PROJECT NAVIGATOR, LTD.®

Project Navigator, Ltd.

Malone Service Superfund Site
Texas City, Texas

2014
Workover & Mechanical Integrity Test Report
for
Plant Injection Well No. 2
WDW-138

June-July 2014

Sandia Technologies, LLC

6731 Theall Road Houston, Texas 77066 USA
Tel: (832) 286-0471 Fax: (832) 286-0477 www.sandiatech.com

713710

Sandia
Technologies, LLC

6731 Theall Road • Houston, TX 77066 USA • (832) 286-0471 • Fax (832) 286-0477 • www.sandiatech.com

Professional Geoscientist Certification
2014 Workover and Mechanical Integrity Test Report

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

Plant Injection Well No. 2 (WDW-138)

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: 8/28/14

State of Texas, Registered Professional Geoscientist #1324

TABLE OF CONTENTS

LIST OF TABLES iii

LIST OF FIGURES iii

LIST OF APPENDICES iii

EXECUTIVE SUMMARY 1

1 INTRODUCTION iii
- 1.1. Facility Information iv

2 BACKGROUND v
- 2.1. Geology v
- 2.2. Remedial Operations Summary vi
  - 2.2.1. Rig Mobilization vi
  - 2.2.2. Casing Inspection Logging vii
  - 2.2.3. Dress Off of Cut-off Joint Above Lower Abandoned Packer vii
  - 2.2.4. Installation of Overshot Assembly and Packer vii
  - 2.2.5. Recovery of Abandoned Packer vii
  - 2.2.6. 54-Arm Caliper Log – Recovery of Muleshoe Joint viii
  - 2.2.7. Installation of 5-inch Liner ix
  - 2.2.8. Cementing of 5-inch Liner x
  - 2.2.9. Drill-Out and Pressure Testing of 5-inch Liner x
  - 2.2.10. Cement Bond Log – 40-Arm Caliper Log of 5-inch Liner xi
  - 2.2.11. Perforation of 5-inch Liner xi
  - 2.2.12. Stimulation Treatment of Injection Interval xii
  - 2.2.13. Installation of Completion Equipment xiii

3 MECHANICAL INTEGRITY TEST OPERATIONS SUMMARY xv
- 3.1. Annulus Pressure Test xv
- 3.2. Differential Temperature Survey xv
- 3.3. Radioactive Tracer Survey xvi

TABLE OF CONTENTS

4 CONCLUSIONS..... xviii

LIST OF TABLES

Table 2-1 WDW-138 Well Completion Data

Table 3-1 Radioactive Tracer Survey Logging Summary

LIST OF FIGURES

Figure 1 Malone Service Company, Injection Well Location Map

Figure 2 Plant Well No. 2 (WDW138) Completion Schematic

LIST OF APPENDICES

Appendix A Regulatory Correspondence

Appendix B Sandia Technologies, LLC - Daily Operations Reports

Appendix C Superior Slickline Services - 40-Arm Caliper Survey

Appendix D Archer - Multi Sensor Inspection Caliper Log

Appendix E 5-inch Liner Tally

Appendix F Pioneer Well Service - Cement Bond Log

Appendix G Pioneer Well Service - 40-Arm Caliper Survey

Appendix H Injection Tubing Tally

Appendix I Annulus Pressure Test Graph and Data – Gauge Calibration Record

Appendix J Coastal Wireline - Differential Temperature Survey
Composite Temperature Survey Plot (1999, 2001, 2004, 2009, & 2014)

Appendix K Coastal Wireline - Radioactive Tracer Survey Log and Interpretation Letter

EXECUTIVE SUMMARY

Remedial work to increase injectivity of WDW138 was conducted in the period from June 2014 through July 2014. An abandoned Otis Perma-Latch packer was in the well below the injection packer hindering cleanout operations. The well remained in service while equipment was procured and authorization to proceed with the repair operations was received.

New 2-7/8-inch, J-55 tubing was purchased, and a workover rig was mobilized to the facility on June 2, 2014. The existing 2-7/8-inch injection tubing was pulled from the well, and a casing inspection survey was performed using a sonic imaging tool. A refurbished Baker Model-R packer was run with an overshot seal assembly to latch onto the abandoned packer. The abandoned packer had fallen down hole, and fishing operations were required to retrieve the packer. A hole in the 7-inch casing was discovered during the cleanout operations. A new 5-inch liner was set and cemented inside the existing 7-inch casing to cover the damaged area. The liner was perforated at the same depths as the original completion (4,162 feet to 4,303 feet).

A new 5-inch packer was run and set in the 5-inch liner with new 2-7/8-inch, and 2-3/8-inch, J-55 tubing. Mechanical integrity testing including an annulus pressure test (APT), a differential temperature survey (DTS), and a radioactive tracer survey (RTS) followed 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 USEPA. The facility currently collects 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 WDW73 (Plant Well No. 1) were also completed in July 2014, however, it will remain in a mandatory shut-in status until approval to operate is received from the USEPA. A separate report on the repair of WDW-73 will be prepared and submitted to the regulatory agencies. Both wells were permitted for injection into the Miocene Sand Formation. Please refer to Figure 1 for a map of the MSC disposal wells.

This report presents the results of the remedial operations and mechanical integrity testing operations on WDW138. 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 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 WDW138. Field operations were completed on July 15, 2014.

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 WDW138 remedial operations plan, and approval was granted to proceed with the operations 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 WDW138 is presented in Figure 2. Table 2-1 presents the current well completion data.

Table 2-1
WDW138 Well Completion Data

Completion Data	Depth (feet KB)
Packer Depth	4,013 to 4,021 feet
Perforated Completion Interval	4,162 to 4,306 feet
Top of Solids Fill	4,305 feet
Plug Back Total Depth	4,321 feet

2.2.1. Rig Mobilization

Pioneer Well Service mobilized Rig No. 92 to the Malone site on June 2, 2014. Pipe racks, fluid tank, pump, frac tank, rental tools, and other ancillary equipment were delivered and spotted on the location. The derrick was raised, and all equipment was rigged up to the well. Fifty barrels of 9.0 pounds per gallon (ppg) sodium chloride (NaCl) brine were pumped down the injection tubing to kill the well.

Blowout preventers (5,000 pounds per square inch (psi) double ram) were nippled up to the wellhead. Rig personnel attached a 2-7/8-inch outside diameter (OD) pup joint into the tubing hanger. Straight pull upward of 19,000 pounds over the string weight was applied and the packer released. The injection tubing and packer were removed from the wellbore.

2.2.2. Casing Inspection Logging

A casing scraper designed for 7-inch casing was lowered into the wellbore to the depth of the packer (~3,550 feet). The scraper assembly was removed from the wellbore.

A Coastal Wireline Services (Coastal) wireline unit was moved in and rigged up. A Sondex casing inspection tool (tool and operator provided by Superior Slickline Services) was attached to the wireline. The 7-inch casing was logged from 3,835 feet (~15 feet above the cut off tubing joint in the abandoned lower packer) to the surface. No excessive corrosion or detects were recorded on the log. A copy of the log can be found in Appendix C.

2.2.3. Dress Off of Cut-off Joint Above Lower Abandoned Packer

A dress-off assembly was lowered into the wellbore on the 2-7/8-inch workstring and tagged the top of the cut-off joint at 3,850 feet. The assembly was rotated over the top of the cut-joint and washed down to approximately 3,858 feet (2 feet greater than the overshot length of 6.22 feet). A total of 3,000 pounds was set down on the cut joint which confirmed the top of the cut joint. The assembly was removed from the wellbore.

2.2.4. Installation of Overshot Assembly and Packer

The Baker overshot assembly, including 9 joints of new 2-7/8-inch, 6.5 pounds per foot (ppf), J-55 tubing, and the refurbished Baker Model R3 packer, were lowered into the wellbore on 109 joints of new 2-7/8-inch, 6.5 ppf, J-55 tubing. The lower packer was not tagged at the previous tagged depth of 3,850 feet. Additional joints of tubing were added to lower the assembly to 3,991 feet without tagging the abandoned packer. The overshot assembly was removed from the wellbore.

2.2.5. Recovery of Abandoned 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 abandoned packer was tagged at 4,067 feet and was pushed downhole to 4,120 feet. A total of 15,000 pounds was set down on the fish to engage the grapple in the packer. The assembly was picked up, and a weight increase of 6,000 pounds over the string weight was recorded. The fishing assembly was removed, and the cut off joint, abandoned Otis packer, and tailpipe (31 feet) were successfully recovered.

A 6-1/8-inch, 5-bladed mill was lowered into the wellbore on the workstring and tagged an obstruction at 4,063 feet. Milling was started with minimal weight and torque (1,000-2,000 pounds each) and continued for 45 minutes with less than one inch of progress. The assembly was removed from the wellbore.

The milling assembly was replaced with a 2-7/8-inch muleshoe, lowered into the wellbore, and tagged at 4,060 feet. The muleshoe was rotated through the obstruction and lowered to 4,090 feet. The muleshoe assembly was removed from the wellbore. Upon arrival at the surface, it was discovered that the muleshoe had broken off approximately 9 inches below the collar, and a total length of 31.38 feet was left in the well.

2.2.6. 54-Arm Caliper Log – Recovery of Muleshoe Joint

An Archer Wireline unit was moved in and rigged up. A 4-1/2-inch gauge ring and junk basket were attached to the wireline and lowered into the well. The assembly tagged an obstruction at 4,191 feet and was removed from the well. A 54-arm caliper tool was attached to the wireline and lowered into the well and the well logged from 4,150 feet to 3,500 feet. The log identified a hole in the 7-inch casing from 4,055 to 4,057 feet, significant material loss from 4,062 feet to 4,081 feet, and ovaling of the casing from 4,120 feet to 4,127 feet. The caliper tool was removed from the well. A copy of the log can be found in Appendix D.

A fishing assembly, consisting of a 4.5-inch overshot with a 2-7/8-inch grapple, oil jars, bumper sub, 4 drill collars, and accelerator, was lowered into the wellbore. The top of the fish (muleshoe joint) was tagged at 4,195 feet and was pushed downhole to 4,330 feet while washing and circulating the well clean. A total of 15,000 pounds was set down on the fish at 4,330 feet to engage the grapple in the muleshoe. The assembly was picked up, and a weight increase of 4,000 pounds over the string weight was recorded. The fishing assembly was removed, and the muleshoe joint was successfully recovered.

A 5-3/4-inch bit was run into the well on the 2-7/8-inch workstring. The wellbore was washed and circulated clean to the original plugback depth of 4,357 feet to prepare the 7-inch casing for the installation of the 5-inch liner.

2.2.7. Installation of 5-inch Liner

Revised procedures detailing the installation of the 5-inch liner to repair the damaged 7-inch casing were submitted to the USEPA and TCEQ. Approval to proceed with the liner installation was granted on June 13, 2014. The new 5-inch, 18 ppf, LTC casing was tallied, and casing running and handling equipment was rigged up. The liner components were assembled and included the following tubulars/equipment:

- 2-7/8-inch OD Mule Shoe Guide
- 5-inch LTC to 2-7/8-inch Crossover
- Float Collar
- 5-inch, P-110, 18-ppf (1 joint)
- Landing Collar
- 5-inch, P-110, 18-ppf (22 joints)
- TIW Liner Hanger

The liner tally and specifications are included in Appendix E. The liner assembly was lowered into the well and tagged the damaged 7-inch casing at approximately 4,063 feet. Numerous techniques were attempted to lower the liner past this depth, including rotation, however; these were unsuccessful. The liner assembly was removed from the well.

The float shoe was removed from the 5-inch liner. A 3-inch long tapered guide was attached to two joints of the 5-inch liner and lowered into the well on the workstring to test the problem area within the 7-inch casing. The assembly tagged again at 4,063 feet and could not be worked past this depth. The assembly was removed from the well.

The tapered guide was removed and replaced with a 2-7/8-inch OD bent muleshoe joint (~10 feet in length). The muleshoe tagged at 4,063 feet and, after rotation of the workstring, the muleshoe and liner reached a depth of 4,094 feet. The assembly was removed after pulling 10,000 pounds over the string weight (assembly hanging in

damaged area). Once the assembly reached the surface, it was discovered the muleshoe joint, crossover, and 4-1/2-inch collar were left in the well.

A 5-3/4-inch bit was run into the well on the 2-7/8-inch workstring and tagged the top of the fish (muleshoe assembly) at 4,346 feet. The wellbore was circulated clean.

The casing running and handling equipment was rigged up. The 5-inch casing collars were turned down (square shoulders ground off to a smooth surface) to enable the liner to pass through the damaged area in the 7-inch casing. A muleshoe guide was attached to the bottom joint of the 5-inch liner assembly. The assembly was lowered into the well on 8 joints of 4-3/4-inch drill collars and the 2-7/8-inch workstring.

The liner passed the depth of the damaged casing without requiring rotation; however, a set down weight of 10,000 to 14,000 pounds was required to keep the liner moving to the total depth of 4,331 feet. The liner hanger was set according to the prescribed procedures.

2.2.8. Cementing of 5-inch Liner

Cementing operations began with the pumping of 8 barrels of fresh water to break circulation followed by a 20-barrel gel sweep, and 5 barrels of fresh water spacer pumped at 3 barrels per minute (bpm) at 350 psi. Roywell mixed and pumped 18 barrels of Class H cement (mixed at 15.8 pounds per gallon) at 3 bpm. The cementing dart was released, and the cement was displaced with 5 barrels of fresh water and 13 barrels of 9.0 pounds per gallon (ppg) brine. The tubing dart hit the wiper plug and sheered the plug with 900 psi. Cement displacement continued, and the plug was bumped and pressure held at 1,000 psi for 5 minutes to ensure the dart was seated in the landing collar. Pressure was bled off, and the workstring and liner setting tool were removed from the well.

2.2.9. Drill-Out and Pressure Testing of 5-inch Liner

After allowing sufficient time for the cement to set, a 4-1/8-inch OD drill bit was attached to 8 drill collars, and lowered into the well on the workstring. The top of the 5-inch liner was tagged at 3,363 feet. The workstring was rotated and entered the liner. Top of cement was tagged at 4,204 feet, and cement was washed/drilled to the landing collar depth.

Attempts to drill the landing collar with the mill tooth bit were unsuccessful. The drilling assembly was removed and replaced with a 5-bladed mill and subsequently a 3-bladed mill. The landing collar and cement within the 5-inch liner were drilled to 4,321 feet. The well was circulated until fluid returns were clean, and the assembly was removed from the well. A 5-inch casing scraper was then run from the top of the liner at 3,363 feet to the total depth of 4,321 feet to clean the walls of the liner.

2.2.10. Cement Bond Log – 40-Arm Caliper Log of 5-inch Liner

A cement bond log (CBL) and a 40-arm caliper log were performed in the 5-inch liner. The cement bond log showed no significant problems with the cemented casing. A copy of the CBL was transmitted to Mr. Brain Graves of the USEPA Region 6 office for review prior to proceeding with operations. Bill Armstrong of Sandia discussed the CBL results with Mr. Graves on the morning of July 2, 2014. Mr. Graves agreed the CBL showed the liner was adequately cemented with good cement isolation above the permitted injection interval. The casing inspection log showed no corrosion, as expected for new pipe, and will be utilized as a baseline measurement for future casing inspection logs. A copy of each log can be found in Appendix F and Appendix G, respectively.

2.2.11. Perforation of 5-inch Liner

Pioneer rigged up perforating tools. A 3-1/8-inch OD, 20-foot long perforating gun (4 shots per foot) was lowered into the well and tagged an obstruction (apparent wellbore dogleg) at 4,060 feet. The tool could not be worked down and was pulled out of the hole. A 3-1/8-inch OD, 8-foot long perforating gun (4 shots per foot) was lowered into the well and again tagged the obstruction at 4,060 feet. The tool could not be worked down and was pulled out of the hole. Additional attempts with varying lengths of 2-3/4-inch OD, perforating gun (4 shots per foot) (20-feet, 10-feet, 7-feet) were run and all tagged at 4,060 feet and could not be worked past this depth.

A 2-1/8-inch OD strip gun (4 shots per foot with 60 degree phasing) was lowered into the well and successfully lowered past the dogleg. The liner was successfully perforated with multiple passes over the following intervals: 4,162 to 4,237 feet; 4,249 to 4,260 feet; and 4,272 to 4,306 feet. The perforating equipment was removed from the wellbore.

2.2.12. Stimulation Treatment of Injection Interval

On July 10, 2014, Sandia and Roywell Services, Inc., Baytown, Texas (Roywell) personnel rigged up equipment for the job. Surface pumping lines were rigged up and pressure tested to 3,000 pounds per square inch gauge (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 4,307'
600 gallons 15% HCl Acid
100 gallons PA-721 mutual solvent
200 gallons 15% HCl Acid
300 gallons 12%/3% HCl/HF Acid
300 gallons 15% HCl Acid
28 barrels 9.0 PPG fluid flush

STAGE 2 with Mule shoe at 4,159'
300 gallons 15% HCl Acid
170 gallons PA-721 mutual solvent
500 gallons 15% HCl Acid
400 gallons 12%/3% HCl/HF Acid
300 gallons 15% HCl Acid
300 gallons 12%/3% HCl/HF Acid
545 gallons 15% HCl Acid
15 barrels 9.0 PPG fluid flush

The acid treatment was allowed 30 minutes to soak. The acid treatment was displaced with 256 barrels of 9.0 ppg fluid. The stimulation fluids were pumped at a rate of 100 gallons per minute (gpm). The procedure was successful in improving the well's injectivity (flow rate divided by injection pressure).

Pre-job injectivity: 98 gallons per minute at 703 psig (0.139 inj.)
Post-job injectivity: 98 gallons per minute at 448 psig (0.219 inj.)

2.2.13. Installation of Completion Equipment

A new 5-inch Baker Hornet packer was picked up and lowered in the well. The packer was set at 4,020 feet on 24 joints of 2-3/8-inch injection tubing, a crossover from 2-3/8-inch EUE to 2-7/8-inch EUE, and 99 joints of 2-7/8" of injection tubing (see Appendix H for injection tubing tally).

After installing the packoff slips in the wellhead, an initial pressure test was applied to the annulus of the injection tubing and casing. The test confirmed the integrity of the injection tubing, casing, and injection packer. The annulus pressure was increased to 1,223 psi and held for one hour. The pressure decreased 30 psi. A schematic of the new wellbore completion can be found in Figure 2.

Pioneer Well Service Rig No. 92 was rigged down and moved to WDW73. The flowline plant equipment was moved into place and assembled.

3 MECHANICAL INTEGRITY TEST OPERATIONS SUMMARY

Mechanical Integrity Testing (MIT) operations for Plant Well No. 2 (WDW138) were conducted on July 15, 2014. Coastal provided wireline, wireline tools, and pressure control services. Sandia provided pumping services and fluid for the injection portion of the MIT. Sandia provided site supervision and coordination between the wellsite personnel and plant personnel. Appendix B contains Sandia's detailed reports of daily operations during the testing period.

The current completion schematic for Plant Well No. 2 (WDW138) is presented in Figure 2. The depth reference for this and subsequent sections of this report is the Kelly bushing (KB) measurement, which is 8 feet above ground level.

3.1. Annulus Pressure Test

The APT was performed on the morning of July 15, 2014. The annular pressure was increased to greater than a 100 psi differential over the maximum permitted surface injection pressure (MSIP) of 1,100 psig. Sandia attached a high-resolution pressure transducer to the annulus of Well No. 2 (WDW138) and began the APT. The starting test pressure was recorded at 1,217.6 psig at 10:45 a.m. At the completion of the 30-minute testing period, the annular pressure was 1,212.7 psig. The tubing pressure was static throughout the test at 0 psig. The resultant pressure loss of 4.9 psi over the thirty minute duration of the test represented a decrease of 0.4 percent. A record of the APT test data is included in Appendix I.

3.2. Differential Temperature Survey

A DTS was performed on the morning of July 15, 2014. Prior to commencing the DTS, there had been no injection into WDW138 during the previous five days. Only minimal injection associated with the stimulation operations and the short-term injection test had occurred for over 60 days during the remedial operations. 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 4,305 feet) at an average logging speed of 36 feet per minute. A copy of the DTS is included in Appendix J.

The DTS depicts a natural temperature gradient from the surface to the depth of the recently removed abandoned packer at 3,860 feet. Below that depth, the temperature survey shows a gradual cooling effect from long-term injection into the Miocene sands below 4,140 feet.

A composite plot of the 1999, 2001, 2004, 2009, and 2014 Differential Temperature Surveys is also included in Appendix J. The plot indicates the temperature profile in the well has not changed over the last fifteen years. 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 July 15, 2014, following the APT and DTS, a RTS was conducted on Plant Well No. 2 (WDW138). Coastal conducted the wireline logging under the direction of Sandia. A copy of the survey and an interpretation letter are included in Appendix K. Refer to Table 2-1 for current well completion data.

Tools were lowered into the wellbore following completion of the APT. Injection of fresh water with potassium chloride substitute (Bio-31) commenced at a rate of 47 gpm. Two statistical time drive checks were performed with the lower gamma detector positioned at 4,008 feet and 4,140 feet. An initial gamma ray baseline survey was performed from 4,303 feet to 3,800 feet.

Three moving flow profile surveys were performed next, while the plant injected fluid at 47 gpm. The tracer material was monitored between 3,800 feet and 4,303 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 100 gpm, both with the tool's lower gamma ray detector positioned at 4,135 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 4,303 feet to 3,800 feet.
2-3	0	0	Perform two statistical checks at 4,003 & 4,115 feet.
4-7	47	205	Eject Slug 1 at 3,800 feet. Monitor flow profile with 4 passes.
8-11	47	417	Eject Slug 2 at 3,800 feet. Monitored flow profile with 4 passes.
12-15	47	500	Eject Slug 3 at 3,800 feet. Monitored flow profile with 4 passes.
16	100	725	Ejected slug 4 at 4,135 feet. Ran 22-minute time drive with tool at 4,135 feet.
17	100	750	Ejected Slug 5 at 4,135 feet. Ran 22-minute time drive with tool at 4,135 feet.
18	0	0	Ran final baseline gamma ray log from 4,303 feet to 3,800 feet.

Note: Upper detector is three feet above radioactive source and lower detector is five 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 WDW138 successfully fulfilled the 5-year and annual testing requirements for the well. The test, consisting of an Annulus Pressure Test, Differential Temperature Survey, and a Radioactive Tracer Survey, demonstrated the integrity of the materials used for well construction.

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 WDW138 demonstrated that all injected fluids enter and remain confined within the subsurface sand structures below 4, 160 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) installation of a 5-inch liner to repair the damaged 7-inch casing; 4) cleanout of fill within the wellbore to the plugback depth of 4,321 feet; and 5) installation of a new packer and new injection tubing. The liner installation, new injection tubing, and new packer restored the integrity of WDW138.

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

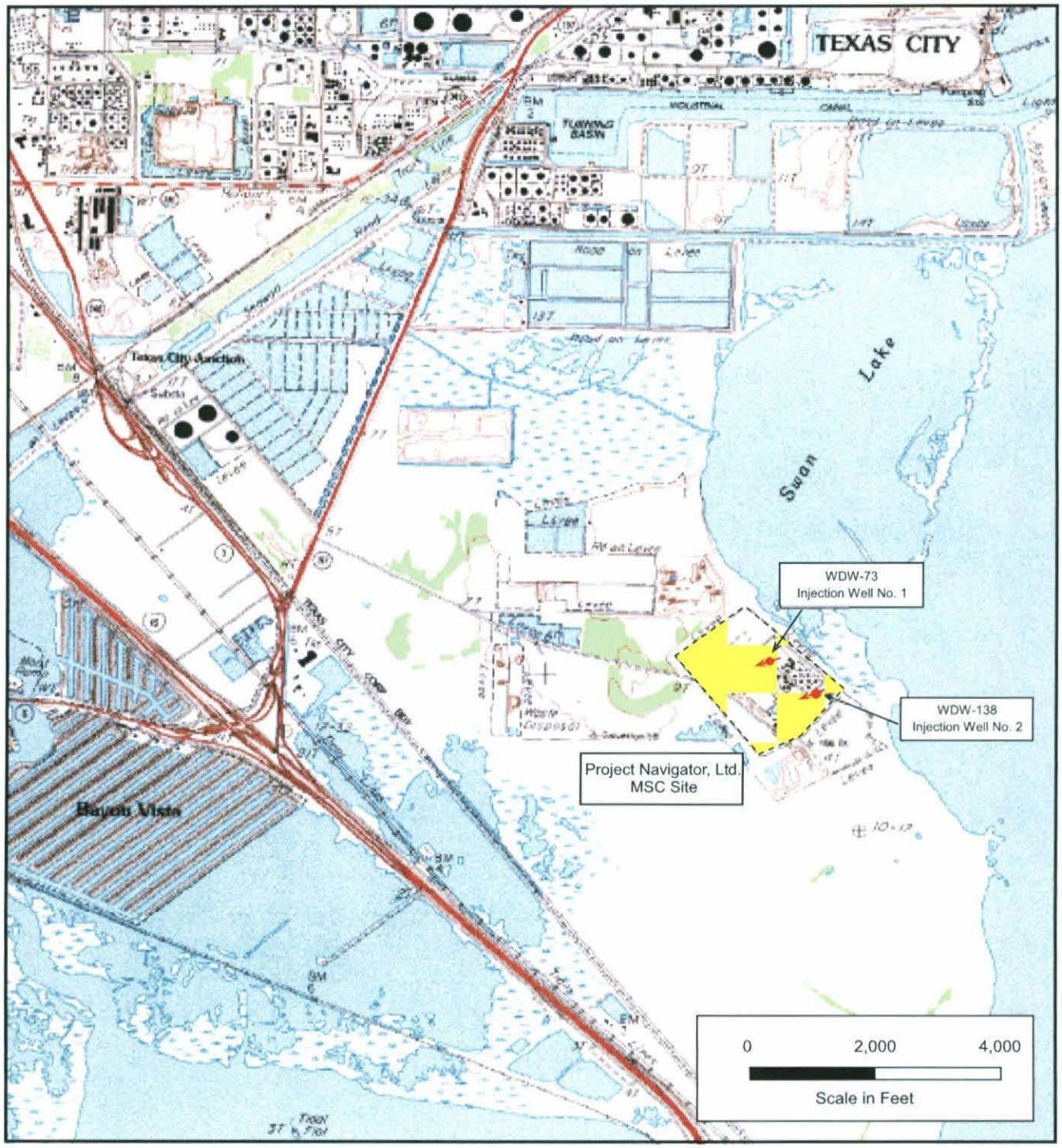
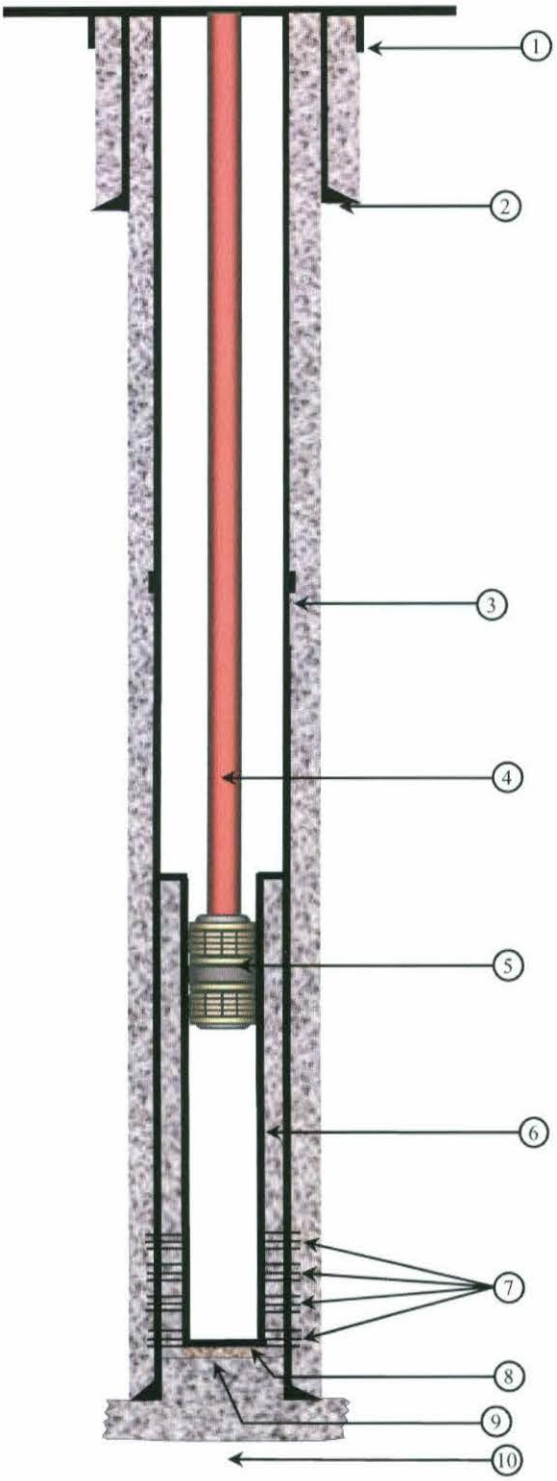


Figure 1: Malone Service Company Injection Well Location

Project Navigator, Ltd.
MSC Site, Texas City, Texas
Plant Injection Well No. 2 (WDW-138)
Well Schematic
Status: Active

All depths reference RKB
KB = 8' above LMF

GROUND LEVEL



COMPLETION DETAIL

1. **Conductor Pipe**: 16", Driven from surface to 120'.
2. **Surface Casing**: 10-3/4", 45.5-ppf, K-55, ST&C. Set from surface to 1202'. Cemented to surface w/495 sxs Halliburton Lite and 3% salt; tailed by 220 sxs Class H and 2% CaCl2 and 3% salt..
3. **Protection Casing**: 7", 20.0-ppf, K-55. Set from surface to 4458', Cement Stage Tool at 2195'. Cemented to Surface in two stages.
4. **Injection Tubing**: Tapered string consisting of 24 joints of 2-3/8", 4.7-ppf, J-55, EUE and 99 joints of 2-7/8", 6.5-ppf, J-55 EUE Set from surface to 4,013'
5. **Injection Packer:** Baker Hornet, Set from 4,013' to 4,020'.
6. **Liner**: 5", 18-ppf, P-110, LTC Range 3, 8rd. Set from 3,363' to 4,331' with the end of mule shoe guide at 4,342'
7. **Perforated Completion**: perforated with 4 shots per foot from:
   - 4162' to 4237'
   - 4249' to 4260'
   - 4272' to 4306'
8. **Fill tagged**:
   - RTS, 10/22/1999, Fill tagged at 4195'
   - RTS, 3/19/2004, Fill tagged at 4271'
   - RTS, 3/16/2005, Fill tagged at 4271'
   - RTS, 3/13/2006, Fill tagged at 4271'
   - RTS, 3/13/2007, Fill tagged at 4270'
   - RTS, 3/25/2008, Fill tagged at 4246'
   - RTS, 3/24/2009, Fill tagged at 4244'
   - RTS, 3/25/2010, Fill tagged at 4245'
   - RTS, 3/22/2011, Fill tagged at 4235'
   - RTS, 3/27/2012, Fill tagged at 4235'
   - RTS, 3/26/2013, Fill tagged at 4235'
   - RTS, 7/15/2014, Fill tagged at 4305'
9. **PBTD**: 4321' Top of cement.
10. **Drilled to** a total depth of 4510'

Sandia Technologies, LLC
6731 Theall Road Houston, TX 77066
Tel: (832) 286-0470 Fax: (832) 286-0477

Drawn by: WHA	Date: 04/07/05	*Drawing not to scale*
Rev. 7/31/2014		

Figure 2: WDW-138 Completion Schematic

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

Internet Address (URL) • http://www.epa.gov/region6
Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper, Process Chlorine Free

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

JUN 2 4 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 and the Texas Commission on Environmental Quality (TCEQ) have reviewed the revised procedures for the WDW-138 liner installation, stimulation and MIT work. EPA approved the revised work-over procedures via email on June 13, 2014.

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

Sincerely;

Charles David Abshire
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 - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/2/2014**
Day:: 1

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
10:00	Arrive at Main Gate and check in with Brian Moore with Project Navigator. All personnel attended site safety orientation.
10:30	Conduct safety meeting
10:45	Spot cellar beam and spot Pioneer workover rig #92.
11:30	Rig up pump and flow Iron
12:30	Lunch
13:00	Unload 121 Joints of 2-7/8" J-55 EUE tubing from Cressman
14:00	Adjust guy lines on rig to hook up to cellar beam
15:00	Frac tank spotted and set on containment
15:30	180 barrels of 10# brine put into frac tank and lines rigged up to frac tank
17:00	All personnel left facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/3/2014**
Day:: 2

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Receive 260 Barrels of fresh water. Stir tank to achieve 9 ppg fluid.
8:30	Pumped 50 Barrels 9 ppg fluid down well at 56 gpm with 900 psi. Well flowed back 20 Barrels.
9:30	Nippled down flowline from facility and began nippling down wellhead.
12:00	Lunch
12:30	Continue nippling down wellhead. Bolts and hold down pins were corroded and some broke off during removal.
15:00	Begin nippling up 7-1/16" 2k to 7-1/16" 5k DSA, 7-1/16" 5k spacer spool, and 7-1/16" 5k BOPs.
16:00	Make pup joint up into tubing hanger. Slowly pick up to 41k to release packer with straight pull. Packer released and PU weight was recorded at 22k. Worked tubing. No drag observed. Lowered tubing hanger back into wellhead due to broken gland nuts.
17:00	Secured well. All personnel exited facility

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m):
pH: Filt: Alk: Cl: Ca: Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/4/2014**
Day:: 3

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Pumped 130 Barrels of 9 ppg fluid. Annulus fluid weight measured at 9.5 ppg. Circulated until 9 ppg was observed all the way around.
7:30	Pulled Baker Model R packer out of well laying down used production string. Packer in good condition. Sent in for inspection and redress.
11:30	Lunch
12:00	Pick up 5-3/4" bit and a Weatherford 7" casing scraper. Lowered assembly into well picking up new 2-7/8" J-55 tubing.
15:30	Tagged top of cut joint above abandoned Otis packer at 3,850'. Laid down 1 joint placing bit at 3,824'.
16:00	Circulated 180 Barrels of 9 ppg fluid. Returns clean
17:00	Secured well. All personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: 6/5/2014
Day:: 4

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Pulled 7" scraper assembly out of the hole with 56 stands and a single.
8:00	Moved in and rigged up Coastal Wireline Service. During rig up drum continued to spool out and line got tangled on the drum. 2,000' of line had to be cut out and line was respooled.
10:00	Picked up Sondex casing inspection tools and lowered in hole. Logged up from 3,835'. Casing inspection good. Rigged down Eline.
13:00	Picked up Weatherford dress off assembly and lowered in well with 56 stands and a single. Tagged top of cut joint at 3,850'.
14:00	Picked up 2.5" power swivel and began dressing off and washing over 2-7/8" cut joint with 1-2k lbs down and 1500 - 2000 ft/lbs of torque. Pumping 3.5 BPM with 600 psi. Torque dropped off to 500 ft/lbs suddenly. Picked up and went back down and tagged the top of the cut joint again at 3,850'. Continued washing down to 3,858'. (2' deeper than overshot swallow should have allowed). Set down 3k to confirm tubing tagged up on top sub.
15:30	Circulated 125 Barrels. Returns clean. Laid down 1 joint.
17:00	Secured well. All personnel exited facility

Notes:

Fluid Record:	Time:	Depth:	MW:	FV:	PV:	YP:	Gel (10s):	Gel (10m):
	pH:	Filt:	Alk:	Cl:	Ca:	Day's Cost:		Cumulative:

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/6/2014**
Day:: 5

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Pulled dress off assembly out of the hole.
7:30	Picked up Baker overshot seal assembly, 9 joints 2-7/8" tubing and redressed Baker Model R packer. Lowered assembly in well. Did not tag top of abandoned packer at previous depth of 3,850'. Continued in hole picking up 4 joints to place overshot at 3,991'.
11:00	Pulled packer assembly out of well.
11:30	Lunch
12:00	Continued pulling packer assembly out of well. No marks observed on the bottom of the overshot seal assembly.
14:00	Picked up Weatherford overshot assembly dressed with 2-7/8" grapple, oil jars, bumper sub, 4 x 4-1/8" drill collars, and an accelerator. Lowered assembly in well on 1 joint placing overshot at 226'.
17:00	Secured well. All personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: 6/7/2014
Day:: 6

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued lowering fishing assembly in well. Tagged top of fish at 4,067'. Set down 1-2k lbs and pushed fish to 4,120'. Set down 15k lbs on fish.
8:30	Pulled out of hole with 6k lbs overpull for first 60'. Drag dropped off and continued pulling out of well.
10:30	Laid down fishing assembly, 14' of 2-7/8" cut joint, Otis packer, and 31' of 2-7/8" tail pipe. Otis packer in good condition.
11:30	Lunch
12:00	Picked up 6-1/8" 5 blade mill and lowered in will with 59 stands. Tagged up at 4,063'.
13:30	Picked up to 4,035'.
14:00	Secured well. All personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/9/2014**
Day:: 7

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Picked up 2.5" power swivel and 1 joint. Tagged up solid at 4,063'.
7:00	Broke circulation at 4.5 BPM with 800 psi. Began milling with 1-2k lbs down rotating at 60 rpms with 1-2k ft/lbs of torque.
7:30	With no hole made picked up and circulated the well clean. Metal shavings observed in returns.
8:00	Laid down power swivel.
8:30	Pulled out of hole with 60 stands and a single.
10:00	Laid down the 6-1/8" mill. Mill showed excessive damage to the outside edges.
11:00	Lunch
11:30	Cut mule shoe out of previously crossed new joint of 2-7/8" J-55 tubing.
12:00	Made up mule shoe, oil jar, bumper sub, 4 x 4-1/8" drill collars, and accelerator. Lowered assembly in well.
13:30	Tagged up at 4,090' multiple times. Dropped assembly past obstruction and lowered in well to 4,114'.
14:30	Pulled mule shoe assembly out of well with 59 stands and a single placing the mule shoe at 211'.
17:00	Secured well. All personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/10/2014**
Day:: 8

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued pulling mule shoe assembly out of well. Mule shoe of 31.38' was broken in the joint body on the upset ~4" below the bottom of the collar. Leaving ~31' of fish in the hole.
7:30	Moved in and rigged up Archer wireline and lowered 4.5" gauge ring on junk basket. Tagged at 4,191' wireline measure.
8:30	Pulled assembly out of well.
9:00	Picked up 54 arm caliper and lowered in well. Logged up from 4,150'. Logs showed hole in casing from 4,060' to 4,062' wireline measure. Logged problem area twice to confirm. Continued logging up to 3,500'.
10:30	Pulled assembly out of well.
11:00	Rigged down Archer wireline.
12:00	Secured well. All personnel exited facility

Conference call was held to discuss hole in casing and broken tubing. Decision was made to lay down all purchased Cressman 2-7/8" tubing and pick up rental string.

Notes:

Fluid Record:	Time:	Depth:	MW:	FV:	PV:	YP:	Gel (10s):	Gel (10m):
	pH:	Filt:	Alk:	Cl:	Ca:	Day's Cost:		Cumulative:

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description:

Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/11/2014**
Day:: 9

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Lowered 59 stands of 2-7/8" Cressman tubing into well.
8:00	Pulled out of hole laying down 118 joints of tubing.
11:30	Lunch
13:00	Received 125 joints of Weatherford 2-7/8" L-80 EUE tubing. Tallied tubing.
14:00	Picked up 4.5" overshot dressed with 2-7/8" grapple, oil jar, bumper sub, 4 x 4-1/8" drill collars, and accelerator.
15:00	Lowered assembly in well picking up 74 joints of rental string placing the fishing assembly at 2,483'.
17:00	Secured well. All personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/12/2014**
Day:: 10

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued lowering fishing assembly in well picking up 55 joints. Tagged top of fish at 4,195'.
8:00	Put 1-2k lbs down on fish and began pushing the fish downhole. Began circulating the well at 3 BPM with 500 psi.
9:00	Continued washing and pushing the fish to 4,330'. (Bottom of fish at 4,360') Set down 15k lbs down on fish.
11:30	Picked up off bottom and circulated 2.5 bottoms up. Returns clean.
13:00	Began pulling fishing assembly out of hole when we pulled 4k over. Dropped back down with no drag. Picked up and tagged in same spot. Rigged up 2.5" power swivel. Rotated and came free. Continued to tag up every 30' and laid down 5 joints on swivel.
16:00	Racked back swivel and continued out of the well with 8 stands placing the fishing assembly at 3,674'.
17:00	Secured well. All personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/13/2014**
Day:: 11

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued pulling fishing assembly out of well.
8:00	Laid down fishing assembly. Retrieved 2-7/8" fish.
9:00	Picked up 5-3/4" mill tooth rock bit, 10 joints of 2-7/8" PH-6 tubing, oil jar, bumper sub, 4 x 4-1/8" drill collars, and accelerator. Lowere assembly in well.
11:30	Lunch
12:00	Continued lowering assembly in well with a total of 53 stands placing bit at 3,678'.
14:00	Secured well. All personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/16/2014**
Day:: 12

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued lowering assembly in well and tagged hole in casing at 4,063'. Rotated passed the hole.
7:30	Continue lowering assembly to 4,081'. Pick up power swivel and wash 10 joints to PBTD of 4,357'.
10:00	Circulate 2 bottoms up at 4.5 BPM. Returns clean.
12:00	Pulled out of the hole laying down 36 joints placing the bit at 3,252'
14:00	Hydraulic hose on tongs ruptured. Removed hose and sent in for replacement.
14:30	Secured well. All personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/17/2014**
Day:: 13

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued pulling clean out assembly out of hole with 44 stands.
7:30	Laid down 4-1/8" drill collars and 10 joints of 2-7/8" PH-6.
8:30	Received 23 joints of 5" 18 lb LTC 8RD casing and tallied.
9:30	Received 8 joints of 4-3/4" drill collars and tallied.
10:00	Frank's Casing Service arrived on site. Rigged up hydraulic casing tongs.
12:00	Made up 5" float shoe with lock tight. Placed 1 bow spring centralizer 5' above shoe. Lowered in well. Centralizer was tight in hole and had to be pushed in the hole with blocks. Made up landing collar 1 joint above shoe and placed 2nd centralizer 5' below landing collar.
14:00	Restrictions due to centralizers increased and casing was pulled out of hole. Centralizers were removed.
15:00	Secured well. All Franks and Pioneer personnel exited facility
17:30	Smaller OD bow spring centralizers were received.
18:00	Sandia personnel exited facility

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/18/2014**
Day:: 14

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Lowered 5" liner into well placing centralizers on every other collar.
9:30	Made up TIW liner hanger and 8 joints of 4-3/4" drill collars.
11:00	Lowered assembly in well and tagged hole in casing at 4,063'.
12:30	Attempted to pass hole in casing without success.
13:00	Lunch
13:30	Pull out of hole with 30 stands of tubing to place bottom of 5" liner at 1,232'.
15:30	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/19/2014**
Day:: 15

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued pulling out of well and racked back 4 stands of drill collars. Laid down TIW hanger, 21 joints of 5" liner, and removed float shoe. Damaged was observed on bottom of float shoe.
11:00	Made up ~3" tapered guide to 2 joints of 5" liner. Lowered assembly in well.
12:00	Lunch
12:30	Continued lowering assembly and tagged hole in casing at 4,063'.
14:00	Attempted to rotate tubing with pipe wrenches but excessive torque would only allow 1 to 1-1/4 turn.
15:00	Picked up power swivel and turned torque down to 800 ft/lbs. Continued to work tubing and could not get liner past hole in casing.
16:00	Racked back swivel and picked up off bottom placing tapered guide at 4,050'.
17:00	Secured well. All personnel exited facility.

Notes:

Fluid Record:	Time:	Depth:	MW:	FV:	PV:	YP:	Gel (10s):	Gel (10m):
	pH:	Filt:	Alk:	Cl:	Ca:	Day's Cost:		Cumulative:

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: 6/20/2014
Day:: 16

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued pulling out of well and laid down tapered guide.
8:00	Picked up 2-7/8" bent mule shoe guide and made up on 2 joints of 5" liner.
9:00	Lowered assembly in well and tagged hole in casing at 4,063'.
10:30	Worked mule shoe guide passed the hole with pipe wrenches and lowered assembly to 4,094'. (Bottom of the 5" at 4,083')
11:00	Lunch
11:30	Pulled out of hole and hung up. Pulled 10k over string weight and freed tubing. Continued pulling out of hole.
13:30	The 5" X 4-1/2" swedge had broken in the 41/2" threads. Leaving the mule shoe, 2-7/8" X 4-1/2" swedge, and 4-1/2" collar (Total of 10.73') in the hole.
14:30	Picked up a 5-3/4" rock bit on 10 joints of PH-6 and lowered assembly in well to 2,519'.
17:00	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/23/2014**
Day:: 17

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued lowering 5-3/4" bit assembly into well. Tagged top of fish at 4,346'.
7:30	Circulate wellbore clean at 3.5 BPM with 900 psi
9:30	Pull out of hole with bit assembly. Lay down 10 joints of PH-6 tubing.
11:30	Lunch
12:00	Rig up Franks tong service.
13:00	Make up mule shoe guide assembly on 23 joints of 5" 18# Casing. Pick up TIW liner hanger assembly and 8 joints of 4-3/4" collars.
17:00	Lower assembly in well on 3 stands of 2-7/8" tubing. Placing the mule shoe guide at 1,420'.
17:30	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/24/2014**
Day:: 18

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued lowering 5" liner assembly into well.
8:00	Past hole in 7" casing without rotation. Continued lowering to 4,330' Drag was observed. Taking 10 to 14k down to keep liner moving.
9:00	Circulated wellbore clean at 3 BPM with 800 psi.
11:00	Attempted to pick up on liner assembly and 15k overpull was observed with no movement. Picked up pup joints and lowered assembly in well to 4,340'.
12:00	Performed liner hanger setting procedure and then sheared off of the liner hanger placing the end of the mule shoe guide at 4,342' and the top of the liner at 3,363'
13:00	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/25/2014**
Day:: 19

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Moved in and spotted Roywell cementing trucks.
8:00	Rigged up cementing head.
8:30	Suspended operations to monitor weather.
12:30	Secured well due to continued weather and lightning. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/26/2014**
Day:: 20

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Continued rigging up Roywell cementing trucks and held PJSA.
8:00	Tested lines to 3,000 psi. Broke circulation with 8 Barrels 9 ppg brine. Pumped 20 BBL gel pill sweep with lost circulation material
8:30	followed by 5 Barrels freshwater at 3 BPM with 350 psi. Mixed up 18 Barrels of cement to 15.8 ppg. Pumped cement at 3 BPM. Relea dart from cementing head and began displacing cement with 5 Barrels freshwater followed by 13 Barrels of 9 ppg brine. Tubing dart hi wiper plug and sheered the plug with 900 psi. Continued displacing at 3 BPM. After 30 Barrels pumped slowed rate to 1 BPM with 500 Bumped the plug after a total of 36 Barrels and held pressure at 1,000 psi for 5 minutes to insure the dart seated in the landing collar.
9:15	Bled pressure off and rigged down cementing head.
9:30	Pulled first 5 stands slowly to allow cement to fall past TIW setting tools. Continued pulling out of well and laid down 4-3/4" drill collars
11:30	Lunch
12:00	Picked up 6-1/4" mill tooth bit and lowered assembly in well on 50 stands of 2-7/8" tubing placing the bit at 3,128'
2:00	Secured well to allow cement to harden. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/27/2014**
Day:: 21

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued lowering 6-1/4" bit assembly into well and tagged top of liner at 3,363'. No cement observed.
7:30	Circulated well clean.
8:30	Pressured up on casing to 1,220 psi. Pressure dropped to 1,186 psi in 35 minutes. Good test.
9:30	Pulled dress off assembly from well and laid down 6-1/4" bit.
10:30	Picked up 7" scraper and 6-1/4" bit. Lowered assembly into well to the top of the liner at 3,363'.
11:30	Circulated well clean.
12:30	Pulled scraper assembly out of well and laid down 32 joints of 2-7/8" tubing and scraper assembly.
14:30	Picked up 4-1/8" Varel mill tooth bit, 8 x 3-1/8" collars, and 33 joints of 2-3/8" tubing.
16:30	Lowered assembly in well on 1 stand of tubing.
17:00	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/28/2014**
Day:: 22

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued lowering 4-1/8" mill tooth bit into well. Tag the top of the liner at 3,363'. Rotated tubing to drop bit into 5" liner.
7:30	Continued in hole and tagged top of cement at 4,204'.
8:30	Washed and reamed down 79' to 4,283'. Attempted to drill up landing collar with 4k down and max observed torque of 1,000 ft/lbs. No progress made after 1 hour.
11:30	Lunch
12:00	Pulled out of the hole tallying tubing to confirm depth of 4,283'
14:30	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **6/30/2014**
Day:: 23

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Picked up 4-1/8" 5 bladed mill and 8 x 3-1/8" collars. Lowered assembly into well and tagged the top of the liner at 3,363'
8:00	Rotated mill with wrenches to enter the 5" liner. Continued lowering assembly in well and tagged up at 3,377'. (Inside hanger)
8:30	Attempted to wash and ream past obstruction. No progress made.
9:30	Pulled assembly out of well and laid down 4-1/8" mill.
11:30	Lunch
12:00	Picked up 4-1/8" under gauge 3 bladed speed mill and lowered in well.
13:00	Tagged top of liner at 3,363'. Rotated mill with wrenches to enter the 5" liner. Continued lowering assembly into well and tagged landing collar at 4,283'.
14:00	Drill -2" while reverse circulating and plugged up bit sub. Attempted to blow obstruction out of bit sub with no success.
15:00	Pulled assembly out of well and knocked out large chunks of aluminum from bit sub.
17:00	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/1/2014**
Day:: 24

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Picked up 4-1/8" 3 blade speed mill and 8 x 3-1/8" collars. Lowered assembly into well and tagged the top of the liner at 3,363'
8:00	Rotated mill with wrenches to enter the 5" liner. Continued lowering assembly into well and tagged landing collar at 4,283'.
8:30	Drilled out landing collar and cement down to 4,321' and circulated well clean.
10:00	Pulled assembly out of well and laid down 4-1/8" mill.
12:00	Lunch
12:30	Picked up 5" scraper assembly and lowered in well down to 4,321'.
14:30	Circulated well clean.
16:00	Pulled 18 stands of workstring placing the scraper at 3,205'.
17:00	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/2/2014**
Day:: 25

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued pulling scraper assembly out of well and laid down 3-1/8" drill collars.
8:00	Moved in and rigged up Pioneer Wireline Service.
8:30	Picked up CBL. Lowered in well. Logged 5" 18# liner. CBL was good.
10:00	Picked up 40 arm caliper log. Lowered in well. Tagged up at 4,060'.
10:30	Pulled caliper log out of well and removed centralizers.
11:30	Lowered caliper log. Logged up from 4,321'. Pulled tools from well.
14:30	Tested casing to 1,220 psi. Pressure dropped to 1,150 psi in 1 hour.
16:00	Pressured up to 1,320 psi to monitor pressure overnight.
16:30	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/3/2014**
Day:: 26

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Pressure tested casing to 1,260 psi. Pressure bled down to 1,255 psi in 1 hour. Test good.
9:00	Picked up 20' perf gun with 3-1/8" OD and lowered in well. Tagged up at 4,060'. Pulled out of hole.
9:30	Picked up 8' perf gun with 3-1/8" OD and lowered in well. Tagged up at 4,060'. Pulled out of hole.
10:00	Waited on 2-3/4" gun housings to arrive.
11:30	Picked up 20' perf gun with 2-3/4" OD and lowered in well. Tagged up at 4,060'. Pulled out of hole.
12:00	Picked up 10' perf gun with 2-3/4" OD and lowered in well. Tagged up at 4,060'. Pulled out of hole.
12:30	Waited on 7' and 5' long 2-3/4" gun housings to arrive.
14:00	Picked up 7' perf gun with 2-3/4" OD and lowered in well. Tagged up at 4,060'. Pulled out of hole.
14:30	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m):
pH: Filt: Alk: Cl: Ca: Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/7/2014**
Day:: 27

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Pioneer personnel arrived on site and held PJSA.
7:30	Picked up strip gun with 2-1/8" OD. 4 shots/foot with 60 degree phasing. Performed 11 gun runs. Perforating injection interval from 4,306' to 4,162'.
14:00	Rig down Pioneer Wireline Service.
15:00	Picked up 2-3/8" mule shoe. Lowered assembly in well to 4,027'.
17:00	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/8/2014**
Day:: 28

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continued lowering mule shoe assembly into well. Tagged fill at 4,313'.
8:00	Washed to bottom at 4,321'
8:30	Circulated 250 Barrels at 2.5 BPM with 500 psi when total loss of returns was observed.
10:30	Laid down 5 joints placingmule shoe 4' above perforations at 4,159'.
11:30	Established circulation at 1.3 BPM. Circulated out 9 ppg brine with filtered 9 ppg brine.
12:30	Received more fluid and blended for a 9 ppg brine.
16:00	Secured well. All personnel exited facility.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/9/2014**
Day:: 29

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Received more fluid and blended for a 9 ppg brine.
8:30	Shut in backside and began injection test at 25 gpm for 5 mins with 0 psi on pump and 81 psig on annulus. Increased pump rate to 50 gpm for 5 min with 150 psi on pump and 113 psig on annulus. Increased pump rate to 75 gpm for 5 min with 450 psi on pump and 312 psig on annulus. Increase pump rate to ~95 gpm for remainder of injection test. Initial pump pressure was 700 psi and 401 psig o annulus. Pressure increased steadily to 900 psi on pump and 700 psig on annulus.
12:30	Stopped pumping after 425 Barrels. Shut in well and monitored pressure. Pressure bled off to 0 psi in 1 hour 42 minutes.
14:30	Secured well. All personnel exited facility.

Notes:

Fluid Record:	Time:	Depth:	MW:	FV:	PV:	YP:	Gel (10s):	Gel (10m):
	pH:	Filt:	Alk:	Cl:	Ca:	Day's Cost:		Cumulative:

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
escription:

Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/10/2014**
Day:: 30

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Accidents: None Reported
Operation: WDW-138 Workover and Clean out

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Received more fluid and blended for a 9 ppg brine.
7:00	Picked up 5 joints of tubing and tagged 4' of fill at 4,317'.
7:30	Laid down 1 joint and picked up pup joints to place end of mule shoe at 4,307'.
8:00	Moved in and rigged up Roywell acid trucks.
9:30	Held PJSA with all personnel.
10:00	Tested lines to 3,000 psi. Began pumping acid at 2.4 BPM. After pumping 25 Barrels shut in backside and continued pumping acid int formation with 10.6 Barrels of acid followed by 28 Barrels of 9 ppg brine. Shut TIW valve and pumped 5 Barrels of 9 ppg brine down annulus.
10:30	Allowed Pressure to bleed off into formation from 414 psi to 0 psi in 49 minutes
11:00	Opened well and pulled 5 joints from well placing mule shoe at 4,159'.
11:30	Pumped 23 Barrels of acid down tubing and then shut in backside. Continued pumping 36.8 Barrels of acid followed by 15 Barrels of 9 brine.
12:00	Shut well in and allowed acid to soak for 45 minutes. Pressure bled off from 220 psi to 0 psi in 24 minutes.
13:00	Shut in backside and began injection test at 30 gpm for 5 mins with 100 psi on pump and 182 psig on annulus. Increased pump rate tc 50 gpm for 5 min with 300 psi on pump and 230 psig on annulus. Increased pump rate to 75 gpm for 5 min with 400 psi on pump and 266 psig on annulus. Increase pump rate to ~95 gpm for remainder of injection test. Initial pump pressure was 600 psi and 357 psig oı annulus. Pressure increased steadily to 700 psi on pump and 448 psig on annulus. Stopped pumping after 256 Barrels.
15:30	Lowered mule shoe assembly into well and tagged 4' of fill at 4,317'.
16:00	Pulled out of well laying down 57 joints of tubing placing mule shoe at 2,461'.
17:00	Secured well. All personnel exited facility.

Notes:

Fluid Record: Time: Depth: MW: FV: PV: YP: Gel (10s): Gel (10m):
pH: Filt: Alk: Cl: Ca: Day's Cost: Cumulative:

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: 7/11/2014
Day:: 31

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Continue pulling out of well laying down workstring.
9:00	Loaded up all rental tubing and rental equipment.
10:00	Received new 2-7/8" J-55 8rd tubing and 2-3/8" J-55 8rd from Trigon Tubulars.
10:30	Pick up new Baker 5" Hornet packer and lower in well on new tubing.
12:00	Lunch
12:30	Continue lowering packer in well.
14:30	Circulate packer fluid and spot in annulus.
15:30	Set packer at 4,020' with 24 joints of 2-3/8" (778.87'), Xover 2-3/8" EUE to 2-7/8" EUE (.67), 99 joints of 2-7/8" (3,212.98'). Set tubing hanger in tubing spool and fasten down gland nuts and hold down pins.
16:30	Pressure up on annulus to 1,226 psi. Pressure dropped to 1,196 psi in 1 hour. Good test.
17:30	Secured well. All personnel exited facility.

Notes:

Fluid Record:	Time:	Depth:	MW:	FV:	PV:	YP:	Gel (10s):	Gel (10m):
	pH:	Filt:	Alk:	Cl:	Ca:	Day's Cost:		Cumulative:

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/14/2014**
Day:: 32

Site Supv. 1:	Hodges	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:		RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Workover and Clean out

Accidents: None Reported

Start Time	DAILY OPERATIONS
6:00	Sandia and Pioneer personnel arrived on site and held PJSA.
6:30	Open well to rig pump and observe 1,000 psi on annulus. Bled pressure to 0 psi.
7:00	Rigged down BOPs and made up 7-1/16" 2k wellhead.
10:00	Cut and slipped 31' of drill line.
11:00	Rig down Pioneer Rig #92
12:00	Lunch
12:30	Continue rigging down and moving all equipment to Malone Facility WDW 73
14:00	Secured well. All personnel left location.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

SANDIA TECHNOLOGIES LLC DAILY OPERATIONS REPORT

PROJECT NAVIGATOR - MSC SITE, WDW-138

Sandia Proj. No: 1920-PH-14 Report Date: **7/15/2014**
Day:: 1

Site Supv. 1:	Armstrong	RKB-LMF:	8'	MD:	4,465'	Casing Size:	7"	Rig:	
Site Supv. 2:	Grant	RKB-GL:		TVD:		Casing Depth:	4,456 ft.	BOP Test:	

Current Operation: WDW-138 Mechanical Integrity Testing

Accidents: None Reported

Start Time	DAILY OPERATIONS
7:00	Sandia and Coastal Wireline arrived at site and sign in at Entact project trailer. Sandia and GCWA proceeded to well.
7:15	Conduct safety meeting and JSA. Start rig up of wireline unit to well.
8:50	Start in hole with temperature tool. Shut-in wellhead pressure of 0 psig. Prepare to run annulus pressure test.
9:15	Pressurize annulus to ~1,245 psig.
10:50	Tagged fill at 4,310'. No anomalies recorded on Temperature Survey. Remove temperature tool from wellbore.
11:10	Start APT with initial pressure of 1,213.4 psig. Rig up high pressure pump and filter unit to wellhead.
11:40	End APT with final pressure of 1,209.4 psig after 30 minutes. Successful test.
11:45	Rig up to run radioactive tracer survey (RTS).
12:05	Start in hole with RTS tool.
12:04	End APT with final pressure of 1,226.65 psig after 30 minutes. Successful test.
12:40	Run RTS on WDW-138, tagged fill at a wireline depth of 4,310 ft.
12:50	Run base log from 4,308'-3,800', and statistical checks at 4,008' and 4,140'. Complete filling frac tank with water with Bio-31.
14:35	Conduct 3 moving flow profile surveys from 4,308-3,800 ft while injecting at ~46 gpm @ ~ 200-500 psi.
16:10	Conducted stationary time-drive survey No. 1 at 4,140 feet while injecting at 100 gpm at ~725 psi. No upward flow recorded.
16:35	Repeated time-drive survey at 4,140 feet while injecting at 100 gpm at ~750 psi. No upflow recorded.
17:05	Run final base pass from 4,308'-3,800'.
17:15	Remove logging tools from wellbore. Rig down and release high-pressure pump and wireline unit.
17:45	Out of hole with logging tools. Complete rig down of Coastal.
19:15	Secure location. Field operations complete.

Notes:

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

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

PRODUCTION CASING	CSG1 Size:	CSG1 Grade:	CSG1 Wt.:	CSG1 Conn.:	CSG1 TD:
	CSG2 Size:	CSG2 Grade:	CSG2 Wt.:	CSG2 Conn.:	CSG2 TD:
	CSG3 Size:	CSG3 Grade:	CSG3 Wt:	CSG3 Conn.:	CSG3 TD:
	Liner Size:	Liner Grade:	Liner Wt.:	Liner Conn.:	Liner Depth:
INJECTION TUBING	TBG1 Size:	TBG1 Grade:	TBG1 Wt.:	TBG1 Conn.:	TBG1 TD:
	TBG2 Size:	TBG2 Grade:	TBG2 Wt.:	TBG2 Conn.:	TBG2 TD:
	TBG3 Size:	TBG3 Grade:	TBG3 Wt.:	TBG3 Conn.:	TBG3 TD:

COMPLETION EQPT: Packer Depth: 3552'-3560' Pkr Mfg & Mod: Baker Model R Abandon Pkr: Perforations 1:
Perforations 2: 4,249' to 4,260' Perforations 3: Perforations 4:

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

BHA:
Description: Length:

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

APPENDIX C

SUPERIOR SLICKLINE SERVICES
40-ARM CALIPER SURVEY

MIT Report Overview

Well:	Plant Injection Well #2 (WDW-138)	Survey Date:	6/5/2014
Field:	MSC Site	Tool Type:	Sondex Multifinger Imaging Tool
Company:	URS	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.
	7.000 ins	20 ppf	K-55	6.456 ins	7.511 ins	3.0 ins	3.0 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 92 joints were analysed, of which 0 have possible holes.

The most deeply penetrated joints:
pit depths to 0.059 ins in Joint 70

The most restricted joints:

Disclaimer

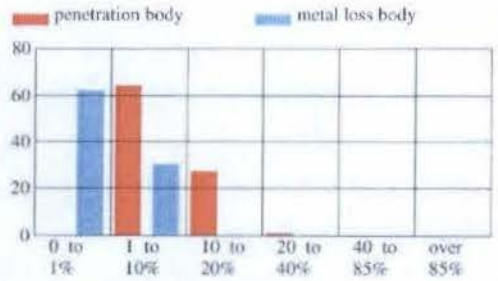
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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:	Plant Injection Well #2 (WDW-138)	Survey Date:	6/5/2014
Field:	MSC Site	Tool Type:	Sondex Multifinger Imaging Tool
Company:	URS	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.
	7.000 ins	20 ppf	K-55	6.456 ins	7.511 ins	3.0 ins	3.0 ins

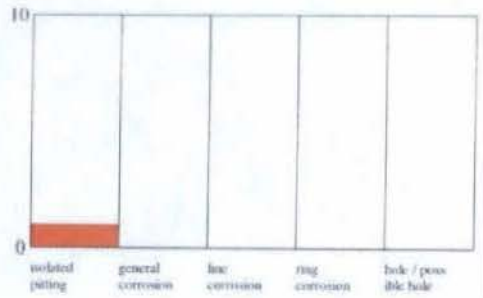
Penetration and Metal Loss (% wall)



Number of joints analysed (total = 92)

	0 to 1%	1 to 10%	10 to 20%	20 to 40%	40 to 85%	over 85%
pen.	0	64	27	1	0	0
loss	62	30	0	0	0	0

Damage Configuration (body)



Number of joints damaged (total = 1)

isolated pitting	general corrosion	line corrosion	ring corrosion	hole / possible hole
1	0	0	0	0

Damage Profile (% wall)

Bottom of Survey = 92.01

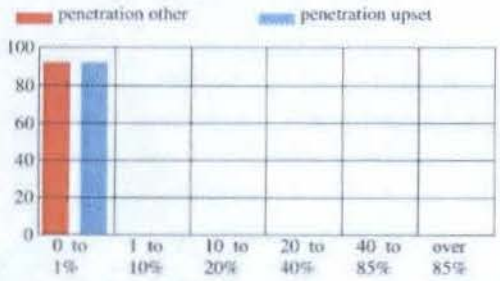
see the disclaimer on Overview page 1

MIT Report Overview
Coupling Region Analysis

Well:	Plant Injection Well #2 (WDW-138)	Survey Date:	6/5/2014
Field:	MSC Site	Tool Type:	Sondex Multifinger Imaging Tool
Company:	URS	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.
	7.000 ins	20 ppf	K-55	6.456 ins	7.511 ins	3.0 ins	3.0 ins

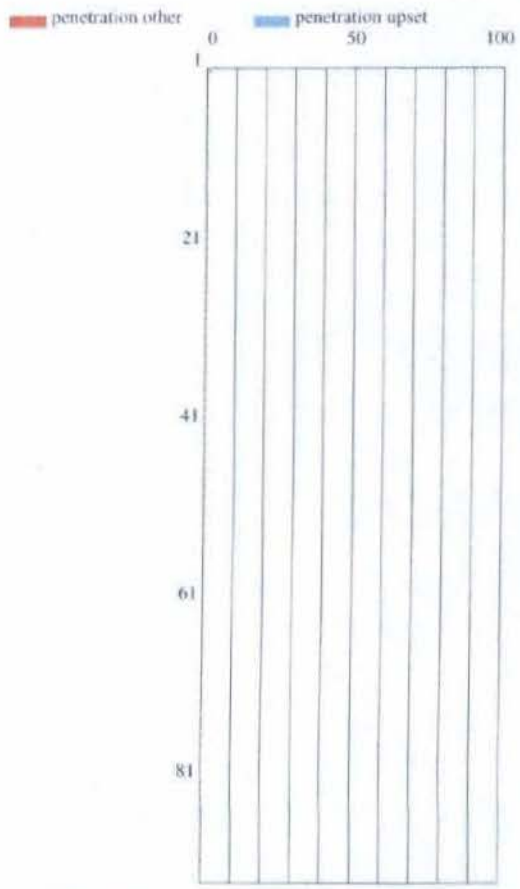
Penetration in couplings (% wall)



Number of joints analysed (total = 92)

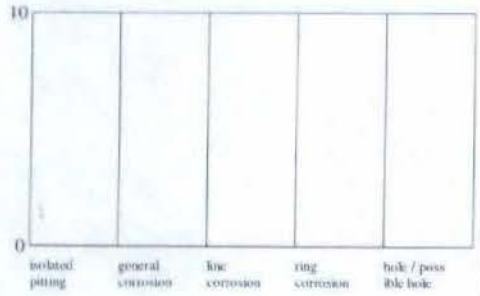
other	92	0	0	0	0	0
upset	92	0	0	0	0	0

Damage Profile (% wall)



Bottom of Survey = 92.01

Damage Configuration (couplings)



Number of joints damaged (total = 0)

0	0	0	0	0

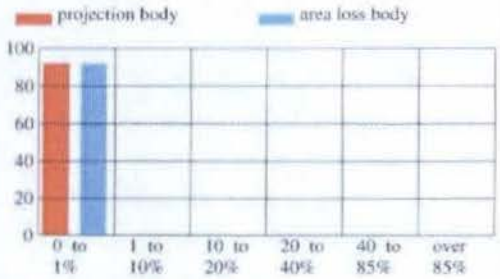
see the disclaimer on Overview page 1

MIT Report Overview
Body Region Analysis

Well:	Plant Injection Well #2 (WDW-138)	Survey Date:	6/5/2014
Field:	MSC Site	Tool Type:	Sondex Multifinger Imaging Tool
Company:	URS	Tool Size:	2 3/4"
Country:	USA	No. of Fingers:	40
		Analyst:	E. Decuir

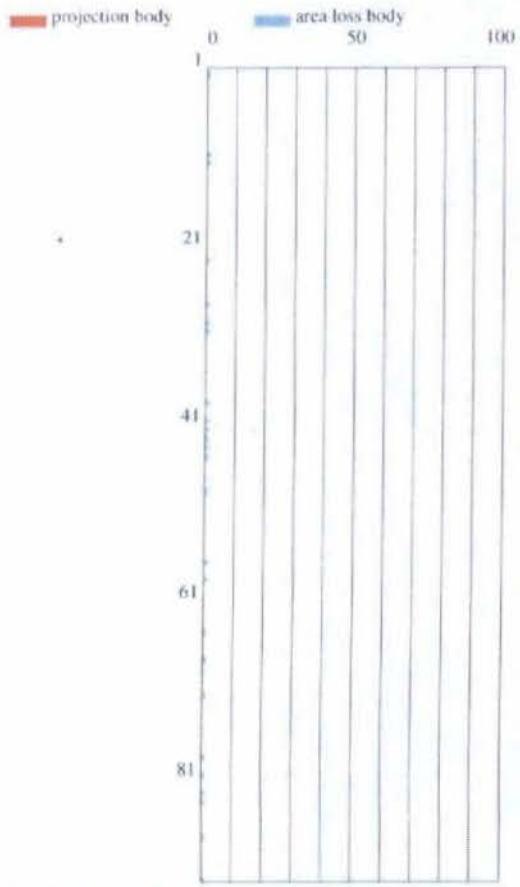
Pipe:	Nom.OD	Weight	Grade & Thread	Nom.ID	Nom. Upset	Upper len.	Lower len.
	7.000 ins	20 ppf	K-55	6.456 ins	7.511 ins	3.0 ins	3.0 ins

Projection and Area Loss (% radius)



Number of joints analysed (total = 92)						
proj.	92	0	0	0	0	0
loss	92	0	0	0	0	0

Projection Profile (% radius)



Bottom of Survey = 92.01

see the disclaimer on Overview page 1

MIT REPORT JOINT TALLY SHEET

Pipe: 7 ins 20 ppf K-55
Wall thickness: Body = 0.272 ins Upset = 0.528 ins
Nominal ID: 6.456 ins

Well: Plant Injection Well #2 (WDW-138)
Field: MSC Site
Company: URS
Country: USA
Survey Date: 6/5/2014

Joint No.	Depth feet	Length feet	Modal ID inches	Mean ID inches	Nominal ID inches	Nominal OD inches	Type
.01	-13.37	2.13	N/A	N/A	6.456	7.000	hanger
1	-11.24	28.83	6.454	6.452	6.456	7.000	
2	17.59	42.15	6.458	6.456	6.456	7.000	
3	59.74	42.67	6.452	6.450	6.456	7.000	
4	102.41	42.96	6.465	6.462	6.456	7.000	
5	145.37	42.67	6.461	6.460	6.456	7.000	
6	188.04	40.55	6.465	6.465	6.456	7.000	
7	228.59	42.23	6.464	6.463	6.456	7.000	
8	270.82	42.64	6.465	6.463	6.456	7.000	
9	313.46	42.47	6.458	6.457	6.456	7.000	
10	355.93	41.26	6.454	6.453	6.456	7.000	
11	397.19	40.35	6.456	6.455	6.456	7.000	
12	437.54	41.53	6.465	6.463	6.456	7.000	
13	479.07	41.01	6.458	6.458	6.456	7.000	
14	520.08	42.43	6.466	6.465	6.456	7.000	
15	562.51	42.91	6.484	6.481	6.456	7.000	
16	605.42	42.44	6.473	6.472	6.456	7.000	
17	647.86	40.86	6.459	6.457	6.456	7.000	
18	688.72	41.27	6.459	6.457	6.456	7.000	
19	729.99	42.44	6.478	6.477	6.456	7.000	
20	772.43	41.70	6.456	6.454	6.456	7.000	
21	814.13	42.73	6.463	6.461	6.456	7.000	
22	856.86	42.09	6.453	6.452	6.456	7.000	
23	898.95	39.97	6.464	6.461	6.456	7.000	
24	938.92	42.16	6.461	6.460	6.456	7.000	
25	981.08	40.11	6.458	6.457	6.456	7.000	
26	1021.19	41.44	6.461	6.461	6.456	7.000	
27	1062.63	41.77	6.441	6.441	6.456	7.000	
28	1104.40	42.11	6.470	6.467	6.456	7.000	
29	1146.51	42.35	6.442	6.442	6.456	7.000	
30	1188.86	41.66	6.448	6.447	6.456	7.000	
31	1230.52	42.58	6.462	6.460	6.456	7.000	
32	1273.10	41.77	6.456	6.452	6.456	7.000	
33	1314.87	40.68	6.463	6.461	6.456	7.000	
34	1355.55	40.90	6.466	6.463	6.456	7.000	
35	1396.45	42.42	6.453	6.453	6.456	7.000	
36	1438.87	43.22	6.454	6.454	6.456	7.000	
37	1482.09	42.75	6.471	6.470	6.456	7.000	
38	1524.84	41.75	6.449	6.448	6.456	7.000	
39	1566.59	39.43	6.451	6.449	6.456	7.000	
40	1606.02	39.85	6.452	6.450	6.456	7.000	
41	1645.87	42.04	6.440	6.440	6.456	7.000	
42	1687.91	42.12	6.451	6.447	6.456	7.000	
43	1730.03	42.75	6.454	6.453	6.456	7.000	
44	1772.78	40.69	6.453	6.452	6.456	7.000	
45	1813.47	41.98	6.458	6.457	6.456	7.000	
46	1855.45	41.36	6.461	6.459	6.456	7.000	
47	1896.81	40.84	6.455	6.455	6.456	7.000	
48	1937.65	40.06	6.457	6.455	6.456	7.000	
49	1977.71	41.72	6.463	6.461	6.456	7.000	
50	2019.43	42.04	6.455	6.454	6.456	7.000	
51	2061.47	38.71	6.461	6.458	6.456	7.000	
52	2100.18	43.05	6.473	6.471	6.456	7.000	
53	2143.23	41.58	6.458	6.457	6.456	7.000	
53.01	2184.81	2.25	N/A	N/A	6.456	7.000	stage tool
54	2187.06	41.71	6.463	6.462	6.456	7.000	
55	2228.77	42.63	6.473	6.471	6.456	7.000	
56	2271.40	41.03	6.445	6.444	6.456	7.000	
57	2312.43	41.10	6.465	6.464	6.456	7.000	
58	2353.53	42.21	6.443	6.442	6.456	7.000	
59	2395.74	42.43	6.465	6.463	6.456	7.000	
60	2438.17	41.99	6.462	6.461	6.456	7.000	
61	2480.16	42.14	6.468	6.466	6.456	7.000	
62	2522.30	41.69	6.456	6.455	6.456	7.000	
63	2563.99	42.63	6.481	6.480	6.456	7.000	
64	2606.62	41.63	6.456	6.456	6.456	7.000	
65	2648.25	41.62	6.462	6.460	6.456	7.000	
66	2689.87	41.70	6.449	6.449	6.456	7.000	
67	2731.57	42.97	6.449	6.448	6.456	7.000	
68	2774.54	42.17	6.461	6.461	6.456	7.000	
69	2816.71	42.57	6.450	6.451	6.456	7.000	
70	2859.28	43.02	6.460	6.459	6.456	7.000	
71	2902.30	42.06	6.453	6.452	6.456	7.000	
72	2944.36	39.53	6.452	6.451	6.456	7.000	
73	2983.89	42.90	6.474	6.471	6.456	7.000	
74	3026.79	42.07	6.458	6.456	6.456	7.000	
75	3068.86	42.74	6.476	6.475	6.456	7.000	
76	3111.60	41.80	6.456	6.454	6.456	7.000	
77	3153.40	42.24	6.461	6.459	6.456	7.000	
78	3195.64	42.28	6.454	6.452	6.456	7.000	
79	3237.92	42.23	6.455	6.455	6.456	7.000	
80	3280.15	42.01	6.452	6.450	6.456	7.000	
81	3322.16	42.08	6.464	6.463	6.456	7.000	
82	3364.24	41.92	6.446	6.443	6.456	7.000	
83	3406.16	42.28	6.452	6.451	6.456	7.000	
84	3448.44	42.70	6.456	6.455	6.456	7.000	
85	3491.14	40.06	6.460	6.458	6.456	7.000	
86	3531.20	41.79	6.457	6.454	6.456	7.000	
87	3572.99	42.44	6.453	6.452	6.456	7.000	
88	3615.43	41.60	6.455	6.454	6.456	7.000	
89	3657.03	42.32	6.461	6.458	6.456	7.000	
90	3699.35	42.33	6.473	6.472	6.456	7.000	
91	3741.68	40.60	6.457	6.454	6.456	7.000	
92	3782.28	41.85	6.454	6.453	6.456	7.000	
92.01	3824.13	N/A	N/A	N/A	6.456	7.000	tail

see the disclaimer on Overview page 1

MIT REPORT JOINT TABULATION SHEET

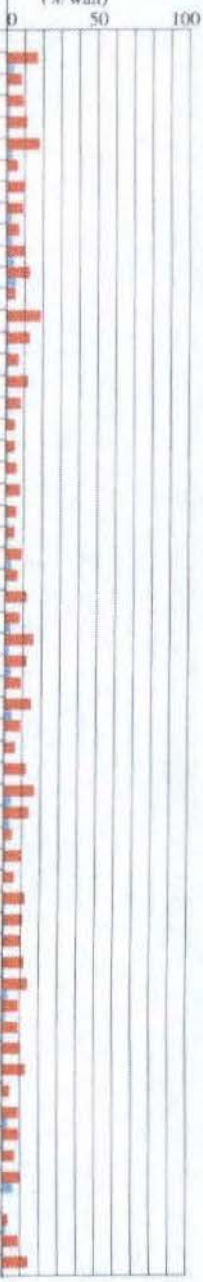
Pipe: 7 ins 20 ppf K-55
Wall thickness: Body = 0.272 ins Upset = 0.528 ins
Nominal ID: 6.456 ins

Well: Plant Injection Well #2 (WDW-138)
Field: MSC Site
Company: URS
Country: USA
Survey Date: 6/5/2014

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
.01	0	0	0	0	0	0	0	N/A	HANGER Not measured.
1	0	0	.046	17	4	0	0	6.385	
2	0	0	.022	8	1	0	0	6.412	
3	0	0	.024	9	2	0	0	6.402	
4	0	0	.030	11	1	0	0	6.430	
5	0	0	.049	18	3	0	0	6.426	
6	0	0	.015	6	1	0	0	6.424	
7	0	0	.028	10	1	0	0	6.432	
8	0	0	.024	9	3	0	0	6.430	
9	0	0	.018	7	3	0	0	6.418	
10	0	0	.027	10	4	0	0	6.420	
11	0	0	.036	13	5	0	0	6.414	
12	0	0	.014	5	0	0	0	6.432	
13	0	0	.052	19	1	0	0	6.397	
14	0	0	.036	13	1	0	0	6.436	
15	0	0	.020	7	1	0	0	6.439	
16	0	0	.034	12	1	0	0	6.440	
17	0	0	.021	8	1	0	0	6.424	
18	0	0	.014	5	0	0	0	6.426	
19	0	0	.014	5	1	0	0	6.444	
20	0	0	.017	6	0	0	0	6.424	
21	0	0	.023	8	0	0	0	6.432	
22	0	0	.015	6	1	0	0	6.416	
23	0	0	.014	5	1	0	0	6.429	
24	0	0	.024	9	3	0	0	6.432	
25	0	0	.018	7	1	0	0	6.426	
26	0	0	.034	12	0	0	0	6.420	
27	0	0	.021	8	3	0	0	6.400	
28	0	0	.044	16	2	0	0	6.432	
29	0	0	.032	12	3	0	0	6.413	
30	0	0	.024	9	1	0	0	6.418	
31	0	0	.042	15	4	0	0	6.424	
32	0	0	.024	9	1	0	0	6.416	
33	0	0	.015	6	0	0	0	6.426	
34	0	0	.032	12	0	0	0	6.426	
35	0	0	.046	17	4	0	0	6.420	
36	0	0	.038	14	3	0	0	6.414	
37	0	0	.014	5	1	0	0	6.432	
38	0	0	.026	10	1	0	0	6.416	
39	0	0	.015	6	0	0	0	6.423	
40	0	0	.032	12	1	0	0	6.413	
41	0	0	.030	11	1	0	0	6.404	
42	0	0	.028	10	0	0	0	6.410	
43	0	0	.032	12	1	0	0	6.413	
44	0	0	.038	14	3	0	0	6.408	
45	0	0	.024	9	2	0	0	6.425	
46	0	0	.025	9	1	0	0	6.423	
47	0	0	.027	10	1	0	0	6.426	
48	0	0	.036	13	1	0	0	6.420	
49	0	0	.011	4	0	0	0	6.432	
50	0	0	.024	9	3	0	0	6.422	
51	0	0	.024	9	1	0	0	6.418	
52	0	0	.018	7	0	0	0	6.436	
53	0	0	.028	10	6	0	0	6.426	
53.01	0	0	0	0	0	0	0	N/A	STAGE TOOL Not measured.
54	0	0	.007	3	2	0	0	6.431	
55	0	0	.024	9	1	0	0	6.434	
56	0	0	.038	14	1	0	0	6.413	

Damage Profile (% wall)



see the disclaimer on Overview page 1

MIT REPORT JOINT TABULATION SHEET

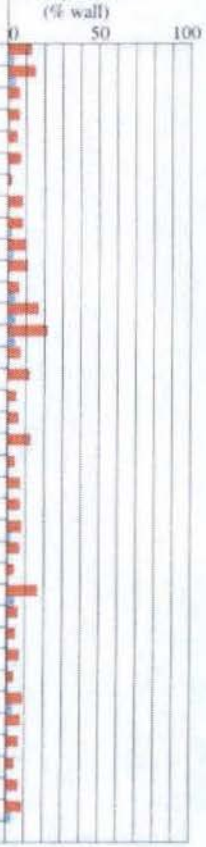
Pipe: 7 ins 20 ppf K-55
Wall thickness: Body = 0.272 ins Upset = 0.528 ins
Nominal ID: 6.456 ins

Well: Plant Injection Well #2 (WDW-138)
Field: MSC Site
Company: URS
Country: USA
Survey Date: 6/5/2014

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
57	0	0	.035	13	3	0	0	6.428	
58	0	0	.040	15	4	0	0	6.398	
59	0	0	.016	6	0	0	0	6.430	
60	0	0	.015	6	1	0	0	6.423	
61	0	0	.014	5	0	0	0	6.423	
62	0	0	.020	7	1	0	0	6.416	
63	0	0	.006	2	0	0	0	6.446	
64	0	0	.021	8	1	0	0	6.380	
65	0	0	.021	8	2	0	0	6.423	
66	0	0	.028	10	3	0	0	6.414	
67	0	0	.030	11	1	0	0	6.408	
68	0	0	.016	6	4	0	0	6.429	
69	0	0	.046	17	4	0	0	6.420	
70	0	0	.059	22	4	0	0	6.428	Isolated pitting in body.
71	0	0	.020	7	1	0	0	6.412	
72	0	0	.034	12	0	0	0	6.420	
73	0	0	.013	5	1	0	0	6.426	
74	0	0	.015	6	1	0	0	6.394	
75	0	0	.036	13	1	0	0	6.434	
76	0	0	.012	4	1	0	0	6.426	
77	0	0	.018	7	1	0	0	6.424	
78	0	0	.020	7	1	0	0	6.413	
79	0	0	.022	8	2	0	0	6.427	
80	0	0	.019	7	1	0	0	6.412	
81	0	0	.011	4	1	0	0	6.420	
82	0	0	.046	17	4	0	0	6.406	
83	0	0	.016	6	1	0	0	6.409	
84	0	0	.014	5	1	0	0	6.424	
85	0	0	.020	7	1	0	0	6.416	
86	0	0	.010	4	1	0	0	6.418	
87	0	0	.024	9	3	0	0	6.405	
88	0	0	.022	8	1	0	0	6.405	
89	0	0	.018	7	1	0	0	6.415	
90	0	0	.014	5	1	0	0	6.432	
91	0	0	.018	7	1	0	0	6.422	
92	0	0	.024	9	3	0	0	6.402	
92.01	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 = 54 thou inches deviation in body, 54 thou in coupling
Modal line length = 1.000 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:	Plant Injection Well #2 (WDW-138)	Survey Date:	6/5/2014
Field:	MSC Site	Tool Type:	Sondex Multifinger Imaging Tool
Company:	URS	Tool Size:	2 3/4"
Country:	USA	No. of Fingers:	40
Pipe:	7 ins 20 ppf K-55	Analyst:	E. Decuir

Cross Section for Joint 70 at depth 2864.38 ft

Tool speed = 42
Nominal ID = 6.456
Nominal OD = 7.000
Remaining wall area = 99 %
Tool deviation = 82 °

Finger 9 Penetration = 0.059 ins

see the disclaimer on Overview page 1

SUPERIOR SLICKLINE SERVICES

40 Arm Caliper Survey

Company URS
Well Paint Injection Well #2 (WDW-138)
Field MSC Site, Texas City
County Galveston
State Tx.

Company URS
Well Paint Injection Well #2 (WDW-138)
Field MSC Site, Texas City
County Galveston State Tx.

Location: API # :

SEC TWP RGE

Other Services

Permanent Datum Elevation
Log Measured From
Drilling Measured From

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

Date	6/5/2014		
Run Number	One		
Depth Driller	N/A		
Depth Logger	3835' wlm		
Bottom Logged Interval	3835' wlm		
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	3 hrs		
Equipment Number	G.E.		
Location	Broussard, La.		
Recorded By	Philip Haynes		
Witnessed By	Bill Armstrong		

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String	7"	20#	Surface	3835' wlm
Liner				

<< Fold Here >>>

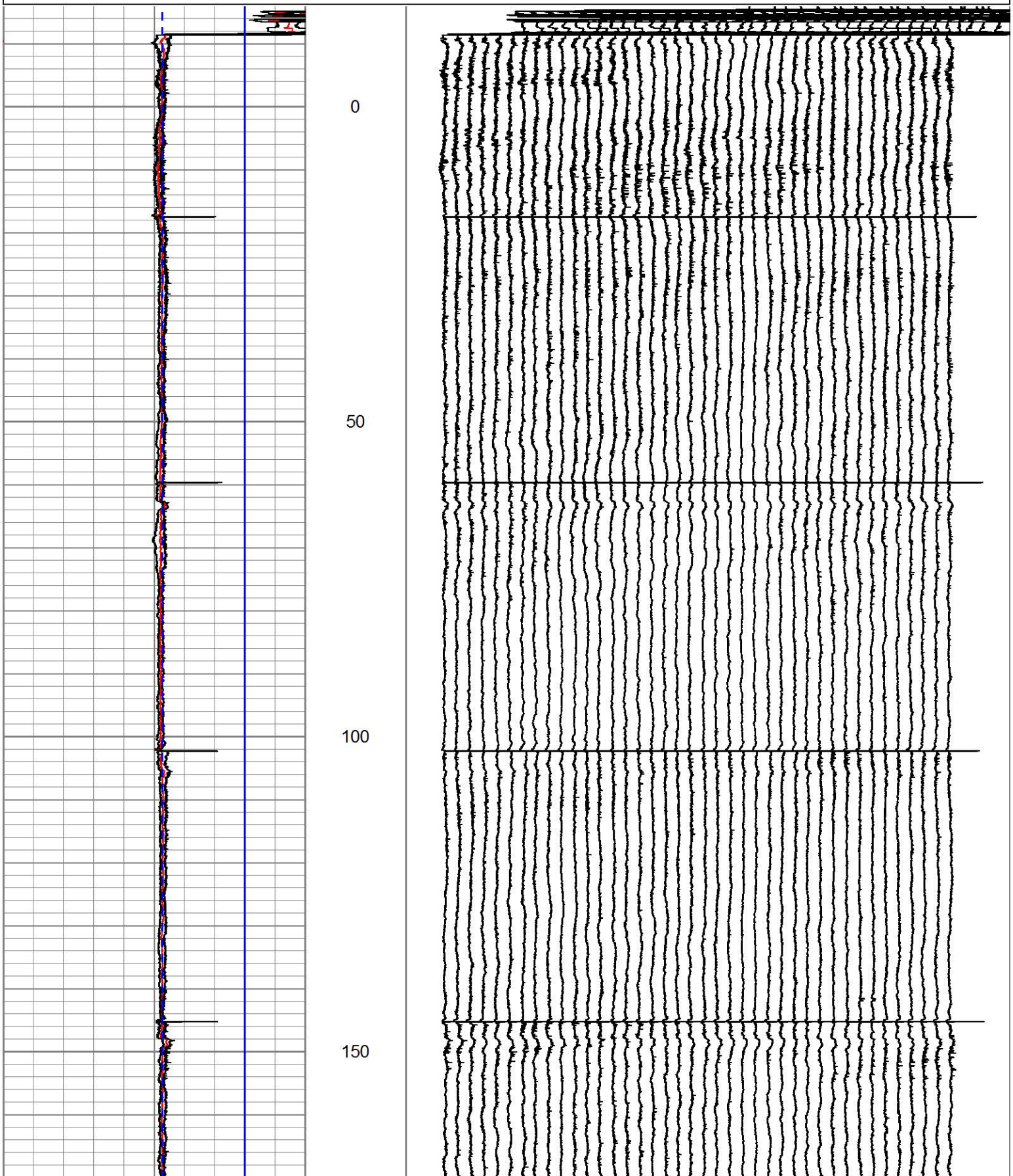
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

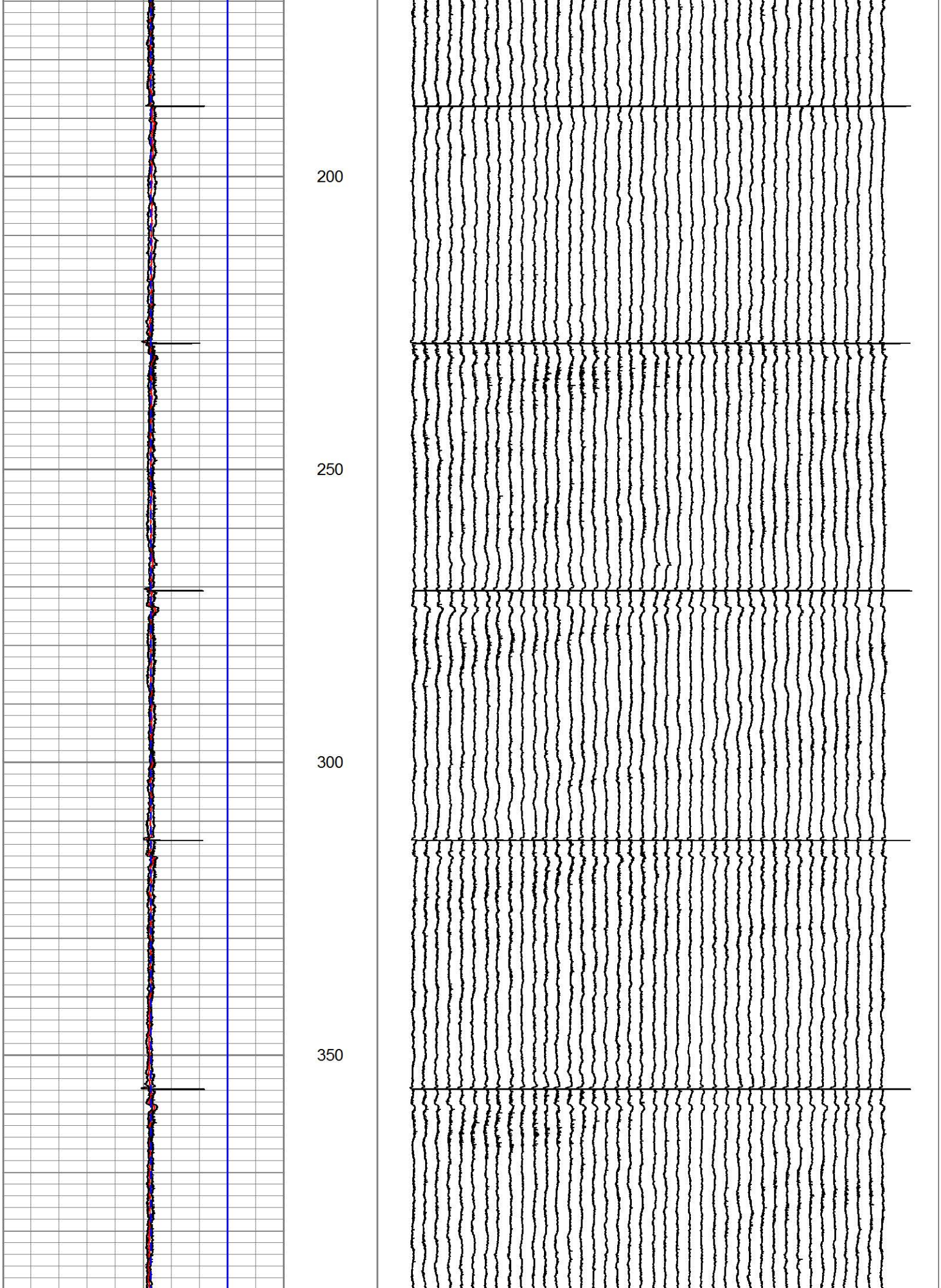
Comments

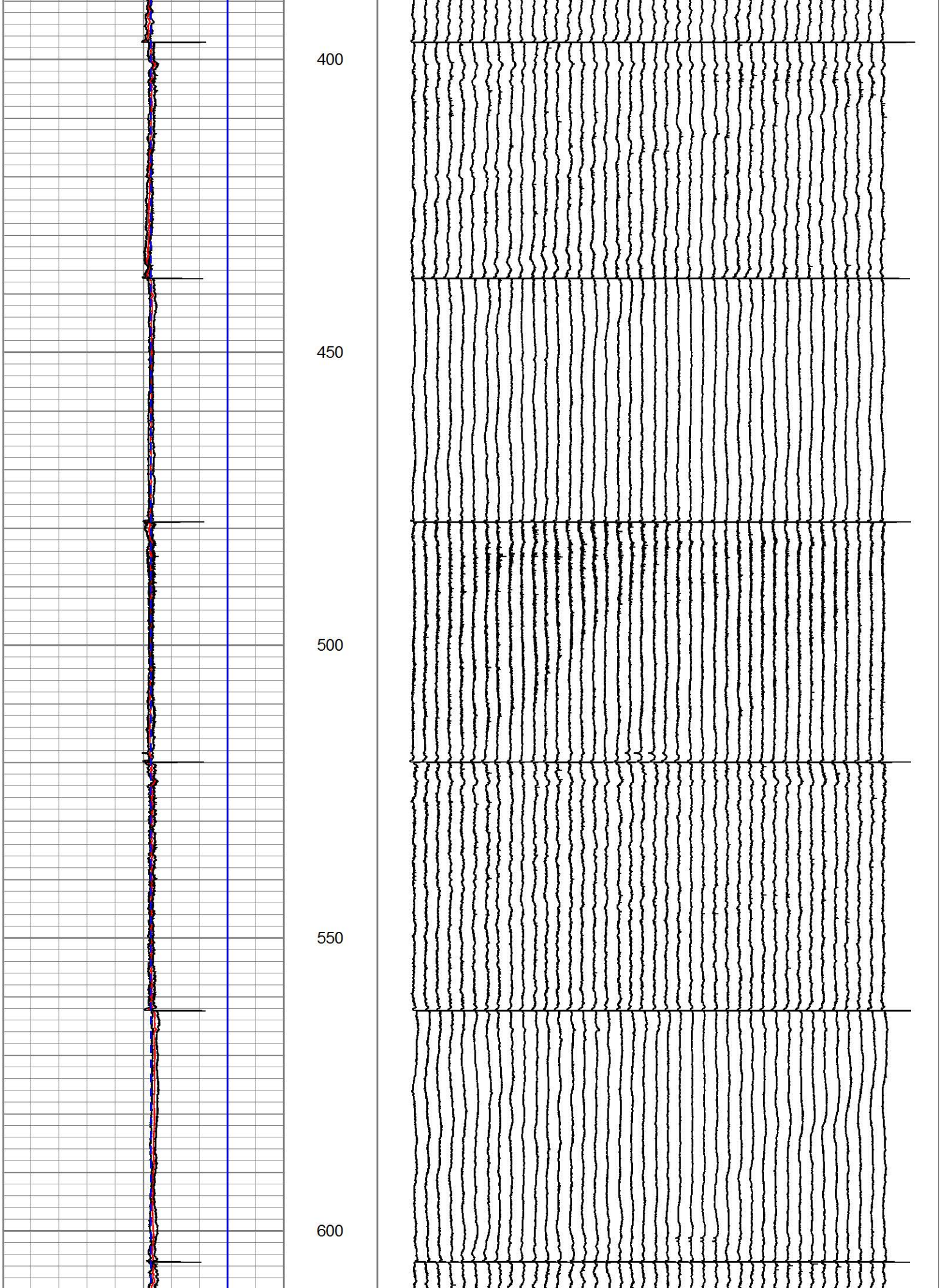
Database File: c:\superior\empty 3\gcwa\molne\stat\coastalwireline_melone1.db
Dataset Pathname: pass1.1
Presentation Format: 7 23#
Dataset Creation: Thu Jun 05 13:53:17 2014
Charted by: Depth in Feet scaled 1:240

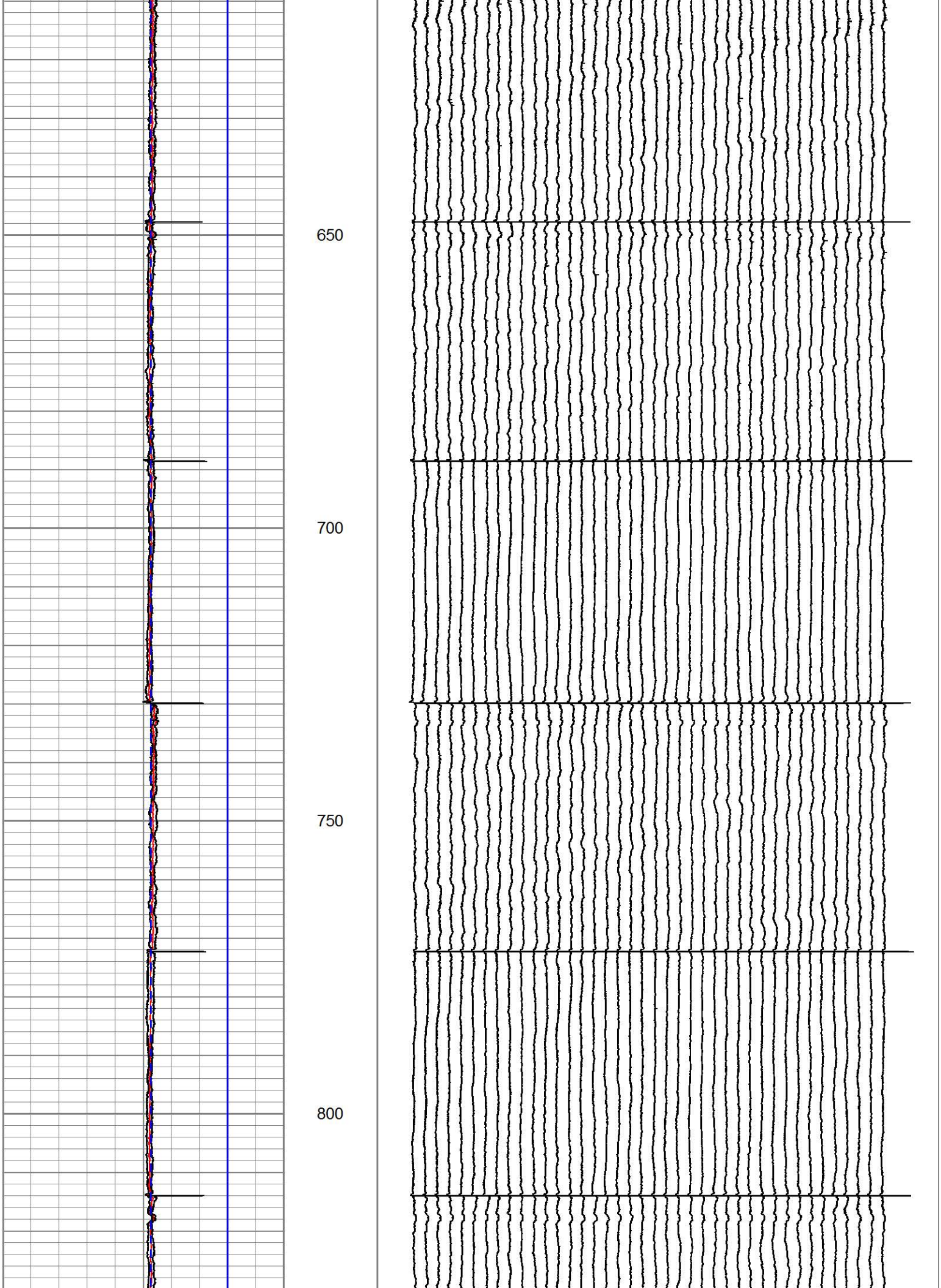
0	LSPD (ft/min)	200
5.4	AVEDIA (in)	7.4
5.4	MAXDIA (in)	7.4
5.4	MINDIA (in)	7.4
5.4	CASEID (in)	7.4
5.4	CASEOD (in)	7.4

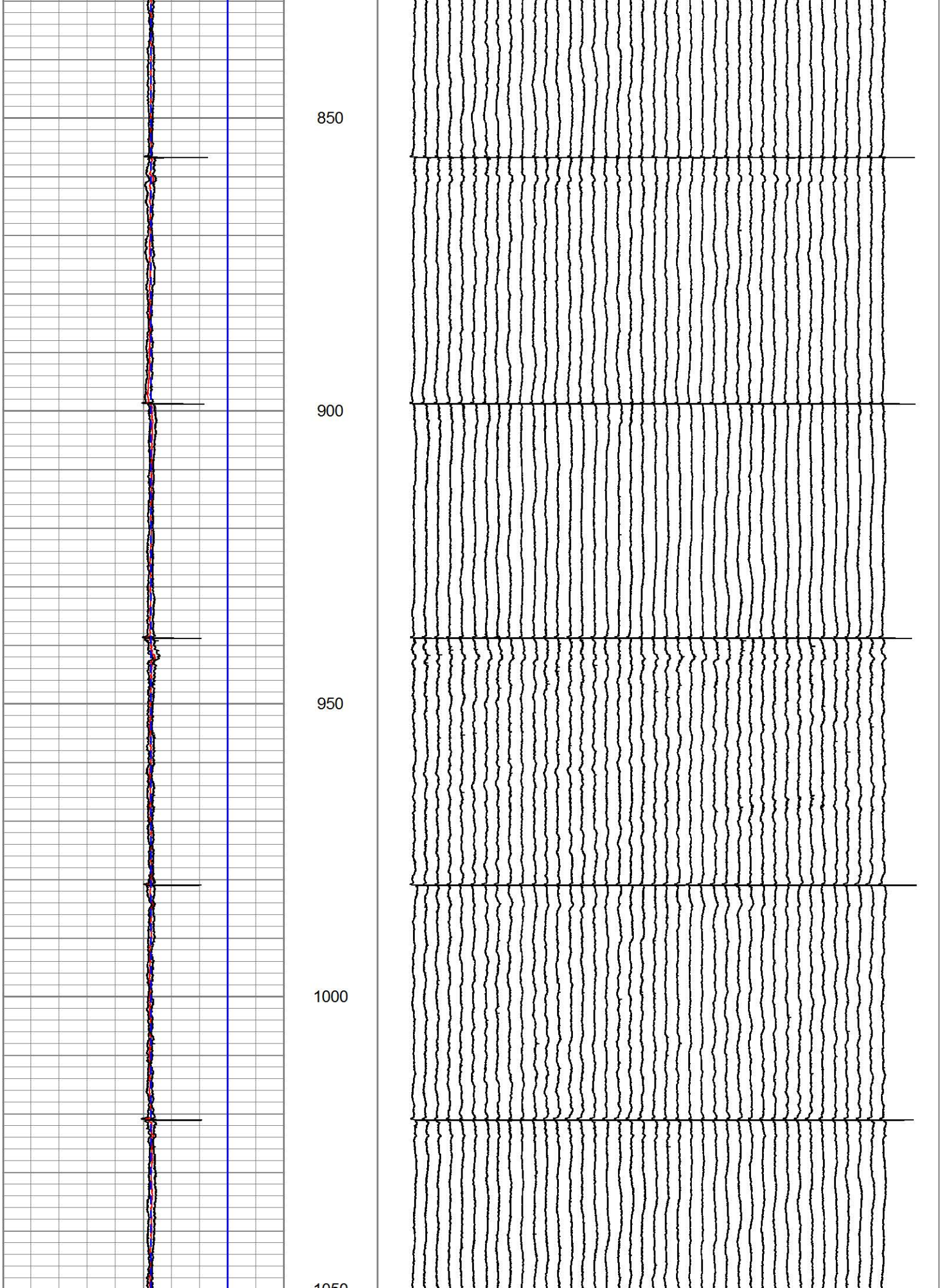
3	FING01 (in)	6.5
2.925	FING02 (in)	6.425
0.15	FING39 (in)	3.65
0.075	FING40 (in)	3.575

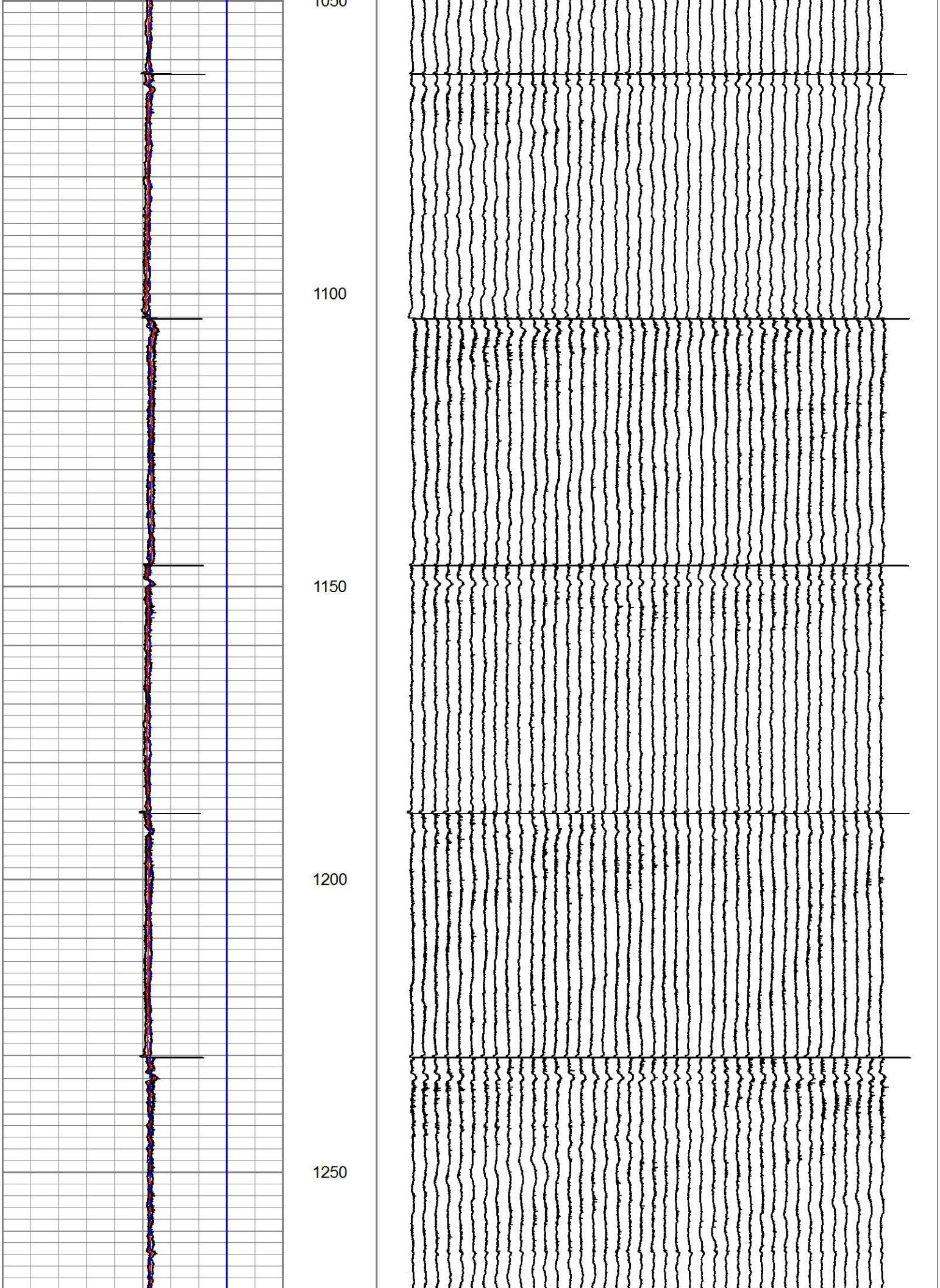


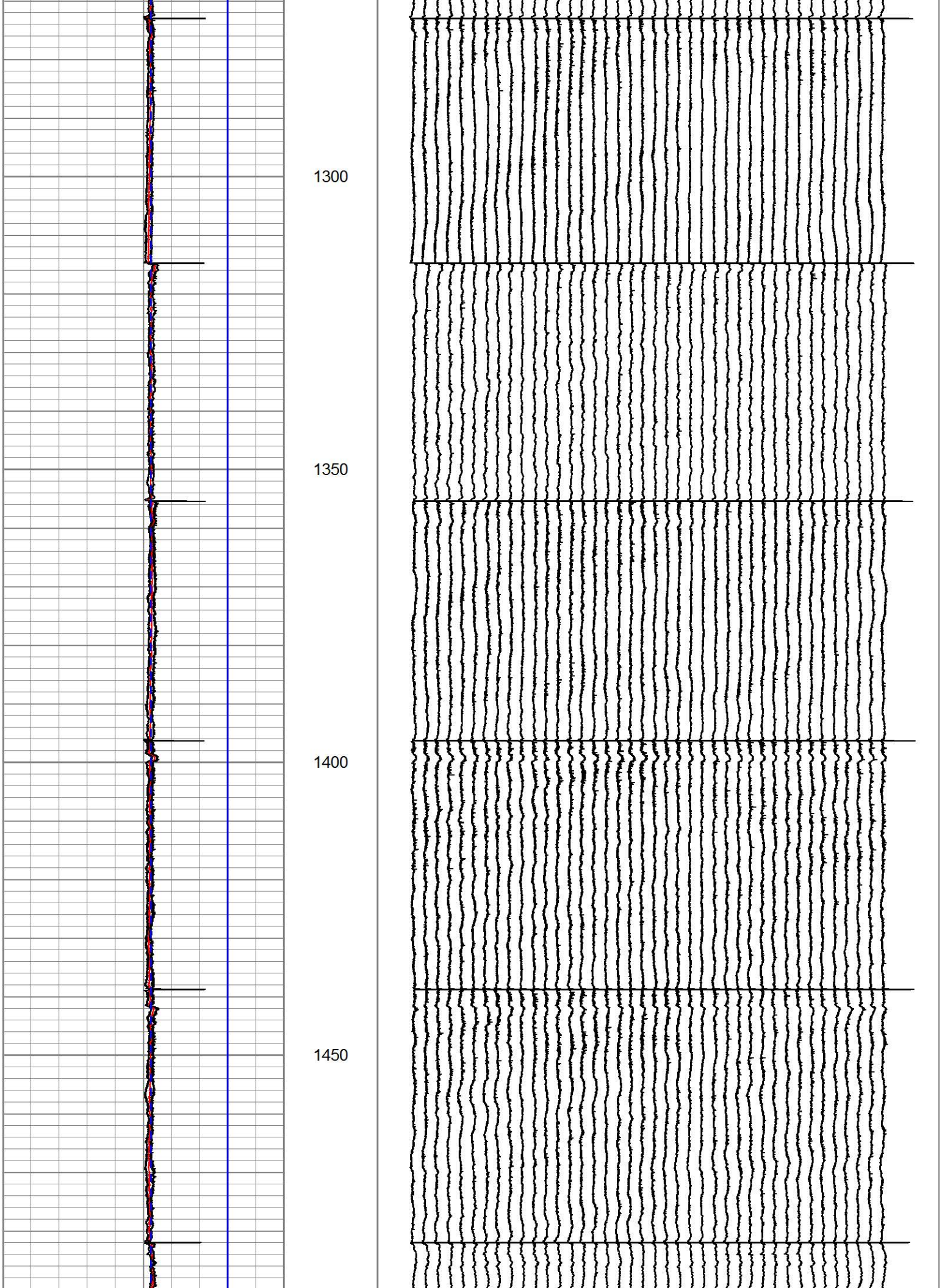

200
250
300
350

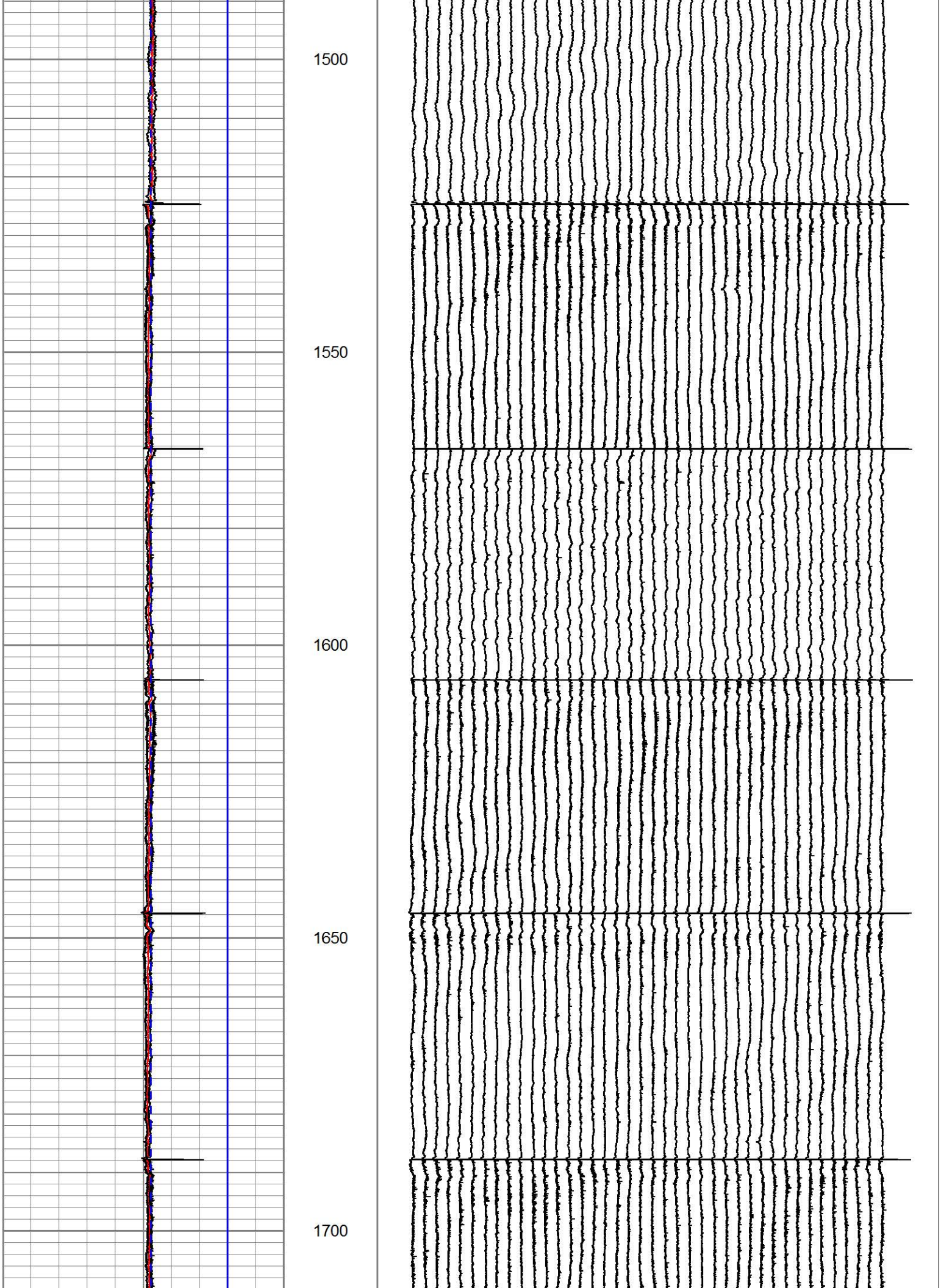

400
450
500
550
600

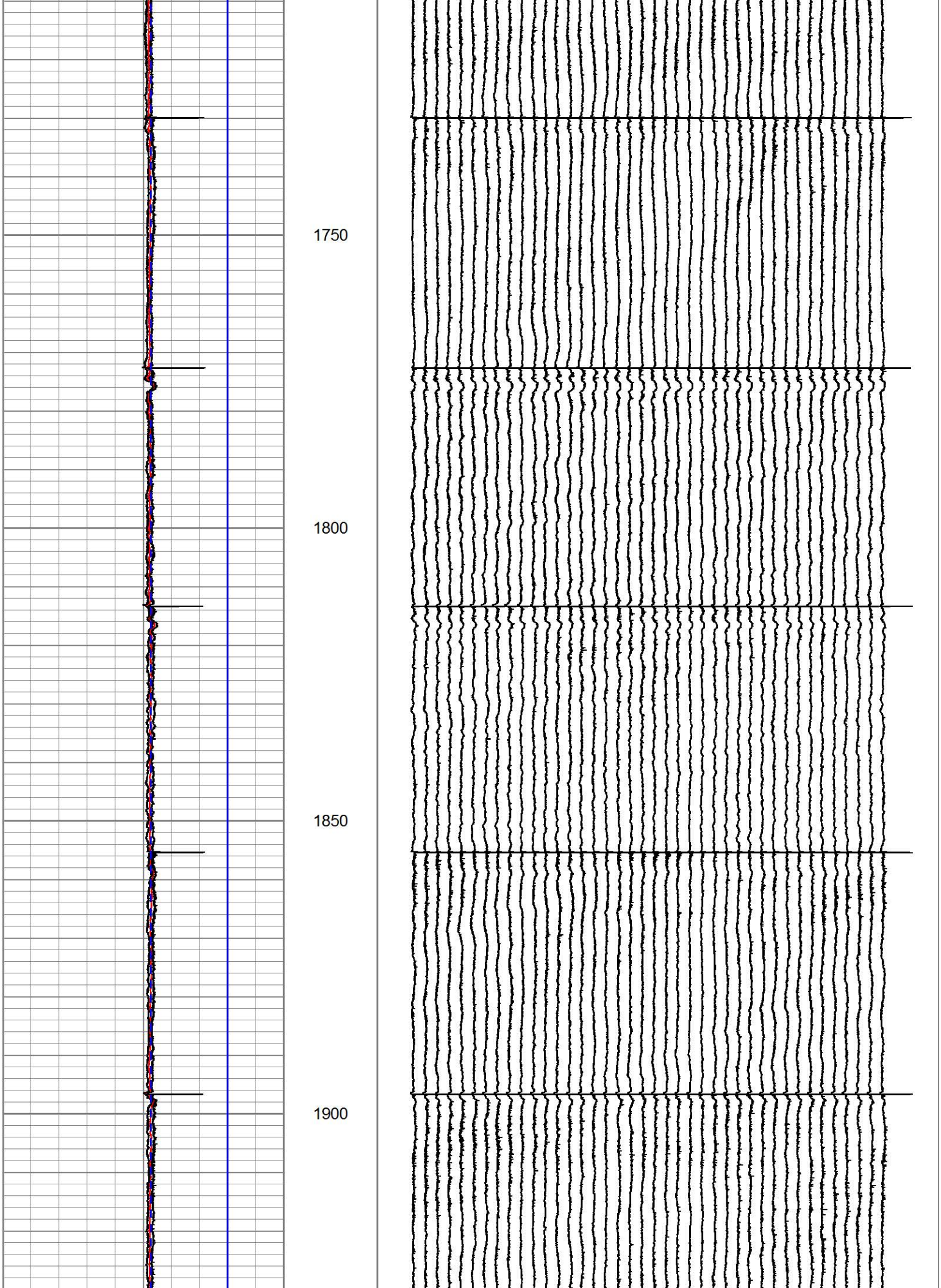

650
700
750
800

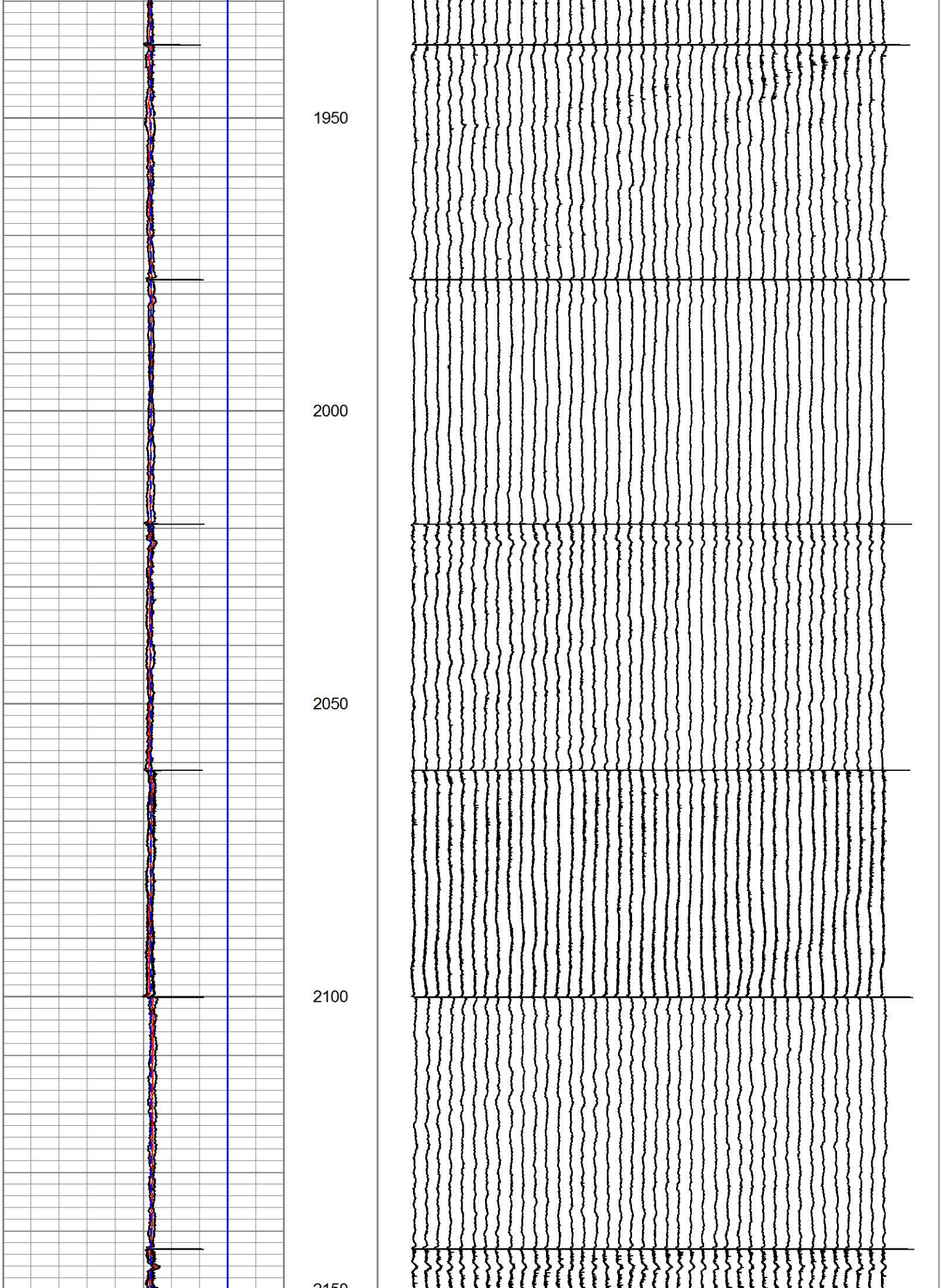

850
900
950
1000
1050

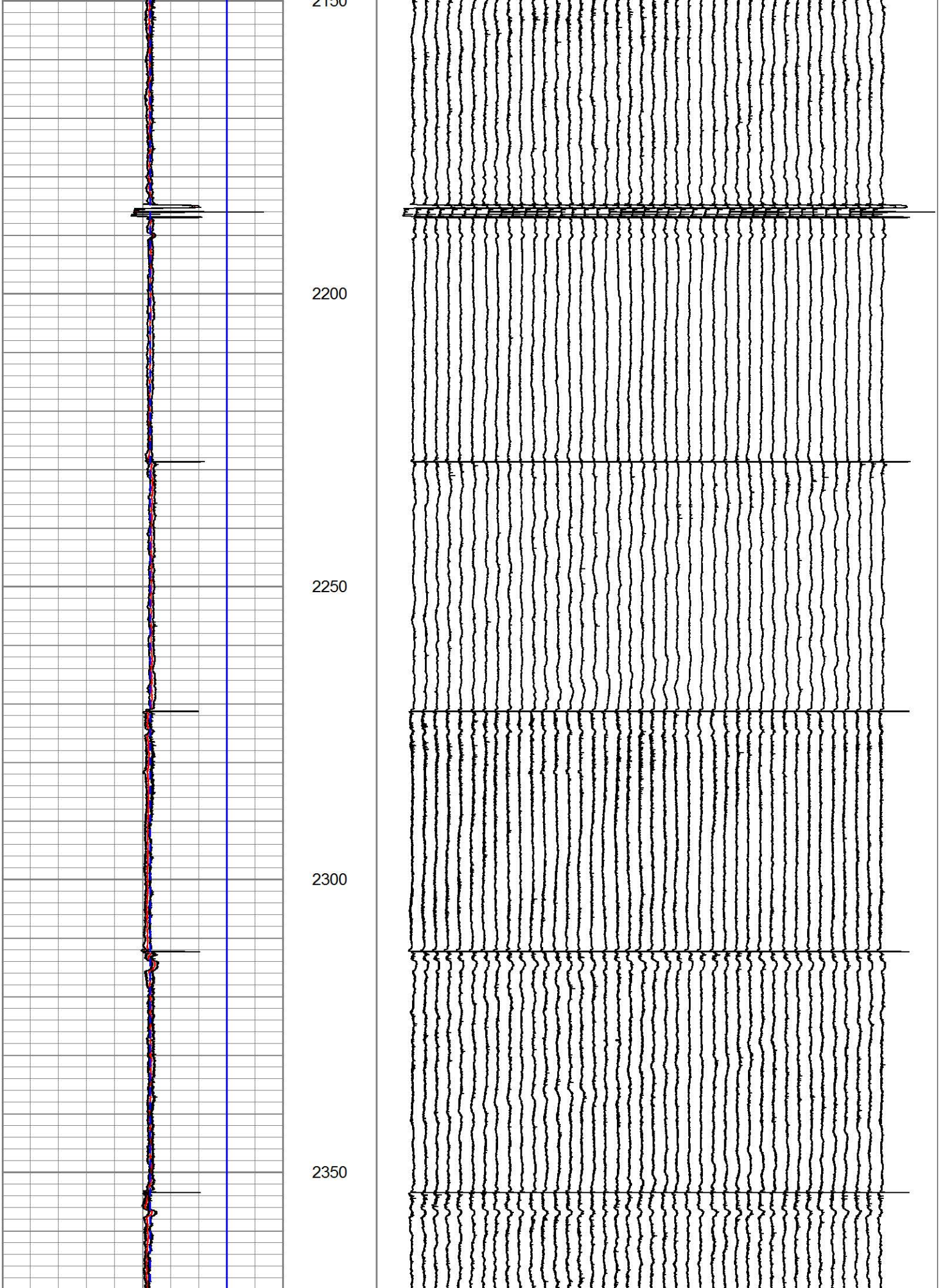

1050
1100
1150
1200
1250

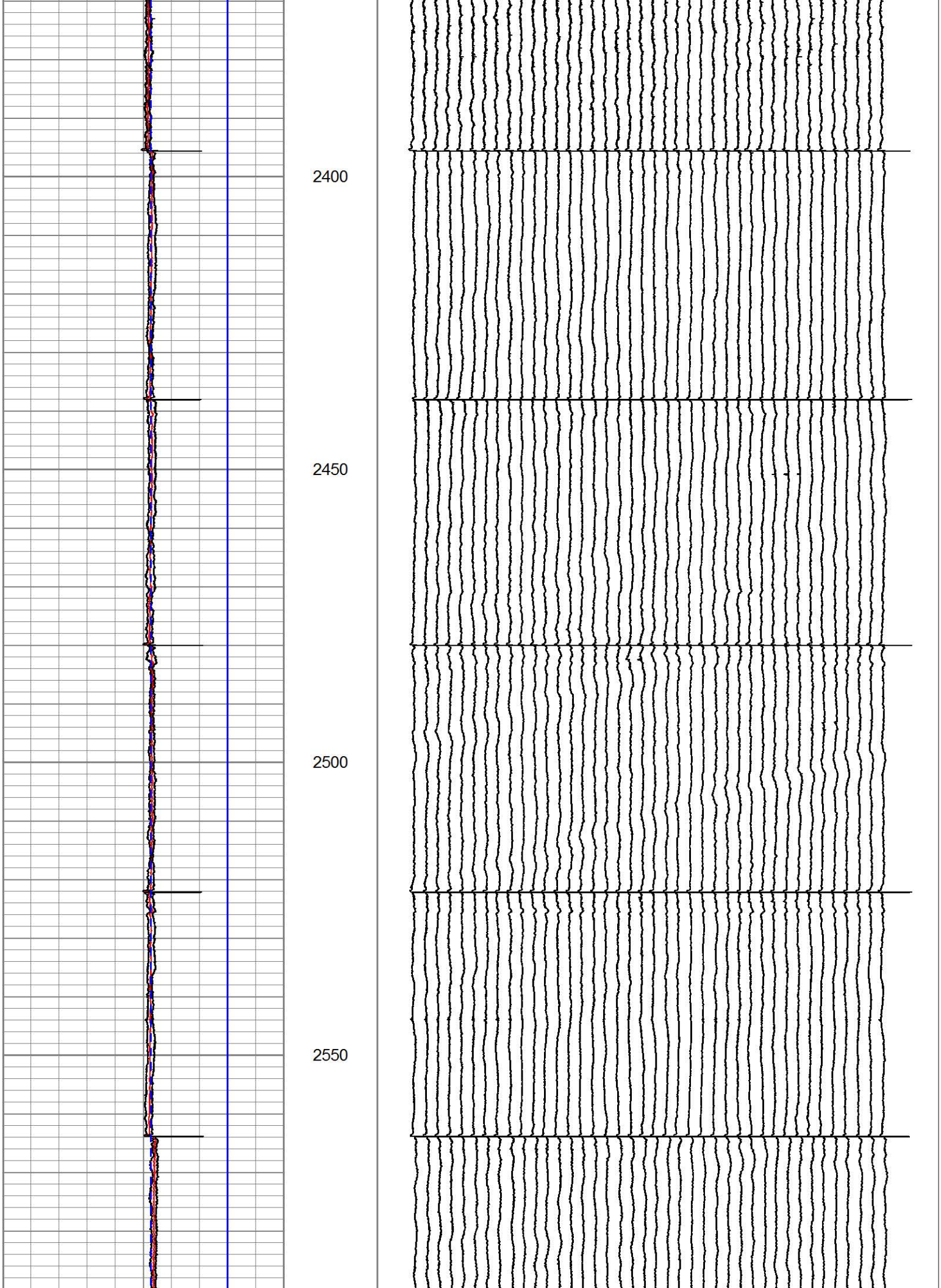

1300
1350
1400
1450

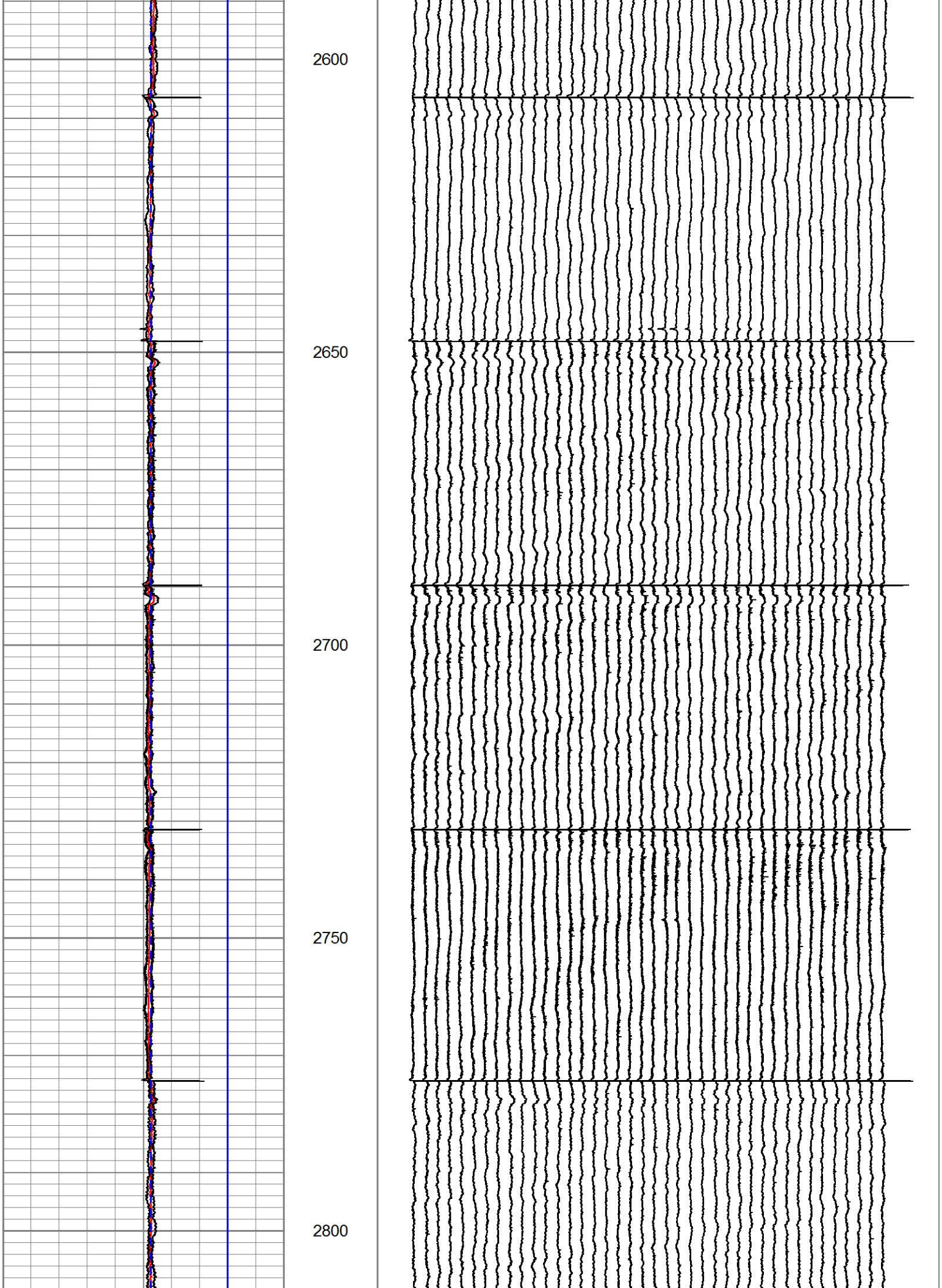

1500
1550
1600
1650
1700

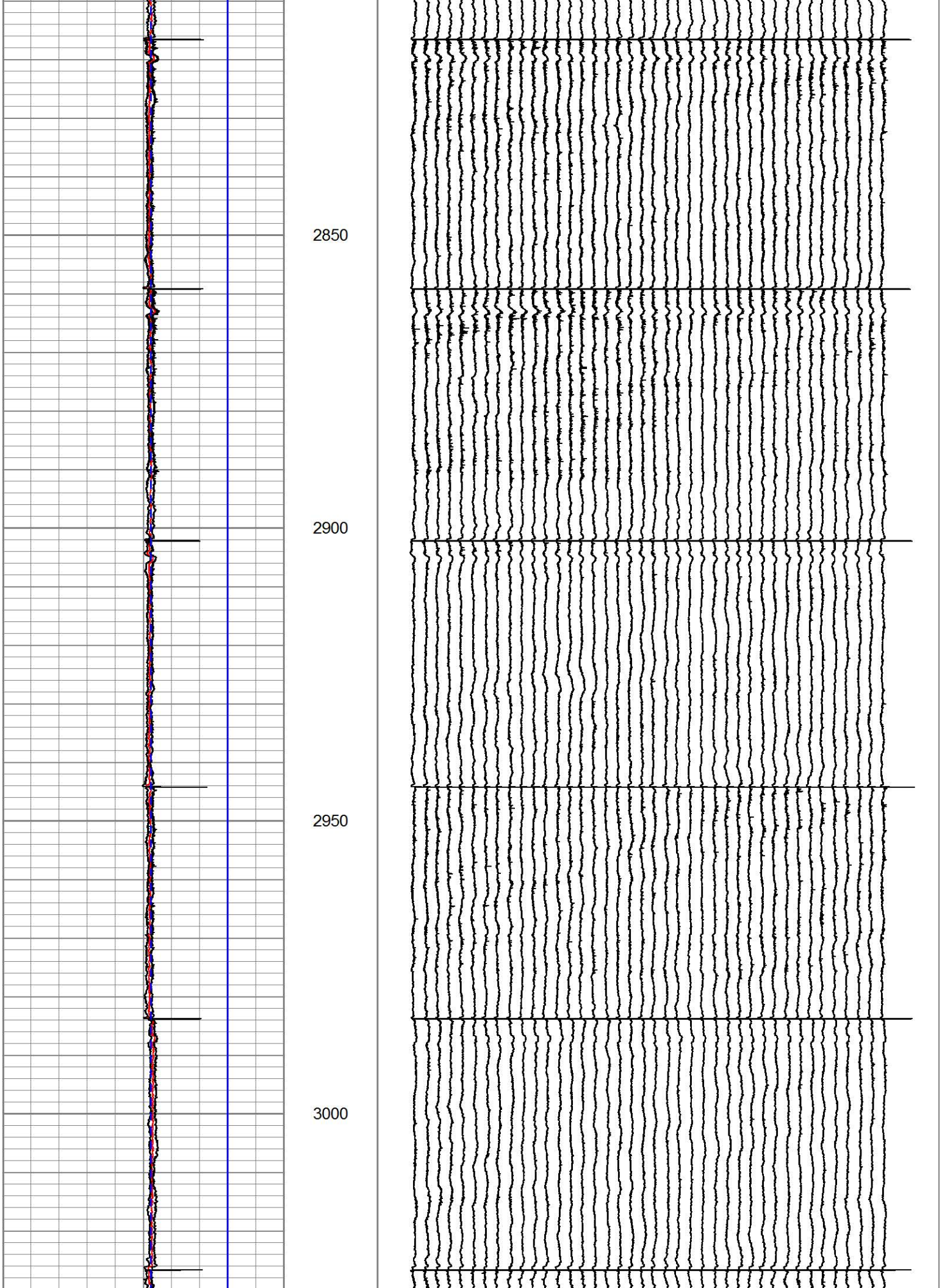

1750
1800
1850
1900

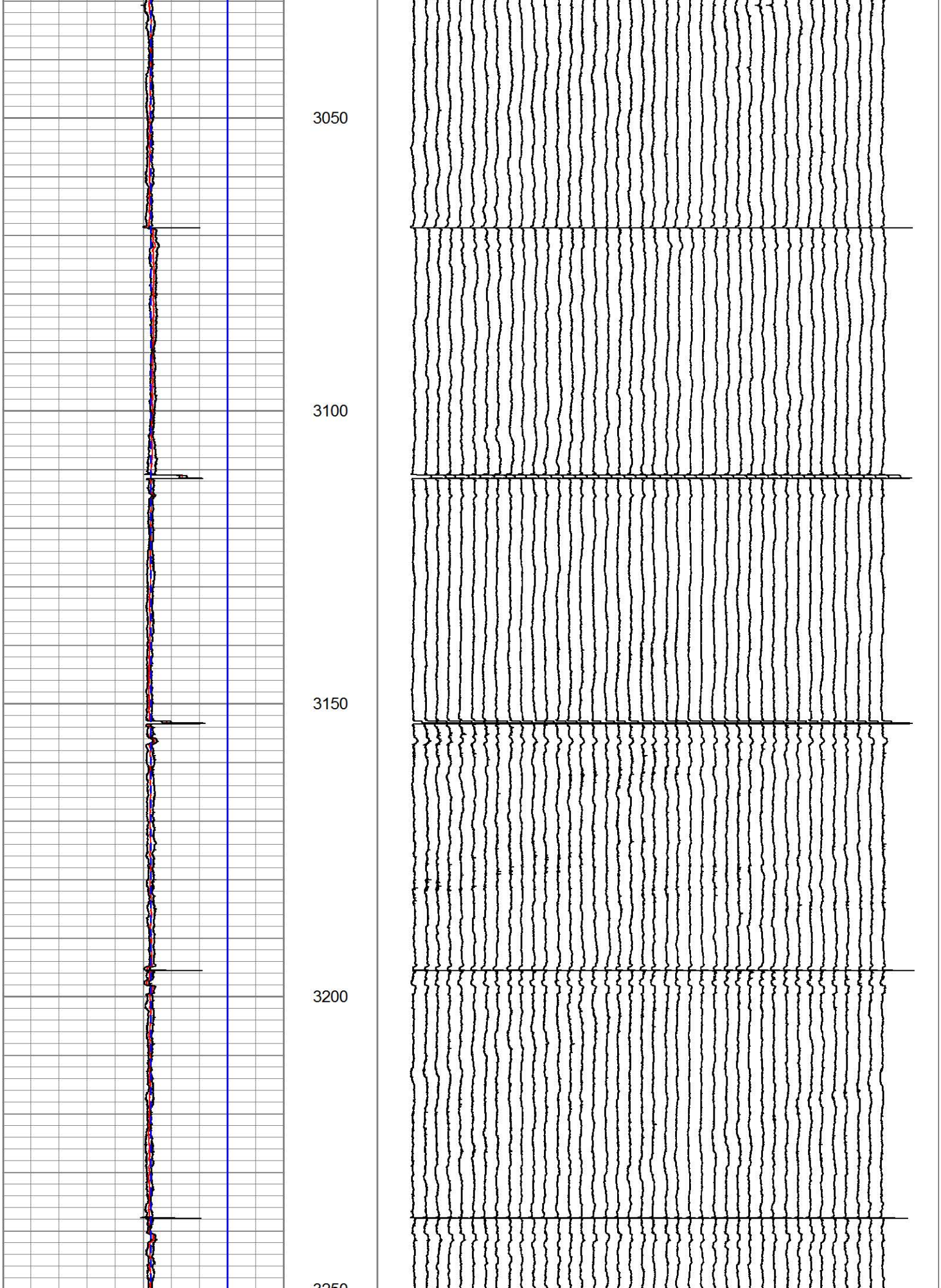

1950
2000
2050
2100
2150

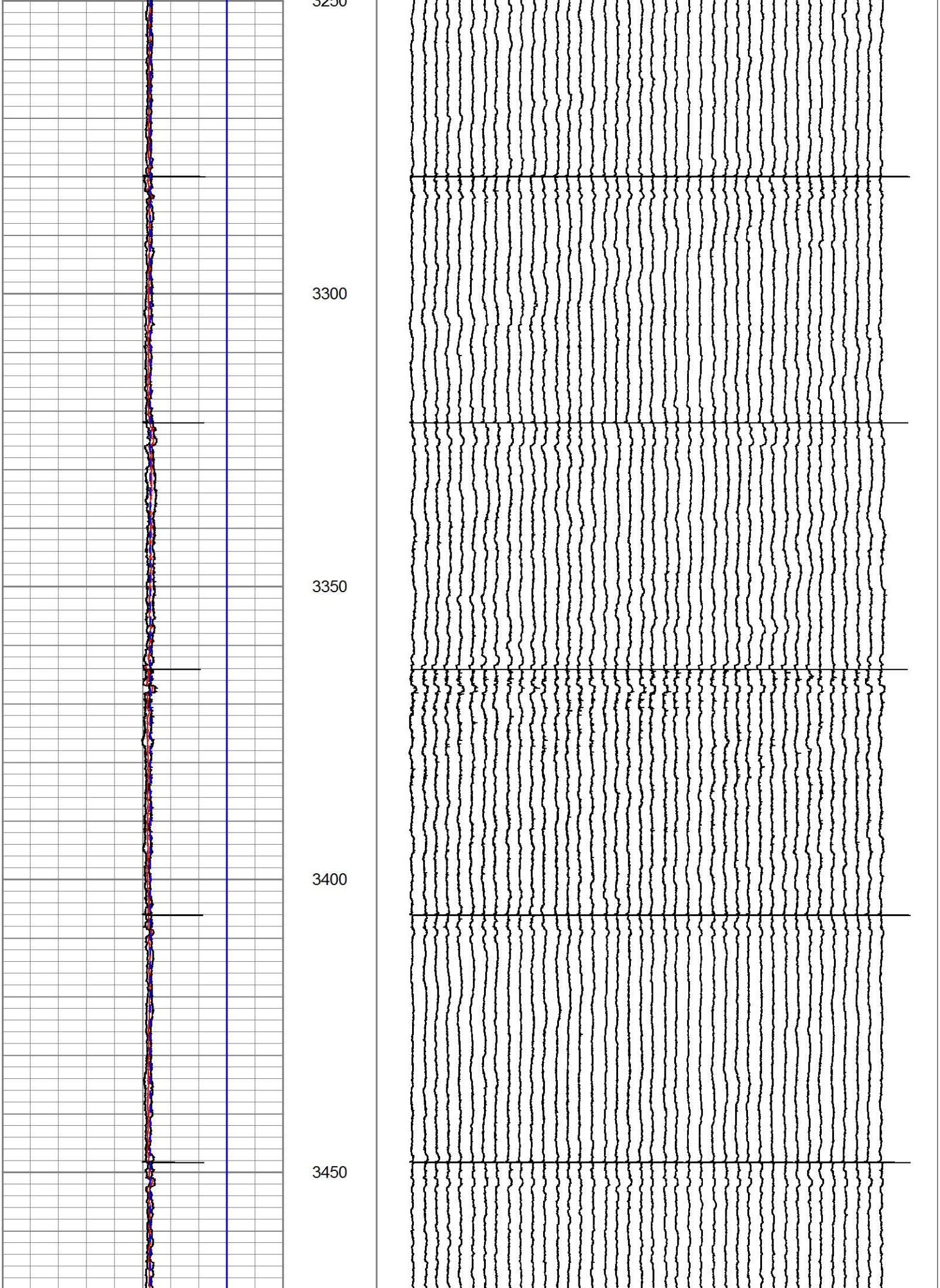

2150
2200
2250
2300
2350

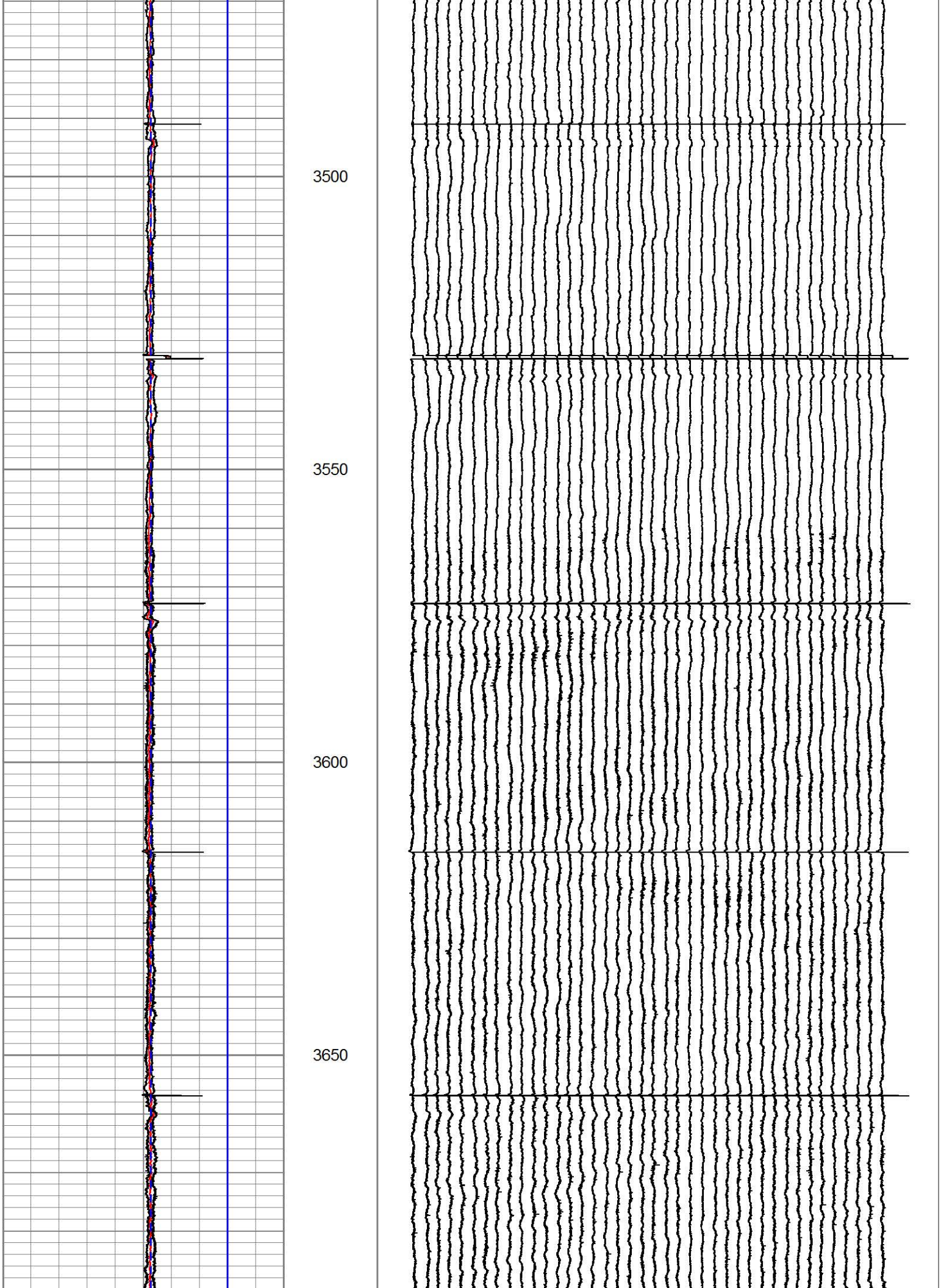

2400
2450
2500
2550

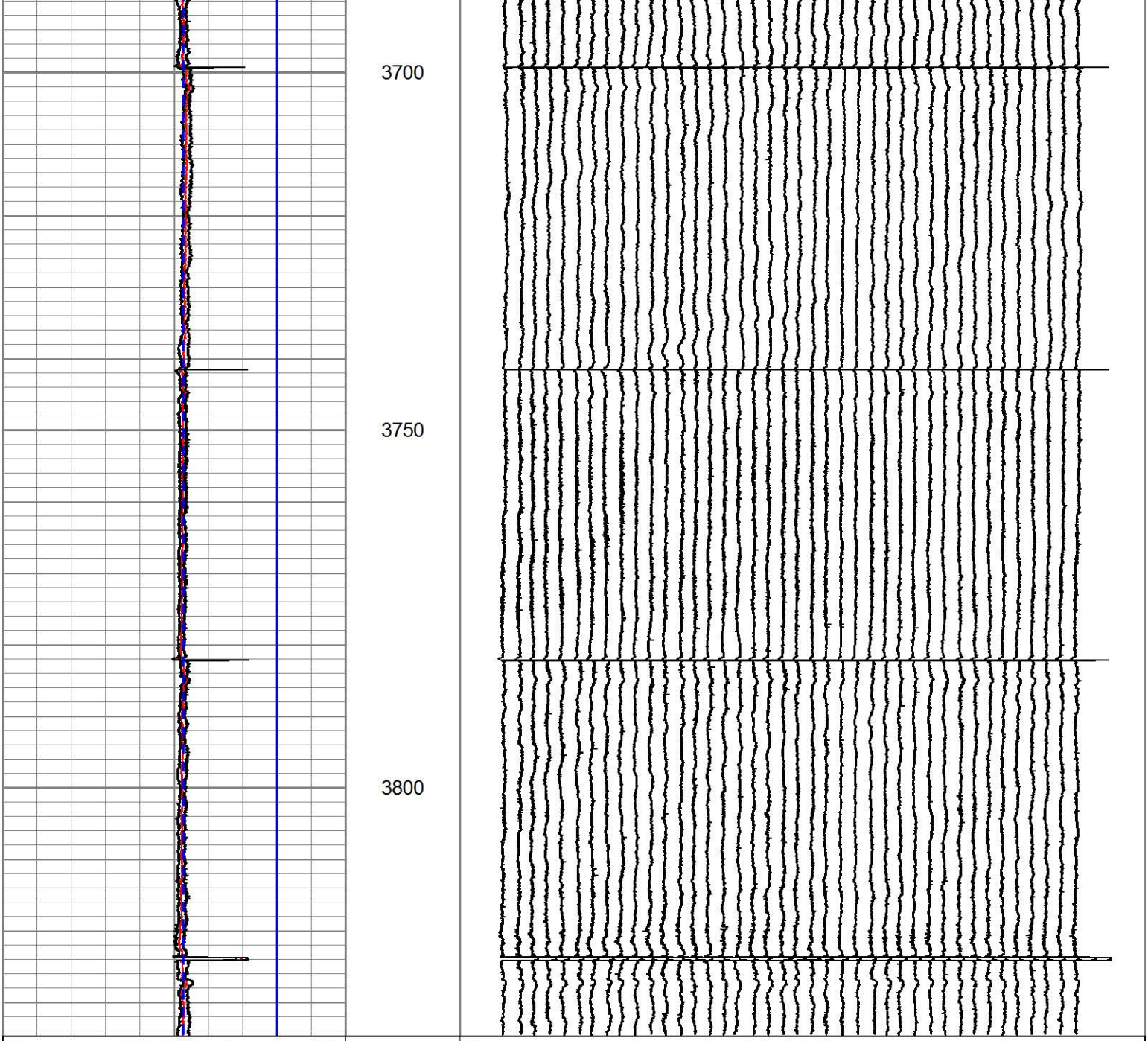

2600
2650
2700
2750
2800


2850
2900
2950
3000


3050
3100
3150
3200
3250


3250
3300
3350
3400
3450


3500
3550
3600
3650



0	LSPD (ft/min)	200
5.4	AVEDIA (in)	7.4
5.4	MAXDIA (in)	7.4
5.4	MINDIA (in)	7.4
5.4	CASEID (in)	7.4
5.4	CASEOD (in)	7.4

3	FING01 (in)	6.5
2.925	FING02 (in)	6.425
0.15	FING39 (in)	3.65
0.075	FING40 (in)	3.575

APPENDIX D

ARCHER
MULTI SENSOR INSPECTION CALIPER LOG

MULTI SENSOR CALIPER LOG

Archer

Company	PROJECT NAVIGATOR
Well	WDW #138
Field	MAHONE FACILITY
County	GALVESTON
State	TEXAS

Company PROJECT NAVIGATOR
Well WDW #138
Field MAHONE FACILITY
County GALVESTON State TEXAS

Location: API # :

Other Services

SEC TWP RGE

Permanent Datum	KB	Elevation 0.0	Elevation K.B. 8'
Log Measured From	KB		D.F.
Drilling Measured From	KB		G.L.

Date	10-JUN-2014
Run Number	ONE
Depth Driller	TD
Depth Logger	4,150'
Bottom Logged Interval	4,150'
Top Log Interval	3,500'
Open Hole Size	N/A
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	115 DEG F
Estimated Cement Top	N/A
Time Well Ready	9:00
Time Logger on Bottom	9:55
Equipment Number	6007
Location	LAFAYETTE, LA
Recorded By	B.HARRIS
Witnessed By	J.HODGES

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String	7"	20 #	SURFACE	TD
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

LOG WAS RUN TO DETERMINE CASING CONDITION ACROSS OBSTRUCTION AT ~4,090'

LOG PARAMETERS SET FOR 20# 7" CASING

CASING SPECS SET TO:

7" 20# 3,500' TO 4,150' MD 6.456" NOM API ID

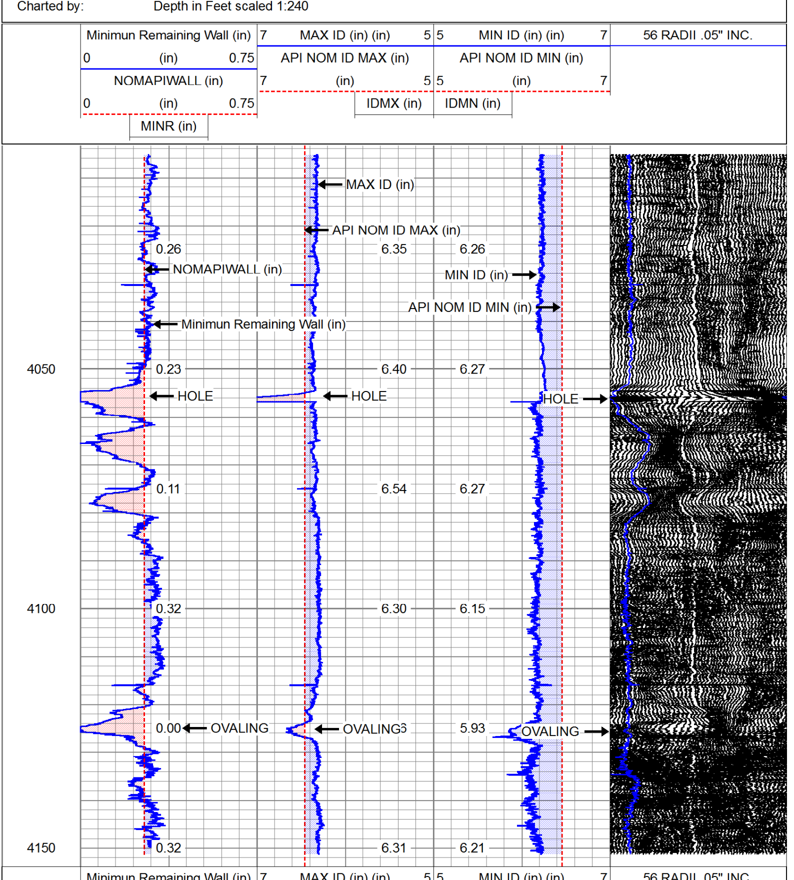
HOLE @ 4,056' OVALING @ 4,125'

Archer

MAIN PASS

Database File:	wdw138_6102014.db
Dataset Pathname:	pass1
Presentation Format:	hw56_70
Dataset Creation:	Tue Jun 10 09:56:17 2014 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

Minimun Remaining Wall (in) 0 (in) 0.75	MAX ID (in) (in) 7 5	MIN ID (in) (in) 5 7	56 RADII .05" INC.
NOMAPIWALL (in) 0 (in) 0.75	API NOM ID MAX (in) 7 (in) 5	API NOM ID MIN (in) 5 (in) 7	
MINR (in)	IDMX (in)	IDMN (in)	



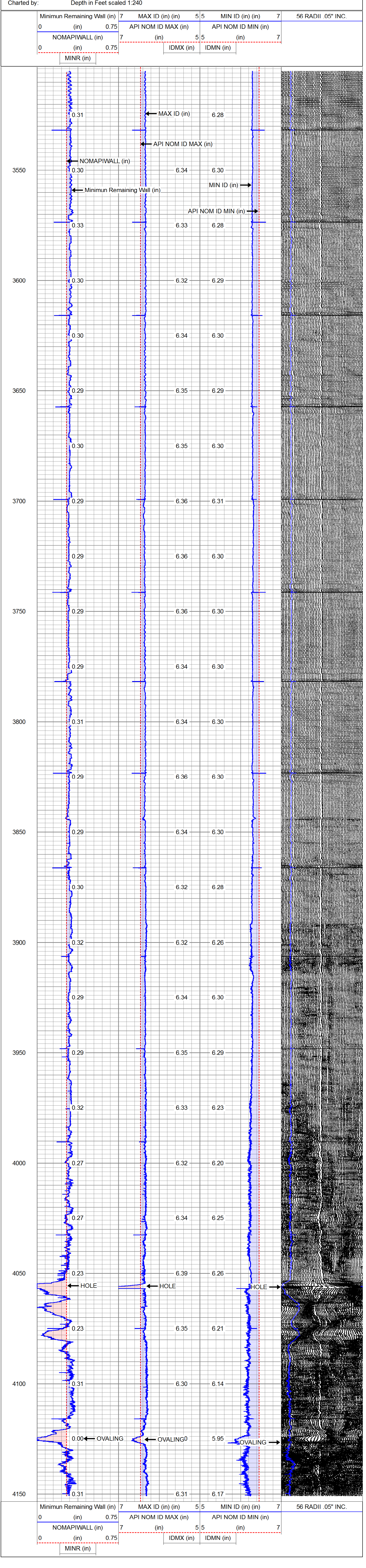
Minimun Remaining Wall (in) 0 (in) 0.75	MAX ID (in) (in) 7 5	MIN ID (in) (in) 5 7	56 RADII .05" INC.
NOMAPIWALL (in) 0 (in) 0.75	API NOM ID MAX (in) 7 (in) 5	API NOM ID MIN (in) 5 (in) 7	
MINR (in)	IDMX (in)	IDMN (in)	

Archer

REPEAT PASS

Database File:	wdw138_6102014.db
Dataset Pathname:	pass2
Presentation Format:	hw56_70
Dataset Creation:	Tue Jun 10 10:08:27 2014 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

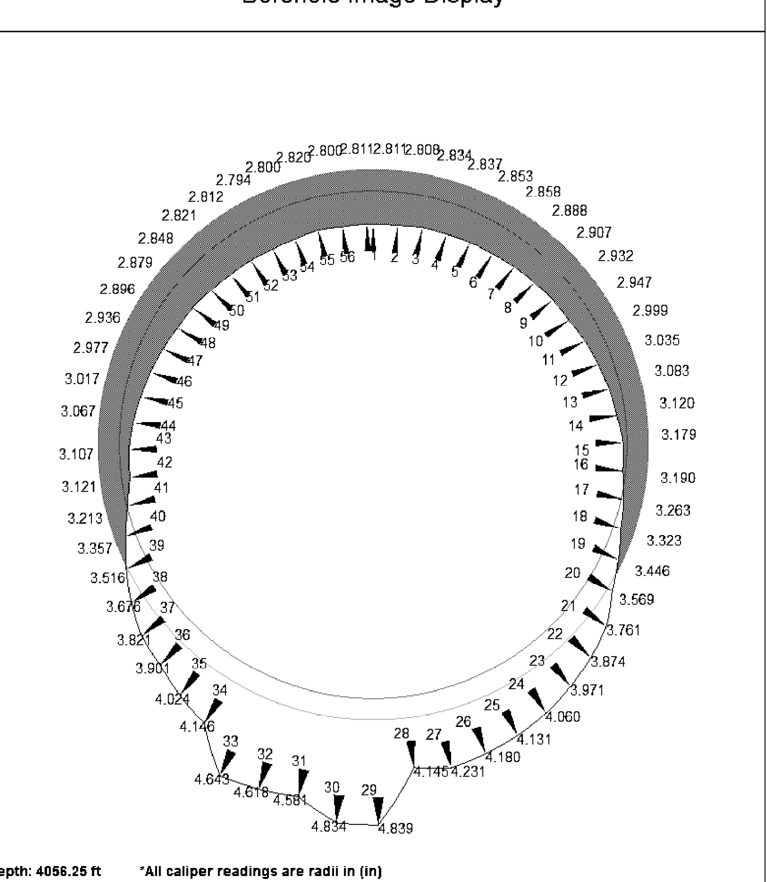
Minimun Remaining Wall (in) 0 (in) 0.75	MAX ID (in) (in) 7 5	MIN ID (in) (in) 5 7	56 RADII .05" INC.
NOMAPIWALL (in) 0 (in) 0.75	API NOM ID MAX (in) 7 (in) 5	API NOM ID MIN (in) 5 (in) 7	
MINR (in)	IDMX (in)	IDMN (in)	



Minimun Remaining Wall (in) 0 (in) 0.75	MAX ID (in) (in) 7 5	MIN ID (in) (in) 5 7	56 RADII .05" INC.
NOMAPIWALL (in) 0 (in) 0.75	API NOM ID MAX (in) 7 (in) 5	API NOM ID MIN (in) 5 (in) 7	
MINR (in)	IDMX (in)	IDMN (in)	

Borehole Image CROSS SECTION

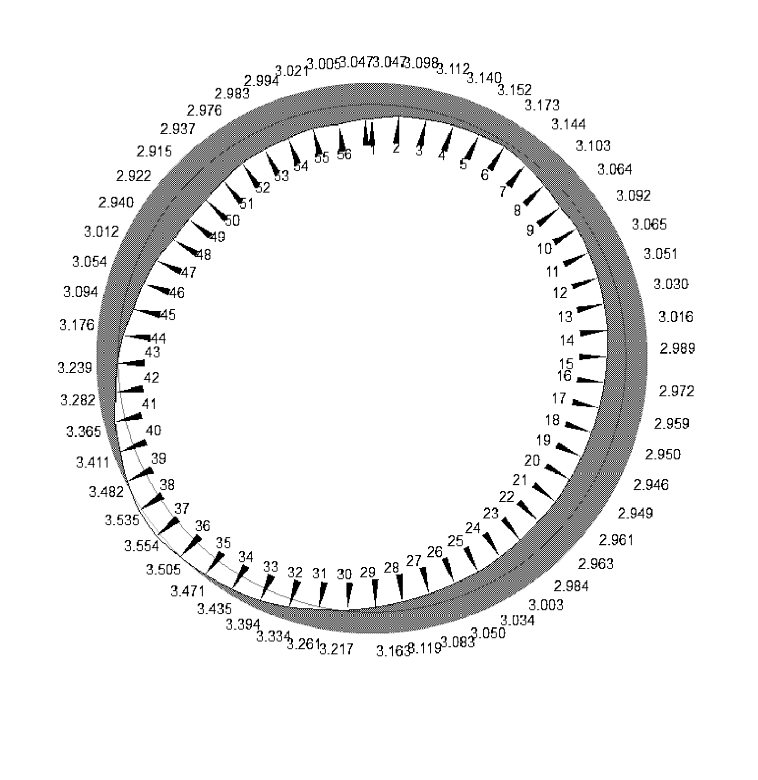
Borehole Image Display



Depth: 4056.25 ft *All caliper readings are radii in (in)

Borehole Image CROSS SECTION

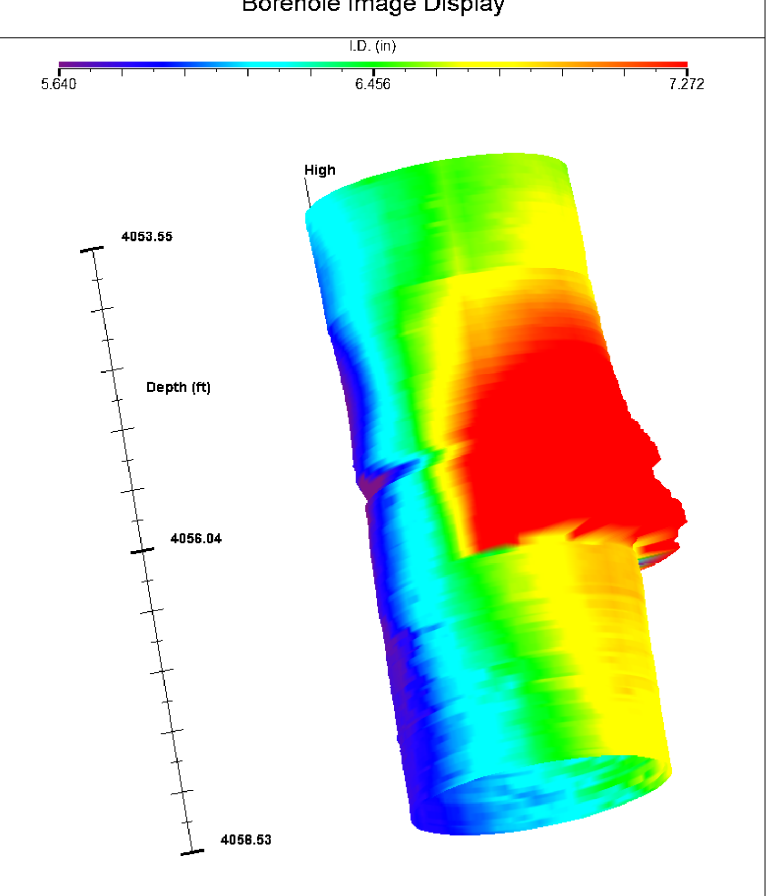
Borehole Image Display

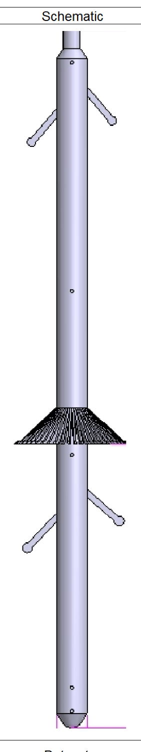


Depth: 4125.42 ft *All caliper readings are radii in (in)

Borehole Image 3D MODEL

Borehole Image Display



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			XIPEMAC-56 (11150) XIPE 56 Arm caliper	6.67	3.60	
Meas	2.38					
Aux1	0.00					

Dataset:	wdw138_6102014.db: field/well/run1/pass1
Total Length:	6.67 ft
Total Weight:	lb
O.D.	3.60 in

Calibration Report

Database File:	wdw138_6102014.db
Dataset Pathname:	pass1
Dataset Creation:	Tue Jun 10 09:56:17 2014 by Log 7.0 B1

56 Arm Multi Sensor Caliper Calibration Report

Serial Number:	11150
Tool Model:	56
Performed:	Tue Jun 10 09:22:30 2014

Ref ID:	4.50	5.00	6.00	7.00	8.00	in
Arm1	2.29	2.53	3.02	3.52	4.02	
Arm2	2.30	2.55	3.04	3.54	4.04	
Arm3	2.26	2.52	3.01	3.52	4.01	
Arm4	2.30	2.55	3.05	3.55	4.04	
Arm5	2.26	2.51	3.00	3.50	3.99	
Arm6	2.31	2.56	3.06	3.55	4.05	
Arm7	2.34	2.58	3.08	3.57	4.06	
Arm8	2.28	2.53	3.03	3.52	4.03	
Arm9	2.30	2.55	3.04	3.53	4.03	
Arm10	2.29	2.54	3.04	3.54	4.03	
Arm11	2.26	2.53	3.02	3.51	4.01	
Arm12	2.29	2.55	3.05	3.54	4.04	
Arm13	2.24	2.50	3.00	3.49	3.99	
Arm14	2.26	2.52	3.02	3.52	4.02	
Arm15	2.25	2.51	3.01	3.50	4.00	
Arm16	2.24	2.50	3.00	3.49	4.00	
Arm17	2.28	2.54	3.03	3.53	4.03	
Arm18	2.23	2.49	2.99	3.48	3.98	
Arm19	2.29	2.55	3.05	3.54	4.04	
Arm20	2.24	2.50	3.00	3.49	3.99	
Arm21	2.25	2.51	3.01	3.50	4.00	
Arm22	2.26	2.52	3.02	3.51	4.01	
Arm23	2.27	2.53	3.02	3.52	4.02	
Arm24	2.29	2.55	3.04	3.54	4.04	
Arm25	2.27	2.52	3.02	3.52	4.02	
Arm26	2.24	2.50	3.00	3.50	4.00	
Arm27	2.28	2.54	3.03	3.53	4.03	
Arm28	2.25	2.51	3.01	3.51	4.01	
Arm29	2.25	2.51	3.01	3.50	4.01	
Arm30	2.28	2.54	3.04	3.52	4.03	

* Bad

Calibration Report

Serial Number:
Tool Model:
Performed:

Ref ID:	4.50	5.00	6.00	7.00	8.00	in
Arm31	2.27	2.53	3.03	3.53	4.03	
Arm32	2.30	2.56	3.05	3.55	4.05	
Arm33	2.26	2.52	3.02	3.52	4.02	
Arm34	2.27	2.52	3.02	3.52	4.02	
Arm35	2.29	2.55	3.05	3.54	4.05	
Arm36	2.26	2.52	3.02	3.51	4.02	
Arm37	2.22	2.48	2.97	3.47	3.96	
Arm38	2.28	2.53	3.03	3.53	4.03	
Arm39	2.25	2.50	3.00	3.50	4.00	
Arm40	2.27	2.52	3.02	3.52	4.02	
Arm41	2.30	2.55	3.05	3.54	4.05	
Arm42	2.30	2.55	3.04	3.54	4.04	
Arm43	2.29	2.54	3.03	3.53	4.02	
Arm44	2.29	2.54	3.03	3.54	4.03	
Arm45	2.27	2.52	3.02	3.52	4.02	
Arm46	2.28	2.52	3.02	3.52	4.02	
Arm47	2.32	2.57	3.06	3.55	4.04	
Arm48	2.29	2.53	3.03	3.53	4.03	
Arm49	2.25	2.50	3.00	3.50	3.99	
Arm50	2.29	2.53	3.04	3.54	4.03	
Arm51	2.27	2.52	3.02	3.52	4.01	
Arm52	2.25	2.50	3.00	3.51	4.00	
Arm53	2.24	2.49	2.99	3.49	3.99	
Arm54	2.28	2.53	3.04	3.54	4.04	
Arm55	2.25	2.50	3.01	3.51	3.99	
Arm56	2.24	2.49	2.99	3.50	3.99	

* Bad

XIPE verifications Calibration Report

	Pre Verification	Post Verification	Casing Check	
Performed:	Tue Jun 10 09:25:13 2014			
Ref ID:	7.00	0.00	0.00	in
Min.	6.99	0.00	0.00	in
Max.	7.01	0.00	0.00	in
Avg.	7.00	0.00	0.00	in
Dia1	7.00	0.00	0.00	in
Dia2	7.01	0.00	0.00	in
Dia3	6.99	0.00	0.00	in
Dia4	7.00	0.00	0.00	in
Dia5	7.00	0.00	0.00	in
Dia6	7.00	0.00	0.00	in
Dia7	7.00	0.00	0.00	in
Dia8	7.00	0.00	0.00	in
Dia9	7.00	0.00	0.00	in
Dia10	7.00	0.00	0.00	in
Dia11	7.00	0.00	0.00	in
Dia12	7.00	0.00	0.00	in
Dia13	7.00	0.00	0.00	in
Dia14	7.00	0.00	0.00	in
Dia15	7.00	0.00	0.00	in
Dia16	7.00	0.00	0.00	in
Dia17	7.00	0.00	0.00	in
Dia18	7.00	0.00	0.00	in
Dia19	7.01	0.00	0.00	in
Dia20	7.00	0.00	0.00	in
Dia21	7.00	0.00	0.00	in
Dia22	7.00	0.00	0.00	in
Dia23	7.00	0.00	0.00	in
Dia24	7.00	0.00	0.00	in
Dia25	7.00	0.00	0.00	in
Dia26	6.99	0.00	0.00	in
Dia27	6.99	0.00	0.00	in
Dia28	7.00	0.00	0.00	in

Log Variables

Database:C:\Warrior\Data\wdw138_6102014.db
Dataset: field/well/run1/pass1

Top - Bottom

minAPIwall in	CASEID in	CASEOD in	NomAPIWall in	TDEPTH ft	BOTTEMP degF	BOREID in
0	6.456	7	0.272	0	100	7.875

Archer

Company	PROJECT NAVIGATOR
Well	WDW #138
Field	MAHONE FACILITY
County	GALVESTON
State	TEXAS

APPENDIX E

5-INCH LINER TALLY

Project Navigator, Ltd. - Texas City, Texas - Plant Well No. 2 (WDW-138)

5-inch Liner Tally

"Tally" as picked up and run in wellbore on June 26, 2014

Item No.	Description	Measured Length * (ft.)	Cum. Length (ft.)	Joint End Depth (ft.)	Joint Top Depth (ft.)
1	2-7/8" Mule Shoe Guide	9.23	9.23	4,330.73	4,321.50
2	5" LTC to 2-7/8" Xover	1.02	10.25	4,321.50	4,320.48
3	Float Collar	1.10	11.35	4,320.48	4,319.38
4	5" 18# P-110	41.22	52.57	4,319.38	4,278.16
5	Landing Collar	1.05	53.62	4,278.16	4,277.11
6	5" 18# P-110	40.33	93.95	4,277.11	4,236.78
7	5" 18# P-110	41.37	135.32	4,236.78	4,195.41
8	5" 18# P-110	41.33	176.65	4,195.41	4,154.08
9	5" 18# P-110	41.28	217.93	4,154.08	4,112.80
10	5" 18# P-110	41.50	259.43	4,112.80	4,071.30
11	5" 18# P-110	41.37	300.80	4,071.30	4,029.93
12	5" 18# P-110	41.53	342.33	4,029.93	3,988.40
13	5" 18# P-110	41.23	383.56	3,988.40	3,947.17
14	5" 18# P-110	41.23	424.79	3,947.17	3,905.94
15	5" 18# P-110	40.84	465.63	3,905.94	3,865.10
16	5" 18# P-110	41.41	507.04	3,865.10	3,823.69
17	5" 18# P-110	41.11	548.15	3,823.69	3,782.58
18	5" 18# P-110	40.58	588.73	3,782.58	3,742.00
19	5" 18# P-110	41.51	630.24	3,742.00	3,700.49
20	5" 18# P-110	41.55	671.79	3,700.49	3,658.94
21	5" 18# P-110	40.96	712.75	3,658.94	3,617.98
22	5" 18# P-110	41.56	754.31	3,617.98	3,576.42
23	5" 18# P-110	41.28	795.59	3,576.42	3,535.14
24	5" 18# P-110	41.30	836.89	3,535.14	3,493.84
25	5" 18# P-110	41.45	878.34	3,493.84	3,452.39
26	5" 18# P-110	41.26	919.60	3,452.39	3,411.13
27	5" 18# P-110	40.53	960.13	3,411.13	3,370.60
28	TIW Liner Hanger	7.20	967.33	3,370.60	3,363.40
29	TIW Setting Tool	23.48	990.81	3,363.40	3,339.92
30	98 Joints - 2-7/8" Workstring	3,077.38	4,068.19	3,339.92	262.54
31	Pup Joint - 2-7/8" Workstring	8.00	4,076.19	262.54	254.54
32	8 Drill Collars - 4-3/4"	246.54	4,322.73	254.54	8.00
33	Elevation Correction (RKB)	8.00	4,330.73	8.00	0.00

APPENDIX F

PIONEER WELL SERVICE
CEMENT BOND LOG

PIONEER

Pioneer Energy Services

SECTOR BOND LOG

Company	PROJECT NAVIGATOR, LTD
Well	WDW # 138
Field	MALONE FACILITY
County	GALVESTON
State	TEXAS

Location: API #:

Other Services

	SEC	TWP	RGE	Elevation		Elevation
Permanent Datum		GL			K B	
Log Measured From		KB	8'		D F	
Drilling Measured From		GL			G L	

Date of Service	JULY 2, 2014
Run Number	ONE
Depth Driller or PBTD	N/A
Depth Logger	4316'
Bottom Log Interval	4303'
Top Log Interval	3280'
Open Hole Size	N/A
Type Fluid	BRINE
Fluid Level	FULL
Fluid Density	9#
Max. Recorded Temperature	102'
Max. Wellhead Pressure	0 PSI
Wellhead Connection	7 1/16 5K
Estimated Cement Top	3500'
Unit Number	P-79
Wireline Size	9/32
Location	HOUSTON,TX
Recorded By	C HERNANDEZ
Witnessed By	JONATHAN

	Size	Wt/Ft	Top	Bottom
Tubing Record				
Surface Casing				
Production Casing	7"	20#	SURFACE	TD
Liner Record	5"	18#	3365'	TD

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy, or correctness of any interpretation and Pioneer Wireline Services, LLC will not 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

Company PROJECT NAVIGATOR, LTD
Well WDW # 138
Field MALONE FACILITY
County GALVESTON
State TEXAS

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

THANK YOU FOR USING PIONEER ENERGY SERVICES

Your Pioneer ENERGY Services Crew	Tool Data - Services	Serial Number
Engineer: C.HERNANDEZ		
Operator: C.AUER		
Operator: V.BROOKS		
Operator:		

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
CCL	20.36		CCL-275tekco (IBYG3-02) Tekco 2 3/4" 450 Deg. F Rare Earth Magnets	1.83	2.75	33.00
			Tek-2.75 2 3/4" Tekco Adjustable Centralizer	2.73	2.75	25.00
TEMP	12.77					
WVFS8	11.48		SCBLTEKSECT-Hightemp275 (IDDF2-01) TekCo 2 3/4" High Temp Sector Tool with Temperature	10.55	2.75	102.00
WVFS7	11.48					
WVFS6	11.48					
WVFS5	11.48					
WVFS4	11.48					
WVFS3	11.48					
WVFS2	11.48					
WVFS1	11.48					
WVF3FT	10.73					
WVF5FT	9.73					
WVFSYNC	6.40					
WVFTEMP	6.40					
WVFCAL	6.40					
			Tek-2.75 2 3/4" Tekco Adjustable Centralizer	2.73	2.75	25.00

		GR-Tek-Co 2 3/4 (IBQT9-04) 2 3/4 400 Deg Logging Gamma Ray	3.67	2.75	40.00
GR	1.04				

Dataset: 722014.db: field/well/run1/pass5
Total length: 21.51 ft
Total weight: 225.00 lb
O.D.: 2.75 in

Calibration Report

Database File 722014.db
Dataset Pathname pass5
Dataset Creation Wed Jul 02 10:23:12 2014

Gamma Ray Calibration Report

Serial Number:	IBQT9-04	
Tool Model:	Tek-Co 2 3/4	
Performed:	Tue Jan 05 17:12:03 2010	
Calibrator Value:	350.0	cps
Background Reading:	0.0	cps
Calibrator Reading:	420.0	cps
Sensitivity:	0.8333	cps/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	IDDF2-01	
Tool Model:	Hightemp275	
Calibration Casing Diameter:	5.000	in
Calibration Depth:	3453.683	ft

Master Calibration, performed Wed Jul 02 10:01:46 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.007	0.493	0.500	76.186	151.417	1.585
CAL	0.276	0.294				
5'	-0.006	0.598	0.500	76.186	125.493	1.195
SUM						
S1	-0.008	0.350	2.000	100.000	273.718	4.142
S2	-0.007	0.362	2.000	100.000	265.877	3.847
S3	-0.008	0.384	2.000	100.000	249.601	4.081
S4	-0.006	0.441	2.000	100.000	219.097	3.361
S5	-0.005	0.428	2.000	100.000	226.044	3.153
S6	-0.006	0.437	2.000	100.000	221.222	3.253
S7	-0.006	0.403	2.000	100.000	239.432	3.423

S8	0.011	0.415	2.000	100.000	242.513	-0.650

Internal Reference Calibration. performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.276	0.294	1.000	0.000

Air Zero Calibration. performed (Not Performed):

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Temperature Calibration Report

Serial Number:	IDDF2-01
Tool Model:	Hightemp275
Performed:	(Not Performed)

	Reference		Reading	
Low Reference:	0.00	degF	0.00	usec
High Reference:	1.00	degF	1.00	usec

Gain:	1.00
Offset:	0.00
Delta Spacing	1

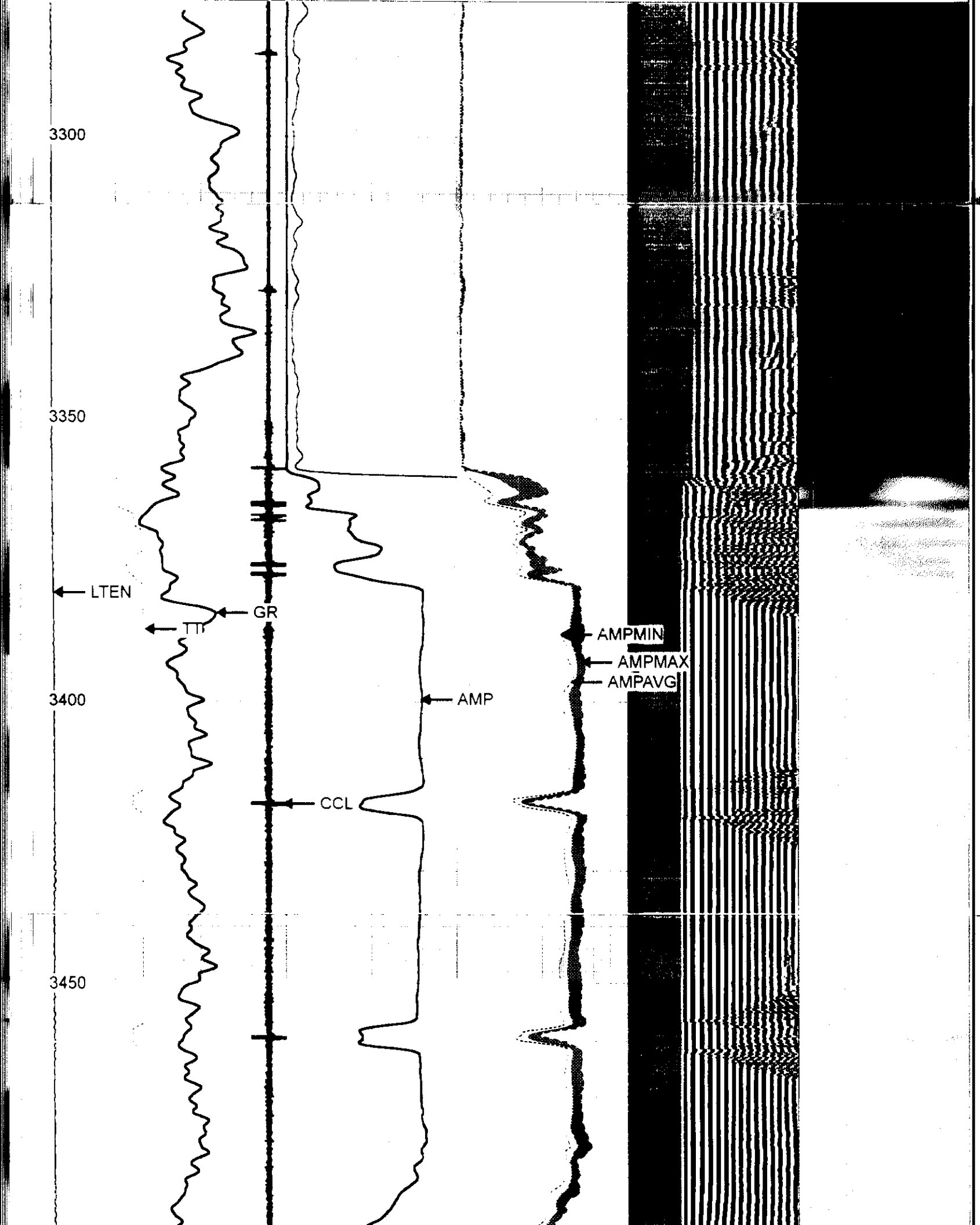
PIONEER

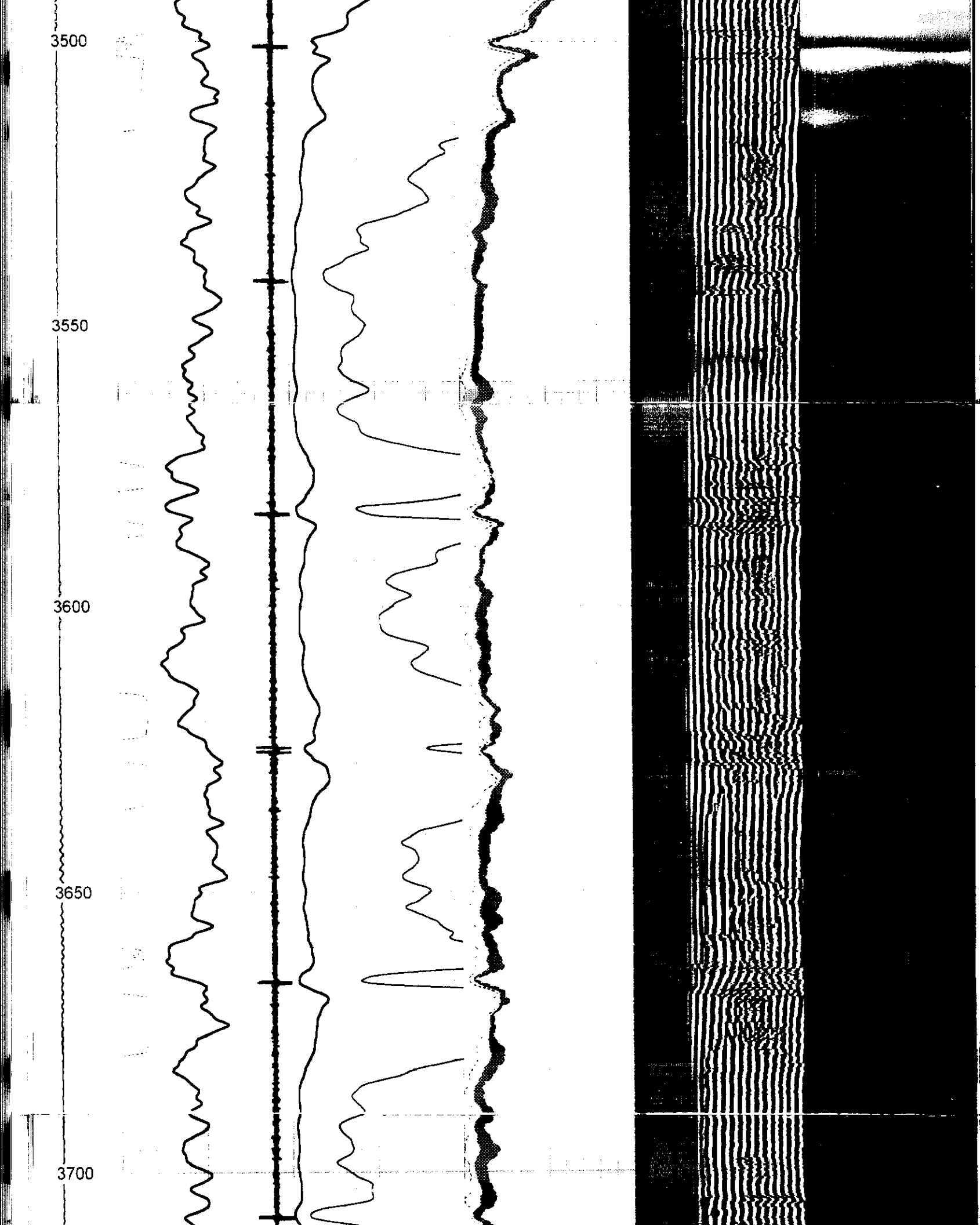
MAIN PASS

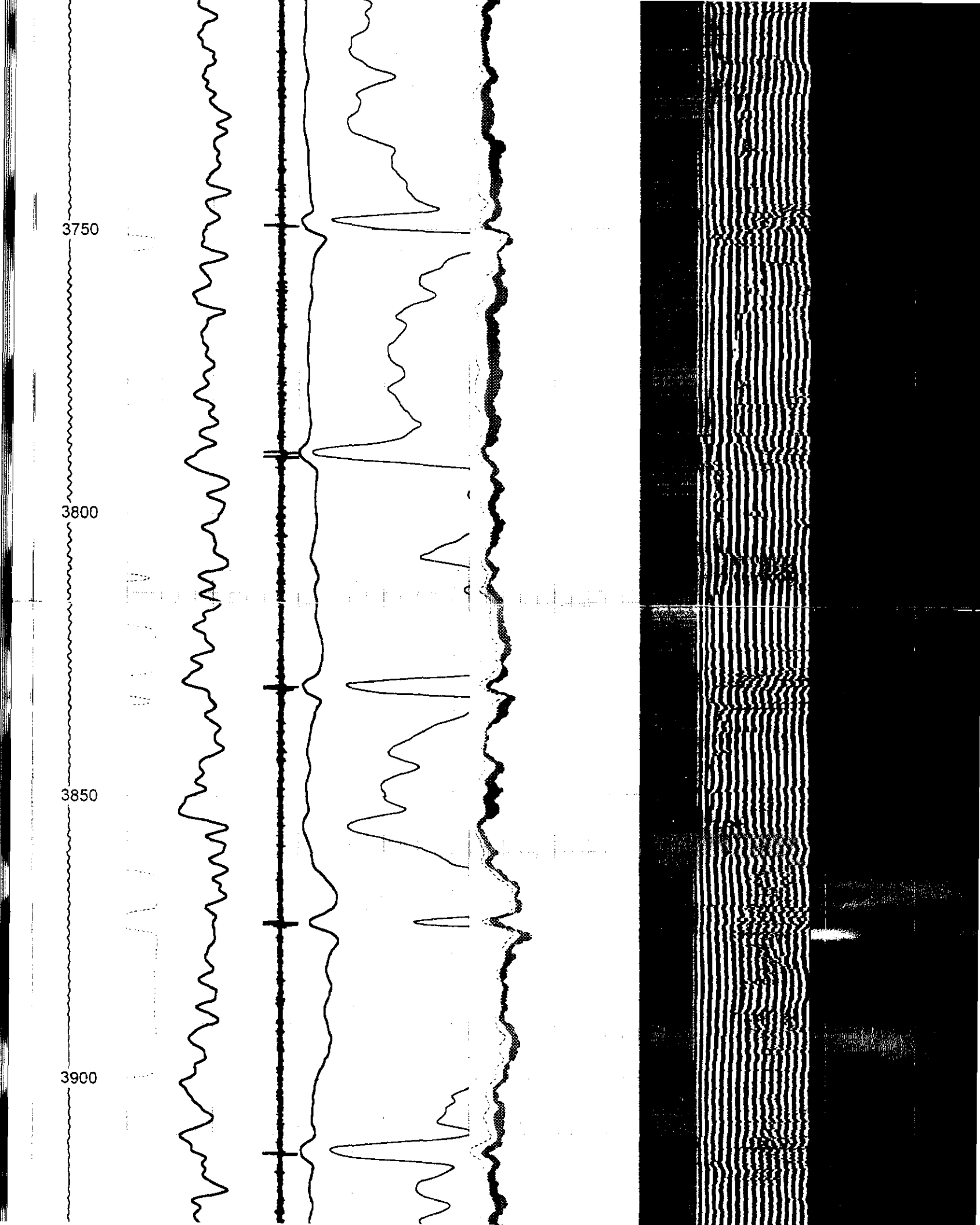
0 PSI

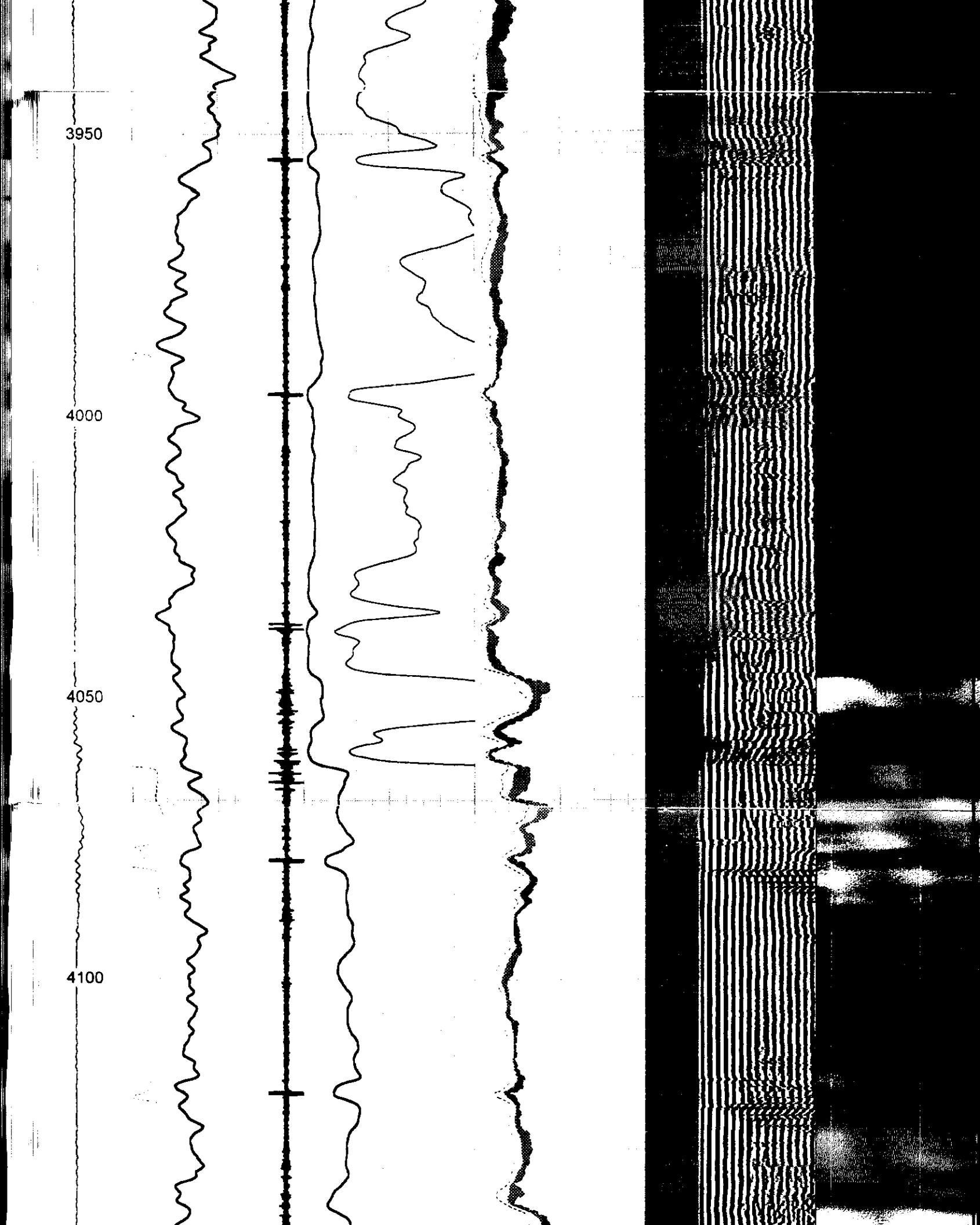
Database File	722014.db
Dataset Pathname	pass5
Presentation Format	scbl
Dataset Creation	Wed Jul 02 10:23:12 2014
Charted by	Depth in Feet scaled 1:240

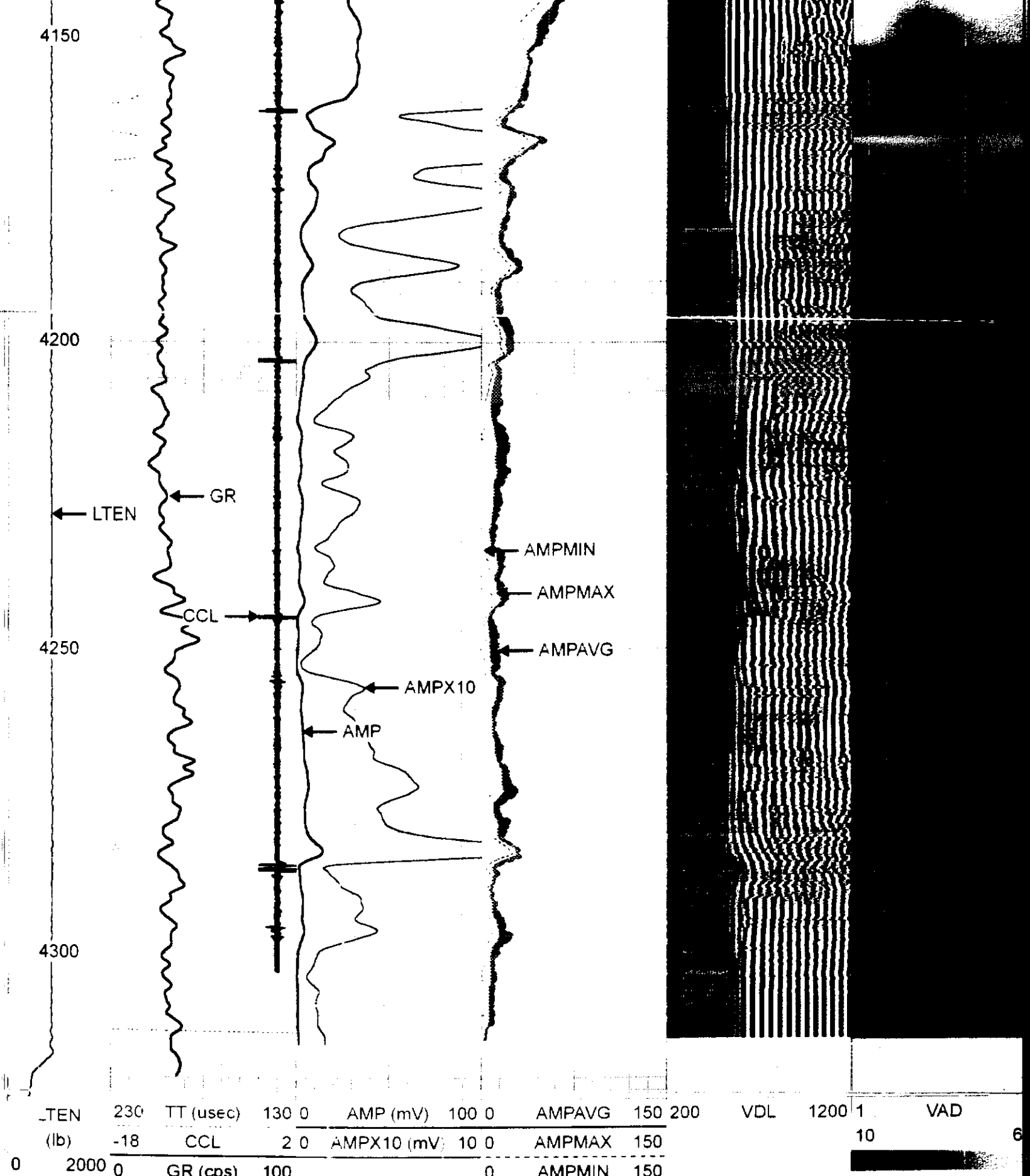
_TEN	230	TT (usec)	130	0	AMP (mV)	100	0	AMPAVG	150	200	VDL	1200	1	VAD	8
(lb)	-18	CCL	2	0	AMPX10 (mV)	10	0	AMPMAX	150				10		60
0 2000	0	GR (cps)	100				0	AMPMIN	150						


3300
3350
3400
3450
LTEN
GR
TTI
AMP
CCL
AMPMIN
AMPMAX
AMPAVG


3500
3550
3600
3650
3700


3750
3800
3850
3900


3950
4000
4050
4100



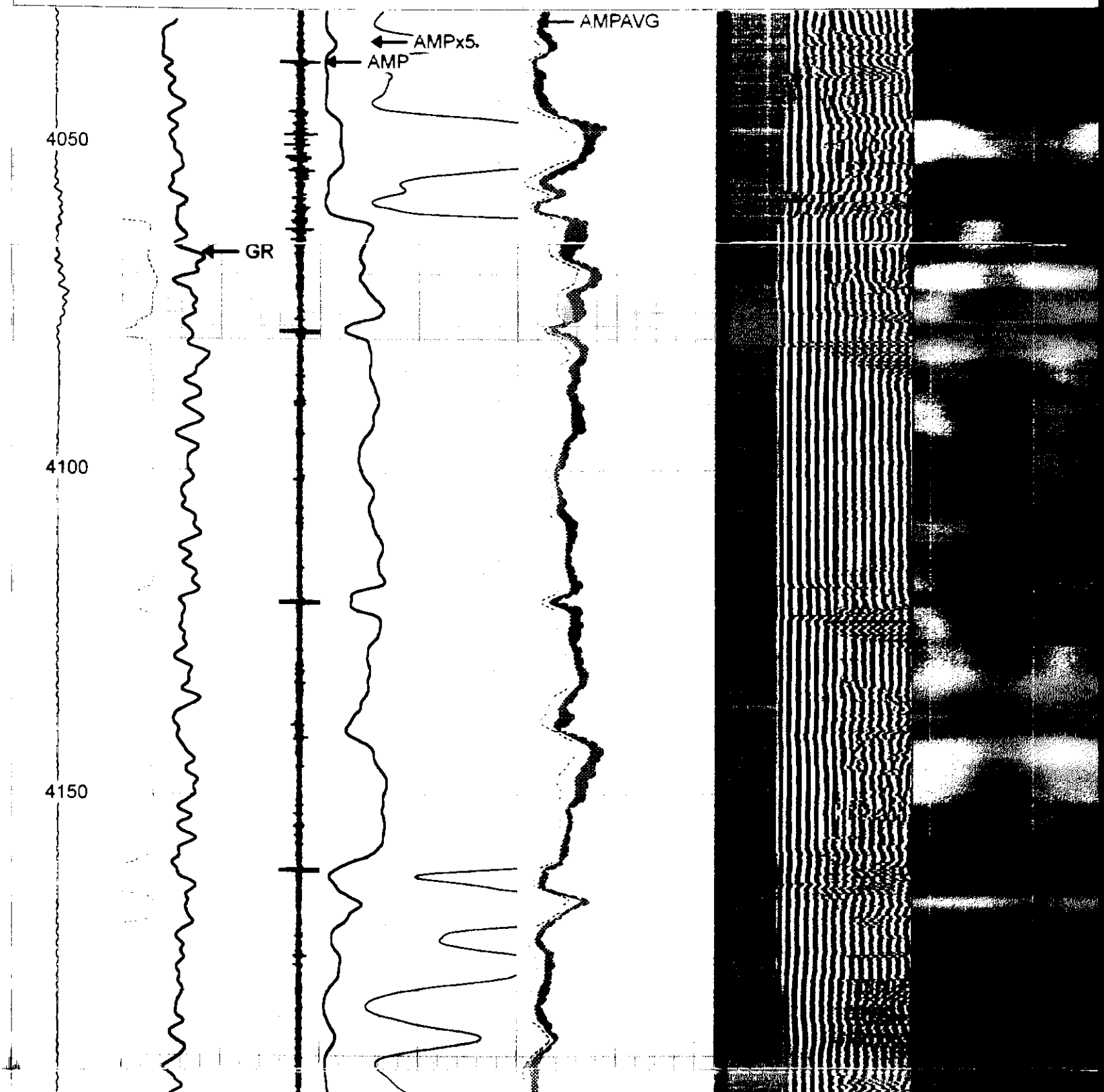
REPEAT SECTION

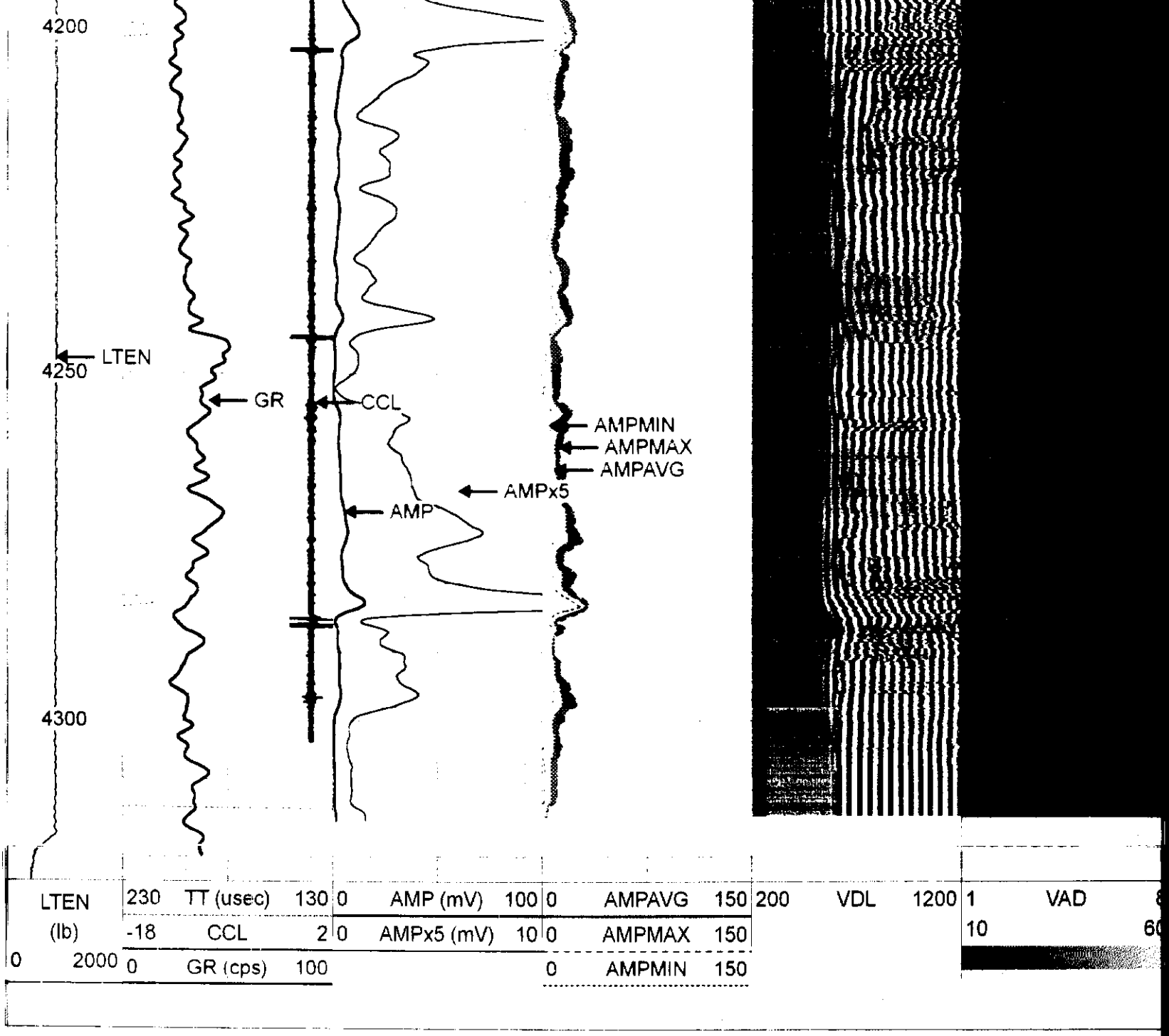
PIONEER

0 PSI

Database File	722014.db
Dataset Pathname	pass4
Presentation Format	scbl
Dataset Creation	Wed Jul 02 10:13:58 2014
Charted by	Depth in Feet scaled 1:240

_TEN	230	TT (usec)	130	0	AMP (mV)	100	0	AMPAVG	150	200	VDL	1200	1	VAD			
(lb)	-18	CCL	2	0	AMPx5 (mV)	10	0	AMPMAX	150					10			6
0 2000	0	GR (cps)	100				0	AMPMIN	150								




4200
4250
4300
LTEN
GR
CCL
AMP
AMPx5
AMPMIN
AMPMAX
AMPAVG
LTEN
(lb)
0
2000
230
TT (usec)
130
-18
CCL
2
0
GR (cps)
100
0
AMP (mV)
100
0
AMPx5 (mV)
10
0
AMPAVG
150
0
AMPMAX
150
0
AMPMIN
150
200
VDL
1200
1
VAD
10

APPENDIX G

PIONEER WELL SERVICE
40-ARM CALIPER SURVEY

40 ARM CALIPER

Pioneer Energy Services

Company	**PROJECT NAVIGATOR, LTD**
Well	**WDW # 138**
Field	**MALONE FACILITY**
County	**GALVESTON** State **TEXAS**
Location:	API # : Other Services

	SEC	TWP	RGE			
Permanent Datum		GL		Elevation		Elevation
Log Measured From		KB	8'		KB	
Drilling Measured From		GL			DF	
					GL	

Date of Service	JULY 2, 2014
Run Number	ONE
Depth Driller or PBTD	N/A
Depth Logger	4320'
Bottom Log Interval	4318'
Top Log Interval	3230'
Open Hole Size	N/A
Type Fluid	BRINE
Fluid Level	FULL
Fluid Density	9#
Max. Recorded Temperature	102'
Max. Wellhead Pressure	0 PSI
Wellhead Connection	7 1/16 5K
Estimated Cement Top	3500'
Unit Number	P-79
Wireline Size	9/32
Location	HOUSTON,TX
Recorded By	C HERNANDEZ
Witnessed By	JONATHAN

	Size	Wt/Ft	Top	Bottom
Tubing Record				
Surface Casing				
Production Casing	7"	20#	SURFACE	TD
Liner Record	5"	18#	3365'	TD

Company PROJECT NAVIGATOR, LTD
Well WDW # 138
Field MALONE FACILITY
County GALVESTON
State TEXAS

<<< 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 interpretations, and we shall not 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.

Comments

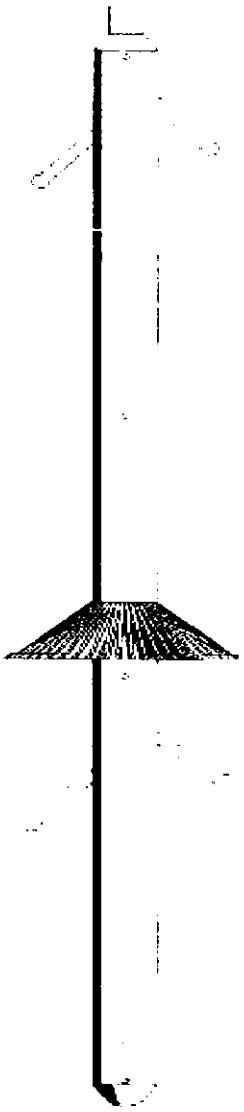
N/A DENOTES NOT AVAILABLE OR NOT APPLICABLE

THANK YOU FOR USING PIONEER ENERGY SERVICES

Your Pioneer ENERGY Services Crew | Tool Data - Services | Serial Number

Engineer: C.HERNANDEZ
Operator: C.AUER
Operator: V.BROOKS
Operator:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	C.D (in)
			X PE 40 (Box) X PE 40 Arm Tube	5.00	3.00
Meas	2.17				
Aux1	0.00				



Dataset: 722014 [illegible] pass7
Total Length: 5.00 ft
Total Weight: [illegible] lb
O.D.: 3.00 in

Calibration Report

Database File: C:\Users\togle\Desktop\722014.db
Dataset Pathname: pass7
Dataset Creation: Wed Jul 02 14:35:40 2014

GO Well 40 Arm Calibration Report

Serial Number: 11055
Tool Model: 40
Performed: Wed Jul 02 14:13:25 2014

Ref ID:	4.00	5.00	6.00	7.00	8.25	Offset	in

Arm1	4.37	5.22	6.11	7.01	8.19	0.00	in
Arm2	4.20	5.09	6.02	6.99	8.25	0.00	in
Arm3	4.24	5.11	5.99	6.89	8.03	0.00	in
Arm4	4.20	5.13	6.08	7.06	8.39	0.00	in
Arm5	4.34	5.22	6.09	6.97	8.13	0.00	in
Arm6	4.21	5.16	6.08	7.02	8.27	0.00	in
Arm7	4.35	5.21	6.04	6.88	8.00	0.00	in
Arm8	4.13	5.10	6.01	6.98	8.30	0.00	in
Arm9	4.28	5.21	6.09	7.02	8.25	0.00	in
Arm10	4.31	5.22	6.10	7.00	8.23	0.00	in
Arm11	4.40	5.25	6.03	6.83	7.90	0.00	in
Arm12	4.26	5.16	6.03	6.95	8.19	0.00	in
Arm13	4.03	5.12	6.15	7.20	8.63	0.00	in
Arm14	4.17	5.18	6.13	7.13	8.45	0.00	in
Arm15	4.31	5.20	6.06	6.90	7.99	0.00	in
Arm16	4.25	5.13	5.99	6.84	7.96	0.00	in
Arm17	4.23	5.11	5.97	6.81	7.95	0.00	in
Arm18	4.10	5.05	6.03	6.94	8.16	0.00	in
Arm19	4.32	5.17	5.99	6.79	7.80	0.00	in
Arm20	4.21	5.12	6.01	6.90	8.07	0.00	in
Arm21	4.20	5.15	6.05	6.89	7.97	0.00	in
Arm22	4.27	5.10	5.91	6.69	7.87	0.00	in
Arm23	4.28	5.13	5.95	6.78	7.82	0.00	in
Arm24	4.21	5.08	5.88	6.70	7.74	0.00	in
Arm25	4.31	5.11	5.92	6.70	7.66	0.00	in
Arm26	4.03	4.96	5.84	6.72	7.84	0.00	in
Arm27	4.20	5.06	5.92	6.78	7.85	0.00	in
Arm28	4.12	5.02	5.95	6.87	8.04	0.00	in
Arm29	4.17	5.03	5.89	6.75	7.60	[illegible]	in
Arm30	4.23	5.05	5.93	6.83	7.96	0.00	in
Arm31	4.29	5.09	5.92	6.76	7.79	0.00	in
Arm32	4.12	4.99	5.89	6.82	8.00	0.00	in
Arm33	4.22	5.02	5.84	6.70	7.79	0.00	in
Arm34	4.31	5.11	5.97	6.81	7.91	0.00	in
Arm35	4.21	5.05	5.92	6.82	8.02	0.00	in
Arm36	4.11	5.00	5.92	6.90	8.18	0.00	in
Arm37	4.33	5.09	5.89	6.70	7.75	0.00	in
Arm38	4.16	5.01	5.89	6.84	8.06	0.00	in
Arm39	4.32	5.10	5.92	6.77	7.86	0.00	in
Arm40	4.07	5.06	6.09	7.16	8.62	0.00	in

GO Ver 40 Arm Verification Report

Performed.	Pre Verification	Post Verification	Casting Check	
Ref ID:	0.00	0.00	0.00	in
Min.	0.00	0.00	0.00	in
Max.	0.00	0.00	0.00	in
Avg.	0.00	0.00	0.00	in
Dia1	0.00	0.00	0.00	in
Dia2	0.00	0.00	0.00	in
Dia3	0.00	0.00	0.00	in
Dia4	0.00	0.00	0.00	in
Dia5	0.00	0.00	0.00	in
Dia6	0.00	0.00	0.00	in
Dia7	0.00	0.00	0.00	in
Dia8	0.00	0.00	0.00	in
Dia9	0.00	0.00	0.00	in
Dia10	0.00	0.00	0.00	in
Dia11	0.00	0.00	0.00	in

Dia12	0.00	0.00	0.00	in
Dia13	0.00	0.00	0.00	in
Dia14	0.00	0.00	0.00	in
Dia15	0.00	0.00	0.00	in
Dia16	0.00	0.00	0.00	in
Dia17	0.00	0.00	0.00	in
Dia18	0.00	0.00	0.00	in
Dia19	0.00	0.00	0.00	in
Dia20	0.00	0.00	0.00	in

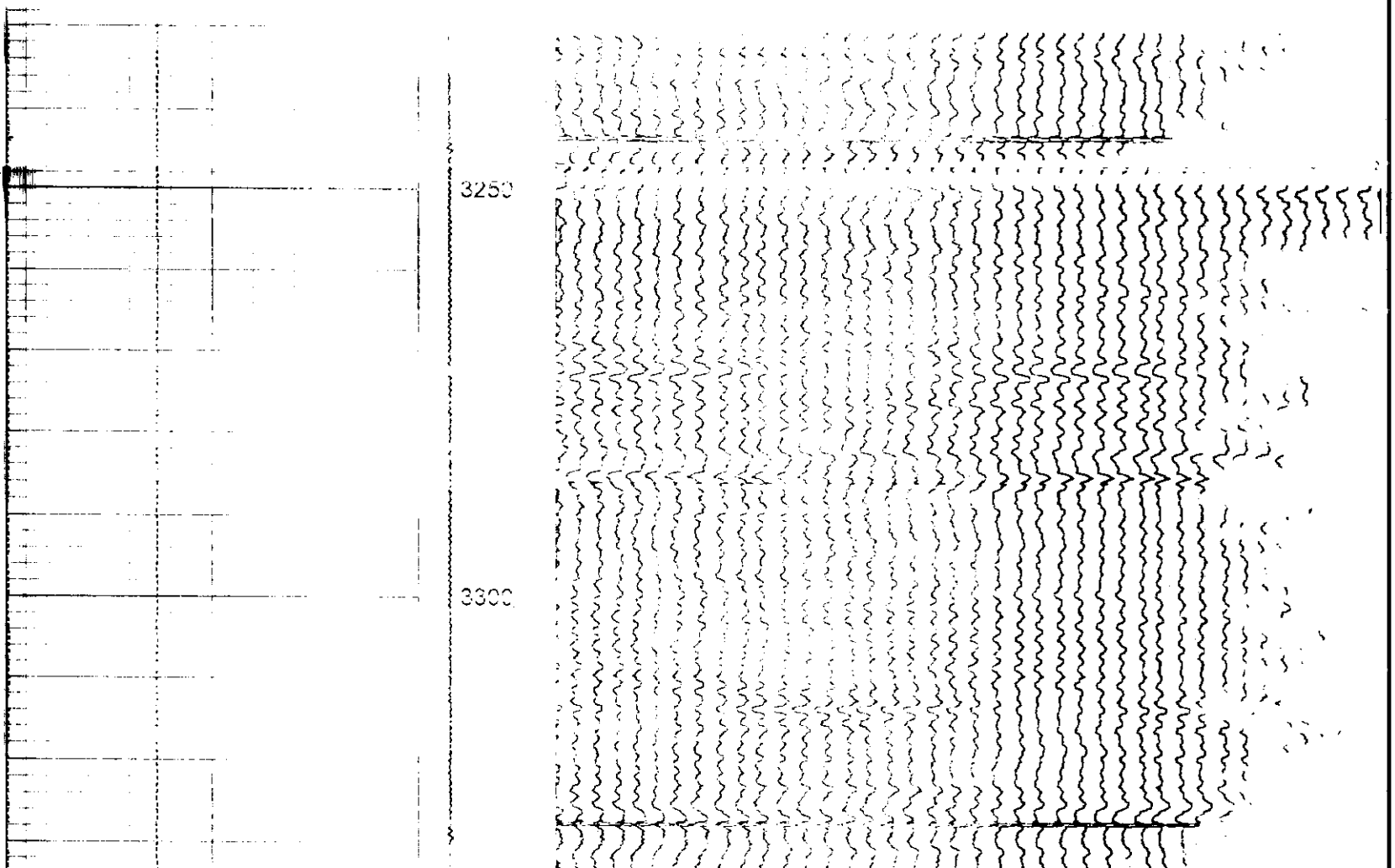
PIONEER

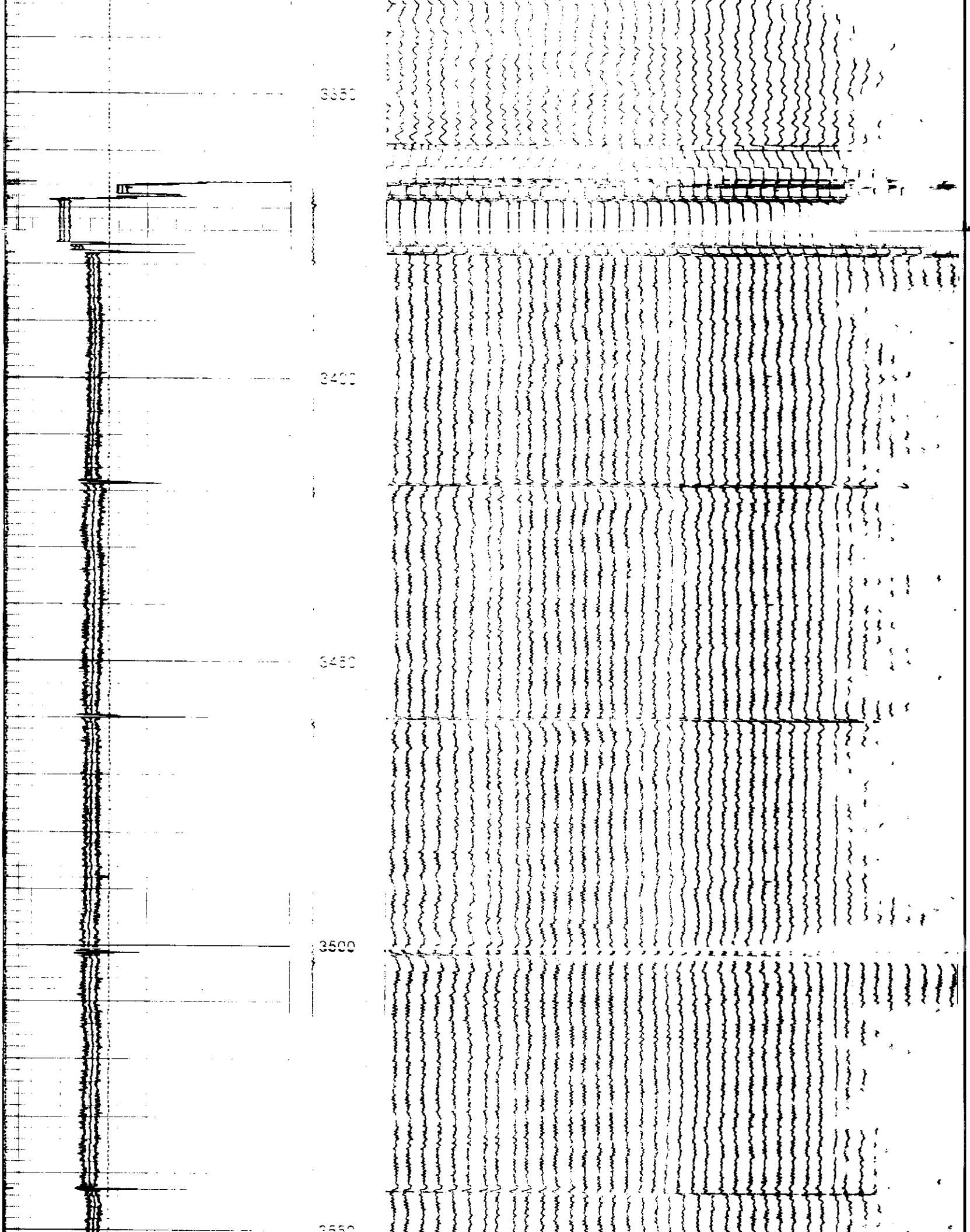
40 ARM CALIPER

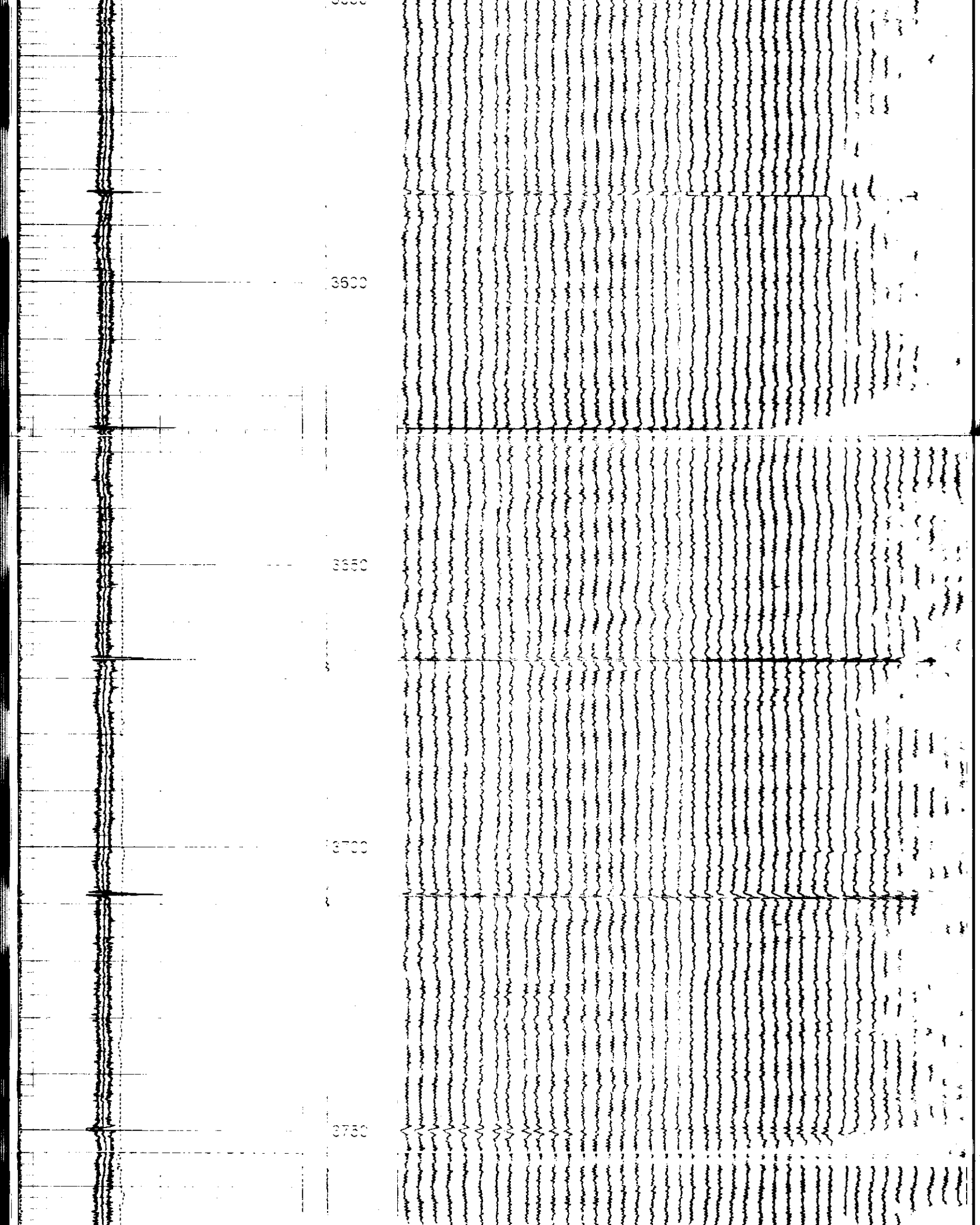
MAIN PASS

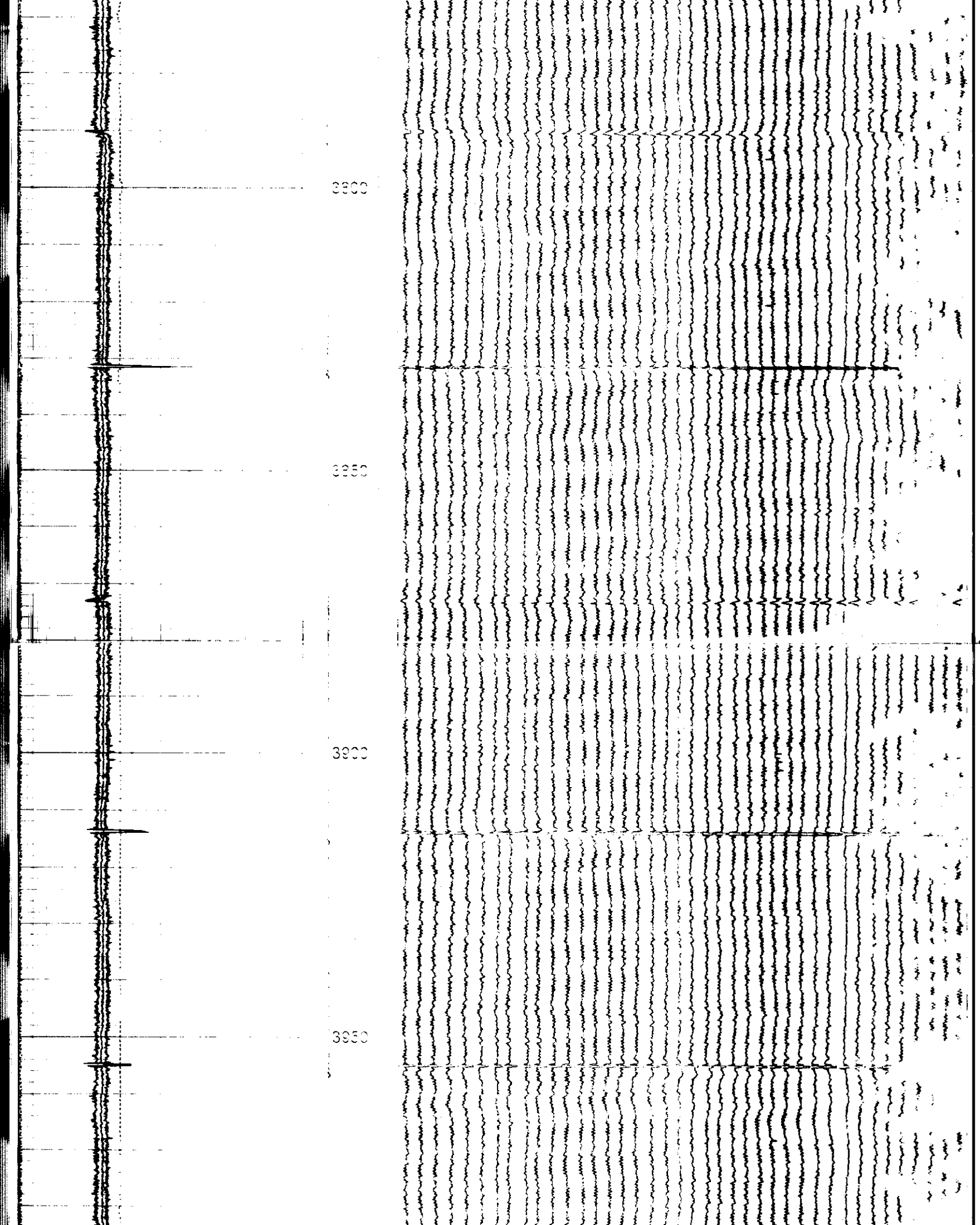
Database File	c:\users\togle desktop\220140.db
Dataset Pathname	pass7
Presentation Format	pwscale
Dataset Creation	Wed Jul 02 14:35:40 2014
Charted by	Depth in Feet scaled 1:240

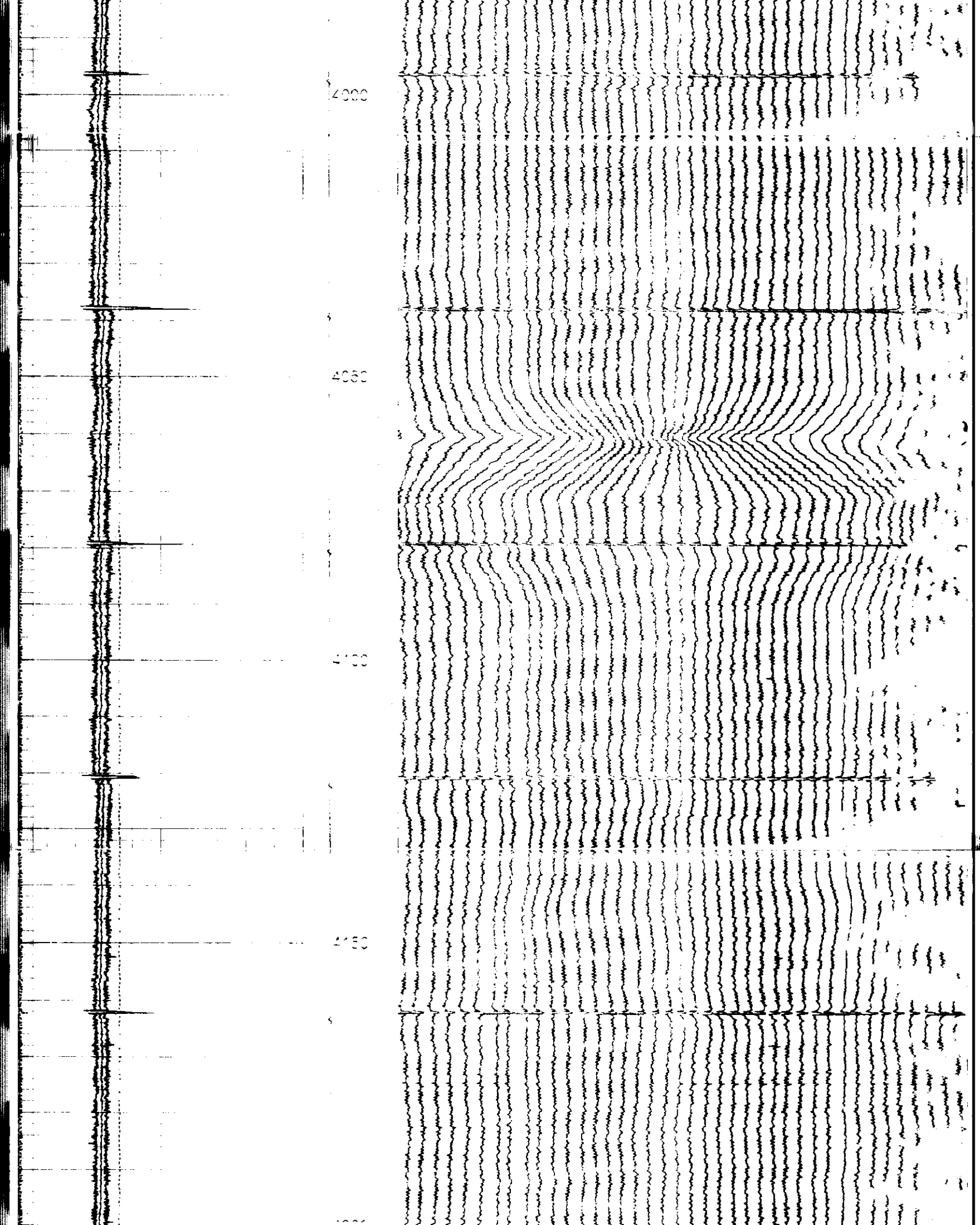
4	MAXIMUM DIAMETER (in)	5	LTEN	0.075		FING02 (in)
4	MINIMUM DIAMETER (in)	5	(lb)	2.65		FING39 (in)
0	DEVI (deg)	100	0 2000	2.923		FING40 (in)
4	AVERAGE DIAMETER (in)	5		0		40 Radius 075 Inc. (in)
0	LSPD (ft/min)	80				
0	ECCE	1				

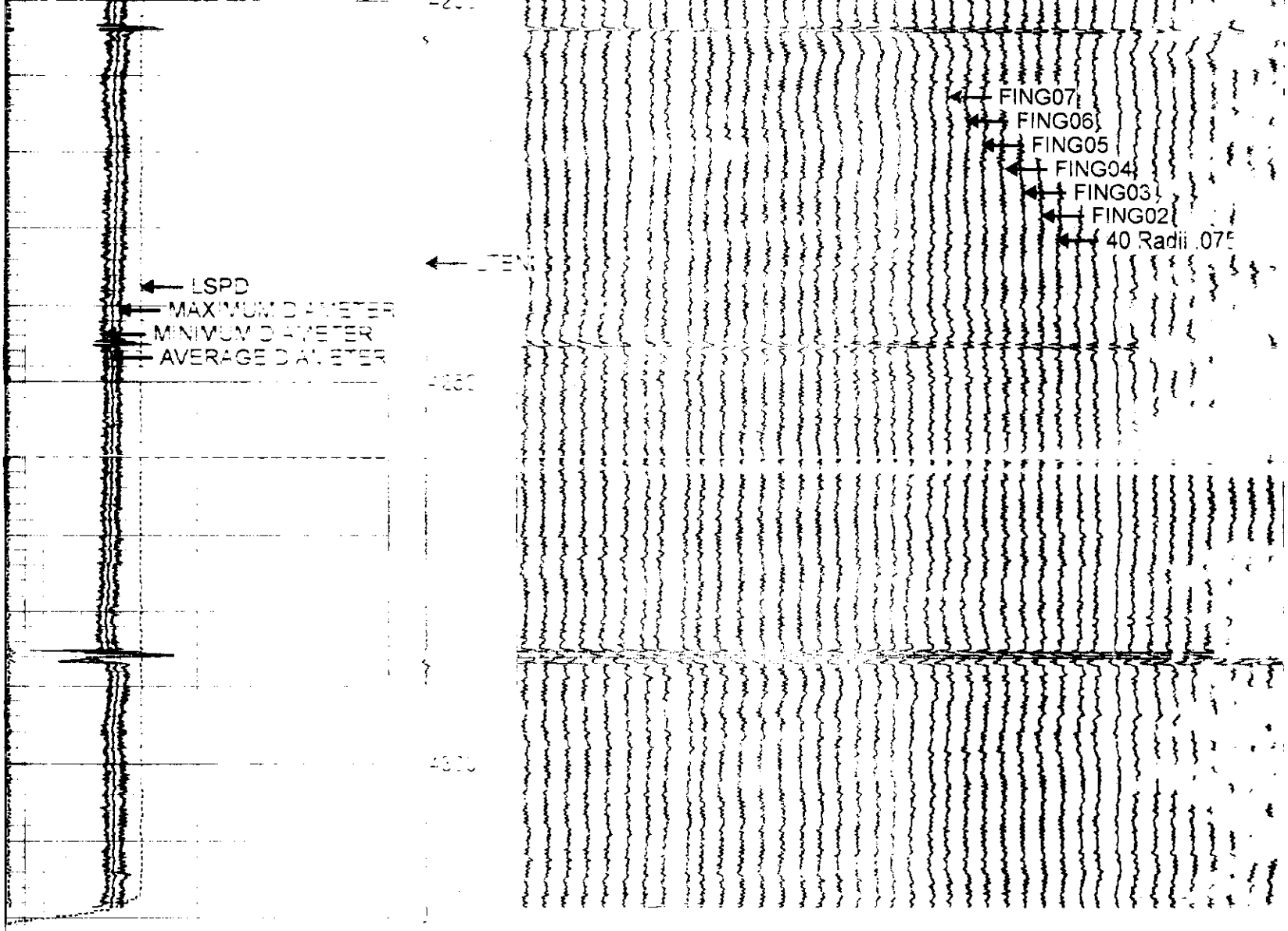



3350
3400
3450
3500


3600
3650
3700
3750


3800
3850
3900
3950


4000
4050
4100
4150



4	MAXIMUM DIAMETER (in)	5		0.075	FING02 (in)	0.075
4	MINIMUM DIAMETER (in)	5		2.85	FING39 (in)	[illegible]
0	DEVI (deg)	100	2000	2.925	FING40 (in)	
4	AVERAGE DIAMETER (in)	5		0	40 Radii .075 Inc. (in)	
0	LSPD (ft/min)	80				
0	ECCE	1				

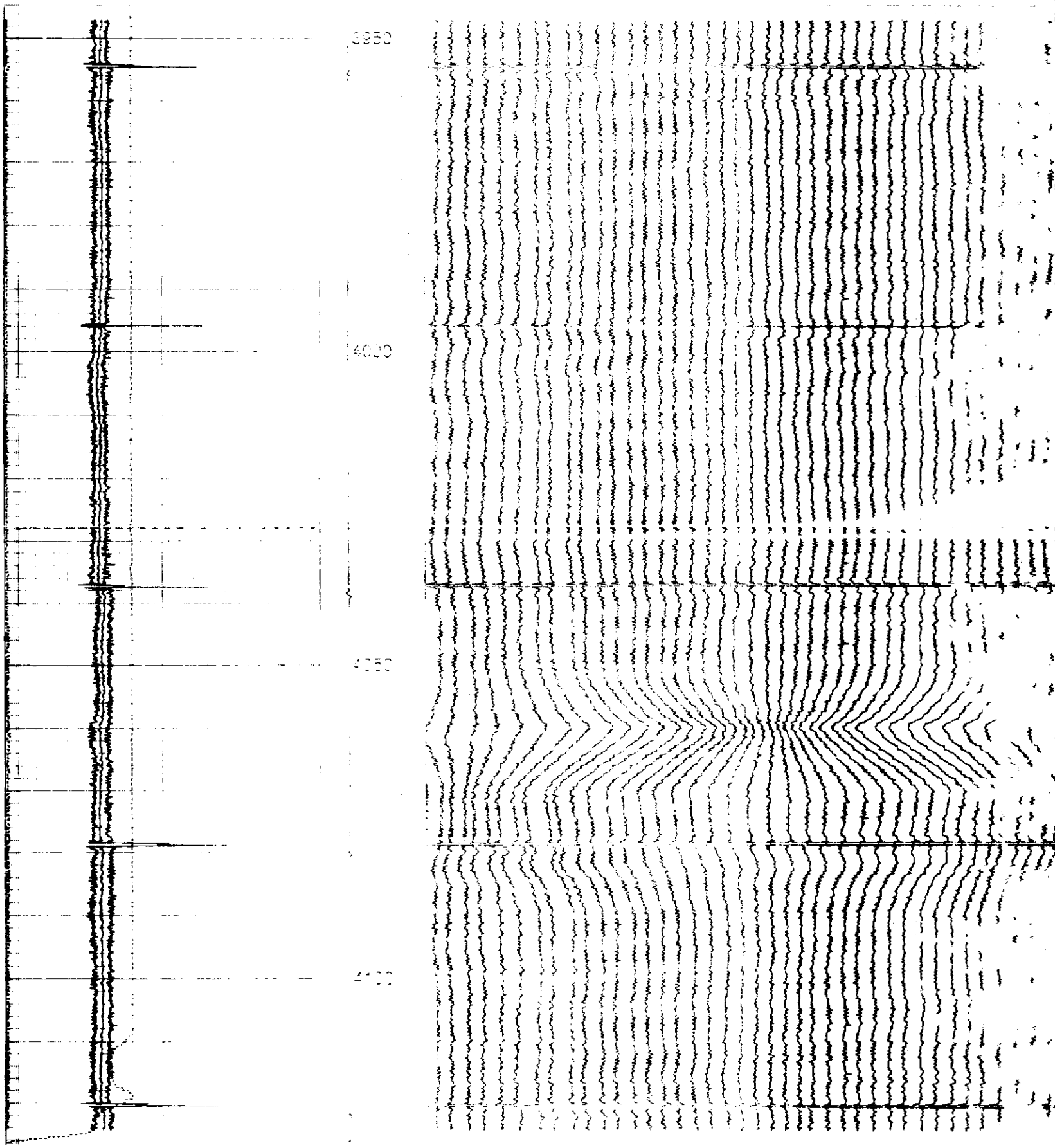
PIONEER

REPEAT ZONE OF INTEREST

Database File	c:\users\togle\desktop\722014.db
Dataset Pathname	pass8
Presentation Format	pwscalip
Dataset Creation	Wed Jul 02 15:19:01 2014
Charted by	Depth in Feet scaled 1:240

4	MAXIMUM DIAMETER (in)	5		0.075	FING02 (in)	
4	MINIMUM DIAMETER (in)	5		2.85	FING39 (in)	[illegible]
0	DEVI (deg)	100	2000	2.925	FING40 (in)	[illegible]
4	AVERAGE DIAMETER (in)	5		0	40 Radii .075 Inc. (in)	

4	AVERAGE DIAMETER	5
0	LSPD (ft/min)	80
0	ECCE	1



4	MAXIMUM DIAMETER	5	3.075	FING02 (in)	
4	MINIMUM DIAMETER	5	2.85	FING39 (in)	
0	DEV. (deg)	100	2.925	FING40 (in)	
4	AVERAGE DIAMETER	5	0	40 Radii .075 Inc. (in)	

LSPD (ft/min)	80
ECCE	1

APPENDIX H

INJECTION TUBING TALLY

Project Navigator, Ltd. - Texas City, Texas - Plant Well No. 2 (WDW-138)

Injection Tubing Tally

"Tally" as picked up and run in wellbore on July 11, 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	4,020.86	4,020.45
2	5" Hornet Packer	7.13	7.54	4,020.45	4,013.32
3	2-3/8" J-55 4.70#	32.48	40.02	4,013.32	3,980.84
4	2-3/8" J-55 4.70#	32.45	72.47	3,980.84	3,948.39
5	2-3/8" J-55 4.70#	32.45	104.92	3,948.39	3,915.94
6	2-3/8" J-55 4.70#	32.45	137.37	3,915.94	3,883.49
7	2-3/8" J-55 4.70#	32.44	169.81	3,883.49	3,851.05
8	2-3/8" J-55 4.70#	32.46	202.27	3,851.05	3,818.59
9	2-3/8" J-55 4.70#	32.45	234.72	3,818.59	3,786.14
10	2-3/8" J-55 4.70#	32.48	267.20	3,786.14	3,753.66
11	2-3/8" J-55 4.70#	32.45	299.65	3,753.66	3,721.21
12	2-3/8" J-55 4.70#	32.45	332.10	3,721.21	3,688.76
13	2-3/8" J-55 4.70#	32.45	364.55	3,688.76	3,656.31
14	2-3/8" J-55 4.70#	32.45	397.00	3,656.31	3,623.86
15	2-3/8" J-55 4.70#	32.45	429.45	3,623.86	3,591.41
16	2-3/8" J-55 4.70#	32.45	461.90	3,591.41	3,558.96
17	2-3/8" J-55 4.70#	32.42	494.32	3,558.96	3,526.54
18	2-3/8" J-55 4.70#	32.46	526.78	3,526.54	3,494.08
19	2-3/8" J-55 4.70#	32.48	559.26	3,494.08	3,461.60
20	2-3/8" J-55 4.70#	32.45	591.71	3,461.60	3,429.15
21	2-3/8" J-55 4.70#	32.44	624.15	3,429.15	3,396.71
22	2-3/8" J-55 4.70#	32.48	656.63	3,396.71	3,364.23
23	2-3/8" J-55 4.70#	32.42	689.05	3,364.23	3,331.81
24	2-3/8" J-55 4.70#	32.44	721.49	3,331.81	3,299.37
25	2-3/8" J-55 4.70#	32.48	753.97	3,299.37	3,266.89
26	2-3/8" J-55 4.70#	32.44	786.41	3,266.89	3,234.45
27	X-Over	0.67	787.08	3,234.45	3,233.78
28	2-7/8" J-55 6.50#	32.52	819.60	3,233.78	3,201.26
29	2-7/8" J-55 6.50#	32.52	852.12	3,201.26	3,168.74
30	2-7/8" J-55 6.50#	32.54	884.66	3,168.74	3,136.20
31	2-7/8" J-55 6.50#	32.48	917.14	3,136.20	3,103.72
32	2-7/8" J-55 6.50#	28.20	945.34	3,103.72	3,075.52
33	2-7/8" J-55 6.50#	32.56	977.90	3,075.52	3,042.96
34	2-7/8" J-55 6.50#	32.52	1,010.42	3,042.96	3,010.44
35	2-7/8" J-55 6.50#	32.52	1,042.94	3,010.44	2,977.92
36	2-7/8" J-55 6.50#	32.55	1,075.49	2,977.92	2,945.37
37	2-7/8" J-55 6.50#	32.55	1,108.04	2,945.37	2,912.82
38	2-7/8" J-55 6.50#	32.56	1,140.60	2,912.82	2,880.26
39	2-7/8" J-55 6.50#	28.70	1,169.30	2,880.26	2,851.56
40	2-7/8" J-55 6.50#	32.58	1,201.88	2,851.56	2,818.98
41	2-7/8" J-55 6.50#	32.52	1,234.40	2,818.98	2,786.46
42	2-7/8" J-55 6.50#	32.40	1,266.80	2,786.46	2,754.06
43	2-7/8" J-55 6.50#	32.52	1,299.32	2,754.06	2,721.54
44	2-7/8" J-55 6.50#	32.58	1,331.90	2,721.54	2,688.96
45	2-7/8" J-55 6.50#	32.52	1,364.42	2,688.96	2,656.44
46	2-7/8" J-55 6.50#	32.56	1,396.98	2,656.44	2,623.88

Project Navigator, Ltd. - Texas City, Texas - Plant Well No. 2 (WDW-138)

Injection Tubing Tally

"Tally" as picked up and run in wellbore on July 11, 2014

Item No.	Description	Measured Length * (ft.)	Cum. Length (ft.)	Joint End Depth (ft.)	Joint Top Depth (ft.)
47	2-7/8" J-55 6.50#	32.52	1,429.50	2,623.88	2,591.36
48	2-7/8" J-55 6.50#	32.56	1,462.06	2,591.36	2,558.80
49	2-7/8" J-55 6.50#	32.50	1,494.56	2,558.80	2,526.30
50	2-7/8" J-55 6.50#	32.57	1,527.13	2,526.30	2,493.73
51	2-7/8" J-55 6.50#	32.51	1,559.64	2,493.73	2,461.22
52	2-7/8" J-55 6.50#	32.52	1,592.16	2,461.22	2,428.70
53	2-7/8" J-55 6.50#	32.55	1,624.71	2,428.70	2,396.15
54	2-7/8" J-55 6.50#	32.55	1,657.26	2,396.15	2,363.60
55	2-7/8" J-55 6.50#	32.55	1,689.81	2,363.60	2,331.05
56	2-7/8" J-55 6.50#	32.55	1,722.36	2,331.05	2,298.50
57	2-7/8" J-55 6.50#	32.52	1,754.88	2,298.50	2,265.98
58	2-7/8" J-55 6.50#	32.50	1,787.38	2,265.98	2,233.48
59	2-7/8" J-55 6.50#	32.56	1,819.94	2,233.48	2,200.92
60	2-7/8" J-55 6.50#	32.52	1,852.46	2,200.92	2,168.40
61	2-7/8" J-55 6.50#	32.57	1,885.03	2,168.40	2,135.83
62	2-7/8" J-55 6.50#	32.52	1,917.55	2,135.83	2,103.31
63	2-7/8" J-55 6.50#	32.54	1,950.09	2,103.31	2,070.77
64	2-7/8" J-55 6.50#	32.50	1,982.59	2,070.77	2,038.27
65	2-7/8" J-55 6.50#	32.54	2,015.13	2,038.27	2,005.73
66	2-7/8" J-55 6.50#	32.52	2,047.65	2,005.73	1,973.21
67	2-7/8" J-55 6.50#	32.52	2,080.17	1,973.21	1,940.69
68	2-7/8" J-55 6.50#	32.56	2,112.73	1,940.69	1,908.13
69	2-7/8" J-55 6.50#	32.53	2,145.26	1,908.13	1,875.60
70	2-7/8" J-55 6.50#	32.56	2,177.82	1,875.60	1,843.04
71	2-7/8" J-55 6.50#	32.52	2,210.34	1,843.04	1,810.52
72	2-7/8" J-55 6.50#	32.50	2,242.84	1,810.52	1,778.02
73	2-7/8" J-55 6.50#	32.52	2,275.36	1,778.02	1,745.50
74	2-7/8" J-55 6.50#	32.58	2,307.94	1,745.50	1,712.92
75	2-7/8" J-55 6.50#	32.53	2,340.47	1,712.92	1,680.39
76	2-7/8" J-55 6.50#	32.55	2,373.02	1,680.39	1,647.84
77	2-7/8" J-55 6.50#	32.54	2,405.56	1,647.84	1,615.30
78	2-7/8" J-55 6.50#	32.56	2,438.12	1,615.30	1,582.74
79	2-7/8" J-55 6.50#	32.54	2,470.66	1,582.74	1,550.20
80	2-7/8" J-55 6.50#	32.53	2,503.19	1,550.20	1,517.67
81	2-7/8" J-55 6.50#	32.55	2,535.74	1,517.67	1,485.12
82	2-7/8" J-55 6.50#	32.53	2,568.27	1,485.12	1,452.59
83	2-7/8" J-55 6.50#	32.52	2,600.79	1,452.59	1,420.07
84	2-7/8" J-55 6.50#	32.55	2,633.34	1,420.07	1,387.52
85	2-7/8" J-55 6.50#	32.54	2,665.88	1,387.52	1,354.98
86	2-7/8" J-55 6.50#	32.50	2,698.38	1,354.98	1,322.48
87	2-7/8" J-55 6.50#	32.52	2,730.90	1,322.48	1,289.96
88	2-7/8" J-55 6.50#	32.54	2,763.44	1,289.96	1,257.42
89	2-7/8" J-55 6.50#	32.58	2,796.02	1,257.42	1,224.84
90	2-7/8" J-55 6.50#	32.50	2,828.52	1,224.84	1,192.34
91	2-7/8" J-55 6.50#	32.54	2,861.06	1,192.34	1,159.80
92	2-7/8" J-55 6.50#	32.52	2,893.58	1,159.80	1,127.28
93	2-7/8" J-55 6.50#	32.55	2,926.13	1,127.28	1,094.73

Project Navigator, Ltd. - Texas City, Texas - Plant Well No. 2 (WDW-138)

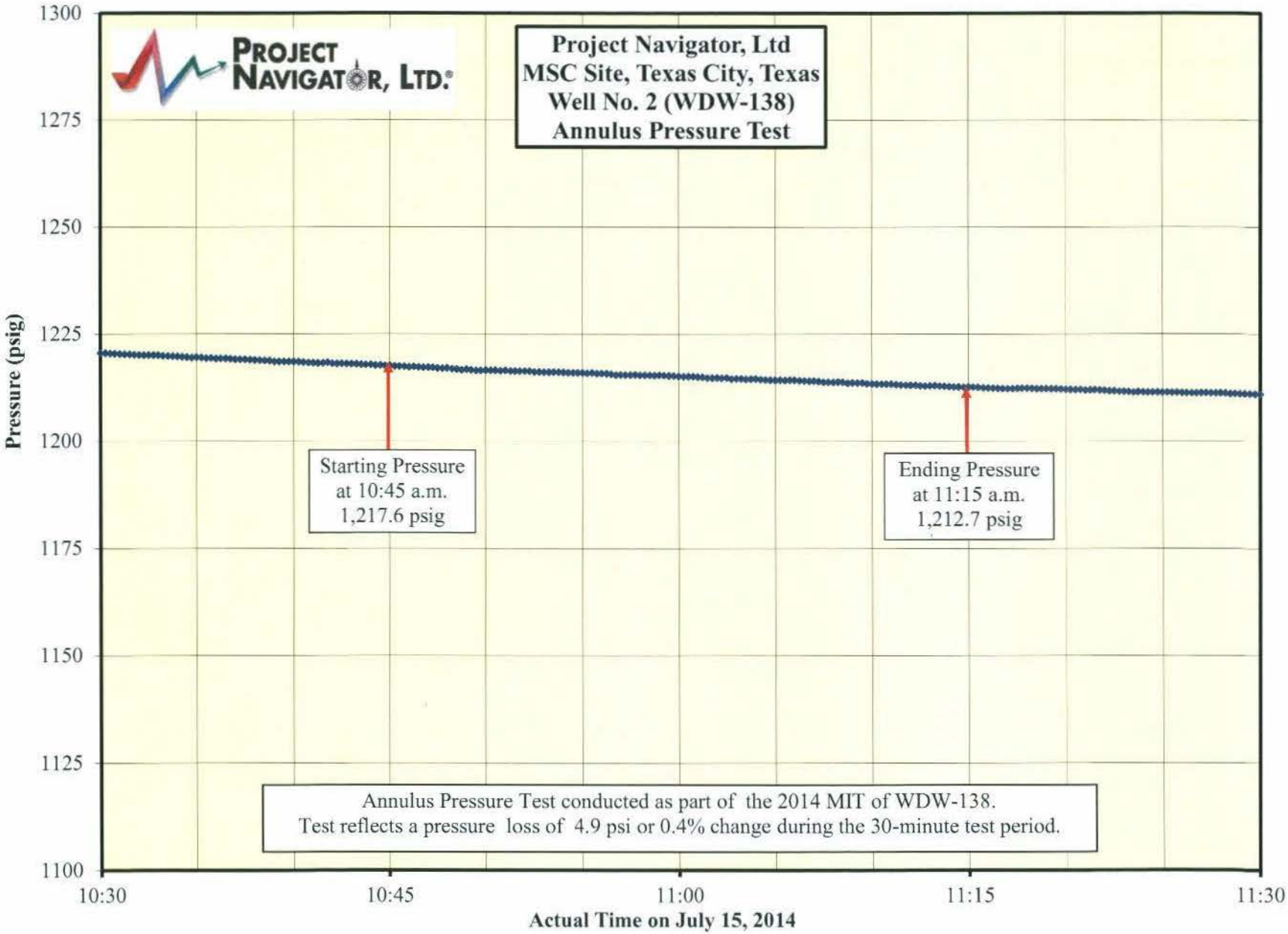
Injection Tubing Tally

"Tally" as picked up and run in wellbore on July 11, 2014

Item No.	Description	Measured Length * (ft.)	Cum. Length (ft.)	Joint End Depth (ft.)	Joint Top Depth (ft.)
94	2-7/8" J-55 6.50#	32.52	2,958.65	1,094.73	1,062.21
95	2-7/8" J-55 6.50#	32.55	2,991.20	1,062.21	1,029.66
96	2-7/8" J-55 6.50#	32.55	3,023.75	1,029.66	997.11
97	2-7/8" J-55 6.50#	32.55	3,056.30	997.11	964.56
98	2-7/8" J-55 6.50#	32.52	3,088.82	964.56	932.04
99	2-7/8" J-55 6.50#	32.52	3,121.34	932.04	899.52
100	2-7/8" J-55 6.50#	32.56	3,153.90	899.52	866.96
101	2-7/8" J-55 6.50#	32.54	3,186.44	866.96	834.42
102	2-7/8" J-55 6.50#	32.53	3,218.97	834.42	801.89
103	2-7/8" J-55 6.50#	32.53	3,251.50	801.89	769.36
104	2-7/8" J-55 6.50#	32.56	3,284.06	769.36	736.80
105	2-7/8" J-55 6.50#	32.54	3,316.60	736.80	704.26
106	2-7/8" J-55 6.50#	32.54	3,349.14	704.26	671.72
107	2-7/8" J-55 6.50#	32.52	3,381.66	671.72	639.20
108	2-7/8" J-55 6.50#	32.54	3,414.20	639.20	606.66
109	2-7/8" J-55 6.50#	32.55	3,446.75	606.66	574.11
110	2-7/8" J-55 6.50#	32.55	3,479.30	574.11	541.56
111	2-7/8" J-55 6.50#	32.57	3,511.87	541.56	508.99
112	2-7/8" J-55 6.50#	32.54	3,544.41	508.99	476.45
113	2-7/8" J-55 6.50#	32.55	3,576.96	476.45	443.90
114	2-7/8" J-55 6.50#	32.54	3,609.50	443.90	411.36
115	2-7/8" J-55 6.50#	32.52	3,642.02	411.36	378.84
116	2-7/8" J-55 6.50#	32.52	3,674.54	378.84	346.32
117	2-7/8" J-55 6.50#	32.53	3,707.07	346.32	313.79
118	2-7/8" J-55 6.50#	32.55	3,739.62	313.79	281.24
119	2-7/8" J-55 6.50#	32.57	3,772.19	281.24	248.67
120	2-7/8" J-55 6.50#	32.51	3,804.70	248.67	216.16
121	2-7/8" J-55 6.50#	32.56	3,837.26	216.16	183.60
122	2-7/8" J-55 6.50#	32.54	3,869.80	183.60	151.06
123	2-7/8" J-55 6.50#	32.51	3,902.31	151.06	118.55
124	2-7/8" J-55 6.50#	32.52	3,934.83	118.55	86.03
125	2-7/8" J-55 6.50#	32.53	3,967.36	86.03	53.50
126	2-7/8" J-55 6.50# Pup	12.94	3,980.30	53.50	40.56
127	2-7/8" J-55 6.50#	32.56	4,012.86	40.56	8.00
128	Elevation Correction (RKB)	8.00	4,020.86	8.00	0.00

APPENDIX I

ANNULUS PRESSURE TEST GRAPH AND DATA
GAUGE CALIBRATION RECORD


PROJECT NAVIGATOR, LTD.
Project Navigator, Ltd
MSC Site, Texas City, Texas
Well No. 2 (WDW-138)
Annulus Pressure Test
Pressure (psig)
1300
1275
1250
1225
1200
1175
1150
1125
1100
Starting Pressure
at 10:45 a.m.
1,217.6 psig
Ending Pressure
at 11:15 a.m.
1,212.7 psig
Annulus Pressure Test conducted as part of the 2014 MIT of WDW-138.
Test reflects a pressure loss of 4.9 psi or 0.4% change during the 30-minute test period.
10:30
10:45
11:00
11:15
11:30
Actual Time on July 15, 2014

PROJECT NAVIGATOR, LTD.

Project Navigator, Ltd.
MSC Site, Texas City, Well No. 2 (WDW-138)
Annulus Pressure Test

Gauge:	Cal-Scan Services
Model:	Hawk 9000
Serial Number:	6573
Range:	0-6,000 psi
Calibration Date:	10/30/13

Note: Injection Tubing was static at 0 psig.

Date	Time	Pressure (psig)
7/15/2014	10:30:00	1220.6
7/15/2014	10:30:15	1220.6
7/15/2014	10:30:30	1220.5
7/15/2014	10:30:45	1220.4
7/15/2014	10:31:00	1220.4
7/15/2014	10:31:15	1220.4
7/15/2014	10:31:30	1220.3
7/15/2014	10:31:45	1220.2
7/15/2014	10:32:00	1220.1
7/15/2014	10:32:15	1220.1
7/15/2014	10:32:30	1220.1
7/15/2014	10:32:45	1220.1
7/15/2014	10:33:00	1220.1
7/15/2014	10:33:15	1219.9
7/15/2014	10:33:30	1219.9
7/15/2014	10:33:45	1219.8
7/15/2014	10:34:00	1219.8
7/15/2014	10:34:15	1219.8
7/15/2014	10:34:30	1219.6
7/15/2014	10:34:45	1219.6
7/15/2014	10:35:00	1219.6
7/15/2014	10:35:15	1219.6
7/15/2014	10:35:30	1219.4
7/15/2014	10:35:45	1219.4
7/15/2014	10:36:00	1219.3
7/15/2014	10:36:15	1219.3
7/15/2014	10:36:30	1219.3
7/15/2014	10:36:45	1219.2
7/15/2014	10:37:00	1219.1
7/15/2014	10:37:15	1219.1
7/15/2014	10:37:30	1219.1
7/15/2014	10:37:45	1219.0
7/15/2014	10:38:00	1218.9
7/15/2014	10:38:15	1218.9
7/15/2014	10:38:30	1218.8
7/15/2014	10:38:45	1218.8
7/15/2014	10:39:00	1218.6
7/15/2014	10:39:15	1218.6
7/15/2014	10:39:30	1218.6
7/15/2014	10:39:45	1218.6
7/15/2014	10:40:00	1218.6
7/15/2014	10:40:15	1218.5

	Date	Time	Pressure (psig)
	7/15/2014	10:40:30	1218.4
	7/15/2014	10:40:45	1218.3
	7/15/2014	10:41:00	1218.3
	7/15/2014	10:41:15	1218.2
	7/15/2014	10:41:30	1218.2
	7/15/2014	10:41:45	1218.4
	7/15/2014	10:42:00	1218.1
	7/15/2014	10:42:15	1218.1
	7/15/2014	10:42:30	1218.1
	7/15/2014	10:42:45	1218.1
	7/15/2014	10:43:00	1218.0
	7/15/2014	10:43:15	1218.0
	7/15/2014	10:43:30	1217.9
	7/15/2014	10:43:45	1217.8
	7/15/2014	10:44:00	1217.9
	7/15/2014	10:44:15	1217.7
	7/15/2014	10:44:30	1217.7
	7/15/2014	10:44:45	1217.6
Start Test	7/15/2014	10:45:00	1217.6
	7/15/2014	10:45:15	1217.5
	7/15/2014	10:45:30	1217.5
	7/15/2014	10:45:45	1217.4
	7/15/2014	10:46:00	1217.3
	7/15/2014	10:46:15	1217.4
	7/15/2014	10:46:30	1217.2
	7/15/2014	10:46:45	1217.1
	7/15/2014	10:47:00	1217.2
	7/15/2014	10:47:15	1217.1
	7/15/2014	10:47:30	1217.0
	7/15/2014	10:47:45	1217.0
	7/15/2014	10:48:00	1217.0
	7/15/2014	10:48:15	1216.9
	7/15/2014	10:48:30	1216.8
	7/15/2014	10:48:45	1216.6
	7/15/2014	10:49:00	1216.8
	7/15/2014	10:49:15	1216.6
	7/15/2014	10:49:30	1216.5
	7/15/2014	10:49:45	1216.5
	7/15/2014	10:50:00	1216.6
	7/15/2014	10:50:15	1216.5
	7/15/2014	10:50:30	1216.5
	7/15/2014	10:50:45	1216.4

PROJECT NAVIGATOR, LTD.

Project Navigator, Ltd.

MSC Site, Texas City, Well No. 2 (WDW-138)

Annulus Pressure Test

Gauge:	Cal-Scan Services
Model:	Hawk 9000
Serial Number:	6573
Range:	0-6,000 psi
Calibration Date:	10/30/13

Note: Injection Tubing was static at 0 psig.

Date	Time	Pressure (psig)
7/15/2014	10:51:00	1216.5
7/15/2014	10:51:15	1216.4
7/15/2014	10:51:30	1216.4
7/15/2014	10:51:45	1216.4
7/15/2014	10:52:00	1216.4
7/15/2014	10:52:15	1216.4
7/15/2014	10:52:30	1216.2
7/15/2014	10:52:45	1216.1
7/15/2014	10:53:00	1216.1
7/15/2014	10:53:15	1216.1
7/15/2014	10:53:30	1216.2
7/15/2014	10:53:45	1216.1
7/15/2014	10:54:00	1216.1
7/15/2014	10:54:15	1216.0
7/15/2014	10:54:30	1216.0
7/15/2014	10:54:45	1216.0
7/15/2014	10:55:00	1216.0
7/15/2014	10:55:15	1215.9
7/15/2014	10:55:30	1216.0
7/15/2014	10:55:45	1215.8
7/15/2014	10:56:00	1215.8
7/15/2014	10:56:15	1215.8
7/15/2014	10:56:30	1215.6
7/15/2014	10:56:45	1215.5
7/15/2014	10:57:00	1215.5
7/15/2014	10:57:15	1215.5
7/15/2014	10:57:30	1215.5
7/15/2014	10:57:45	1215.5
7/15/2014	10:58:00	1215.4
7/15/2014	10:58:15	1215.4
7/15/2014	10:58:30	1215.4
7/15/2014	10:58:45	1215.3
7/15/2014	10:59:00	1215.4
7/15/2014	10:59:15	1215.4
7/15/2014	10:59:30	1215.2
7/15/2014	10:59:45	1215.2
7/15/2014	11:00:00	1215.2
7/15/2014	11:00:15	1215.1
7/15/2014	11:00:30	1215.1
7/15/2014	11:00:45	1215.1
7/15/2014	11:01:00	1215.0
7/15/2014	11:01:15	1215.0

Date	Time	Pressure (psig)
7/15/2014	11:01:30	1214.8
7/15/2014	11:01:45	1214.8
7/15/2014	11:02:00	1214.8
7/15/2014	11:02:15	1214.7
7/15/2014	11:02:30	1214.8
7/15/2014	11:02:45	1214.5
7/15/2014	11:03:00	1214.6
7/15/2014	11:03:15	1214.6
7/15/2014	11:03:30	1214.4
7/15/2014	11:03:45	1214.5
7/15/2014	11:04:00	1214.5
7/15/2014	11:04:15	1214.4
7/15/2014	11:04:30	1214.3
7/15/2014	11:04:45	1214.3
7/15/2014	11:05:00	1214.2
7/15/2014	11:05:15	1214.3
7/15/2014	11:05:30	1214.2
7/15/2014	11:05:45	1214.2
7/15/2014	11:06:00	1214.3
7/15/2014	11:06:15	1214.2
7/15/2014	11:06:30	1214.1
7/15/2014	11:06:45	1214.1
7/15/2014	11:07:00	1214.0
7/15/2014	11:07:15	1213.9
7/15/2014	11:07:30	1213.8
7/15/2014	11:07:45	1213.8
7/15/2014	11:08:00	1213.8
7/15/2014	11:08:15	1213.9
7/15/2014	11:08:30	1213.8
7/15/2014	11:08:45	1213.6
7/15/2014	11:09:00	1213.6
7/15/2014	11:09:15	1213.6
7/15/2014	11:09:30	1213.6
7/15/2014	11:09:45	1213.5
7/15/2014	11:10:00	1213.4
7/15/2014	11:10:15	1213.3
7/15/2014	11:10:30	1213.3
7/15/2014	11:10:45	1213.3
7/15/2014	11:11:00	1213.3
7/15/2014	11:11:15	1213.2
7/15/2014	11:11:30	1213.2
7/15/2014	11:11:45	1213.1

PROJECT NAVIGATOR, LTD.

Project Navigator, Ltd.
MSC Site, Texas City, Well No. 2 (WDW-138)
Annulus Pressure Test

Gauge:	Cal-Scan Services
Model:	Hawk 9000
Serial Number:	6573
Range:	0-6,000 psi
Calibration Date:	10/30/13

Note: Injection Tubing was static at 0 psig.

	Date	Time	Pressure (psig)
	7/15/2014	11:12:00	1213.1
	7/15/2014	11:12:15	1213.1
	7/15/2014	11:12:30	1212.9
	7/15/2014	11:12:45	1212.9
	7/15/2014	11:13:00	1212.9
	7/15/2014	11:13:15	1213.0
	7/15/2014	11:13:30	1212.9
	7/15/2014	11:13:45	1212.9
	7/15/2014	11:14:00	1212.7
	7/15/2014	11:14:15	1212.7
	7/15/2014	11:14:30	1212.7
	7/15/2014	11:14:45	1212.6
End Test	7/15/2014	11:15:00	1212.7
	7/15/2014	11:15:15	1212.7
	7/15/2014	11:15:30	1212.6
	7/15/2014	11:15:45	1212.5
	7/15/2014	11:16:00	1212.5
	7/15/2014	11:16:15	1212.4
	7/15/2014	11:16:30	1212.3
	7/15/2014	11:16:45	1212.3
	7/15/2014	11:17:00	1212.3
	7/15/2014	11:17:15	1212.3
	7/15/2014	11:17:30	1212.3
	7/15/2014	11:17:45	1212.4
	7/15/2014	11:18:00	1212.4
	7/15/2014	11:18:15	1212.4
	7/15/2014	11:18:30	1212.3
	7/15/2014	11:18:45	1212.3
	7/15/2014	11:19:00	1212.3
	7/15/2014	11:19:15	1212.2
	7/15/2014	11:19:30	1212.2
	7/15/2014	11:19:45	1212.2
	7/15/2014	11:20:00	1212.1
	7/15/2014	11:20:15	1212.1
	7/15/2014	11:20:30	1212.0
	7/15/2014	11:20:45	1212.1
	7/15/2014	11:21:00	1212.0
	7/15/2014	11:21:15	1212.0
	7/15/2014	11:21:30	1212.0
	7/15/2014	11:21:45	1212.0
	7/15/2014	11:22:00	1211.9
	7/15/2014	11:22:15	1211.7

Date	Time	Pressure (psig)
7/15/2014	11:22:30	1211.7
7/15/2014	11:22:45	1211.7
7/15/2014	11:23:00	1211.6
7/15/2014	11:23:15	1211.6
7/15/2014	11:23:30	1211.5
7/15/2014	11:23:45	1211.5
7/15/2014	11:24:00	1211.5
7/15/2014	11:24:15	1211.4
7/15/2014	11:24:30	1211.4
7/15/2014	11:24:45	1211.4
7/15/2014	11:25:00	1211.4
7/15/2014	11:25:15	1211.4
7/15/2014	11:25:30	1211.4
7/15/2014	11:25:45	1211.4
7/15/2014	11:26:00	1211.3
7/15/2014	11:26:15	1211.3
7/15/2014	11:26:30	1211.3
7/15/2014	11:26:45	1211.3
7/15/2014	11:27:00	1211.4
7/15/2014	11:27:15	1211.3
7/15/2014	11:27:30	1211.3
7/15/2014	11:27:45	1211.3
7/15/2014	11:28:00	1211.3
7/15/2014	11:28:15	1211.3
7/15/2014	11:28:30	1211.1
7/15/2014	11:28:45	1211.1
7/15/2014	11:29:00	1211.1
7/15/2014	11:29:15	1211.1
7/15/2014	11:29:30	1211.1
7/15/2014	11:29:45	1211.1
7/15/2014	11:30:00	1211.0

Oct. 30/2013
02:15:55 PM

AKS Technologies
1416 N. Sam Houston Pwky. E. Suite #140
Houston, Texas 77032
Office:(281)-987-2244
Fax: (281)-987-7677
Toll: (888)-942-2244

aks technologies
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

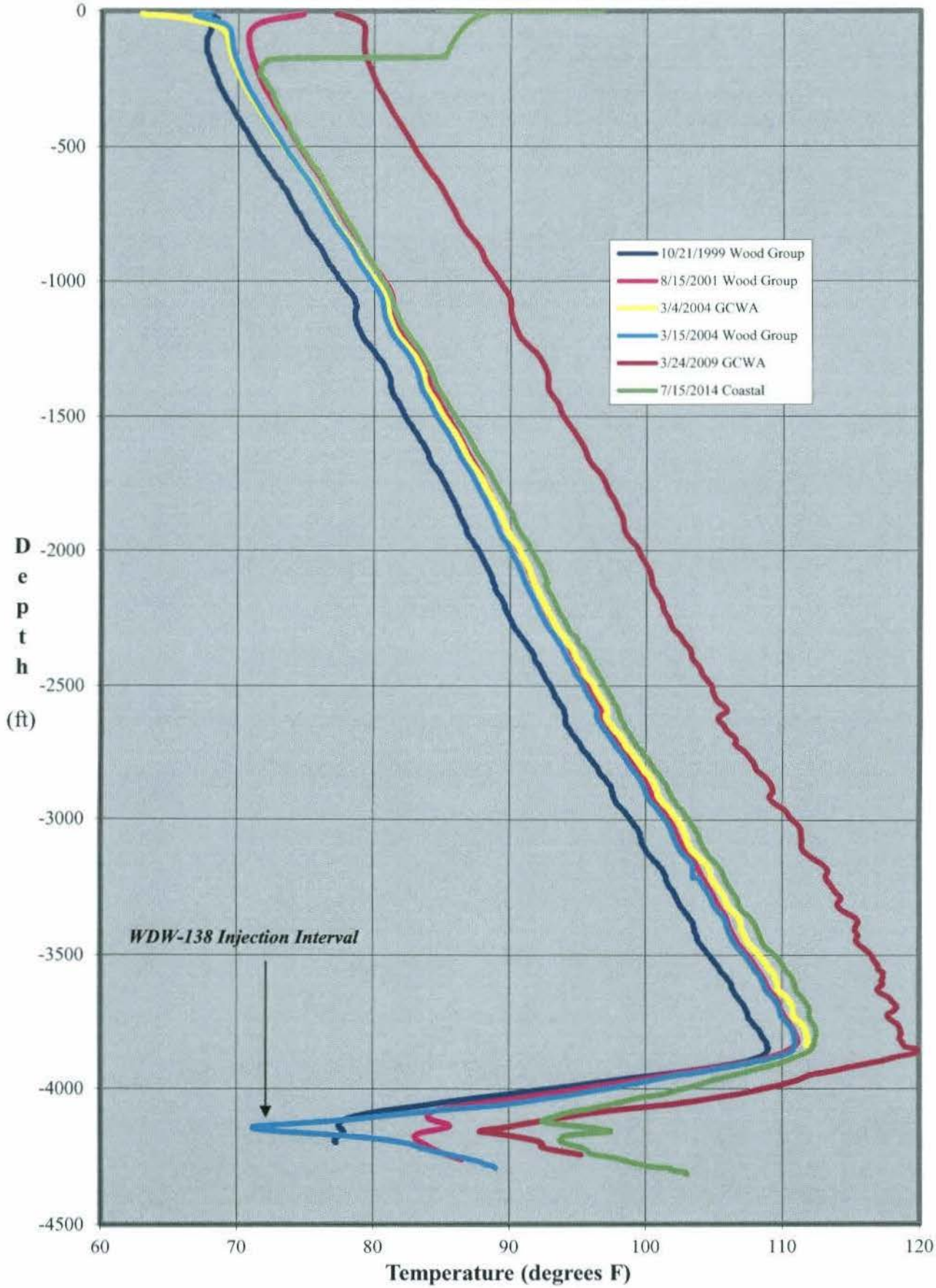
Calibrated By: Jim Couch

0000000036764

APPENDIX J

COASTAL WIRELINE
DIFFERENTIAL TEMPERATURE SURVEY

Project Navigator, Ltd.
MSC Site, Texas City, Texas
Well No. 2 (WDW-138)
SHUT-IN TEMPERATURE vs. DEPTH



COASTAL WIRELINE SERVICES

DIFFERENTIAL TEMPERATURE SURVEY

Company	PROJECT NAVIGATOR, LTD.- MSC SITE
Well	WASTE DISPOSAL WELL # 138
Field	TEXAS CITY
County	GALVESTON
State	TEXAS
Country	U.S.A.
Location:	API # :
SEC / TWP / RGE	N/A
Other Services	RAT
Permanent Datum	GROUND LEVEL; Elevation N/A
Log Measured From	8.0'
Drilling Measured From	KELLY BUSHING
Elevation	K.B. N/A; D.F. N/A; G.L. N/A
Date	7/15/2014
Run Number	ONE
Depth Driller	
Depth Logger	4305'
Bottom Logged Interval	4303'
Top Log Interval	20'
Open Hole Size	N/A
Type Fluid	WASTE WATER
Density / Viscosity	N/A
Max. Recorded Temp.	N/A
Estimated Cement Top	SURF
Time Well Ready	7:00
Time Logger on Bottom	10:49
Equipment Number	P-101
Location	PEARLAND
Recorded By	C. FENSKE
Witnessed By	MR. M. GRANT

Borehole Record

Run Number	Bit	From	To

Tubing Record

Size	Weight	From	To
2 7/8"	6.5	SURF.	3234'
2 3/8"	4.7	3234'	4013'

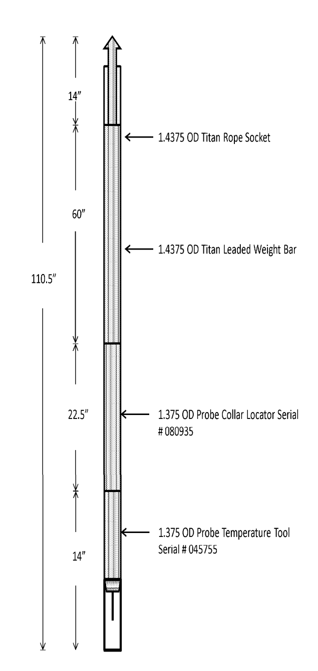
Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	10 3/4"	45.5	SURF.	1202'
Prot. String				
Production String	7"	20	SURF.	4458'
Liner	5"	18	3363'	4331'

<<< 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

WELL STATIC
0 PSI

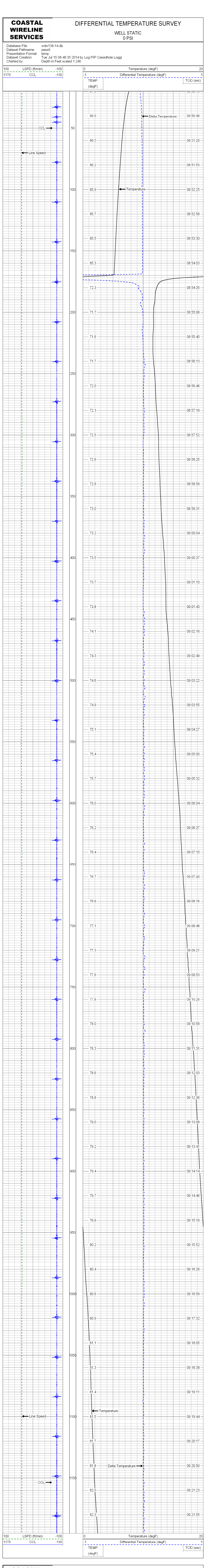


COASTAL WIRELINE SERVICES

DIFFERENTIAL TEMPERATURE SURVEY

WELL STATIC
0 PSI

Database File: wdw138-14.db
Dataset Pathname: pass6
Presentation Format: temp
Dataset Creation: Tue Jul 15 08:48:35 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

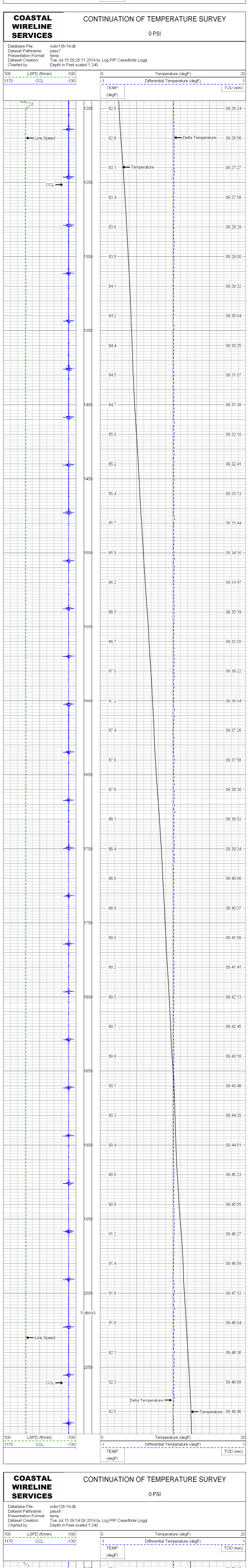


COASTAL WIRELINE SERVICES

CONTINUATION OF TEMPERATURE SURVEY

0 PSI

Database File: wdw138-14.db
Dataset Pathname: pass7
Presentation Format: temp
Dataset Creation: Tue Jul 15 09:26:11 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

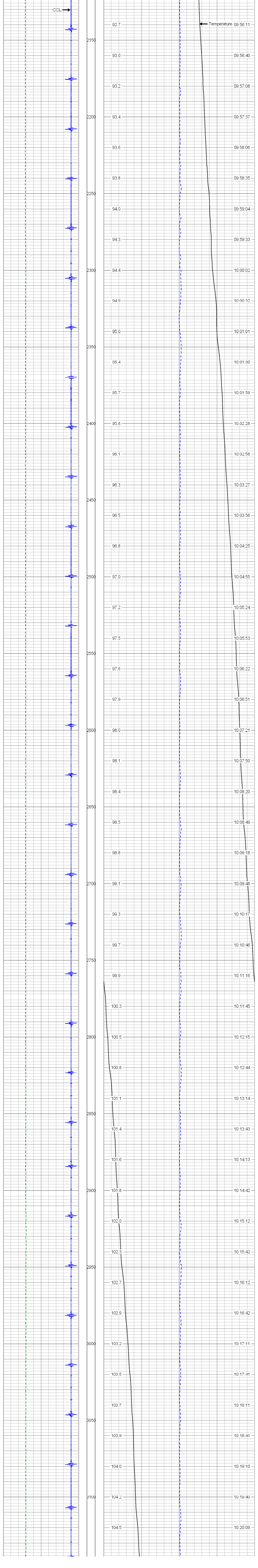


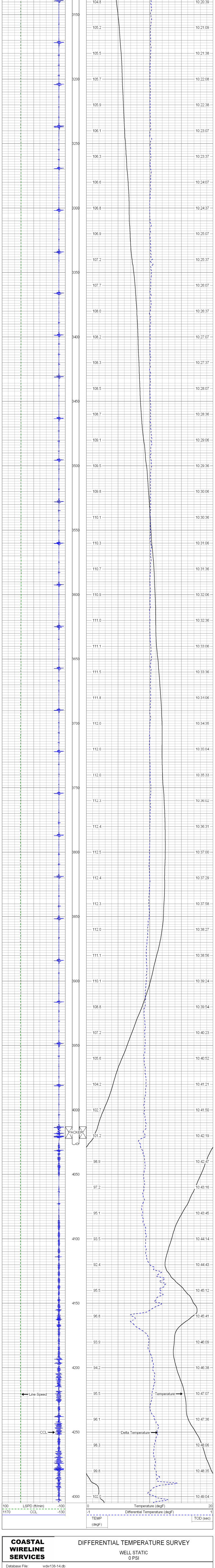
COASTAL WIRELINE SERVICES

CONTINUATION OF TEMPERATURE SURVEY

0 PSI

Database File: wdw138-14.db
Dataset Pathname: pass8
Presentation Format: temp
Dataset Creation: Tue Jul 15 09:54:09 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240





100	LSPD (ft/min)	-100	0	Temperature (degF)	20
1170	CCL	-130	-1	Differential Temperature (degF)	1
			TEMP (degF)		TOD (sec)

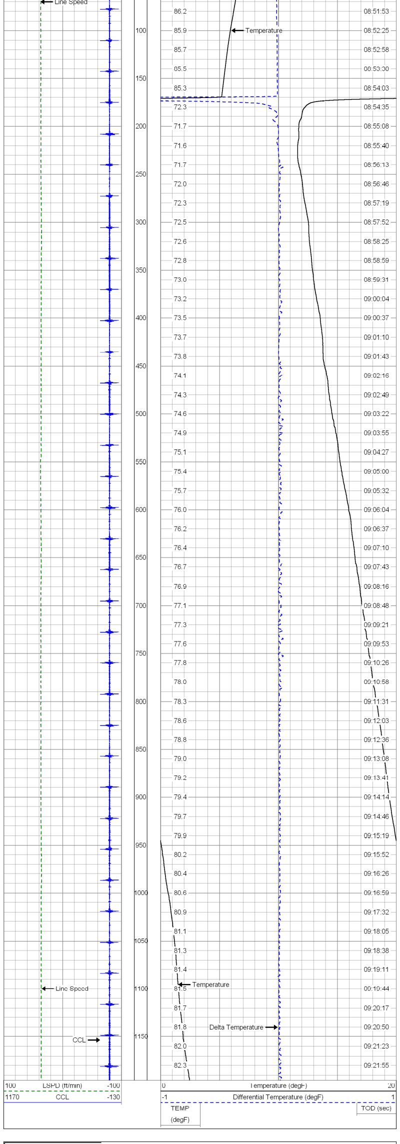
COASTAL WIRELINE SERVICES

DIFFERENTIAL TEMPERATURE SURVEY

WELL STATIC
0 PSI

Database File: wdw138-14.db
Dataset Pathname: pass6
Presentation Format: temp
Dataset Creation: Tue Jul 15 08:48:35 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:600

100	LSPD (ft/min)	-100	0	Temperature (degF)	20
1170	CCL	-130	-1	Differential Temperature (degF)	1
			TEMP (degF)		TOD (sec)



100	LSPD (ft/min)	-100	0	Temperature (degF)	20
1170	CCL	-130	-1	Differential Temperature (degF)	1
			TEMP (degF)		TOD (sec)

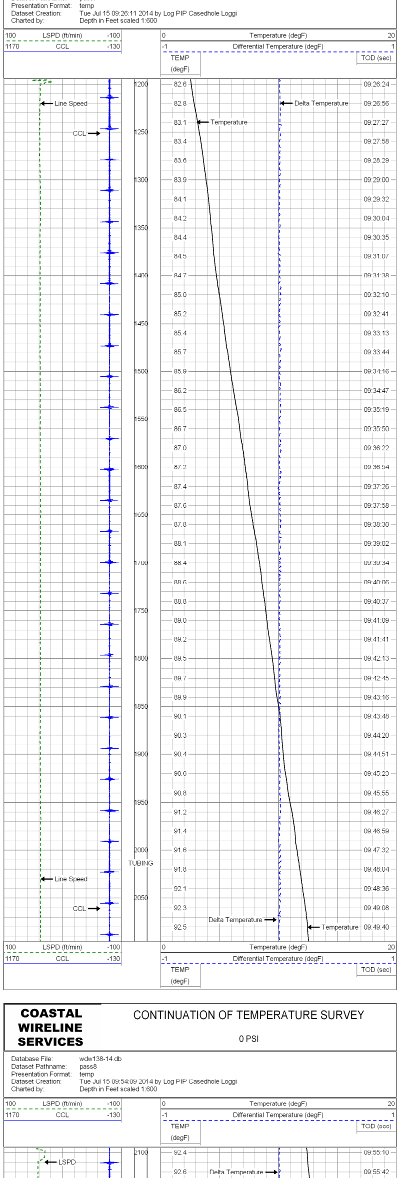
COASTAL WIRELINE SERVICES

CONTINUATION OF TEMPERATURE SURVEY

0 PSI

Database File: wdw138-14.db
Dataset Pathname: pass7
Presentation Format: temp
Dataset Creation: Tue Jul 15 09:26:11 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:600

100	LSPD (ft/min)	-100	0	Temperature (degF)	20
1170	CCL	-130	-1	Differential Temperature (degF)	1
			TEMP (degF)		TOD (sec)



100	LSPD (ft/min)	-100	0	Temperature (degF)	20
1170	CCL	-130	-1	Differential Temperature (degF)	1
			TEMP (degF)		TOD (sec)

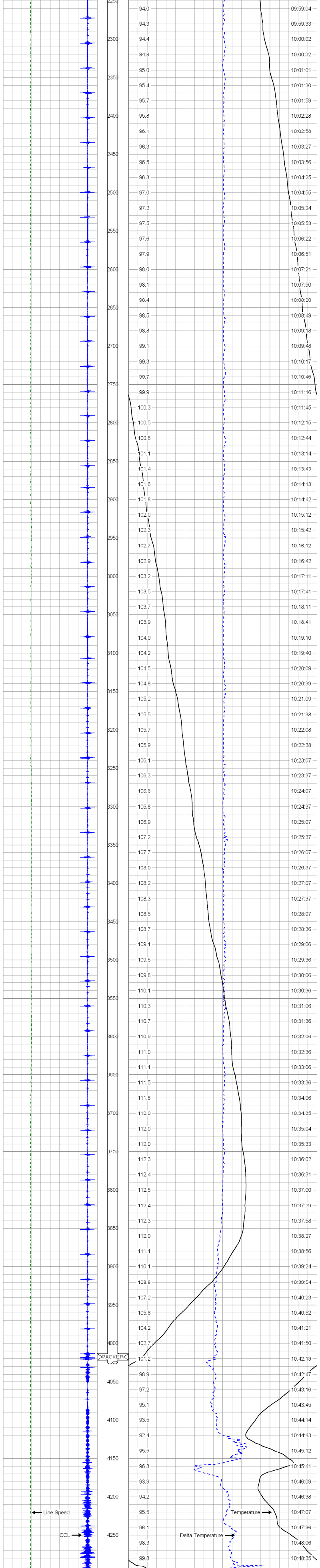
COASTAL WIRELINE SERVICES

CONTINUATION OF TEMPERATURE SURVEY

0 PSI

Database File: wdw138-14.db
Dataset Pathname: pass8
Presentation Format: temp
Dataset Creation: Tue Jul 15 09:54:09 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:600

100	LSPD (ft/min)	-100	0	Temperature (degF)	20
1170	CCL	-130	-1	Differential Temperature (degF)	1
			TEMP (degF)		TOD (sec)



100	LSPD (ft/min)	-100	0	Temperature (degF)	20
1170	CCL	-130	-1	Differential Temperature (degF)	1
			TEMP (degF)		TOD (sec)

APPENDIX K

COASTAL WIRELINE
RADIOACTIVE TRACER SURVEY LOG
AND INTERPRETATION LETTER

COASTAL WIRELINE SERVICES, INC.

Project Navigator, LTD- MSC Site
Waste Disposal Well 138
Swan Lake Facility
Texas City, Texas
July 15, 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 4,303 feet to 3,792 feet (221 feet above top of packer assembly). The injection rate was 47 gpm for the profile runs and 100 gpm time drive surveys.

The first phase of this test incorporates the injection of radioactive slug at 3,792 feet (221 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 4,022 feet and going into the formation below 4,162 feet. Made four (4) passes and chased slug down to 4,300 feet. This portion of this test was repeated with four (4) passes and slug chased down to 4,302 feet. A third profile run was made with four (4) passes and chased slug down to 4,303 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 4,162 feet.

The second phase of this test involved setting lower detector at 4,135 feet (33 feet above top of perfs.) and ejecting a slug of radioactive material at 4,130 feet and recorded on time drive for twenty (20) minutes with an injection rate of 100 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 above 6,162 feet.

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

RADIOACTIVE TRACER SURVEY CONTINUE

A Base after survey gamma ray log was ran from 4,303 feet to 3,792 feet and compared to original base gamma ray log which indicated no residue of radioactive material above 4,162 feet in formation, casing, tubing, or packer.

Radioactive Tracer Survey was conducted Chris Fenske (Coastal Wireline Services) and witnessed by Mr. Mike Grant (Sandia Technologies).

Sincerely

Stoney Johnson
Engineer C.W.S.

Coastal Wireline Services

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

COASTAL WIRELINE SERVICES

RADIOACTIVE TRACER SURVEY
MECHANICAL INTEGRITY TEST

Company: PROJECT NAVIGATOR, LTD.- MSC SITE
Well: WASTE DISPOSAL WELL # 138
Field: TEXAS CITY
County: GALVESTON
State: TEXAS
Country: U.S.A.

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 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

RADIOACTIVE TRACER SURVEY INDICATES THAT ALL FLUID IS GOING INTO INJECTION INTERVAL AT THIS TIME. NO INDICATION OF ANY FLUID MIGRATING UP HOLE BEHIND CASING, TUBING, OR PACKER.

RADIOACTIVE TRACER RUN SHEET

Run No	Time Start	Time End	Depth Start	Depth End	Rate gpm	Speed f/m	Press psi	Comments
1	12:47:55	12:50:15	4303'	3792'	0	60	0	GAMMA RAY LOG BEFORE SURVEY
2	12:57:55	13:02:55		4003'	0	ST	0	STATISTICAL CHECK ABOVE PACKER
3	13:04:24	13:09:24		4135'	0	ST	0	STAT. CHECK ABOVE PERFORATIONS
	14:37:00			3800'	47	ST	205	EJECTED FOR PROFILE RUN # 1
	14:37:30	14:39:57	3963'	3792'	47	70	205	PASS # 1 PEAK @ 3958' @ 14:37:35
	14:41:13	14:46:12	4235'	3942'	47	65	205	PASS # 2 PEAK @ 4211' @ 14:41:36
	14:47:26	14:52:16	4303'	4000'	47	62	417	PASS # 3 PEAK @ 4291' @ 14:47:41
	14:53:36	14:58:29	4303'	4000'	47	61	417	PASS # 4 PEAK @ 4300' @ 14:53:39
	15:04:00			3800'	47	ST	417	EJECTED FOR PROFILE RUN # 2
	15:04:31	15:07:10	3973'	3795'	47	66	417	PASS # 1 PEAK @ 3966' @ 15:04:37
	15:08:32	15:13:39	4265'	3950'	47	62	417	PASS # 2 PEAK @ 4226' @ 15:09:10
	15:14:54	15:20:10	4308'	3950'	47	65	417	PASS # 3 PEAK @ 4297' @ 15:15:05
	15:21:38	15:26:17	4303'	3960'	47	65	500	PASS # 4 PEAK @ 4302' @ 15:21:39
	15:28:00			3800'	47	ST	500	EJECTED FOR PROFILE RUN # 3
	15:29:26	15:31:55	3962'	3795'	47	69	500	PASS # 1 PEAK @ 3956' @ 15:29:34
	15:33:21	15:38:38	4279'	3930'	47	65	500	PASS # 2 PEAK @ 4227' @ 15:34:08
	15:40:01	15:45:35	4303'	3950'	47	63	500	PASS # 3 PEAK @ 4290' @ 15:40:09
	15:46:52	15:51:34	4303'	4000'	47	65	500	PASS # 4 SLUG DISSIPATED
	16:09:12	16:35:11		4135'	100	ST	725	TIME DRIVE # 1 EJECTED @ 16:13
	16:35:35	17:00:04		4135'	100	ST	750	TIME DRIVE # 2 EJECTED @ 16:38
	17:04:26	17:12:50	4303'	3800'	0	60	0	GAMMA RAY LOG AFTER SURVEY

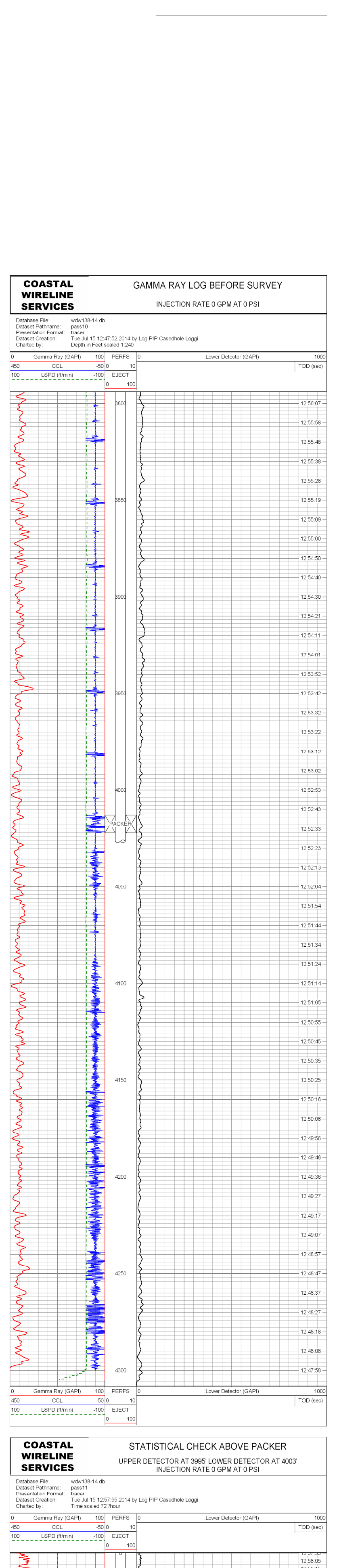
RADIOACTIVE TRACER AND TEMPERATURE TOOL STRING

COASTAL WIRELINE SERVICES

GAMMA RAY LOG BEFORE SURVEY

INJECTION RATE 0 GPM AT 0 PSI

Database File: wdw138-14.db
Presentation Format: tracer
Dataset Creation: Tue Jul 15 12:47:52 2014 by Log PIP Cased Hole Loggi
Charted by: Depth in Feet scaled 1:240



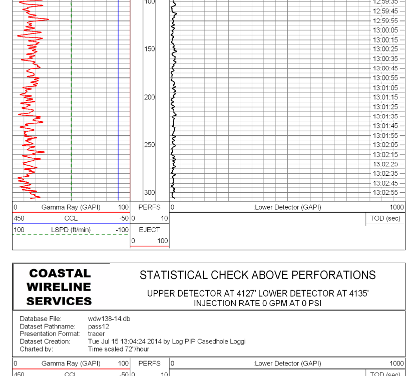
COASTAL WIRELINE SERVICES

STATISTICAL CHECK ABOVE PACKER

UPPER DETECTOR AT 3995' LOWER DETECTOR AT 4003'

INJECTION RATE 0 GPM AT 0 PSI

Database File: wdw138-14.db
Presentation Format: tracer
Dataset Creation: Tue Jul 15 12:57:55 2014 by Log PIP Cased Hole Loggi
Charted by: Time scaled 12 ft/hour



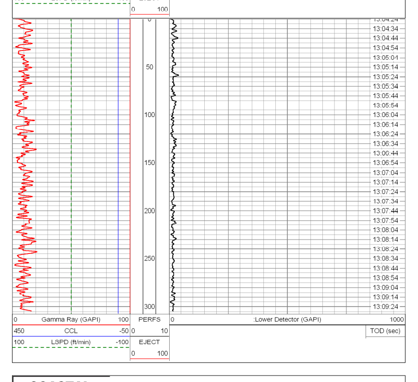
COASTAL WIRELINE SERVICES

STATISTICAL CHECK ABOVE PERFORATIONS

UPPER DETECTOR AT 4127' LOWER DETECTOR AT 4135'

INJECTION RATE 0 GPM AT 0 PSI

Database File: wdw138-14.db
Presentation Format: tracer
Dataset Creation: Tue Jul 15 13:04:24 2014 by Log PIP Cased Hole Loggi



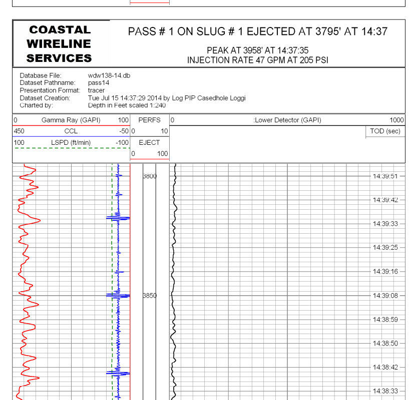
COASTAL WIRELINE SERVICES

PASS # 1 ON SLUG # 1 EJECTED AT 3795' AT 14:37

PEAK AT 3958' AT 14:37:35

INJECTION RATE 47 GPM AT 205 PSI

Database File: wdw138-14.db
Presentation Format: tracer
Dataset Creation: Tue Jul 15 14:37:29 2014 by Log PIP Cased Hole Loggi
Charted by: Depth in Feet scaled 1:240



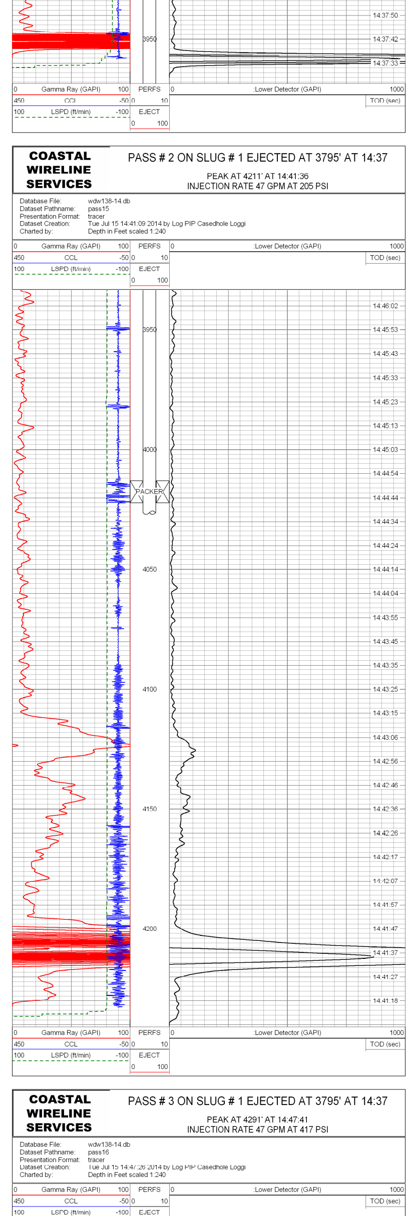
COASTAL WIRELINE SERVICES

PASS # 2 ON SLUG # 1 EJECTED AT 3795' AT 14:37

PEAK AT 4211' AT 14:41:36

INJECTION RATE 47 GPM AT 205 PSI

Database File: wdw138-14.db
Presentation Format: tracer
Dataset Creation: Tue Jul 15 14:41:09 2014 by Log PIP Cased Hole Loggi
Charted by: Depth in Feet scaled 1:240



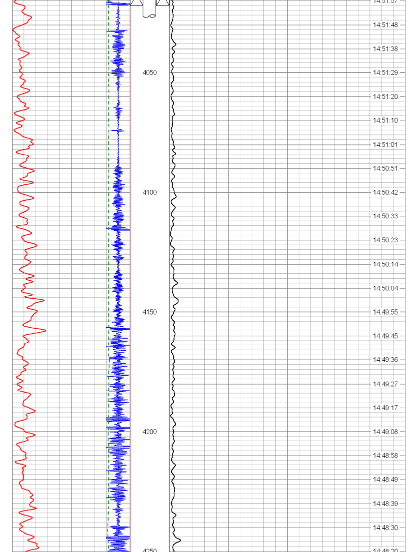
COASTAL WIRELINE SERVICES

PASS # 3 ON SLUG # 1 EJECTED AT 3795' AT 14:37

PEAK AT 4291' AT 14:47:41

INJECTION RATE 47 GPM AT 417 PSI

Database File: wdw138-14.db
Presentation Format: tracer
Dataset Creation: Tue Jul 15 14:47:20 2014 by Log PIP Cased Hole Loggi
Charted by: Depth in Feet scaled 1:240



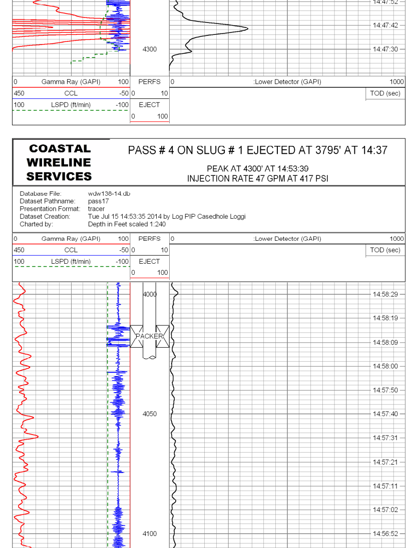
COASTAL WIRELINE SERVICES

PASS # 4 ON SLUG # 1 EJECTED AT 3795' AT 14:37

PEAK AT 4300' AT 14:53:39

INJECTION RATE 47 GPM AT 417 PSI

Database File: wdw138-14.db
Presentation Format: tracer
Dataset Creation: Tue Jul 15 14:53:35 2014 by Log PIP Cased Hole Loggi
Charted by: Depth in Feet scaled 1:240



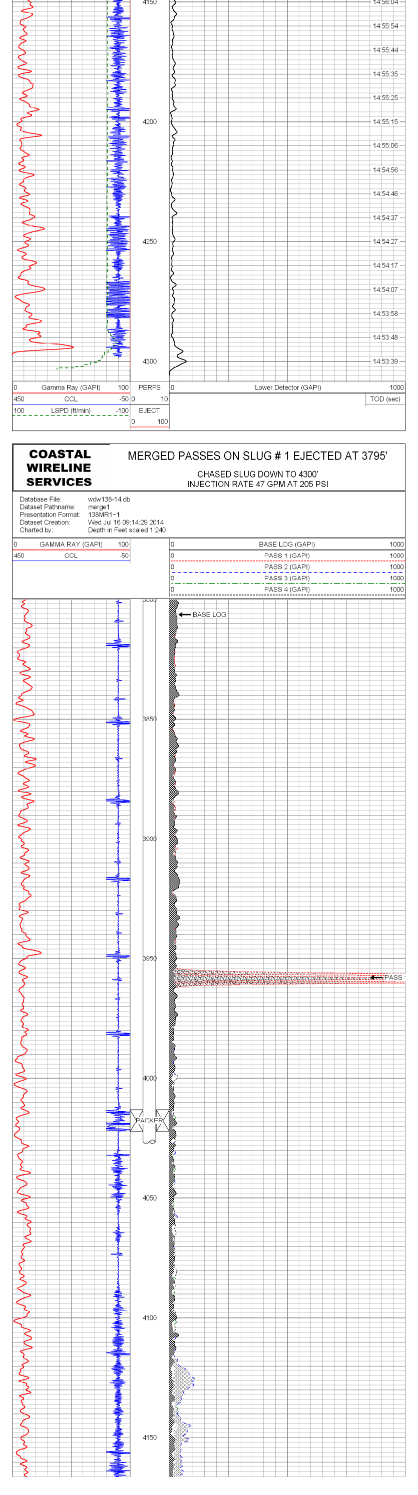
COASTAL WIRELINE SERVICES

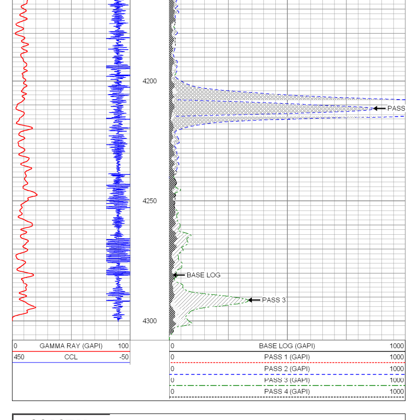
MERGED PASSES ON SLUG # 1 EJECTED AT 3795'

CHASED SLUG DOWN TO 4300'

INJECTION RATE 47 GPM AT 205 PSI

Database File: wdw138-14.db
Dataset Pathname: merge1
Presentation Format: 138MR1-1
Dataset Creation: Wed Jul 16 09:14:29 2014
Charted by: Depth in Feet scaled 1:240



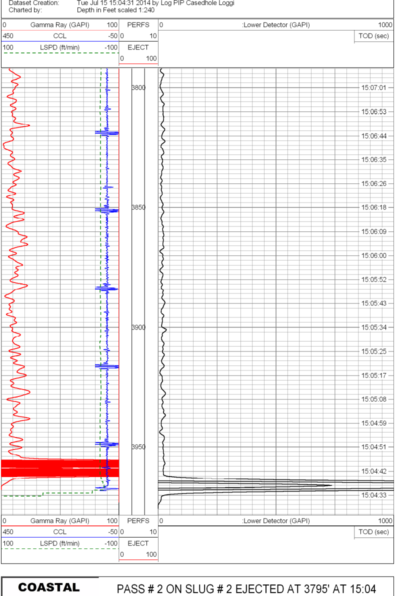


COASTAL WIRELINE SERVICES

PASS # 1 ON SLUG # 2 EJECTED AT 3795' AT 15:04

PEAK AT 3966' AT 15:04:37
INJECTION RATE 47 GPM AT 417 PSI

Database File: wdw138-14.db
Dataset Pathname: pass18
Presentation Format: tracer
Dataset Creation: Tue Jul 15 15:04:31 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

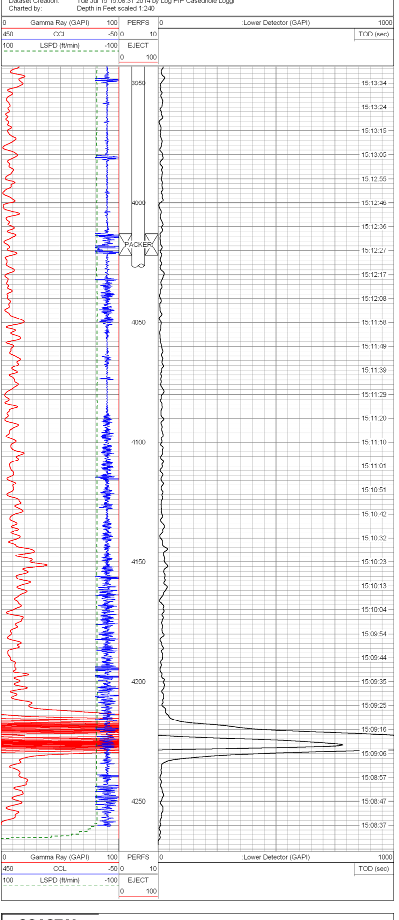


COASTAL WIRELINE SERVICES

PASS # 2 ON SLUG # 2 EJECTED AT 3795' AT 15:04

PEAK AT 4226' AT 15:09:10
INJECTION RATE 47 GPM AT 417 PSI

Database File: wdw138-14.db
Dataset Pathname: pass19
Presentation Format: tracer
Dataset Creation: Tue Jul 15 15:08:31 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

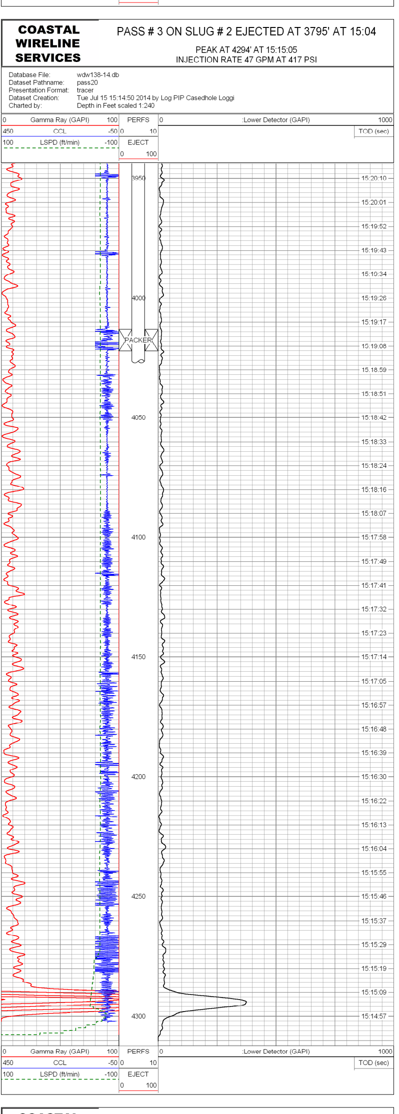


COASTAL WIRELINE SERVICES

PASS # 3 ON SLUG # 2 EJECTED AT 3795' AT 15:04

PEAK AT 4294' AT 15:15:05
INJECTION RATE 47 GPM AT 417 PSI

Database File: wdw138-14.db
Dataset Pathname: pass20
Presentation Format: tracer
Dataset Creation: Tue Jul 15 15:14:50 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

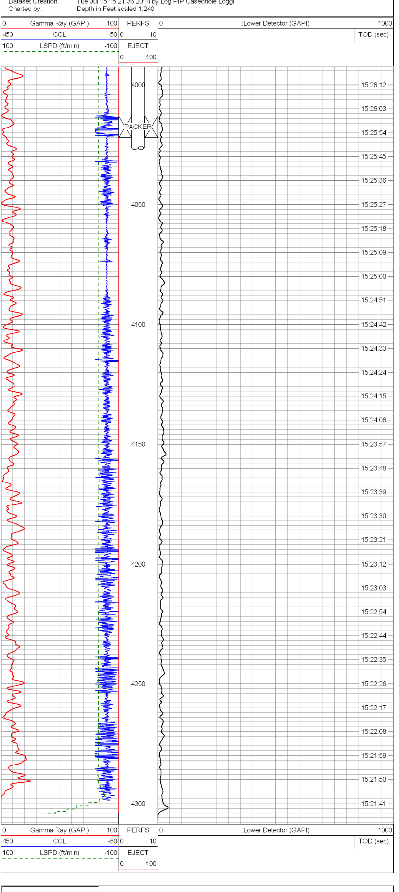


COASTAL WIRELINE SERVICES

PASS # 4 ON SLUG # 2 EJECTED AT 3795' AT 15:04

PEAK AT 4302' AT 15:21:39
INJECTION RATE 47 GPM AT 500 PSI

Database File: wdw138-14.db
Dataset Pathname: pass21
Presentation Format: tracer
Dataset Creation: Tue Jul 15 15:21:36 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

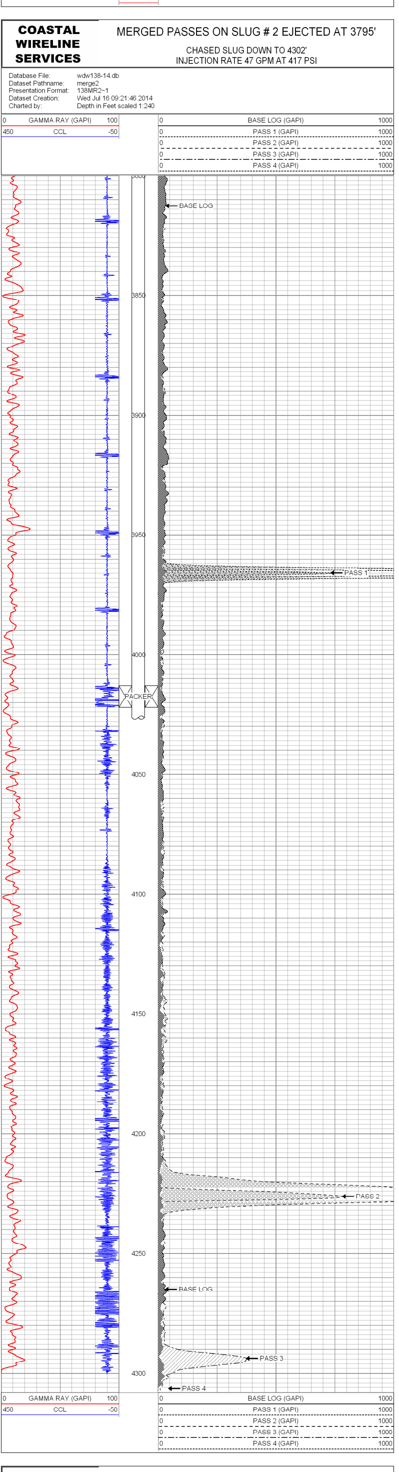


COASTAL WIRELINE SERVICES

MERGED PASSES ON SLUG # 2 EJECTED AT 3795'

CHASED SLUG DOWN TO 4302'
INJECTION RATE 47 GPM AT 417 PSI

Database File: wdw138-14.db
Dataset Pathname: merge2
Presentation Format: 138MR2~1
Dataset Creation: Wed Jul 16 09:21:46 2014
Charted by: Depth in Feet scaled 1:240

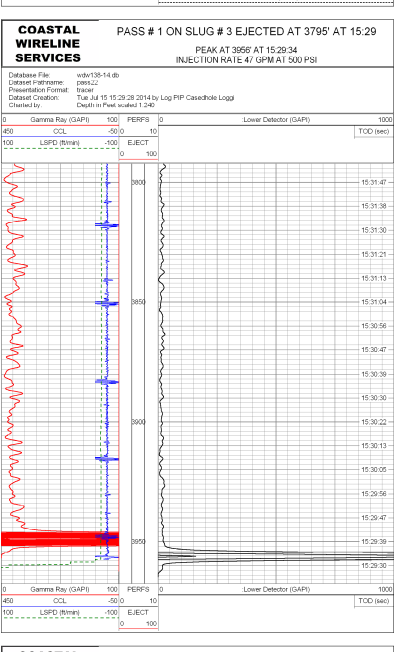


COASTAL WIRELINE SERVICES

PASS # 1 ON SLUG # 3 EJECTED AT 3795' AT 15:29

PEAK AT 3956' AT 15:29:34
INJECTION RATE 47 GPM AT 500 PSI

Database File: wdw138-14.db
Dataset Pathname: pass22
Presentation Format: tracer
Dataset Creation: Tue Jul 15 15:29:28 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

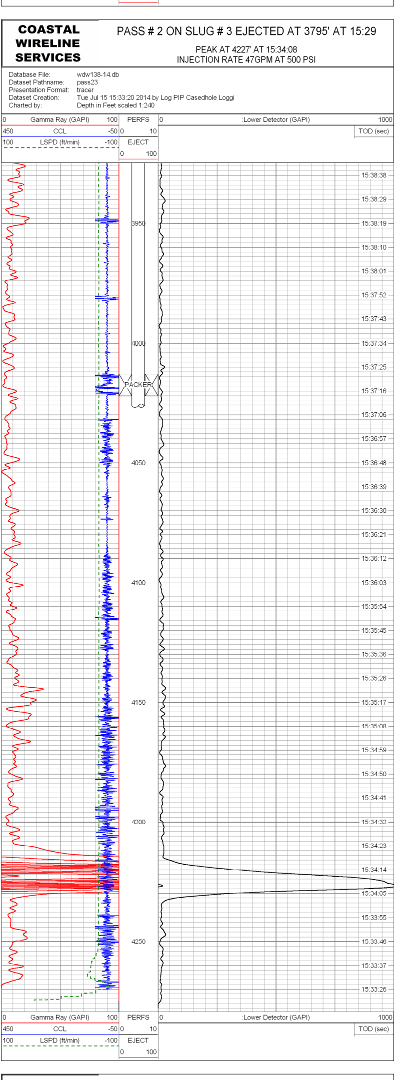


COASTAL WIRELINE SERVICES

PASS # 2 ON SLUG # 3 EJECTED AT 3795' AT 15:29

PEAK AT 4227' AT 15:34:08
INJECTION RATE 47GPM AT 500 PSI

Database File: wdw138-14.db
Dataset Pathname: pass23
Presentation Format: tracer
Dataset Creation: Tue Jul 15 15:33:20 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

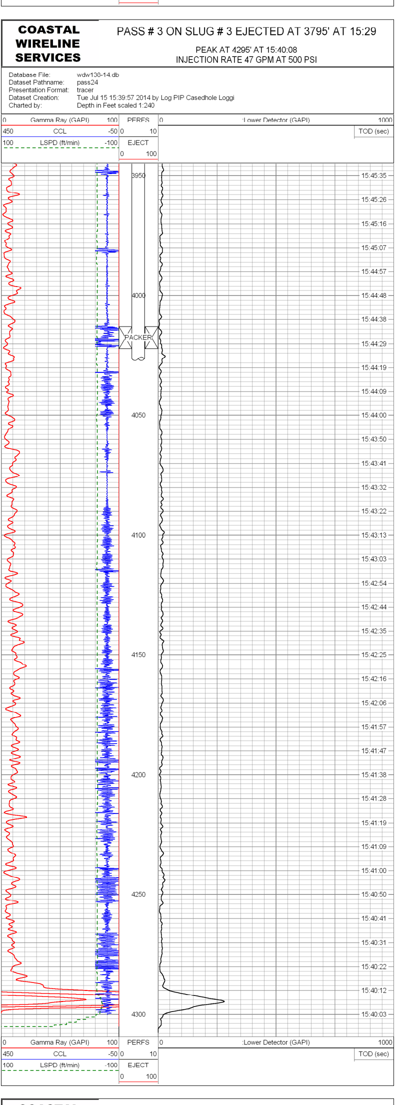


COASTAL WIRELINE SERVICES

PASS # 3 ON SLUG # 3 EJECTED AT 3795' AT 15:29

PEAK AT 4295' AT 15:40:08
INJECTION RATE 47 GPM AT 500 PSI

Database File: wdw138-14.db
Dataset Pathname: pass24
Presentation Format: tracer
Dataset Creation: Tue Jul 15 15:39:57 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

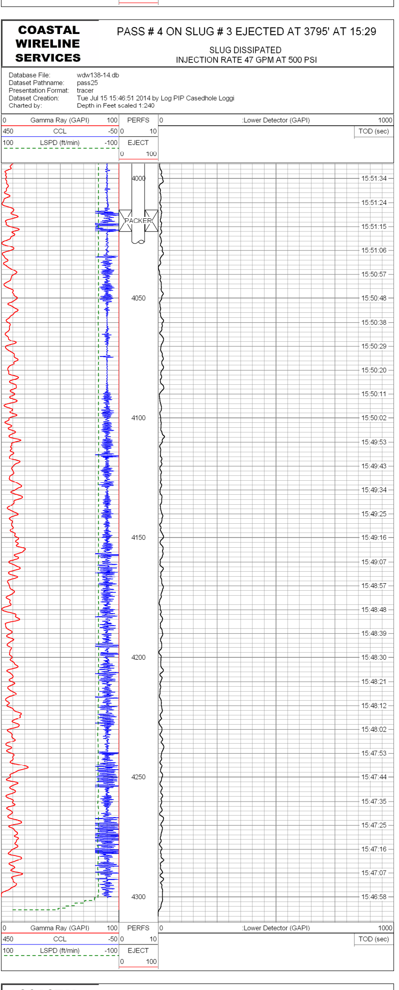


COASTAL WIRELINE SERVICES

PASS # 4 ON SLUG # 3 EJECTED AT 3795' AT 15:29

SLUG DISSIPATED
INJECTION RATE 47 GPM AT 500 PSI

Database File: wdw138-14.db
Dataset Pathname: pass25
Presentation Format: tracer
Dataset Creation: Tue Jul 15 15:46:51 2014 by Log PIP Casedhole Loggi
Charted by: Depth in Feet scaled 1:240

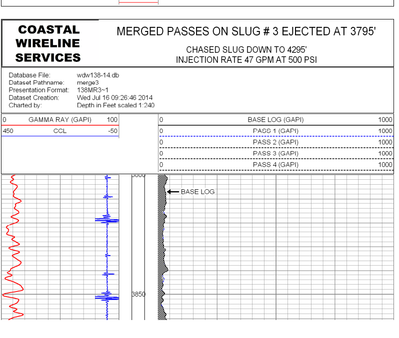


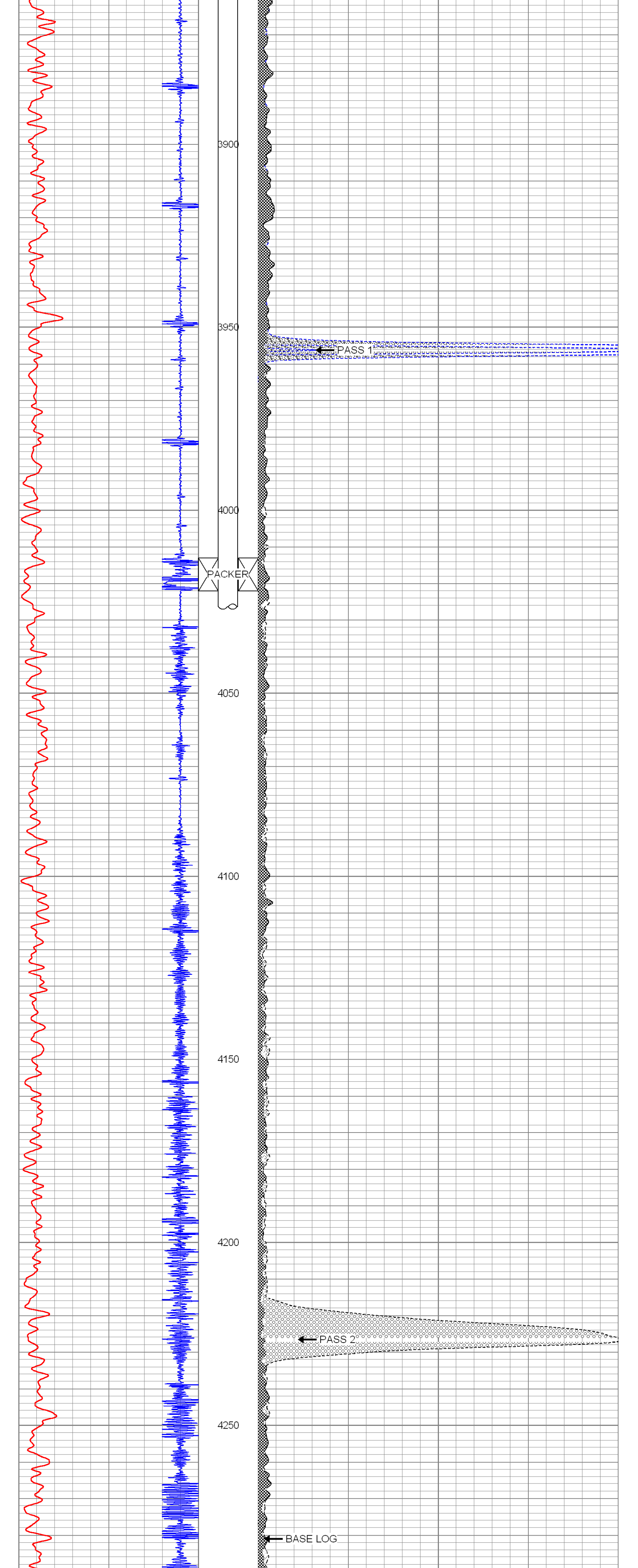
COASTAL WIRELINE SERVICES

MERGED PASSES ON SLUG # 3 EJECTED AT 3795'

CHASED SLUG DOWN TO 4295'
INJECTION RATE 47 GPM AT 500 PSI

Database File: wdw138-14.db
Dataset Pathname: merge3
Presentation Format: 138MR3~1
Dataset Creation: Wed Jul 16 09:26:46 2014
Charted by: Depth in Feet scaled 1:240



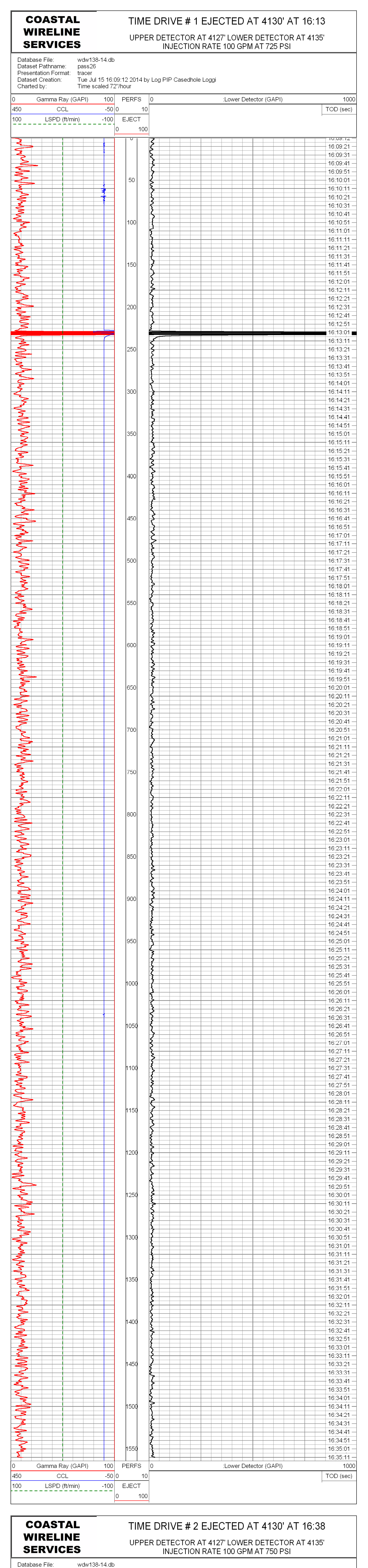


COASTAL WIRELINE SERVICES

TIME DRIVE # 1 EJECTED AT 4130' AT 16:13

UPPER DETECTOR AT 4127' LOWER DETECTOR AT 4135'
INJECTION RATE 100 GPM AT 725 PSI

Database File: wdw138-14.db
Dataset Pathname: pass26
Presentation Format: tracer
Dataset Creation: Tue Jul 15 16:09:12 2014 by Log PIP Casedhole Loggi
Charted by: Time scaled 72"/hour

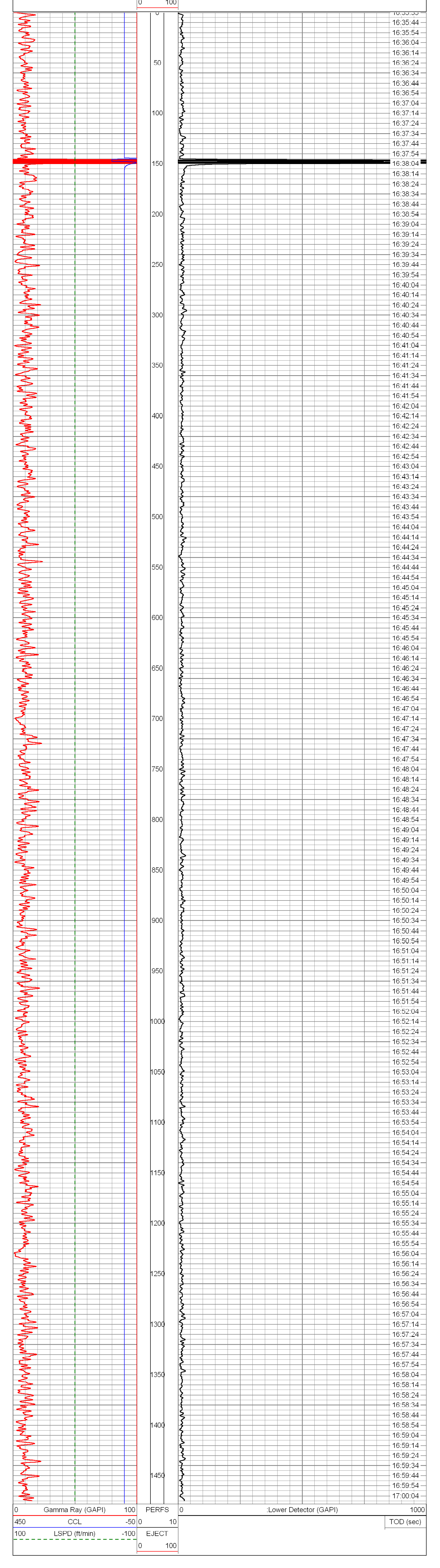


COASTAL WIRELINE SERVICES

TIME DRIVE # 2 EJECTED AT 4130' AT 16:38

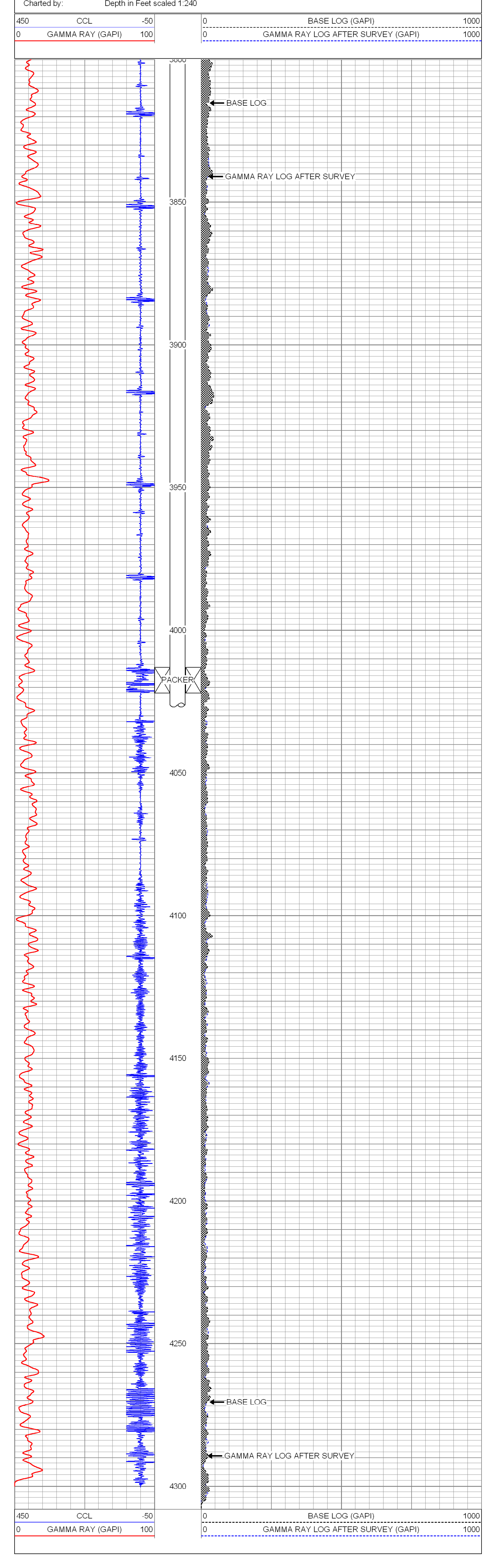
UPPER DETECTOR AT 4127' LOWER DETECTOR AT 4135'
INJECTION RATE 100 GPM AT 750 PSI

Database File: wdw138-14.db
Dataset Pathname: pass27
Presentation Format: tracer
Dataset Creation: Tue Jul 15 16:35:35 2014 by Log PIP Casedhole Loggi
Charted by: Time scaled 72"/hour



COASTAL WIRELINE SERVICES

GAMMA RAY LOG AFTER SURVEY

INJECTION RATE 0 GPM

Database File: wdw138-14.db
Dataset Pathname: merge4
Presentation Format: 138MR4~1
Dataset Creation: Wed Jul 16 09:33:26 2014
Charted by: Depth in Feet scaled 1:240