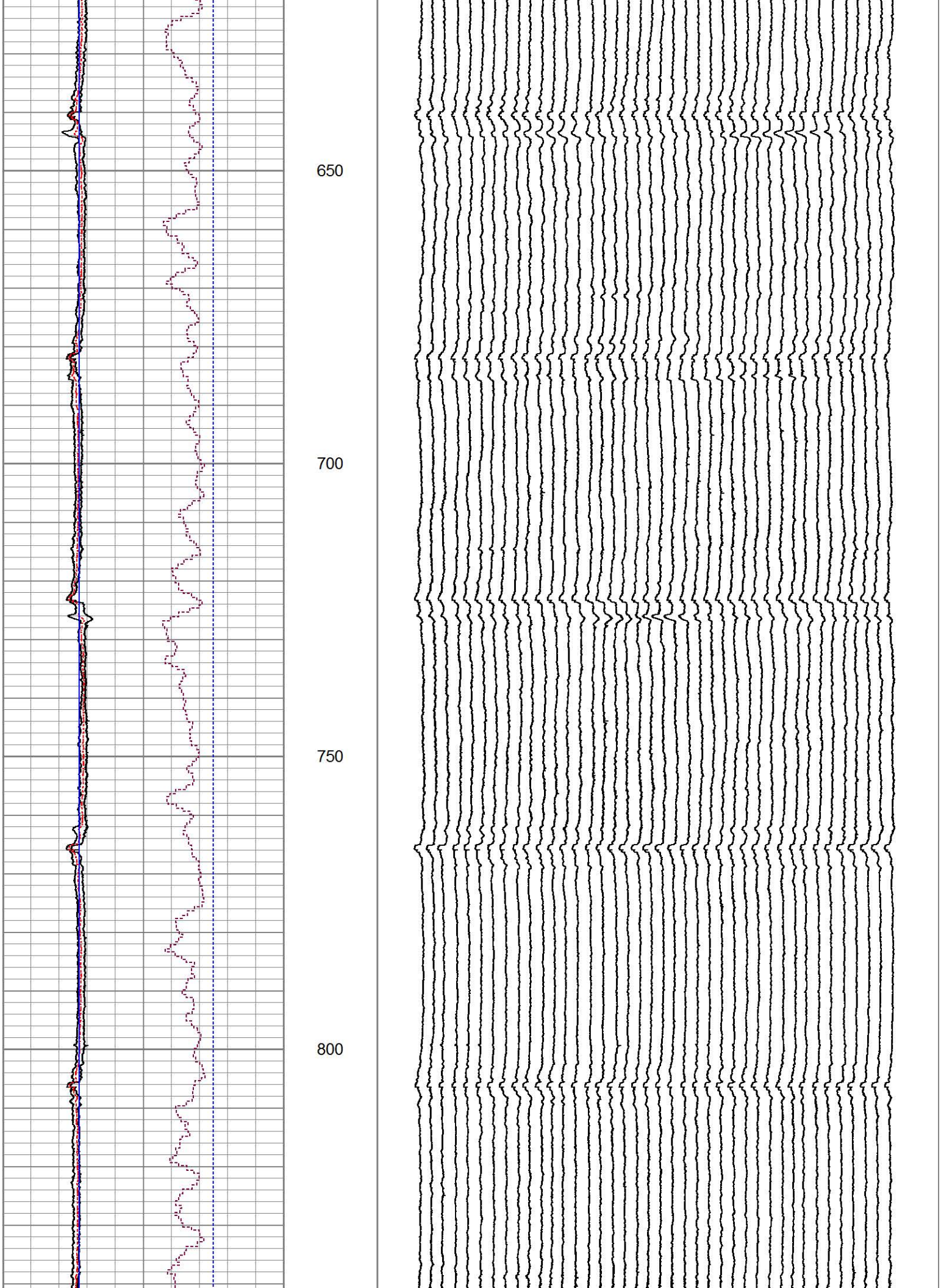
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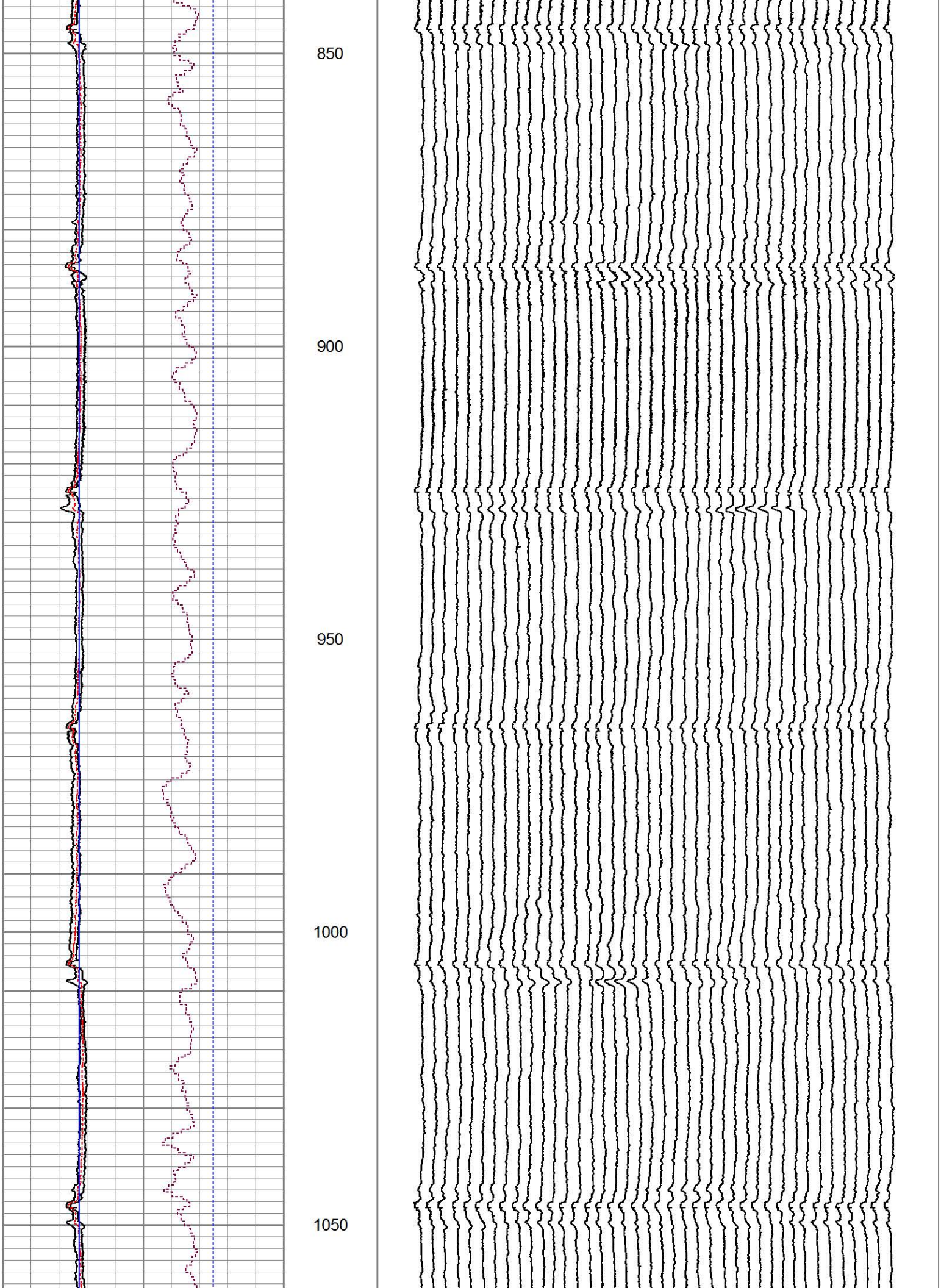
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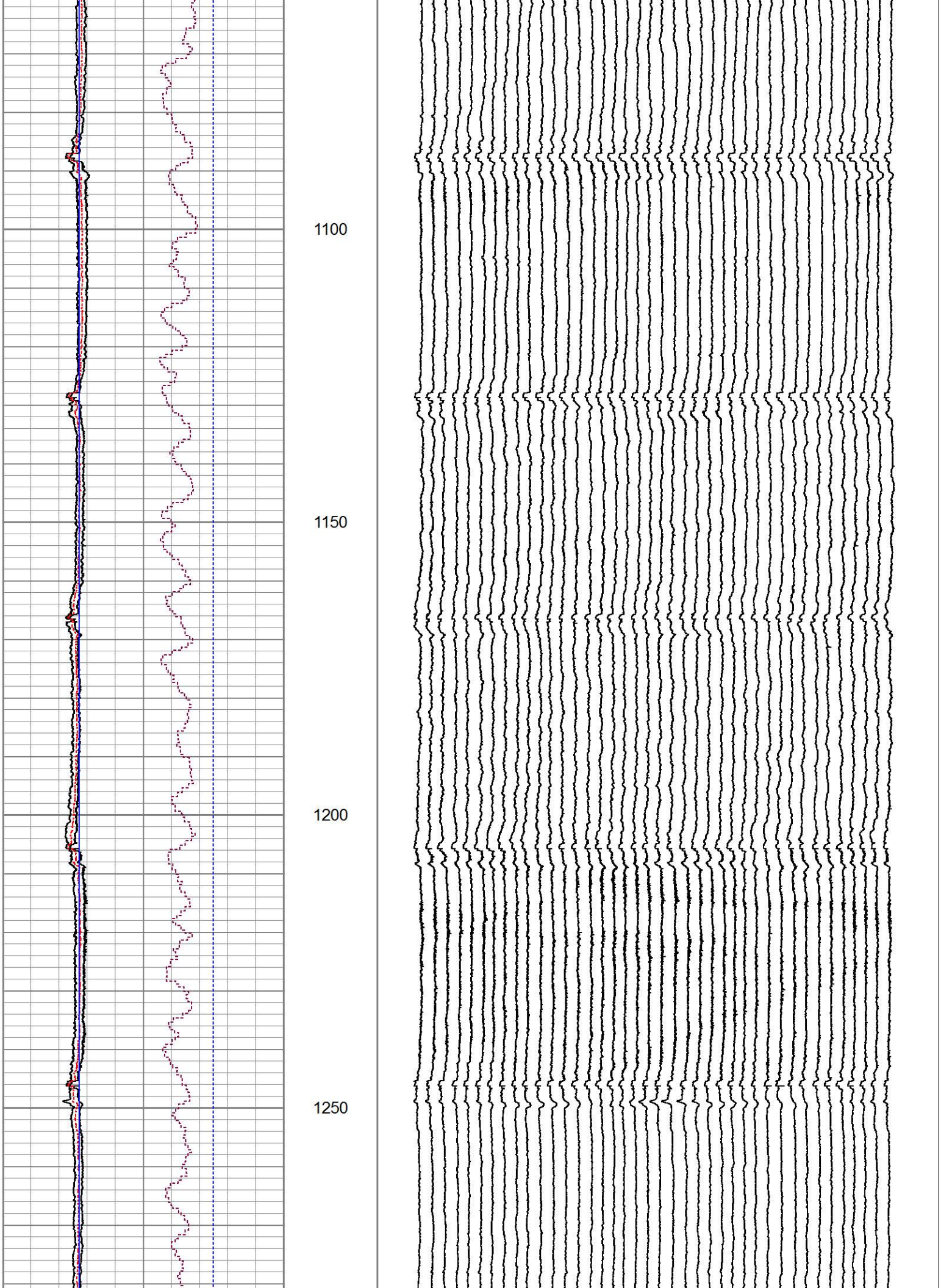
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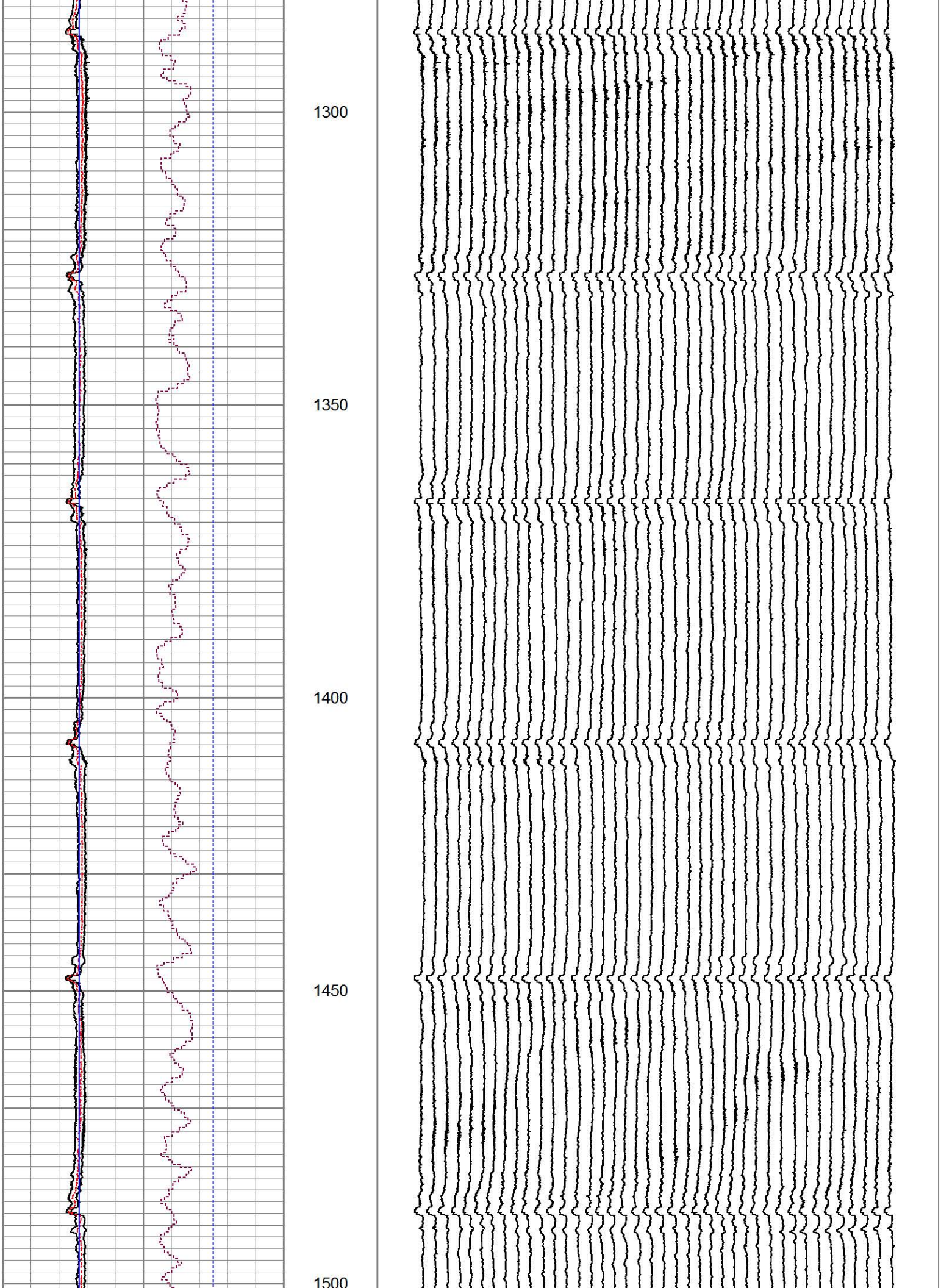
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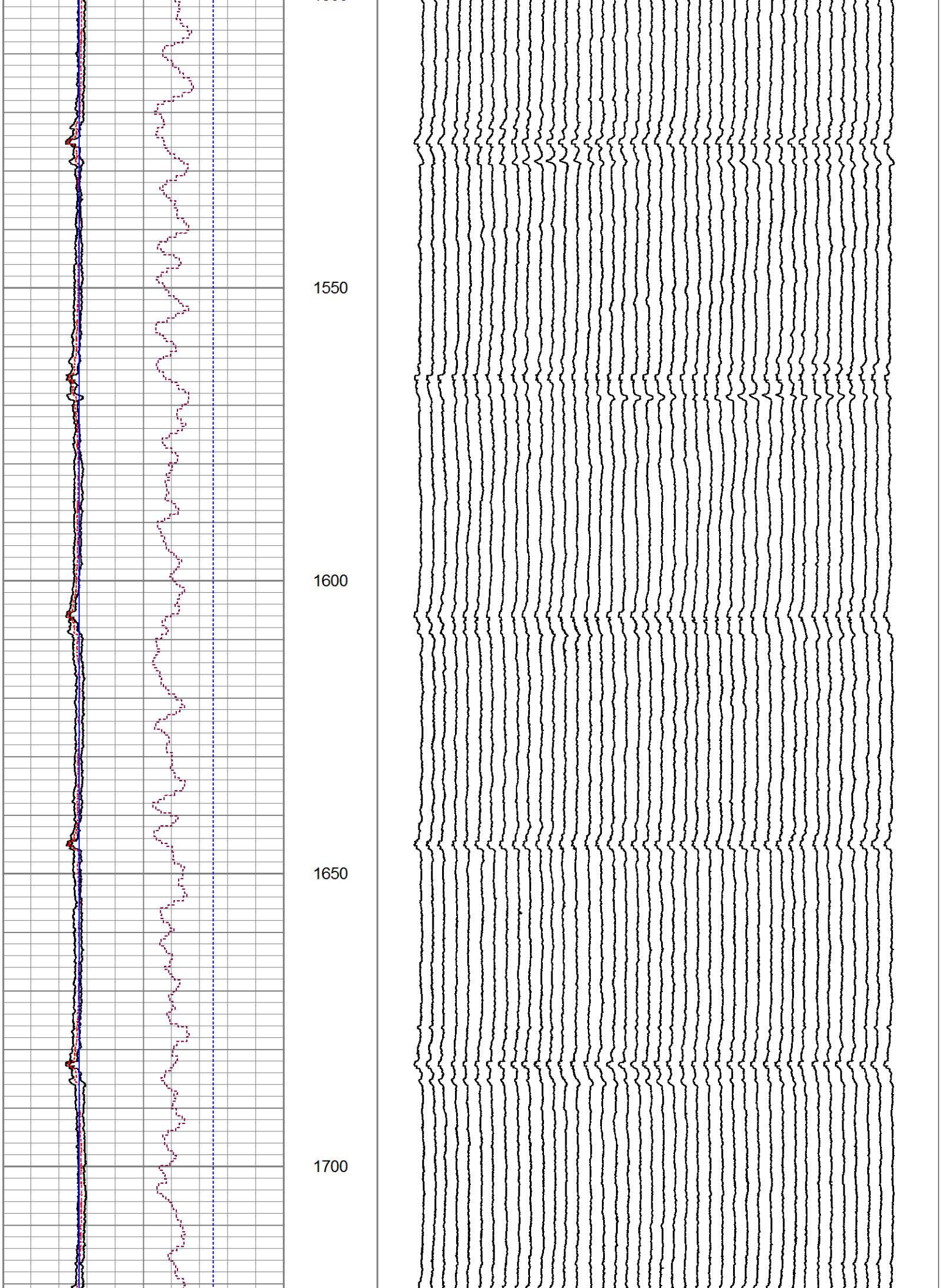
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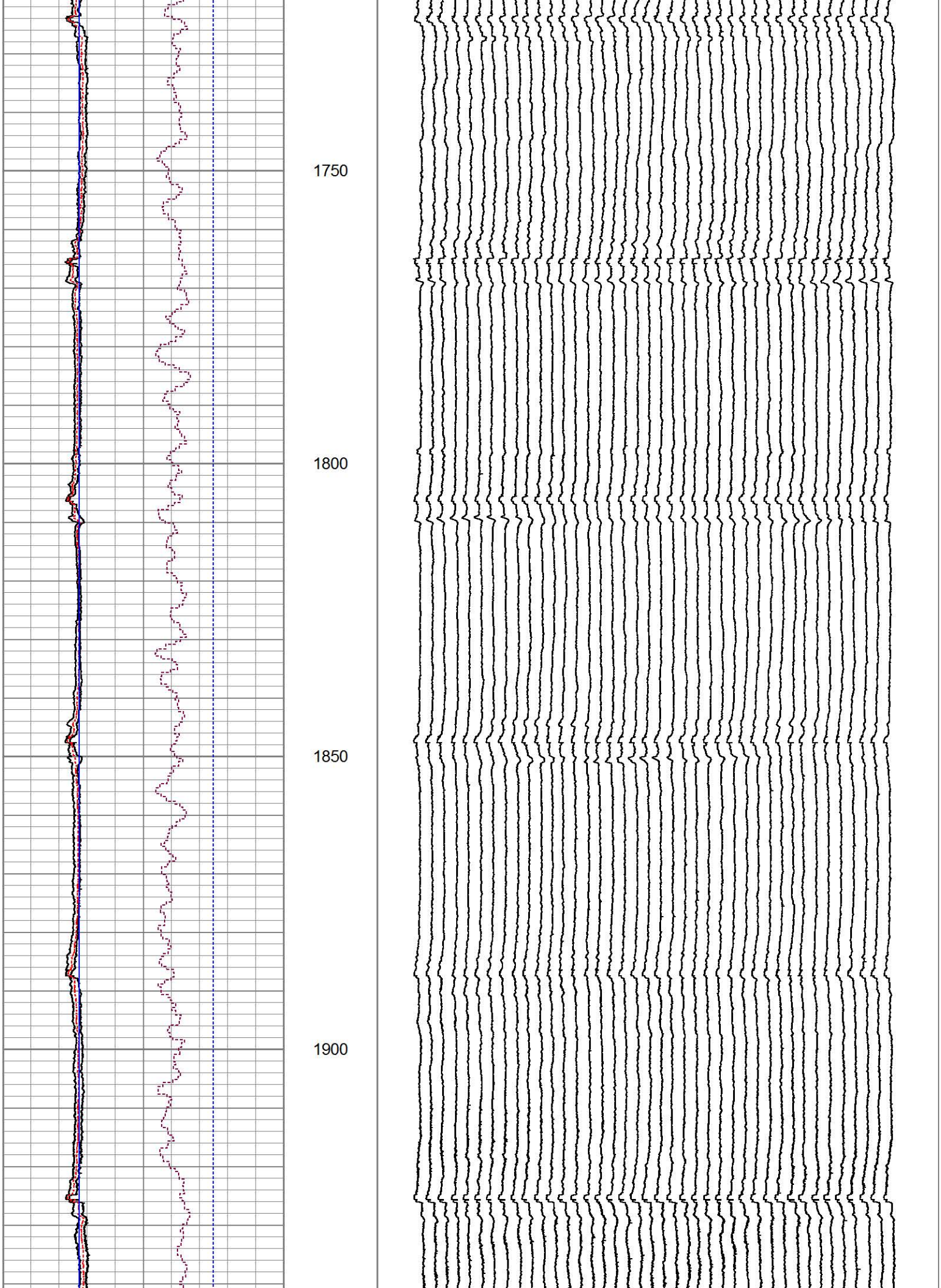
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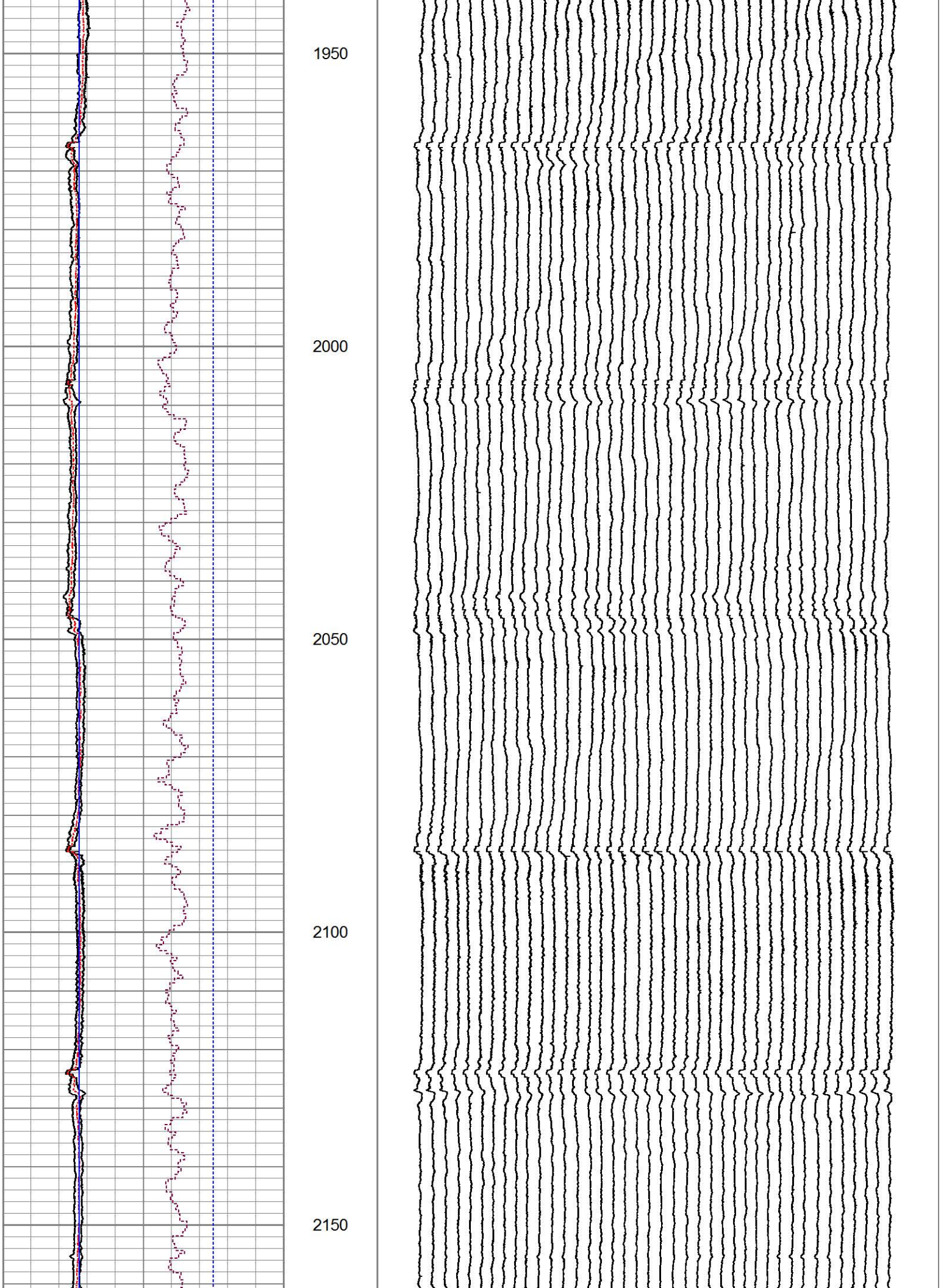
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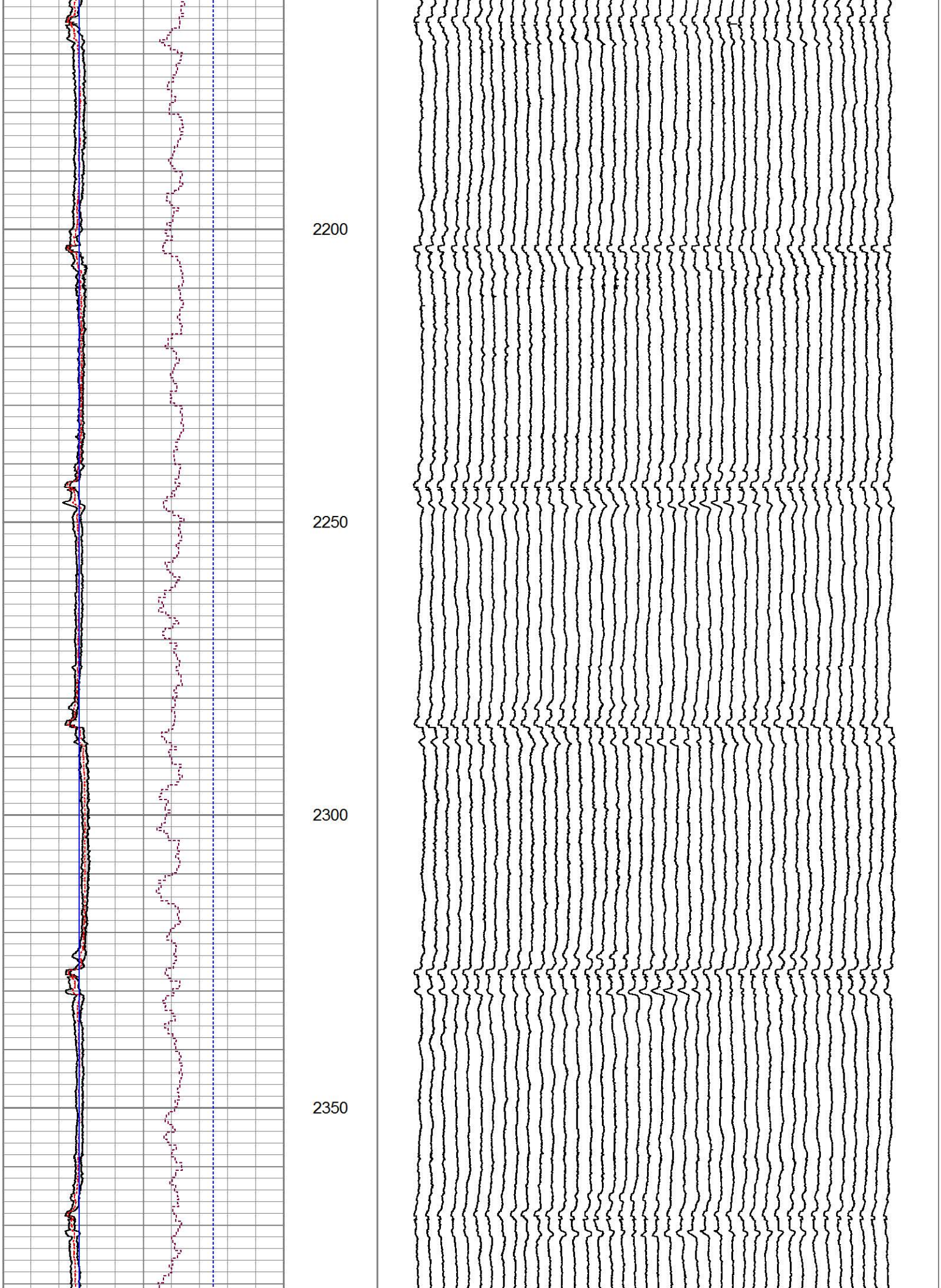
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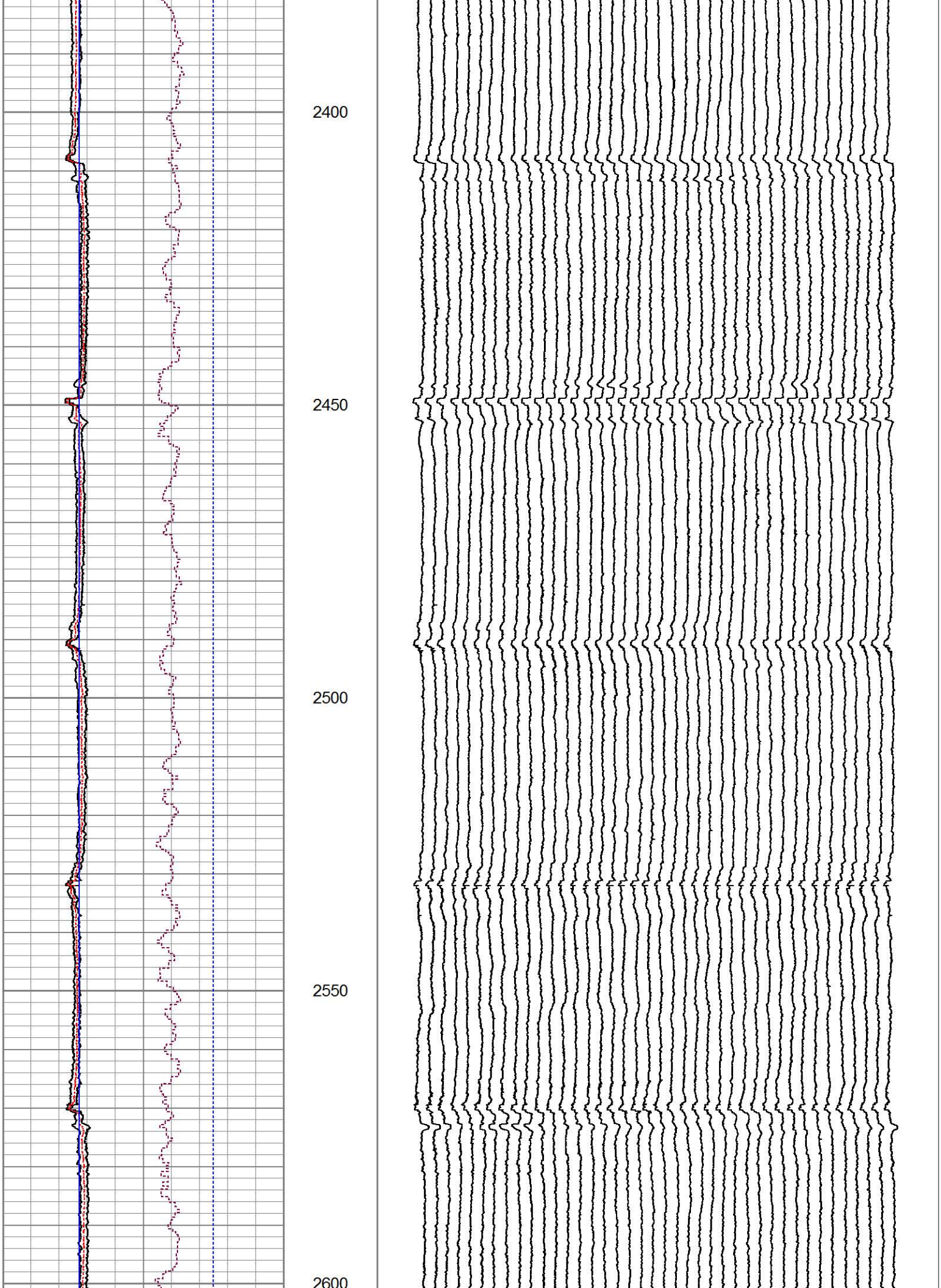
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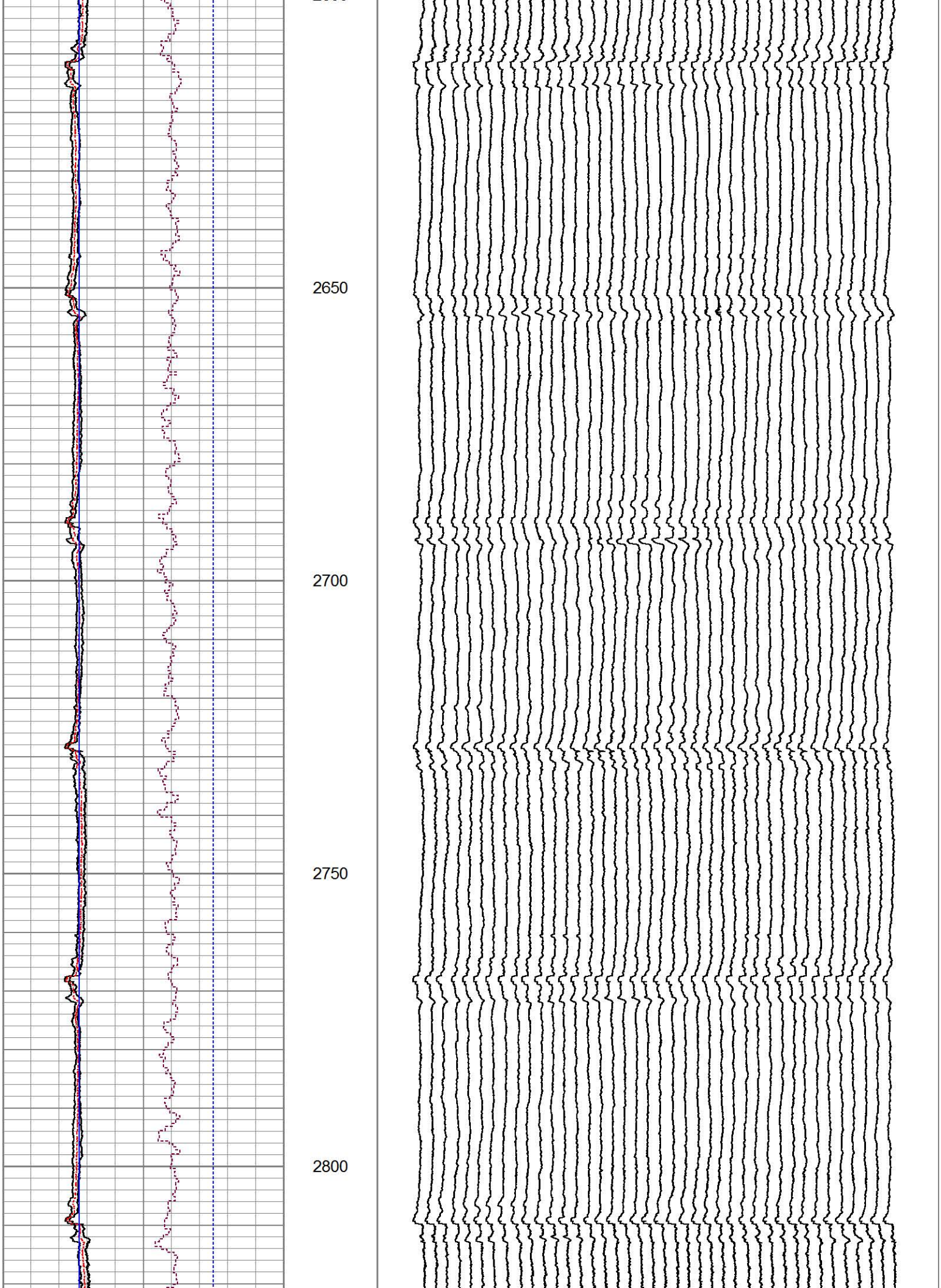
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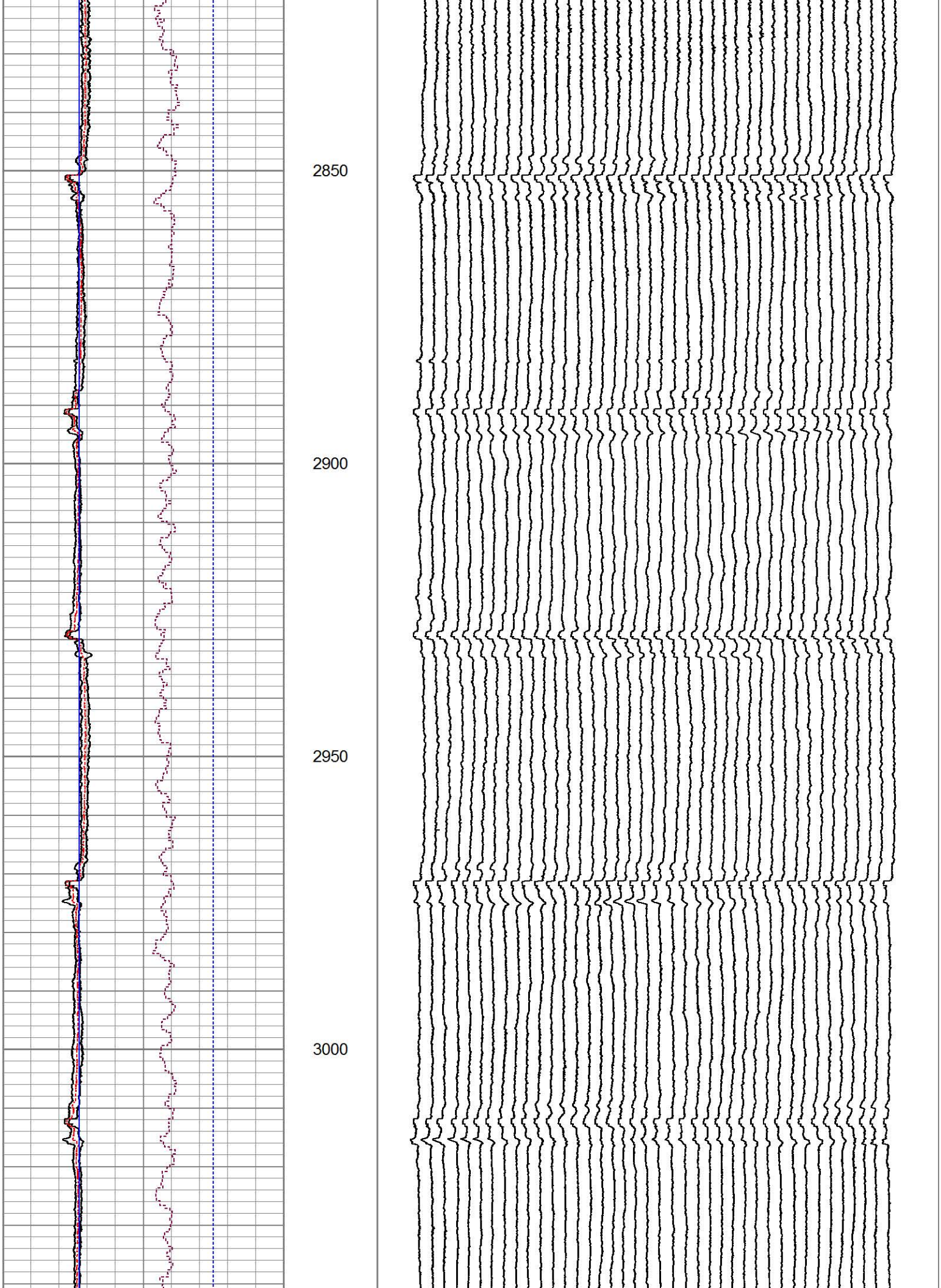
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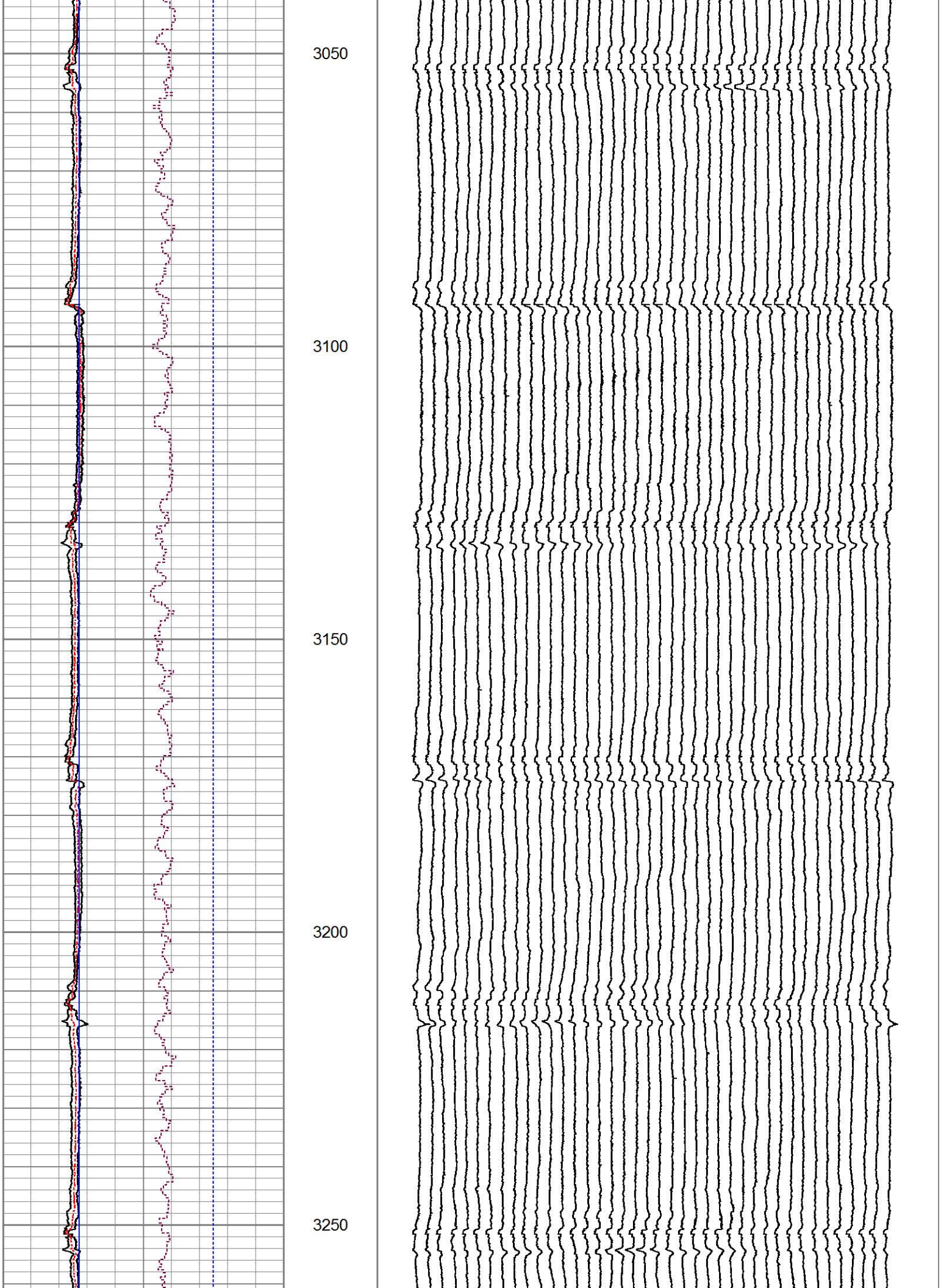
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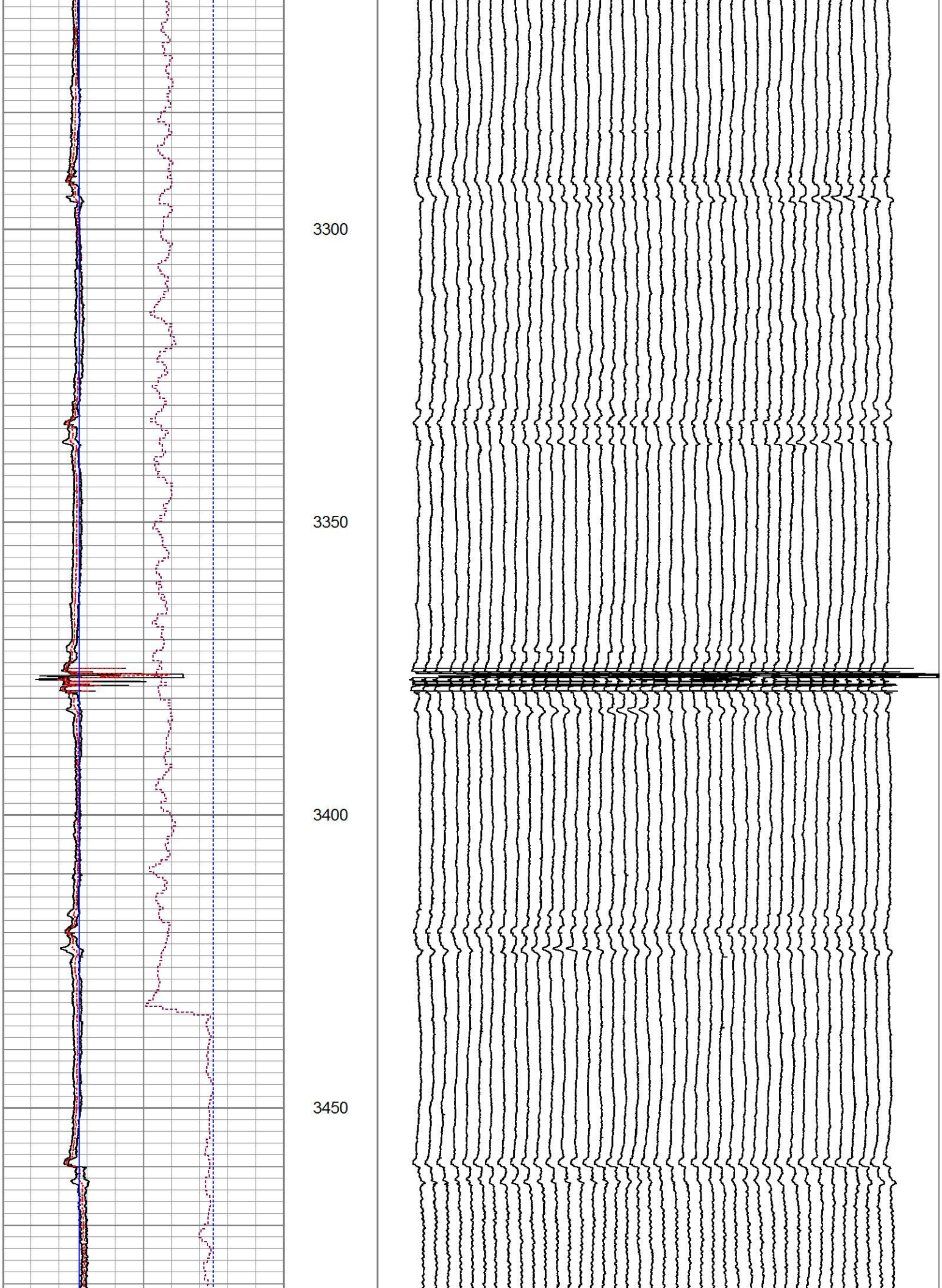
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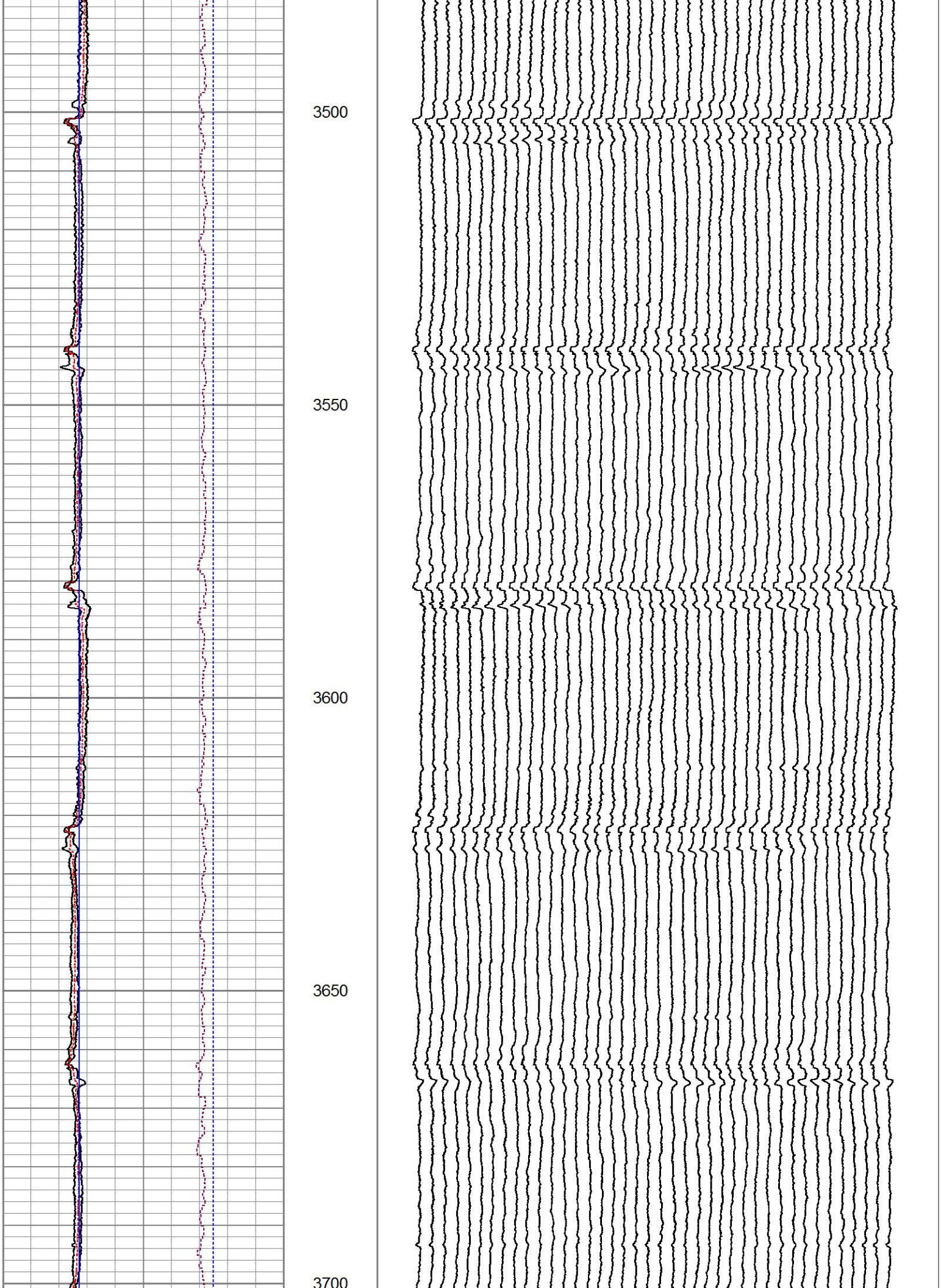
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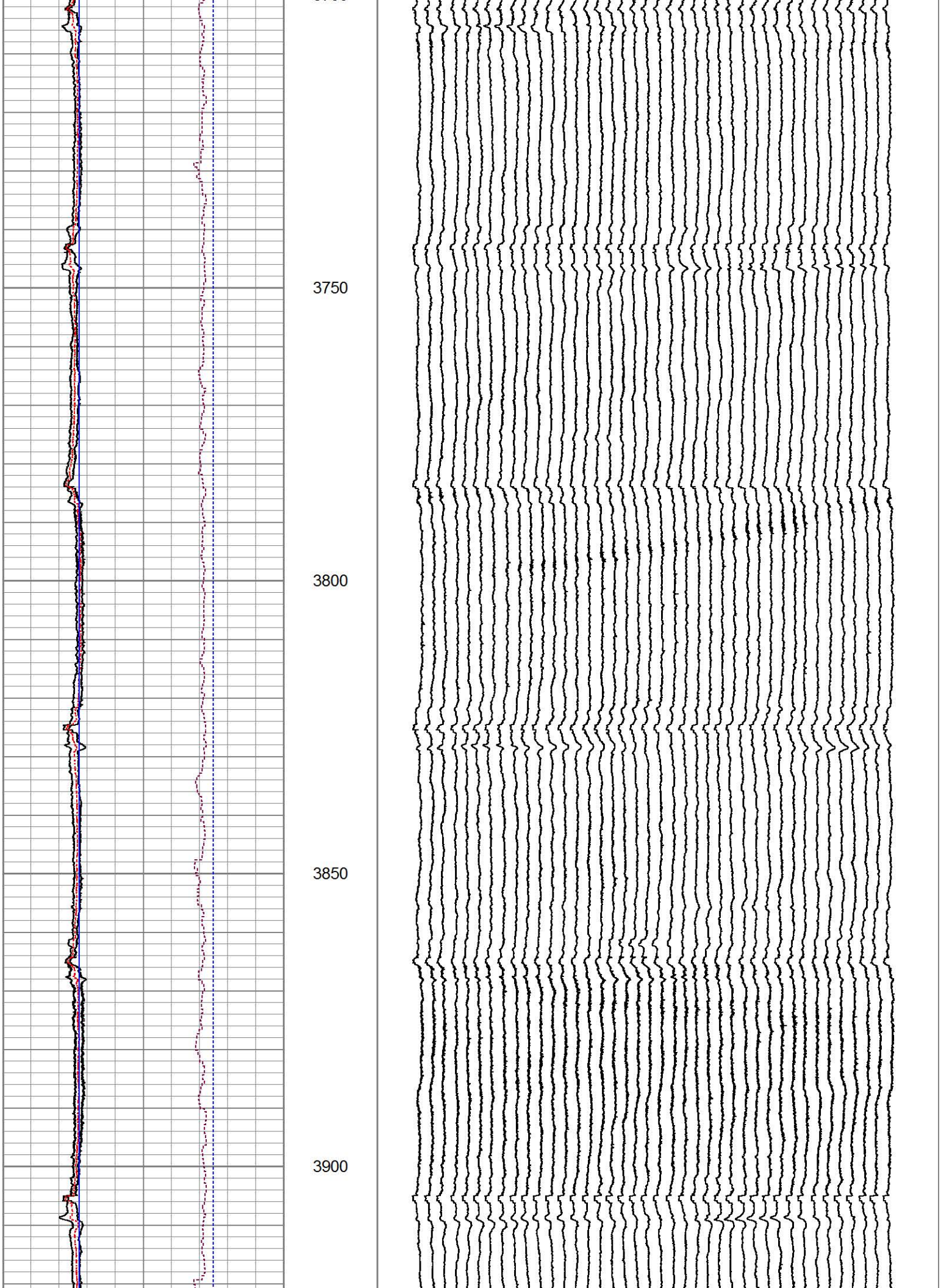
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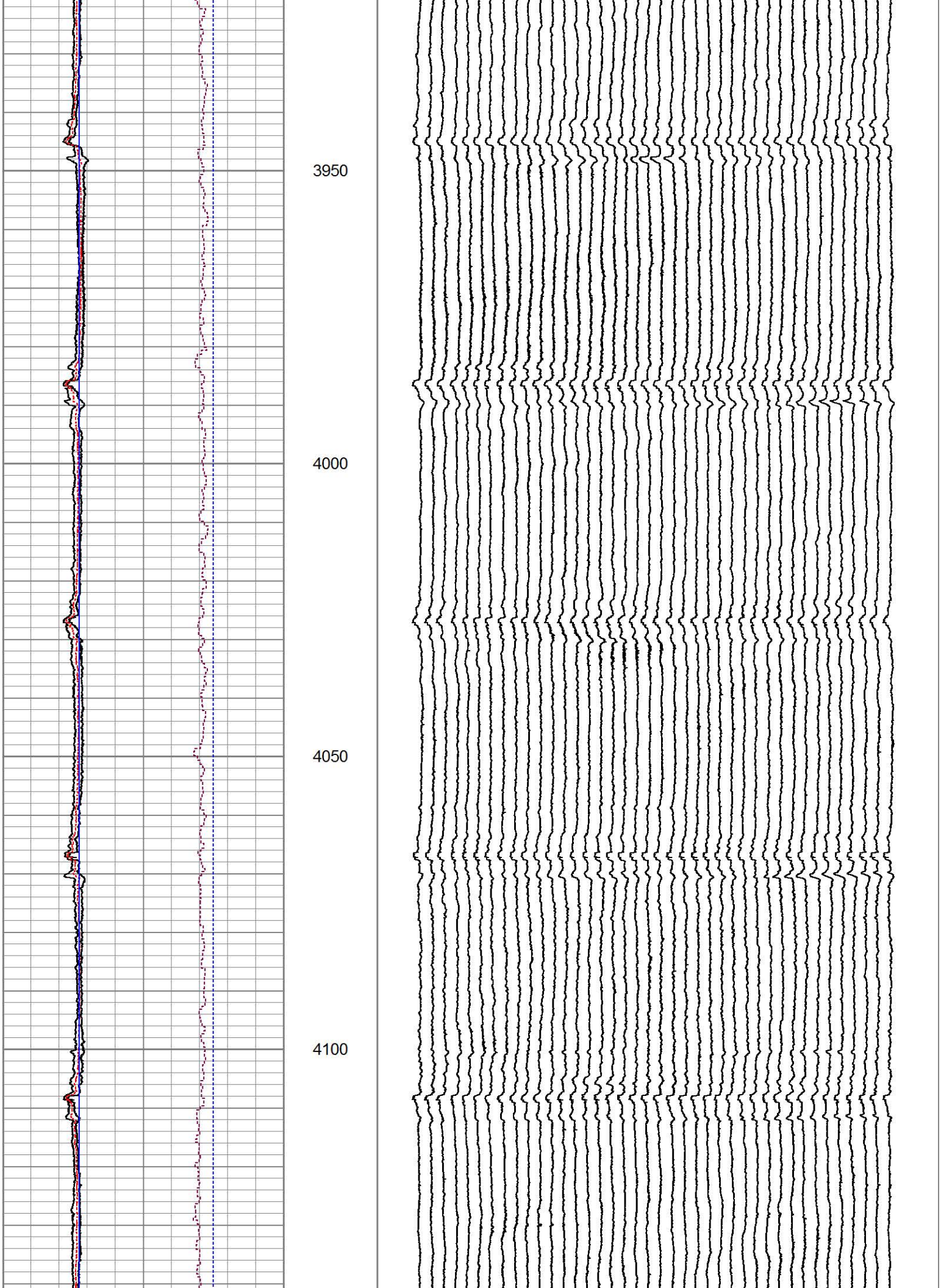
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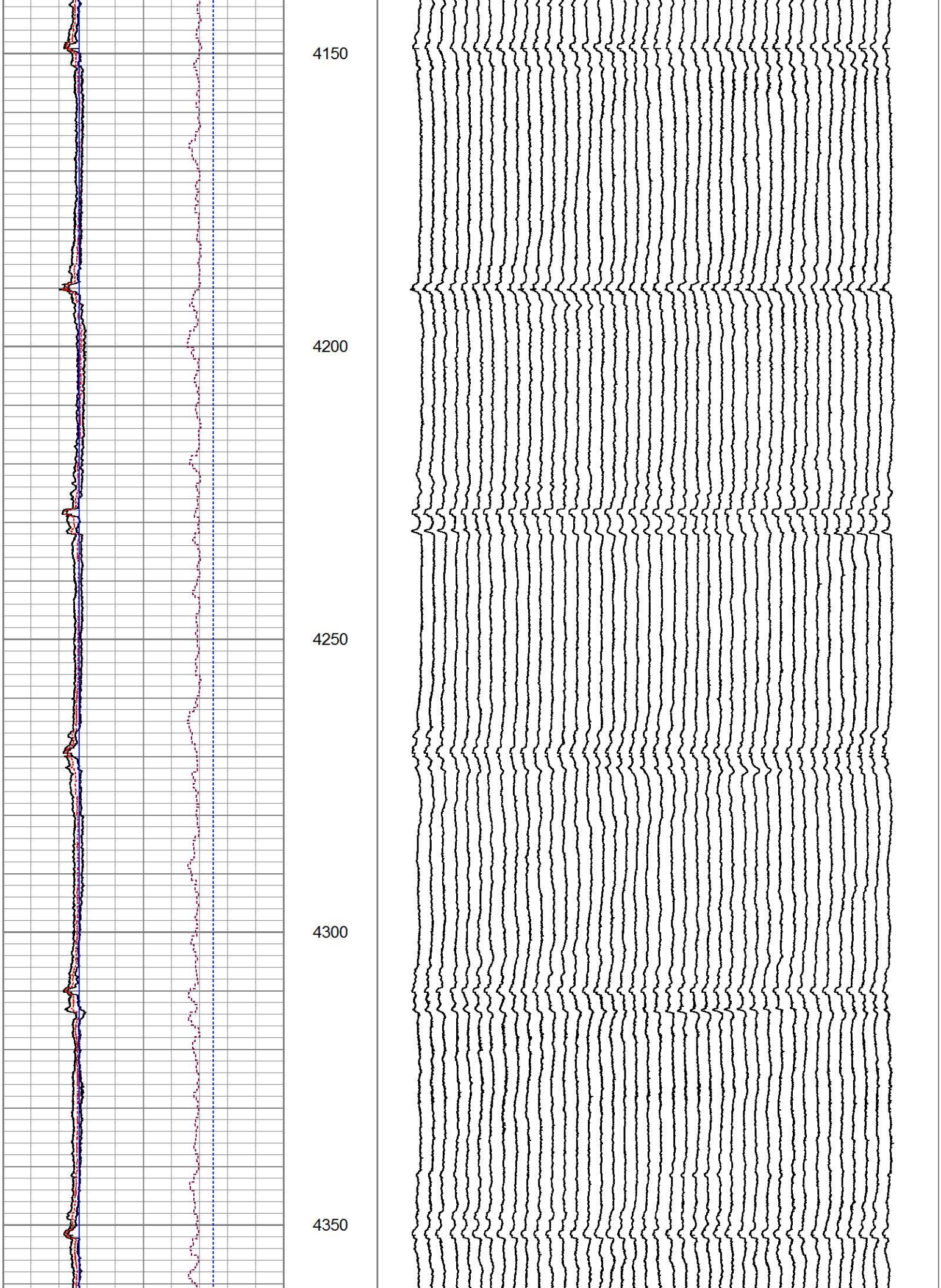
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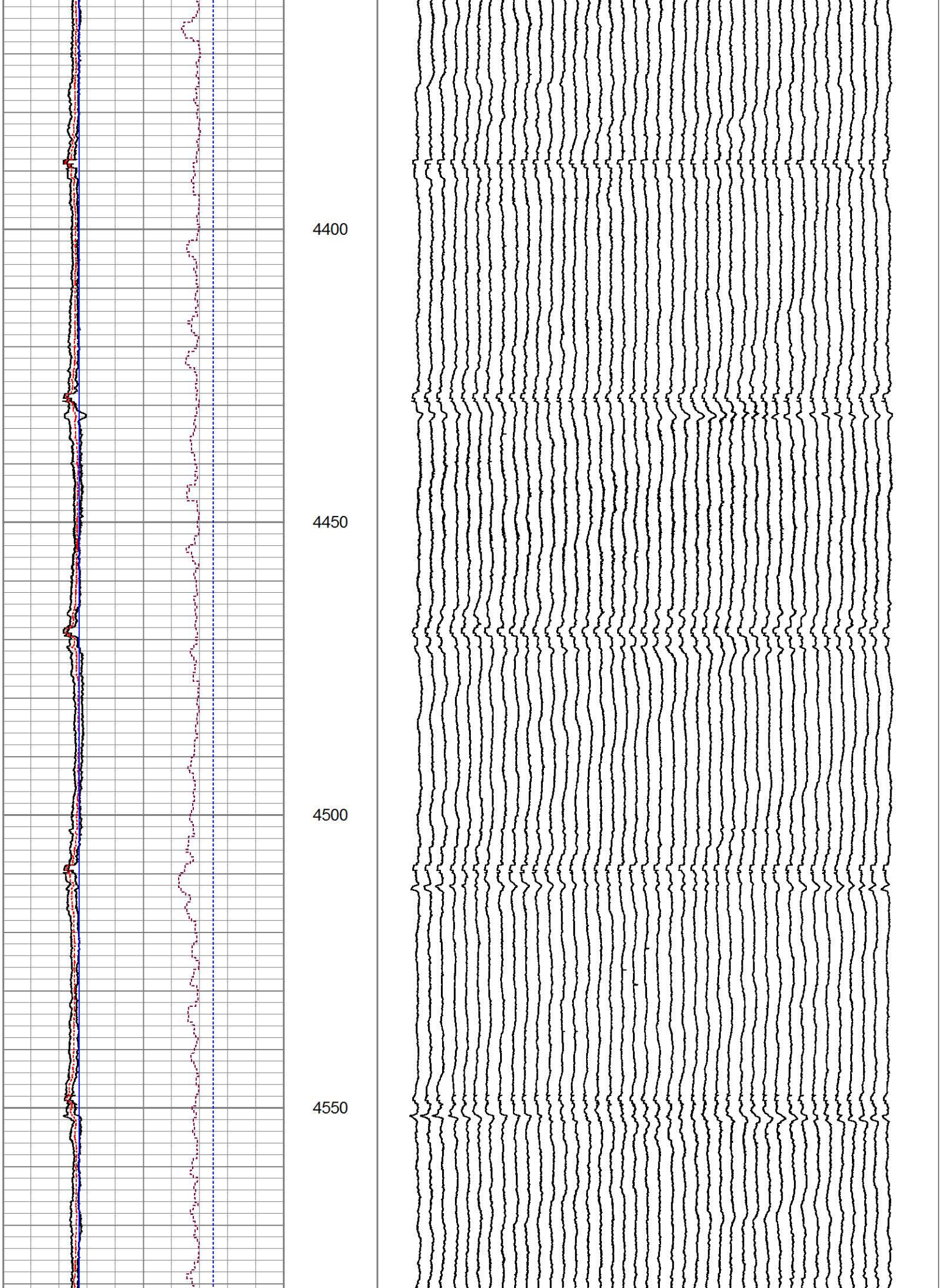
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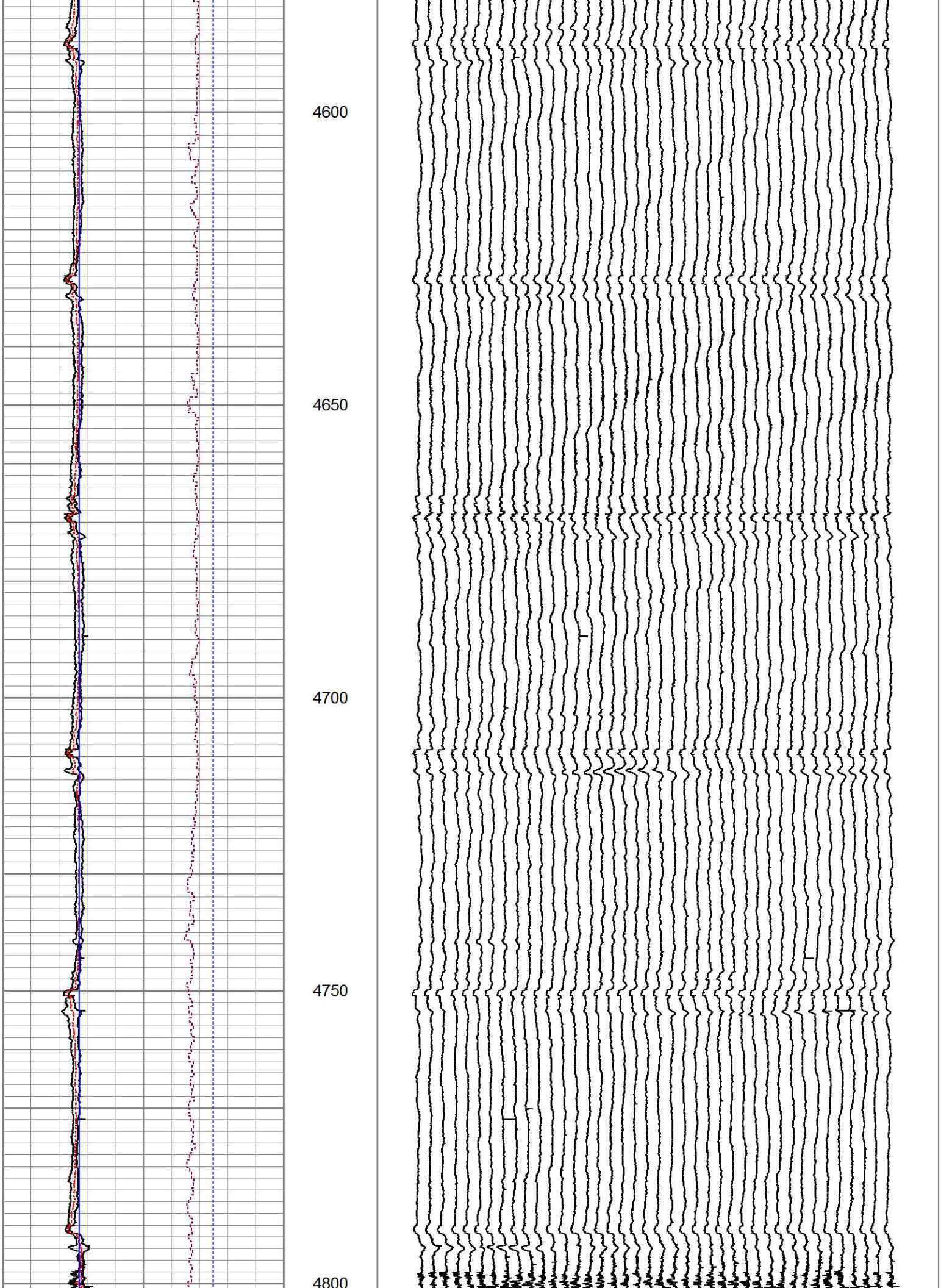
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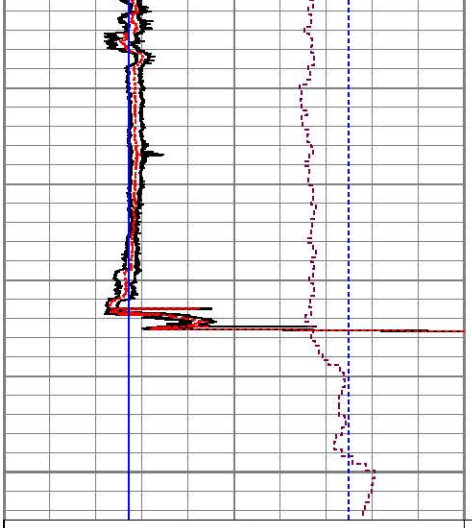

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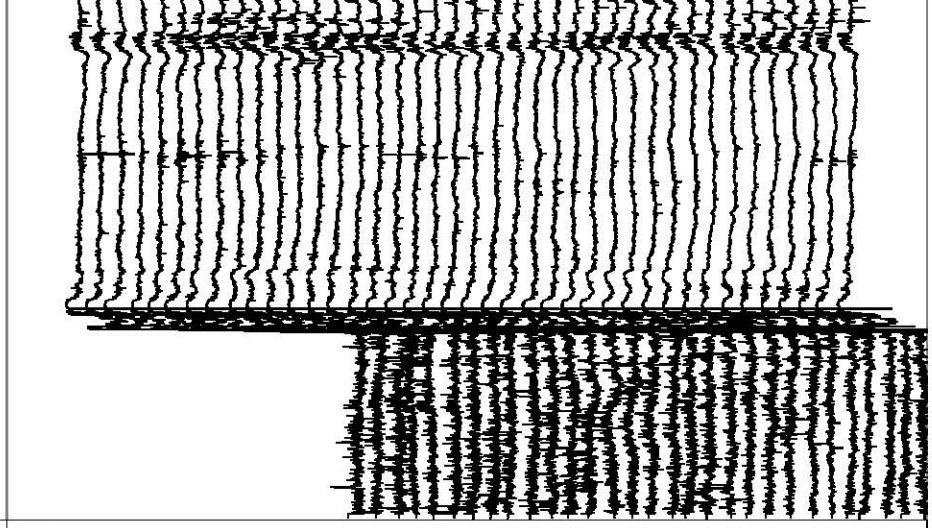


3.5	MAXDIA (in)	5.5
3.5	MINDIA (in)	5.5
3.5	AVEDIA (in)	5.5
0	LSPD (ft/min)	-60
3.5	CASEID (in)	5.5
3.5	CASEOD (in)	5.5

1.75	FING01 (in)	5.25
1.675	FING02 (in)	5.175
-1.1	FING39 (in)	2.4
-1.175	FING40 (in)	2.325

APPENDIX D

2-3/8-INCH INJECTION TUBING TALLY

Project Navigator, Ltd. - Texas City, Texas - Plant Well No. 1 (WDW-73)

Injection Tubing Tally

"Tally" as picked up and run in wellbore on July 29, 2014

Item No.	Description	Measured Length * (ft.)	Cum. Length (ft.)	Joint End Depth (ft.)	Joint Top Depth (ft.)
1	Wireline Re-entry Guide	0.41	0.41	4,707.31	4,706.90
2	5" Hornet Packer	7.03	7.44	4,706.90	4,699.87
3	2-3/8" J-55 4.70#	30.74	38.18	4,699.87	4,669.13
4	2-3/8" J-55 4.70#	32.37	70.55	4,669.13	4,636.76
5	2-3/8" J-55 4.70#	32.40	102.95	4,636.76	4,604.36
6	2-3/8" J-55 4.70#	32.37	135.32	4,604.36	4,571.99
7	2-3/8" J-55 4.70#	32.38	167.70	4,571.99	4,539.61
8	2-3/8" J-55 4.70#	32.37	200.07	4,539.61	4,507.24
9	2-3/8" J-55 4.70#	32.38	232.45	4,507.24	4,474.86
10	2-3/8" J-55 4.70#	32.36	264.81	4,474.86	4,442.50
11	2-3/8" J-55 4.70#	32.40	297.21	4,442.50	4,410.10
12	2-3/8" J-55 4.70#	32.39	329.60	4,410.10	4,377.71
13	2-3/8" J-55 4.70#	32.40	362.00	4,377.71	4,345.31
14	2-3/8" J-55 4.70#	32.37	394.37	4,345.31	4,312.94
15	2-3/8" J-55 4.70#	32.37	426.74	4,312.94	4,280.57
16	2-3/8" J-55 4.70#	32.40	459.14	4,280.57	4,248.17
17	2-3/8" J-55 4.70#	32.40	491.54	4,248.17	4,215.77
18	2-3/8" J-55 4.70#	32.35	523.89	4,215.77	4,183.42
19	2-3/8" J-55 4.70#	32.36	556.25	4,183.42	4,151.06
20	2-3/8" J-55 4.70#	32.36	588.61	4,151.06	4,118.70
21	2-3/8" J-55 4.70#	32.37	620.98	4,118.70	4,086.33
22	2-3/8" J-55 4.70#	32.36	653.34	4,086.33	4,053.97
23	2-3/8" J-55 4.70#	32.40	685.74	4,053.97	4,021.57
24	2-3/8" J-55 4.70#	32.36	718.10	4,021.57	3,989.21
25	2-3/8" J-55 4.70#	32.37	750.47	3,989.21	3,956.84
26	2-3/8" J-55 4.70#	32.37	782.84	3,956.84	3,924.47
27	2-3/8" J-55 4.70#	32.35	815.19	3,924.47	3,892.12
28	2-3/8" J-55 4.70#	32.36	847.55	3,892.12	3,859.76
29	2-3/8" J-55 4.70#	32.38	879.93	3,859.76	3,827.38
30	2-3/8" J-55 4.70#	32.38	912.31	3,827.38	3,795.00
31	2-3/8" J-55 4.70#	32.32	944.63	3,795.00	3,762.68
32	2-3/8" J-55 4.70#	32.40	977.03	3,762.68	3,730.28
33	2-3/8" J-55 4.70#	32.37	1,009.40	3,730.28	3,697.91
34	2-3/8" J-55 4.70#	32.40	1,041.80	3,697.91	3,665.51
35	2-3/8" J-55 4.70#	32.40	1,074.20	3,665.51	3,633.11
36	2-3/8" J-55 4.70#	32.38	1,106.58	3,633.11	3,600.73
37	2-3/8" J-55 4.70#	32.38	1,138.96	3,600.73	3,568.35
38	2-3/8" J-55 4.70#	32.40	1,171.36	3,568.35	3,535.95
39	2-3/8" J-55 4.70#	32.40	1,203.76	3,535.95	3,503.55
40	2-3/8" J-55 4.70#	32.38	1,236.14	3,503.55	3,471.17
41	2-3/8" J-55 4.70#	32.41	1,268.55	3,471.17	3,438.76
42	2-3/8" J-55 4.70#	32.40	1,300.95	3,438.76	3,406.36
43	2-3/8" J-55 4.70#	32.42	1,333.37	3,406.36	3,373.94
44	2-3/8" J-55 4.70#	32.43	1,365.80	3,373.94	3,341.51
45	2-3/8" J-55 4.70#	32.37	1,398.17	3,341.51	3,309.14
46	2-3/8" J-55 4.70#	32.40	1,430.57	3,309.14	3,276.74
47	2-3/8" J-55 4.70#	32.40	1,462.97	3,276.74	3,244.34
48	2-3/8" J-55 4.70#	32.40	1,495.37	3,244.34	3,211.94
49	2-3/8" J-55 4.70#	32.40	1,527.77	3,211.94	3,179.54
50	2-3/8" J-55 4.70#	32.37	1,560.14	3,179.54	3,147.17
51	2-3/8" J-55 4.70#	32.38	1,592.52	3,147.17	3,114.79
52	2-3/8" J-55 4.70#	32.40	1,624.92	3,114.79	3,082.39

Project Navigator, Ltd. - Texas City, Texas - Plant Well No. 1 (WDW-73)

Injection Tubing Tally

"Tally" as picked up and run in wellbore on July 29, 2014

Item No.	Description	Measured Length * (ft.)	Cum. Length (ft.)	Joint End Depth (ft.)	Joint Top Depth (ft.)
53	2-3/8" J-55 4.70#	32.40	1,657.32	3,082.39	3,049.99
54	2-3/8" J-55 4.70#	32.36	1,689.68	3,049.99	3,017.63
55	2-3/8" J-55 4.70#	32.37	1,722.05	3,017.63	2,985.26
56	2-3/8" J-55 4.70#	32.38	1,754.43	2,985.26	2,952.88
57	2-3/8" J-55 4.70#	32.37	1,786.80	2,952.88	2,920.51
58	2-3/8" J-55 4.70#	32.40	1,819.20	2,920.51	2,888.11
59	2-3/8" J-55 4.70#	32.36	1,851.56	2,888.11	2,855.75
60	2-3/8" J-55 4.70#	32.42	1,883.98	2,855.75	2,823.33
61	2-3/8" J-55 4.70#	32.42	1,916.40	2,823.33	2,790.91
62	2-3/8" J-55 4.70#	32.38	1,948.78	2,790.91	2,758.53
63	2-3/8" J-55 4.70#	32.38	1,981.16	2,758.53	2,726.15
64	2-3/8" J-55 4.70#	32.40	2,013.56	2,726.15	2,693.75
65	2-3/8" J-55 4.70#	32.40	2,045.96	2,693.75	2,661.35
66	2-3/8" J-55 4.70#	32.41	2,078.37	2,661.35	2,628.94
67	2-3/8" J-55 4.70#	32.38	2,110.75	2,628.94	2,596.56
68	2-3/8" J-55 4.70#	32.40	2,143.15	2,596.56	2,564.16
69	2-3/8" J-55 4.70#	32.36	2,175.51	2,564.16	2,531.80
70	2-3/8" J-55 4.70#	32.40	2,207.91	2,531.80	2,499.40
71	2-3/8" J-55 4.70#	32.38	2,240.29	2,499.40	2,467.02
72	2-3/8" J-55 4.70#	32.41	2,272.70	2,467.02	2,434.61
73	2-3/8" J-55 4.70#	32.40	2,305.10	2,434.61	2,402.21
74	2-3/8" J-55 4.70#	32.38	2,337.48	2,402.21	2,369.83
75	2-3/8" J-55 4.70#	32.40	2,369.88	2,369.83	2,337.43
76	2-3/8" J-55 4.70#	32.43	2,402.31	2,337.43	2,305.00
77	2-3/8" J-55 4.70#	32.40	2,434.71	2,305.00	2,272.60
78	2-3/8" J-55 4.70#	32.40	2,467.11	2,272.60	2,240.20
79	2-3/8" J-55 4.70#	32.40	2,499.51	2,240.20	2,207.80
80	2-3/8" J-55 4.70#	32.35	2,531.86	2,207.80	2,175.45
81	2-3/8" J-55 4.70#	32.40	2,564.26	2,175.45	2,143.05
82	2-3/8" J-55 4.70#	32.37	2,596.63	2,143.05	2,110.68
83	2-3/8" J-55 4.70#	32.38	2,629.01	2,110.68	2,078.30
84	2-3/8" J-55 4.70#	32.42	2,661.43	2,078.30	2,045.88
85	2-3/8" J-55 4.70#	32.40	2,693.83	2,045.88	2,013.48
86	2-3/8" J-55 4.70#	32.37	2,726.20	2,013.48	1,981.11
87	2-3/8" J-55 4.70#	32.36	2,758.56	1,981.11	1,948.75
88	2-3/8" J-55 4.70#	32.38	2,790.94	1,948.75	1,916.37
89	2-3/8" J-55 4.70#	32.37	2,823.31	1,916.37	1,884.00
90	2-3/8" J-55 4.70#	32.37	2,855.68	1,884.00	1,851.63
91	2-3/8" J-55 4.70#	32.38	2,888.06	1,851.63	1,819.25
92	2-3/8" J-55 4.70#	32.38	2,920.44	1,819.25	1,786.87
93	2-3/8" J-55 4.70#	32.37	2,952.81	1,786.87	1,754.50
94	2-3/8" J-55 4.70#	32.40	2,985.21	1,754.50	1,722.10
95	2-3/8" J-55 4.70#	32.42	3,017.63	1,722.10	1,689.68
96	2-3/8" J-55 4.70#	32.40	3,050.03	1,689.68	1,657.28
97	2-3/8" J-55 4.70#	32.40	3,082.43	1,657.28	1,624.88
98	2-3/8" J-55 4.70#	32.35	3,114.78	1,624.88	1,592.53
99	2-3/8" J-55 4.70#	32.38	3,147.16	1,592.53	1,560.15
100	2-3/8" J-55 4.70#	32.38	3,179.54	1,560.15	1,527.77
101	2-3/8" J-55 4.70#	32.40	3,211.94	1,527.77	1,495.37
102	2-3/8" J-55 4.70#	32.40	3,244.34	1,495.37	1,462.97
103	2-3/8" J-55 4.70#	32.37	3,276.71	1,462.97	1,430.60

Project Navigator, Ltd. - Texas City, Texas - Plant Well No. 1 (WDW-73)

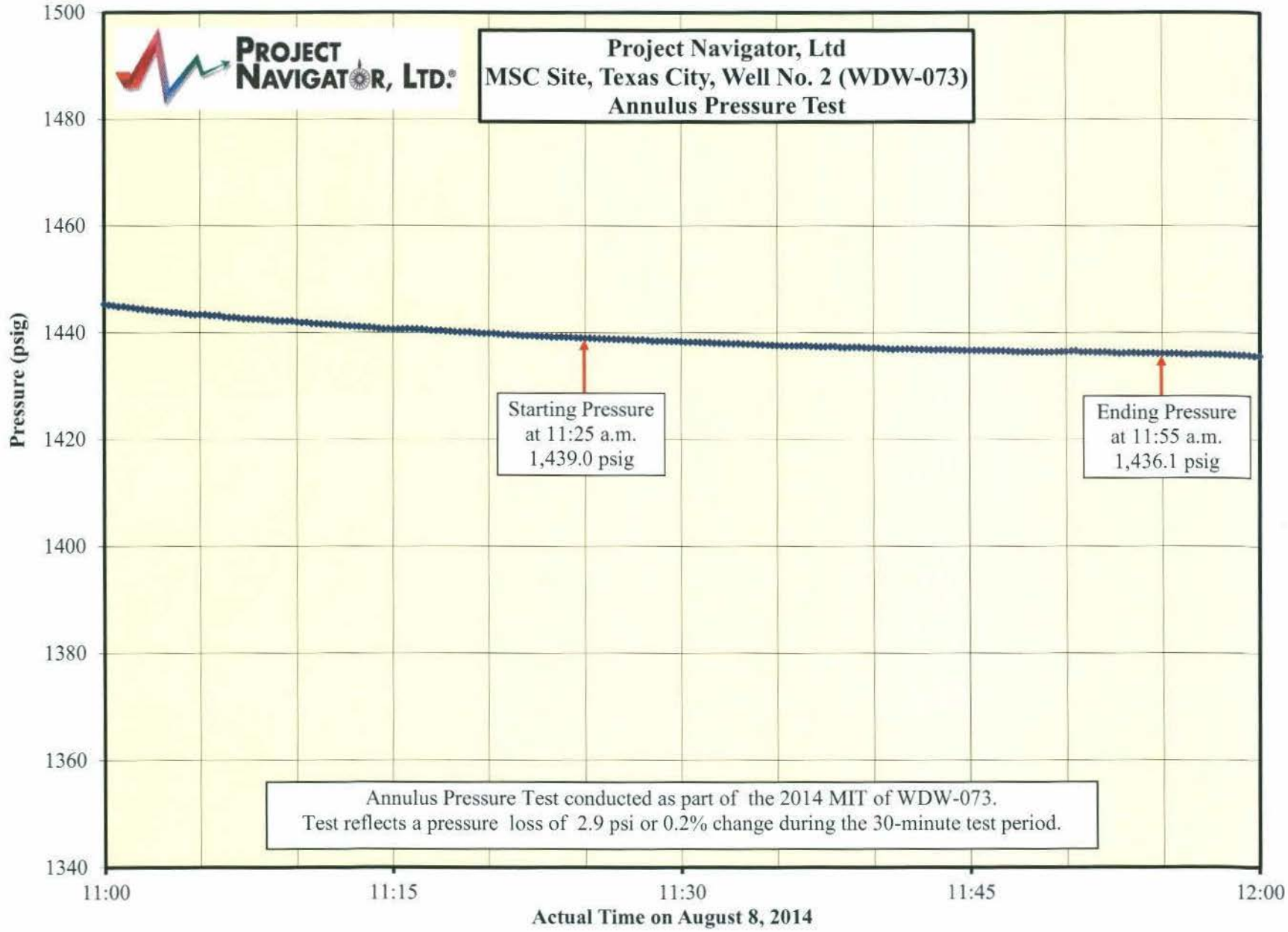
Injection Tubing Tally

"Tally" as picked up and run in wellbore on July 29, 2014

Item No.	Description	Measured Length * (ft.)	Cum. Length (ft.)	Joint End Depth (ft.)	Joint Top Depth (ft.)
104	2-3/8" J-55 4.70#	32.37	3,309.08	1,430.60	1,398.23
105	2-3/8" J-55 4.70#	32.40	3,341.48	1,398.23	1,365.83
106	2-3/8" J-55 4.70#	32.33	3,373.81	1,365.83	1,333.50
107	2-3/8" J-55 4.70#	32.40	3,406.21	1,333.50	1,301.10
108	2-3/8" J-55 4.70#	32.37	3,438.58	1,301.10	1,268.73
109	2-3/8" J-55 4.70#	32.37	3,470.95	1,268.73	1,236.36
110	2-3/8" J-55 4.70#	32.37	3,503.32	1,236.36	1,203.99
111	2-3/8" J-55 4.70#	32.41	3,535.73	1,203.99	1,171.58
112	2-3/8" J-55 4.70#	32.37	3,568.10	1,171.58	1,139.21
113	2-3/8" J-55 4.70#	32.38	3,600.48	1,139.21	1,106.83
114	2-3/8" J-55 4.70#	32.40	3,632.88	1,106.83	1,074.43
115	2-3/8" J-55 4.70#	32.37	3,665.25	1,074.43	1,042.06
116	2-3/8" J-55 4.70#	32.38	3,697.63	1,042.06	1,009.68
117	2-3/8" J-55 4.70#	32.40	3,730.03	1,009.68	977.28
118	2-3/8" J-55 4.70#	32.42	3,762.45	977.28	944.86
119	2-3/8" J-55 4.70#	32.38	3,794.83	944.86	912.48
120	2-3/8" J-55 4.70#	32.42	3,827.25	912.48	880.06
121	2-3/8" J-55 4.70#	32.40	3,859.65	880.06	847.66
122	2-3/8" J-55 4.70#	32.38	3,892.03	847.66	815.28
123	2-3/8" J-55 4.70#	32.35	3,924.38	815.28	782.93
124	2-3/8" J-55 4.70#	32.38	3,956.76	782.93	750.55
125	2-3/8" J-55 4.70#	32.35	3,989.11	750.55	718.20
126	2-3/8" J-55 4.70#	32.35	4,021.46	718.20	685.85
127	2-3/8" J-55 4.70#	32.34	4,053.80	685.85	653.51
128	2-3/8" J-55 4.70#	32.40	4,086.20	653.51	621.11
129	2-3/8" J-55 4.70#	32.37	4,118.57	621.11	588.74
130	2-3/8" J-55 4.70#	32.37	4,150.94	588.74	556.37
131	2-3/8" J-55 4.70#	32.38	4,183.32	556.37	523.99
132	2-3/8" J-55 4.70#	32.40	4,215.72	523.99	491.59
133	2-3/8" J-55 4.70#	32.38	4,248.10	491.59	459.21
134	2-3/8" J-55 4.70#	32.37	4,280.47	459.21	426.84
135	2-3/8" J-55 4.70#	32.40	4,312.87	426.84	394.44
136	2-3/8" J-55 4.70#	32.37	4,345.24	394.44	362.07
137	2-3/8" J-55 4.70#	32.37	4,377.61	362.07	329.70
138	2-3/8" J-55 4.70#	32.37	4,409.98	329.70	297.33
139	2-3/8" J-55 4.70#	32.40	4,442.38	297.33	264.93
140	2-3/8" J-55 4.70#	32.37	4,474.75	264.93	232.56
141	2-3/8" J-55 4.70#	32.40	4,507.15	232.56	200.16
142	2-3/8" J-55 4.70#	32.40	4,539.55	200.16	167.76
143	2-3/8" J-55 4.70#	32.37	4,571.92	167.76	135.39
144	2-3/8" J-55 4.70#	32.40	4,604.32	135.39	102.99
145	2-3/8" J-55 4.70#	32.40	4,636.72	102.99	70.59
146	2-3/8" J-55 4.70#	32.42	4,669.14	70.59	38.17
147	2-3/8" J-55 4.70#	32.42	4,701.56	38.17	5.75
148	X-Over	0.66	4,702.22	5.75	5.09
149	2-7/8" J-55 6.50# Pup Joint	1.59	4,703.81	5.09	3.50
150	Elev. Correction (to original RKB, 3/20/1970)	11.50	4,715.31	3.50	-8.00
151	Elev. Correction (to RKB, 5-inch liner setting, 2/1980)	-8.00	4,707.31	-8.00	0.00

APPENDIX E

ANNULUS PRESSURE TEST GRAPH AND DATA
GAUGE CALIBRATION RECORD


PROJECT NAVIGATOR, LTD.
Project Navigator, Ltd
MSC Site, Texas City, Well No. 2 (WDW-073)
Annulus Pressure Test
Pressure (psig)
1500
1480
1460
1440
1420
1400
1380
1360
1340
Starting Pressure
at 11:25 a.m.
1,439.0 psig
Ending Pressure
at 11:55 a.m.
1,436.1 psig
Annulus Pressure Test conducted as part of the 2014 MIT of WDW-073.
Test reflects a pressure loss of 2.9 psi or 0.2% change during the 30-minute test period.
11:00
11:15
11:30
11:45
12:00
Actual Time on August 8, 2014

PROJECT NAVIGATOR, LTD.

Project Navigator, Ltd.
MSC Site, Texas City, Well No. 1 (WDW-073)
Annulus Pressure Test

Gauge:	Cal-Scan Services
Model:	Hawk 9000
Serial Number:	6573
Range:	0-6,000 psi
Calibration Date:	10/30/14

Note: Injection Tubing was static at 0 psig.

Date	Time	Pressure (psig)
8/8/2014	11:00:00	1445.4
8/8/2014	11:00:15	1445.2
8/8/2014	11:00:30	1445.1
8/8/2014	11:00:45	1444.9
8/8/2014	11:01:00	1444.9
8/8/2014	11:01:15	1444.7
8/8/2014	11:01:30	1444.7
8/8/2014	11:01:45	1444.5
8/8/2014	11:02:00	1444.5
8/8/2014	11:02:15	1444.3
8/8/2014	11:02:30	1444.2
8/8/2014	11:02:45	1444.1
8/8/2014	11:03:00	1444.0
8/8/2014	11:03:15	1444.0
8/8/2014	11:03:30	1443.8
8/8/2014	11:03:45	1443.8
8/8/2014	11:04:00	1443.7
8/8/2014	11:04:15	1443.5
8/8/2014	11:04:30	1443.4
8/8/2014	11:04:45	1443.4
8/8/2014	11:05:00	1443.4
8/8/2014	11:05:15	1443.4
8/8/2014	11:05:30	1443.3
8/8/2014	11:05:45	1443.2
8/8/2014	11:06:00	1443.2
8/8/2014	11:06:15	1443.0
8/8/2014	11:06:30	1442.9
8/8/2014	11:06:45	1442.9
8/8/2014	11:07:00	1442.7
8/8/2014	11:07:15	1442.6
8/8/2014	11:07:30	1442.6
8/8/2014	11:07:45	1442.5
8/8/2014	11:08:00	1442.6
8/8/2014	11:08:15	1442.5
8/8/2014	11:08:30	1442.4
8/8/2014	11:08:45	1442.2
8/8/2014	11:09:00	1442.2
8/8/2014	11:09:15	1442.2
8/8/2014	11:09:30	1442.2
8/8/2014	11:09:45	1442.2
8/8/2014	11:10:00	1442.0
8/8/2014	11:10:15	1441.9

Date	Time	Pressure (psig)
8/8/2014	11:10:30	1441.9
8/8/2014	11:10:45	1441.7
8/8/2014	11:11:00	1441.7
8/8/2014	11:11:15	1441.6
8/8/2014	11:11:30	1441.6
8/8/2014	11:11:45	1441.5
8/8/2014	11:12:00	1441.5
8/8/2014	11:12:15	1441.4
8/8/2014	11:12:30	1441.3
8/8/2014	11:12:45	1441.3
8/8/2014	11:13:00	1441.2
8/8/2014	11:13:15	1441.1
8/8/2014	11:13:30	1441.1
8/8/2014	11:13:45	1441.0
8/8/2014	11:14:00	1440.9
8/8/2014	11:14:15	1440.8
8/8/2014	11:14:30	1440.7
8/8/2014	11:14:45	1440.7
8/8/2014	11:15:00	1440.6
8/8/2014	11:15:15	1440.6
8/8/2014	11:15:30	1440.7
8/8/2014	11:15:45	1440.7
8/8/2014	11:16:00	1440.7
8/8/2014	11:16:15	1440.6
8/8/2014	11:16:30	1440.6
8/8/2014	11:16:45	1440.5
8/8/2014	11:17:00	1440.4
8/8/2014	11:17:15	1440.4
8/8/2014	11:17:30	1440.4
8/8/2014	11:17:45	1440.3
8/8/2014	11:18:00	1440.2
8/8/2014	11:18:15	1440.2
8/8/2014	11:18:30	1440.1
8/8/2014	11:18:45	1440.1
8/8/2014	11:19:00	1440.1
8/8/2014	11:19:15	1440.0
8/8/2014	11:19:30	1439.9
8/8/2014	11:19:45	1439.9
8/8/2014	11:20:00	1439.9
8/8/2014	11:20:15	1439.9
8/8/2014	11:20:30	1439.8
8/8/2014	11:20:45	1439.7

PROJECT NAVIGATOR, LTD.

Project Navigator, Ltd.

MSC Site, Texas City, Well No. 1 (WDW-073)

Annulus Pressure Test

Gauge:	Cal-Scan Services
Model:	Hawk 9000
Serial Number:	6573
Range:	0-6,000 psi
Calibration Date:	10/30/14

Note: Injection Tubing was static at 0 psig.

	Date	Time	Pressure (psig)
	8/8/2014	11:21:00	1439.7
	8/8/2014	11:21:15	1439.6
	8/8/2014	11:21:30	1439.6
	8/8/2014	11:21:45	1439.5
	8/8/2014	11:22:00	1439.5
	8/8/2014	11:22:15	1439.5
	8/8/2014	11:22:30	1439.4
	8/8/2014	11:22:45	1439.3
	8/8/2014	11:23:00	1439.4
	8/8/2014	11:23:15	1439.2
	8/8/2014	11:23:30	1439.2
	8/8/2014	11:23:45	1439.2
	8/8/2014	11:24:00	1439.2
	8/8/2014	11:24:15	1439.2
	8/8/2014	11:24:30	1439.1
	8/8/2014	11:24:45	1439.1
Start Test	8/8/2014	11:25:00	1439.0
	8/8/2014	11:25:15	1439.0
	8/8/2014	11:25:30	1439.0
	8/8/2014	11:25:45	1438.9
	8/8/2014	11:26:00	1438.8
	8/8/2014	11:26:15	1438.8
	8/8/2014	11:26:30	1438.8
	8/8/2014	11:26:45	1438.8
	8/8/2014	11:27:00	1438.8
	8/8/2014	11:27:15	1438.7
	8/8/2014	11:27:30	1438.7
	8/8/2014	11:27:45	1438.7
	8/8/2014	11:28:00	1438.7
	8/8/2014	11:28:15	1438.6
	8/8/2014	11:28:30	1438.5
	8/8/2014	11:28:45	1438.5
	8/8/2014	11:29:00	1438.5
	8/8/2014	11:29:15	1438.5
	8/8/2014	11:29:30	1438.4
	8/8/2014	11:29:45	1438.4
	8/8/2014	11:30:00	1438.3
	8/8/2014	11:30:15	1438.3
	8/8/2014	11:30:30	1438.3
	8/8/2014	11:30:45	1438.3
	8/8/2014	11:31:00	1438.2
	8/8/2014	11:31:15	1438.2

Date	Time	Pressure (psig)
8/8/2014	11:31:30	1438.2
8/8/2014	11:31:45	1438.1
8/8/2014	11:32:00	1438.1
8/8/2014	11:32:15	1438.0
8/8/2014	11:32:30	1438.1
8/8/2014	11:32:45	1438.0
8/8/2014	11:33:00	1438.0
8/8/2014	11:33:15	1437.9
8/8/2014	11:33:30	1437.9
8/8/2014	11:33:45	1437.9
8/8/2014	11:34:00	1437.8
8/8/2014	11:34:15	1437.8
8/8/2014	11:34:30	1437.7
8/8/2014	11:34:45	1437.7
8/8/2014	11:35:00	1437.6
8/8/2014	11:35:15	1437.6
8/8/2014	11:35:30	1437.6
8/8/2014	11:35:45	1437.6
8/8/2014	11:36:00	1437.6
8/8/2014	11:36:15	1437.6
8/8/2014	11:36:30	1437.6
8/8/2014	11:36:45	1437.5
8/8/2014	11:37:00	1437.5
8/8/2014	11:37:15	1437.4
8/8/2014	11:37:30	1437.4
8/8/2014	11:37:45	1437.5
8/8/2014	11:38:00	1437.4
8/8/2014	11:38:15	1437.3
8/8/2014	11:38:30	1437.2
8/8/2014	11:38:45	1437.3
8/8/2014	11:39:00	1437.3
8/8/2014	11:39:15	1437.3
8/8/2014	11:39:30	1437.2
8/8/2014	11:39:45	1437.2
8/8/2014	11:40:00	1437.2
8/8/2014	11:40:15	1437.1
8/8/2014	11:40:30	1437.0
8/8/2014	11:40:45	1437.0
8/8/2014	11:41:00	1436.9
8/8/2014	11:41:15	1437.0
8/8/2014	11:41:30	1437.0
8/8/2014	11:41:45	1437.0

PROJECT NAVIGATOR, LTD.

Project Navigator, Ltd.
MSC Site, Texas City, Well No. 1 (WDW-073)
Annulus Pressure Test

Gauge:	Cal-Scan Services
Model:	Hawk 9000
Serial Number:	6573
Range:	0-6,000 psi
Calibration Date:	10/30/14

Note: Injection Tubing was static at 0 psig.

Date	Time	Pressure (psig)
8/8/2014	11:42:00	1437.0
8/8/2014	11:42:15	1436.9
8/8/2014	11:42:30	1436.9
8/8/2014	11:42:45	1436.9
8/8/2014	11:43:00	1436.8
8/8/2014	11:43:15	1436.8
8/8/2014	11:43:30	1436.8
8/8/2014	11:43:45	1436.8
8/8/2014	11:44:00	1436.8
8/8/2014	11:44:15	1436.8
8/8/2014	11:44:30	1436.7
8/8/2014	11:44:45	1436.7
8/8/2014	11:45:00	1436.7
8/8/2014	11:45:15	1436.7
8/8/2014	11:45:30	1436.7
8/8/2014	11:45:45	1436.7
8/8/2014	11:46:00	1436.7
8/8/2014	11:46:15	1436.7
8/8/2014	11:46:30	1436.7
8/8/2014	11:46:45	1436.6
8/8/2014	11:47:00	1436.6
8/8/2014	11:47:15	1436.5
8/8/2014	11:47:30	1436.5
8/8/2014	11:47:45	1436.4
8/8/2014	11:48:00	1436.4
8/8/2014	11:48:15	1436.4
8/8/2014	11:48:30	1436.4
8/8/2014	11:48:45	1436.4
8/8/2014	11:49:00	1436.4
8/8/2014	11:49:15	1436.4
8/8/2014	11:49:30	1436.4
8/8/2014	11:49:45	1436.4
8/8/2014	11:50:00	1436.5
8/8/2014	11:50:15	1436.6
8/8/2014	11:50:30	1436.6
8/8/2014	11:50:45	1436.4
8/8/2014	11:51:00	1436.4
8/8/2014	11:51:15	1436.4
8/8/2014	11:51:30	1436.4
8/8/2014	11:51:45	1436.4
8/8/2014	11:52:00	1436.4
8/8/2014	11:52:15	1436.3

	Date	Time	Pressure (psig)
	8/8/2014	11:52:30	1436.2
	8/8/2014	11:52:45	1436.1
	8/8/2014	11:53:00	1436.2
	8/8/2014	11:53:15	1436.2
	8/8/2014	11:53:30	1436.2
	8/8/2014	11:53:45	1436.2
	8/8/2014	11:54:00	1436.2
	8/8/2014	11:54:15	1436.2
	8/8/2014	11:54:30	1436.2
	8/8/2014	11:54:45	1436.1
End Test	8/8/2014	11:55:00	1436.1
	8/8/2014	11:55:15	1436.1
	8/8/2014	11:55:30	1436.1
	8/8/2014	11:55:45	1436.1
	8/8/2014	11:56:00	1436.0
	8/8/2014	11:56:15	1436.0
	8/8/2014	11:56:30	1435.9
	8/8/2014	11:56:45	1436.0
	8/8/2014	11:57:00	1436.0
	8/8/2014	11:57:15	1435.9
	8/8/2014	11:57:30	1435.9
	8/8/2014	11:57:45	1436.0
	8/8/2014	11:58:00	1435.9
	8/8/2014	11:58:15	1435.9
	8/8/2014	11:58:30	1435.8
	8/8/2014	11:58:45	1435.8
	8/8/2014	11:59:00	1435.8
	8/8/2014	11:59:15	1435.8
	8/8/2014	11:59:30	1435.8
	8/8/2014	11:59:45	1435.7
	8/8/2014	12:00:00	1435.7

Oct. 30/2013
02:15:55 PM

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a Probe company

Calibration Certificate

Model: SDS3000 **Cal. Date:** Oct. 30/2013

Serial #: 6573 **Certificate #:** 3676

Specifications

Pressure Range: 6,000 PSI Pressure Accuracy: (1.44 PSI (0.024) %FS)

Temperature Range: -40 to 85 Celsius Temperature Accuracy: (0.23) %FS)

Calibration Summary

Channel 1:

Pressure Accuracy (Maximum Error): 0.98 PSI (0.0163) %FS

Channel 3:

Temperature Accuracy (Maximum Error): 0.23 Celsius

Traceability Statement

All working standards are traceable to national or internationally recognized standards.

Calibrated with AKS Technologies DWG #2 SN:8948

Calibrated By: Jim Couch

0000000036764

APPENDIX F

COASTAL WIRELINE
DIFFERENTIAL TEMPERATURE SURVEY

COASTAL WIRELINE SERVICES

DIFFERENTIAL TEMPERATURE SURVEY

Company	PROJECT NAVIGATOR, LTD-MSC SITE
Well	WASTE DISPOSAL WELL # 073
Field	TEXAS CITY
County	GALVESTON
State	TEXAS

Company PROJECT NAVIGATOR, LTD-MSC SITE
Well WASTE DISPOSAL WELL # 073
Field TEXAS CITY
County GALVESTON State TEXAS

Location: API # : N/A

Other Services: RAT

SEC TWP RGE

Permanent Datum	BHF	Elevation	N/A
Log Measured From	KB 11.5' ABOVE BHF		
Drilling Measured From	KB		

Elevation: K.B. N/A, D.F. N/A, G.L. N/A

Date	8/8/2014
Run Number	ONE
Depth Driller	5065'
Depth Logger	5055'
Bottom Logged Interval	20'
Top Log Interval	N/A
Open Hole Size	N/A
Type Fluid	BRINE
Density / Viscosity	N/A
Max. Recorded Temp.	131.2 DEG. F
Estimated Cement Top	SURFACE
Time Well Ready	7:00
Time Logger on Bottom	11:55
Equipment Number	P-103
Location	PEARLAND
Recorded By	R. COKER
Witnessed By	MR. GRANT

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
				2 3/8"	4.7	SURFACE	4699'

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	10 3/4"	45.5	SURFACE	1181'
Prot. String				
Production String	7"	26	SURFACE	5120'
Liner	5"	23.2	SURFACE	4833'

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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

WELL STATIC
0 PSI.

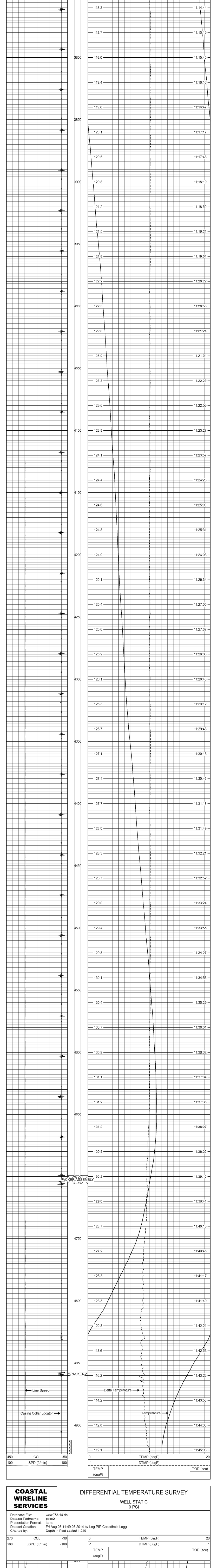
COASTAL WIRELINE SERVICES

DIFFERENTIAL TEMPERATURE SURVEY

WELL STATIC
0 PSI

Database File:	wdw073-14.db
Dataset Pathname:	pass1
Presentation Format:	temp
Dataset Creation:	Fri Aug 08 09:35:51 2014 by Log PIP Casedhole Loggi
Charted by:	Depth in Feet scaled 1:240

450	CCL	-50	0	TEMP (degF)	20
100	LSPD (ft/min)	-100	-1	DTMP (degF)	1
			TEMP (degF)		TOD (sec)



450	CCL	-50	0	TEMP (degF)	20
100	LSPD (ft/min)	-100	-1	DTMP (degF)	1
			TEMP (degF)		TOD (sec)

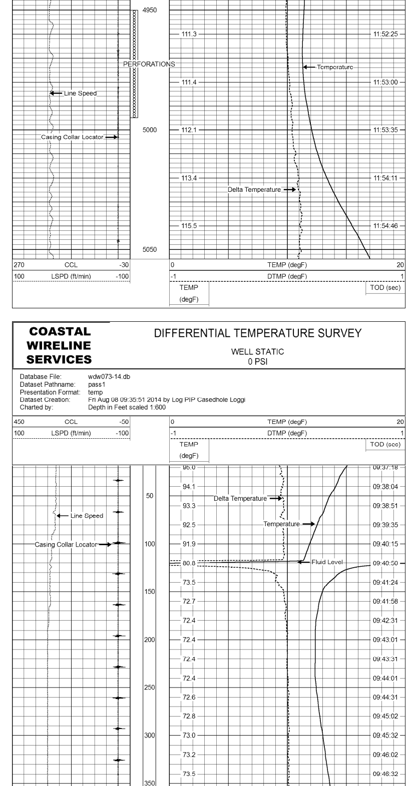
COASTAL WIRELINE SERVICES

DIFFERENTIAL TEMPERATURE SURVEY

WELL STATIC
0 PSI

Database File:	wdw073-14.db
Dataset Pathname:	pass2
Presentation Format:	temp
Dataset Creation:	Fri Aug 08 11:49:03 2014 by Log PIP Casedhole Loggi
Charted by:	Depth in Feet scaled 1:240

270	CCL	-30	0	TEMP (degF)	20
100	LSPD (ft/min)	-100	-1	DTMP (degF)	1
			TEMP (degF)		TOD (sec)



270	CCL	-30	0	TEMP (degF)	20
100	LSPD (ft/min)	-100	-1	DTMP (degF)	1
			TEMP (degF)		TOD (sec)

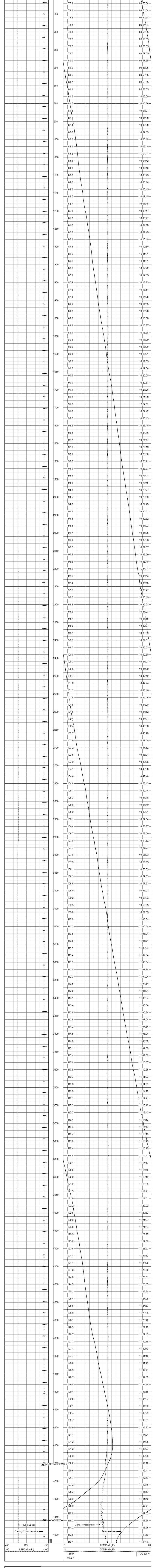
COASTAL WIRELINE SERVICES

DIFFERENTIAL TEMPERATURE SURVEY

WELL STATIC
0 PSI

Database File:	wdw073-14.db
Dataset Pathname:	pass1
Presentation Format:	temp
Dataset Creation:	Fri Aug 08 09:35:51 2014 by Log PIP Casedhole Loggi
Charted by:	Depth in Feet scaled 1:600

450	CCL	-50	0	TEMP (degF)	20
100	LSPD (ft/min)	-100	-1	DTMP (degF)	1
			TEMP (degF)		TOD (sec)



450	CCL	-50	0	TEMP (degF)	20
100	LSPD (ft/min)	-100	-1	DTMP (degF)	1
			TEMP (degF)		TOD (sec)

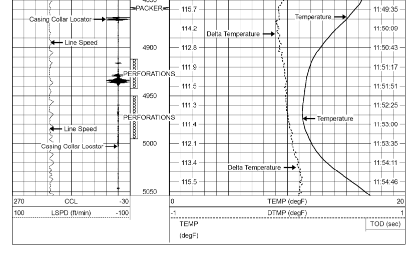
COASTAL WIRELINE SERVICES

DIFFERENTIAL TEMPERATURE SURVEY

WELL STATIC
0 PSI

Database File:	wdw073-14.db
Dataset Pathname:	pass2
Presentation Format:	temp
Dataset Creation:	Fri Aug 08 11:49:03 2014 by Log PIP Casedhole Loggi
Charted by:	Depth in Feet scaled 1:600

270	CCL	-30	0	TEMP (degF)	20
100	LSPD (ft/min)	-100	-1	DTMP (degF)	1
			TEMP (degF)		TOD (sec)



270	CCL	-30	0	TEMP (degF)	20
100	LSPD (ft/min)	-100	-1	DTMP (degF)	1
			TEMP (degF)		TOD (sec)

APPENDIX G

COASTAL WIRELINE
RADIOACTIVE TRACER SURVEY LOG
AND INTERPRETATION LETTER

COASTAL WIRELINE SERVICES, INC.

Project Navigator, LTD (MSC Site)
Waste Disposal Well 073
Swan Lake Facility
Texas City, Texas
August 8, 2014

RADIOACTIVE TRACER SURVEY

The two phases of this test included; 1) determining the flow through and from the tubing by ejecting a slug of radioactive material (Iodine-131 10mci) and monitoring the flow profile as it moves down the tubing and into the formation. 2) Testing the mechanical integrity of the casing, cement, and formation bond by positioning gamma-ray detector slightly above the point where the formation accepts fluid and monitoring the gamma radiation response from an ejected slug of radioactive material. A baseline gamma-ray log was run from 5,051 feet to 4,500 feet (198 feet above top of packer assembly). The injection rate was 21 gpm for the profile runs and 75 gpm time drive surveys.

The first phase of this test incorporates the injection of radioactive slug at 4,500 feet (198 feet above top of packer assembly) and passing the detector through the radioactive material until it passes from the tubing and into the formation. The first slug gave an indication of leaving the packer at 4,698 feet and going into the formation below 4,912 feet. Made five (5) passes and chased slug down to 5,051 feet. This portion of this test was repeated with four (4) passes and slug chased down to 5,051 feet. Profile survey indicates that all fluid is going into injection interval at this time. No indication of any fluid migrating up hole behind pipe above 4,912 feet.

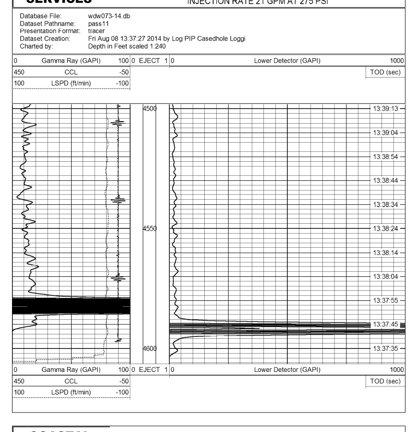
The second phase of this test involved setting lower detector at 4,900 feet (12 feet above top of perfs.) and ejecting a slug of radioactive material at 4,894 feet and recorded on time drive for twenty (20) minutes with an injection rate of 75 gpm. This portion of this test was repeated at same depth and rate. Time drive survey indicates no fluid migrating up hole behind pipe at this time.

3909 Halik Road - Pearland, Texas 77581 - Office 281-485-6548 Fax 281-485-1954

WIRELINE
SERVICES

PEAK AT 4592' AT 13:37:43
INJECTION RATE 21 GPM AT 275 PSI

Database File: wdw073-14.db
Dataset Pathname: pass11
Presentation Format: tracer
Dataset Creation: Fri Aug 08 13:37:27 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

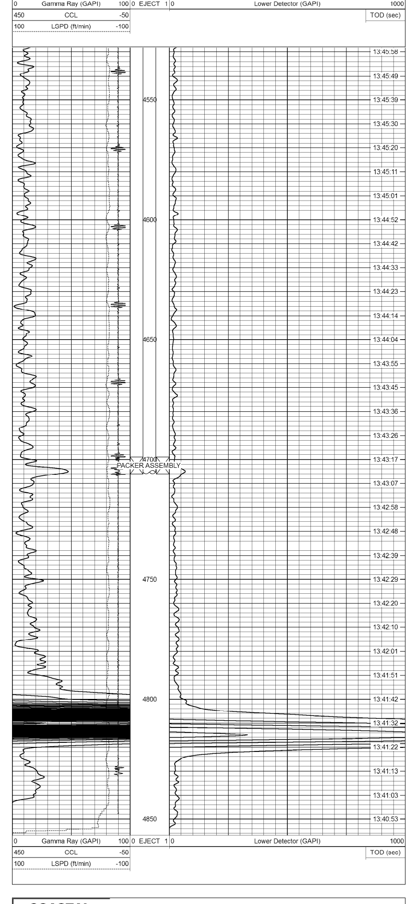


COASTAL WIRELINE SERVICES

PASS # 2 ON SLUG # 2 EJECTED AT 4500' AT 13:37

PEAK AT 4813' AT 13:41:27
INJECTION RATE 21 GPM AT 275 PSI

Database File: wdw073-14.db
Dataset Pathname: pass12
Presentation Format: tracer
Dataset Creation: Fri Aug 08 13:40:45 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

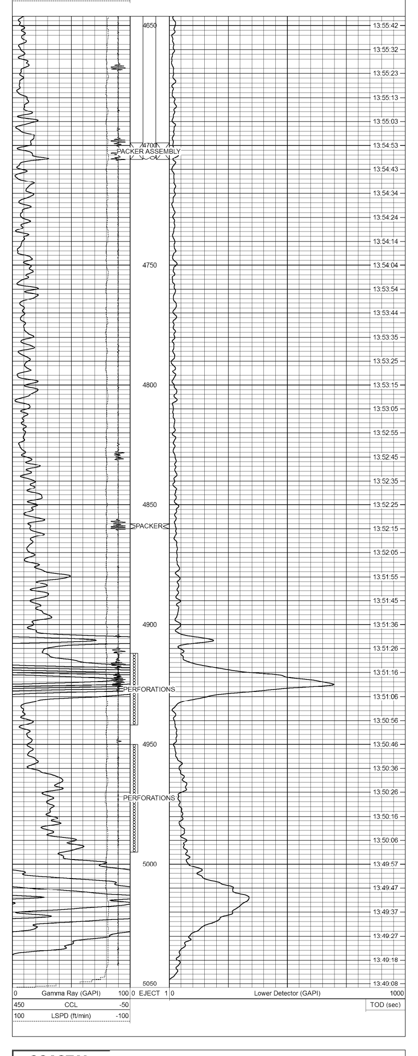


COASTAL WIRELINE SERVICES

PASS # 3 ON SLUG # 2 EJECTED AT 4500' AT 13:37

PEAK AT 4925' AT 13:51:11
INJECTION RATE 21 GPM AT 275 PSI

Database File: wdw073-14.db
Dataset Pathname: pass13
Presentation Format: tracer
Dataset Creation: Fri Aug 08 13:49:05 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

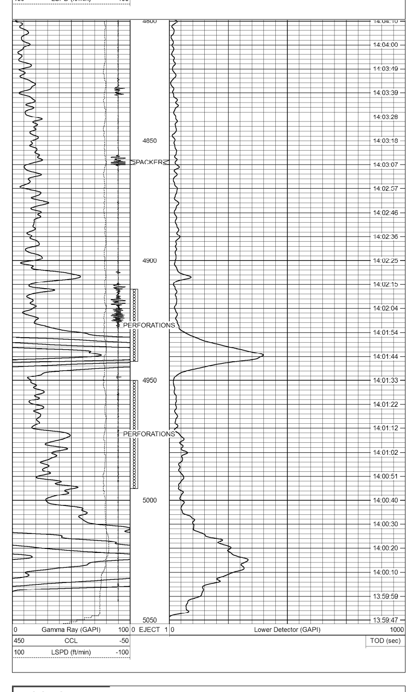


COASTAL WIRELINE SERVICES

PASS # 4 ON SLUG # 2 EJECTED AT 4500' AT 13:37

PEAK AT 4949' AT 14:01:45
INJECTION RATE 21 GPM AT 275 PSI

Database File: wdw073-14.db
Dataset Pathname: pass14
Presentation Format: tracer
Dataset Creation: Fri Aug 08 13:59:43 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

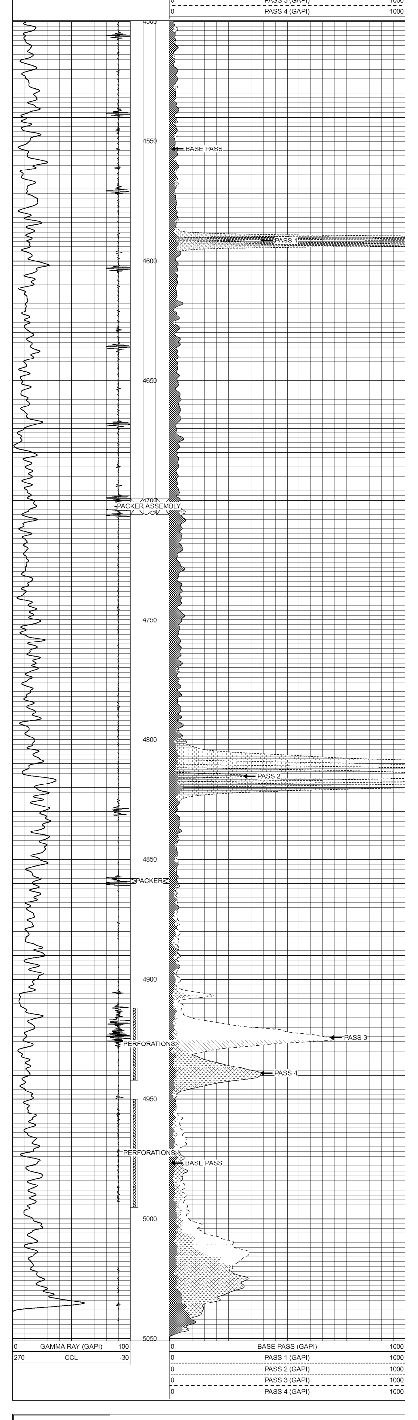


COASTAL WIRELINE SERVICES

MERGED PASSES ON SLUG # 2 EJECTED AT 4500'

INJECTION RATE 21 GPM AT 275 PSI

Database File: wdw073-14.db
Dataset Pathname: merge2
Presentation Format: 73mr2-14
Dataset Creation: Fri Aug 29 10:43:10 2014
Charted by: Depth in Feet scaled 1:240

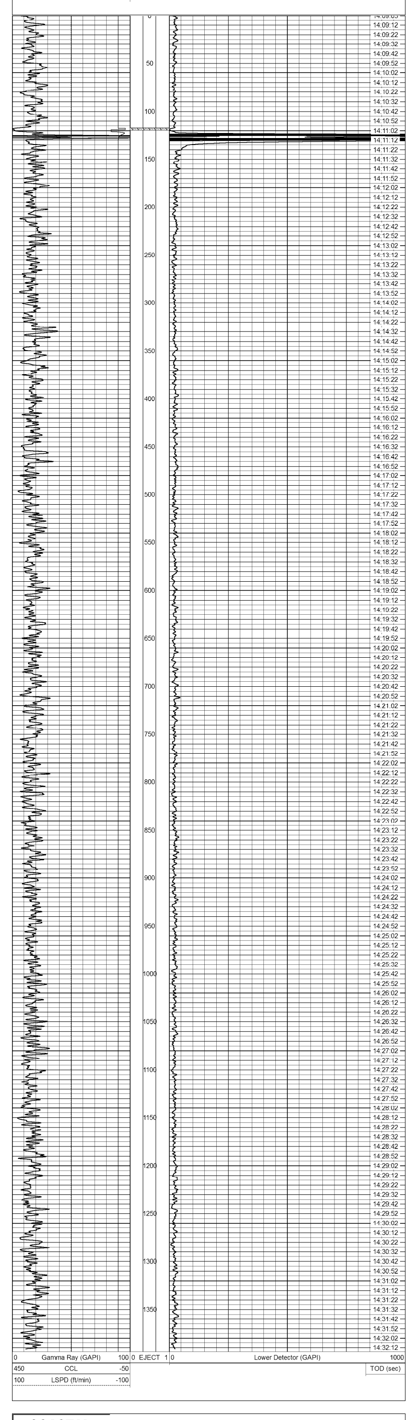


COASTAL WIRELINE SERVICES

EJECTED AT 4894' AT 14:11 FOR TIME DRIVE # 1

UPPER DETECTOR AT 4888' LOWER DETECTOR AT 4900'
INJECTION RATE 75 GPM AT 670 PSI

Database File: wdw073-14.db
Dataset Pathname: pass15
Presentation Format: tracer
Dataset Creation: Fri Aug 08 14:09:02 2014 by Log PIP Casedhole Loggi
Charted by: Time scaled 72"/hour

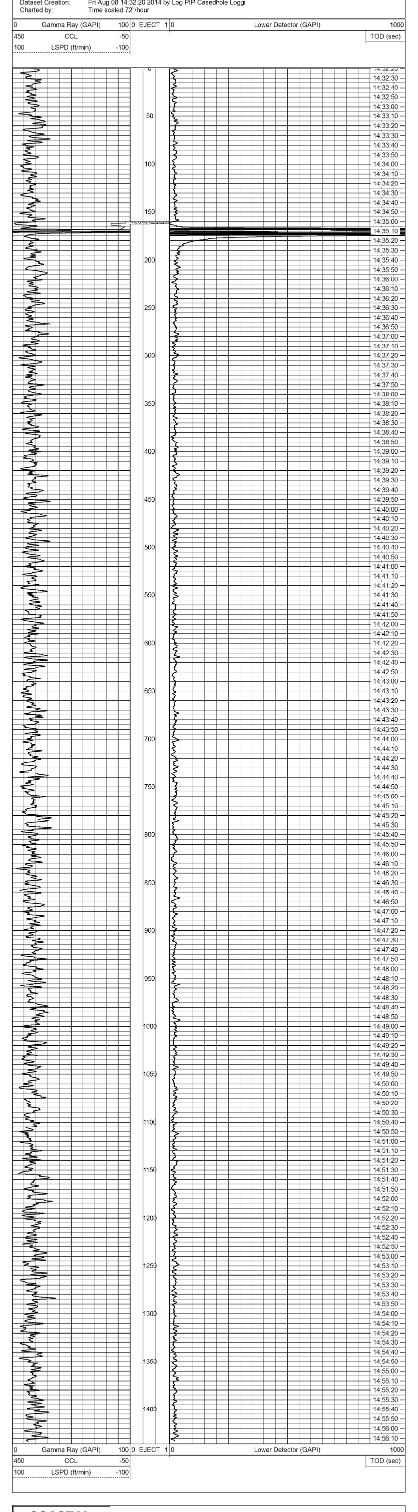


COASTAL WIRELINE SERVICES

EJECTED AT 4894' AT 14:35 FOR TIME DRIVE # 2

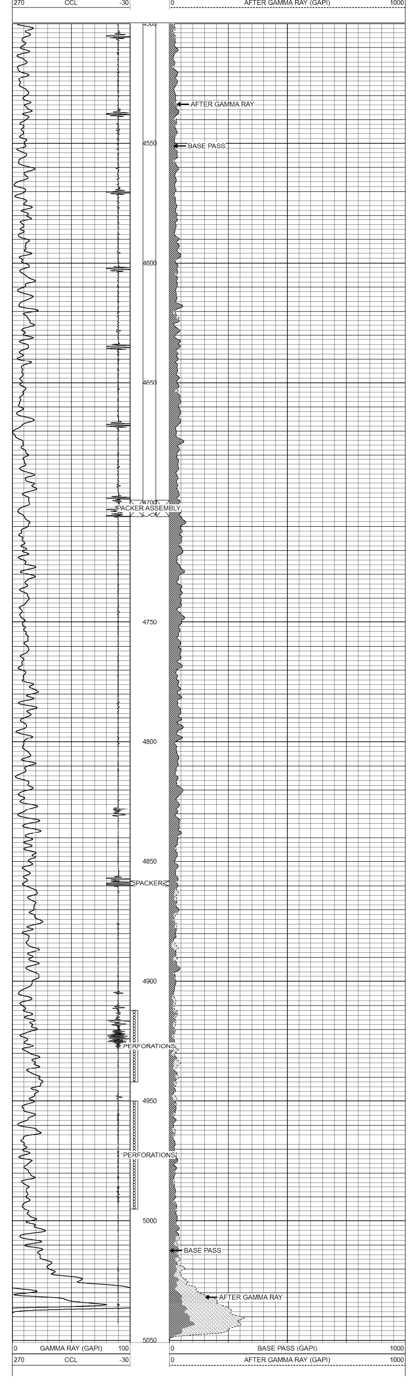
UPPER DETECTOR AT 4888' LOWER DETECTOR AT 4900'
INJECTION RATE 75 GPM AT 670 PSI

Database File: wdw073-14.db
Dataset Pathname: pass16
Presentation Format: tracer
Dataset Creation: Fri Aug 08 14:32:20 2014 by Log PIP Casedhole Loggi
Charted by: Time scaled 72"/hour



COASTAL WIRELINE SERVICES

GAMMA RAY LOG AFTER SURVEY

INJECTION RATE 0 GPM AT 150 PSI

Database File: wdw073-14.db
Dataset Pathname: merge3
Presentation Format: 73mr3-14
Dataset Creation: Fri Aug 29 10:48:49 2014
Charted by: Depth in Feet scaled 1:240