2023 MECHANICAL INTEGRITY TESTING AND PRESSURE FALLOFF TESTING REPORT

REPUBLIC INDUSTRIAL & ENERGY SOLUTIONS, LLC

WELL NO. 2-12

API No. 21-163-M453
EPA Permit No. MI-163-1W-C0011
Michigan EGLE Permit No. M-453
Romulus, MI

October 2023

Baton Rouge, LA

Project No. 192128AP

Prepared by Jeffry Tahtouh and Troy Gillen Reviewed by Steve Kelly

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1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (U.S. EPA), requirements included in the Class I UIC permit number MI-163-1W-C011 granted to Republic Industrial and Energy Solutions, LLC (Republic) and with the State of Michigan Administrative Rule R299.2393 (MI Permit #M-453) the annual mechanical integrity testing was performed on Well No. 2-12 on August 11 and September 5, 2023 to demonstrate the mechanical integrity of the casing, packer, and tubing.

Republic Industrial and Energy Solutions, LLC (Republic) retained WSP USA (WSP) to perform the annual mechanical integrity testing on Well No. 2-12 at Republic's facility in Romulus, MI. The mechanical integrity tests included a Radioactive Tracer Survey and an Annulus Pressure Test. All tests were conducted in accordance with United States Environmental Protection Agency (USEPA) 40 CFR 146.8 and 146.13(b)(3), (c)(2)(i), and (d). Approved testing procedures are included as Appendix A.

In addition to the mechanical integrity testing, a bottom hole pressure falloff test (Ambient Pressure Monitoring) was run in Well No. 2-12 to assist in evaluating the injection zone. A chronology of field activities is included as Appendix B. Wellhead and wellbore schematics of Well No. 2-12 are included as Figures 1 and 2, respectively.

2.0 REPORT OF FIELD OPERATIONS

All depths in this report, unless otherwise noted, are referenced to the Kelly Bushing (KB) elevation which is 13 feet above the ground level elevation for Well No. 2-12. A wellbore schematic of Well 2-12 is presented as Figure 2. A chronological report of field activities is presented as Appendix B.

Republic performed the annulus pressure test (APT) on August 11, 2023, to demonstrate that there is no significant leak in the tubing, casing or packer. JoAnne Mitock with Environmental Solutions AQ (support for USEPA Region 5) and Emma Atkinson with Michigan EGLE-OGMD witnessed and passed the test. The annulus pressure test results are detailed in Section 3.0.

Field wireline operations began on September 5, 2023, when Michigan Wireline spotted and rigged up l on the well with Casing Collar Locator (CCL) and Radioactive Tracer tools. A radioactive tracer survey (RTS) was run on September 5, 2023. A pre-survey base log and 5-minute statistical checks were ran with no injection. Injection was initiated at 42 gallons (gpm), then a slug of radioactive material was released at 3100 feet. A dissipated slug was located at approximately 4050 feet with Chase Pass No. 4. A slug of radioactive material was ejected at 3750 feet, and the lower gamma ray detector was run downhole and positioned at 3960 feet to observe the slug passing by and monitor for any upward migration. The time-drive survey was conducted for approximately 30 minutes at 42 gpm and 485 psi injection pressure. To conclude the RTS, the well was shut-in and the post-survey log was run. The radioactive tracer survey results are detailed in Section 4.0.

On September 6, 2023, Impact Completions spotted and rigged up slickline with memory-type bottom-hole pressure gauges. The memory gauges were run downhole and set at 3975 feet (top gauge at 3973 feet). Injection was initiated at 0846 hours. Republic began to discontinue injection of plant effluent into Well 2-12 at 1948 hours on September 6, 2023. The pressure falloff was monitored for approximately 22.6 hours and was concluded on September 7, 2023. While pulling the gauges out of the well, static pressure gradient stops were made at 3000 feet, 2000 feet, 1000 feet, and at the surface. Well 1-12 was shut-in throughout the build-up and falloff period. The falloff test and bottom hole static pressure gradient results are detailed in Sections 5.0 and 6.0, respectively.

3.0 ANNULUS PRESSURE TEST

An Annulus Pressure Test (APT) was conducted on Well #2-12 on Monday, August 11, 2023, with JoAnne Mitock with Environmental Solutions AQ (support for USEPA Region 5) and Emma Atkinson with Michigan EGLE-OGMD witnessed and passed the test. Between 03:24 PM and 03:25 PM, the annulus pressure was increased from 1006.81 psig to 1190.54 psig. The official APT was started at 03:41 PM at a pressure of 1180.79 psig. One hour later at 04:41 PM, the annulus pressure had declined to 1160.72 psig which was a decrease of 20.07 psi (-1.70%) and within the ±3%/hour allowed by the EPA Region 5.

A plot of the APT is provided as Figure 3, and a tabulate of the APT data is provided as Appendix C. A calibration certificate for the digital pressure gauge is included in Appendix D. Signed copy of the Standard Annular Pressure Test Form is provided as Appendix E.

4.0 RADIOACTIVE TRACER SURVEY

A Radioactive Tracer Survey was run in Well #2-12 on September 5, 2023. The survey was conducted using the facility's pump and fresh water. After correlating the log with the top of the packer set at 3930 feet, the tool tagged bottom at 4296 feet.

A Base Pass was made from 4296 feet to 2987 feet, and 5-minute statistical checks were made at 3800 feet and 3855 feet. While injecting into the well at 1 bbl/min (42 gal/min), a 4-second slug of radioactive material (Iodine-131) was released at 3100 feet. Four Chase Passes were made through the radioactive slug as it traveled down the tubing and dissipated into the Injection Interval, below the 7-inch protection casing set at 3982 feet, dissipating at approximately 4050 feet. A summary of the Chase Passes with flow rate is provided as Table 1. No radioactive material was detected exiting the well above the Injection Interval, demonstrating the external mechanical integrity of the well.

The injection rate was kept at 42 gal/min, and a 4-second slug of radioactive material was released at 3750 feet. The upper and lower gamma ray detectors were then positioned at 3,951 feet and 3,960 feet, respectively. At 09:45:58 the slug passed by the upper gamma ray detector, and 22 seconds later at 09:46:20, the slug passed by the lower gamma ray detector. Approximately 40 seconds after the radioactive slug passed by each gamma ray detector, the level of radiation returned to background levels on both gamma ray detectors and remained at background levels for the duration of the time-drive survey. The time-drive survey was terminated at 10:18:04 which was 32 minutes after the radioactive slug passed by the lower gamma ray detector. No vertical migration was detected during the time-drive survey, demonstrating the base of the 7-inch protection casing cement had mechanical integrity.

Injection was ceased. A final gamma ray pass was made from 4296 feet to 2987 feet following the time-drive survey. Above approximately 4220 feet, the final pass repeated the base pass with the upper and lower gamma ray detectors. Below 4050 feet, both gamma ray detectors averaged approximately 10 counts/sec higher on the final pass, indicating residual tracer material in the borehole. Some of this small increase may have been due to residual radioactive material in the borehole getting dispersed with movement of the tool.

A copy of the Radioactive Tracer Survey is included as Exhibit 1. Appendix F provides a completed EPA Radioactive Tracer Survey Form with background information of the Well #2-12 survey.

5.0 PRESSURE FALLOFF ANALYSIS

Pressure falloff testing was conducted on Well 2-12 from September 6, 2023, through September 7, 2023. A Badger Low Temp, Serial No. 91908 pressure gauge was utilized during the testing. The gauge calibration certificates are presented in Appendix D and show the gauges have been calibrated as specified by the gauge manufacturer.

Injection Period

The rate data used in the analysis of the falloff pressure data was the injection period on September 6, 2023, through shut-in. Well 2-12 was shut in on September 5, 2023, after the completion of the radioactive tracer survey. Injection resumed on September 6, 2023 at 0846 hours then continued for approximately 11 hours. General well and reservoir information is presented in Table 2. Information pertinent to the injection period is presented in Table 3.

Falloff Period

Well 2-12 was shut in at 1948 hours on September 7, 2023 and remained shut-in for approximately 22.6 hours while the bottom-hole pressure and temperature were recorded. Appendix G lists the pressure and temperature data recorded during the test. Table 4 contains information pertinent to the falloff period of the test.

Analysis of Falloff Test

The pressure data obtained during the falloff test were analyzed utilizing the commercially available pressure transient analysis software program PanSystem©. The PanSystem© output for the analysis of this test is presented in Appendix H. Impact Completion's pressure test report is presented as Appendix I. A completed EPA Pressure Falloff Test Form is provided in Appendix J.

Figure 4 shows the pressure response recorded by the bottom-hole pressure tool from the time the tool was in place through the 22.6-hour shut-in period. Figure 5 is a Cartesian plot of the pressure data recorded during the falloff period. The superposition time function was used to account for all rate changes during the injection buildup period of the testing.

Figure 6 is a log-log diagnostic plot of the falloff data, showing change in pressure and pressure derivative versus elapsed shut-in time. Radial flow begins to appear at an elapsed time following shut-in of 0.97 hours and continues until an elapsed time following shut-in of 3.82 hours. The radial flow regime is indicated on Figure 7.

The reservoir permeability was determined from the radial flow region of the superposition Horner plot (Figure 7). The radial flow regime begins at a superposition Horner time of 12.36 and continues until 3.88. Figure 8 shows an expanded view of the superposition Horner plot. The slope of the radial flow period was determined to be 86.672 psi/cycle.

An estimate of mobility-thickness, kh/μ, for the reservoir was determined from the following equation:

$$\frac{kh}{\mu} = 162.6 * \frac{qB}{m}$$

Where,

kh/μ	=	formation mobility-thickness, millidarcy-feet/centipoise
q	=	rate prior to shut-in, bpd
B	=	formation volume factor, reservoir volume/surface volume
m	=	slope radial flow period, psi/cycle

With the following values, the mobility-thickness was found to be 3155 md-ft/cp:

q	=	1681.71 barrels/day
m	=	86.672 psi/cycle
B	=	1.0 reservoir barrel/surface barrel

$$\frac{kh}{\mu} = 162.6 \ \frac{(1681.71)(1.0)}{86.672}$$

$$= 3{,}155 \text{ md-ft/cp}$$

The permeability-thickness, kh, was determined to be 2,524 md-ft by multiplying the mobility-thickness, kh/μ, by the viscosity of the injected waste, μ_{waste}, of 0.80 centipoise:

$$kh = \left(\frac{kh}{\mu}\right)\mu_{waste}$$

$$= (3{,}136.4)\ (0.80)$$

$$= 2{,}524 \text{ md-ft}$$

The average reservoir permeability using the total thickness of 133 feet was determined to be 19 md:

$$k = \frac{(kh)}{h}$$

$$= \frac{2{,}524}{133}$$

$$= 19 \text{ md}$$

To determine whether the pressure transient was indeed beyond the waste front, the travel time for the pressure transient to pass beyond the waste front was calculated. The distance to the waste front is determined from the following equation:

$$r_{waste} = \left(\frac{0.13368\,V}{\pi h \phi}\right)^{1/2}$$

Where:

r_{waste}	=	radius to waste front, feet
V	=	total volume injected into the injection interval, gallons
h	=	formation thickness, feet
ϕ	=	formation porosity, fraction
0.13368	=	constant

The time necessary for a pressure transient to travel this distance is calculated from the following equation:

$$t_{waste} = 948\frac{\phi\,\mu_{waste}\,c_t\,r^2{}_{waste}}{k}$$

Where:

t_{waste}	=	time for pressure transient to reach waste front, hours
ϕ	=	formation porosity, fraction
μ_{waste}	=	viscosity of the waste at reservoir conditions, centipoise
r_{waste}	=	radius to waste front, feet
c_t	=	total compressibility of the formation and fluid, psi
k	=	formation permeability, millidarcies
948	=	constant

Combining the previous two equations results in:

$$t_{waste} = 126.73\frac{\mathrm{V}\,\mu_{waste}\,c_t}{\pi k h}$$

The waste viscosity is 0.80 centipoise at reservoir conditions, while viscosity of brine in the reservoir is 1.34 centipoise. A cumulative volume of approximately 111,539,596 gallons of waste has been injected into the injection interval (from both Well 1-12 & 2-12) since injection began. The formation has a porosity of 0.11 and a total compressibility of 6.20 x 10^{-6} psi^{-1}. The time necessary for a pressure transient to traverse the distance from the wellbore to the leading edge of the waste front, would then be 8.83 hours:

$$t = 126.73 \quad \frac{(111{,}539{,}596(0.80)(6.20\,x\quad 10^{-6})}{(\pi\ \ )(19)(133)}$$

$$= 8.83\ hours$$

Since the radial flow period occurred from 0.97 to 3.82 hours elapsed time following shut-in, the use of the injected waste viscosity for calculating permeability during the radial flow period was valid.

The skin factor was determined from the following equation:

$$s = 1.151 \left[\frac{P_{wf} - P_{1hr}}{m} - \log\left(\frac{k}{\phi \, \mu \, c_t \, r_w^2} \right) + 3.23 \right]$$

Where,

s	=	formation skin damage at open perforations, dimensionless
1.151	=	constant
p_{wf}	=	flowing pressure immediately prior to shut-in, psia
p_{1hr}	=	pressure determined by extrapolating the radial flow semi-log line to a Δt of one hour, psi
m	=	slope of the radial flow semi-log line, psi/cycle
k	=	permeability of the formation, md
ϕ	=	porosity of the injection interval, fraction
μ	=	viscosity of the fluid the pressure transient is traveling through, centipoise
c_t	=	total compressibility of the formation plus fluid, psi^{-1}
r_w	=	radius of the wellbore, feet
3.23	=	constant

The final flowing pressure was 2355.14 psia. The pressure determined by extrapolating the radial flow semi-log line to a Δt of one hour, p_{1hr}, was 2018.21 psia. The porosity of the injection interval, ϕ, is 0.11 and the total compressibility, c_t, is 6.2 x 10^{-6} psi^{-1}. The wellbore radius, r_w, is 0.3646 feet. Using these values in addition to the previously determined parameters, m and k, results in a skin of -1.50:

$$s = 1.151 \left[\frac{2355.14 - 2018.21}{86.672} - \log\left(\frac{19}{(0.11)(0.80)(6.2 \, x \, 10^{-6})(0.3646)^2} \right) + 3.23 \right]$$

$$= -1.50$$

The change in pressure, Δp_{skin}, in the wellbore associated with the skin factor was determined to be -112.98 psi using the slope of the straight-line portion of the radial flow plot, the calculated skin factor, and the following equation:

$$\Delta p_{skin} = 0.869 \, ms$$

Where:

0.869	=	constant
m	=	slope from superposition plot of the well test, psi/cycle
s	=	skin factor calculated from the well test

Δp_{skin} = 0.869 (86.672) (-1.5)

Δp_{skin} = -112.98 psi

The flow efficiency (E) was determined from the following equation:

$$E = \frac{p_{wf} - p^* - \Delta p_{skin}}{p_{wf} - p^*}$$

Where:

E = flow efficiency, fraction
p_{wf} = flowing pressure prior to shutting in the well for the falloff, 2355.14 psia
p^* = pressure extrapolated to an infinite shut-in time from the straight-line portion of the radial flow plot, 1924.59 psia
Δp_{skin} = pressure change due to skin damage, -112.98 psi

Substituting these values, the flow efficiency was calculated to be 1.26:

$$E = \frac{2355.14 - 1924.59 - (-112.98)}{2355.14 - 1924.59}$$

$$= 1.26$$

Table 5 presents a summary of calculated test data determined from the analysis.

Table 6 presents a summary of the results determined from the analysis.

6.0 BOTTOM-HOLE PRESSURE MEASUREMENT AND STATIC GRADIENT SURVEY

On September 7, 2023, a static gradient survey was performed while pulling the pressure gauges out of the well. Gradient stops were made at 3000 feet, 2000 feet, 1000 feet 500 feet, and at the surface. The bottom-hole pressure and temperature, after approximately 22.6 hours of shut-in at 3975 feet, were 1929.86 psia (1929.86 psia = 1915.16 psig + 14.7 psi) and 74.33 °F, respectively. The data printout for the static gradient survey is presented as Appendix K. A tabulation of the survey results is provided as Table 6. The data are depicted graphically in Figure 9.

7.0 CONCLUSIONS

In conclusion, Republic Well No. 2-12 has mechanical integrity in accordance with 40 CFR 146.08 a (1) and in accordance with U.S. EPA Permit Number MI-168-1W-C011, and in accordance with the State of Michigan administrative rule R299.2393 (Michigan Permit Number #M-453) by demonstrating that:

- There is no significant leak in the casing, tubing or packer, as evidenced by an annulus pressure test conducted on August 11, 2023.
- The cement at the top of the injection interval has integrity and all injected fluids exited the injection tubing below the packer and moved out into the injection zone as demonstrated by the radioactive tracer log dated September 5, 2023.

With the submittal of this report, the ambient pressure monitoring and mechanical integrity testing conducted on Well 2-12 satisfies the United States Environmental Protection agency requirements which are included in the Class I UIC well permit number MI-163-1W-C0011.

TABLES

TABLE 1

RADIOACTIVE TRACER SURVEY CHASE PASS SUMMARY

Chase Pass	Time Logged	Peak Slug Depth (ft KB)	Distance Traveled (ft)	Time Between Slugs (min)	Volume Between Slugs (gal)	Flow Rate (gpm)
1	8:56:39	3151.54				
2	8:59:30	3341.53	189.99	2.85	119.70	42
3	9:09:12	3954.84	613.31	9.70	407.40	42
4	9:35:57	4049.84	95.00	26.75	1123.50	42

TABLE 2
WELL 2-12 2023 PFO GENERAL TEST INFORMATION

PARAMETER	VALUE	SOURCE/JUSTIFICATION
Dates of test	September 6-7, 2023	
Time since reservoir pressure was last stabilized	9/5, 2-12 inactive after RTS and while spotting BHP gauges for PFOT	Republic plant records
Shut-in time prior to test	18 hours	Republic plant records
Stabilized pressure and temperature prior to test	N/A	
Cumulative injection into completed interval (gallons)	#1-12 .....57,775,895 #2-12 .....53,763,701 *Total: 111,539,596*	Republic plant records
Wellbore Radius (inches)	4.375	Figures 1 and 2
Completed Intervals (feet KB)	3,975 – 4,550	Figures 1 and 2
Type of Completion	Open-Hole	Figures 1 and 2
Depth to Fill (feet KB)	4,296	Radioactive Tracer Survey conducted
Interval Thickness (feet)	133	No-Migration Petition Revision, Section VI (September 2002)
Average historical waste fluid viscosity	0.80	Estimated from Waste Stream Characteristics (30K TDS)
Formation fluid viscosity (cp)	1.34	No-Migration Petition Revision, Section VI (September 2002)
Porosity	11%	No-Migration Petition Revision, Section VI (September 2002)
Total Compressibility (psi^{-1})	6.20×10^{-6}	No-Migration Petition Revision, Section VI (September 2002)
Formation volume factor	1	Assumed since the dominant fluid is water
Initial formation bottom-hole pressures	1,779.5 psia @ 3,950’ KB MD / 3,856’ KB TVD	No-Migration Petition Revision, Section VI (September 2002)
Initial formation bottom-hole temperature	86.4 ˚F @ 3,950’ KB MD / 3,856’ KB TVD	No-Migration Petition Revision, Section VI (September 2002)

TABLE 3
WELL 2-12 2023 PFO INJECTION PERIOD

PARAMETER	VALUE	SOURCE/JUSTIFICATION
Time of injection period (hours)	11 hours	Appendices 2 & 6 / Figure 3
Type of test fluid	Republic Storm Water	
Final Injection rate (gpm)	49.05	Appendices 2 & 6 / Figure 3
Pumps used for test	Facility Pump	
Distance from shut-in valve to wellhead	20 feet	Measured
Injection fluid viscosity (cp)	0.95	Estimated (based on Fresh Water @ 73 ˚F)
Injection fluid density (gm/cc)	1.00	Measured
Method and time viscosity tested	Not measured	
Final injection pressure	2,355.14 psia	Appendix H
Gauge temperature at shut-in	73.56 ˚F	Appendix H
Gauge type	Cal-Scan	Appendix D
Gauge model	Badger Tri Tool, SN 91908	Appendix D
Gauge sensitivity	Accuracy: (0.024% FS) Resolution: (0.0003% FS)	Appendix D
Gauge depth (feet KB)	3,975	Appendix B
Manufacturer's recommend gauge calibration frequency	Annual	Appendix D

TABLE 4
WELL 2-12 2023 PFO FALL-OFF PERIOD

PARAMETER	VALUE
Total shut-in time	22.57 hours
Final shut-in pressure	1,929.86 psia
Final shut-in temperature	74.33 ˚F

TABLE 5
WELL 2-12 2023 PFO CALCULATED TEST DATA

CALCULATED PARAMETER	VALUE
Time to Waste Front (hours)	8.83
Time of Radial Flow Regime (hours)	0.97 – 3.82
Time to End of Wellbore Storage (hours)	0.0095
Radial Flow (Horner) Time at End of Wellbore Storage	1,162
Slope of Straight-Line Portion of Radial Flow Plot (psi/cycle)	86.672
Injection Reservoir Transmissibility (md-ft/cp)	3,155
Permeability (md)	19
Skin Factor (dimensionless)	-1.5
Pressure Loss @ 49 gpm Due to Skin Damage (psi)	-112.98
Flow Efficiency (fraction)	1.26

TABLE 6
WELL 2-12 2023 PFO
SUMMARY OF PANSYSTEM FALL-OFF ANALYSIS

SOURCE	PARAMETER	2-12 VALUE	UNITS
Log-Log and Derivative Information	Total Shut-in Time	22.57	hours
	Derivative Smoothing Factor	0.070	
	Radial Flow Period (elapsed)	0.97 – 3.82	hours
Information from Superposition Plot	Slope of Semi-Log Straight Line	86.672	psi/cycle
	Pressure at Infinite Shut-in Time	1924.59	psia
	Pressure at 1-hour from Shut-in (Extrapolation of Semi-Log Straight Line)	2018.21	psia
Semi-Log Analysis	Mobility Thickness	3,155	md-ft/cp
	Permeability Thickness	2,524	md-ft
	Permeability	19	md
	Formation Skin Damage	-1.5	

TABLE 7

STATIC PRESSURE GRADIENT SURVEY
WELL No. 2-12
September 7, 2023

Memory Gauge Serial No. 91908			
Depth (feet)	Pressure (psig)	Pressure Gradient (psi/ft)	Temperature (ºF)
0	180.49	-	74.34
1000	613.77	0.433	59.94
2000	1050.98	0.437	63.73
3000	1488.70	0.438	74.33
3975	1915.16	0.437	74.33

FIGURES

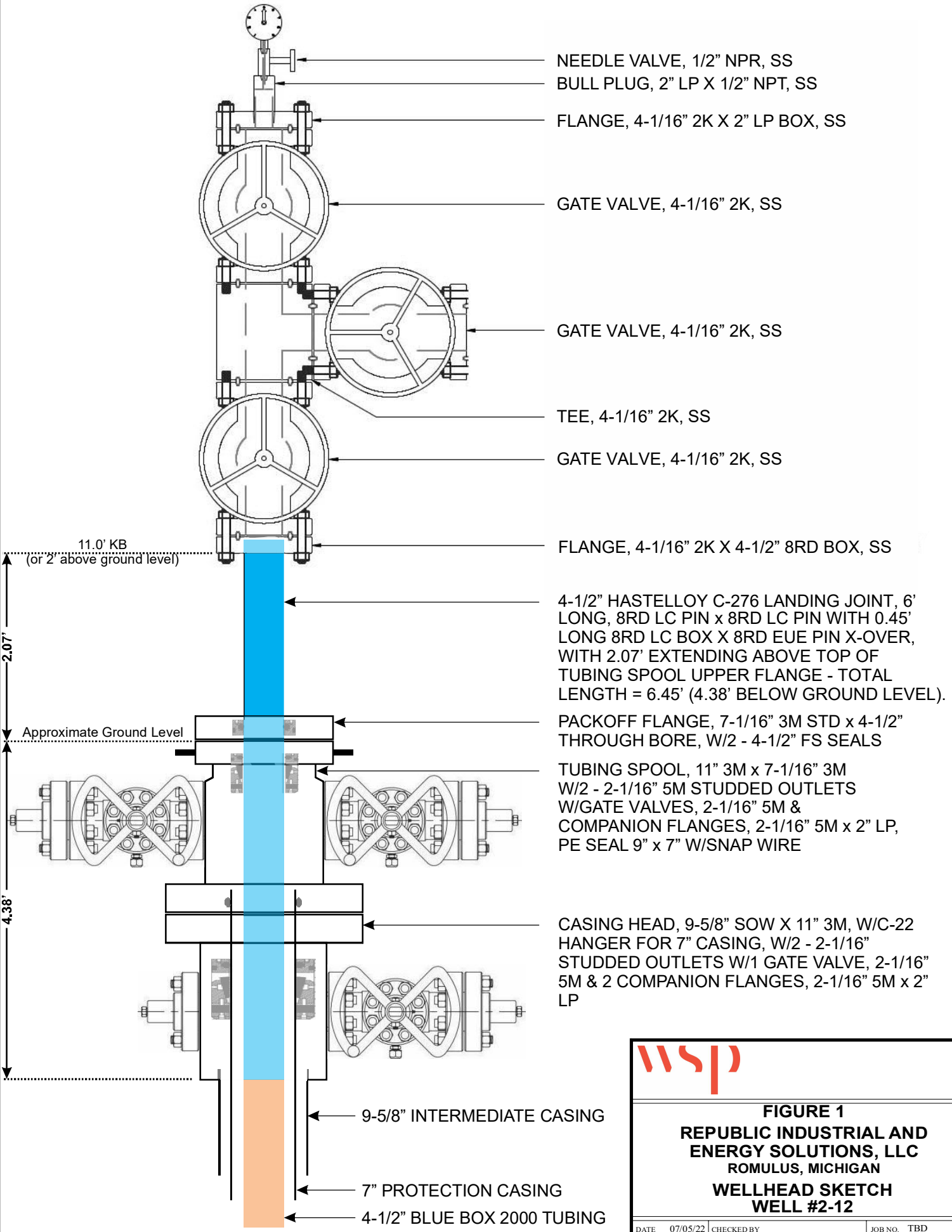


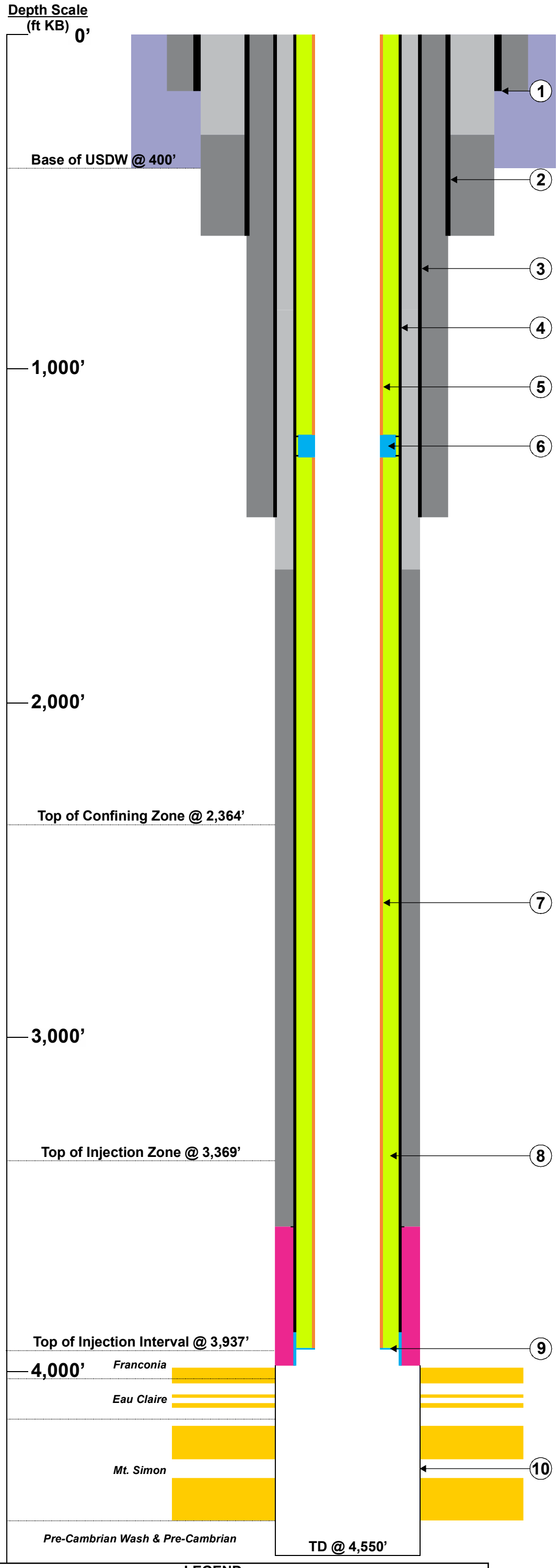
FIGURE 1

REPUBLIC INDUSTRIAL AND ENERGY SOLUTIONS, LLC

ROMULUS, MICHIGAN

WELLHEAD SKETCH
WELL #2-12

DATE 07/05/22	CHECKED BY	JOB NO. TBD
DRAWN BY SLK	APPROVED BY	DWG NO.



BELOW GROUND DETAILS

1. Conductor Casing: 16”, 60 lb/ft set in a 20” borehole at 169’. Cemented with 300 sacks of Class A cement containing 3% $CaCl_2$ with 75% returns.
2. Surface Casing: 13-3/8”, 48 lb/ft, H-40, ST&C set in a 17-1/2” borehole at 602’. Cemented with 350 sacks of 65/35 Pozalin with 3% $CaCl_2$ followed by 200 sacks of Class A tail cement with 3% $CaCl_2$. Top-out with 50 sacks of Class A cement with 3% $CaCl_2$.
3. Intermediate Casing: 9-5/8”, 36 lb/ft set in a 12-1/4” borehole at 1,444’. Cemented with 725 sacks of Class A with 3% $CaCl_2$. 33 bbl of cement circulated to the surface.
4. Protection Casing: 7”, 26 lb/ft, K-55, LT&C set in an 8-3/4” borehole to 3,882’ and 7”, 1/4” wall, Hastelloy C-276, STL set in 8-3/4” borehole from 3,882’ to 3,979.4’ with 7” float collar and float shoe set from 3,979.4’ to 3,982. Top 10’ of Hastelloy coated with Teflon for galvanic corrosion inhibition. Cement diverter tool set in 7” casing from 3,565.5.’ to 3,568’.
   Stage I (3,568’ to 3,982’):
   686 gallons (16.3 bbl) of 12.5 lb/gal EPSEAL epoxy cement.
   Stage II (Surface to 3,568’):
   310 sacks of 50/50 of Poz followed by 340 sacks of 50/50 Poz with microbond followed by 450 sacks of Standard cement with microbond. 44 bbl circulated to surface.
5. Upper Injection Tubing: 4-1/2”, Blue Box 2000, fiberglass tubing to top of straddle packer at 1,199’:
   a) 6’, 4-1/2” Hastelloy C-276 landing joint top positioned ~2’ above ground level with 1’ of stretch. (Landing Joint base = 15.38’ KB);
   b) 2 Pup Joints (5.71’ + 9.73’), 4-1/2”, Blue Box FRP from 15’ to 31’;
   c) 4-1/2”, Blue Box FRP tubing (40 joints) from 31’ to 1,199’;
   d) Anchor Seal Assembly, 4.75” x 3.75”, Hastelloy C-276, 1.64’ long set in Model 12 Injection Packer PBR from 1,199’ to 1,200.5’.
6. Straddle Packer: Model 12, Hastelloy C-276 wetted parts set from 1,199’ to 1,268’. Upper Element at 1,204’ and Lower Element at 1,265’.
7. Lower Injection Tubing: 4-1/2”, Blue Box 2000, fiberglass tubing set from 1,268’ to 3,930’ with 2’ of stretch as follows:
   a) 4-1/2”, Blue Box FRP tubing (91 joints) from 1,268’ to 3,930’.
   b) Anchor Seal Assembly, 4.75” x 3.75”, Hastelloy C-276, 1.64’ long set in Model 12 Injection Packer PBR from 3,930.0’ to 3,931.5’.
8. Annulus Fluid: 66 bbl (2,772 gallons) of 9.7 lb/gal brine water containing a corrosion inhibitor, a bactericide and an oxygen scavenger.
9. Injection Packer: Model 12, Hastelloy C-276 wetted parts set from 3,930’ to 3,935’.
10. Open Hole Completion: 8-3/4” borehole from 3,975’ to 4,550’.

LEGEND

- USDW
- Receptive Interval
- Annulus Fluid
- Fiberglass
- Carbon Steel
- Hastelloy C-276
- Standard Cement
- Lightweight Cement
- Epoxy Cement

Vertical Scale: 1” = 300’

WSP USA INC.
8212 Kelwood Ave.
Baton Rouge LA 70806
Tel: (225) 753-2561
Fax: (225) 925-2530

FIGURE 2

REPUBLIC INDUSTRIAL AND ENERGY SOLUTIONS, LLC

ROMULUS, MICHIGAN

WELL #2-12 BELOW GROUND DETAILS AFTER PHASE II WORKOVER

DATE 07/05/22	CHECKED BY	JOB NO. TBD
DRAWN BY SLK	APPROVED BY	DWG NO.

Annulus Pressure Test
Well 2-12
August 11, 2023

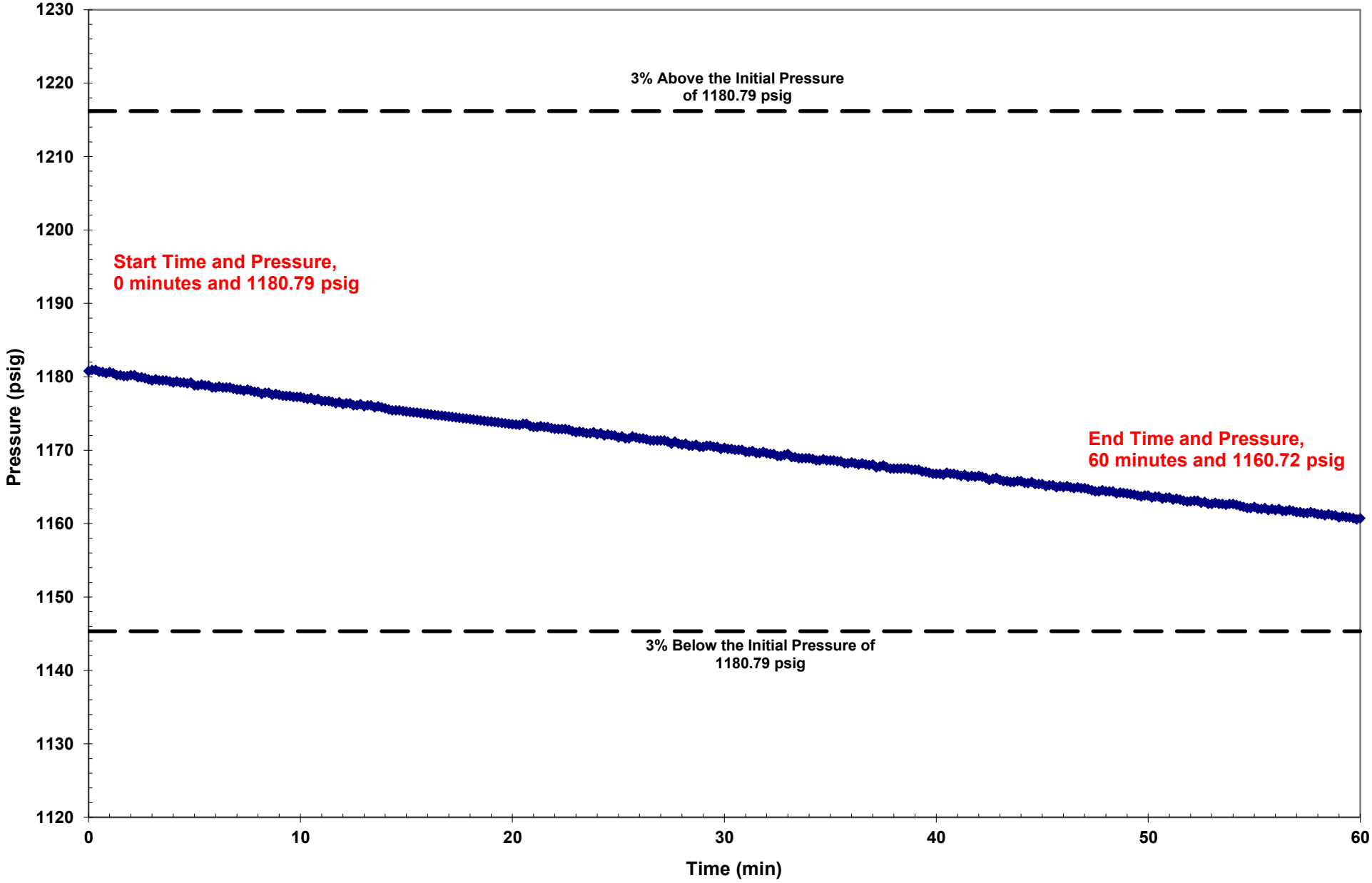


FIGURE 3

Figure 4: Well 2-12 2023 PFO Test Overview Plot

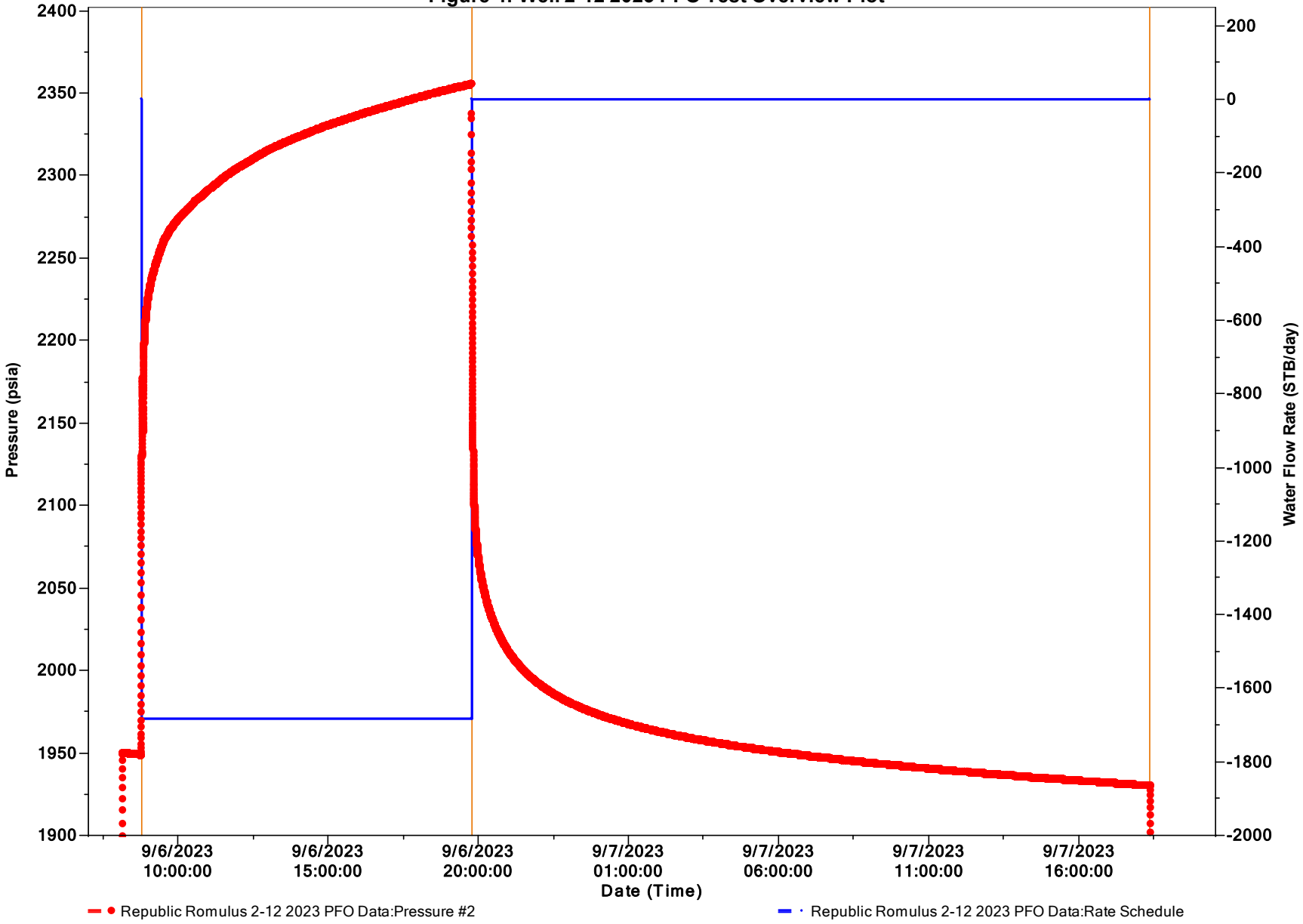


Figure 5: Well 2-12 2023 PFO Cartesian Plot

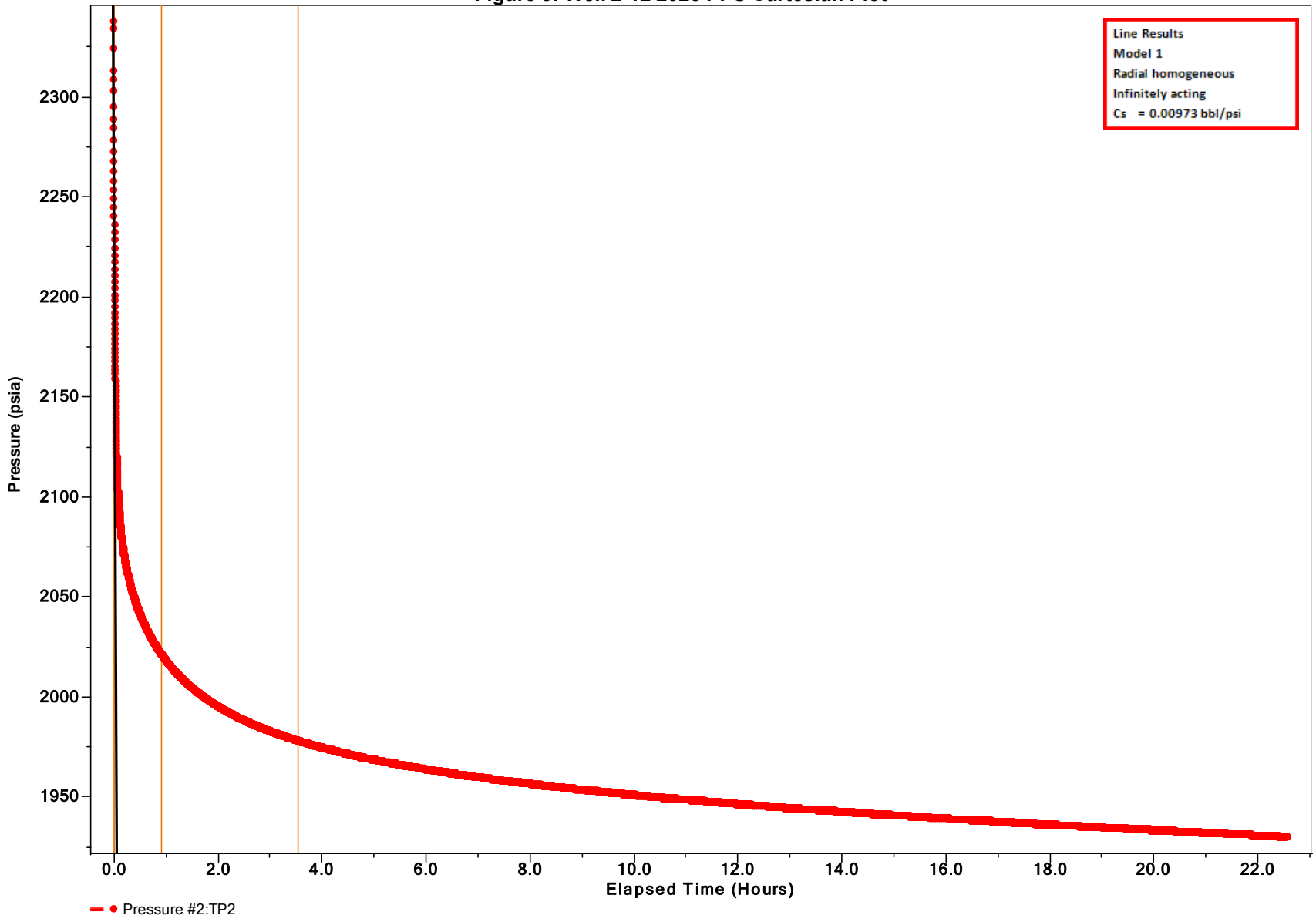


Figure 6: Well 2-12 2023 PFO Log-Log Plot

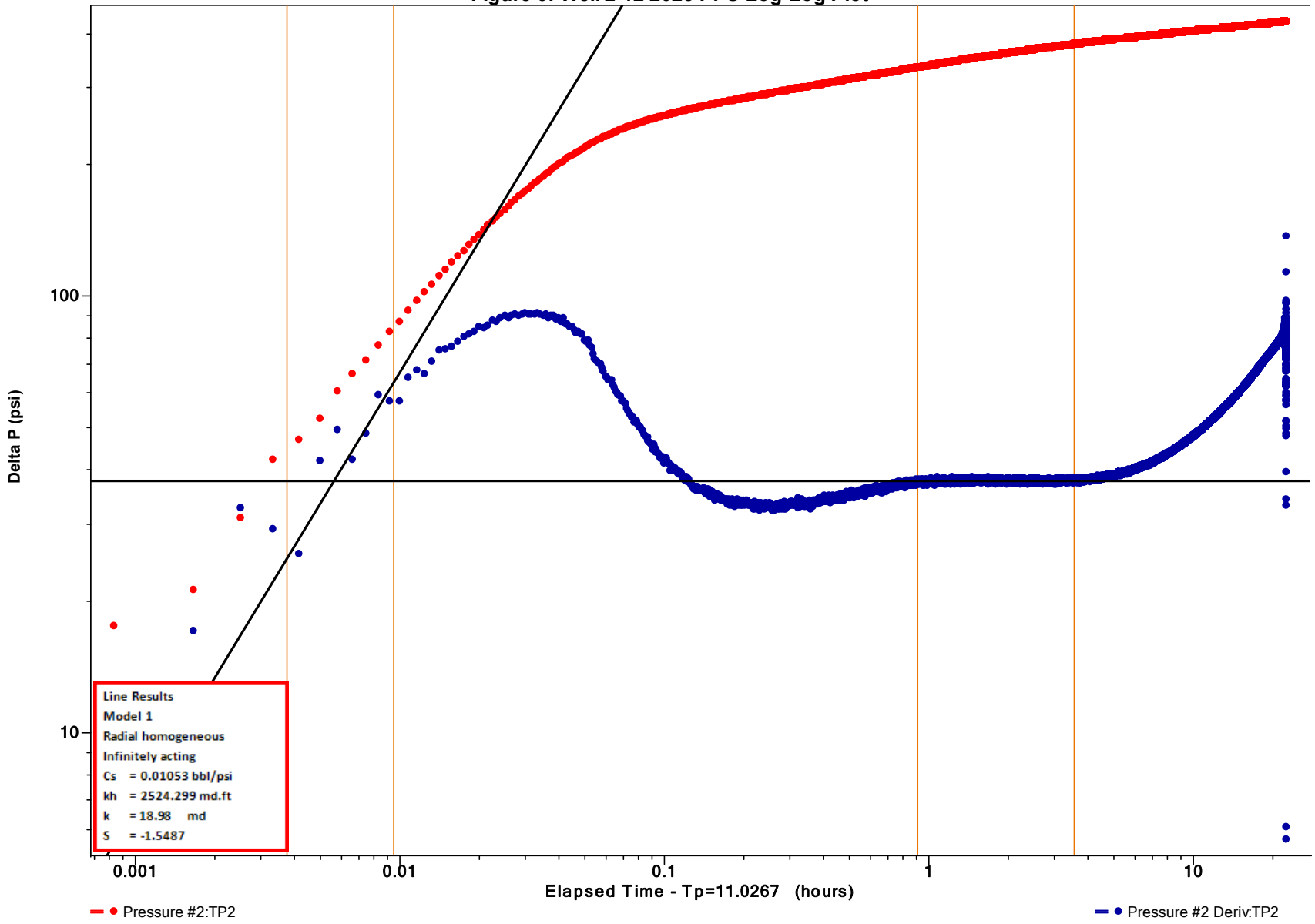


Figure 7: Well 2-12 2023 PFO Radial Flow Plot

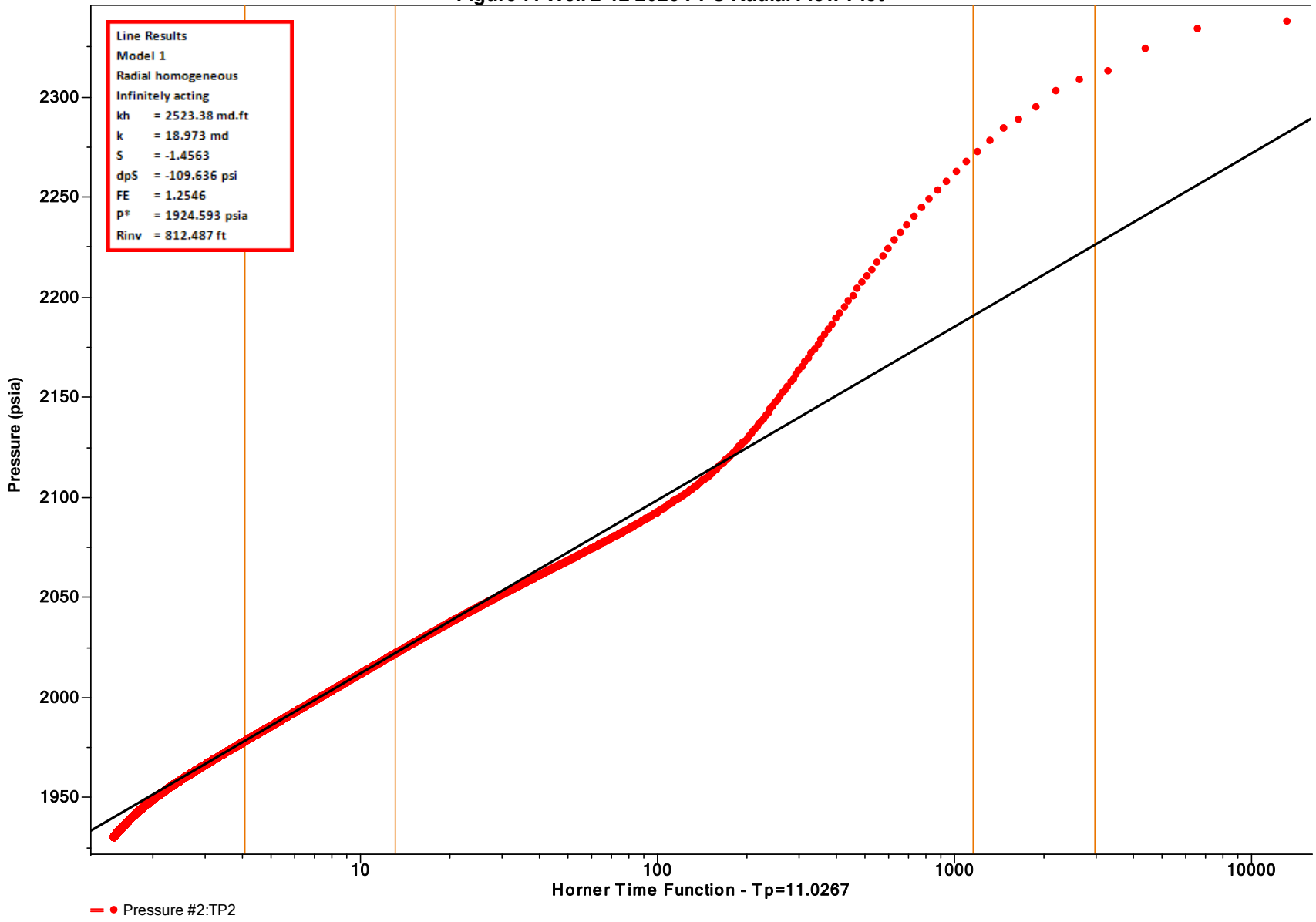
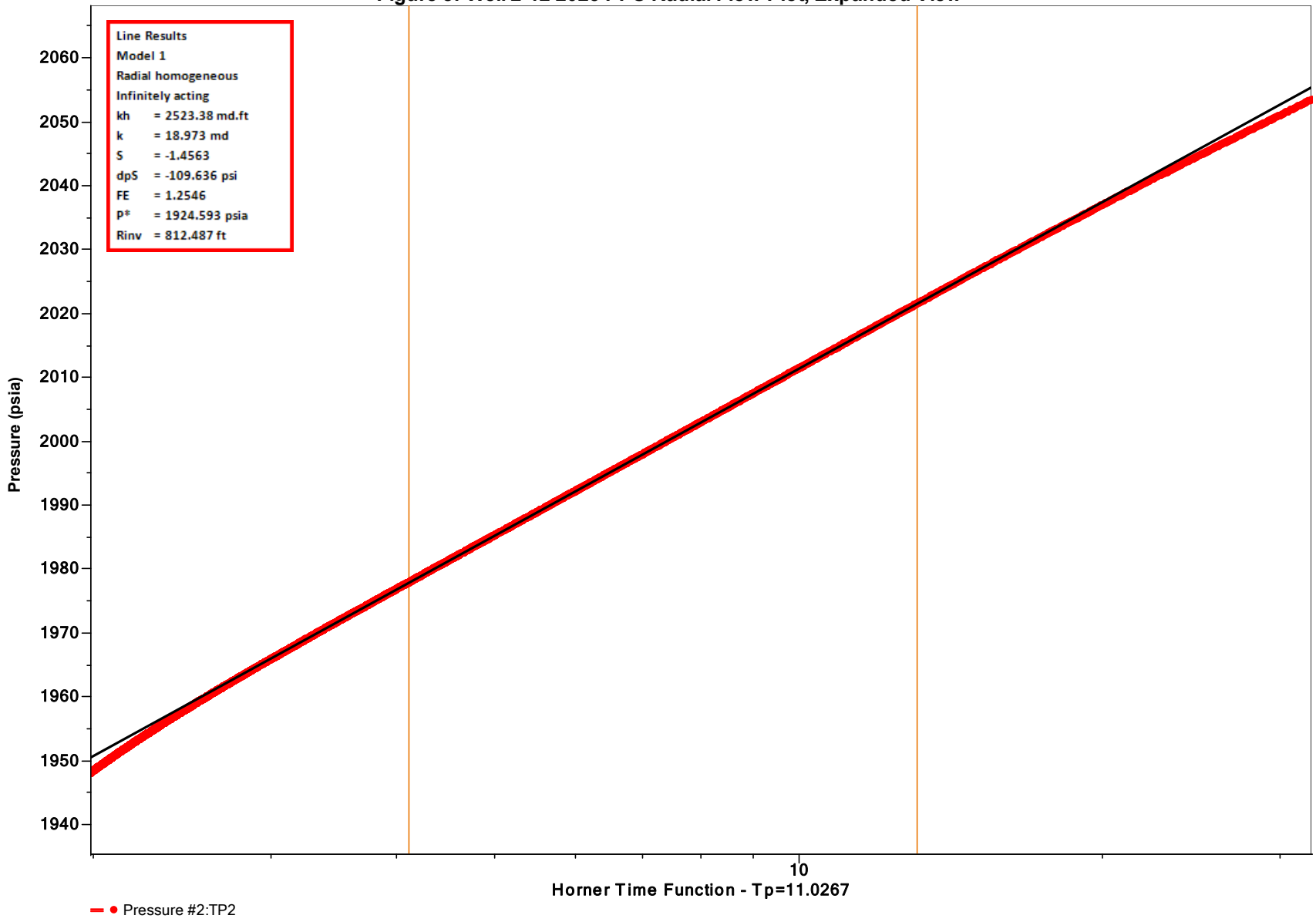


Figure 8: Well 2-12 2023 PFO Radial Flow Plot, Expanded View



STATIC PRESSURE GRADIENT SURVEY
WELL No. 2-12
September 7, 2023

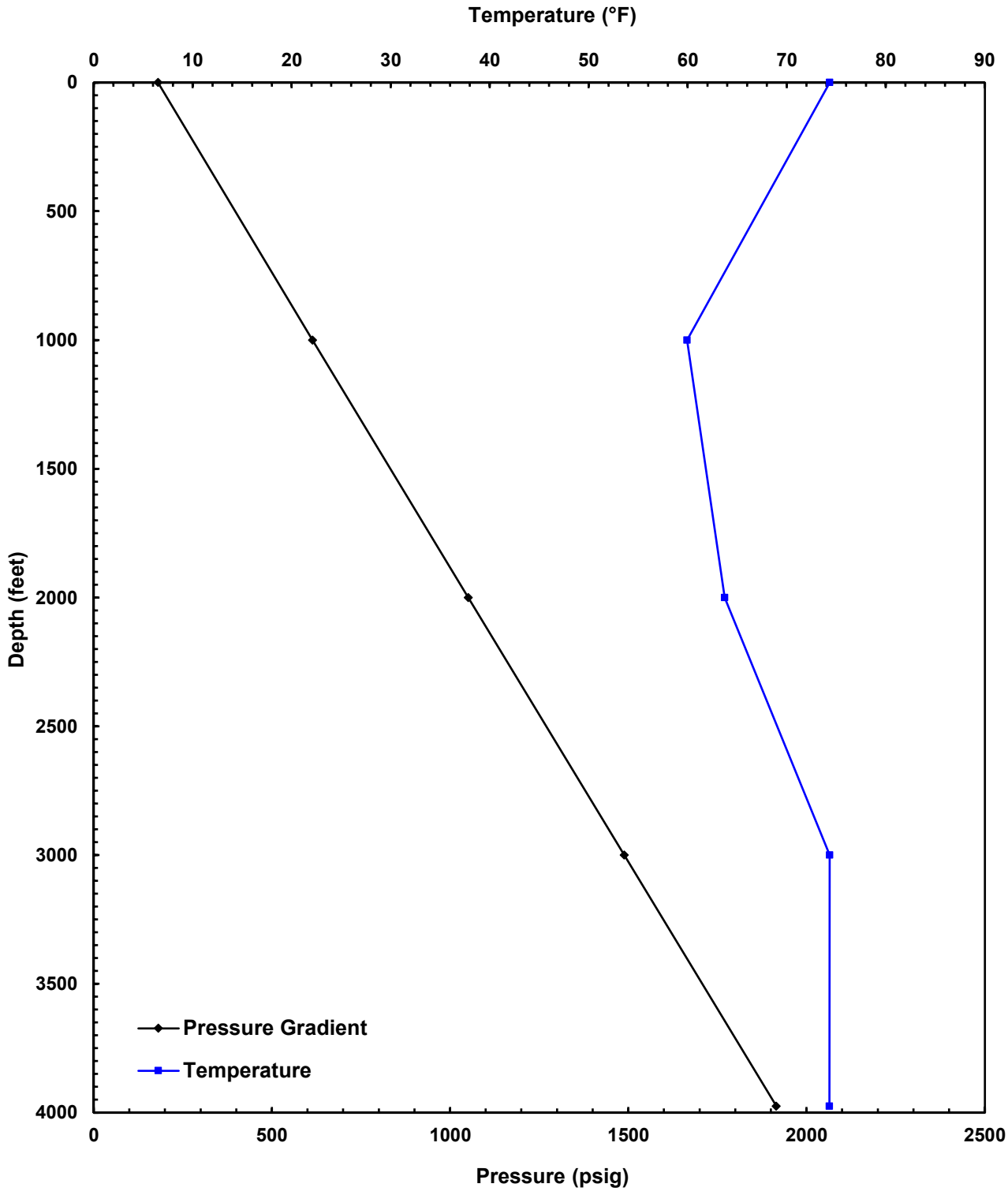


FIGURE 9

APPENDICES

APPENDIX A

REGULATORY CORRESPONDENCE

Tahtouh, Jeffry

From:	Kelly, Stephen L.
Sent:	Thursday, August 17, 2023 5:58 PM
To:	Tahtouh, Jeffry
Subject:	FW: Proposed Procedures for 2023 Annual Mechanical Integrity and Reservoir Monitoring in Republic Wells 1-12 and 2-12 (Romulus, Michigan Facility)
Attachments:	FOT.pdf; RTS.pdf

From: Chase, Felicia <chase.felicia@epa.gov>
Sent: Thursday, August 17, 2023 11:23 AM
To: Kelly, Stephen L. <STEVE.KELLY@wsp.com>; Fisher, Marc <Fisher.Marc@epa.gov>
Cc: Greenhagen.Andrew <Greenhagen.Andrew@epa.gov>; Monica Rakovan <monicarakovan@ensoaq.com>; joannemitock@ensoaq.com; Robinson, Valoria <robinson.valoria@epa.gov>
Subject: RE: Proposed Procedures for 2023 Annual Mechanical Integrity and Reservoir Monitoring in Republic Wells 1-12 and 2-12 (Romulus, Michigan Facility)

Good Morning Stephen,
Apologies for the delay and thank you for the reminder. EPA has reviewed the procedures you proposed on July 19, 2023 for temperature logs, radioactive tracer surveys, and fall-off tests in Republic Wells 1-12 and 2-12, Romulus (EPA UIC Permit #MI-163-1W-C010 and MI-163-1W-C011). Your proposed procedures are hereby approved unless you receive additional email correspondence in the next three business days from EPA approving the procedures with conditions or disapproving the procedures. EPA offers the following comments on the procedures:

1. All data must be submitted with the test reports
2. For fall-off testing: EPA typically recommends a pressure build-up period of longer than 10 hours since the most reliable fall-off data occurs during only half the build-up period. A longer build-up period lends itself to more reliable data. Also, EPA requests that the raw data from the fall-off tests be submitted digitally with a link to a file exchange site. It makes the process for our review and interpretation of the data easier.

A blank test information sheet is attached to this email – please complete and return it for each test when you submit your report. Please remember to submit the digital data either on CD, USB flash drive, or by email when you submit your report. If a test does not provide definitive information concerning the conditions which it is designed to ascertain, or approved procedures are not followed, you will be required to rerun the test.

I am copying our EPA Field Inspectors to check their availability to witness the SAPTs. Please coordinate with them.
MI-163-1W-C010 lat/ long location: 42.24351, -83.31682
MI-163-1W-C011 lat/ long location: 42.24371, -83.316903

Thank you for your patience and cooperation. Have a great day!
Best,
Felicia Chase
Geologist/ Environmental Scientist
Permits Branch, UIC Section
U.S. EPA, Region 5
77 West Jackson Blvd., WP-16J
Chicago , IL 60604

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From: Kelly, Stephen L. <STEVE.KELLY@wsp.com>
Sent: Wednesday, August 2, 2023 9:14 AM
To: Fisher, Marc <Fisher.Marc@epa.gov>
Cc: Greenhagen, Andrew (he/him/his) <Greenhagen.Andrew@epa.gov>; Chase, Felicia <chase.felicia@epa.gov>
Subject: Proposed Procedures for 2023 Annual Mechanical Integrity and Reservoir Monitoring in Republic Wells 1-12 and 2-12 (Romulus, Michigan Facility)

Marc,

I'm checking on the status of the proposed procedures that Republic (Jason Rubin) submitted to EPA, Region 5 on July 19, 2023 for conducting Annual Fall-Off Tests, Annulus Pressure Tests and Radioactive Tracer Surveys in Republic Wells 1-12 and 2-12, Romulus (EPA UIC Permit #MI-163-1W-C010 and MI-163-1W-C011).

I will be scheduling the equipment to perform this work and wanted to see how soon we can start this work.

Steve Kelly
Senior Project Manager

Main: +1 225-753-2561
Direct: +1 225-508-3867
Mobile: +1 225-572-2511

Email: Steve.Kelly@wsp.com

WSP USA
8212 Kelwood Ave
Baton Rouge, LA 70806

wsp.com

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-LAEmiHhHzdJzBITWfa4Hgs7pbKI

INTRODUCTION

The following procedures comply with the requirements of EPA, Region 5 for annual mechanical integrity tests on a Class I hazardous waste disposal well.

The following are the objectives of the 2023 Annual Mechanical Integrity Tests:

- Conduct a 1-Hour Annulus Pressure Test at a pressure of approximately 1,100 psi.
- Run a Radioactive Tracer Survey.
- Return well to normal service.
- Prepare a Mechanical Integrity Test Report and submit to the UIC groups of EPA, Region 5 and Michigan EGLE.

A. ANNULUS PRESSURE TEST PROCEDURE

1. Notify the EPA, Region 5 and the Michigan EGLE at least 48 hours prior to initiating the annual mechanical integrity tests on Well 1-12.
2. Shut-in Well 1-12 at least 36 hours prior to conducting an Annulus Pressure Test (APT).
3. Record the last date of injection into Well 1-12.
4. Install a certified digital pressure gauge to the annulus and have a Calibration Certificate available on site that demonstrates the pressure gauge was calibrated within the past 12 months.
5. Pressurize the annulus to approximately 1,100 psi.
6. Allow the annulus pressure to stabilize. If necessary, depressurize and bleed line to gauge to remove any trapped air and repressurize.
7. Isolate the annulus pressure on the well from the Well Annulus Monitoring System by closing the necessary valves.
8. Record the Initial Annulus Pressure to begin the 1-hour APT.
9. Continue recording the annulus pressure at 10-minute intervals for at least 60 minutes or as instructed by the regulatory agency inspector witnessing the test. A successful APT will not fluctuate more than 3% of the initial test pressure during the 1-hour test period.
10. Release the pressure from the annulus by bleeding the excess annulus fluid into the Well Annulus Monitoring System storage tank and note the change in the tank level. If requested, perform annual alarm testing.
11. Provide the regulatory agency inspector with a copy of the data recorded during the APT and the pressure gauge calibration certificate.

B. RADIOACTIVE TRACER SURVEY PROCEDURE

1. Republic will use its pump and fresh water to conduct the RAT Survey.
2. Run in the well with a dual gamma ray detector tool that has a collar locator and an ejector tool filled with $Iodine_{131}$ radioactive material positioned above the gamma ray detectors.
3. After correlating the log with previous logs run in the well, tag bottom and run a pre-survey base gamma ray log from the total depth reached to approximately 3,000 feet.
4. Run 5-minute statistical checks in the time drive logging mode at 3,955 feet and 3,802 feet.
5. Start injection into the well at approximately 42 gpm (1 bpm). This will provide a fluid velocity of 65 ft/min in the tubing and a maximum velocity of approximately 12 ft/min in the open hole completion interval.
6. Release a slug of radioactive material at 3,100 feet while continuing to inject into the well at 1 bpm.
7. Drop the tool string down and record a log through the radioactive slug as it travels downhole. Make at least two logging passes through the moving slug before it reaches the injection packer at 4,036 feet. (At an injection rate of 1 bpm, slug will take approximately 15 minutes to reach the packer after ejection.)
8. Continue logging the movement of the slug as it enters the open hole completion at a reduced velocity (maximum velocity = approximately 12 fpm at 1 bpm). Make additional logging passes through the slug until it has dissipated into the injection interval.
9. Pull the logging tool up to approximately 3,750 feet while continuing to inject at 1 bpm. Release a slug of $Iodine_{131}$ at 3,750 feet. Drop the tool downhole and position the bottom detector at approximately 4,050 feet and begin recording a time drive survey. (Slug will be traveling at approximately 65 ft/min and will take about 4.6 minutes to reach tool from the time it was ejected.)
10. Record a time drive survey for at least 30 minutes while continuing to inject at approximately 1 bpm.
11. Following the time drive survey, tag bottom with the tool and run a post-survey base gamma ray log from the total depth reached to 3,000 feet.
12. Pull out of the hole with the tool and rig down and move out the wireline unit, pump truck and associated equipment.
13. Return the well to normal operation.
14. Prepare a Mechanical Integrity Report and submit to the UIC groups of the EPA, Region 5 and the Michigan EGLE.

ATTACHMENTS

- Figure 1: Wellhead Sketch
- Figure 2: Below Ground Details

PREPARED BY Steve Kelly 07-10-2023

wsp	2023 ANNUAL RESERVOIR PRESSURE MONITORING (INJECTION – FALLOFF) TEST PROCEDURE	Project No. TBD
	Republic Services Romulus, MI Facility Well 1-12; API No. 21-163-M452	Date 07/10/23
		Page 1 of 1

INTRODUCTION

The following procedure complies with the requirements of EPA, Region 5 for an annual reservoir pressure monitoring (injection – falloff) test of a Class I hazardous waste disposal well.

The following are the objectives of the 2023 Annual Reservoir Pressure Monitoring (Injection – Falloff) Test:

- Initiate injection into Well 1-12 at a constant rate. Terminate injection into Well 2-12 prior to the injection test into Well 1-12.
- Position dual memory gauges in Well 1-12 with the bottom gauge located at 4,080 feet KB.
- Inject fresh water into Well 1-12 at a constant rate for approximately 10 hours.
- Terminate injection into Well 1-12 no sooner than 1 hour after positioning bottomhole gauges in well and record the pressure falloff for approximately 24 hours.
- Return well 1-12 to normal service.
- Prepare a Reservoir Pressure Monitoring (Injection – Falloff) Test Report and submit to the UIC groups of EPA, Region 5 and Michigan EGLE. Include the raw pressure data with the report and the pressure gauge calibration certificate.

RESERVOIR PRESSURE MONITORING (INJECTION – FALLOFF) TEST PROCEDURE

1. Rig up slickline unit with mast and lubricator. Run in the hole with calibrated tandem pressure gauges and position the bottom gague at 4,080 feet KB. Record the bottomhole shut-in pressure for approximately 1 hour.
2. With Well 2-12 shut-in, initiate injection into Well 1-12 at a constant rate (±5%) using fresh water and the facility pump. Record the injection data during the test.
3. After approximately 10 hours of constant injection with a constant fluid density, terminate injection and shut-in the wing-valve near the well.
4. Record the pressure falloff data for approximately 24 hours.
5. Remove the pressure gauges from the well taking 5-minute gradient stops at 1,000-foot intervals. Download the pressure and temperature data at the surface.
6. Rig down and move out the slickline unit.
7. Analyze the data using PanSystem software and prepare a final report and submit to the UIC groups of EPA, Region 5 and Michigan EGLE. Include the raw pressure data with the report and the calibration certificate for the pressure gauges.

ATTACHMENTS

Figure 1: Wellhead Sketch

Figure 2: Below Ground Details

PREPARED BY Steve Kelly 07-05-2022

Revision No. 0

INTRODUCTION

The following procedures comply with the requirements of EPA, Region 5 for annual mechanical integrity tests on a Class I hazardous waste disposal well.

The following are the objectives of the 2023 Annual Mechanical Integrity Tests:

- Conduct a 1-Hour Annulus Pressure Test at a pressure of approximately 1,100 psi.
- Run a Radioactive Tracer Survey.
- Return well to normal service.
- Prepare a Mechanical Integrity Test Report and submit to the UIC groups of EPA, Region 5 and Michigan EGLE.

A. ANNULUS PRESSURE TEST PROCEDURE

1. Notify the EPA, Region 5 and the Michigan EGLE at least 48 hours prior to initiating the annual mechanical integrity tests on Well 2-12.
2. Shut-in Well 2-12 at least 36 hours prior to conducting an Annulus Pressure Test (APT).
3. Record the last date of injection into Well 2-12.
4. Install a certified digital pressure gauge to the annulus and have a Calibration Certificate available on site that demonstrates the pressure gauge was calibrated within the past 12 months.
5. Pressurize the annulus to approximately 1,100 psi.
6. Allow the annulus pressure to stabilize. If necessary, depressurize and bleed line to gauge to remove any trapped air and repressurize.
7. Isolate the annulus pressure on the well from the Well Annulus Monitoring System by closing the necessary valves.
8. Record the Initial Annulus Pressure to begin the 1-hour APT.
9. Continue recording the annulus pressure at 10-minute intervals for at least 60 minutes or as instructed by the regulatory agency inspector witnessing the test. A successful APT will not fluctuate more than 3% of the initial test pressure during the 1-hour test period.
10. Release the pressure from the annulus by bleeding the excess annulus fluid into the Well Annulus Monitoring System storage tank and note the change in the tank level. If requested, perform annual alarm testing.
11. Provide the regulatory agency inspector with a copy of the data recorded during the APT and the pressure gauge calibration certificate.

B. RADIOACTIVE TRACER SURVEY PROCEDURE

1. Republic will use its pump and fresh water to conduct the RAT Survey.
2. Run in the well with a dual gamma ray detector tool that has a collar locator and an ejector tool filled with $Iodine_{131}$ radioactive material positioned above the gamma ray detectors.
3. After correlating the log with previous logs run in the well, tag bottom and run a pre-survey base gamma ray log from the total depth reached to approximately 3,000 feet.
4. Run 5-minute statistical checks in the time drive logging mode at 3,855 feet and 3,800 feet.
5. Start injection into the well at approximately 42 gpm (1 bpm). This will provide a fluid velocity of 65 ft/min in the tubing and a maximum velocity of approximately 12 ft/min in the open hole completion interval.
6. Release a slug of radioactive material at 3,100 feet while continuing to inject into the well at 1 bpm.
7. Drop the tool string down and record a log through the radioactive slug as it travels downhole. Make at least two logging passes through the moving slug before it reaches the injection packer at 3,930 feet. (At an injection rate of 1 bpm, slug will take approximately 15 minutes to reach the packer after ejection.)
8. Continue logging the movement of the slug as it enters the open hole completion at a reduced velocity (maximum velocity = approximately 12 fpm at 1 bpm). Make additional logging passes through the slug until it has dissipated into the injection interval.
9. Pull the logging tool up to approximately 3,750 feet while continuing to inject at 1 bpm. Release a slug of $Iodine_{131}$ at 3,750 feet. Drop the tool downhole and position the bottom detector at approximately 3,960 feet and begin recording a time drive survey. (Slug will be traveling at approximately 65 ft/min and will take about 4.6 minutes to reach tool from the time it was ejected.)
10. Record a time drive survey for at least 30 minutes while continuing to inject at approximately 1 bpm.
11. Following the time drive survey, tag bottom with the tool and run a post-survey base gamma ray log from the total depth reached to 3,000 feet.
12. Pull out of the hole with the tool and rig down and move out the wireline unit, pump truck and associated equipment.
13. Return the well to normal operation.
14. Prepare a Mechanical Integrity Report and submit to the UIC groups of the EPA, Region 5 and the Michigan EGLE.

ATTACHMENTS

- Figure 3: Wellhead Sketch
- Figure 4: Below Ground Details

PREPARED BY Steve Kelly 07-10-2023

wsp	2023 ANNUAL RESERVOIR PRESSURE MONITORING (INJECTION – FALLOFF) TEST PROCEDURE	Project No. TBD
	Republic Services Romulus, MI Facility Well 2-12; API No. 21-163-M453	Date 07/10/23
		Page 1 of 1

INTRODUCTION

The following procedure complies with the requirements of EPA, Region 5 for an annual reservoir pressure monitoring (injection – falloff) test of a Class I hazardous waste disposal well.

The following are the objectives of the 2023 Annual Reservoir Pressure Monitoring (Injection – Falloff) Test:

- Initiate injection into Well 2-12 at a constant rate. Terminate injection into Well 1-12 prior to the injection test into Well 2-12.
- Position dual memory gauges in Well 2-12 with the bottom gauge located at 3,975 feet KB.
- Inject fresh water into Well 2-12 at a constant rate for approximately 10 hours.
- Terminate injection into Well 2-12 no sooner than 1 hour after positioning bottomhole gauges in well and record the pressure falloff for approximately 24 hours.
- Return well 2-12 to normal service.
- Prepare a Reservoir Pressure Monitoring (Injection – Falloff) Test Report and submit to the UIC groups of EPA, Region 5 and Michigan EGLE. Include the raw pressure data with the report and the pressure gauge calibration certificate.

RESERVOIR PRESSURE MONITORING (INJECTION – FALLOFF) TEST PROCEDURE

1. Rig up slickline unit with mast and lubricator. Run in the hole with calibrated tandem pressure gauges and position the bottom gague at 3,975 feet KB. Record the bottomhole shut-in pressure for approximately 1 hour.
2. With Well 1-12 shut-in, initiate injection into Well 2-12 at a constant rate (±5%) using fresh water and the facility pump. Record the injection data during the test.
3. After approximately 10 hours of constant injection with a constant fluid density, terminate injection and shut-in the wing-valve near the well.
4. Record the pressure falloff data for approximately 24 hours.
5. Remove the pressure gauges from the well taking 5-minute gradient stops at 1,000-foot intervals. Download the pressure and temperature data at the surface.
6. Rig down and move out the slickline unit.
7. Analyze the data using PanSystem software and prepare a final report and submit to the UIC groups of EPA, Region 5 and Michigan EGLE. Include the raw pressure data with the report and the calibration certificate for the pressure gauges.

ATTACHMENTS

Figure 3: Wellhead Sketch

Figure 4: Below Ground Details

PREPARED BY Steve Kelly 07-05-2022

Revision No. 0

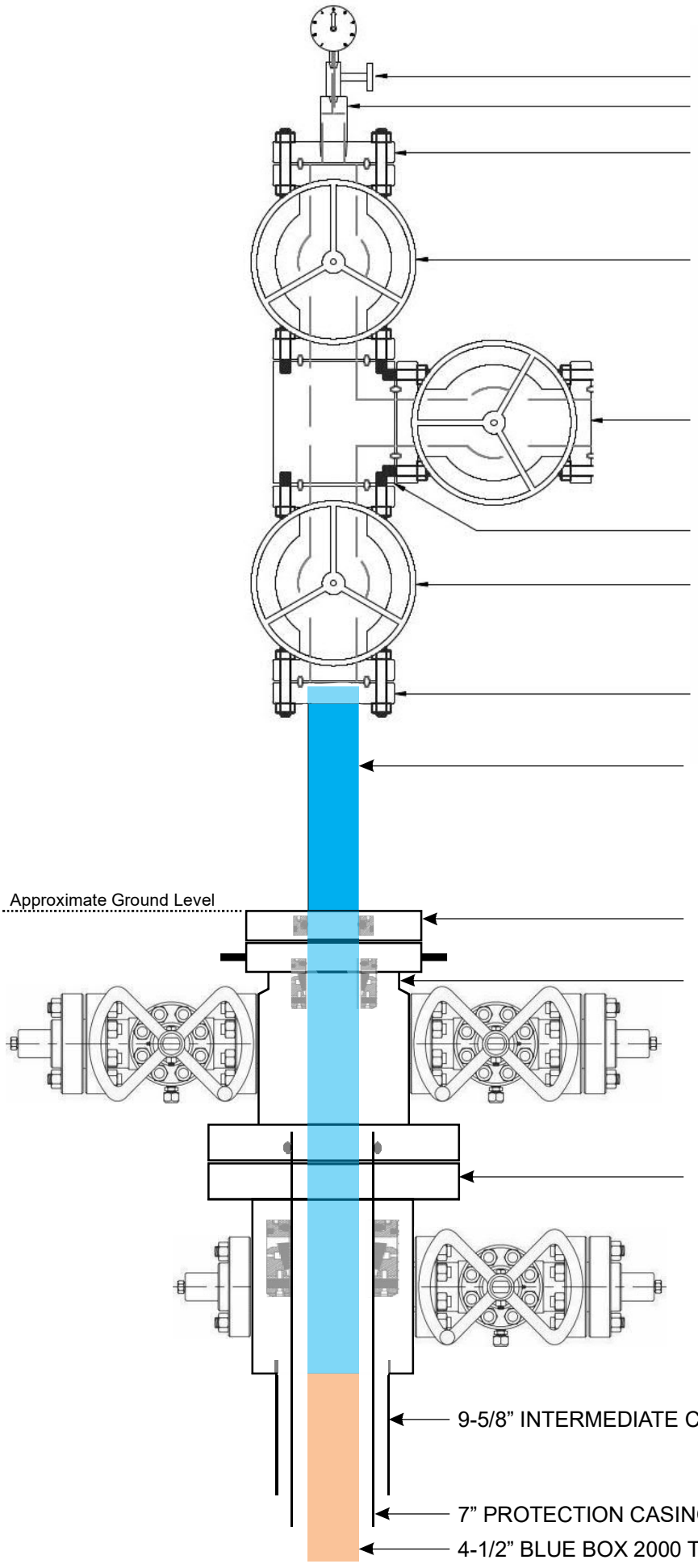


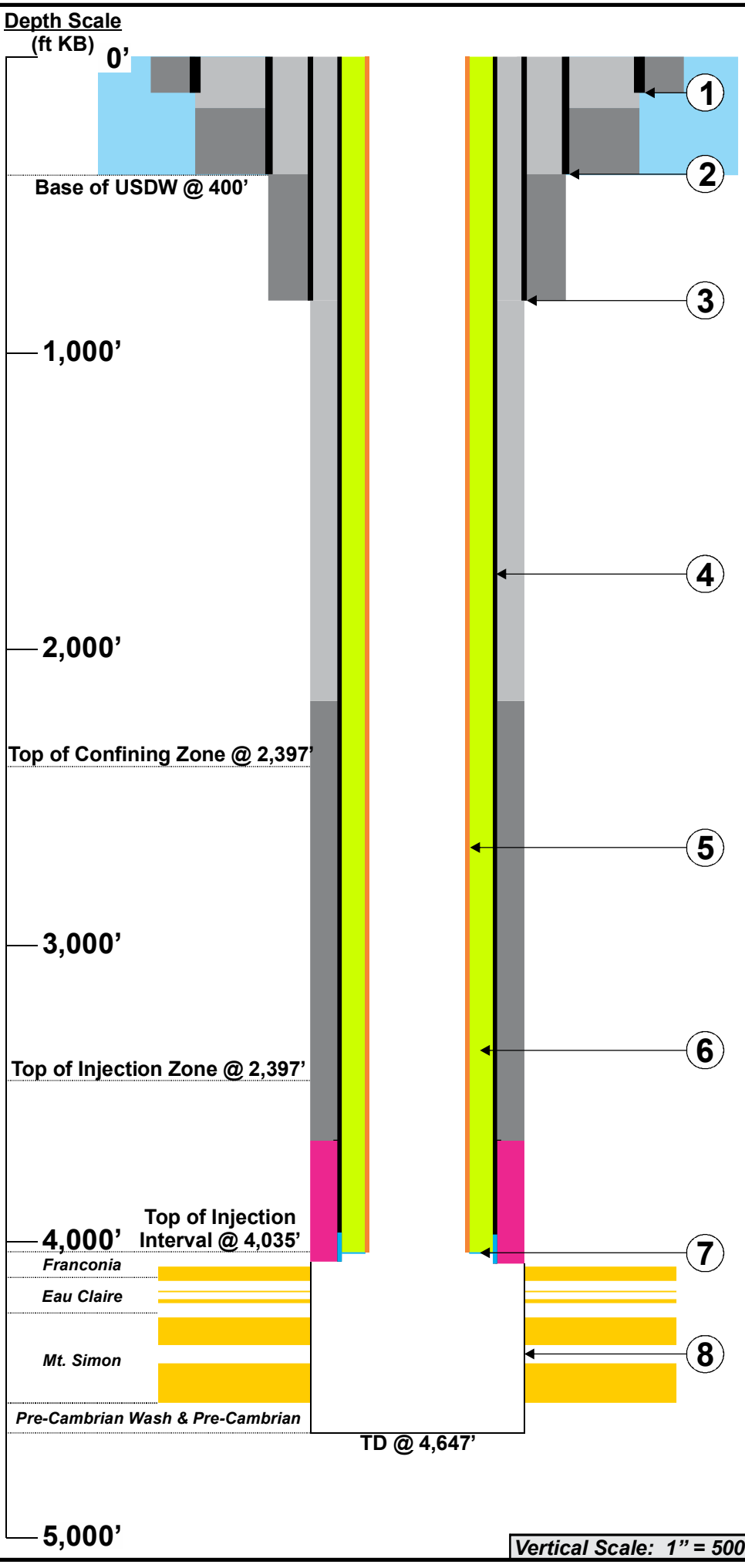
FIGURE 1

REPUBLIC INDUSTRIAL AND ENERGY SOLUTIONS, LLC

ROMULUS, MICHIGAN

WELLHEAD SKETCH
WELL #1-12

DATE 04/30/20	CHECKED BY	JOB NO. 192128A
DRAWN BY SLK	APPROVED BY	DWG NO.



BELOW GROUND DETAILS

1. Conductor Casing: 20", H-40 set in a 24" borehole at 119'. Cemented with 200 sacks of Class A cement containing 3% $CaCl_2$ with 75% returns. Top 50' of annulus cemented with 50 sacks of Class A.
2. Surface Casing: 13-3/8", H-40 set in a 17-1/2" borehole at 405'. Cemented with 75 sacks of Lite lead cement with 3% $CaCl_2$ followed by 150 sacks of Class A tail cement with 3% $CaCl_2$. Top of annulus cemented with 175 sacks of Class A cement with 3% $CaCl_2$.
3. Intermediate Casing: 9-5/8", 36 lb/ft set in a 12-1/4" borehole at 824'. Cemented with 150 sacks of Lite lead with 3% $CaCl_2$ followed by 200 sacks of Class A tail with 3% $CaCl_2$. Approximately 10 bbl of cement circulated to the surface.
4. Protection Casing: 7", 26 lb/ft, K-55, LT&C set in an 8-3/4" borehole to 3,977' and 7", 1/4" wall, Hastelloy C-276, STL set in 8-3/4" borehole from 3,977' to 4,075' with 7" float collar and float shoe set from 4,075' to 4,080. Cement diverter tool set in 7" casing from 3,657' to 3,660'.
   Stage I (3,660' to 4,080'):
   686 gallons (16.3 bbl) of EPSEAL epoxy cement.
   Stage II (Surface to 3,660'):
   500 sacks of 50/50 Standard Pozmiz lead cement with 2% gel, 0.4% HALAD 344 and 3% salt followed by 450 sacks of Standard Class A tail cement containing 3% HALAD 322, 0.4% HALAD 344, 8.2% Microbond, and 2.14% salt.
5. Injection Tubing: 4-1/2", Blue Box 2000, fiberglass tubing to top of packer at 4,036' (4.78', 4-1/2" Hastelloy C-276 landing joint top positioned 1-1/2' above ground level with 4' of stretch. Landing Joint base = 16.28' KB:
   a) 3 Pup Joints (3.64' + 1.72' + 3.60' = 8.96'), 4-1/2", Blue Box FRP;
   b) 4-1/2", Blue Box FRP tubing (137 joints x 29.249'/joint = 4,007.08'
   c) Anchor Seal Assembly, 4.75" x 3.75", Hastelloy C-276, 1.64' long set in Model 12 Injection Packer PBR from 4,036.32' to 4,037.96'.
6. Annulus Fluid: 68.5 bbl (2,877 gallons) of 10 lb/gal brine water containing a corrosion inhibitor, a bactericide and an oxygen scavenger.
7. Injection Packer: Model 12, Hastelloy C-276 wetted parts set from 4,036.3' to 4,041.4'. Polished test bore = 3.50" at packer base.
8. Open Hole Completion: 8-3/4" borehole from 4,080' to 4,645' (TVD = 4,535' @ 4,645' MD).

Bottom-hole location: 211' south and 754' west of surface location (782.97, South 74° 21' 58.35" West)

WSP USA INC.
8212 Kelwood Ave.
Baton Rouge LA 70806
Tel: (225) 753-2561
Fax: (225) 925-2530

FIGURE 2

REPUBLIC INDUSTRIAL AND ENERGY SOLUTIONS, LLC

ROMULUS, MICHIGAN

WELL #1-12
BELOW GROUND SCHEMATIC

DATE 04/30/20	CHECKED BY		JOB NO. 1921128A
DRAWN BY SLK	APPROVED BY		DWG NO.

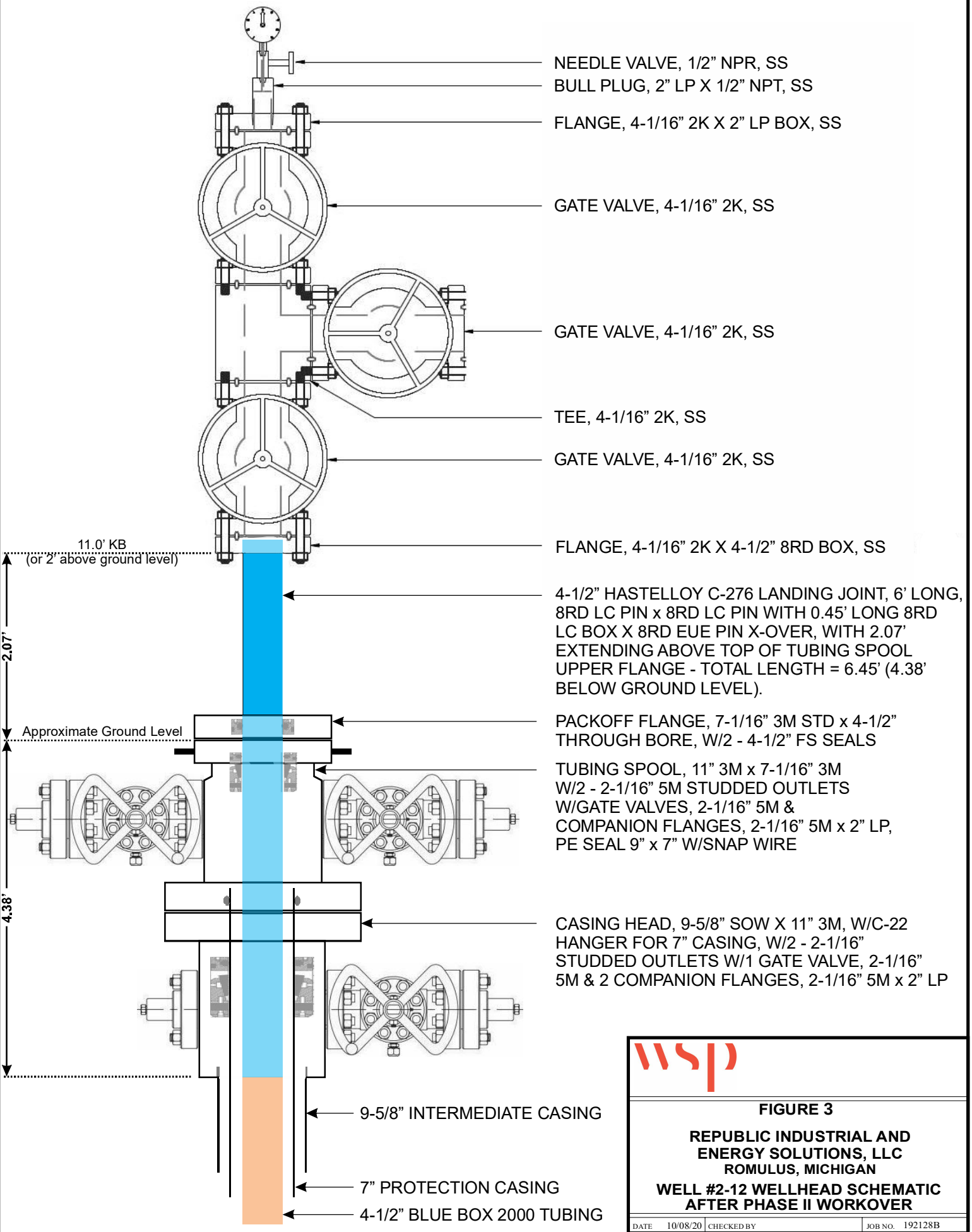
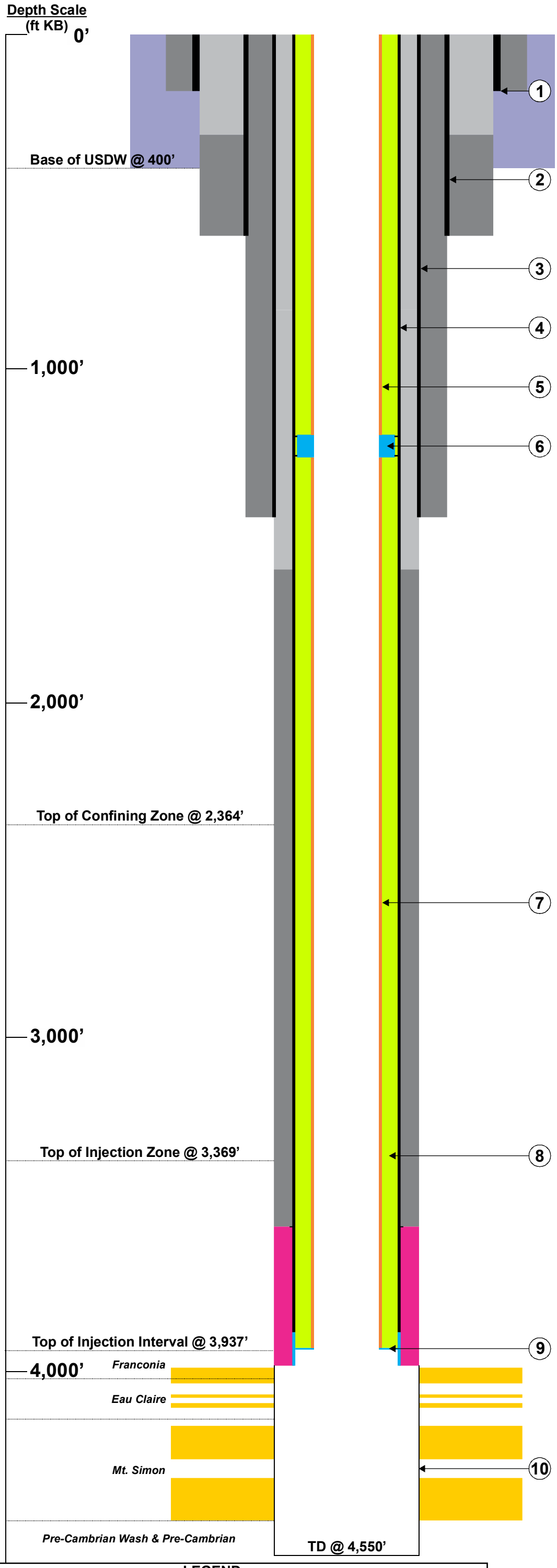


FIGURE 3

REPUBLIC INDUSTRIAL AND ENERGY SOLUTIONS, LLC
ROMULUS, MICHIGAN

WELL #2-12 WELLHEAD SCHEMATIC AFTER PHASE II WORKOVER

DATE 10/08/20	CHECKED BY	JOB NO. 192128B
DRAWN BY SLK	APPROVED BY	DWG NO.



BELOW GROUND DETAILS

1. Conductor Casing: 16”, 60 lb/ft set in a 20” borehole at 169’. Cemented with 300 sacks of Class A cement containing 3% $CaCl_2$ with 75% returns.
2. Surface Casing: 13-3/8”, 48 lb/ft, H-40, ST&C set in a 17-1/2” borehole at 602’. Cemented with 350 sacks of 65/35 Pozalin with 3% $CaCl_2$ followed by 200 sacks of Class A tail cement with 3% $CaCl_2$. Top-out with 50 sacks of Class A cement with 3% $CaCl_2$.
3. Intermediate Casing: 9-5/8”, 36 lb/ft set in a 12-1/4” borehole at 1,444’. Cemented with 725 sacks of Class A with 3% $CaCl_2$. 33 bbl of cement circulated to the surface.
4. Protection Casing: 7”, 26 lb/ft, K-55, LT&C set in an 8-3/4” borehole to 3,882’ and 7”, 1/4” wall, Hastelloy C-276, STL set in 8-3/4” borehole from 3,882’ to 3,979.4’ with 7” float collar and float shoe set from 3,979.4’ to 3,982. Top 10’ of Hastelloy coated with Teflon for galvanic corrosion inhibition. Cement diverter tool set in 7” casing from 3,565.5.’ to 3,568’.
   Stage I (3,568’ to 3,982’):
   686 gallons (16.3 bbl) of 12.5 lb/gal EPSEAL epoxy cement.
   Stage II (Surface to 3,568’):
   310 sacks of 50/50 of Poz followed by 340 sacks of 50/50 Poz with microbond followed by 450 sacks of Standard cement with microbond. 44 bbl circulated to surface.
5. Upper Injection Tubing: 4-1/2”, Blue Box 2000, fiberglass tubing to top of straddle packer at 1,199’:
   a) 6’, 4-1/2” Hastelloy C-276 landing joint top positioned ~2’ above ground level with 1’ of stretch. (Landing Joint base = 15.38’ KB);
   b) 2 Pup Joints (5.71’ + 9.73’), 4-1/2”, Blue Box FRP from 15’ to 31’;
   c) 4-1/2”, Blue Box FRP tubing (40 joints) from 31’ to 1,199’;
   d) Anchor Seal Assembly, 4.75” x 3.75”, Hastelloy C-276, 1.64’ long set in Model 12 Injection Packer PBR from 1,199’ to 1,200.5’.
6. Straddle Packer: Model 12, Hastelloy C-276 wetted parts set from 1,199’ to 1,268’. Upper Element at 1,204’ and Lower Element at 1,265’.
7. Lower Injection Tubing: 4-1/2”, Blue Box 2000, fiberglass tubing set from 1,268’ to 3,930’ with 2’ of stretch as follows:
   a) 4-1/2”, Blue Box FRP tubing (91 joints) from 1,268’ to 3,930’.
   b) Anchor Seal Assembly, 4.75” x 3.75”, Hastelloy C-276, 1.64’ long set in Model 12 Injection Packer PBR from 3,930.0’ to 3,931.5’.
8. Annulus Fluid: 66 bbl (2,772 gallons) of 9.7 lb/gal brine water containing a corrosion inhibitor, a bactericide and an oxygen scavenger.
9. Injection Packer: Model 12, Hastelloy C-276 wetted parts set from 3,930’ to 3,935’.
10. Open Hole Completion: 8-3/4” borehole from 3,975’ to 4,550’.

LEGEND

- USDW
- Receptive Interval
- Annulus Fluid
- Fiberglass
- Carbon Steel
- Hastelloy C-276
- Standard Cement
- Lightweight Cement
- Epoxy Cement

Vertical Scale: 1” = 300’

WSP USA INC.
8212 Kelwood Ave.
Baton Rouge LA 70806
Tel: (225) 753-2561
Fax: (225) 925-2530

FIGURE 4

REPUBLIC INDUSTRIAL AND ENERGY SOLUTIONS, LLC

ROMULUS, MICHIGAN

WELL #2-12 BELOW GROUND DETAILS AFTER PHASE II WORKOVER

DATE 10/08/20	CHECKED BY	JOB NO. 192128B
DRAWN BY SLK	APPROVED BY	DWG NO.

APPENDIX B

CHRONOLOGY OF FIELD ACTIVITIES

16200 Park Row., Suite 200
Houston, Texas 77084
(281) 589-5900

FIELD ACTIVITY REPORT

Company:	**Republic Industrial and Energy Solutions**	Project No:	**192128AP**
Well:	**EDS 1-12 and EDS 2-12**	Date:	**9/5/2023**
City	**Romulus**	FAR Report No.:	**1**
County/Parrish:	**Wayne County**	WSP Rep.:	**Jeffry Tahtouh**
State:	**MI**		
Work Performed:	__ New Well __Workover _X_ Wireline Consulting __ Other		

Breakdown of Operations

From	To	Hrs	
6:30	6:45	0.25	Arrive on location, held safety meeting, discussed job, and got the notice to proceed
6:45	7:30	0.75	Rig-up Wireline unit on Well 2-12 for Radioactive Tracer Tool (RAT) AP = 1094 psi IP = 252 psi Rate= 0 gpm
7:30	8:00	0.50	Run in hole with RAT
8:00			Tagged TD @ 4296' NOTE: Tagged 38' higher compared to last year due to fill
8:00	10:45	2.75	**Perform Radioactive Tracer Survey on Well 2-12**
8:00	8:30		Run Pre base log (4296'- 3000'). Rate= 0 gpm, AP= 1082 psi IP= 64 psi.
8:35	8:45		Run 5 min stat checks at 3800' and 3855'
8:50	9:40		Initiate Injection at 42 gpm Run chase-down sequence 4 sec slug released at 3100', Rate=42 gpm, AP= 1176 psi IP= 445 psi. Four passes.
9:41	10:18		Maintain Injection at 42 gpm Run time-drive survey 30 minute time drive, Eject 4 sec slug at 3750', Run downhole to 3960' and start time drive when slug passed 3960' (9:46) Rate=42 gpm, AP= 1231 psi IP= 485 psi.
10:20			Cease Injection
10:22	10:45		Run Post base log (4296'- 3000'). Rate= 0 gpm, AP= 1145 psi IP= 272 psi.
10:45	11:30	0.75	Pull out of the hole. Rig down. **Move to Well 1-12**
11:30	12:15	0.75	Rig-up Wireline unit on Well 1-12 for Radioactive Tracer Tool (RAT) AP = 994 psi IP = 185 psi Rate= 0 gpm
12:15	12:45	0.50	Run in hole with RAT
12:45			Tagged TD @ 4486' NOTE: Tagged 30' higher compared to last year due to fill
12:45	15:45	3.00	**Perform Radioactive Tracer Survey on Well 1-12**
12:47	13:17		Run Pre base log (4486'- 3000'). Rate= 0 gpm, AP= 994 psi IP= 185 psi.
13:23	13:35		Run 5 min stat checks at 3802' and 3955'
13:36	14:35		Initiate Injection at 42 gpm Run chase-down sequence 4 sec slug released at 3100', Rate=42 gpm, AP= 1025 psi IP= 420 psi. Four passes.
14:39	15:13		Maintain Injection at 42 gpm Run time-drive survey 30 minute time drive, Eject 4 sec slug at 3750', Run downhole to 4050' and start time drive when slug passed 4050' (14:42) Rate=42 gpm, AP= 1080 psi IP= 487 psi.
15:15			Cease Injection
15:18	15:49		Run Post base log (4486'- 3000'). Rate= 0 gpm, AP= 995 psi IP= 285 psi.
15:45	17:00	1.25	Pull out of the hole. Rig down and move out Michigan Wireline.
17:00			Secure wells and leave location
Total		**10.50**	

Safety Topics

Working in Republic Romulus facility, working at heights, pinch points, radioactive material, heavy lifting

16200 Park Row., Suite 200
Houston, Texas 77084
(281) 589-5900

FIELD ACTIVITY REPORT

Company:	**Republic Industrial and Energy Solutions**	Project No:	**192128AP**
Well:	**EDS 1-12 and EDS 2-12**	Date:	**9/6/2023**
City	**Romulus**	FAR Report No.:	**2**
County/Parrish:	**Wayne County**	WSP Rep.:	**Jeffry Tahtouh**
State:	**MI**		
Work Performed:	__ New Well __Workover _X_ Wireline Consulting __ Other		

Breakdown of Operations

From	To	Hrs	
7:00	7:15	0.25	Arrive on location, held safety meeting, discussed job, and got the notice to proceed
7:15	8:00	0.75	Rig up with Impact's slickline unit on Well 2-12
8:00	8:15	0.25	Ran Slickline unit with bottom hole pressure/temperature gauges downhole at Well 2-12 AP = 1050 psi IP = 200 psi Rate= 0 gpm
8:15	8:45	0.50	Set gauges @ 3975', let stabilize prior to injection
8:45	19:45	11.00	Well 2-12 pressure buildup phase at a constant rate of 50 gpm
8:46			Initiate Injection AP = 1160 psi IP = 450 psi Rate= 50 gpm
19:45	19:50		Well 2-12 pressure falloff phase Shut-in well and close wing valve @ 19:51 AP = 1253 psi IP = 356 psi Rate= 0 gpm
19:50			Secure wells and leave location
Total		**12.75**	

Safety Topics

Working in Republic Romulus facility, working at heights, pinch points, chemical exposure, heavy lifting

16200 Park Row., Suite 200
Houston, Texas 77084
(281) 589-5900

FIELD ACTIVITY REPORT

Company:	**Republic Industrial and Energy Solutions**	Project No:	**192128AP**
Well:	**EDS 1-12 and EDS 2-12**	Date:	**9/7/2023**
City	**Romulus**	FAR Report No.:	**3**
County/Parrish:	**Wayne County**	WSP Rep.:	**Jeffry Tahtouh**
State:	**MI**		
Work Performed:	__ New Well __Workover _X_ Wireline Consulting __ Other		

Breakdown of Operations

From	To	Hrs	
18:00	18:15	0.25	Arrive on location, held JSA, and obtained permit
18:15	18:30	0.25	End PFO Test @ 6:20 for **Well 2-12** IP = 179 psi AP = 1024 psi Rate = 0 GPM
18:30	19:00	0.50	Run Static Gradient Survey
18:26	18:31		5-min Stop @ 3000'
18:35	18:40		5-min Stop @ 2000'
18:43	18:48		5-min Stop @ 1000'
18:53	18:58		5-min gradient stop @ Surface (in lubricator)
19:00	19:30	0.50	Rig down from **Well 2-12.** Download data from the bottom hole pressure gauges. Move to 1-12 to run gauges downhole for pressure falloff.
19:30	20:00	0.50	Rig up on **Well 1-12** Ran Slickline unit with bottom hole pressure/temperature gauges downhole at Well 1-12 Rate= 0 gpm AP = 807 psi IP = 151 psi
20:00	20:30	0.50	Set gauges @ 4080', let stabilize prior to injection
20:30			Initiate Injection on **Well 1-12** for the pressure buildup Rate= 50 gpm, AP= 923 psi IP= 415 psi
20:30	20:45	0.25	Secure well and leave location
20:45			Rate= 50 gpm, AP= 955 psi IP= 472 psi
Total		**2.75**	

Safety Topics

Working in Republic Romulus facility, ppe, pinch points, and fall protection

16200 Park Row., Suite 200
Houston, Texas 77084
(281) 589-5900

FIELD ACTIVITY REPORT

Company:	**Republic Industrial and Energy Solutions**	Project No:	**192128AP**
Well:	**EDS 1-12 and EDS 2-12**	Date:	**9/9/2023**
City	**Romulus**	FAR Report No.:	**4**
County/Parrish:	**Wayne County**	WSP Rep.:	**Jeffry Tahtouh**
State:	**MI**		
Work Performed:	__ New Well __Workover _X_ Wireline Consulting __ Other		

Breakdown of Operations

From	To	Hrs	
6:45	7:00	0.25	Arrive on location, held JSA, and got the notice to proceed
7:00	8:00	1.00	End PFO Test @ 07:03 for **Well 1-12** IP = 145 psi AP = 805 psi Rate = 0 GPM Run Static Gradient Survey
7:04	7:09		5-min Stop @ 4000'
7:14	7:19		5-min Stop @ 3000'
7:24	7:29		5-min Stop @ 2000'
7:32	7:37		5-min Stop @ 1000'
7:43	7:48		5-min gradient stop @ Surface (in lubricator)
8:00	8:30	0.50	Rig down from **Well 1-12.** Download data from the bottom hole pressure gauges.
8:30			Secure well and leave location
Total		**1.75**	

Safety Topics

Working in Republic Romulus facility, ppe, pinch points, and fall protection

APPENDIX C

ANNULUS PRESSURE TEST DATA

APPENDIX C
WELL 2-12 ANNULUS PRESSURE DATA
August 11, 2023

Time	Time (min)	Pressure (psig)	
15:41:30	0.00	1180.79	START
15:42:00	0.50	1180.69	
15:42:30	1.00	1180.65	
15:43:00	1.50	1180.22	
15:43:30	2.00	1180.22	
15:44:00	2.50	1179.94	
15:44:30	3.00	1179.52	
15:45:00	3.50	1179.52	
15:45:30	4.00	1179.23	
15:46:00	4.50	1179.23	
15:46:30	5.00	1178.81	
15:47:00	5.50	1178.81	
15:47:30	6.00	1178.53	
15:48:00	6.50	1178.53	
15:48:30	7.00	1178.26	
15:49:00	7.50	1178.24	
15:49:30	8.00	1177.96	
15:50:00	8.50	1177.82	
15:50:30	9.00	1177.54	
15:51:00	9.50	1177.40	
15:51:30	10.00	1177.25	
15:52:00	10.50	1177.11	
15:52:30	11.00	1176.69	
15:53:00	11.50	1176.57	
15:53:30	12.00	1176.26	
15:54:00	12.50	1176.12	
15:54:30	13.00	1175.98	
15:55:00	13.50	1175.84	
15:55:30	14.00	1175.70	
15:56:00	14.50	1175.42	
15:56:30	15.00	1175.28	
15:57:00	15.50	1175.11	

Time	Time (min)	Pressure (psig)	
15:57:30	16.00	1174.93	
15:58:00	16.50	1174.76	
15:58:30	17.00	1174.59	
15:59:00	17.50	1174.41	
15:59:30	18.00	1174.24	
16:00:00	18.50	1174.07	
16:00:30	19.00	1173.89	
16:01:00	19.50	1173.72	
16:01:30	20.00	1173.54	
16:02:00	20.50	1173.58	
16:02:30	21.00	1173.16	
16:03:00	21.50	1173.16	
16:03:30	22.00	1172.90	
16:04:00	22.50	1172.87	
16:04:30	23.00	1172.45	
16:05:00	23.50	1172.31	
16:05:30	24.00	1172.17	
16:06:00	24.50	1172.17	
16:06:30	25.00	1171.74	
16:07:00	25.50	1171.60	
16:07:30	26.00	1171.60	
16:08:00	26.50	1171.32	
16:08:30	27.00	1171.32	
16:09:00	27.50	1170.89	
16:09:30	28.00	1170.75	
16:10:00	28.50	1170.61	
16:10:30	29.00	1170.47	
16:11:00	29.50	1170.47	
16:11:30	30.00	1170.33	
16:12:00	30.50	1170.05	
16:12:30	31.00	1169.76	
16:13:00	31.50	1169.62	

APPENDIX C, Continued
WELL 2-12 ANNULUS PRESSURE DATA
August 11, 2023

Time	Time (min)	Pressure (psig)	
16:13:30	32.00	1169.58	
16:14:00	32.50	1169.20	
16:14:30	33.00	1169.48	
16:15:00	33.50	1168.92	
16:15:30	34.00	1168.92	
16:16:00	34.50	1168.63	
16:16:30	35.00	1168.63	
16:17:00	35.50	1168.49	
16:17:30	36.00	1168.35	
16:18:00	36.50	1168.21	
16:18:30	37.00	1168.07	
16:19:00	37.50	1167.93	
16:19:30	38.00	1167.50	
16:20:00	38.50	1167.50	
16:20:30	39.00	1167.36	
16:21:00	39.50	1167.08	
16:21:30	40.00	1166.80	
16:22:00	40.50	1166.94	
16:22:30	41.00	1166.65	
16:23:00	41.50	1166.37	
16:23:30	42.00	1166.51	
16:24:00	42.50	1165.95	
16:24:30	43.00	1165.95	
16:25:00	43.50	1165.66	
16:25:30	44.00	1165.81	
16:26:00	44.50	1165.66	
16:26:30	45.00	1165.38	
16:27:00	45.50	1165.24	
16:27:30	46.00	1165.00	

Time	Time (min)	Pressure (psig)	
16:28:00	46.50	1164.82	
16:28:30	47.00	1164.82	
16:29:00	47.50	1164.39	
16:29:30	48.00	1164.39	
16:30:00	48.50	1164.11	
16:30:30	49.00	1164.11	
16:31:00	49.50	1163.83	
16:31:30	50.00	1163.83	
16:32:00	50.50	1163.69	
16:32:30	51.00	1163.54	
16:33:00	51.50	1163.26	
16:33:30	52.00	1163.05	
16:34:00	52.50	1162.84	
16:34:30	53.00	1162.70	
16:35:00	53.50	1162.70	
16:35:30	54.00	1162.70	
16:36:00	54.50	1162.27	
16:36:30	55.00	1162.27	
16:37:00	55.50	1162.13	
16:37:30	56.00	1161.85	
16:38:00	56.50	1161.71	
16:38:30	57.00	1161.57	
16:39:00	57.50	1161.42	
16:39:30	58.00	1161.28	
16:40:00	58.50	1161.28	
16:40:30	59.00	1160.86	
16:41:00	59.50	1160.86	
16:41:30	60.00	1160.72	END

APPENDIX D

CALIBRATION CERTIFICATES

July 24, 2023

Jason Rubin
Republic Industrial and Energy Solutions
10613 W. Sam Houston Parkway N.
Houston, TX 77064

Re: Calibration Performed at Republic Industrial and Energy Solutions.
Job No. REPS238555-1

Dear Jason,

Please find enclosed (10) ten calibration forms for the Republic Industrial and Energy Solutions location dated July 14, 2023. If you have any questions, please feel free to call our office at 734-424-1200.

Sincerely,

Brian Davis
Project Manager

BD/re

Team UIS
2290 Bishop Circle East
Dexter, MI 48130
Phone: (734) 424-1200 - Fax: (734) 424-0031
teamuis.com

Table of Contents
Job #REPS238555-1

Customer Republic Services
User Republic Services
Plant 28470 Citrin Drive

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER	**Republic Services**	CERTIFICATE #	**REPS238555-1, 1**
Address	**28470 Citrin Drive; Romulus MI US 48174**	JOB #	**REPS238555-1**
USER	**Republic Services; 28470 Citrin Drive; Romulus MI US 48174**	PAGE	**1**
OWNER REPRESENTATIVE	**John Frost**	TELEPHONE	**734-946-1000**

Service Date: 7/14/2023 Temp: 83 °F Humidity: 51 %RH

Equip Location: Plant Sub/Parent: Well 1 Position/Child: Annulus Pressure PRI

NAMEPLATE

Item Tested	Pressure Transmitter		
Manufacturer	Yokogawa	Model Number	EJA530
Serial Number	91V719511	Tag Number	PIT3838
Operating Range	cal 0-1000 psig (Span of Meter 0-7200 psi)	Procedure/Method	Fluke 754:75x_umeng0000 rev Jul 2011

As Found - Within Spec As Left - Within Spec

INPUT psig OUTPUT mA / psig

Line	%	Applied	As Found	OOT	As Left	OOT	Lo Spec	Hi Spec
1		0	4.00	☐	4.00	☐	-2	2
2		250	4.55	☐	4.55	☐	248	252
3		500	5.11	☐	5.11	☐	498	502
4		750	5.66	☐	5.66	☐	748	752
5		1000	6.21	☐	6.21	☐	998	1002
6		Hart Address	1	☐	1	☐		
7				☐		☐		

Communicator: Hart-OEM Specific **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Fluke	700RG31 10Kpsi	SHOP-2526	3/20/2023	3/31/2024
2	Fluke	754	JW-2395	10/27/2022	10/31/2023
3	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026

Comments:
Hart Address 1
switched with datalogger due to transmitter dropping out during operation serial 5613698

Deficiencies:

Traceability at UIS, Inc. is achieved through an unbroken chain of measurements with known uncertainties, to the International Systems of Units (SI) thru NIST or another Metrology Institute.
The results contained within relate only to the item(s) calibrated. Pass/Fail or In/Out of tolerance statements are the opinions of UIS, Inc., decisions are based on data from measurements made, procedure utilized, professional experience. It is the responsibility of the user of this equipment to determine if the results identified meet specific requirements for accuracy and its intended use.
Due dates appearing on the certificate of calibration and label are determined by client for administrative purposes without the written approval of UIS, Inc., and do not imply continued conformance to specifications.
The Confidence Factor is K=2 approx. 95% Confidence Level. All Certificates are page 1 of 1 unless otherwise specified. Page numbers at the top refer to the overall Job.
This certificate shall not be reproduced except in full, without the written approval of UIS, Inc.
Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** **C. McCraw** **Tech 2:** **NA** ISO-81523D-ISO Cert 2015; Rev Oct 2022

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER	**Republic Services**	CERTIFICATE #	**REPS238555-1, 2**
Address	**28470 Citrin Drive; Romulus MI US 48174**	JOB #	**REPS238555-1**
USER	**Republic Services; 28470 Citrin Drive; Romulus MI US 48174**	PAGE	**2**
OWNER REPRESENTATIVE	**John Frost**	TELEPHONE	**734-946-1000**

Service Date: 7/14/2023 Temp: 83 °F Humidity: 51 %RH

Equip Location: Plant Sub/Parent: Well 1 Position/Child: Annulus Pressure SEC

NAMEPLATE

Item Tested	Pressure Transmitter		
Manufacturer	Yokogawa	Model Number	EJA530E
Serial Number	91V927584	Tag Number	PIT3838
Operating Range	cal 0-1000 psig HART	Procedure/Method	Fluke 754:75x_umeng0000 rev Jul 2011

As Found - Within Spec As Left - Within Spec

INPUT psig OUTPUT psig

Line	%	Applied	As Found	OOT	As Left	OOT	Lo Spec	Hi Spec
1		0	1	☐	1	☐	-2	2
2		250	248	☐	248	☐	248	252
3		500	498	☐	498	☐	498	502
4		750	749	☐	749	☐	748	752
5		1000	998	☐	998	☐	998	1002
6		Hart Address	1	☐	1	☐		
7				☐		☐		

Communicator: Hart-OEM Specific **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Fluke	700RG31 10Kpsi	SHOP-2526	3/20/2023	3/31/2024
2	Fluke	754	JW-2395	10/27/2022	10/31/2023
3	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026

Comments:
Hart Address 1
switched with datalogger due to transmitter dropping out during operation serial 5613698

Deficiencies:

Traceability at UIS, Inc. is achieved through an unbroken chain of measurements with known uncertainties, to the International Systems of Units (SI) thru NIST or another Metrology Institute.
The results contained within relate only to the item(s) calibrated. Pass/Fail or In/Out of tolerance statements are the opinions of UIS, Inc., decisions are based on data from measurements made, procedure utilized, professional experience. It is the responsibility of the user of this equipment to determine if the results identified meet specific requirements for accuracy and its intended use.
Due dates appearing on the certificate of calibration and label are determined by client for administrative purposes without the written approval of UIS, Inc., and do not imply continued conformance to specifications.
The Confidence Factor is K=2 approx. 95% Confidence Level. All Certificates are page 1 of 1 unless otherwise specified. Page numbers at the top refer to the overall Job.
This certificate shall not be reproduced except in full, without the written approval of UIS, Inc.
Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** **C. McCraw** **Tech 2:** **NA** ISO-81523D-ISO Cert 2015; Rev Oct 2022

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER	**Republic Services**	CERTIFICATE #	**REPS238555-1, 3**
Address	**28470 Citrin Drive; Romulus MI US 48174**	JOB #	**REPS238555-1**
USER	**Republic Services; 28470 Citrin Drive; Romulus MI US 48174**	PAGE	**3**
OWNER REPRESENTATIVE	**John Frost**	TELEPHONE	**734-946-1000**

Service Date: 7/14/2023 Temp: 80 °F Humidity: 57 %RH

Equip Location: Plant Sub/Parent: Well 1 Position/Child: Well Flow

NAMEPLATE

Item Tested	Clamp-on Flowmeter		
Manufacturer	Keyence	Model Number	FD-R80
Serial Number	#G38220528	Tag Number	NA
Operating Range	0-400 GPM	Procedure/Method	Fluke 754:75x_umeng0000 rev Jul 2011

		INPUT Diag		OUTPUT Diag			
Line	%	Applied	As Found	OOT	As Left	OOT	
1	GPM	KEYENCE	27.5	☐	27.5	☐	
2	GPM	GREYLINE TFFM 6.1	27.3	☐	27.3	☐	
3				☐		☐	

Communicator: **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026
2	Grey Line	TTFM	SHOP-2518	5/18/2023	5/31/2026

Comments:
3" hastalloy schedule 40, 3.50 OD, wall thickness 0.216", 0.46" spacing at 1 pass, use other for pipe material.

Deficiencies:

Traceability at UIS, Inc. is achieved through an unbroken chain of measurements with known uncertainties, to the International Systems of Units (SI) thru NIST or another Metrology Institute.
The results contained within relate only to the item(s) calibrated. Pass/Fail or In/Out of tolerance statements are the opinions of UIS, Inc., decisions are based on data from measurements made, procedure utilized, professional experience. It is the responsibility of the user of this equipment to determine if the results identified meet specific requirements for accuracy and its intended use.
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CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER **Republic Services** CERTIFICATE # **REPS238555-1, 4**

Address **28470 Citrin Drive; Romulus MI US 48174** JOB # **REPS238555-1**

USER **Republic Services; 28470 Citrin Drive; Romulus MI US 48174** PAGE **4**

OWNER REPRESENTATIVE **John Frost** TELEPHONE **734-946-1000**

Service Date: 7/14/2023 Temp: 83 °F Humidity: 51 %RH

Equip Location: Plant Sub/Parent: Well 1 Position/Child: Well Pressure Logger

NAMEPLATE

Item Tested: Pressure Transmitter

Manufacturer: Yokogawa Model Number: EJA53

Serial Number: 91V631757-926 Tag Number: PIT3938

Operating Range: cal 0-1000 psig Procedure/Method: Fluke 754:75x_umeng0000 rev Jul 2011

INPUT psig OUTPUT psig

Line	%	Applied	As Found	OOT	As Left	OOT	Lo Spec	Hi Spec
1		0	1	☐	1	☐	-2	2
2		250	248	☐	248	☐	248	252
3		500	498	☐	498	☐	498	502
4		750	748	☐	748	☐	748	752
5		1000	998	☐	998	☐	998	1002
6				☐		☐		

Communicator: HART **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Fluke	700RG31 10Kpsi	SHOP-2526	3/20/2023	3/31/2024
2	Fluke	754	JW-2395	10/27/2022	10/31/2023
3	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026

Comments:

Deficiencies:

Traceability at UIS, Inc. is achieved through an unbroken chain of measurements with known uncertainties, to the International Systems of Units (SI) thru NIST or another Metrology Institute.
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Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** C. McCraw **Tech 2:** NA ISO-81523D-ISO Cert 2015; Rev Oct 2022

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER	**Republic Services**	CERTIFICATE #	**REPS238555-1, 5**
Address	**28470 Citrin Drive; Romulus MI US 48174**	JOB #	**REPS238555-1**
USER	**Republic Services; 28470 Citrin Drive; Romulus MI US 48174**	PAGE	**5**
OWNER REPRESENTATIVE	**John Frost**	TELEPHONE	**734-946-1000**

Service Date: 7/14/2023 Temp: 83 °F Humidity: 51 %RH

Equip Location: Plant Sub/Parent: Well 1 Position/Child: Well Pressure Primary

NAMEPLATE

Item Tested	Pressure Transmitter		
Manufacturer	Yokogawa	Model Number	EJA53
Serial Number	91V926590-938	Tag Number	PIT3938
Operating Range	cal 0-1000 psig (Meter Span 0-7200 psi)	Procedure/Method	Fluke 754:75x_umeng0000 rev Jul 2011

As Found - Within Spec As Left - Within Spec

INPUT psig OUTPUT mA/ PSIG

Line	%	Applied	As Found	OOT	As Left	OOT	Lo Spec	Hi Spec
1		0	4.00	☐	4.00	☐	-2	2
2		250	4.55	☐	4.55	☐	248	252
3		500	5.11	☐	5.11	☐	498	502
4		750	5.66	☐	5.66	☐	748	752
5		1000	6.22	☐	6.22	☐	998	1002
6				☐		☐		

Communicator: HART **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Fluke	700RG31 10Kpsi	SHOP-2526	3/20/2023	3/31/2024
2	Fluke	754	JW-2395	10/27/2022	10/31/2023
3	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026

Comments:

Deficiencies:

Traceability at UIS, Inc. is achieved through an unbroken chain of measurements with known uncertainties, to the International Systems of Units (SI) thru NIST or another Metrology Institute.
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Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** **C. McCraw** **Tech 2:** **NA** ISO-81523D-ISO Cert 2015; Rev Oct 2022

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER **Republic Services** CERTIFICATE # **REPS238555-1, 6**

Address **28470 Citrin Drive; Romulus MI US 48174** JOB # **REPS238555-1**

USER **Republic Services; 28470 Citrin Drive; Romulus MI US 48174** PAGE **6**

OWNER REPRESENTATIVE **John Frost** TELEPHONE **734-946-1000**

Service Date: 7/14/2023 Temp: 83 °F Humidity: 51 %RH

Equip Location: Plant Sub/Parent: Well 2 Position/Child: Annulus Pressure Primary

NAMEPLATE

Item Tested: Pressure Transmitter

Manufacturer: Yokogaw Model Number: EJA530E-JDS7N-012EL/FU1/D1/JH05

Serial Number: 91V927606 Tag Number: PIT3938

Operating Range: cal 0-1000 psig Procedure/Method: Fluke 754:75x_umeng0000 rev Jul 2011

As Found - Within Spec As Left - Within Spec

INPUT psig OUTPUT mA / psig

Line	%	Applied	As Found	OOT	As Left	OOT	Lo Spec	Hi Spec
1		0	3.99	☐	3.99	☐	-2	+2
2		250	4.55	☐	4.55	☐	248	252
3		500	5.10	☐	5.10	☐	498	502
4		750	5.66	☐	5.66	☐	748	752
5		1000	6.22	☐	6.22	☐	998	1002
6		Hart Address	4	☐	4	☐		
7				☐		☐		

Communicator: Hart-OEM Specific **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Fluke	700RG31 10Kpsi	SHOP-2526	3/20/2023	3/31/2024
2	Fluke	754	JW-2395	10/27/2022	10/31/2023
3	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026

Comments:
no mA output; unit comm with Hart to PLC

Deficiencies:

Traceability at UIS, Inc. is achieved through an unbroken chain of measurements with known uncertainties, to the International Systems of Units (SI) thru NIST or another Metrology Institute.
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Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** **C. McCraw** **Tech 2:** **NA** ISO-81523D-ISO Cert 2015; Rev Oct 2022

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER	**Republic Services**	CERTIFICATE #	**REPS238555-1, 7**
Address	**28470 Citrin Drive; Romulus MI US 48174**	JOB #	**REPS238555-1**
USER	**Republic Services; 28470 Citrin Drive; Romulus MI US 48174**	PAGE	**7**
OWNER REPRESENTATIVE	**John Frost**	TELEPHONE	**734-946-1000**

Service Date: 7/14/2023 Temp: 83 °F Humidity: 51 %RH

Equip Location: Plant Sub/Parent: Well 2 Position/Child: Annulus Pressure SEC

NAMEPLATE

Item Tested	Pressure Transmitter		
Manufacturer	Yokogawa	Model Number	EJA530E-JDS7N-012EL/FU1/D1/JH05
Serial Number	91V926611	Tag Number	PIT
Operating Range	cal 0-1000 psig	Procedure/Method	Fluke 754:75x_umeng0000 rev Jul 2011

As Found - Within Spec As Left - Within Spec

INPUT psig OUTPUT psig

Line	%	Applied	As Found	OOT	As Left	OOT	Lo Spec	Hi Spec
1		0	1	☐	1	☐	-2	+2
2		250	249	☐	250	☐	248	252
3		500	499	☐	500	☐	498	502
4		750	748	☐	750	☐	748	752
5		1000	998	☐	1000	☐	998	1002
6		Hart Address	2	☐	2	☐		
7				☐		☐		

Communicator: Hart-OEM Specific **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Fluke	700RG31 10Kpsi	SHOP-2526	3/20/2023	3/31/2024
2	Fluke	754	JW-2395	10/27/2022	10/31/2023
3	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026

Comments:
no mA output; unit comm with Hart

Deficiencies:

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Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** **C. McCraw** **Tech 2:** **NA** ISO-81523D-ISO Cert 2015; Rev Oct 2022

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER **Republic Services** CERTIFICATE # **REPS238555-1, 8**

Address **28470 Citrin Drive; Romulus MI US 48174** JOB # **REPS238555-1**

USER **Republic Services; 28470 Citrin Drive; Romulus MI US 48174** PAGE **8**

OWNER REPRESENTATIVE **John Frost** TELEPHONE **734-946-1000**

Service Date: 7/14/2023 Temp: 80 °F Humidity: 55 %RH

Equip Location: Plant Sub/Parent: Well 2 Position/Child: Well Flow

NAMEPLATE

Item Tested: Clamp-on Flowmeter

Manufacturer: Keyence Model Number: FD-R80

Serial Number: G3822052? Tag Number: FIT3832

Operating Range: 0-400 GPM Procedure/Method: Fluke 754:75x_umeng0000 rev Jul 2011

INPUT GPM OUTPUT GPM

Line	%	Applied	As Found	OOT	As Left	OOT
1	GPM	KEYENCE	30.4	☐	30.4	☐
2	GPM	GREYLINE TFFM 6.1	30.0	☐	30.0	☐
3				☐		☐

Communicator: **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026
2	Grey Line	TTFM	SHOP-2518	5/18/2023	5/31/2026

Comments:
3" hastalloy schedule 40, 3.50 OD, wall thickness 0.216", 0.46" spacing at 1 pass, use other for pipe material.

Deficiencies:

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Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** **C. McCraw** **Tech 2:** **NA** ISO-81523D-ISO Cert 2015; Rev Oct 2022

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER	**Republic Services**	CERTIFICATE #	**REPS238555-1, 9**
Address	**28470 Citrin Drive; Romulus MI US 48174**	JOB #	**REPS238555-1**
USER	**Republic Services; 28470 Citrin Drive; Romulus MI US 48174**	PAGE	**9**
OWNER REPRESENTATIVE	**John Frost**	TELEPHONE	**734-946-1000**

Service Date: 7/14/2023 Temp: 83 °F Humidity: 52 %RH

Equip Location: Plant Sub/Parent: Well 2 Position/Child: Well Pressure Primary

NAMEPLATE

Item Tested	Pressure Transmitter		
Manufacturer	Yokogaw	Model Number	EJA530E-JDS7N-012EL/FU1/D1/JH05
Serial Number	91W312670	Tag Number	PIT3935
Operating Range	cal 0-1000 psig	Procedure/Method	Fluke 754:75x_umeng0000 rev Jul 2011

INPUT psig OUTPUT mA

Line	%	Applied	As Found	OOT	As Left	OOT	Lo Spec	Hi Spec
1		0	4.00	☐	4.00	☐	-2	+2
2		250	4.55	☐	4.55	☐	248	252
3		500	5.10	☐	5.10	☐	498	502
4		750	5.66	☐	5.66	☐	748	752
5		1000	6.22	☐	6.22	☐	998	1002
6		Hart Address	5	☐	5	☐		
7				☐		☐		

Communicator: **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026
2	Fluke	754	JW-2395	10/27/2022	10/31/2023
3	Fluke	700RG31 10Kpsi	SHOP-2526	3/20/2023	3/31/2024

Comments:
no mA output; unit comm with Hart to PLC

Deficiencies:
mA found in tolerance. Display is not correct but doesn't impact anything to their SCADA.

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Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** **C. McCraw** **Tech 2:** **NA** ISO-81523D-ISO Cert 2015; Rev Oct 2022

CALIBRATION CERTIFICATE

UIS SCADA
2290 Bishop Circle E.
Dexter, MI 48130
734-424-1200

CUSTOMER	**Republic Services**	CERTIFICATE #	**REPS238555-1, 10**
Address	**28470 Citrin Drive; Romulus MI US 48174**	JOB #	**REPS238555-1**
USER	**Republic Services; 28470 Citrin Drive; Romulus MI US 48174**	PAGE	**10**
OWNER REPRESENTATIVE	**John Frost**	TELEPHONE	**734-946-1000**
Service Date:	7/14/2023	Temp:	86 °F
Equip Location:	Plant	Sub/Parent:	Well 2
Position/Child:	Well Pressure SEC (logger)	Humidity:	45 %RH

NAMEPLATE

Item Tested	Pressure Transmitter		
Manufacturer	Yokogawa	Model Number	EJA530E-JDS7N-012EL/FU1/D1/JH05
Serial Number	91W405865	Tag Number	PIT
Operating Range	cal 0-1000 psig	Procedure/Method	Fluke 754:75x_umeng0000 rev Jul 2011

As Found - Within Spec As Left - Within Spec

INPUT psig OUTPUT psig

Line	%	Applied	As Found	OOT	As Left	OOT	Lo Spec	Hi Spec
1		0	1	☐	1	☐	-2	+2
2		250	248	☐	248	☐	248	252
3		500	498	☐	498	☐	498	502
4		750	748	☐	748	☐	748	752
5		1000	998	☐	998	☐	998	1002
6		Hart Address	1	☐	1	☐		
7				☐		☐		

Communicator: Hart-OEM Specific **Totalizer As Found** NA **Totalizer As Left** NA Gal

#	Manufacturer	Model	Serial / ID Number	Calibration Date	Calibration Due
1	Fluke	754	JW-2395	10/27/2022	10/31/2023
2	Fluke	700RG31 10Kpsi	SHOP-2526	3/20/2023	3/31/2024
3	Extech	RH300(ambient)	CMC-1772	1/11/2021	1/11/2026

Comments:
no mA output; unit comm with Hart to PLC

Deficiencies:

Traceability at UIS, Inc. is achieved through an unbroken chain of measurements with known uncertainties, to the International Systems of Units (SI) thru NIST or another Metrology Institute.
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Decision Rule 1: Measurement Uncertainty IS NOT taken into account for determining PASS or FAIL.

Date of Issue: 7/24/2023 **Tech 1:** **C. McCraw** **Tech 2:** **NA** ISO-81523D-ISO Cert 2015; Rev Oct 2022

Comment Summary
Job #REPS238555-1

Customer Republic Services

User Republic Services

Plant: 28470 Citrin Drive
Substation: Well 1
Position: Annulus Pressure PRI
Equipment: ISO-81235D1-ISO CERT 2015

Page: 1
Date: 7/14/2023

Comments: Hart Address 1
switched with datalogger due to transmitter dropping out during operation serial 5613698

Plant: 28470 Citrin Drive
Substation: Well 1
Position: Annulus Pressure SEC
Equipment: ISO-81235D1-ISO CERT 2015

Page: 2
Date: 7/14/2023

Comments: Hart Address 1
switched with datalogger due to transmitter dropping out during operation serial 5613698

Plant: 28470 Citrin Drive
Substation: Well 1
Position: Well Flow
Equipment: ISO-81235D1-ISO CERT 2015

Page: 3
Date: 7/14/2023

Comments: 3" hastalloy schedule 40, 3.50 OD, wall thickness 0.216", 0.46" spacing at 1 pass, use other for pipe material.

Plant: 28470 Citrin Drive
Substation: Well 2
Position: Annulus Pressure Primary
Equipment: ISO-81235D1-ISO CERT 2015 (4)

Page: 6
Date: 7/14/2023

Comments: no mA output; unit comm with Hart to PLC

Plant: 28470 Citrin Drive
Substation: Well 2
Position: Annulus Pressure SEC
Equipment: ISO-81235D1-ISO CERT 2015 (5)

Page: 7
Date: 7/14/2023

Comments: no mA output; unit comm with Hart

Comment Summary
Job #REPS238555-1

Plant: 28470 Citrin Drive
Substation: Well 2
Position: Well Flow
Equipment: ISO-81235D1-ISO CERT 2015 (2)

Page: 8
Date: 7/14/2023

Comments: 3" hastalloy schedule 40, 3.50 OD, wall thickness 0.216", 0.46" spacing at 1 pass, use other for pipe material.

Plant: 28470 Citrin Drive
Substation: Well 2
Position: Well Pressure Primary
Equipment: ISO-81235D1-ISO CERT 2015 (5)

Page: 9
Date: 7/14/2023

Comments: no mA output; unit comm with Hart to PLC

Plant: 28470 Citrin Drive
Substation: Well 2
Position: Well Pressure SEC (logger)
Equipment: ISO-81235D1-ISO CERT 2015 (6)

Page: 10
Date: 7/14/2023

Comments: no mA output; unit comm with Hart to PLC

Deficiency Summary
Job #REPS238555-1

Customer Republic Services

User Republic Services

Plant: 28470 Citrin Drive

Substation: Well 2

Position: Well Pressure Primary

Equipment: ISO-81235D1-ISO CERT 2015 (5)

Page: 9

Date: 7/14/2023

Deficiencies: mA found in tolerance. Display is not correct but doesn't impact anything to their SCADA.

Cal-scan Services Ltd.
4168-93 Street
Edmonton, Alberta, Canada
T6E 5P5
Phone: (780) 944-1377 Fax: (780) 944 - 1406

Calibration Certificate

Model :	Badger Low Temp	**Range :**	6,000.00 psi
Serial Number :	91885	**Last Cal. Date :**	07-March-2023

Specifications

Calibration Pressure Range:		0.00	6,000.00	psi
Calibration Temperature Range:		0.00	150.00	°C
Pressure:	Accuracy	±	1.4400 psi (0.024 %FS)	
	Resolution	±	0.0180 psi (0.0003 %FS)	
Temperature:	Accuracy	±	0.40 °C	
	Resolution	±	0.001 °C	

Calibration Summary

Pressure: Accuracy (maximum error)	0.43	psi
Temperature: Accuracy (maximum error)	0.14	°C

Traceability Statement

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

Calibrated with Cal-Scan DWG # 2

Calibrated by:

Ryan Kryzanowski

Cal-scan Services Ltd.
4188-93 Street
Edmonton, Alberta, Canada
T6E 5P5
Phone: (780) 944-1377 Fax: (780) 944 - 1406

Calibration Certificate

Model :	Badger Low Temp	**Range :**	6,000.00 psi
Serial Number :	91908	**Last Cal. Date :**	26-October-2022

Specifications

Calibration Pressure Range:		0.00	6,000.00	psi
Calibration Temperature Range:		0.00	150.00	°C
Pressure:	Accuracy	±	1.4400 psi (0.024 %FS)	
	Resolution	±	0.0180 psi (0.0003 %FS)	
Temperature:	Accuracy	±	0.40 °C	
	Resolution	±	0.001 °C	

Calibration Summary

Pressure: Accuracy (maximum error)	0.63	psi
Temperature: Accuracy (maximum error)	0.18	°C

Traceability Statement

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

Calibrated with Cal-Scan DWG # 6

Calibrated by:

Ryan Kryzanowski

APPENDIX E

EPA STANDARD ANNULAR PRESSURE TEST FORM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
STANDARD ANNULAR PRESSURE TEST

Operator: Republic Industrial and Energy Solutions, LLC
Address: 28470 Citrin Drive Romulus, MI 48174
State Permit No.: M-453
USEPA Permit No.: MI-163-1W-C011
Date of Test: 08/11/2023
Well Name: Well #2-12
Well Type: Waste Disposal (Class 1)

LOCATION INFORMATION: SW Quarter of the NW Quarter of the SE Quarter of Section 12; Range 9E; Township 3S; County Wayne;

Company Representative: Mike Alderman; Field Inspector: JoAnne Mitock;

Type of Pressure Gauge: ____ inch face; 7200 psi full scale; 0.1 psi increments;

New Gauge? Yes ☐ No ☒ If no, date of calibration 07-14-2023 Calibration certification submitted? Yes ☐ No ☐

TEST RESULTS	
Readings must be taken at least every 10 minutes for a minimum of 30 minutes for Class II, III and V wells and 60 minutes for Class I wells. For Class II wells, annulus pressue should be at least 300 psig. For Class I wells, annulus pressure should be the greater of 300 psig or 100 psi above maximum permitted injection pressure. Original chart recordings must be submitted with this form.	5-year or annual test on time? Yes ☒ No ☐ 2-year test for TA'd wells on time? Yes ☐ No ☐ After rework? Yes ☐ No ☒ Newly permitted well? Yes ☐ No ☒

Time	Pressure (in psig) Annulus	Tubing
1541	1180.64	173.25
1551	1177.25	172.68
1601	1175.56	171.97
1611	1170.47	170.56
1621	1167.08	169.57
1631	1163.83	168.16
1641	1,160.72	167.17

Casing size: 7"
Tubing size: 4-1/2"
Packer type: Model 12, Hastelloy
Packer set @: 3930'
Top of Permitted Injection Zone: 3973
Is packer 100 ft or less above top of Injection Zone ? Yes ☒ No ☐
If not, please submit a justification.
Fluid return (gal.): ____
Comments:

Test Pressures: Max. Allowable Pressure Change: Initial test pressure x 0.03: 35.4 psi
Test Period Pressure change: 19.92 psi

Test Passed ☒ Test Failed ☐

If failed test, well must be shut in, no injection can occur, and USEPA must be contacted within 24 hours. Corrective action needs to occur, the well retested, and written authorization received before injection can recommence.

I certify under penalty of law that this document and all attachments are, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (See 40 CFR 144.32(d))

Mike Alderman — Printed Name of Company Representative
[signature] — Signature of Company Representative
8-11-23 — Date

* Shutoff alarms tested, and passed.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF INSPECTION

EPA Regional Office USEPA Region V WU-16J Chicago, IL 60604	Environmental Solutions AQ P.O. Box 6052 Oxford, OH 45056	Firm to be inspected Republic Industrial & Energy Solutions, LLC
Date 8/11/23 Time 5:00 PM	Notice of inspection is hereby given according to Section 1445 (b) of the Safe Drinking Water Act (42 U.S.C §300f et seg.).	

Reason For Inspection MIT (SAPT) Pt. 1 Well 1-12
Automatic Emergency Shutoff Well 2-12
& Alarm System
Test

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable permit or rule.

Section 1445 (b) of the SDWA(42 U.S.C §300j-4(b) is quoted on the reverse of this form

Receipt of this Notice of Inspection is hereby acknowledged.

Firm Representative	Date	Inspector
Richard Wallace	8/11/23	John Anter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
STANDARD ANNULAR PRESSURE TEST

Operator	Republic Industrial & Energy Solutions, LLC	State Permit Number	60453
Address	28470 Citrin Drive	EPA Permit Number	MI-163-IW-C011
	Romulus, MI 48174	Date of Test	8/11/23
Well Name & Number	Well 2-12	Well Type	IW

Quarter	Quarter	Quarter	Section	Township	Range	Township Name	County	State
SW	NW	SE	12	3S	9E	Georgetown	Wayne	MI

GPS file number	Latitude	Longitude	Elevation
	42.243714	-83.316904	

Company Representative	Mike Alderman	Field Inspector	Joanne Kotack

GAUGE CERTIFICATION

Type Pressure Gauge Yokogama EJA530B ____ inch face 7200 psi full scale 0.1 psi increments
New Gauge? Yes ☐ No ☑ If no, date of calibration 7/14/23 Calibration certification submitted? Yes ☑ No ☐

TEST RESULTS

Time	3:41	3:51	4:01	4:11	4:21	4:31	4:41
Annulus	1180	1177	1176	1170	1167	1164	1161
Tubing psi	173	173	172	170	170	168	167

WELL STATUS

5 Year	☐	TD#_____
2 Year TA	☐	TD#_____
Rework after failure	☐	TD#_____
New Permit	☐	TD#_____
Enforcement Action	☐	TD#_____
Annual Class 1	☑	TD#_____

WELL CONFIGURATION

Casing Size	7"
Tubing Size	4 1/2"
Packer Type	Model 12, Hastelloy
Packer set @	3930
Fluid Return (gal)	NA - pressure tank

Test Pressures: Max. Allowable Pressure Change: Initial test pressure x .03 35 psi
Test Pressure change 19 psi

Test Passed ☑ Test Failed ☐ : ***If failed test, well must shut in, no injection can occur, and USEPA must be contacted within 24 hours. Corrective action needs to occur, the well retested, and written authorization received before injection can recommence.***

COMMENT:
Well shut in for test. Also witnessed Automatic Shutoff & Alarm System Test, Emma Atkinson (EGLE) witnessing

Signature of Company Representative	Date
Michael Alderman	8/11/23
Signature of UIC Field Inspector	Date
Joanne Kotack	8/11/23

APPENDIX F

EPA RADIOACTIVE TRACER SURVEY FORM

BACKGROUND INFORMATION FOR REVIEW OF RADIOACTIVE TRACER SURVEYS FOR CEMENT INTEGRITY

Facility Name: Republic Industrial and Energy Solutions, LLC			Operator: Republic Industrial and Energy Solutions, LLC		
Well Name: #2-12			USEPA Permit Numbe: MI-163-1W-C0011	Witness: 2340.44	
State: Michigan	Test Date: September 5,2023		Logging Company: Michigan Wireline	Depth Reference: Kelly Bushing ✔ Ground Level ☐	

Well and Operational Information

Long StringCsg Material: K-55, LT&C	Long String Casing OD, ins: 7.0	Casing weight, #/ft: 26	Casing ID, ins.: 6.276	Long String Casing Length, ft: 3982	
Tubing Material: Blue Box 2000	Tubing OD, ins: 4.5	Tubing weight, #/ft: 4	Tubing ID, ins.: 3.98	Tubing Length, ft: 3930	
Tail Pipe Material: N/A	Tail Pipe OD, ins: N/A	Tail Pipe, weight#/ft.: N/A	Tail Pipe ID, ins.: N/A	Tail Pipe Length, ft: N/A	Tail Pipe Depth: N/A
	OpenHole diameter, in: 8.75	TD, ft: 1915.16	PBTD, ft: 4550	Top of Open Interval, ft	
Packer Model	Packer Type: Delta-P Model 12	Top of Packer, ft: 3930	Bottom of Packer, ft	3935	

Geological Information

Lowermost USDW Name: Sylvania	Fms in Confining Zone: Utica Shale and Trenton Limestone	Fms in Injection Zone: Franconia, Eau Claire, Mt. Simon
Base of USDW, ft: 400	Depth to top of Confinement Zone: 2364	Injection Zone Top, ft: 3369

TOOL INFORMATION

Ejector, ft above BDET: 6.15'	TDET, ft above BDET: 8.73'	MDET, ft above BDET: n/a			

CALIBRATION INFORMATION

Depth BDET, ft: 3800'	Depth TDET, ft: 3791.3'	BDET CPSPI	Lithology (Warm/Cool): Cool	Maximum Reading, LD: 4.8 CPS	Minimum Reading, LD
Depth BDET, ft: 3855'	Depth TDET, ft: 3846.3'	BDET CPSPI	Lithology (Warm/Cool): Warm	Maximum Reading, LD: 18.2 CPS	Minimum Reading, LD: 3.2 CPS

FIRST SLUG TRACKING SEQUENCE

Flow Rate, gpm: 42	Velocity in tubing, fps: 1.06	Depth of deflection on 1st pass, ft: 3151	Deflection on 1st pass, LD: 322 cps	Deflection/Backgroun: 2 cps	Passes Through Slug: 4
Slug Split? yes or no: No	Depth of Split, ft: N/A	Moved up, yes or no: No	Minimum Slug Depth, ft: 3100	Distance above shoe, ft: 882	Maximum Slug Depth, ft: 4050

FIRST STATIONARY TEST

Depth of BDET, ft: 3960	Depth of TDET, ft: 08/19/22 - 0	BDET to open interval, ft: 22	Time at station, mins: 32	Injection Rate, gpm: 42	Log Divisions per Minute: 3975
Depth at Injection, ft: 3750		BDET above end of tubing or casing, ft: 22	Reached BDET up, LD	Reach UDET up, LD	Velocity Up, ft/min
2nd Setting Depth, ft	Time of reset	Slug already passed BDET?	Reached BDET up, LD	Slug arrival time	
3rd Setting Depth	Time of reset	Slug already passed BDET?	Reached BDET up, LD	Slug arrival time	
4th setting depth, ft	Time of reset	Slug already passed BDET?	Reached BDET up, LD	Slug arrival time	Upper Limit of Movement, ft

REMEMBER

1. Please fill in the above cells.
2. Inject at highest practicable rate during the stationary test to maximize pressure difference that is the driving force for upward movement of fluid (if it occurs), but at low enough velocity during slug tracking so the slug can be followed effectively.
3. Leave the scaling at the same level for all phases. 40 counts per second per inch is usually effective. We need to be able to see evidence of variation due to lithology.

4. Use big slugs. The height of the deflection caused by the slug should be at least 50 times the difference of the high and low levels measured during logging the initial log.

5. If you record times of arrival, that should be the arrival of the leading edge.

6. The purpose is to determine the shallowest depth at which tracer material leaves the well.

7. When slug tracking, logging through the slug while the last part of the slug is leaving the deeper of the tailpipe or casing is the best way to identify a split. If there is a split, always follow the upper portion to determine the limit of its upward movement.

8. When running the stationary test, set the tool with the bottom detector five feet above the end of the deeper of the tail pipe or casing. If the slug reaches it, move it up in steps to find the shallowest extent of movement.

9. The stationary test must be run long enough to be able to detect upward motion of 2 ft/min.
10. Superimpose the traces of the initial and final base logs.

11. Please submit both the merged and unmerged slug chase records.

12. The test report must explain any anomalies in the results.

13. Please submit the digital logging data on a CD.

14. Submit an up-to-date well schematic.

APPENDIX G

RAW PRESSURE AND TEMPERATURE DATA (ABRIDGED)

APPENDIX G
Pressure/Time Data Recorded During the Pressure Transient Test

Start Time: 09/06/23 08:44
Location: Romulus, MI
Recorder Serial No: 91908
Calibration Date: OCT 26/22
Pressure Range: 6003.0 psig

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/06/23	08:44:40	1933.835	73.620	09/06/23	09:58:40	2257.494	70.787	09/06/23	11:12:40	2278.826	72.468
09/06/23	08:45:40	1933.809	73.623	09/06/23	09:59:40	2257.887	70.861	09/06/23	11:13:40	2279.011	72.474
09/06/23	08:46:40	1943.773	73.622	09/06/23	10:00:40	2258.269	70.921	09/06/23	11:14:40	2279.277	72.482
09/06/23	08:47:40	2060.295	73.656	09/06/23	10:01:40	2258.626	70.978	09/06/23	11:15:40	2279.512	72.493
09/06/23	08:48:40	2116.453	74.148	09/06/23	10:02:40	2258.974	71.036	09/06/23	11:16:40	2279.743	72.503
09/06/23	08:49:40	2141.649	75.497	09/06/23	10:03:40	2259.341	71.081	09/06/23	11:17:40	2279.994	72.509
09/06/23	08:50:40	2160.318	76.950	09/06/23	10:04:40	2259.706	71.128	09/06/23	11:18:40	2280.217	72.519
09/06/23	08:51:40	2137.839	77.838	09/06/23	10:05:40	2260.093	71.177	09/06/23	11:19:40	2280.440	72.525
09/06/23	08:52:40	2172.375	78.344	09/06/23	10:06:40	2260.414	71.222	09/06/23	11:20:40	2280.742	72.537
09/06/23	08:53:40	2183.952	78.523	09/06/23	10:07:40	2260.754	71.258	09/06/23	11:21:40	2280.977	72.549
09/06/23	08:54:40	2190.671	78.427	09/06/23	10:08:40	2261.065	71.293	09/06/23	11:22:40	2281.299	72.558
09/06/23	08:55:40	2195.347	78.159	09/06/23	10:09:40	2261.399	71.332	09/06/23	11:23:40	2281.512	72.565
09/06/23	08:56:40	2199.086	77.808	09/06/23	10:10:40	2261.726	71.367	09/06/23	11:24:40	2281.784	72.573
09/06/23	08:57:40	2202.150	77.419	09/06/23	10:11:40	2262.080	71.405	09/06/23	11:25:40	2282.075	72.582
09/06/23	08:58:40	2204.849	77.055	09/06/23	10:12:40	2262.358	71.436	09/06/23	11:26:40	2282.302	72.589
09/06/23	08:59:40	2207.209	76.704	09/06/23	10:13:40	2262.669	71.467	09/06/23	11:27:40	2282.570	72.604
09/06/23	09:00:40	2209.439	76.381	09/06/23	10:14:40	2262.911	71.493	09/06/23	11:28:40	2282.802	72.603
09/06/23	09:01:40	2211.458	76.021	09/06/23	10:15:40	2263.249	71.529	09/06/23	11:29:40	2283.027	72.617
09/06/23	09:02:40	2213.254	75.617	09/06/23	10:16:40	2263.557	71.556	09/06/23	11:30:40	2283.249	72.619
09/06/23	09:03:40	2215.035	75.117	09/06/23	10:17:40	2263.865	71.584	09/06/23	11:31:40	2283.484	72.626
09/06/23	09:04:40	2216.584	74.523	09/06/23	10:18:40	2264.142	71.607	09/06/23	11:32:40	2283.711	72.636
09/06/23	09:05:40	2218.250	73.885	09/06/23	10:19:40	2264.446	71.642	09/06/23	11:33:40	2283.918	72.643
09/06/23	09:06:40	2219.699	73.247	09/06/23	10:20:40	2264.710	71.657	09/06/23	11:34:40	2284.132	72.655
09/06/23	09:07:40	2221.071	72.638	09/06/23	10:21:40	2265.045	71.683	09/06/23	11:35:40	2284.339	72.661
09/06/23	09:08:40	2222.347	72.096	09/06/23	10:22:40	2265.310	71.709	09/06/23	11:36:40	2284.563	72.668
09/06/23	09:09:40	2223.627	71.581	09/06/23	10:23:40	2265.625	71.729	09/06/23	11:37:40	2284.814	72.679
09/06/23	09:10:40	2224.780	71.063	09/06/23	10:24:40	2265.996	71.758	09/06/23	11:38:40	2285.006	72.682
09/06/23	09:11:40	2225.994	70.559	09/06/23	10:25:40	2266.310	71.777	09/06/23	11:39:40	2285.271	72.693
09/06/23	09:12:40	2227.152	70.045	09/06/23	10:26:40	2266.688	71.797	09/06/23	11:40:40	2285.478	72.695
09/06/23	09:13:40	2228.200	69.563	09/06/23	10:27:40	2267.026	71.820	09/06/23	11:41:40	2285.712	72.701
09/06/23	09:14:40	2229.150	69.147	09/06/23	10:28:40	2267.356	71.836	09/06/23	11:42:40	2285.969	72.709
09/06/23	09:15:40	2230.211	68.794	09/06/23	10:29:40	2267.703	71.865	09/06/23	11:43:40	2286.127	72.714
09/06/23	09:16:40	2231.155	68.501	09/06/23	10:30:40	2267.990	71.876	09/06/23	11:44:40	2286.421	72.726
09/06/23	09:17:40	2232.155	68.274	09/06/23	10:31:40	2268.306	71.897	09/06/23	11:45:40	2286.606	72.725
09/06/23	09:18:40	2233.103	68.055	09/06/23	10:32:40	2268.637	71.915	09/06/23	11:46:40	2286.768	72.731
09/06/23	09:19:40	2233.976	67.853	09/06/23	10:33:40	2268.947	71.935	09/06/23	11:47:40	2287.019	72.745
09/06/23	09:20:40	2234.924	67.679	09/06/23	10:34:40	2269.271	71.955	09/06/23	11:48:40	2287.209	72.744
09/06/23	09:21:40	2235.966	67.535	09/06/23	10:35:40	2269.583	71.974	09/06/23	11:49:40	2287.380	72.752
09/06/23	09:22:40	2236.905	67.411	09/06/23	10:36:40	2269.883	71.992	09/06/23	11:50:40	2287.592	72.759
09/06/23	09:23:40	2237.790	67.273	09/06/23	10:37:40	2270.188	72.011	09/06/23	11:51:40	2287.825	72.767
09/06/23	09:24:40	2238.782	67.119	09/06/23	10:38:40	2270.442	72.027	09/06/23	11:52:40	2288.037	72.771
09/06/23	09:25:40	2239.612	66.967	09/06/23	10:39:40	2270.762	72.048	09/06/23	11:53:40	2288.237	72.777
09/06/23	09:26:40	2240.339	66.804	09/06/23	10:40:40	2271.034	72.056	09/06/23	11:54:40	2288.412	72.784
09/06/23	09:27:40	2241.094	66.624	09/06/23	10:41:40	2271.283	72.074	09/06/23	11:55:40	2288.610	72.787
09/06/23	09:28:40	2242.043	66.456	09/06/23	10:42:40	2271.490	72.083	09/06/23	11:56:40	2288.796	72.789
09/06/23	09:29:40	2242.877	66.312	09/06/23	10:43:40	2271.499	72.099	09/06/23	11:57:40	2288.980	72.802
09/06/23	09:30:40	2243.625	66.191	09/06/23	10:44:40	2271.660	72.116	09/06/23	11:58:40	2289.184	72.809
09/06/23	09:31:40	2244.516	66.069	09/06/23	10:45:40	2271.855	72.135	09/06/23	11:59:40	2289.363	72.811
09/06/23	09:32:40	2245.295	65.955	09/06/23	10:46:40	2272.229	72.154	09/06/23	12:00:40	2289.515	72.819
09/06/23	09:33:40	2245.927	65.831	09/06/23	10:47:40	2272.426	72.161	09/06/23	12:01:40	2289.707	72.823
09/06/23	09:34:40	2246.426	65.718	09/06/23	10:48:40	2272.685	72.181	09/06/23	12:02:40	2289.917	72.836
09/06/23	09:35:40	2247.077	65.604	09/06/23	10:49:40	2272.948	72.192	09/06/23	12:03:40	2290.061	72.835
09/06/23	09:36:40	2247.625	65.507	09/06/23	10:50:40	2273.176	72.204	09/06/23	12:04:40	2290.266	72.845
09/06/23	09:37:40	2248.114	65.437	09/06/23	10:51:40	2273.510	72.221	09/06/23	12:05:40	2290.396	72.847
09/06/23	09:38:40	2248.507	65.401	09/06/23	10:52:40	2273.683	72.232	09/06/23	12:06:40	2290.638	72.855
09/06/23	09:39:40	2248.922	65.389	09/06/23	10:53:40	2274.014	72.246	09/06/23	12:07:40	2290.785	72.860
09/06/23	09:40:40	2249.361	65.450	09/06/23	10:54:40	2274.236	72.261	09/06/23	12:08:40	2290.953	72.863
09/06/23	09:41:40	2250.014	65.681	09/06/23	10:55:40	2274.477	72.269	09/06/23	12:09:40	2291.167	72.870
09/06/23	09:42:40	2250.879	66.110	09/06/23	10:56:40	2274.727	72.280	09/06/23	12:10:40	2291.301	72.871
09/06/23	09:43:40	2251.481	66.689	09/06/23	10:57:40	2275.024	72.292	09/06/23	12:11:40	2291.544	72.877
09/06/23	09:44:40	2252.010	67.316	09/06/23	10:58:40	2275.339	72.302	09/06/23	12:12:40	2291.693	72.884
09/06/23	09:45:40	2252.326	67.912	09/06/23	10:59:40	2275.603	72.313	09/06/23	12:13:40	2291.826	72.885
09/06/23	09:46:40	2252.699	68.457	09/06/23	11:00:40	2275.867	72.326	09/06/23	12:14:40	2292.039	72.886
09/06/23	09:47:40	2253.071	68.909	09/06/23	11:01:40	2276.094	72.344	09/06/23	12:15:40	2292.232	72.898
09/06/23	09:48:40	2253.503	69.269	09/06/23	11:02:40	2276.315	72.349	09/06/23	12:16:40	2292.383	72.899
09/06/23	09:49:40	2253.984	69.565	09/06/23	11:03:40	2276.574	72.363	09/06/23	12:17:40	2292.598	72.909
09/06/23	09:50:40	2254.348	69.811	09/06/23	11:04:40	2276.889	72.379	09/06/23	12:18:40	2292.718	72.910
09/06/23	09:51:40	2254.756	70.011	09/06/23	11:05:40	2277.100	72.384	09/06/23	12:19:40	2292.940	72.916
09/06/23	09:52:40	2255.157	70.176	09/06/23	11:06:40	2277.345	72.401	09/06/23	12:20:40	2293.174	72.925
09/06/23	09:53:40	2255.545	70.316	09/06/23	11:07:40	2277.569	72.405	09/06/23	12:21:40	2293.313	72.920
09/06/23	09:54:40	2255.925	70.433	09/06/23	11:08:40	2277.852	72.420	09/06/23	12:22:40	2293.494	72.924
09/06/23	09:55:40	2256.305	70.538	09/06/23	11:09:40	2278.083	72.433	09/06/23	12:23:40	2293.664	72.929
09/06/23	09:56:40	2256.722	70.632	09/06/23	11:10:40	2278.331	72.441	09/06/23	12:24:40	2293.862	72.930
09/06/23	09:57:40	2257.104	70.720	09/06/23	11:11:40	2278.555	72.454	09/06/23	12:25:40	2294.074	72.947

APPENDIX G, Continued
Pressure/Time Data Recorded During the Pressure Transient Test

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/06/23	12:26:40	2294.206	72.938	09/06/23	13:47:40	2306.755	73.170	09/06/23	15:08:40	2316.210	73.333
09/06/23	12:27:40	2294.429	72.946	09/06/23	13:48:40	2306.941	73.177	09/06/23	15:09:40	2316.358	73.337
09/06/23	12:28:40	2294.590	72.947	09/06/23	13:49:40	2307.019	73.178	09/06/23	15:10:40	2316.438	73.334
09/06/23	12:29:40	2294.735	72.949	09/06/23	13:50:40	2307.171	73.182	09/06/23	15:11:40	2316.537	73.333
09/06/23	12:30:40	2294.915	72.950	09/06/23	13:51:40	2307.317	73.188	09/06/23	15:12:40	2316.664	73.334
09/06/23	12:31:40	2295.108	72.960	09/06/23	13:52:40	2307.450	73.191	09/06/23	15:13:40	2316.834	73.339
09/06/23	12:32:40	2295.263	72.962	09/06/23	13:53:40	2307.542	73.192	09/06/23	15:14:40	2316.936	73.341
09/06/23	12:33:40	2295.464	72.966	09/06/23	13:54:40	2307.669	73.195	09/06/23	15:15:40	2317.041	73.344
09/06/23	12:34:40	2295.643	72.964	09/06/23	13:55:40	2307.780	73.196	09/06/23	15:16:40	2317.125	73.340
09/06/23	12:35:40	2295.825	72.973	09/06/23	13:56:40	2307.899	73.197	09/06/23	15:17:40	2317.204	73.342
09/06/23	12:36:40	2296.069	72.978	09/06/23	13:57:40	2308.007	73.202	09/06/23	15:18:40	2317.302	73.346
09/06/23	12:37:40	2296.271	72.980	09/06/23	13:58:40	2308.129	73.205	09/06/23	15:19:40	2317.397	73.345
09/06/23	12:38:40	2296.440	72.986	09/06/23	13:59:40	2308.283	73.208	09/06/23	15:20:40	2317.472	73.345
09/06/23	12:39:40	2296.629	72.988	09/06/23	14:00:40	2308.366	73.206	09/06/23	15:21:40	2317.571	73.344
09/06/23	12:40:40	2296.852	72.992	09/06/23	14:01:40	2308.493	73.212	09/06/23	15:22:40	2317.718	73.353
09/06/23	12:41:40	2297.027	72.991	09/06/23	14:02:40	2308.628	73.213	09/06/23	15:23:40	2317.783	73.352
09/06/23	12:42:40	2297.236	73.001	09/06/23	14:03:40	2308.770	73.213	09/06/23	15:24:40	2317.868	73.346
09/06/23	12:43:40	2297.404	73.000	09/06/23	14:04:40	2308.869	73.213	09/06/23	15:25:40	2318.021	73.358
09/06/23	12:44:40	2297.570	73.004	09/06/23	14:05:40	2308.991	73.217	09/06/23	15:26:40	2318.066	73.351
09/06/23	12:45:40	2297.787	73.008	09/06/23	14:06:40	2309.117	73.220	09/06/23	15:27:40	2318.199	73.357
09/06/23	12:46:40	2297.927	73.010	09/06/23	14:07:40	2309.270	73.225	09/06/23	15:28:40	2318.285	73.357
09/06/23	12:47:40	2298.091	73.013	09/06/23	14:08:40	2309.319	73.221	09/06/23	15:29:40	2318.342	73.354
09/06/23	12:48:40	2298.263	73.019	09/06/23	14:09:40	2309.454	73.224	09/06/23	15:30:40	2318.466	73.361
09/06/23	12:49:40	2298.443	73.017	09/06/23	14:10:40	2309.538	73.230	09/06/23	15:31:40	2318.576	73.363
09/06/23	12:50:40	2298.621	73.027	09/06/23	14:11:40	2309.683	73.230	09/06/23	15:32:40	2318.631	73.362
09/06/23	12:51:40	2298.797	73.027	09/06/23	14:12:40	2309.826	73.231	09/06/23	15:33:40	2318.731	73.364
09/06/23	12:52:40	2298.927	73.026	09/06/23	14:13:40	2309.925	73.231	09/06/23	15:34:40	2318.879	73.371
09/06/23	12:53:40	2299.120	73.032	09/06/23	14:14:40	2310.069	73.238	09/06/23	15:35:40	2318.958	73.367
09/06/23	12:54:40	2299.260	73.034	09/06/23	14:15:40	2310.176	73.236	09/06/23	15:36:40	2319.054	73.367
09/06/23	12:55:40	2299.436	73.039	09/06/23	14:16:40	2310.248	73.236	09/06/23	15:37:40	2319.174	73.371
09/06/23	12:56:40	2299.567	73.043	09/06/23	14:17:40	2310.384	73.241	09/06/23	15:38:40	2319.321	73.380
09/06/23	12:57:40	2299.729	73.045	09/06/23	14:18:40	2310.481	73.243	09/06/23	15:39:40	2319.380	73.375
09/06/23	12:58:40	2299.871	73.041	09/06/23	14:19:40	2310.587	73.241	09/06/23	15:40:40	2319.465	73.373
09/06/23	12:59:40	2300.035	73.047	09/06/23	14:20:40	2310.756	73.248	09/06/23	15:41:40	2319.581	73.375
09/06/23	13:00:40	2300.191	73.053	09/06/23	14:21:40	2310.900	73.248	09/06/23	15:42:40	2319.696	73.379
09/06/23	13:01:40	2300.347	73.057	09/06/23	14:22:40	2311.025	73.256	09/06/23	15:43:40	2319.770	73.373
09/06/23	13:02:40	2300.493	73.057	09/06/23	14:23:40	2311.148	73.256	09/06/23	15:44:40	2319.903	73.380
09/06/23	13:03:40	2300.619	73.059	09/06/23	14:24:40	2311.240	73.251	09/06/23	15:45:40	2320.011	73.377
09/06/23	13:04:40	2300.801	73.066	09/06/23	14:25:40	2311.392	73.257	09/06/23	15:46:40	2320.083	73.383
09/06/23	13:05:40	2300.957	73.068	09/06/23	14:26:40	2311.522	73.258	09/06/23	15:47:40	2320.179	73.383
09/06/23	13:06:40	2301.084	73.073	09/06/23	14:27:40	2311.647	73.251	09/06/23	15:48:40	2320.276	73.381
09/06/23	13:07:40	2301.247	73.073	09/06/23	14:28:40	2311.845	73.264	09/06/23	15:49:40	2320.368	73.391
09/06/23	13:08:40	2301.361	73.076	09/06/23	14:29:40	2311.914	73.267	09/06/23	15:50:40	2320.445	73.382
09/06/23	13:09:40	2301.512	73.081	09/06/23	14:30:40	2312.052	73.264	09/06/23	15:51:40	2320.547	73.386
09/06/23	13:10:40	2301.684	73.079	09/06/23	14:31:40	2312.122	73.266	09/06/23	15:52:40	2320.634	73.386
09/06/23	13:11:40	2301.836	73.089	09/06/23	14:32:40	2312.271	73.269	09/06/23	15:53:40	2320.744	73.387
09/06/23	13:12:40	2302.016	73.091	09/06/23	14:33:40	2312.427	73.274	09/06/23	15:54:40	2320.845	73.395
09/06/23	13:13:40	2302.159	73.089	09/06/23	14:34:40	2312.503	73.270	09/06/23	15:55:40	2320.950	73.399
09/06/23	13:14:40	2302.300	73.094	09/06/23	14:35:40	2312.614	73.273	09/06/23	15:56:40	2321.068	73.397
09/06/23	13:15:40	2302.453	73.098	09/06/23	14:36:40	2312.733	73.272	09/06/23	15:57:40	2321.177	73.399
09/06/23	13:16:40	2302.590	73.100	09/06/23	14:37:40	2312.875	73.278	09/06/23	15:58:40	2321.239	73.395
09/06/23	13:17:40	2302.723	73.103	09/06/23	14:38:40	2313.023	73.281	09/06/23	15:59:40	2321.357	73.400
09/06/23	13:18:40	2302.875	73.105	09/06/23	14:39:40	2313.132	73.284	09/06/23	16:00:40	2321.469	73.401
09/06/23	13:19:40	2303.039	73.105	09/06/23	14:40:40	2313.228	73.286	09/06/23	16:01:40	2321.585	73.401
09/06/23	13:20:40	2303.183	73.113	09/06/23	14:41:40	2313.347	73.288	09/06/23	16:02:40	2321.731	73.406
09/06/23	13:21:40	2303.297	73.113	09/06/23	14:42:40	2313.465	73.288	09/06/23	16:03:40	2321.782	73.405
09/06/23	13:22:40	2303.438	73.117	09/06/23	14:43:40	2313.559	73.292	09/06/23	16:04:40	2321.875	73.406
09/06/23	13:23:40	2303.580	73.122	09/06/23	14:44:40	2313.675	73.293	09/06/23	16:05:40	2322.004	73.414
09/06/23	13:24:40	2303.706	73.122	09/06/23	14:45:40	2313.760	73.294	09/06/23	16:06:40	2322.107	73.415
09/06/23	13:25:40	2303.898	73.129	09/06/23	14:46:40	2313.863	73.298	09/06/23	16:07:40	2322.193	73.409
09/06/23	13:26:40	2304.004	73.126	09/06/23	14:47:40	2314.045	73.303	09/06/23	16:08:40	2322.317	73.420
09/06/23	13:27:40	2304.147	73.131	09/06/23	14:48:40	2314.123	73.302	09/06/23	16:09:40	2322.376	73.419
09/06/23	13:28:40	2304.269	73.130	09/06/23	14:49:40	2314.234	73.301	09/06/23	16:10:40	2322.457	73.417
09/06/23	13:29:40	2304.409	73.134	09/06/23	14:50:40	2314.366	73.304	09/06/23	16:11:40	2322.558	73.423
09/06/23	13:30:40	2304.566	73.140	09/06/23	14:51:40	2314.458	73.306	09/06/23	16:12:40	2322.688	73.425
09/06/23	13:31:40	2304.642	73.138	09/06/23	14:52:40	2314.583	73.308	09/06/23	16:13:40	2322.783	73.425
09/06/23	13:32:40	2304.789	73.143	09/06/23	14:53:40	2314.677	73.309	09/06/23	16:14:40	2322.914	73.427
09/06/23	13:33:40	2304.918	73.139	09/06/23	14:54:40	2314.793	73.315	09/06/23	16:15:40	2322.987	73.427
09/06/23	13:34:40	2305.050	73.146	09/06/23	14:55:40	2314.904	73.312	09/06/23	16:16:40	2323.076	73.425
09/06/23	13:35:40	2305.155	73.150	09/06/23	14:56:40	2314.979	73.313	09/06/23	16:17:40	2323.152	73.431
09/06/23	13:36:40	2305.298	73.155	09/06/23	14:57:40	2315.119	73.318	09/06/23	16:18:40	2323.283	73.432
09/06/23	13:37:40	2305.431	73.152	09/06/23	14:58:40	2315.237	73.317	09/06/23	16:19:40	2323.332	73.429
09/06/23	13:38:40	2305.575	73.162	09/06/23	14:59:40	2315.329	73.319	09/06/23	16:20:40	2323.435	73.430
09/06/23	13:39:40	2305.733	73.155	09/06/23	15:00:40	2315.410	73.321	09/06/23	16:21:40	2323.514	73.432
09/06/23	13:40:40	2305.852	73.157	09/06/23	15:01:40	2315.533	73.324	09/06/23	16:22:40	2323.626	73.437
09/06/23	13:41:40	2305.973	73.161	09/06/23	15:02:40	2315.607	73.325	09/06/23	16:23:40	2323.723	73.432
09/06/23	13:42:40	2306.141	73.161	09/06/23	15:03:40	2315.714	73.325	09/06/23	16:24:40	2323.804	73.437
09/06/23	13:43:40	2306.251	73.165	09/06/23	15:04:40	2315.793	73.322	09/06/23	16:25:40	2323.906	73.435
09/06/23	13:44:40	2306.384	73.171	09/06/23	15:05:40	2315.934	73.326	09/06/23	16:26:40	2324.003	73.443
09/06/23	13:45:40	2306.519	73.173	09/06/23	15:06:40	2316.010	73.331	09/06/23	16:27:40	2324.079	73.436
09/06/23	13:46:40	2306.624	73.171	09/06/23	15:07:40	2316.139	73.332	09/06/23	16:28:40	2324.198	73.443

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/06/23	16:29:40	2324.310	73.443	09/06/23	17:50:40	2331.427	73.489	09/06/23	19:11:40	2337.870	73.509
09/06/23	16:30:40	2324.377	73.445	09/06/23	17:51:40	2331.486	73.491	09/06/23	19:12:40	2337.958	73.512
09/06/23	16:31:40	2324.488	73.442	09/06/23	17:52:40	2331.571	73.493	09/06/23	19:13:40	2338.012	73.512
09/06/23	16:32:40	2324.586	73.445	09/06/23	17:53:40	2331.715	73.498	09/06/23	19:14:40	2338.114	73.511
09/06/23	16:33:40	2324.653	73.441	09/06/23	17:54:40	2331.784	73.497	09/06/23	19:15:40	2338.169	73.514
09/06/23	16:34:40	2324.717	73.443	09/06/23	17:55:40	2331.844	73.494	09/06/23	19:16:40	2338.251	73.506
09/06/23	16:35:40	2324.837	73.447	09/06/23	17:56:40	2331.935	73.495	09/06/23	19:17:40	2338.355	73.514
09/06/23	16:36:40	2324.910	73.450	09/06/23	17:57:40	2331.984	73.489	09/06/23	19:18:40	2338.386	73.510
09/06/23	16:37:40	2324.987	73.454	09/06/23	17:58:40	2332.083	73.490	09/06/23	19:19:40	2338.435	73.514
09/06/23	16:38:40	2325.081	73.455	09/06/23	17:59:40	2332.183	73.498	09/06/23	19:20:40	2338.493	73.511
09/06/23	16:39:40	2325.158	73.452	09/06/23	18:00:40	2332.257	73.491	09/06/23	19:21:40	2338.567	73.512
09/06/23	16:40:40	2325.226	73.451	09/06/23	18:01:40	2332.424	73.498	09/06/23	19:22:40	2338.629	73.515
09/06/23	16:41:40	2325.337	73.455	09/06/23	18:02:40	2332.470	73.494	09/06/23	19:23:40	2338.717	73.512
09/06/23	16:42:40	2325.427	73.452	09/06/23	18:03:40	2332.557	73.498	09/06/23	19:24:40	2338.799	73.513
09/06/23	16:43:40	2325.518	73.456	09/06/23	18:04:40	2332.639	73.491	09/06/23	19:25:40	2338.866	73.512
09/06/23	16:44:40	2325.597	73.459	09/06/23	18:05:40	2332.781	73.499	09/06/23	19:26:40	2338.951	73.515
09/06/23	16:45:40	2325.687	73.458	09/06/23	18:06:40	2332.831	73.493	09/06/23	19:27:40	2339.017	73.514
09/06/23	16:46:40	2325.815	73.462	09/06/23	18:07:40	2332.920	73.495	09/06/23	19:28:40	2339.125	73.518
09/06/23	16:47:40	2325.892	73.461	09/06/23	18:08:40	2333.030	73.496	09/06/23	19:29:40	2339.174	73.517
09/06/23	16:48:40	2325.991	73.460	09/06/23	18:09:40	2333.074	73.496	09/06/23	19:30:40	2339.231	73.516
09/06/23	16:49:40	2326.051	73.459	09/06/23	18:10:40	2333.115	73.492	09/06/23	19:31:40	2339.279	73.513
09/06/23	16:50:40	2326.119	73.461	09/06/23	18:11:40	2333.193	73.493	09/06/23	19:32:40	2339.359	73.518
09/06/23	16:51:40	2326.237	73.461	09/06/23	18:12:40	2333.248	73.494	09/06/23	19:33:40	2339.436	73.524
09/06/23	16:52:40	2326.349	73.465	09/06/23	18:13:40	2333.330	73.494	09/06/23	19:34:40	2339.488	73.517
09/06/23	16:53:40	2326.419	73.461	09/06/23	18:14:40	2333.397	73.496	09/06/23	19:35:40	2339.574	73.517
09/06/23	16:54:40	2326.517	73.468	09/06/23	18:15:40	2333.510	73.497	09/06/23	19:36:40	2339.669	73.517
09/06/23	16:55:40	2326.592	73.468	09/06/23	18:16:40	2333.567	73.494	09/06/23	19:37:40	2339.732	73.520
09/06/23	16:56:40	2326.663	73.470	09/06/23	18:17:40	2333.641	73.496	09/06/23	19:38:40	2339.811	73.521
09/06/23	16:57:40	2326.787	73.474	09/06/23	18:18:40	2333.720	73.495	09/06/23	19:39:40	2339.874	73.521
09/06/23	16:58:40	2326.844	73.473	09/06/23	18:19:40	2333.830	73.502	09/06/23	19:40:40	2339.967	73.520
09/06/23	16:59:40	2326.929	73.475	09/06/23	18:20:40	2333.891	73.493	09/06/23	19:41:40	2340.011	73.518
09/06/23	17:00:40	2327.032	73.473	09/06/23	18:21:40	2333.961	73.495	09/06/23	19:42:40	2340.078	73.519
09/06/23	17:01:40	2327.117	73.472	09/06/23	18:22:40	2334.050	73.495	09/06/23	19:43:40	2340.150	73.521
09/06/23	17:02:40	2327.233	73.476	09/06/23	18:23:40	2334.127	73.495	09/06/23	19:44:40	2340.200	73.522
09/06/23	17:03:40	2327.300	73.475	09/06/23	18:24:40	2334.234	73.499	09/06/23	19:45:40	2340.281	73.524
09/06/23	17:04:40	2327.377	73.477	09/06/23	18:25:40	2334.289	73.501	09/06/23	19:46:40	2340.345	73.518
09/06/23	17:05:40	2327.484	73.479	09/06/23	18:26:40	2334.369	73.498	09/06/23	19:47:40	2340.411	73.521
09/06/23	17:06:40	2327.542	73.480	09/06/23	18:27:40	2334.435	73.500	09/06/23	19:48:40	2248.071	73.511
09/06/23	17:07:40	2327.645	73.477	09/06/23	18:28:40	2334.490	73.498	09/06/23	19:49:40	2174.512	73.506
09/06/23	17:08:40	2327.697	73.478	09/06/23	18:29:40	2334.556	73.494	09/06/23	19:50:40	2132.164	73.498
09/06/23	17:09:40	2327.823	73.485	09/06/23	18:30:40	2334.655	73.498	09/06/23	19:51:40	2107.685	73.490
09/06/23	17:10:40	2327.928	73.485	09/06/23	18:31:40	2334.711	73.500	09/06/23	19:52:40	2093.622	73.493
09/06/23	17:11:40	2327.986	73.481	09/06/23	18:32:40	2334.803	73.505	09/06/23	19:53:40	2084.490	73.500
09/06/23	17:12:40	2328.059	73.482	09/06/23	18:33:40	2334.886	73.498	09/06/23	19:54:40	2077.709	73.498
09/06/23	17:13:40	2328.151	73.487	09/06/23	18:34:40	2334.964	73.497	09/06/23	19:55:40	2072.413	73.501
09/06/23	17:14:40	2328.219	73.486	09/06/23	18:35:40	2335.090	73.495	09/06/23	19:56:40	2067.969	73.500
09/06/23	17:15:40	2328.282	73.487	09/06/23	18:36:40	2335.160	73.503	09/06/23	19:57:40	2064.326	73.504
09/06/23	17:16:40	2328.353	73.487	09/06/23	18:37:40	2335.240	73.499	09/06/23	19:58:40	2060.959	73.503
09/06/23	17:17:40	2328.456	73.488	09/06/23	18:38:40	2335.321	73.496	09/06/23	19:59:40	2057.985	73.505
09/06/23	17:18:40	2328.554	73.491	09/06/23	18:39:40	2335.418	73.507	09/06/23	20:00:40	2055.295	73.507
09/06/23	17:19:40	2328.644	73.493	09/06/23	18:40:40	2335.534	73.505	09/06/23	20:01:40	2052.796	73.510
09/06/23	17:20:40	2328.752	73.494	09/06/23	18:41:40	2335.581	73.500	09/06/23	20:02:40	2050.468	73.513
09/06/23	17:21:40	2328.803	73.491	09/06/23	18:42:40	2335.666	73.500	09/06/23	20:03:40	2048.426	73.510
09/06/23	17:22:40	2328.884	73.494	09/06/23	18:43:40	2335.764	73.504	09/06/23	20:04:40	2046.443	73.516
09/06/23	17:23:40	2328.961	73.493	09/06/23	18:44:40	2335.853	73.499	09/06/23	20:05:40	2044.484	73.505
09/06/23	17:24:40	2329.101	73.498	09/06/23	18:45:40	2335.919	73.502	09/06/23	20:06:40	2042.737	73.507
09/06/23	17:25:40	2329.164	73.496	09/06/23	18:46:40	2336.027	73.507	09/06/23	20:07:40	2041.127	73.515
09/06/23	17:26:40	2329.250	73.495	09/06/23	18:47:40	2336.058	73.499	09/06/23	20:08:40	2039.492	73.519
09/06/23	17:27:40	2329.338	73.498	09/06/23	18:48:40	2336.151	73.507	09/06/23	20:09:40	2037.921	73.515
09/06/23	17:28:40	2329.440	73.499	09/06/23	18:49:40	2336.221	73.503	09/06/23	20:10:40	2036.422	73.524
09/06/23	17:29:40	2329.535	73.500	09/06/23	18:50:40	2336.289	73.501	09/06/23	20:11:40	2035.023	73.519
09/06/23	17:30:40	2329.637	73.500	09/06/23	18:51:40	2336.369	73.502	09/06/23	20:12:40	2033.686	73.519
09/06/23	17:31:40	2329.722	73.502	09/06/23	18:52:40	2336.476	73.510	09/06/23	20:13:40	2032.398	73.519
09/06/23	17:32:40	2329.803	73.500	09/06/23	18:53:40	2336.542	73.504	09/06/23	20:14:40	2031.149	73.529
09/06/23	17:33:40	2329.947	73.503	09/06/23	18:54:40	2336.630	73.510	09/06/23	20:15:40	2029.931	73.526
09/06/23	17:34:40	2330.026	73.506	09/06/23	18:55:40	2336.682	73.504	09/06/23	20:16:40	2028.766	73.528
09/06/23	17:35:40	2330.104	73.495	09/06/23	18:56:40	2336.770	73.509	09/06/23	20:17:40	2027.628	73.536
09/06/23	17:36:40	2330.214	73.495	09/06/23	18:57:40	2336.857	73.512	09/06/23	20:18:40	2026.460	73.531
09/06/23	17:37:40	2330.293	73.501	09/06/23	18:58:40	2336.941	73.508	09/06/23	20:19:40	2025.432	73.536
09/06/23	17:38:40	2330.399	73.499	09/06/23	18:59:40	2336.986	73.501	09/06/23	20:20:40	2024.364	73.539
09/06/23	17:39:40	2330.447	73.493	09/06/23	19:00:40	2337.084	73.507	09/06/23	20:21:40	2023.330	73.540
09/06/23	17:40:40	2330.538	73.493	09/06/23	19:01:40	2337.149	73.505	09/06/23	20:22:40	2022.325	73.538
09/06/23	17:41:40	2330.678	73.497	09/06/23	19:02:40	2337.229	73.509	09/06/23	20:23:40	2021.405	73.546
09/06/23	17:42:40	2330.776	73.495	09/06/23	19:03:40	2337.306	73.509	09/06/23	20:24:40	2020.410	73.541
09/06/23	17:43:40	2330.841	73.496	09/06/23	19:04:40	2337.374	73.511	09/06/23	20:25:40	2019.497	73.546
09/06/23	17:44:40	2330.961	73.502	09/06/23	19:05:40	2337.417	73.506	09/06/23	20:26:40	2018.626	73.546
09/06/23	17:45:40	2331.010	73.493	09/06/23	19:06:40	2337.495	73.514	09/06/23	20:27:40	2017.718	73.545
09/06/23	17:46:40	2331.109	73.497	09/06/23	19:07:40	2337.589	73.514	09/06/23	20:28:40	2016.914	73.556
09/06/23	17:47:40	2331.180	73.499	09/06/23	19:08:40	2337.638	73.509	09/06/23	20:29:40	2016.138	73.554
09/06/23	17:48:40	2331.248	73.495	09/06/23	19:09:40	2337.735	73.513	09/06/23	20:30:40	2015.233	73.557
09/06/23	17:49:40	2331.304	73.493	09/06/23	19:10:40	2337.791	73.506	09/06/23	20:31:40	2014.484	73.561

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/06/23	20:32:40	2013.718	73.555	09/06/23	21:53:40	1978.979	73.686	09/06/23	23:14:40	1963.928	73.795
09/06/23	20:33:40	2012.949	73.558	09/06/23	21:54:40	1978.734	73.697	09/06/23	23:15:40	1963.797	73.796
09/06/23	20:34:40	2012.193	73.563	09/06/23	21:55:40	1978.459	73.690	09/06/23	23:16:40	1963.645	73.794
09/06/23	20:35:40	2011.429	73.566	09/06/23	21:56:40	1978.241	73.696	09/06/23	23:17:40	1963.519	73.801
09/06/23	20:36:40	2010.752	73.567	09/06/23	21:57:40	1977.970	73.698	09/06/23	23:18:40	1963.375	73.797
09/06/23	20:37:40	2010.047	73.570	09/06/23	21:58:40	1977.731	73.695	09/06/23	23:19:40	1963.272	73.803
09/06/23	20:38:40	2009.348	73.568	09/06/23	21:59:40	1977.490	73.700	09/06/23	23:20:40	1963.079	73.798
09/06/23	20:39:40	2008.676	73.567	09/06/23	22:00:40	1977.283	73.701	09/06/23	23:21:40	1962.982	73.810
09/06/23	20:40:40	2008.001	73.577	09/06/23	22:01:40	1977.047	73.701	09/06/23	23:22:40	1962.851	73.804
09/06/23	20:41:40	2007.339	73.576	09/06/23	22:02:40	1976.784	73.701	09/06/23	23:23:40	1962.721	73.810
09/06/23	20:42:40	2006.739	73.578	09/06/23	22:03:40	1976.552	73.707	09/06/23	23:24:40	1962.580	73.810
09/06/23	20:43:40	2006.095	73.584	09/06/23	22:04:40	1976.331	73.706	09/06/23	23:25:40	1962.448	73.808
09/06/23	20:44:40	2005.445	73.580	09/06/23	22:05:40	1976.120	73.710	09/06/23	23:26:40	1962.324	73.810
09/06/23	20:45:40	2004.807	73.581	09/06/23	22:06:40	1975.856	73.710	09/06/23	23:27:40	1962.188	73.813
09/06/23	20:46:40	2004.284	73.583	09/06/23	22:07:40	1975.634	73.709	09/06/23	23:28:40	1962.072	73.812
09/06/23	20:47:40	2003.760	73.586	09/06/23	22:08:40	1975.408	73.709	09/06/23	23:29:40	1961.952	73.817
09/06/23	20:48:40	2003.137	73.590	09/06/23	22:09:40	1975.171	73.714	09/06/23	23:30:40	1961.793	73.811
09/06/23	20:49:40	2002.561	73.585	09/06/23	22:10:40	1974.974	73.720	09/06/23	23:31:40	1961.678	73.814
09/06/23	20:50:40	2002.063	73.590	09/06/23	22:11:40	1974.806	73.716	09/06/23	23:32:40	1961.556	73.816
09/06/23	20:51:40	2001.457	73.592	09/06/23	22:12:40	1974.559	73.719	09/06/23	23:33:40	1961.452	73.816
09/06/23	20:52:40	2000.941	73.595	09/06/23	22:13:40	1974.340	73.719	09/06/23	23:34:40	1961.287	73.816
09/06/23	20:53:40	2000.450	73.600	09/06/23	22:14:40	1974.110	73.717	09/06/23	23:35:40	1961.195	73.820
09/06/23	20:54:40	1999.894	73.598	09/06/23	22:15:40	1973.969	73.720	09/06/23	23:36:40	1961.050	73.822
09/06/23	20:55:40	1999.457	73.604	09/06/23	22:16:40	1973.733	73.723	09/06/23	23:37:40	1960.948	73.823
09/06/23	20:56:40	1998.886	73.604	09/06/23	22:17:40	1973.500	73.721	09/06/23	23:38:40	1960.817	73.821
09/06/23	20:57:40	1998.411	73.602	09/06/23	22:18:40	1973.318	73.727	09/06/23	23:39:40	1960.685	73.827
09/06/23	20:58:40	1997.923	73.606	09/06/23	22:19:40	1973.111	73.727	09/06/23	23:40:40	1960.596	73.827
09/06/23	20:59:40	1997.457	73.604	09/06/23	22:20:40	1972.932	73.729	09/06/23	23:41:40	1960.468	73.830
09/06/23	21:00:40	1996.969	73.608	09/06/23	22:21:40	1972.730	73.731	09/06/23	23:42:40	1960.353	73.829
09/06/23	21:01:40	1996.545	73.609	09/06/23	22:22:40	1972.481	73.734	09/06/23	23:43:40	1960.208	73.826
09/06/23	21:02:40	1996.035	73.612	09/06/23	22:23:40	1972.304	73.729	09/06/23	23:44:40	1960.087	73.825
09/06/23	21:03:40	1995.626	73.614	09/06/23	22:24:40	1972.113	73.733	09/06/23	23:45:40	1960.010	73.831
09/06/23	21:04:40	1995.200	73.616	09/06/23	22:25:40	1971.927	73.738	09/06/23	23:46:40	1959.865	73.831
09/06/23	21:05:40	1994.719	73.618	09/06/23	22:26:40	1971.702	73.735	09/06/23	23:47:40	1959.730	73.832
09/06/23	21:06:40	1994.297	73.617	09/06/23	22:27:40	1971.561	73.739	09/06/23	23:48:40	1959.610	73.833
09/06/23	21:07:40	1993.837	73.616	09/06/23	22:28:40	1971.325	73.739	09/06/23	23:49:40	1959.517	73.838
09/06/23	21:08:40	1993.434	73.620	09/06/23	22:29:40	1971.206	73.740	09/06/23	23:50:40	1959.426	73.841
09/06/23	21:09:40	1993.024	73.622	09/06/23	22:30:40	1970.960	73.740	09/06/23	23:51:40	1959.260	73.841
09/06/23	21:10:40	1992.630	73.621	09/06/23	22:31:40	1970.820	73.741	09/06/23	23:52:40	1959.170	73.839
09/06/23	21:11:40	1992.227	73.629	09/06/23	22:32:40	1970.619	73.746	09/06/23	23:53:40	1959.054	73.839
09/06/23	21:12:40	1991.821	73.626	09/06/23	22:33:40	1970.417	73.747	09/06/23	23:54:40	1958.950	73.840
09/06/23	21:13:40	1991.454	73.625	09/06/23	22:34:40	1970.230	73.746	09/06/23	23:55:40	1958.854	73.846
09/06/23	21:14:40	1991.097	73.627	09/06/23	22:35:40	1970.072	73.744	09/06/23	23:56:40	1958.732	73.844
09/06/23	21:15:40	1990.686	73.630	09/06/23	22:36:40	1969.900	73.750	09/06/23	23:57:40	1958.559	73.846
09/06/23	21:16:40	1990.307	73.634	09/06/23	22:37:40	1969.740	73.750	09/06/23	23:58:40	1958.507	73.841
09/06/23	21:17:40	1989.908	73.630	09/06/23	22:38:40	1969.495	73.755	09/06/23	23:59:40	1958.396	73.848
09/06/23	21:18:40	1989.534	73.635	09/06/23	22:39:40	1969.378	73.752	09/07/23	00:00:40	1958.297	73.847
09/06/23	21:19:40	1989.191	73.640	09/06/23	22:40:40	1969.191	73.758	09/07/23	00:01:40	1958.188	73.841
09/06/23	21:20:40	1988.831	73.639	09/06/23	22:41:40	1969.021	73.754	09/07/23	00:02:40	1958.085	73.852
09/06/23	21:21:40	1988.471	73.643	09/06/23	22:42:40	1968.835	73.762	09/07/23	00:03:40	1957.971	73.849
09/06/23	21:22:40	1988.100	73.643	09/06/23	22:43:40	1968.649	73.753	09/07/23	00:04:40	1957.855	73.852
09/06/23	21:23:40	1987.746	73.646	09/06/23	22:44:40	1968.545	73.763	09/07/23	00:05:40	1957.741	73.855
09/06/23	21:24:40	1987.445	73.651	09/06/23	22:45:40	1968.335	73.759	09/07/23	00:06:40	1957.667	73.859
09/06/23	21:25:40	1987.071	73.650	09/06/23	22:46:40	1968.175	73.762	09/07/23	00:07:40	1957.553	73.860
09/06/23	21:26:40	1986.731	73.647	09/06/23	22:47:40	1968.031	73.765	09/07/23	00:08:40	1957.426	73.856
09/06/23	21:27:40	1986.435	73.652	09/06/23	22:48:40	1967.812	73.765	09/07/23	00:09:40	1957.326	73.857
09/06/23	21:28:40	1986.113	73.647	09/06/23	22:49:40	1967.657	73.770	09/07/23	00:10:40	1957.222	73.856
09/06/23	21:29:40	1985.813	73.654	09/06/23	22:50:40	1967.534	73.765	09/07/23	00:11:40	1957.123	73.857
09/06/23	21:30:40	1985.488	73.654	09/06/23	22:51:40	1967.394	73.767	09/07/23	00:12:40	1957.036	73.859
09/06/23	21:31:40	1985.134	73.656	09/06/23	22:52:40	1967.192	73.770	09/07/23	00:13:40	1956.908	73.856
09/06/23	21:32:40	1984.813	73.658	09/06/23	22:53:40	1967.023	73.774	09/07/23	00:14:40	1956.809	73.863
09/06/23	21:33:40	1984.483	73.664	09/06/23	22:54:40	1966.888	73.769	09/07/23	00:15:40	1956.728	73.864
09/06/23	21:34:40	1984.207	73.660	09/06/23	22:55:40	1966.729	73.775	09/07/23	00:16:40	1956.625	73.863
09/06/23	21:35:40	1983.887	73.659	09/06/23	22:56:40	1966.584	73.774	09/07/23	00:17:40	1956.528	73.869
09/06/23	21:36:40	1983.588	73.663	09/06/23	22:57:40	1966.436	73.776	09/07/23	00:18:40	1956.422	73.865
09/06/23	21:37:40	1983.303	73.667	09/06/23	22:58:40	1966.251	73.780	09/07/23	00:19:40	1956.323	73.866
09/06/23	21:38:40	1983.002	73.665	09/06/23	22:59:40	1966.146	73.780	09/07/23	00:20:40	1956.214	73.872
09/06/23	21:39:40	1982.720	73.669	09/06/23	23:00:40	1965.954	73.774	09/07/23	00:21:40	1956.126	73.869
09/06/23	21:40:40	1982.435	73.670	09/06/23	23:01:40	1965.803	73.782	09/07/23	00:22:40	1956.016	73.870
09/06/23	21:41:40	1982.153	73.672	09/06/23	23:02:40	1965.684	73.782	09/07/23	00:23:40	1955.910	73.870
09/06/23	21:42:40	1981.879	73.674	09/06/23	23:03:40	1965.521	73.784	09/07/23	00:24:40	1955.823	73.874
09/06/23	21:43:40	1981.630	73.671	09/06/23	23:04:40	1965.351	73.785	09/07/23	00:25:40	1955.721	73.874
09/06/23	21:44:40	1981.326	73.673	09/06/23	23:05:40	1965.207	73.782	09/07/23	00:26:40	1955.610	73.877
09/06/23	21:45:40	1981.037	73.678	09/06/23	23:06:40	1965.072	73.788	09/07/23	00:27:40	1955.540	73.875
09/06/23	21:46:40	1980.818	73.679	09/06/23	23:07:40	1964.943	73.784	09/07/23	00:28:40	1955.445	73.876
09/06/23	21:47:40	1980.550	73.684	09/06/23	23:08:40	1964.799	73.792	09/07/23	00:29:40	1955.317	73.875
09/06/23	21:48:40	1980.278	73.682	09/06/23	23:09:40	1964.613	73.790	09/07/23	00:30:40	1955.246	73.881
09/06/23	21:49:40	1979.968	73.678	09/06/23	23:10:40	1964.491	73.792	09/07/23	00:31:40	1955.161	73.875
09/06/23	21:50:40	1979.696	73.682	09/06/23	23:11:40	1964.349	73.788	09/07/23	00:32:40	1955.050	73.879
09/06/23	21:51:40	1979.494	73.693	09/06/23	23:12:40	1964.225	73.792	09/07/23	00:33:40	1954.942	73.881
09/06/23	21:52:40	1979.227	73.689	09/06/23	23:13:40	1964.072	73.795	09/07/23	00:34:40	1954.870	73.881

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/07/23	00:35:40	1954.735	73.882	09/07/23	01:56:40	1948.243	73.953	09/07/23	03:17:40	1943.177	74.010
09/07/23	00:36:40	1954.678	73.882	09/07/23	01:57:40	1948.166	73.952	09/07/23	03:18:40	1943.128	74.009
09/07/23	00:37:40	1954.571	73.890	09/07/23	01:58:40	1948.102	73.953	09/07/23	03:19:40	1943.054	74.009
09/07/23	00:38:40	1954.468	73.886	09/07/23	01:59:40	1948.029	73.948	09/07/23	03:20:40	1942.997	74.008
09/07/23	00:39:40	1954.366	73.882	09/07/23	02:00:40	1947.967	73.949	09/07/23	03:21:40	1942.961	74.011
09/07/23	00:40:40	1954.311	73.888	09/07/23	02:01:40	1947.884	73.952	09/07/23	03:22:40	1942.910	74.012
09/07/23	00:41:40	1954.218	73.887	09/07/23	02:02:40	1947.800	73.953	09/07/23	03:23:40	1942.873	74.017
09/07/23	00:42:40	1954.113	73.887	09/07/23	02:03:40	1947.763	73.960	09/07/23	03:24:40	1942.813	74.017
09/07/23	00:43:40	1954.012	73.886	09/07/23	02:04:40	1947.698	73.955	09/07/23	03:25:40	1942.746	74.010
09/07/23	00:44:40	1953.948	73.891	09/07/23	02:05:40	1947.639	73.955	09/07/23	03:26:40	1942.689	74.013
09/07/23	00:45:40	1953.850	73.890	09/07/23	02:06:40	1947.569	73.954	09/07/23	03:27:40	1942.639	74.017
09/07/23	00:46:40	1953.783	73.896	09/07/23	02:07:40	1947.481	73.956	09/07/23	03:28:40	1942.600	74.021
09/07/23	00:47:40	1953.658	73.897	09/07/23	02:08:40	1947.417	73.965	09/07/23	03:29:40	1942.539	74.020
09/07/23	00:48:40	1953.576	73.893	09/07/23	02:09:40	1947.347	73.958	09/07/23	03:30:40	1942.478	74.020
09/07/23	00:49:40	1953.510	73.893	09/07/23	02:10:40	1947.262	73.958	09/07/23	03:31:40	1942.420	74.022
09/07/23	00:50:40	1953.411	73.897	09/07/23	02:11:40	1947.196	73.960	09/07/23	03:32:40	1942.377	74.025
09/07/23	00:51:40	1953.299	73.893	09/07/23	02:12:40	1947.167	73.967	09/07/23	03:33:40	1942.308	74.024
09/07/23	00:52:40	1953.216	73.898	09/07/23	02:13:40	1947.111	73.968	09/07/23	03:34:40	1942.244	74.017
09/07/23	00:53:40	1953.153	73.898	09/07/23	02:14:40	1947.006	73.962	09/07/23	03:35:40	1942.198	74.020
09/07/23	00:54:40	1953.014	73.901	09/07/23	02:15:40	1946.956	73.966	09/07/23	03:36:40	1942.147	74.019
09/07/23	00:55:40	1952.957	73.900	09/07/23	02:16:40	1946.880	73.966	09/07/23	03:37:40	1942.091	74.020
09/07/23	00:56:40	1952.887	73.901	09/07/23	02:17:40	1946.830	73.967	09/07/23	03:38:40	1942.048	74.026
09/07/23	00:57:40	1952.782	73.902	09/07/23	02:18:40	1946.763	73.968	09/07/23	03:39:40	1941.987	74.026
09/07/23	00:58:40	1952.724	73.902	09/07/23	02:19:40	1946.697	73.966	09/07/23	03:40:40	1941.930	74.021
09/07/23	00:59:40	1952.625	73.905	09/07/23	02:20:40	1946.625	73.971	09/07/23	03:41:40	1941.866	74.025
09/07/23	01:00:40	1952.556	73.908	09/07/23	02:21:40	1946.566	73.970	09/07/23	03:42:40	1941.826	74.027
09/07/23	01:01:40	1952.460	73.907	09/07/23	02:22:40	1946.510	73.976	09/07/23	03:43:40	1941.756	74.019
09/07/23	01:02:40	1952.391	73.908	09/07/23	02:23:40	1946.430	73.971	09/07/23	03:44:40	1941.722	74.030
09/07/23	01:03:40	1952.290	73.907	09/07/23	02:24:40	1946.370	73.972	09/07/23	03:45:40	1941.662	74.031
09/07/23	01:04:40	1952.200	73.909	09/07/23	02:25:40	1946.297	73.973	09/07/23	03:46:40	1941.597	74.030
09/07/23	01:05:40	1952.130	73.909	09/07/23	02:26:40	1946.230	73.968	09/07/23	03:47:40	1941.551	74.025
09/07/23	01:06:40	1952.033	73.908	09/07/23	02:27:40	1946.194	73.977	09/07/23	03:48:40	1941.528	74.035
09/07/23	01:07:40	1951.929	73.910	09/07/23	02:28:40	1946.099	73.973	09/07/23	03:49:40	1941.466	74.029
09/07/23	01:08:40	1951.866	73.917	09/07/23	02:29:40	1946.057	73.977	09/07/23	03:50:40	1941.427	74.035
09/07/23	01:09:40	1951.801	73.915	09/07/23	02:30:40	1946.001	73.978	09/07/23	03:51:40	1941.371	74.032
09/07/23	01:10:40	1951.743	73.919	09/07/23	02:31:40	1945.923	73.976	09/07/23	03:52:40	1941.317	74.032
09/07/23	01:11:40	1951.625	73.916	09/07/23	02:32:40	1945.865	73.979	09/07/23	03:53:40	1941.266	74.032
09/07/23	01:12:40	1951.564	73.922	09/07/23	02:33:40	1945.814	73.978	09/07/23	03:54:40	1941.208	74.034
09/07/23	01:13:40	1951.462	73.914	09/07/23	02:34:40	1945.733	73.977	09/07/23	03:55:40	1941.149	74.029
09/07/23	01:14:40	1951.394	73.917	09/07/23	02:35:40	1945.660	73.977	09/07/23	03:56:40	1941.077	74.030
09/07/23	01:15:40	1951.321	73.917	09/07/23	02:36:40	1945.614	73.983	09/07/23	03:57:40	1941.053	74.036
09/07/23	01:16:40	1951.216	73.915	09/07/23	02:37:40	1945.541	73.982	09/07/23	03:58:40	1940.999	74.035
09/07/23	01:17:40	1951.165	73.916	09/07/23	02:38:40	1945.493	73.983	09/07/23	03:59:40	1940.945	74.034
09/07/23	01:18:40	1951.091	73.925	09/07/23	02:39:40	1945.414	73.984	09/07/23	04:00:40	1940.900	74.038
09/07/23	01:19:40	1950.984	73.920	09/07/23	02:40:40	1945.365	73.986	09/07/23	04:01:40	1940.844	74.035
09/07/23	01:20:40	1950.923	73.925	09/07/23	02:41:40	1945.296	73.985	09/07/23	04:02:40	1940.797	74.039
09/07/23	01:21:40	1950.849	73.922	09/07/23	02:42:40	1945.243	73.984	09/07/23	04:03:40	1940.757	74.042
09/07/23	01:22:40	1950.759	73.923	09/07/23	02:43:40	1945.174	73.984	09/07/23	04:04:40	1940.692	74.038
09/07/23	01:23:40	1950.681	73.918	09/07/23	02:44:40	1945.109	73.986	09/07/23	04:05:40	1940.650	74.040
09/07/23	01:24:40	1950.608	73.927	09/07/23	02:45:40	1945.040	73.985	09/07/23	04:06:40	1940.596	74.039
09/07/23	01:25:40	1950.521	73.925	09/07/23	02:46:40	1944.979	73.985	09/07/23	04:07:40	1940.531	74.036
09/07/23	01:26:40	1950.456	73.929	09/07/23	02:47:40	1944.940	73.988	09/07/23	04:08:40	1940.492	74.041
09/07/23	01:27:40	1950.375	73.931	09/07/23	02:48:40	1944.874	73.992	09/07/23	04:09:40	1940.449	74.040
09/07/23	01:28:40	1950.315	73.931	09/07/23	02:49:40	1944.812	73.990	09/07/23	04:10:40	1940.396	74.041
09/07/23	01:29:40	1950.224	73.931	09/07/23	02:50:40	1944.771	73.994	09/07/23	04:11:40	1940.349	74.042
09/07/23	01:30:40	1950.159	73.935	09/07/23	02:51:40	1944.685	73.993	09/07/23	04:12:40	1940.312	74.045
09/07/23	01:31:40	1950.089	73.935	09/07/23	02:52:40	1944.618	73.993	09/07/23	04:13:40	1940.256	74.044
09/07/23	01:32:40	1950.009	73.931	09/07/23	02:53:40	1944.559	73.990	09/07/23	04:14:40	1940.202	74.041
09/07/23	01:33:40	1949.894	73.933	09/07/23	02:54:40	1944.515	73.993	09/07/23	04:15:40	1940.146	74.043
09/07/23	01:34:40	1949.830	73.931	09/07/23	02:55:40	1944.468	73.996	09/07/23	04:16:40	1940.091	74.042
09/07/23	01:35:40	1949.765	73.934	09/07/23	02:56:40	1944.406	73.994	09/07/23	04:17:40	1940.060	74.048
09/07/23	01:36:40	1949.663	73.935	09/07/23	02:57:40	1944.327	73.994	09/07/23	04:18:40	1939.992	74.043
09/07/23	01:37:40	1949.592	73.938	09/07/23	02:58:40	1944.265	73.994	09/07/23	04:19:40	1939.945	74.044
09/07/23	01:38:40	1949.528	73.934	09/07/23	02:59:40	1944.213	73.995	09/07/23	04:20:40	1939.912	74.049
09/07/23	01:39:40	1949.453	73.937	09/07/23	03:00:40	1944.170	73.998	09/07/23	04:21:40	1939.851	74.046
09/07/23	01:40:40	1949.385	73.939	09/07/23	03:01:40	1944.110	74.003	09/07/23	04:22:40	1939.798	74.047
09/07/23	01:41:40	1949.330	73.943	09/07/23	03:02:40	1944.053	74.001	09/07/23	04:23:40	1939.749	74.049
09/07/23	01:42:40	1949.225	73.934	09/07/23	03:03:40	1943.980	73.999	09/07/23	04:24:40	1939.701	74.046
09/07/23	01:43:40	1949.169	73.942	09/07/23	03:04:40	1943.925	74.003	09/07/23	04:25:40	1939.650	74.054
09/07/23	01:44:40	1949.094	73.941	09/07/23	03:05:40	1943.859	74.002	09/07/23	04:26:40	1939.609	74.054
09/07/23	01:45:40	1949.042	73.947	09/07/23	03:06:40	1943.817	74.004	09/07/23	04:27:40	1939.557	74.048
09/07/23	01:46:40	1948.938	73.943	09/07/23	03:07:40	1943.762	74.008	09/07/23	04:28:40	1939.514	74.050
09/07/23	01:47:40	1948.869	73.945	09/07/23	03:08:40	1943.690	74.000	09/07/23	04:29:40	1939.481	74.057
09/07/23	01:48:40	1948.810	73.943	09/07/23	03:09:40	1943.647	74.006	09/07/23	04:30:40	1939.446	74.059
09/07/23	01:49:40	1948.747	73.949	09/07/23	03:10:40	1943.594	74.008	09/07/23	04:31:40	1939.401	74.061
09/07/23	01:50:40	1948.672	73.946	09/07/23	03:11:40	1943.519	74.008	09/07/23	04:32:40	1939.338	74.055
09/07/23	01:51:40	1948.602	73.947	09/07/23	03:12:40	1943.478	74.008	09/07/23	04:33:40	1939.293	74.057
09/07/23	01:52:40	1948.506	73.945	09/07/23	03:13:40	1943.418	74.010	09/07/23	04:34:40	1939.232	74.056
09/07/23	01:53:40	1948.448	73.946	09/07/23	03:14:40	1943.345	74.006	09/07/23	04:35:40	1939.175	74.050
09/07/23	01:54:40	1948.394	73.950	09/07/23	03:15:40	1943.304	74.011	09/07/23	04:36:40	1939.140	74.057
09/07/23	01:55:40	1948.290	73.949	09/07/23	03:16:40	1943.235	74.011	09/07/23	04:37:40	1939.093	74.058

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/07/23	04:38:40	1939.045	74.059	09/07/23	05:59:40	1935.513	74.100	09/07/23	07:20:40	1932.407	74.132
09/07/23	04:39:40	1939.003	74.061	09/07/23	06:00:40	1935.477	74.104	09/07/23	07:21:40	1932.360	74.134
09/07/23	04:40:40	1938.939	74.054	09/07/23	06:01:40	1935.422	74.100	09/07/23	07:22:40	1932.335	74.139
09/07/23	04:41:40	1938.903	74.061	09/07/23	06:02:40	1935.382	74.100	09/07/23	07:23:40	1932.298	74.134
09/07/23	04:42:40	1938.845	74.064	09/07/23	06:03:40	1935.343	74.101	09/07/23	07:24:40	1932.263	74.138
09/07/23	04:43:40	1938.811	74.066	09/07/23	06:04:40	1935.310	74.103	09/07/23	07:25:40	1932.235	74.140
09/07/23	04:44:40	1938.747	74.058	09/07/23	06:05:40	1935.272	74.102	09/07/23	07:26:40	1932.187	74.135
09/07/23	04:45:40	1938.707	74.062	09/07/23	06:06:40	1935.229	74.103	09/07/23	07:27:40	1932.160	74.138
09/07/23	04:46:40	1938.663	74.058	09/07/23	06:07:40	1935.187	74.105	09/07/23	07:28:40	1932.112	74.133
09/07/23	04:47:40	1938.633	74.060	09/07/23	06:08:40	1935.163	74.110	09/07/23	07:29:40	1932.090	74.137
09/07/23	04:48:40	1938.568	74.058	09/07/23	06:09:40	1935.097	74.103	09/07/23	07:30:40	1932.045	74.132
09/07/23	04:49:40	1938.534	74.065	09/07/23	06:10:40	1935.068	74.107	09/07/23	07:31:40	1932.025	74.141
09/07/23	04:50:40	1938.482	74.062	09/07/23	06:11:40	1935.021	74.108	09/07/23	07:32:40	1931.993	74.143
09/07/23	04:51:40	1938.440	74.066	09/07/23	06:12:40	1934.993	74.108	09/07/23	07:33:40	1931.943	74.137
09/07/23	04:52:40	1938.386	74.063	09/07/23	06:13:40	1934.944	74.102	09/07/23	07:34:40	1931.903	74.140
09/07/23	04:53:40	1938.349	74.064	09/07/23	06:14:40	1934.919	74.110	09/07/23	07:35:40	1931.883	74.145
09/07/23	04:54:40	1938.310	74.065	09/07/23	06:15:40	1934.867	74.104	09/07/23	07:36:40	1931.843	74.140
09/07/23	04:55:40	1938.267	74.068	09/07/23	06:16:40	1934.826	74.107	09/07/23	07:37:40	1931.799	74.139
09/07/23	04:56:40	1938.227	74.071	09/07/23	06:17:40	1934.783	74.109	09/07/23	07:38:40	1931.772	74.145
09/07/23	04:57:40	1938.172	74.070	09/07/23	06:18:40	1934.742	74.107	09/07/23	07:39:40	1931.739	74.145
09/07/23	04:58:40	1938.131	74.067	09/07/23	06:19:40	1934.693	74.106	09/07/23	07:40:40	1931.708	74.146
09/07/23	04:59:40	1938.087	74.070	09/07/23	06:20:40	1934.668	74.111	09/07/23	07:41:40	1931.672	74.142
09/07/23	05:00:40	1938.019	74.068	09/07/23	06:21:40	1934.625	74.112	09/07/23	07:42:40	1931.635	74.143
09/07/23	05:01:40	1937.993	74.073	09/07/23	06:22:40	1934.584	74.112	09/07/23	07:43:40	1931.595	74.140
09/07/23	05:02:40	1937.949	74.073	09/07/23	06:23:40	1934.551	74.114	09/07/23	07:44:40	1931.562	74.147
09/07/23	05:03:40	1937.905	74.073	09/07/23	06:24:40	1934.524	74.116	09/07/23	07:45:40	1931.523	74.146
09/07/23	05:04:40	1937.851	74.074	09/07/23	06:25:40	1934.484	74.114	09/07/23	07:46:40	1931.503	74.149
09/07/23	05:05:40	1937.806	74.072	09/07/23	06:26:40	1934.439	74.116	09/07/23	07:47:40	1931.459	74.147
09/07/23	05:06:40	1937.761	74.073	09/07/23	06:27:40	1934.399	74.114	09/07/23	07:48:40	1931.426	74.149
09/07/23	05:07:40	1937.718	74.073	09/07/23	06:28:40	1934.347	74.109	09/07/23	07:49:40	1931.381	74.146
09/07/23	05:08:40	1937.665	74.071	09/07/23	06:29:40	1934.313	74.113	09/07/23	07:50:40	1931.345	74.145
09/07/23	05:09:40	1937.622	74.069	09/07/23	06:30:40	1934.281	74.117	09/07/23	07:51:40	1931.308	74.146
09/07/23	05:10:40	1937.595	74.079	09/07/23	06:31:40	1934.238	74.115	09/07/23	07:52:40	1931.270	74.142
09/07/23	05:11:40	1937.542	74.074	09/07/23	06:32:40	1934.201	74.116	09/07/23	07:53:40	1931.253	74.150
09/07/23	05:12:40	1937.487	74.070	09/07/23	06:33:40	1934.143	74.110	09/07/23	07:54:40	1931.218	74.150
09/07/23	05:13:40	1937.448	74.073	09/07/23	06:34:40	1934.130	74.117	09/07/23	07:55:40	1931.195	74.155
09/07/23	05:14:40	1937.409	74.078	09/07/23	06:35:40	1934.064	74.111	09/07/23	07:56:40	1931.153	74.151
09/07/23	05:15:40	1937.366	74.078	09/07/23	06:36:40	1934.036	74.117	09/07/23	07:57:40	1931.128	74.155
09/07/23	05:16:40	1937.312	74.079	09/07/23	06:37:40	1933.999	74.116	09/07/23	07:58:40	1931.083	74.149
09/07/23	05:17:40	1937.265	74.075	09/07/23	06:38:40	1933.978	74.123	09/07/23	07:59:40	1931.048	74.151
09/07/23	05:18:40	1937.232	74.078	09/07/23	06:39:40	1933.926	74.119	09/07/23	08:00:40	1930.997	74.146
09/07/23	05:19:40	1937.191	74.079	09/07/23	06:40:40	1933.886	74.119	09/07/23	08:01:40	1930.968	74.149
09/07/23	05:20:40	1937.138	74.074	09/07/23	06:41:40	1933.851	74.118	09/07/23	08:02:40	1930.942	74.150
09/07/23	05:21:40	1937.109	74.082	09/07/23	06:42:40	1933.827	74.123	09/07/23	08:03:40	1930.908	74.152
09/07/23	05:22:40	1937.058	74.080	09/07/23	06:43:40	1933.785	74.122	09/07/23	08:04:40	1930.885	74.156
09/07/23	05:23:40	1937.012	74.079	09/07/23	06:44:40	1933.743	74.121	09/07/23	08:05:40	1930.828	74.145
09/07/23	05:24:40	1936.984	74.086	09/07/23	06:45:40	1933.691	74.118	09/07/23	08:06:40	1930.809	74.153
09/07/23	05:25:40	1936.931	74.079	09/07/23	06:46:40	1933.665	74.121	09/07/23	08:07:40	1930.770	74.154
09/07/23	05:26:40	1936.891	74.083	09/07/23	06:47:40	1933.630	74.120	09/07/23	08:08:40	1930.733	74.157
09/07/23	05:27:40	1936.847	74.084	09/07/23	06:48:40	1933.582	74.117	09/07/23	08:09:40	1930.716	74.157
09/07/23	05:28:40	1936.818	74.088	09/07/23	06:49:40	1933.549	74.122	09/07/23	08:10:40	1930.664	74.156
09/07/23	05:29:40	1936.752	74.082	09/07/23	06:50:40	1933.515	74.123	09/07/23	08:11:40	1930.628	74.151
09/07/23	05:30:40	1936.706	74.082	09/07/23	06:51:40	1933.472	74.124	09/07/23	08:12:40	1930.604	74.158
09/07/23	05:31:40	1936.674	74.089	09/07/23	06:52:40	1933.436	74.122	09/07/23	08:13:40	1930.560	74.155
09/07/23	05:32:40	1936.627	74.084	09/07/23	06:53:40	1933.390	74.119	09/07/23	08:14:40	1930.546	74.158
09/07/23	05:33:40	1936.586	74.088	09/07/23	06:54:40	1933.358	74.125	09/07/23	08:15:40	1930.508	74.161
09/07/23	05:34:40	1936.562	74.091	09/07/23	06:55:40	1933.316	74.121	09/07/23	08:16:40	1930.456	74.154
09/07/23	05:35:40	1936.506	74.084	09/07/23	06:56:40	1933.301	74.125	09/07/23	08:17:40	1930.420	74.156
09/07/23	05:36:40	1936.468	74.090	09/07/23	06:57:40	1933.258	74.126	09/07/23	08:18:40	1930.401	74.161
09/07/23	05:37:40	1936.416	74.086	09/07/23	06:58:40	1933.213	74.124	09/07/23	08:19:40	1930.373	74.160
09/07/23	05:38:40	1936.378	74.092	09/07/23	06:59:40	1933.184	74.127	09/07/23	08:20:40	1930.336	74.159
09/07/23	05:39:40	1936.334	74.092	09/07/23	07:00:40	1933.127	74.124	09/07/23	08:21:40	1930.316	74.162
09/07/23	05:40:40	1936.282	74.088	09/07/23	07:01:40	1933.092	74.123	09/07/23	08:22:40	1930.281	74.162
09/07/23	05:41:40	1936.250	74.090	09/07/23	07:02:40	1933.059	74.127	09/07/23	08:23:40	1930.239	74.159
09/07/23	05:42:40	1936.207	74.090	09/07/23	07:03:40	1933.032	74.126	09/07/23	08:24:40	1930.204	74.163
09/07/23	05:43:40	1936.173	74.094	09/07/23	07:04:40	1932.995	74.129	09/07/23	08:25:40	1930.166	74.160
09/07/23	05:44:40	1936.128	74.093	09/07/23	07:05:40	1932.968	74.133	09/07/23	08:26:40	1930.142	74.165
09/07/23	05:45:40	1936.089	74.097	09/07/23	07:06:40	1932.926	74.130	09/07/23	08:27:40	1930.103	74.159
09/07/23	05:46:40	1936.037	74.093	09/07/23	07:07:40	1932.884	74.131	09/07/23	08:28:40	1930.073	74.161
09/07/23	05:47:40	1935.998	74.093	09/07/23	07:08:40	1932.841	74.129	09/07/23	08:29:40	1930.036	74.164
09/07/23	05:48:40	1935.941	74.088	09/07/23	07:09:40	1932.797	74.128	09/07/23	08:30:40	1930.006	74.166
09/07/23	05:49:40	1935.910	74.095	09/07/23	07:10:40	1932.780	74.132	09/07/23	08:31:40	1929.981	74.169
09/07/23	05:50:40	1935.865	74.092	09/07/23	07:11:40	1932.742	74.132	09/07/23	08:32:40	1929.936	74.161
09/07/23	05:51:40	1935.842	74.098	09/07/23	07:12:40	1932.710	74.132	09/07/23	08:33:40	1929.893	74.159
09/07/23	05:52:40	1935.796	74.096	09/07/23	07:13:40	1932.662	74.129	09/07/23	08:34:40	1929.875	74.164
09/07/23	05:53:40	1935.770	74.101	09/07/23	07:14:40	1932.628	74.133	09/07/23	08:35:40	1929.847	74.169
09/07/23	05:54:40	1935.715	74.098	09/07/23	07:15:40	1932.586	74.134	09/07/23	08:36:40	1929.823	74.169
09/07/23	05:55:40	1935.666	74.094	09/07/23	07:16:40	1932.561	74.138	09/07/23	08:37:40	1929.780	74.169
09/07/23	05:56:40	1935.636	74.100	09/07/23	07:17:40	1932.522	74.136	09/07/23	08:38:40	1929.749	74.168
09/07/23	05:57:40	1935.595	74.099	09/07/23	07:18:40	1932.492	74.138	09/07/23	08:39:40	1929.717	74.168
09/07/23	05:58:40	1935.553	74.100	09/07/23	07:19:40	1932.450	74.137	09/07/23	08:40:40	1929.687	74.172

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/07/23	08:41:40	1929.637	74.166	09/07/23	10:02:40	1927.146	74.199	09/07/23	11:23:40	1924.857	74.224
09/07/23	08:42:40	1929.605	74.166	09/07/23	10:03:40	1927.104	74.195	09/07/23	11:24:40	1924.836	74.228
09/07/23	08:43:40	1929.578	74.168	09/07/23	10:04:40	1927.092	74.199	09/07/23	11:25:40	1924.790	74.222
09/07/23	08:44:40	1929.546	74.167	09/07/23	10:05:40	1927.058	74.199	09/07/23	11:26:40	1924.781	74.228
09/07/23	08:45:40	1929.516	74.168	09/07/23	10:06:40	1927.037	74.200	09/07/23	11:27:40	1924.743	74.224
09/07/23	08:46:40	1929.490	74.173	09/07/23	10:07:40	1927.003	74.198	09/07/23	11:28:40	1924.709	74.222
09/07/23	08:47:40	1929.461	74.173	09/07/23	10:08:40	1926.984	74.201	09/07/23	11:29:40	1924.686	74.225
09/07/23	08:48:40	1929.423	74.173	09/07/23	10:09:40	1926.938	74.198	09/07/23	11:30:40	1924.662	74.227
09/07/23	08:49:40	1929.383	74.172	09/07/23	10:10:40	1926.910	74.199	09/07/23	11:31:40	1924.638	74.228
09/07/23	08:50:40	1929.354	74.172	09/07/23	10:11:40	1926.881	74.201	09/07/23	11:32:40	1924.609	74.227
09/07/23	08:51:40	1929.334	74.176	09/07/23	10:12:40	1926.865	74.204	09/07/23	11:33:40	1924.593	74.231
09/07/23	08:52:40	1929.299	74.172	09/07/23	10:13:40	1926.817	74.203	09/07/23	11:34:40	1924.552	74.230
09/07/23	08:53:40	1929.265	74.175	09/07/23	10:14:40	1926.779	74.199	09/07/23	11:35:40	1924.541	74.235
09/07/23	08:54:40	1929.227	74.172	09/07/23	10:15:40	1926.754	74.202	09/07/23	11:36:40	1924.514	74.231
09/07/23	08:55:40	1929.203	74.174	09/07/23	10:16:40	1926.749	74.206	09/07/23	11:37:40	1924.468	74.226
09/07/23	08:56:40	1929.164	74.172	09/07/23	10:17:40	1926.712	74.203	09/07/23	11:38:40	1924.451	74.229
09/07/23	08:57:40	1929.135	74.174	09/07/23	10:18:40	1926.681	74.200	09/07/23	11:39:40	1924.426	74.231
09/07/23	08:58:40	1929.094	74.172	09/07/23	10:19:40	1926.650	74.203	09/07/23	11:40:40	1924.396	74.231
09/07/23	08:59:40	1929.081	74.179	09/07/23	10:20:40	1926.611	74.200	09/07/23	11:41:40	1924.362	74.226
09/07/23	09:00:40	1929.040	74.173	09/07/23	10:21:40	1926.581	74.202	09/07/23	11:42:40	1924.338	74.231
09/07/23	09:01:40	1929.007	74.176	09/07/23	10:22:40	1926.570	74.209	09/07/23	11:43:40	1924.327	74.236
09/07/23	09:02:40	1928.990	74.181	09/07/23	10:23:40	1926.534	74.207	09/07/23	11:44:40	1924.279	74.228
09/07/23	09:03:40	1928.944	74.176	09/07/23	10:24:40	1926.510	74.205	09/07/23	11:45:40	1924.254	74.228
09/07/23	09:04:40	1928.919	74.177	09/07/23	10:25:40	1926.474	74.202	09/07/23	11:46:40	1924.256	74.237
09/07/23	09:05:40	1928.890	74.178	09/07/23	10:26:40	1926.444	74.203	09/07/23	11:47:40	1924.213	74.235
09/07/23	09:06:40	1928.851	74.179	09/07/23	10:27:40	1926.410	74.201	09/07/23	11:48:40	1924.178	74.234
09/07/23	09:07:40	1928.816	74.176	09/07/23	10:28:40	1926.389	74.208	09/07/23	11:49:40	1924.139	74.227
09/07/23	09:08:40	1928.777	74.175	09/07/23	10:29:40	1926.356	74.207	09/07/23	11:50:40	1924.134	74.233
09/07/23	09:09:40	1928.776	74.183	09/07/23	10:30:40	1926.325	74.205	09/07/23	11:51:40	1924.095	74.230
09/07/23	09:10:40	1928.740	74.183	09/07/23	10:31:40	1926.324	74.215	09/07/23	11:52:40	1924.081	74.234
09/07/23	09:11:40	1928.694	74.178	09/07/23	10:32:40	1926.289	74.212	09/07/23	11:53:40	1924.041	74.234
09/07/23	09:12:40	1928.662	74.179	09/07/23	10:33:40	1926.242	74.207	09/07/23	11:54:40	1924.013	74.228
09/07/23	09:13:40	1928.633	74.183	09/07/23	10:34:40	1926.217	74.208	09/07/23	11:55:40	1923.998	74.239
09/07/23	09:14:40	1928.593	74.183	09/07/23	10:35:40	1926.188	74.210	09/07/23	11:56:40	1923.970	74.232
09/07/23	09:15:40	1928.553	74.179	09/07/23	10:36:40	1926.155	74.209	09/07/23	11:57:40	1923.948	74.237
09/07/23	09:16:40	1928.541	74.181	09/07/23	10:37:40	1926.136	74.213	09/07/23	11:58:40	1923.934	74.240
09/07/23	09:17:40	1928.515	74.184	09/07/23	10:38:40	1926.090	74.205	09/07/23	11:59:40	1923.896	74.237
09/07/23	09:18:40	1928.468	74.181	09/07/23	10:39:40	1926.069	74.205	09/07/23	12:00:40	1923.863	74.235
09/07/23	09:19:40	1928.434	74.180	09/07/23	10:40:40	1926.058	74.212	09/07/23	12:01:40	1923.844	74.236
09/07/23	09:20:40	1928.418	74.183	09/07/23	10:41:40	1926.021	74.211	09/07/23	12:02:40	1923.826	74.240
09/07/23	09:21:40	1928.378	74.182	09/07/23	10:42:40	1925.987	74.210	09/07/23	12:03:40	1923.782	74.235
09/07/23	09:22:40	1928.365	74.185	09/07/23	10:43:40	1925.947	74.210	09/07/23	12:04:40	1923.763	74.237
09/07/23	09:23:40	1928.336	74.187	09/07/23	10:44:40	1925.936	74.216	09/07/23	12:05:40	1923.741	74.236
09/07/23	09:24:40	1928.289	74.184	09/07/23	10:45:40	1925.898	74.212	09/07/23	12:06:40	1923.711	74.234
09/07/23	09:25:40	1928.256	74.185	09/07/23	10:46:40	1925.869	74.209	09/07/23	12:07:40	1923.692	74.236
09/07/23	09:26:40	1928.230	74.185	09/07/23	10:47:40	1925.841	74.211	09/07/23	12:08:40	1923.667	74.237
09/07/23	09:27:40	1928.195	74.185	09/07/23	10:48:40	1925.808	74.208	09/07/23	12:09:40	1923.638	74.238
09/07/23	09:28:40	1928.171	74.187	09/07/23	10:49:40	1925.800	74.215	09/07/23	12:10:40	1923.604	74.235
09/07/23	09:29:40	1928.136	74.186	09/07/23	10:50:40	1925.748	74.209	09/07/23	12:11:40	1923.591	74.242
09/07/23	09:30:40	1928.102	74.184	09/07/23	10:51:40	1925.738	74.213	09/07/23	12:12:40	1923.557	74.241
09/07/23	09:31:40	1928.064	74.185	09/07/23	10:52:40	1925.712	74.213	09/07/23	12:13:40	1923.526	74.239
09/07/23	09:32:40	1928.047	74.187	09/07/23	10:53:40	1925.680	74.213	09/07/23	12:14:40	1923.504	74.244
09/07/23	09:33:40	1928.021	74.190	09/07/23	10:54:40	1925.660	74.214	09/07/23	12:15:40	1923.474	74.239
09/07/23	09:34:40	1927.998	74.191	09/07/23	10:55:40	1925.626	74.215	09/07/23	12:16:40	1923.459	74.243
09/07/23	09:35:40	1927.952	74.190	09/07/23	10:56:40	1925.600	74.214	09/07/23	12:17:40	1923.422	74.242
09/07/23	09:36:40	1927.928	74.190	09/07/23	10:57:40	1925.572	74.216	09/07/23	12:18:40	1923.400	74.241
09/07/23	09:37:40	1927.880	74.184	09/07/23	10:58:40	1925.544	74.218	09/07/23	12:19:40	1923.373	74.245
09/07/23	09:38:40	1927.855	74.189	09/07/23	10:59:40	1925.510	74.218	09/07/23	12:20:40	1923.348	74.243
09/07/23	09:39:40	1927.822	74.184	09/07/23	11:00:40	1925.492	74.223	09/07/23	12:21:40	1923.305	74.240
09/07/23	09:40:40	1927.788	74.188	09/07/23	11:01:40	1925.460	74.221	09/07/23	12:22:40	1923.293	74.244
09/07/23	09:41:40	1927.771	74.191	09/07/23	11:02:40	1925.422	74.217	09/07/23	12:23:40	1923.274	74.242
09/07/23	09:42:40	1927.744	74.190	09/07/23	11:03:40	1925.408	74.221	09/07/23	12:24:40	1923.241	74.242
09/07/23	09:43:40	1927.711	74.194	09/07/23	11:04:40	1925.378	74.219	09/07/23	12:25:40	1923.198	74.241
09/07/23	09:44:40	1927.675	74.191	09/07/23	11:05:40	1925.342	74.217	09/07/23	12:26:40	1923.192	74.244
09/07/23	09:45:40	1927.660	74.192	09/07/23	11:06:40	1925.311	74.219	09/07/23	12:27:40	1923.158	74.240
09/07/23	09:46:40	1927.630	74.192	09/07/23	11:07:40	1925.293	74.224	09/07/23	12:28:40	1923.141	74.244
09/07/23	09:47:40	1927.609	74.195	09/07/23	11:08:40	1925.259	74.220	09/07/23	12:29:40	1923.110	74.243
09/07/23	09:48:40	1927.550	74.190	09/07/23	11:09:40	1925.221	74.219	09/07/23	12:30:40	1923.078	74.241
09/07/23	09:49:40	1927.526	74.190	09/07/23	11:10:40	1925.194	74.217	09/07/23	12:31:40	1923.065	74.248
09/07/23	09:50:40	1927.492	74.189	09/07/23	11:11:40	1925.184	74.221	09/07/23	12:32:40	1923.030	74.245
09/07/23	09:51:40	1927.461	74.189	09/07/23	11:12:40	1925.157	74.224	09/07/23	12:33:40	1923.016	74.247
09/07/23	09:52:40	1927.433	74.191	09/07/23	11:13:40	1925.133	74.223	09/07/23	12:34:40	1922.995	74.246
09/07/23	09:53:40	1927.410	74.192	09/07/23	11:14:40	1925.104	74.223	09/07/23	12:35:40	1922.950	74.241
09/07/23	09:54:40	1927.377	74.195	09/07/23	11:15:40	1925.060	74.218	09/07/23	12:36:40	1922.942	74.249
09/07/23	09:55:40	1927.345	74.193	09/07/23	11:16:40	1925.037	74.222	09/07/23	12:37:40	1922.921	74.250
09/07/23	09:56:40	1927.313	74.192	09/07/23	11:17:40	1925.013	74.223	09/07/23	12:38:40	1922.884	74.246
09/07/23	09:57:40	1927.296	74.200	09/07/23	11:18:40	1925.001	74.227	09/07/23	12:39:40	1922.851	74.244
09/07/23	09:58:40	1927.272	74.197	09/07/23	11:19:40	1924.972	74.225	09/07/23	12:40:40	1922.847	74.252
09/07/23	09:59:40	1927.235	74.195	09/07/23	11:20:40	1924.936	74.225	09/07/23	12:41:40	1922.820	74.253
09/07/23	10:00:40	1927.201	74.195	09/07/23	11:21:40	1924.925	74.229	09/07/23	12:42:40	1922.782	74.246
09/07/23	10:01:40	1927.175	74.197	09/07/23	11:22:40	1924.883	74.219	09/07/23	12:43:40	1922.770	74.253

APPENDIX G, Continued
Pressure/Time Data Recorded During the Pressure Transient Test

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/07/23	12:44:40	1922.743	74.247	09/07/23	14:05:40	1920.747	74.269	09/07/23	15:26:40	1918.876	74.287
09/07/23	12:45:40	1922.705	74.246	09/07/23	14:06:40	1920.728	74.275	09/07/23	15:27:40	1918.851	74.285
09/07/23	12:46:40	1922.700	74.253	09/07/23	14:07:40	1920.703	74.273	09/07/23	15:28:40	1918.851	74.294
09/07/23	12:47:40	1922.645	74.246	09/07/23	14:08:40	1920.674	74.269	09/07/23	15:29:40	1918.803	74.287
09/07/23	12:48:40	1922.630	74.247	09/07/23	14:09:40	1920.647	74.267	09/07/23	15:30:40	1918.763	74.285
09/07/23	12:49:40	1922.600	74.250	09/07/23	14:10:40	1920.630	74.270	09/07/23	15:31:40	1918.771	74.292
09/07/23	12:50:40	1922.587	74.253	09/07/23	14:11:40	1920.601	74.268	09/07/23	15:32:40	1918.731	74.286
09/07/23	12:51:40	1922.548	74.249	09/07/23	14:12:40	1920.578	74.266	09/07/23	15:33:40	1918.725	74.293
09/07/23	12:52:40	1922.525	74.250	09/07/23	14:13:40	1920.553	74.270	09/07/23	15:34:40	1918.686	74.286
09/07/23	12:53:40	1922.497	74.248	09/07/23	14:14:40	1920.539	74.274	09/07/23	15:35:40	1918.680	74.291
09/07/23	12:54:40	1922.486	74.253	09/07/23	14:15:40	1920.499	74.269	09/07/23	15:36:40	1918.662	74.292
09/07/23	12:55:40	1922.455	74.250	09/07/23	14:16:40	1920.482	74.269	09/07/23	15:37:40	1918.634	74.291
09/07/23	12:56:40	1922.419	74.249	09/07/23	14:17:40	1920.467	74.272	09/07/23	15:38:40	1918.626	74.297
09/07/23	12:57:40	1922.416	74.254	09/07/23	14:18:40	1920.455	74.277	09/07/23	15:39:40	1918.584	74.293
09/07/23	12:58:40	1922.379	74.250	09/07/23	14:19:40	1920.410	74.271	09/07/23	15:40:40	1918.565	74.291
09/07/23	12:59:40	1922.364	74.255	09/07/23	14:20:40	1920.387	74.271	09/07/23	15:41:40	1918.560	74.295
09/07/23	13:00:40	1922.328	74.252	09/07/23	14:21:40	1920.353	74.266	09/07/23	15:42:40	1918.521	74.291
09/07/23	13:01:40	1922.308	74.251	09/07/23	14:22:40	1920.339	74.271	09/07/23	15:43:40	1918.510	74.296
09/07/23	13:02:40	1922.292	74.257	09/07/23	14:23:40	1920.311	74.267	09/07/23	15:44:40	1918.481	74.297
09/07/23	13:03:40	1922.256	74.253	09/07/23	14:24:40	1920.300	74.275	09/07/23	15:45:40	1918.465	74.298
09/07/23	13:04:40	1922.235	74.254	09/07/23	14:25:40	1920.281	74.277	09/07/23	15:46:40	1918.437	74.294
09/07/23	13:05:40	1922.208	74.255	09/07/23	14:26:40	1920.246	74.272	09/07/23	15:47:40	1918.398	74.290
09/07/23	13:06:40	1922.180	74.252	09/07/23	14:27:40	1920.232	74.275	09/07/23	15:48:40	1918.390	74.294
09/07/23	13:07:40	1922.148	74.251	09/07/23	14:28:40	1920.214	74.276	09/07/23	15:49:40	1918.357	74.292
09/07/23	13:08:40	1922.133	74.256	09/07/23	14:29:40	1920.191	74.276	09/07/23	15:50:40	1918.346	74.294
09/07/23	13:09:40	1922.088	74.250	09/07/23	14:30:40	1920.160	74.275	09/07/23	15:51:40	1918.323	74.297
09/07/23	13:10:40	1922.082	74.254	09/07/23	14:31:40	1920.139	74.277	09/07/23	15:52:40	1918.292	74.293
09/07/23	13:11:40	1922.045	74.254	09/07/23	14:32:40	1920.107	74.277	09/07/23	15:53:40	1918.290	74.301
09/07/23	13:12:40	1922.044	74.259	09/07/23	14:33:40	1920.084	74.275	09/07/23	15:54:40	1918.255	74.295
09/07/23	13:13:40	1921.997	74.255	09/07/23	14:34:40	1920.071	74.278	09/07/23	15:55:40	1918.233	74.297
09/07/23	13:14:40	1921.986	74.259	09/07/23	14:35:40	1920.054	74.280	09/07/23	15:56:40	1918.225	74.298
09/07/23	13:15:40	1921.960	74.259	09/07/23	14:36:40	1920.002	74.271	09/07/23	15:57:40	1918.195	74.297
09/07/23	13:16:40	1921.934	74.258	09/07/23	14:37:40	1919.988	74.272	09/07/23	15:58:40	1918.171	74.298
09/07/23	13:17:40	1921.904	74.253	09/07/23	14:38:40	1919.980	74.281	09/07/23	15:59:40	1918.145	74.300
09/07/23	13:18:40	1921.885	74.260	09/07/23	14:39:40	1919.950	74.278	09/07/23	16:00:40	1918.120	74.297
09/07/23	13:19:40	1921.863	74.261	09/07/23	14:40:40	1919.923	74.275	09/07/23	16:01:40	1918.082	74.292
09/07/23	13:20:40	1921.847	74.262	09/07/23	14:41:40	1919.901	74.278	09/07/23	16:02:40	1918.086	74.299
09/07/23	13:21:40	1921.805	74.259	09/07/23	14:42:40	1919.868	74.275	09/07/23	16:03:40	1918.070	74.298
09/07/23	13:22:40	1921.785	74.258	09/07/23	14:43:40	1919.873	74.286	09/07/23	16:04:40	1918.045	74.298
09/07/23	13:23:40	1921.767	74.262	09/07/23	14:44:40	1919.827	74.277	09/07/23	16:05:40	1918.020	74.299
09/07/23	13:24:40	1921.740	74.261	09/07/23	14:45:40	1919.804	74.280	09/07/23	16:06:40	1917.988	74.294
09/07/23	13:25:40	1921.717	74.261	09/07/23	14:46:40	1919.780	74.278	09/07/23	16:07:40	1917.967	74.298
09/07/23	13:26:40	1921.689	74.262	09/07/23	14:47:40	1919.775	74.281	09/07/23	16:08:40	1917.944	74.295
09/07/23	13:27:40	1921.657	74.260	09/07/23	14:48:40	1919.736	74.280	09/07/23	16:09:40	1917.930	74.302
09/07/23	13:28:40	1921.628	74.261	09/07/23	14:49:40	1919.737	74.286	09/07/23	16:10:40	1917.907	74.299
09/07/23	13:29:40	1921.609	74.260	09/07/23	14:50:40	1919.692	74.280	09/07/23	16:11:40	1917.877	74.298
09/07/23	13:30:40	1921.587	74.260	09/07/23	14:51:40	1919.663	74.277	09/07/23	16:12:40	1917.866	74.297
09/07/23	13:31:40	1921.558	74.261	09/07/23	14:52:40	1919.639	74.278	09/07/23	16:13:40	1917.848	74.304
09/07/23	13:32:40	1921.536	74.260	09/07/23	14:53:40	1919.613	74.277	09/07/23	16:14:40	1917.817	74.297
09/07/23	13:33:40	1921.511	74.262	09/07/23	14:54:40	1919.578	74.276	09/07/23	16:15:40	1917.797	74.298
09/07/23	13:34:40	1921.493	74.265	09/07/23	14:55:40	1919.569	74.283	09/07/23	16:16:40	1917.782	74.300
09/07/23	13:35:40	1921.470	74.263	09/07/23	14:56:40	1919.565	74.284	09/07/23	16:17:40	1917.753	74.298
09/07/23	13:36:40	1921.449	74.264	09/07/23	14:57:40	1919.534	74.282	09/07/23	16:18:40	1917.735	74.298
09/07/23	13:37:40	1921.415	74.262	09/07/23	14:58:40	1919.522	74.286	09/07/23	16:19:40	1917.714	74.302
09/07/23	13:38:40	1921.401	74.266	09/07/23	14:59:40	1919.491	74.283	09/07/23	16:20:40	1917.688	74.298
09/07/23	13:39:40	1921.373	74.264	09/07/23	15:00:40	1919.448	74.277	09/07/23	16:21:40	1917.668	74.300
09/07/23	13:40:40	1921.350	74.264	09/07/23	15:01:40	1919.437	74.283	09/07/23	16:22:40	1917.656	74.303
09/07/23	13:41:40	1921.325	74.262	09/07/23	15:02:40	1919.412	74.278	09/07/23	16:23:40	1917.631	74.301
09/07/23	13:42:40	1921.310	74.267	09/07/23	15:03:40	1919.389	74.281	09/07/23	16:24:40	1917.595	74.298
09/07/23	13:43:40	1921.281	74.268	09/07/23	15:04:40	1919.368	74.283	09/07/23	16:25:40	1917.597	74.307
09/07/23	13:44:40	1921.262	74.266	09/07/23	15:05:40	1919.335	74.278	09/07/23	16:26:40	1917.547	74.303
09/07/23	13:45:40	1921.215	74.261	09/07/23	15:06:40	1919.327	74.284	09/07/23	16:27:40	1917.520	74.297
09/07/23	13:46:40	1921.198	74.266	09/07/23	15:07:40	1919.305	74.282	09/07/23	16:28:40	1917.508	74.301
09/07/23	13:47:40	1921.168	74.265	09/07/23	15:08:40	1919.272	74.280	09/07/23	16:29:40	1917.488	74.301
09/07/23	13:48:40	1921.152	74.263	09/07/23	15:09:40	1919.244	74.280	09/07/23	16:30:40	1917.464	74.300
09/07/23	13:49:40	1921.141	74.271	09/07/23	15:10:40	1919.247	74.289	09/07/23	16:31:40	1917.453	74.304
09/07/23	13:50:40	1921.094	74.265	09/07/23	15:11:40	1919.215	74.287	09/07/23	16:32:40	1917.432	74.304
09/07/23	13:51:40	1921.087	74.270	09/07/23	15:12:40	1919.190	74.287	09/07/23	16:33:40	1917.414	74.302
09/07/23	13:52:40	1921.062	74.267	09/07/23	15:13:40	1919.164	74.282	09/07/23	16:34:40	1917.397	74.305
09/07/23	13:53:40	1921.045	74.272	09/07/23	15:14:40	1919.140	74.283	09/07/23	16:35:40	1917.366	74.304
09/07/23	13:54:40	1921.008	74.269	09/07/23	15:15:40	1919.127	74.289	09/07/23	16:36:40	1917.345	74.302
09/07/23	13:55:40	1921.009	74.275	09/07/23	15:16:40	1919.102	74.287	09/07/23	16:37:40	1917.329	74.309
09/07/23	13:56:40	1920.959	74.269	09/07/23	15:17:40	1919.081	74.284	09/07/23	16:38:40	1917.318	74.308
09/07/23	13:57:40	1920.941	74.270	09/07/23	15:18:40	1919.064	74.288	09/07/23	16:39:40	1917.284	74.304
09/07/23	13:58:40	1920.908	74.264	09/07/23	15:19:40	1919.042	74.291	09/07/23	16:40:40	1917.278	74.308
09/07/23	13:59:40	1920.890	74.269	09/07/23	15:20:40	1919.012	74.287	09/07/23	16:41:40	1917.245	74.306
09/07/23	14:00:40	1920.862	74.267	09/07/23	15:21:40	1918.989	74.288	09/07/23	16:42:40	1917.218	74.304
09/07/23	14:01:40	1920.850	74.271	09/07/23	15:22:40	1918.972	74.288	09/07/23	16:43:40	1917.206	74.307
09/07/23	14:02:40	1920.834	74.274	09/07/23	15:23:40	1918.954	74.292	09/07/23	16:44:40	1917.164	74.304
09/07/23	14:03:40	1920.774	74.264	09/07/23	15:24:40	1918.931	74.291	09/07/23	16:45:40	1917.147	74.308
09/07/23	14:04:40	1920.764	74.269	09/07/23	15:25:40	1918.911	74.291	09/07/23	16:46:40	1917.121	74.301

Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F	Date	Time	Pressure psig	Temp °F
09/07/23	16:47:40	1917.113	74.308	09/07/23	18:08:40	1915.433	74.321				
09/07/23	16:48:40	1917.085	74.307	09/07/23	18:09:40	1915.421	74.325				
09/07/23	16:49:40	1917.057	74.305	09/07/23	18:10:40	1915.403	74.326				
09/07/23	16:50:40	1917.052	74.312	09/07/23	18:11:40	1915.376	74.324				
09/07/23	16:51:40	1917.022	74.310	09/07/23	18:12:40	1915.344	74.318				
09/07/23	16:52:40	1917.005	74.309	09/07/23	18:13:40	1915.336	74.321				
09/07/23	16:53:40	1916.990	74.314	09/07/23	18:14:40	1915.314	74.327				
09/07/23	16:54:40	1916.961	74.312	09/07/23	18:15:40	1915.301	74.327				
09/07/23	16:55:40	1916.939	74.308	09/07/23	18:16:40	1915.262	74.321				
09/07/23	16:56:40	1916.920	74.312	09/07/23	18:17:40	1915.245	74.325				
09/07/23	16:57:40	1916.889	74.308	09/07/23	18:18:40	1915.238	74.330				
09/07/23	16:58:40	1916.886	74.312	09/07/23	18:19:40	1915.207	74.324				
09/07/23	16:59:40	1916.875	74.314	09/07/23	18:20:40	1915.197	74.327				
09/07/23	17:00:40	1916.842	74.310	09/07/23	18:21:40	1915.164	74.324				
09/07/23	17:01:40	1916.811	74.309								
09/07/23	17:02:40	1916.803	74.316								
09/07/23	17:03:40	1916.774	74.310								
09/07/23	17:04:40	1916.754	74.312								
09/07/23	17:05:40	1916.741	74.319								
09/07/23	17:06:40	1916.714	74.316								
09/07/23	17:07:40	1916.689	74.317								
09/07/23	17:08:40	1916.653	74.308								
09/07/23	17:09:40	1916.656	74.316								
09/07/23	17:10:40	1916.622	74.313								
09/07/23	17:11:40	1916.617	74.316								
09/07/23	17:12:40	1916.584	74.315								
09/07/23	17:13:40	1916.561	74.313								
09/07/23	17:14:40	1916.544	74.315								
09/07/23	17:15:40	1916.514	74.312								
09/07/23	17:16:40	1916.493	74.316								
09/07/23	17:17:40	1916.463	74.313								
09/07/23	17:18:40	1916.458	74.316								
09/07/23	17:19:40	1916.437	74.316								
09/07/23	17:20:40	1916.412	74.315								
09/07/23	17:21:40	1916.400	74.317								
09/07/23	17:22:40	1916.381	74.324								
09/07/23	17:23:40	1916.340	74.314								
09/07/23	17:24:40	1916.324	74.316								
09/07/23	17:25:40	1916.295	74.315								
09/07/23	17:26:40	1916.295	74.320								
09/07/23	17:27:40	1916.251	74.313								
09/07/23	17:28:40	1916.235	74.317								
09/07/23	17:29:40	1916.234	74.323								
09/07/23	17:30:40	1916.215	74.319								
09/07/23	17:31:40	1916.195	74.320								
09/07/23	17:32:40	1916.173	74.320								
09/07/23	17:33:40	1916.161	74.324								
09/07/23	17:34:40	1916.126	74.318								
09/07/23	17:35:40	1916.116	74.321								
09/07/23	17:36:40	1916.080	74.319								
09/07/23	17:37:40	1916.066	74.322								
09/07/23	17:38:40	1916.056	74.321								
09/07/23	17:39:40	1916.018	74.316								
09/07/23	17:40:40	1916.013	74.321								
09/07/23	17:41:40	1915.986	74.321								
09/07/23	17:42:40	1915.958	74.319								
09/07/23	17:43:40	1915.947	74.322								
09/07/23	17:44:40	1915.918	74.321								
09/07/23	17:45:40	1915.904	74.324								
09/07/23	17:46:40	1915.884	74.323								
09/07/23	17:47:40	1915.857	74.320								
09/07/23	17:48:40	1915.840	74.321								
09/07/23	17:49:40	1915.817	74.323								
09/07/23	17:50:40	1915.811	74.325								
09/07/23	17:51:40	1915.778	74.319								
09/07/23	17:52:40	1915.764	74.319								
09/07/23	17:53:40	1915.746	74.318								
09/07/23	17:54:40	1915.724	74.321								
09/07/23	17:55:40	1915.695	74.319								
09/07/23	17:56:40	1915.685	74.321								
09/07/23	17:57:40	1915.653	74.321								
09/07/23	17:58:40	1915.642	74.323								
09/07/23	17:59:40	1915.627	74.324								
09/07/23	18:00:40	1915.617	74.328								
09/07/23	18:01:40	1915.576	74.322								
09/07/23	18:02:40	1915.556	74.325								
09/07/23	18:03:40	1915.538	74.328								
09/07/23	18:04:40	1915.529	74.328								
09/07/23	18:05:40	1915.500	74.322								
09/07/23	18:06:40	1915.481	74.326								
09/07/23	18:07:40	1915.454	74.325								

APPENDIX H

PANSYSTEM© ANALYSIS OF FALLOFF TEST

Well Test Analysis Report

File: Republic Romulus 2-12 2023 PFO Analysis.panx

Date: 25-September-2023

Report Details :

Company	Republic Industrial & Energy Solutions, LLC
Location	Romulus Facility
Well	2-12
Test	Reservoir Pressure Falloff
Date	September 6-7, 2023
Injection Interval	3975 - 4550 ft RKB
Interval Completion	Open-Hole
Gauge Type	Badger Tri Tool
Gauge Serial Number	91908
Gauge Depth	3975 ft RKB
WSP Analyst	TG
WSP Project Number	192128AP

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Table of Contents

Input Data

Reservoir Configuration

Fluid type	Water
Well orientation	Vertical/Slant
Number of wells	1
Number of layers	1

Layer Parameters

Parameter	Layer 1
Formation thickness (ft)	133
Average formation porosity	0.11
Water saturation	0
Gas saturation	0
Formation compressibility (psi-1)	0.0000e+000
Total system compressibility (psi-1)	6.2000e-006
Layer pressure (psia)	0
Temperature (deg F)	0

Well Parameters

Parameter	Well 2-12
Well radius (ft)	0.3646
Distance from observation to active well (ft)	0
Wellbore storage coefficient (bbl/psi)	0
Storage Amplitude (psi)	0
Storage Time Constant (hr)	0
Second Wellbore Storage (bbl/psi)	0
Time Change for Second Storage (hr)	0
Well offset - x direction (ft)	0
Well offset - y direction (ft)	0

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Fluid Parameters

Parameter	Layer 1
Oil gravity (API)	0
Gas gravity (sp grav)	0
Gas-oil ratio (produced) (scf/STB)	0
Water cut	0
Water salinity (ppm)	0
Check Pressure (psia)	0
Check Temperature (deg F)	0
Gas-oil ratio (solution) (scf/STB)	0
Bubble-point pressure (psia)	0
Oil density (lb/ft3)	0
Oil viscosity (cp)	0
Oil formation volume factor (RB/STB)	0
Gas density (lb/ft3)	0
Gas viscosity (cp)	0
Gas formation volume factor (ft3/scf)	0
Water density (lb/ft3)	0
Water viscosity (cp)	0.8
Water formation volume factor (RB/STB)	1
Oil compressibility (psi-1)	0.0000e+000
Initial Gas compressibility (psi-1)	0.0000e+000
Water compressibility (psi-1)	0.0000e+000

Correlations

Correlation Parameters	Layer 1
Cf Correlation	Hall Correlation
Young's modulus (E) (psi)	0
Poisson's Ratio (v)	0

Layer Boundaries

Boundary Parameter	Layer 1
Boundary Type	Infinitely acting

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Rate Change Data

DateTime (hh:mm:ss)	Pressure (psia)	Rate (STB/day)
9/6/2023 8:46:25 AM	1948.479	0
9/6/2023 7:48:01 PM	2355.141	-1681.71
9/7/2023 6:22:22 PM	1929.86	0

Model Data

Layer 1 Model Data

Model Parameter	Model Data
Model Name	Model 1
Model Type	Radial homogeneous
Permeability (md)	0
Skin factor	0

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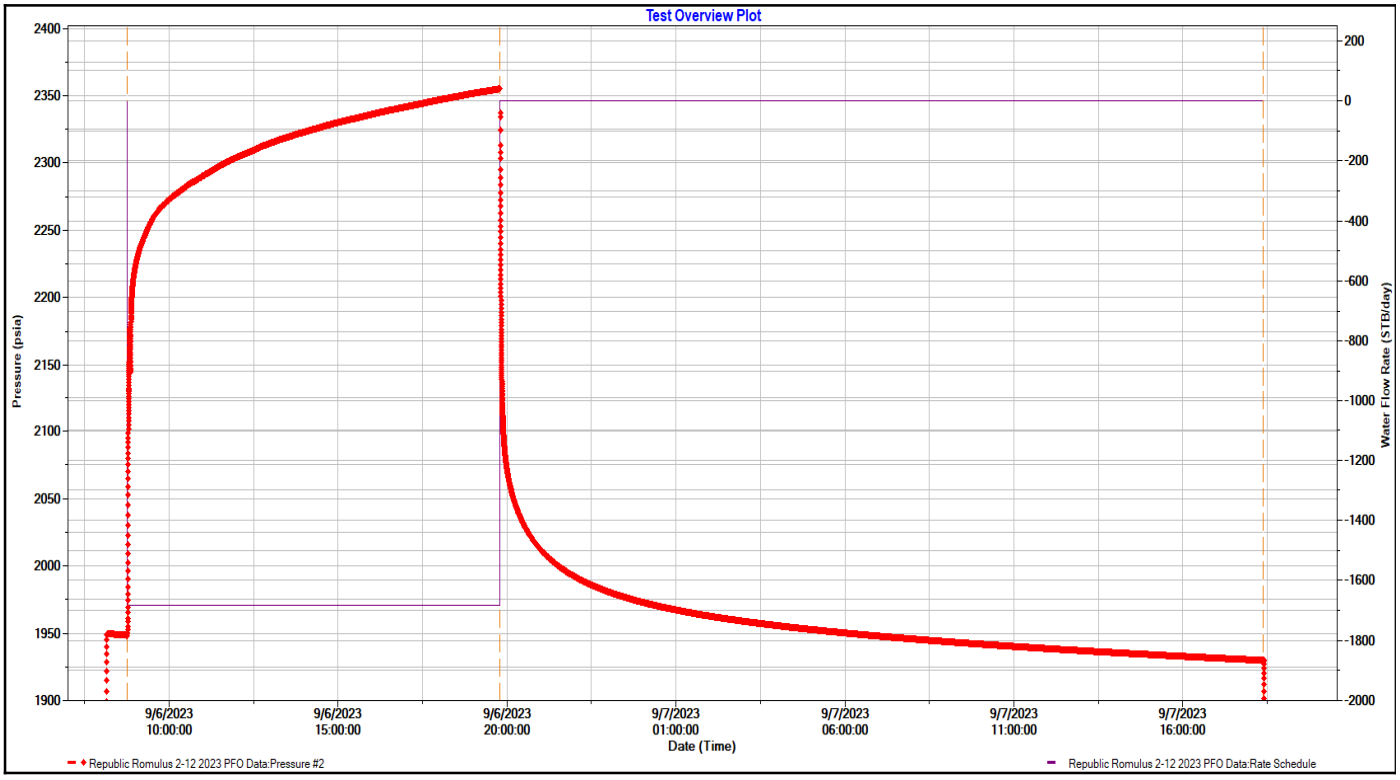
Analysis

Model - Layer 1 : Model 1

Model Detail

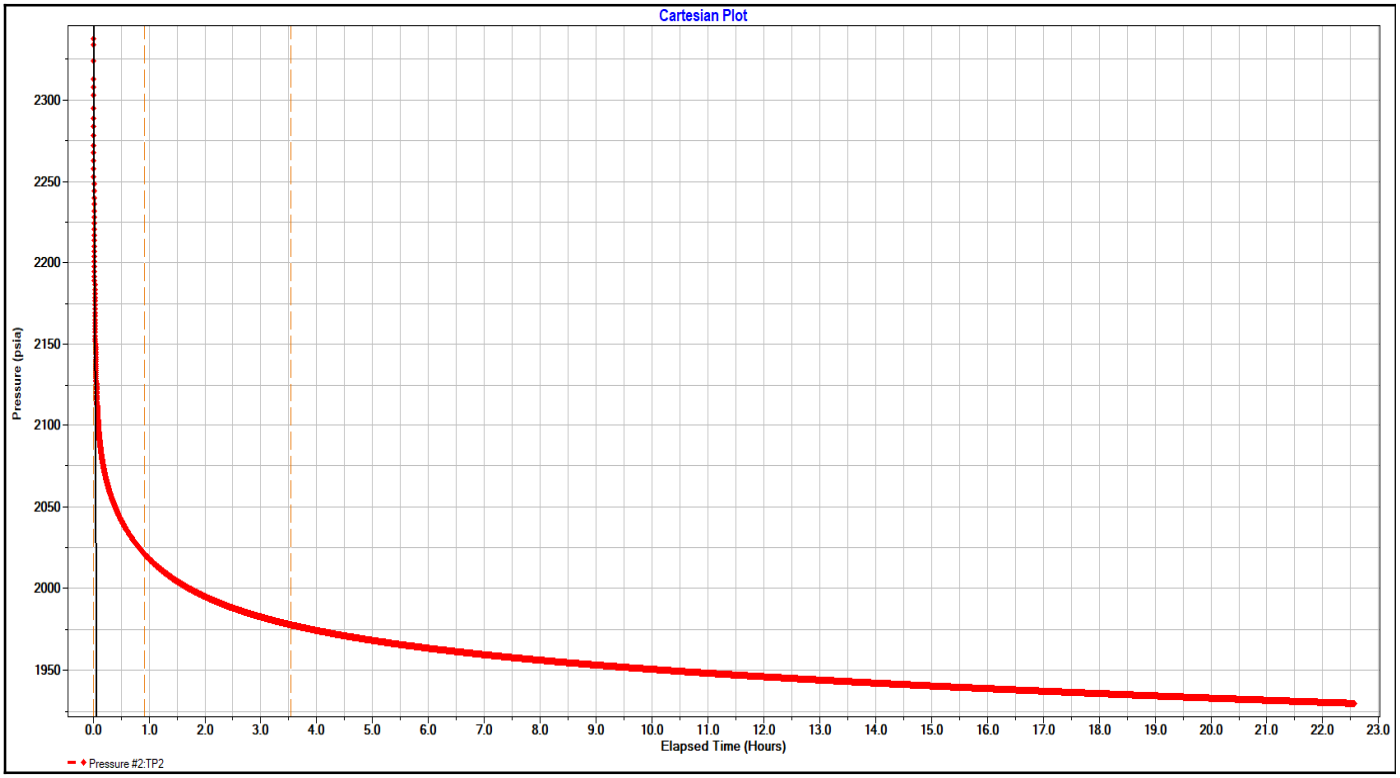
Model Parameter	Model Data
Model Name	Model 1
Model Type	Radial homogeneous
Layer	Layer 1
WellBore Storage Model	Classic Wellbore Storage

Test Overview Plot



Test Overview Plot

Cartesian Plot:TP2

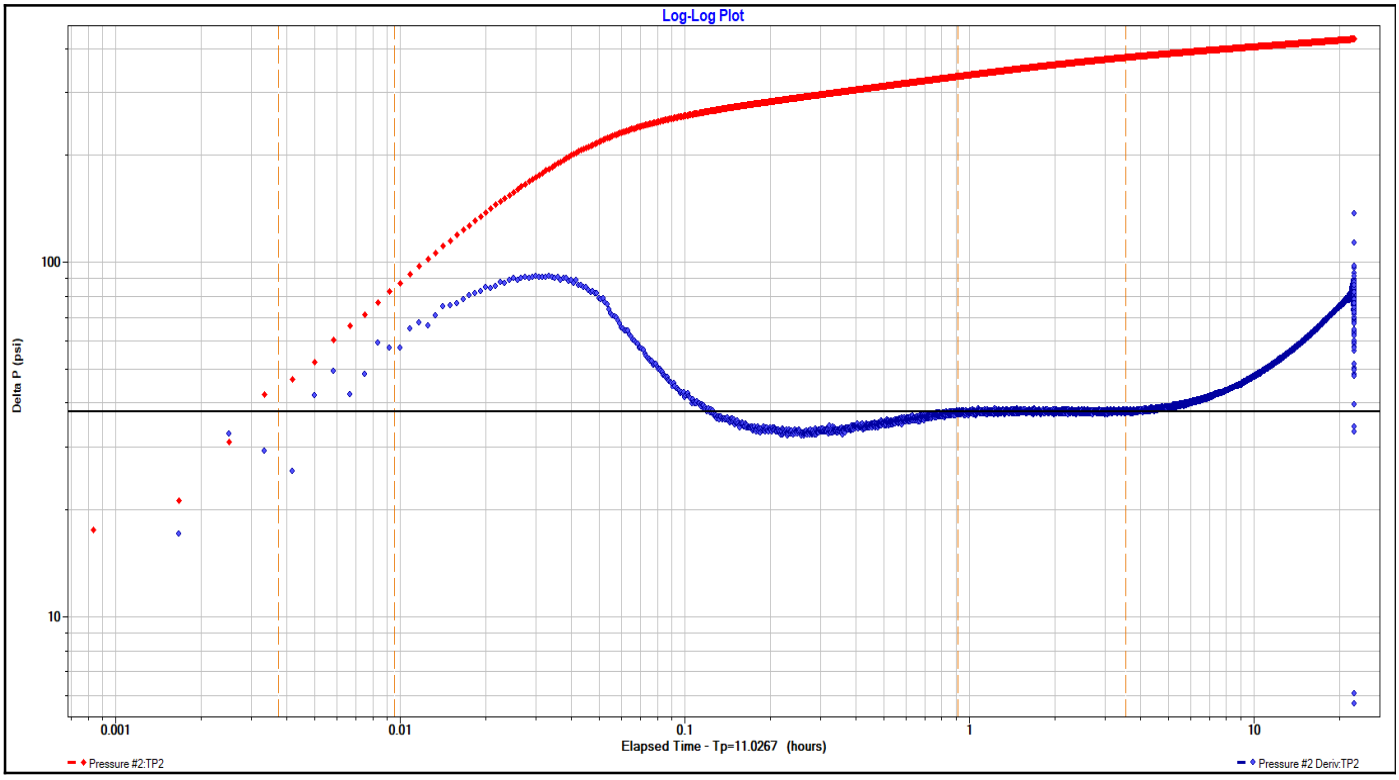


Cartesian Plot

Line Details

Details	Value
Line type	Free model line
Slope	-7199.786
Intercept	2337.888
Coefficient of Determination	0.996

Log-Log Plot:TP2



Log-Log Plot

Line Results

Line Result Parameter	Value
Permeability (md)	18.9797
Permeability-thickness (md.ft)	2524.3
Skin factor	-1.54869

Line Details

Details	Value
Line type	Radial flow
Slope	0
Intercept	37.627
Coefficient of Determination	Not Used

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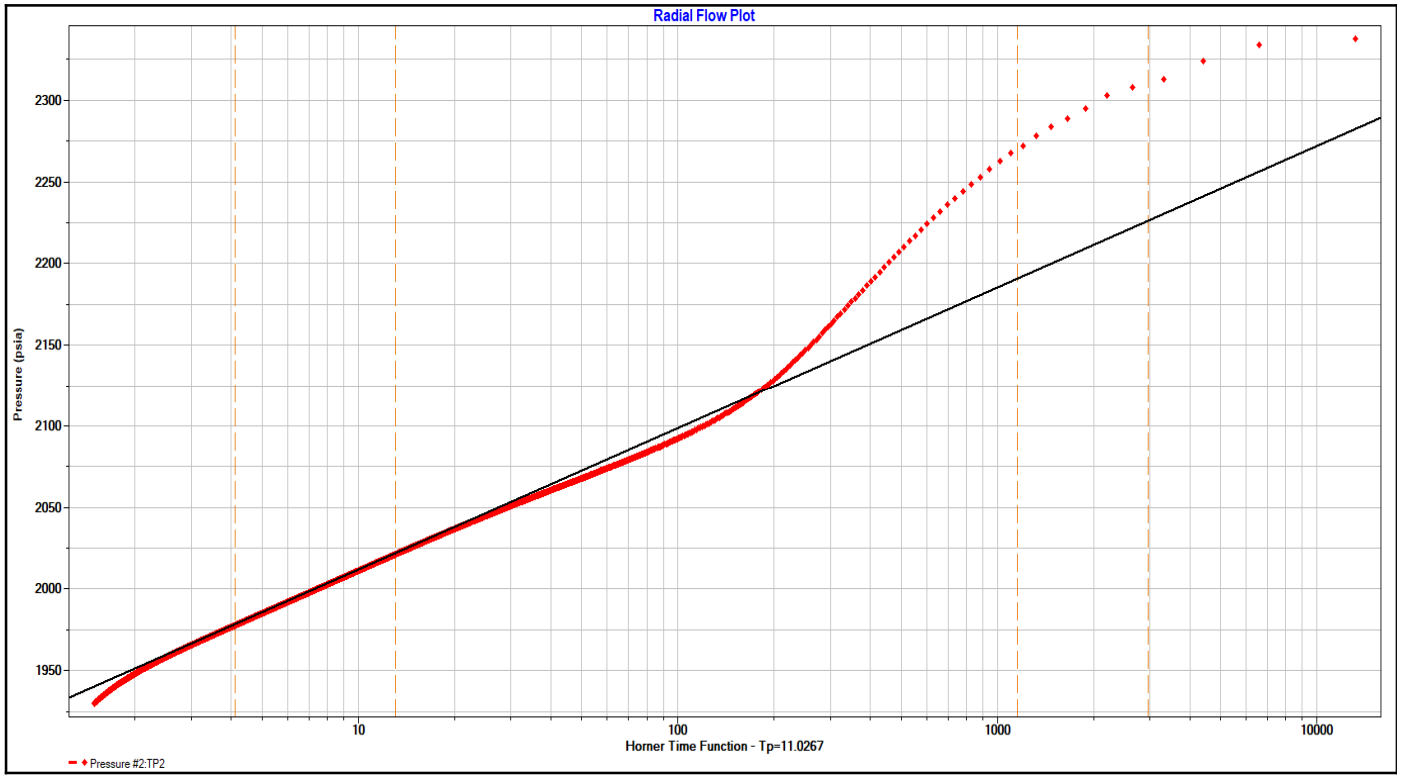
Radial Flow Plot:TP2



Radial Flow Plot

Line Results

Line Result Parameter	Value
Permeability (md)	18.9728
Skin factor	-1.45633
Total mobility (md/cp)	23.716
Permeability-thickness (md.ft)	2523.38
Extrapolated pressure (psia)	1924.593
Pressure at dt = 1 hour (psia)	2018.211
dP skin (constant rate) (psi)	-109.636
Radius of investigation (ft)	812.487
Flow efficiency	1.25464

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Line Details

Details	Value
Line type	Free model line
Slope	86.672
Intercept	1924.593
Coefficient of Determination	1
Permeability (md)	18.9728
Skin factor	-1.45633
Total mobility (md/cp)	23.716
Permeability-thickness (md.ft)	2523.38
Extrapolated pressure (psia)	1924.593
Pressure at dt = 1 hour (psia)	2018.211
dP skin (constant rate) (psi)	-109.636
Radius of investigation (ft)	812.487
Flow efficiency	1.25464

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APPENDIX I

PRESSURE TEST REPORT DATA

Pressure Test Report

COMPANY INFORMATION

Company Name	Republic Services
Representative	Jeffry Tahtouh with WSP USA, Inc
Phone	713-503-7704
Fax	
Address	Republic Services 28470 Citrin Drive Romulus, MI 48174
E-Mail Address	
Service Company	Impact Completions, LLC

WELL INFORMATION

Well Name	EGT No2-12
Well Location	Romulus, MI
Field and Pool	
Status (Oil, Gas, Water, Injection)	Waste Water Disposal
Perforated Intervals	
Mid-point of Perforated Intervals (MPP)	
Drilling Rig Number	
Elevations	
Kelly Bushing (KB)	13 feet above ground level
Casing Flange (CF)	
KB-CF	
Ground Level	
Plug Back Total Depth	
Total Depth	
Production Casing	
Production Tubing	

TEST INFORMATION

Type of Test	Injection/Fall-Off
Date(s) of Test	September 06, 2023 thru September 07, 2023
Dead-weight Gauge Tubing Pressure	
Dead-weight Gauge Casing Pressure	
Shut-in Date (Duration)	September 06, 2023 19:48:01
Date / Time on Bottom	September 06, 2023 at 08:09:56
Date / Time off Bottom	September 07, 2023 at 18:23:40
Probe Serial Number	91908
Probe Offset from End of Tool String	
Run Depth at Probe Pressure Port	

PRESSURE TEST RESULTS

Maximum Recorded Probe Pressure	2340.4 psig
Maximum Recorded Probe Temperature	78.5 deg F
Final Buildup Pressure	
Gradient Survey Information	
Extrapolated Pressure to MPP	
Final Gradient at Depth	
Job Number	

PROBE INFORMATION

Probe Serial Number	91908
Model	Badger Low Temp
Pressure	
Calibrated Pressure Range	0.00 - 6,000.00
Accuracy	1.4400 psi (0.024 % FS)
Resolution	0.0180 psi (0.0003 %FS)
Temperature	
Calibrated Temperature Range	0.00 * 150.00 deg C
Accuracy	0.400 deg C (0.40 %FS)
Resolution	0.001 deg C (0.001 %FS)
Calibration File Used for Reports	October 26, 2022

PROGRAMMING DETAILS

Step	Sample Mode	Period	Duration	Comment

Program Start Time
Program End Time
Total Samples Taken
Usage for this Test
Generic Data File Name

COMMENTS

Reported By Tim Auker

Zeroed bottom gauge in reference to Kelly Bushing Measurements.

Top Gauge: 91885 (two feet above bottom gauge)
Bottom Gauge: 91908

The bottom gauge (91908) was used for this report.

Well was static. R.I.H. with tandem electronic memory gauges Hang bottom gauge at 3975 feet for injection/fall-off test. P.O.O.H. with gauges making gradient stops.

Pressure vs. Depth

Probe Serial Number 91908

		(ft)	(psig)	(psi/ft)	(deg F)	(deg F/ft)
18:16	18:21	3975.000	1915.180	-	74.323	-
18:26	18:31	3000.000	1488.700	0.4374	74.322	0.0000
18:35	18:40	2000.000	1050.950	0.4378	63.628	0.0107
18:43	18:48	1000.000	613.761	0.4372	59.920	0.0037
18:52	18:57	0.000	180.437	0.4333	73.839	-0.0139

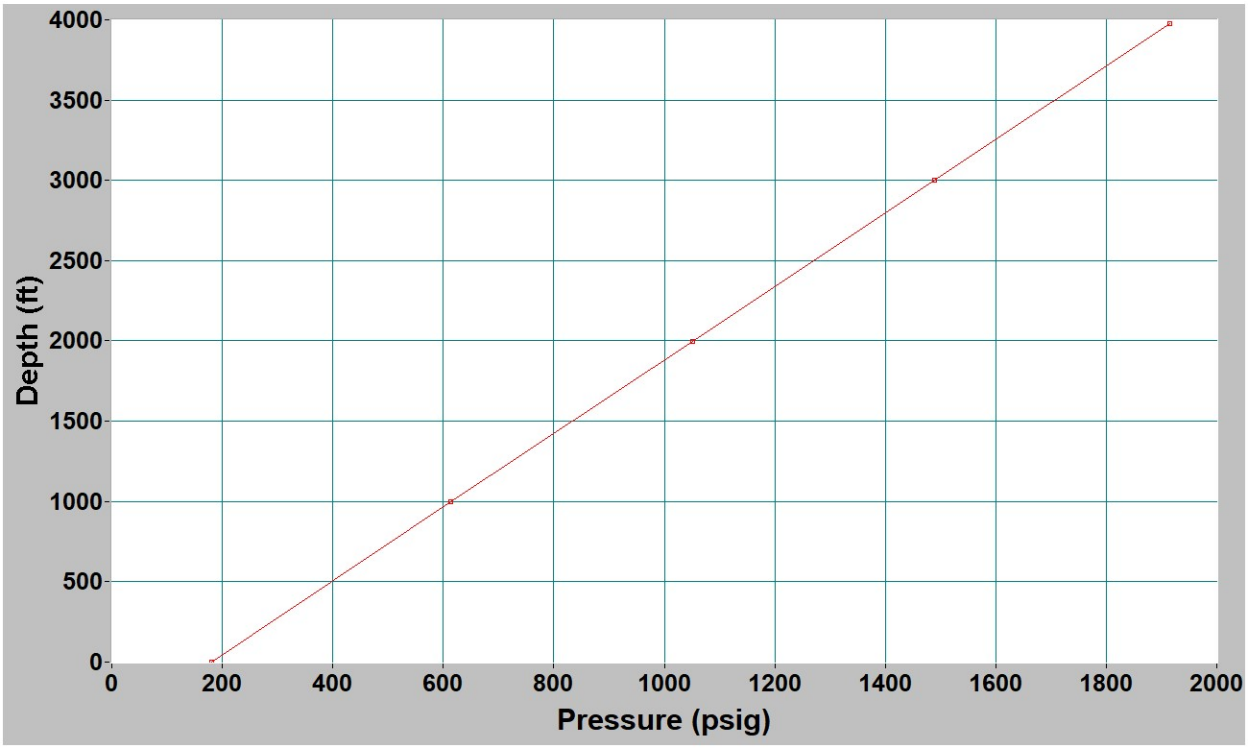
Extrapolated to MPP:

(ft)	(psig)	(deg F)
0.000		

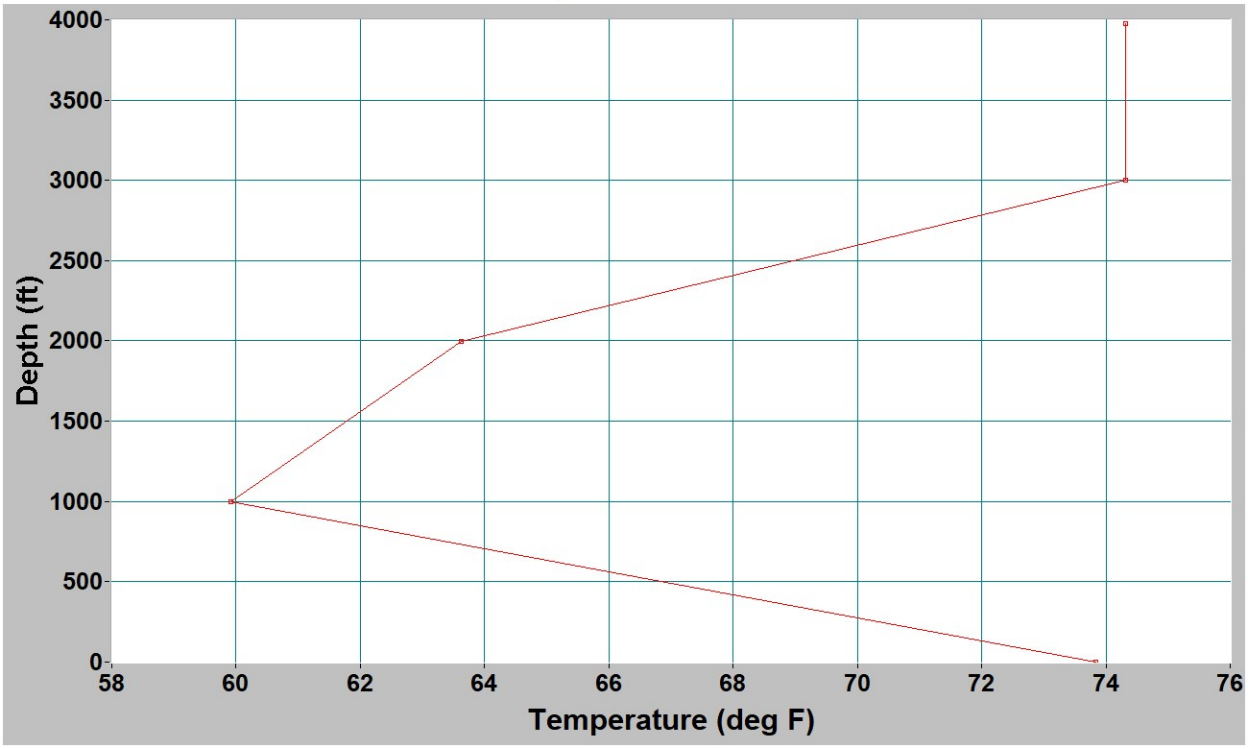
Company Name	Republic Services
Well Name	EGT No2-12
Type of Test	Injection/Fall-Off
Date(s) of Test	September 06, 2023 thru September 07, 2023

Probe Serial Number 91908

P.O.O.H. Pressure Gradients

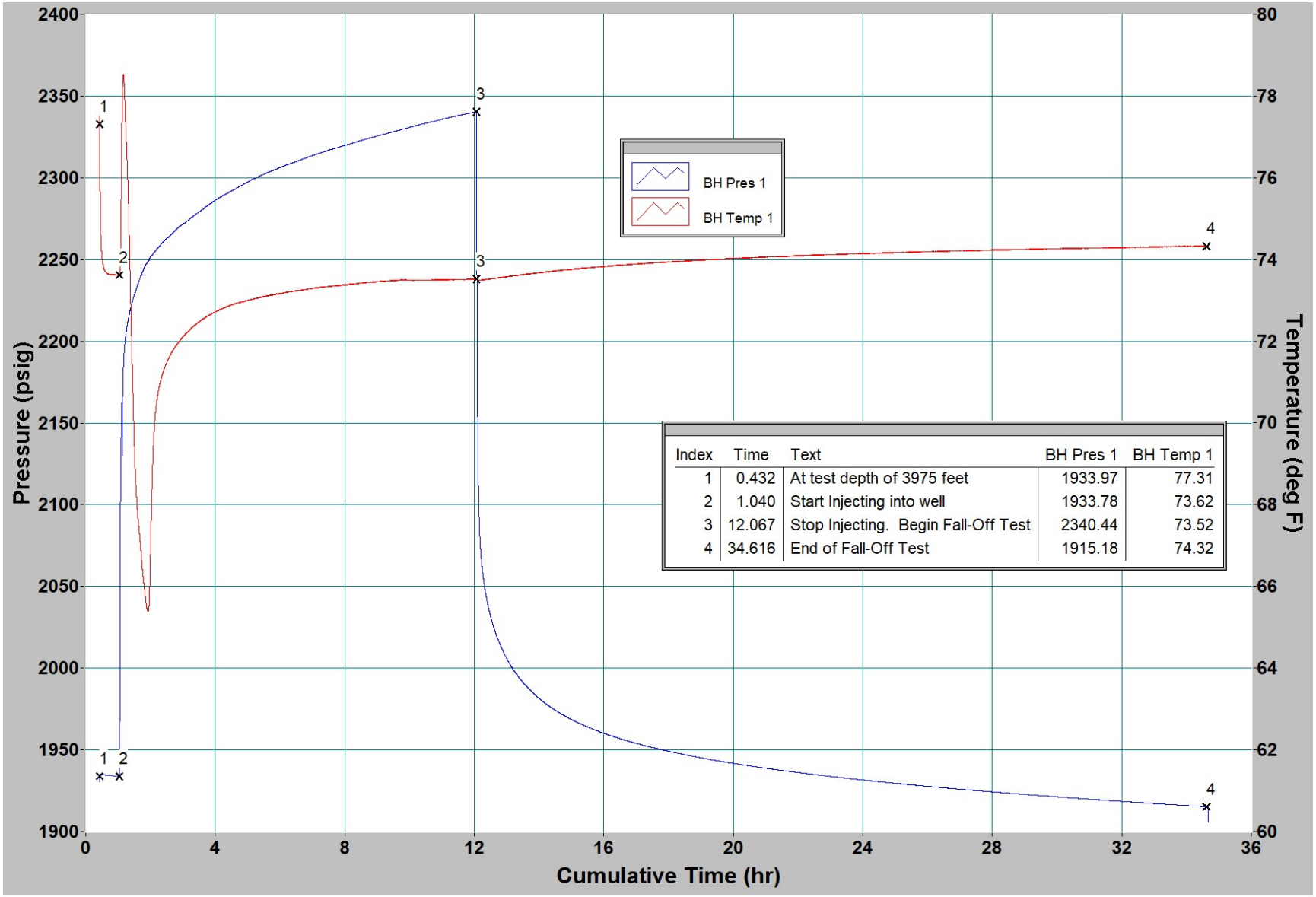


P.O.O.H. Temperature Gradients



Company Name	Republic Services
Well Name	EGT No2-12
Type of Test	Injection/Fall-Off
Date(s) of Test	September 06, 2023 thru September 07, 2023

Fall-Off Test



Index	Time	Text	BH Pres 1	BH Temp 1
1	0.432	At test depth of 3975 feet	1933.97	77.31
2	1.040	Start Injecting into well	1933.78	73.62
3	12.067	Stop Injecting. Begin Fall-Off Test	2340.44	73.52
4	34.616	End of Fall-Off Test	1915.18	74.32

Company Name Republic Services
Well Name EGT No2-12
Type of Test Injection/Fall-Off
Date(s) of Test September 06, 2023 thru September 07, 2023

Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
Gauges on surface				
2023/09/06	07:44:01	0.0000	1.083	74.255
2023/09/06	07:50:25	0.1067	1.057	74.624
2023/09/06	07:56:25	0.2067	1.036	74.284
Gauges in lubricator				
2023/09/06	07:56:28	0.2075	1.033	74.282
R.I.H. with gauges				
2023/09/06	07:58:31	0.2417	201.248	72.468
2023/09/06	08:02:25	0.3067	750.339	61.169
2023/09/06	08:08:25	0.4067	1693.095	75.065
At test depth of 3975 feet				
2023/09/06	08:09:55	0.4317	1933.970	77.311
2023/09/06	08:14:25	0.5067	1934.854	74.014
2023/09/06	08:20:25	0.6067	1934.650	73.704
2023/09/06	08:26:25	0.7067	1934.443	73.643
2023/09/06	08:32:25	0.8067	1934.249	73.629
2023/09/06	08:38:25	0.9067	1934.045	73.623
2023/09/06	08:44:25	1.0067	1933.847	73.620
Start Injecting into well				
2023/09/06	08:46:25	1.0400	1933.783	73.621
2023/09/06	08:50:25	1.1067	2156.455	76.618
2023/09/06	08:56:25	1.2067	2198.224	77.913
2023/09/06	09:02:25	1.3067	2212.761	75.726
2023/09/06	09:08:25	1.4067	2222.084	72.225
2023/09/06	09:14:25	1.5067	2228.955	69.244
2023/09/06	09:20:25	1.6067	2234.620	67.723
2023/09/06	09:26:25	1.7067	2240.108	66.846
2023/09/06	09:32:25	1.8067	2245.154	65.984
2023/09/06	09:38:25	1.9067	2248.430	65.413
2023/09/06	09:44:25	2.0067	2251.877	67.156
2023/09/06	09:50:25	2.1067	2254.277	69.755
2023/09/06	09:56:25	2.2067	2256.613	70.615
2023/09/06	10:02:25	2.3067	2258.922	71.022
2023/09/06	10:08:25	2.4067	2261.025	71.283
2023/09/06	10:14:25	2.5067	2262.878	71.490
2023/09/06	10:20:25	2.6067	2264.660	71.652
2023/09/06	10:26:25	2.7067	2266.580	71.787
2023/09/06	10:32:25	2.8067	2268.585	71.911
2023/09/06	10:38:25	2.9067	2270.386	72.021
2023/09/06	10:44:25	3.0067	2271.566	72.113
2023/09/06	10:50:25	3.1067	2273.103	72.198
2023/09/06	10:56:25	3.2067	2274.663	72.273
2023/09/06	11:02:25	3.3067	2276.305	72.351
2023/09/06	11:08:25	3.4067	2277.805	72.414
2023/09/06	11:14:25	3.5067	2279.216	72.482
2023/09/06	11:20:25	3.6067	2280.669	72.536
2023/09/06	11:26:25	3.7067	2282.231	72.592
2023/09/06	11:32:25	3.8067	2283.661	72.633
2023/09/06	11:38:25	3.9067	2284.978	72.678
2023/09/06	11:44:25	4.0067	2286.321	72.720
2023/09/06	11:50:25	4.1067	2287.538	72.754
2023/09/06	11:56:25	4.2067	2288.782	72.793
2023/09/06	12:02:25	4.3067	2289.819	72.822
2023/09/06	12:08:25	4.4067	2290.927	72.860
2023/09/06	12:14:25	4.5067	2291.981	72.892
2023/09/06	12:20:25	4.6067	2293.131	72.921
2023/09/06	12:26:25	4.7067	2294.166	72.937
2023/09/06	12:32:25	4.8067	2295.235	72.963
2023/09/06	12:38:25	4.9067	2296.368	72.975
2023/09/06	12:44:25	5.0067	2297.507	72.995
2023/09/06	12:50:25	5.1067	2298.531	73.017
2023/09/06	12:56:25	5.2067	2299.549	73.042
2023/09/06	13:02:25	5.3067	2300.454	73.056
2023/09/06	13:08:25	5.4067	2301.347	73.078
2023/09/06	13:14:25	5.5067	2302.272	73.089
2023/09/06	13:20:25	5.6067	2303.158	73.112
2023/09/06	13:26:25	5.7067	2303.970	73.125
2023/09/06	13:32:25	5.8067	2304.765	73.141
2023/09/06	13:38:25	5.9067	2305.521	73.155
2023/09/06	13:44:25	6.0067	2306.357	73.166
2023/09/06	13:50:25	6.1067	2307.130	73.186
2023/09/06	13:56:25	6.2067	2307.840	73.193
2023/09/06	14:02:25	6.3067	2308.590	73.215
2023/09/06	14:08:25	6.4067	2309.316	73.227
2023/09/06	14:14:25	6.5067	2310.025	73.236
2023/09/06	14:20:25	6.6067	2310.721	73.245
2023/09/06	14:26:25	6.7067	2311.497	73.261
2023/09/06	14:32:25	6.8067	2312.225	73.263
2023/09/06	14:38:25	6.9067	2312.958	73.281
2023/09/06	14:44:25	7.0067	2313.641	73.292
2023/09/06	14:50:25	7.1067	2314.360	73.306
2023/09/06	14:56:25	7.2067	2314.966	73.315
2023/09/06	15:02:25	7.3067	2315.583	73.321
2023/09/06	15:08:25	7.4067	2316.198	73.333
2023/09/06	15:14:25	7.5067	2316.871	73.337
2023/09/06	15:20:25	7.6067	2317.447	73.344
2023/09/06	15:26:25	7.7067	2318.073	73.359
2023/09/06	15:32:25	7.8067	2318.611	73.360
2023/09/06	15:38:25	7.9067	2319.261	73.368
2023/09/06	15:44:25	8.0067	2319.890	73.380
2023/09/06	15:50:25	8.1067	2320.429	73.384
2023/09/06	15:56:25	8.2067	2321.023	73.396
2023/09/06	16:02:25	8.3067	2321.660	73.405
2023/09/06	16:08:25	8.4067	2322.290	73.414
2023/09/06	16:14:25	8.5067	2322.819	73.418
2023/09/06	16:20:25	8.6067	2323.417	73.431
2023/09/06	16:26:25	8.7067	2323.988	73.443
2023/09/06	16:32:25	8.8067	2324.561	73.441
2023/09/06	16:38:25	8.9067	2325.051	73.450
2023/09/06	16:44:25	9.0067	2325.580	73.461

Company Name Republic Services
Well Name EGT No2-12
Type of Test Injection/Fall-Off
Date(s) of Test September 06, 2023 thru September 07, 2023

Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2023/09/06	16:50:25	9.1067	2326.109	73.463
2023/09/06	16:56:25	9.2067	2326.638	73.468
2023/09/06	17:02:25	9.3067	2327.206	73.472
2023/09/06	17:08:25	9.4067	2327.694	73.483
2023/09/06	17:14:25	9.5067	2328.175	73.479
2023/09/06	17:20:25	9.6067	2328.710	73.494
2023/09/06	17:26:25	9.7067	2329.217	73.494
2023/09/06	17:32:25	9.8067	2329.776	73.497
2023/09/06	17:38:25	9.9067	2330.377	73.495
2023/09/06	17:44:25	10.0067	2330.899	73.497
2023/09/06	17:50:25	10.1067	2331.412	73.494
2023/09/06	17:56:25	10.2067	2331.925	73.497
2023/09/06	18:02:25	10.3067	2332.462	73.497
2023/09/06	18:08:25	10.4067	2333.014	73.494
2023/09/06	18:14:25	10.5067	2333.379	73.494
2023/09/06	18:20:25	10.6067	2333.897	73.501
2023/09/06	18:26:25	10.7067	2334.341	73.494
2023/09/06	18:32:25	10.8067	2334.757	73.499
2023/09/06	18:38:25	10.9067	2335.339	73.508
2023/09/06	18:44:25	11.0067	2335.866	73.508
2023/09/06	18:50:25	11.1067	2336.280	73.504
2023/09/06	18:56:25	11.2067	2336.742	73.508
2023/09/06	19:02:25	11.3067	2337.217	73.510
2023/09/06	19:08:25	11.4067	2337.623	73.510
2023/09/06	19:14:25	11.5067	2338.054	73.513
2023/09/06	19:20:25	11.6067	2338.503	73.519
2023/09/06	19:26:25	11.7067	2338.932	73.512
2023/09/06	19:32:25	11.8067	2339.353	73.522
2023/09/06	19:38:25	11.9067	2339.794	73.519
2023/09/06	19:44:25	12.0067	2340.190	73.522
Stop Injecting. Begin Fall-Off Test				
2023/09/06	19:48:01	12.0667	2340.445	73.524
2023/09/06	19:50:25	12.1067	2140.620	73.501
2023/09/06	19:56:25	12.2067	2069.073	73.495
2023/09/06	20:02:25	12.3067	2051.068	73.510
2023/09/06	20:08:25	12.4067	2039.860	73.512
2023/09/06	20:14:25	12.5067	2031.412	73.528
2023/09/06	20:20:25	12.6067	2024.599	73.533
2023/09/06	20:26:25	12.7067	2018.879	73.553
2023/09/06	20:32:25	12.8067	2013.849	73.560
2023/09/06	20:38:25	12.9067	2009.519	73.571
2023/09/06	20:44:25	13.0067	2005.613	73.578
2023/09/06	20:50:25	13.1067	2002.209	73.591
2023/09/06	20:56:25	13.2067	1999.026	73.600
2023/09/06	21:02:25	13.3067	1996.145	73.616
2023/09/06	21:08:25	13.4067	1993.570	73.621
2023/09/06	21:14:25	13.5067	1991.155	73.629
2023/09/06	21:20:25	13.6067	1988.955	73.647
2023/09/06	21:26:25	13.7067	1986.846	73.652
2023/09/06	21:32:25	13.8067	1984.904	73.659

Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2023/09/06	21:38:25	13.9067	1983.082	73.666
2023/09/06	21:44:25	14.0067	1981.394	73.672
2023/09/06	21:50:25	14.1067	1979.819	73.684
2023/09/06	21:56:25	14.2067	1978.285	73.690
2023/09/06	22:02:25	14.3067	1976.832	73.702
2023/09/06	22:08:25	14.4067	1975.459	73.708
2023/09/06	22:14:25	14.5067	1974.158	73.720
2023/09/06	22:20:25	14.6067	1972.952	73.731
2023/09/06	22:26:25	14.7067	1971.734	73.738
2023/09/06	22:32:25	14.8067	1970.646	73.742
2023/09/06	22:38:25	14.9067	1969.525	73.749
2023/09/06	22:44:25	15.0067	1968.546	73.758
2023/09/06	22:50:25	15.1067	1967.583	73.771
2023/09/06	22:56:25	15.2067	1966.611	73.776
2023/09/06	23:02:25	15.3067	1965.721	73.791
2023/09/06	23:08:25	15.4067	1964.830	73.787
2023/09/06	23:14:25	15.5067	1963.968	73.791
2023/09/06	23:20:25	15.6067	1963.105	73.805
2023/09/06	23:26:25	15.7067	1962.363	73.810
2023/09/06	23:32:25	15.8067	1961.584	73.821
2023/09/06	23:38:25	15.9067	1960.830	73.819
2023/09/06	23:44:25	16.0067	1960.109	73.828
2023/09/06	23:50:25	16.1067	1959.423	73.834
2023/09/06	23:56:25	16.2067	1958.749	73.845
2023/09/07	00:02:25	16.3067	1958.105	73.846
2023/09/07	00:08:25	16.4067	1957.439	73.855
2023/09/07	00:14:25	16.5067	1956.805	73.855
2023/09/07	00:20:25	16.6067	1956.221	73.868
2023/09/07	00:26:25	16.7067	1955.662	73.875
2023/09/07	00:32:25	16.8067	1955.059	73.875
2023/09/07	00:38:25	16.9067	1954.474	73.882
2023/09/07	00:44:25	17.0067	1953.970	73.890
2023/09/07	00:50:25	17.1067	1953.417	73.893
2023/09/07	00:56:25	17.2067	1952.911	73.906
2023/09/07	01:02:25	17.3067	1952.404	73.908
2023/09/07	01:08:25	17.4067	1951.867	73.911
2023/09/07	01:14:25	17.5067	1951.403	73.911
2023/09/07	01:20:25	17.6067	1950.949	73.924
2023/09/07	01:26:25	17.7067	1950.458	73.926
2023/09/07	01:32:25	17.8067	1950.029	73.933
2023/09/07	01:38:25	17.9067	1949.551	73.938
2023/09/07	01:44:25	18.0067	1949.110	73.942
2023/09/07	01:50:25	18.1067	1948.683	73.944
2023/09/07	01:56:25	18.2067	1948.252	73.951
2023/09/07	02:02:25	18.3067	1947.821	73.956
2023/09/07	02:08:25	18.4067	1947.417	73.960
2023/09/07	02:14:25	18.5067	1947.046	73.963
2023/09/07	02:20:25	18.6067	1946.649	73.969
2023/09/07	02:26:25	18.7067	1946.258	73.974
2023/09/07	02:32:25	18.8067	1945.874	73.976

Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2023/09/07	02:38:25	18.9067	1945.498	73.980
2023/09/07	02:44:25	19.0067	1945.141	73.989
2023/09/07	02:50:25	19.1067	1944.777	73.990
2023/09/07	02:56:25	19.2067	1944.423	73.994
2023/09/07	03:02:25	19.3067	1944.064	74.001
2023/09/07	03:08:25	19.4067	1943.723	74.008
2023/09/07	03:14:25	19.5067	1943.358	74.005
2023/09/07	03:20:25	19.6067	1943.018	74.010
2023/09/07	03:26:25	19.7067	1942.716	74.019
2023/09/07	03:32:25	19.8067	1942.376	74.017
2023/09/07	03:38:25	19.9067	1942.055	74.023
2023/09/07	03:44:25	20.0067	1941.729	74.028
2023/09/07	03:50:25	20.1067	1941.414	74.025
2023/09/07	03:56:25	20.2067	1941.113	74.032
2023/09/07	04:02:25	20.3067	1940.806	74.037
2023/09/07	04:08:25	20.4067	1940.506	74.043
2023/09/07	04:14:25	20.5067	1940.232	74.050
2023/09/07	04:20:25	20.6067	1939.918	74.048
2023/09/07	04:26:25	20.7067	1939.617	74.053
2023/09/07	04:32:25	20.8067	1939.340	74.052
2023/09/07	04:38:25	20.9067	1939.051	74.059
2023/09/07	04:44:25	21.0067	1938.773	74.062
2023/09/07	04:50:25	21.1067	1938.501	74.064
2023/09/07	04:56:25	21.2067	1938.221	74.066
2023/09/07	05:02:25	21.3067	1937.953	74.071
2023/09/07	05:08:25	21.4067	1937.681	74.073
2023/09/07	05:14:25	21.5067	1937.421	74.079
2023/09/07	05:20:25	21.6067	1937.162	74.079
2023/09/07	05:26:25	21.7067	1936.890	74.077
2023/09/07	05:32:25	21.8067	1936.649	74.086
2023/09/07	05:38:25	21.9067	1936.374	74.086
2023/09/07	05:44:25	22.0067	1936.121	74.088
2023/09/07	05:50:25	22.1067	1935.887	74.095
2023/09/07	05:56:25	22.2067	1935.635	74.095
2023/09/07	06:02:25	22.3067	1935.389	74.098
2023/09/07	06:08:25	22.4067	1935.156	74.104
2023/09/07	06:14:25	22.5067	1934.918	74.106
2023/09/07	06:20:25	22.6067	1934.657	74.102
2023/09/07	06:26:25	22.7067	1934.434	74.109
2023/09/07	06:32:25	22.8067	1934.204	74.113
2023/09/07	06:38:25	22.9067	1933.981	74.118
2023/09/07	06:44:25	23.0067	1933.746	74.116
2023/09/07	06:50:25	23.1067	1933.510	74.116
2023/09/07	06:56:25	23.2067	1933.302	74.122
2023/09/07	07:02:25	23.3067	1933.069	74.129
2023/09/07	07:08:25	23.4067	1932.854	74.129
2023/09/07	07:14:25	23.5067	1932.634	74.131
2023/09/07	07:20:25	23.6067	1932.417	74.134
2023/09/07	07:26:25	23.7067	1932.208	74.142
2023/09/07	07:32:25	23.8067	1931.996	74.142

Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2023/09/07	07:38:25	23.9067	1931.772	74.142
2023/09/07	07:44:25	24.0067	1931.559	74.142
2023/09/07	07:50:25	24.1067	1931.365	74.149
2023/09/07	07:56:25	24.2067	1931.160	74.149
2023/09/07	08:02:25	24.3067	1930.950	74.151
2023/09/07	08:08:25	24.4067	1930.733	74.152
2023/09/07	08:14:25	24.5067	1930.547	74.156
2023/09/07	08:20:25	24.6067	1930.343	74.158
2023/09/07	08:26:25	24.7067	1930.135	74.156
2023/09/07	08:32:25	24.8067	1929.937	74.160
2023/09/07	08:38:25	24.9067	1929.762	74.170
2023/09/07	08:44:25	25.0067	1929.555	74.170
2023/09/07	08:50:25	25.1067	1929.362	74.172
2023/09/07	08:56:25	25.2067	1929.175	74.174
2023/09/07	09:02:25	25.3067	1928.991	74.179
2023/09/07	09:08:25	25.4067	1928.789	74.178
2023/09/07	09:14:25	25.5067	1928.595	74.181
2023/09/07	09:20:25	25.6067	1928.412	74.178
2023/09/07	09:26:25	25.7067	1928.241	74.188
2023/09/07	09:32:25	25.8067	1928.046	74.185
2023/09/07	09:38:25	25.9067	1927.866	74.190
2023/09/07	09:44:25	26.0067	1927.684	74.194
2023/09/07	09:50:25	26.1067	1927.515	74.196
2023/09/07	09:56:25	26.2067	1927.330	74.194
2023/09/07	10:02:25	26.3067	1927.152	74.197
2023/09/07	10:08:25	26.4067	1926.990	74.201
2023/09/07	10:14:25	26.5067	1926.792	74.201
2023/09/07	10:20:25	26.6067	1926.621	74.201
2023/09/07	10:26:25	26.7067	1926.454	74.205
2023/09/07	10:32:25	26.8067	1926.292	74.214
2023/09/07	10:38:25	26.9067	1926.109	74.208
2023/09/07	10:44:25	27.0067	1925.943	74.214
2023/09/07	10:50:25	27.1067	1925.755	74.214
2023/09/07	10:56:25	27.2067	1925.599	74.212
2023/09/07	11:02:25	27.3067	1925.443	74.221
2023/09/07	11:08:25	27.4067	1925.272	74.221
2023/09/07	11:14:25	27.5067	1925.109	74.224
2023/09/07	11:20:25	27.6067	1924.943	74.224
2023/09/07	11:26:25	27.7067	1924.776	74.224
2023/09/07	11:32:25	27.8067	1924.605	74.226
2023/09/07	11:38:25	27.9067	1924.457	74.230
2023/09/07	11:44:25	28.0067	1924.301	74.233
2023/09/07	11:50:25	28.1067	1924.121	74.230
2023/09/07	11:56:25	28.2067	1923.978	74.233
2023/09/07	12:02:25	28.3067	1923.813	74.232
2023/09/07	12:08:25	28.4067	1923.685	74.241
2023/09/07	12:14:25	28.5067	1923.497	74.237
2023/09/07	12:20:25	28.6067	1923.339	74.239
2023/09/07	12:26:25	28.7067	1923.204	74.244
2023/09/07	12:32:25	28.8067	1923.044	74.250

Company Name Republic Services
Well Name EGT No2-12
Type of Test Injection/Fall-Off
Date(s) of Test September 06, 2023 thru September 07, 2023

Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2023/09/07	12:38:25	28.9067	1922.892	74.246
2023/09/07	12:44:25	29.0067	1922.743	74.248
2023/09/07	12:50:25	29.1067	1922.586	74.253
2023/09/07	12:56:25	29.2067	1922.434	74.251
2023/09/07	13:02:25	29.3067	1922.289	74.251
2023/09/07	13:08:25	29.4067	1922.128	74.251
2023/09/07	13:14:25	29.5067	1921.993	74.259
2023/09/07	13:20:25	29.6067	1921.842	74.260
2023/09/07	13:26:25	29.7067	1921.689	74.257
2023/09/07	13:32:25	29.8067	1921.555	74.264
2023/09/07	13:38:25	29.9067	1921.396	74.260
2023/09/07	13:44:25	30.0067	1921.265	74.269
2023/09/07	13:50:25	30.1067	1921.116	74.269
2023/09/07	13:56:25	30.2067	1920.964	74.266
2023/09/07	14:02:25	30.3067	1920.819	74.266
2023/09/07	14:08:25	30.4067	1920.684	74.271
2023/09/07	14:14:25	30.5067	1920.538	74.269
2023/09/07	14:20:25	30.6067	1920.394	74.273
2023/09/07	14:26:25	30.7067	1920.262	74.275
2023/09/07	14:32:25	30.8067	1920.120	74.278
2023/09/07	14:38:25	30.9067	1919.990	74.280
2023/09/07	14:44:25	31.0067	1919.845	74.284
2023/09/07	14:50:25	31.1067	1919.712	74.284
2023/09/07	14:56:25	31.2067	1919.563	74.278
2023/09/07	15:02:25	31.3067	1919.428	74.282
2023/09/07	15:08:25	31.4067	1919.299	74.287
2023/09/07	15:14:25	31.5067	1919.153	74.289
2023/09/07	15:20:25	31.6067	1919.020	74.286
2023/09/07	15:26:25	31.7067	1918.876	74.287
2023/09/07	15:32:25	31.8067	1918.742	74.287
2023/09/07	15:38:25	31.9067	1918.623	74.291
2023/09/07	15:44:25	32.0067	1918.485	74.296
2023/09/07	15:50:25	32.1067	1918.344	74.293
2023/09/07	15:56:25	32.2067	1918.210	74.293
2023/09/07	16:02:25	32.3067	1918.089	74.298
2023/09/07	16:08:25	32.4067	1917.957	74.296
2023/09/07	16:14:25	32.5067	1917.814	74.296
2023/09/07	16:20:25	32.6067	1917.710	74.304
2023/09/07	16:26:25	32.7067	1917.542	74.296
2023/09/07	16:32:25	32.8067	1917.441	74.302
2023/09/07	16:38:25	32.9067	1917.310	74.305
2023/09/07	16:44:25	33.0067	1917.174	74.304
2023/09/07	16:50:25	33.1067	1917.062	74.311
2023/09/07	16:56:25	33.2067	1916.923	74.313
2023/09/07	17:02:25	33.3067	1916.804	74.313
2023/09/07	17:08:25	33.4067	1916.669	74.313
2023/09/07	17:14:25	33.5067	1916.548	74.314
2023/09/07	17:20:25	33.6067	1916.425	74.316
2023/09/07	17:26:25	33.7067	1916.302	74.320
2023/09/07	17:32:25	33.8067	1916.167	74.316
2023/09/07	17:38:25	33.9067	1916.052	74.320
2023/09/07	17:44:25	34.0067	1915.933	74.327
2023/09/07	17:50:25	34.1067	1915.805	74.322
2023/09/07	17:56:25	34.2067	1915.691	74.323
2023/09/07	18:02:25	34.3067	1915.565	74.325
2023/09/07	18:08:25	34.4067	1915.448	74.325
2023/09/07	18:14:25	34.5067	1915.317	74.325
2023/09/07	18:20:25	34.6067	1915.203	74.329
POOH Gradient: 3975.000 ft				
2023/09/07	18:20:55	34.6150	1915.180	74.323
End of Fall-Off Test				
2023/09/07	18:20:58	34.6158	1915.180	74.323
Prepare to P.O.O.H. with gauges				
2023/09/07	18:21:01	34.6167	1915.188	74.329
P.O.O.H. making gradient stops				
2023/09/07	18:23:40	34.6608	1915.347	74.304
2023/09/07	18:26:25	34.7067	1520.104	76.377
Stop at 3000 feet				
2023/09/07	18:26:55	34.7150	1488.696	75.348
POOH Gradient: 3000.000 ft				
2023/09/07	18:31:52	34.7975	1488.700	74.322
2023/09/07	18:32:25	34.8067	1458.949	74.250
Stop at 2000 feet				
2023/09/07	18:35:19	34.8550	1051.187	64.962
2023/09/07	18:38:25	34.9067	1050.991	63.750
POOH Gradient: 2000.000 ft				
2023/09/07	18:40:16	34.9375	1050.950	63.628
Stop at 1000 feet				
2023/09/07	18:43:31	34.9917	613.633	60.602
2023/09/07	18:44:25	35.0067	613.771	60.168
POOH Gradient: 1000.000 ft				
2023/09/07	18:48:28	35.0742	613.761	59.920
2023/09/07	18:50:25	35.1067	400.363	59.243
Stop in lubricator				
2023/09/07	18:52:43	35.1450	180.328	64.567
2023/09/07	18:56:25	35.2067	180.450	73.213
POOH Gradient: 0.000 ft				
2023/09/07	18:57:43	35.2283	180.437	73.839
2023/09/07	19:02:25	35.3067	1.101	75.650
2023/09/07	19:08:25	35.4067	1.124	75.414
2023/09/07	19:14:25	35.5067	1.174	75.123
2023/09/07	19:20:25	35.6067	1.179	75.096
2023/09/07	19:26:25	35.7067	1.154	74.822
2023/09/07	19:32:25	35.8067	1.118	74.457
2023/09/07	19:38:25	35.9067	1.141	74.084
2023/09/07	19:44:25	36.0067	1.136	73.738
2023/09/07	19:50:25	36.1067	1.108	73.409

APPENDIX J

EPA PRESSURE FALLOFF TEST FORM

BACKGROUND INFORMATION FOR ANALYSIS OF PRESSURE FALL-OFF TEST

FACILITY NAME		OPERATOR	
Republic Industrial and Energy Solutions, LLC		Republic Industrial and Energy Solutions, LLC	
WELL NAME		USEPA PERMIT NUMBER	STATE PERMIT NUMBER
#2-12		MI-163-1W-C0011	M-453
TEST START DATE	TEST END DATE	Depth Reference:	
September 6, 2023	September 7, 2023	Kelly Bushing ☐ ☑	Ground Level ☐ ☑

GEOLOGICAL DATA

POROSITY, decimal	NET PERMEABLE THICKNESS, ft.	VISCOSITY, cp.	COMPRESSIBILITY, per psi
0.11	133	1.34	6.20E-006

WELL AND OPERATION DATA

LONGSTRING CASING DIAMETER, ins	FINAL PRETEST FLOW RATE, gpm	INJECTATE TEMPERATURE, deg.F	KB ELEVATION, ft
7	49	74	626.6
OPEN HOLE DIAMTER, ins	PRETEST FLOW TIME, hrs. **SEE BELOW**	SPECIFIC GRAVITY OF TEST FLUID	TEST DEPTH FOR COMPARISON, ft
8.75	11	1	
GAUGE DEPTH, ft		CUMULATIVE VOLUME INJECTED SINCE LAST PRESSURE EQUALIZATION,	
3975		08/19/22 - 09/06/23 10,223,995	

TEST DATA

GAUGE CALIBRATION DATE			
October 26,2022			
FLOW RATE, gpm	PRESSURE AT BEGINNING OF FALL-OFF, p	PRESSURE AT END OF FALL-OFF, ps	TO SUPPORT FULL COLUMN, psi
49	2340.44	1915.16	
TEST LENGTH, hrs.	INITIAL GRADIENT, psi/ft.	FINAL GRADIENT, psi/ft.	FINAL FLUID LEVEL, ft.
22.6		0.437	0

REMEMBER

"Pre-test flow time" is the time since the reservoir was last in equilibrium. This may be the time since the well was last shut-in but only if the well was shut-in long enough for the pressure in the reservoir to approach equilibrium pressure.

1. Please fill in the above cells.
2. Injection of normal injectate at normal rate is preferred.
3. Submit an up-to-date well schematic.
4. The well should be shut-in as quickly as possible.
5. Data should be collected at the maximum rate for at least the first five minutes; between five and thirty minutes at no less than one reading every 30 seconds. After thirty minutes, the operator can reduce frequency as required.
6. The pressure gauge should have been calibrated no more than a year prior to the test. Submit a copy of the calibration certificate for the gauge used for pressure measurements with your report.
7. The report on the test must explain any anomalies shown in the results.
8. Submit digital logging data on a CD in .las or .asc format.

APPENDIX K

STATIC PRESSURE GRADIENT SURVEY (ABRIDGED)

Static Pressure Gradient Survey Data

Well Name: Well 2-12
Operating Company: Republic Industrial and Energy Solutions, LLC
Well Location: Romulus, MI
Wireline Company: J.O. Well Service & Testing, Inc.
Downhole Data Recorder: MRO 2 Serial No. 91908

Job Number: 192128AP
WSP Rep.: Jeffry Tahtouh
Data Start: 9/7/23 18:18:10
Data End: 9/7/23 18:58:55
Data Interval (secs): 15

Date/Time	Pressure, psig	Temperature, °F	Date/Time	Pressure, psig	Temperature, °F	Date/Time	Pressure, psig	Temperature, °F
9/7/23 18:18:10	1915.226	74.322	9/7/23 18:34:25	1156.250	67.798	9/7/23 18:50:40	365.096	58.974
9/7/23 18:18:25	1915.235	74.326	9/7/23 18:34:40	1115.833	66.851	9/7/23 18:50:55	329.480	58.764
9/7/23 18:18:40	1915.238	74.330	9/7/23 18:34:55	1075.410	65.956	9/7/23 18:51:10	293.368	58.815
9/7/23 18:18:55	1915.216	74.323	9/7/23 18:35:10	1054.438	65.280	9/7/23 18:51:25	257.277	59.000
9/7/23 18:19:10	1915.232	74.330	9/7/23 18:35:25	1051.150	64.791	9/7/23 18:51:40	227.082	59.358
9/7/23 18:19:25	1915.225	74.329	9/7/23 18:35:40	1051.205	64.493	9/7/23 18:51:55	204.432	60.159
9/7/23 18:19:40	1915.207	74.324	9/7/23 18:35:55	1051.148	64.303	9/7/23 18:52:10	189.703	60.982
9/7/23 18:19:55	1915.213	74.327	9/7/23 18:36:10	1051.101	64.171	9/7/23 18:52:25	183.678	62.005
9/7/23 18:20:10	1915.204	74.326	9/7/23 18:36:25	1051.099	64.079	9/7/23 18:52:40	180.309	64.057
9/7/23 18:20:25	1915.203	74.328	9/7/23 18:36:40	1051.077	64.009	9/7/23 18:52:55	180.397	66.433
9/7/23 18:20:40	1915.197	74.327	9/7/23 18:36:55	1051.034	63.948	9/7/23 18:53:10	180.487	68.062
9/7/23 18:20:55	1915.180	74.323	9/7/23 18:37:10	1051.059	63.901	9/7/23 18:53:25	180.498	69.346
9/7/23 18:21:10	1915.178	74.324	9/7/23 18:37:25	1051.033	63.865	9/7/23 18:53:40	180.561	70.129
9/7/23 18:21:25	1915.174	74.325	9/7/23 18:37:40	1051.002	63.826	9/7/23 18:53:55	180.545	70.661
9/7/23 18:21:40	1915.164	74.324	9/7/23 18:37:55	1051.040	63.802	9/7/23 18:54:10	180.552	71.083
9/7/23 18:21:55	1915.178	74.330	9/7/23 18:38:10	1051.015	63.776	9/7/23 18:54:25	180.506	71.447
9/7/23 18:22:10	1915.150	74.323	9/7/23 18:38:25	1050.991	63.751	9/7/23 18:54:40	180.486	71.760
9/7/23 18:22:25	1915.328	74.327	9/7/23 18:38:40	1050.983	63.731	9/7/23 18:54:55	180.507	72.043
9/7/23 18:22:40	1915.355	74.321	9/7/23 18:38:55	1050.980	63.712	9/7/23 18:55:10	180.478	72.296
9/7/23 18:22:55	1915.335	74.312	9/7/23 18:39:10	1050.974	63.697	9/7/23 18:55:25	180.480	72.518
9/7/23 18:23:10	1915.348	74.312	9/7/23 18:39:25	1050.973	63.681	9/7/23 18:55:40	180.483	72.715
9/7/23 18:23:25	1915.344	74.307	9/7/23 18:39:40	1050.960	63.660	9/7/23 18:55:55	180.460	72.899
9/7/23 18:23:40	1915.347	74.304	9/7/23 18:39:55	1050.958	63.649	9/7/23 18:56:10	180.468	73.067
9/7/23 18:23:55	1901.855	74.362	9/7/23 18:40:10	1050.957	63.639	9/7/23 18:56:25	180.450	73.212
9/7/23 18:24:10	1875.073	75.383	9/7/23 18:40:25	1050.953	63.623	9/7/23 18:56:40	180.456	73.356
9/7/23 18:24:25	1842.289	76.839	9/7/23 18:40:40	1046.803	63.612	9/7/23 18:56:55	180.459	73.483
9/7/23 18:24:40	1803.365	77.791	9/7/23 18:40:55	1008.816	63.544	9/7/23 18:57:10	180.451	73.613
9/7/23 18:24:55	1763.215	78.263	9/7/23 18:41:10	968.817	63.478	9/7/23 18:57:25	180.437	73.722
9/7/23 18:25:10	1723.259	78.344	9/7/23 18:41:25	928.701	63.282	9/7/23 18:57:40	180.438	73.822
9/7/23 18:25:25	1683.236	78.164	9/7/23 18:41:40	888.469	62.965	9/7/23 18:57:55	180.454	73.933
9/7/23 18:25:40	1642.659	77.818	9/7/23 18:41:55	847.019	62.682	9/7/23 18:58:10	180.474	74.079
9/7/23 18:25:55	1601.765	77.338	9/7/23 18:42:10	804.984	62.443	9/7/23 18:58:25	180.487	74.233
9/7/23 18:26:10	1560.842	76.871	9/7/23 18:42:25	763.040	62.320	9/7/23 18:58:40	180.493	74.358
9/7/23 18:26:25	1520.104	76.378	9/7/23 18:42:40	720.567	61.930	9/7/23 18:58:55	187.984	74.466
9/7/23 18:26:40	1486.785	75.838	9/7/23 18:42:55	677.284	61.601			
9/7/23 18:26:55	1488.696	75.348	9/7/23 18:43:10	633.070	61.128			
9/7/23 18:27:10	1488.884	75.044	9/7/23 18:43:25	614.912	60.728			
9/7/23 18:27:25	1488.822	74.874	9/7/23 18:43:40	613.691	60.465			
9/7/23 18:27:40	1488.847	74.765	9/7/23 18:43:55	613.709	60.320			
9/7/23 18:27:55	1488.799	74.681	9/7/23 18:44:10	613.762	60.231			
9/7/23 18:28:10	1488.779	74.624	9/7/23 18:44:25	613.771	60.167			
9/7/23 18:28:25	1488.820	74.582	9/7/23 18:44:40	613.756	60.121			
9/7/23 18:28:40	1488.795	74.544	9/7/23 18:44:55	613.778	60.082			
9/7/23 18:28:55	1488.747	74.508	9/7/23 18:45:10	613.776	60.062			
9/7/23 18:29:10	1488.733	74.490	9/7/23 18:45:25	613.770	60.034			
9/7/23 18:29:25	1488.708	74.465	9/7/23 18:45:40	613.767	60.020			
9/7/23 18:29:40	1488.735	74.447	9/7/23 18:45:55	613.764	60.005			
9/7/23 18:29:55	1488.743	74.426	9/7/23 18:46:10	613.763	59.991			
9/7/23 18:30:10	1488.733	74.407	9/7/23 18:46:25	613.767	59.983			
9/7/23 18:30:25	1488.709	74.386	9/7/23 18:46:40	613.766	59.968			
9/7/23 18:30:40	1488.701	74.375	9/7/23 18:46:55	613.766	59.963			
9/7/23 18:30:55	1488.724	74.365	9/7/23 18:47:10	613.762	59.953			
9/7/23 18:31:10	1488.710	74.353	9/7/23 18:47:25	613.770	59.947			
9/7/23 18:31:25	1488.694	74.336	9/7/23 18:47:40	613.768	59.934			
9/7/23 18:31:40	1488.699	74.327	9/7/23 18:47:55	613.768	59.931			
9/7/23 18:31:55	1488.697	74.318	9/7/23 18:48:10	613.759	59.930			
9/7/23 18:32:10	1485.911	74.312	9/7/23 18:48:25	613.760	59.913			
9/7/23 18:32:25	1458.949	74.250	9/7/23 18:48:40	613.759	59.911			
9/7/23 18:32:40	1424.233	73.900	9/7/23 18:48:55	597.215	59.903			
9/7/23 18:32:55	1387.020	73.230	9/7/23 18:49:10	566.972	59.819			
9/7/23 18:33:10	1349.628	72.375	9/7/23 18:49:25	534.442	59.909			
9/7/23 18:33:25	1311.708	71.390	9/7/23 18:49:40	501.357	59.797			
9/7/23 18:33:40	1273.303	70.473	9/7/23 18:49:55	468.137	59.687			
9/7/23 18:33:55	1234.700	69.629	9/7/23 18:50:10	434.679	59.415			
9/7/23 18:34:10	1195.780	68.742	9/7/23 18:50:25	400.363	59.242			

EXHIBITS

michigan wireline services

NUCLEAR TRACER LOG

Company	REPUBLIC SERVICES
Well	EDS 2-12
Field	ROMULUS STORAGE
County	WAYNE
State	MICHIGAN

Location: API

SW NW SE
1670' FSL & 2372' FEL
OF 1/4 SEC.

SEC 12 TWP RGE 09E

Other Services

Permanent Datum	GROUND LEVEL	Elevation	626'
Log Measured From	KELLY BUSHING		
Drilling Measured From	KELLY BUSHING		

Elevation
K.B. 639'
D.F. 638'
G.L. 626'

Date	9/5/2023		
Run Number	ONE		
Depth Driller	4550'		
Depth Logger	4296'		
Bottom Logged Interval	4296'		
Top Log Interval	3000'		
Packer Depth			
Type Fluid	WATER		
Fluid Level	N/A		
Max. Recorded Temp.	N/A		
Estimated Cement Top	N/A		
Time Well Ready	7:30 AM		
Time Logger on Bottom	8:02 AM		
Equipment Number	#117		
Location	MT. PLEASANT		
Recorded By	B. WRIGHT		
Witnessed By	JEFFRY TAHTOUH		

Tubing Liner Record			
SIZE	Weight	From	To
4 1/2"	F.G	SURFACE	3934'

Casing Record			
SIZE	Weight	From	To
16"	65#	SURFACE	178'
13 3/8"	48#	SURFACE	579'
9 5/8"	N/A	SURFACE	1444'
7"	N/A	SUFACE	3970'

<<< 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

THIS LOG IS CORRELATED TO MWL
GAMMA RAY LOG DATE 8/16/2022

4 SECOND EJECTION
2"BOWEN

THANK YOU FOR USING MICHIGAN WIRELINE

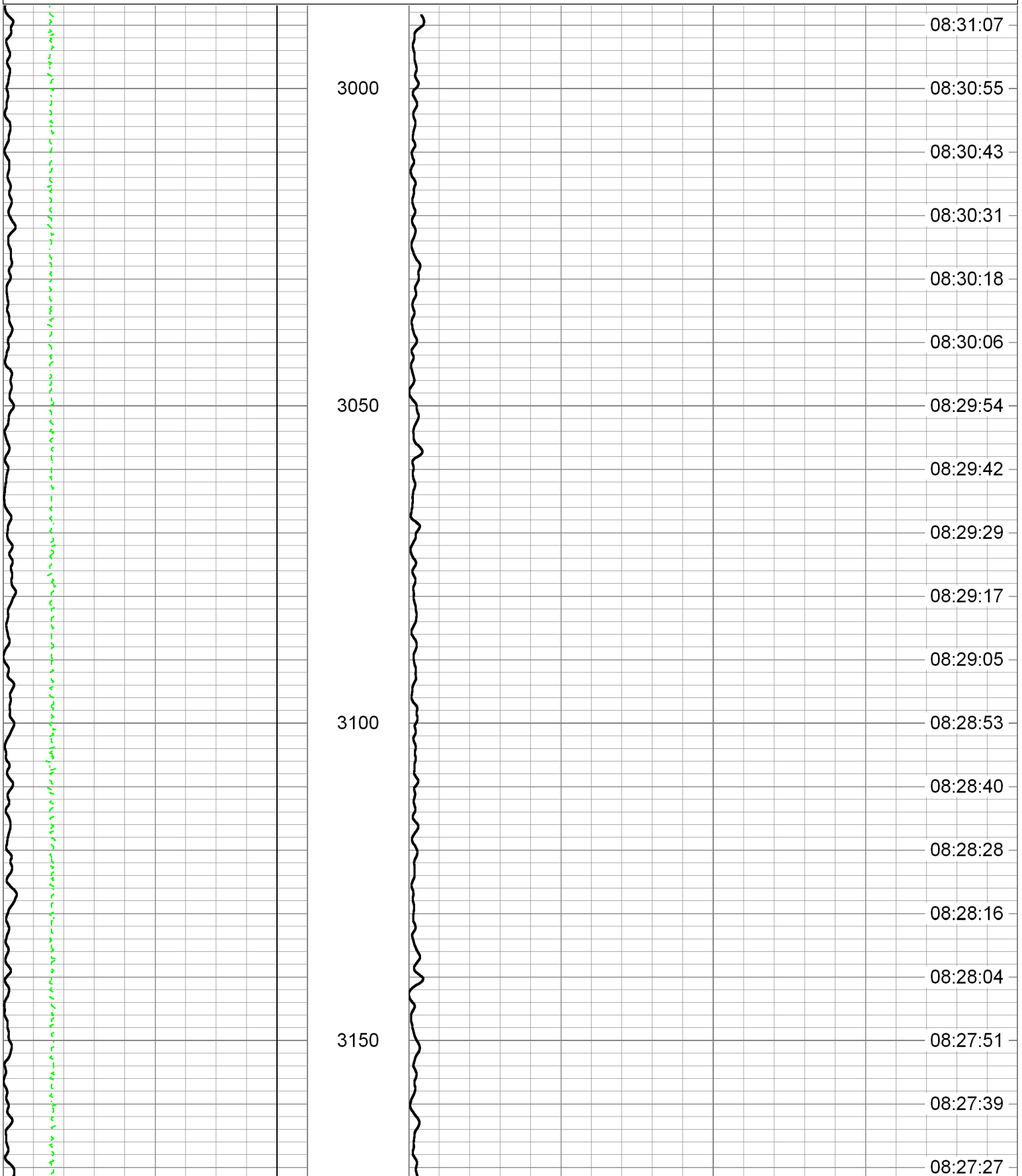
BASE PASS

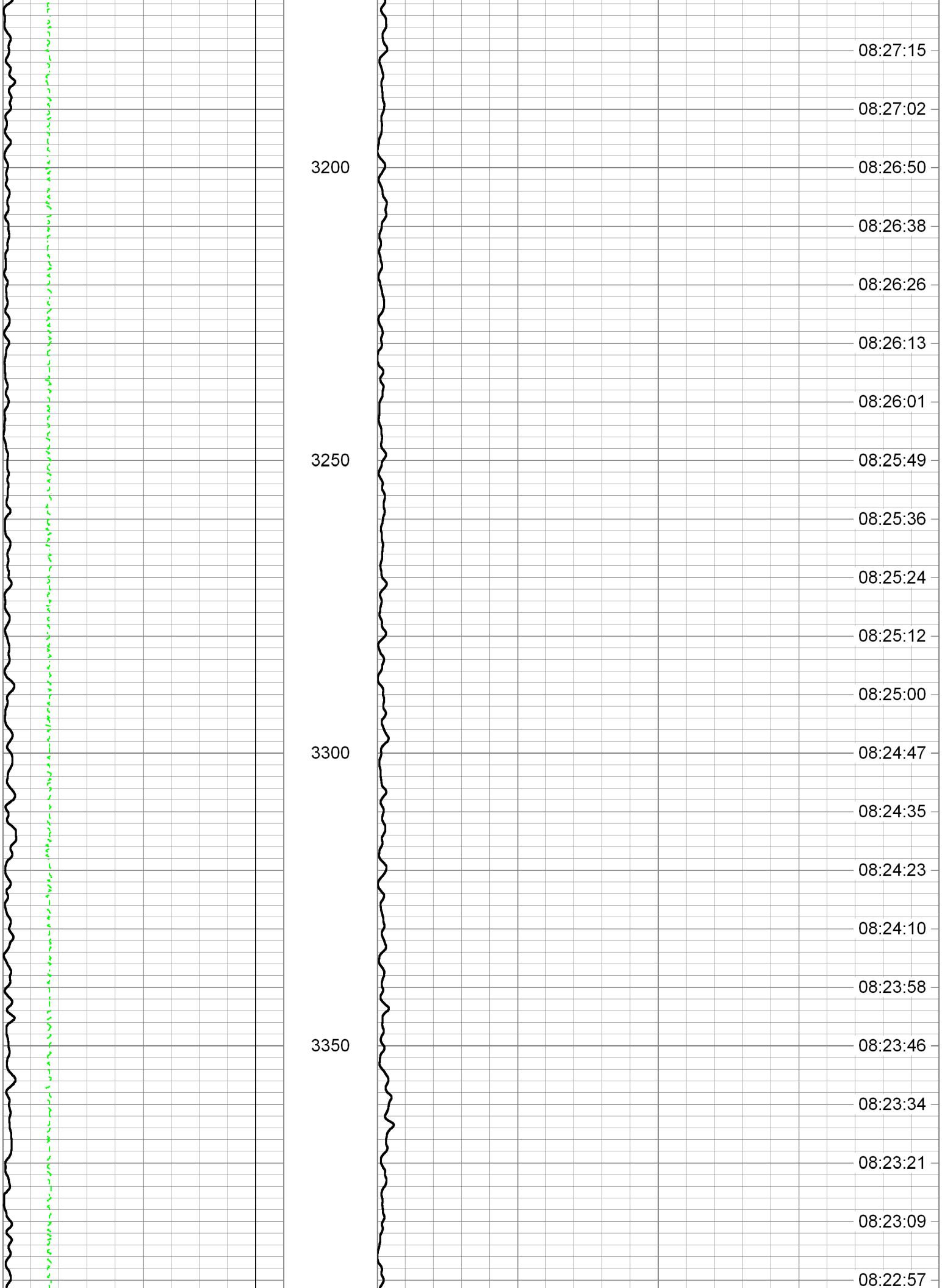
michigan wireline services

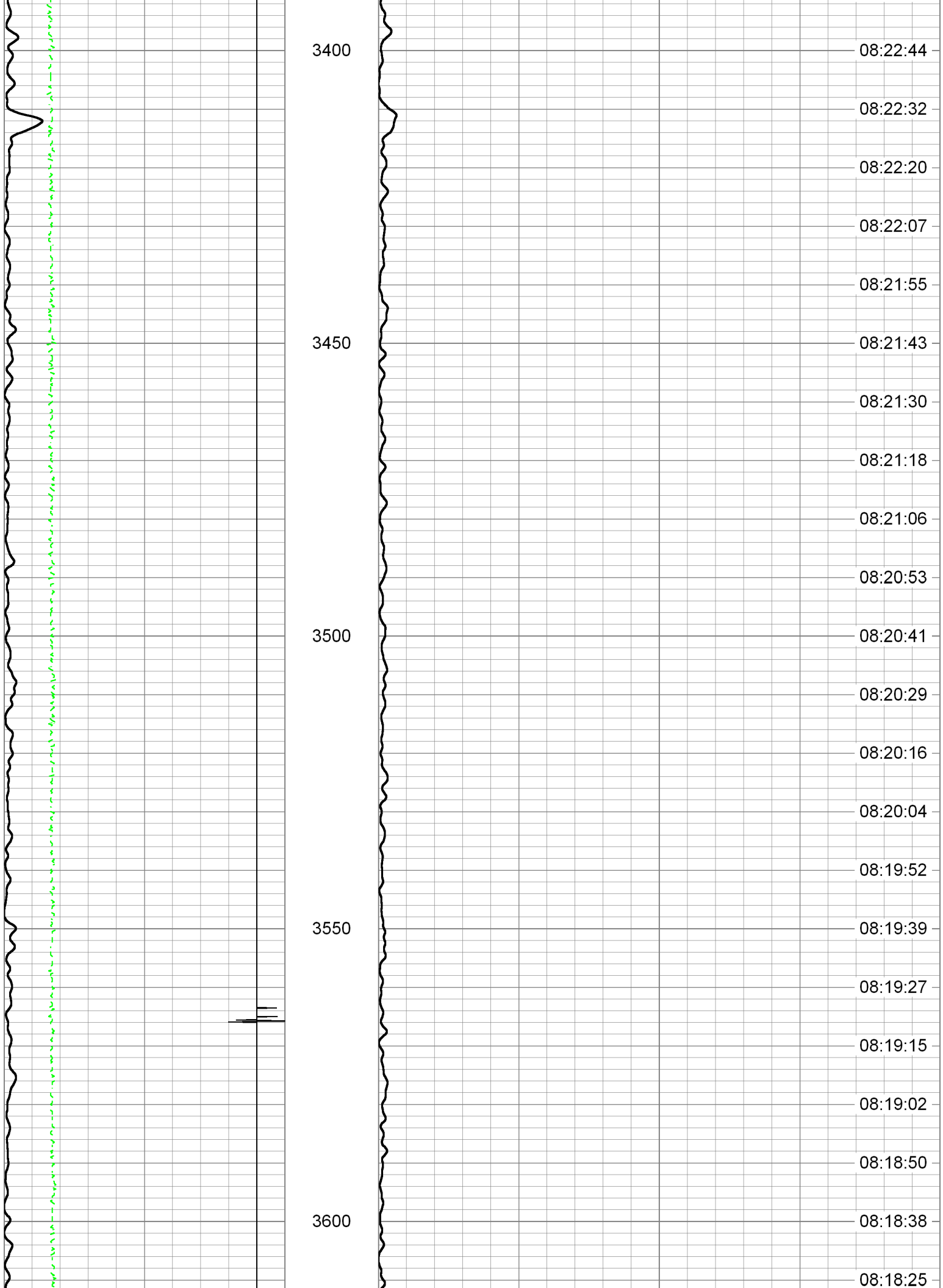
Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	BASE
Presentation Format	tracermwl
Dataset Creation	Tue Sep 05 08:02:45 2023
Charted by	Depth in Feet scaled 1:240

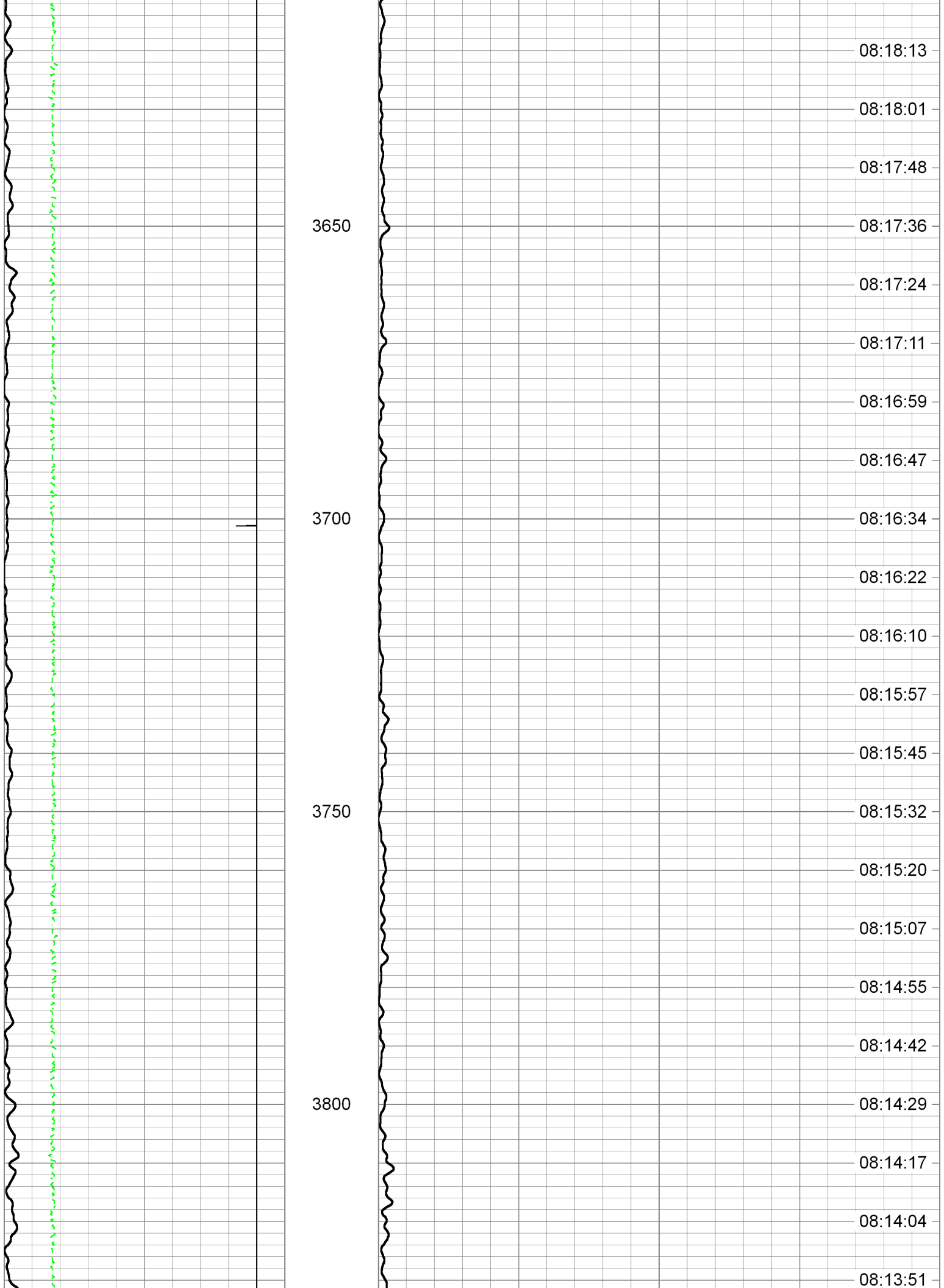
0	Top Gr CPS	100
-9	CCL	1
0	LTEN (lb)	100

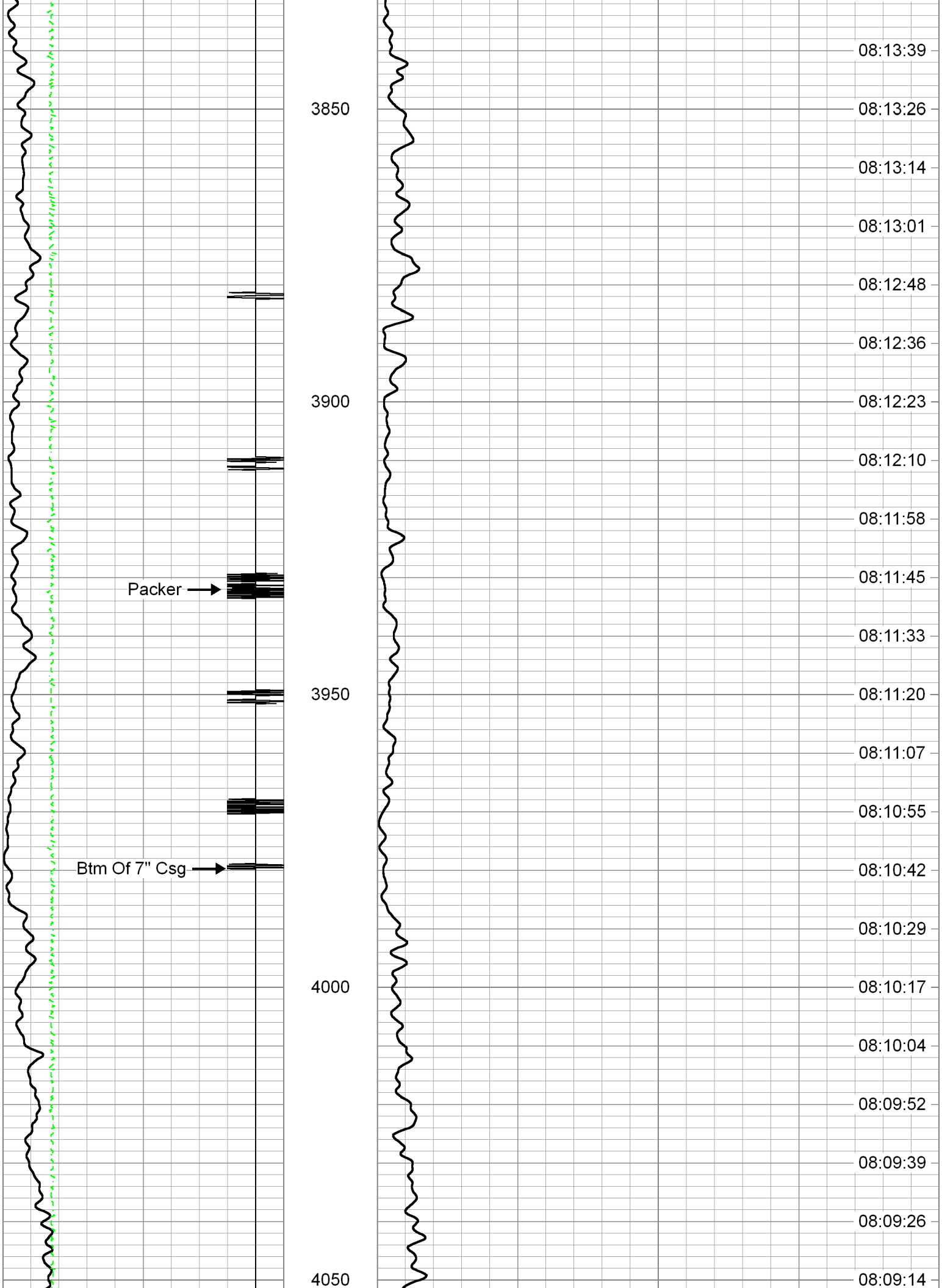
0	Bot Gr CPS	200
	TOD (sec)	




3200
3250
3300
3350
08:27:15
08:27:02
08:26:50
08:26:38
08:26:26
08:26:13
08:26:01
08:25:49
08:25:36
08:25:24
08:25:12
08:25:00
08:24:47
08:24:35
08:24:23
08:24:10
08:23:58
08:23:46
08:23:34
08:23:21
08:23:09
08:22:57


3400
3450
3500
3550
3600
08:22:44
08:22:32
08:22:20
08:22:07
08:21:55
08:21:43
08:21:30
08:21:18
08:21:06
08:20:53
08:20:41
08:20:29
08:20:16
08:20:04
08:19:52
08:19:39
08:19:27
08:19:15
08:19:02
08:18:50
08:18:38
08:18:25


3650
3700
3750
3800
08:18:13
08:18:01
08:17:48
08:17:36
08:17:24
08:17:11
08:16:59
08:16:47
08:16:34
08:16:22
08:16:10
08:15:57
08:15:45
08:15:32
08:15:20
08:15:07
08:14:55
08:14:42
08:14:29
08:14:17
08:14:04
08:13:51


3850
3900
3950
4000
4050
Packer
Btm Of 7" Csg
08:13:39
08:13:26
08:13:14
08:13:01
08:12:48
08:12:36
08:12:23
08:12:10
08:11:58
08:11:45
08:11:33
08:11:20
08:11:07
08:10:55
08:10:42
08:10:29
08:10:17
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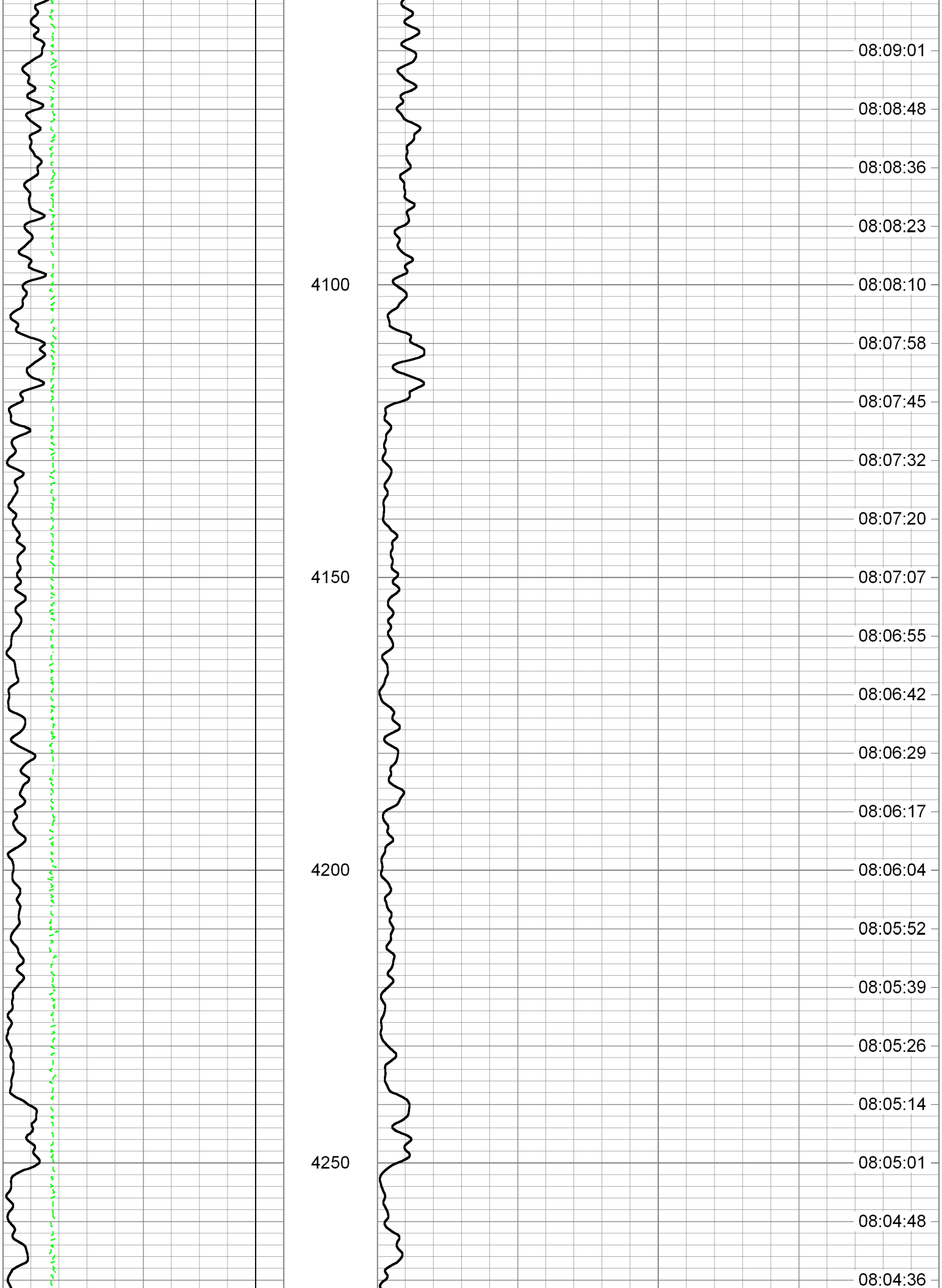
08:09:52
08:09:39
08:09:26
08:09:14


4100
4150
4200
4250
08:09:01
08:08:48
08:08:36
08:08:23
08:08:10
08:07:58
08:07:45
08:07:32
08:07:20
08:07:07
08:06:55
08:06:42
08:06:29
08:06:17
08:06:04
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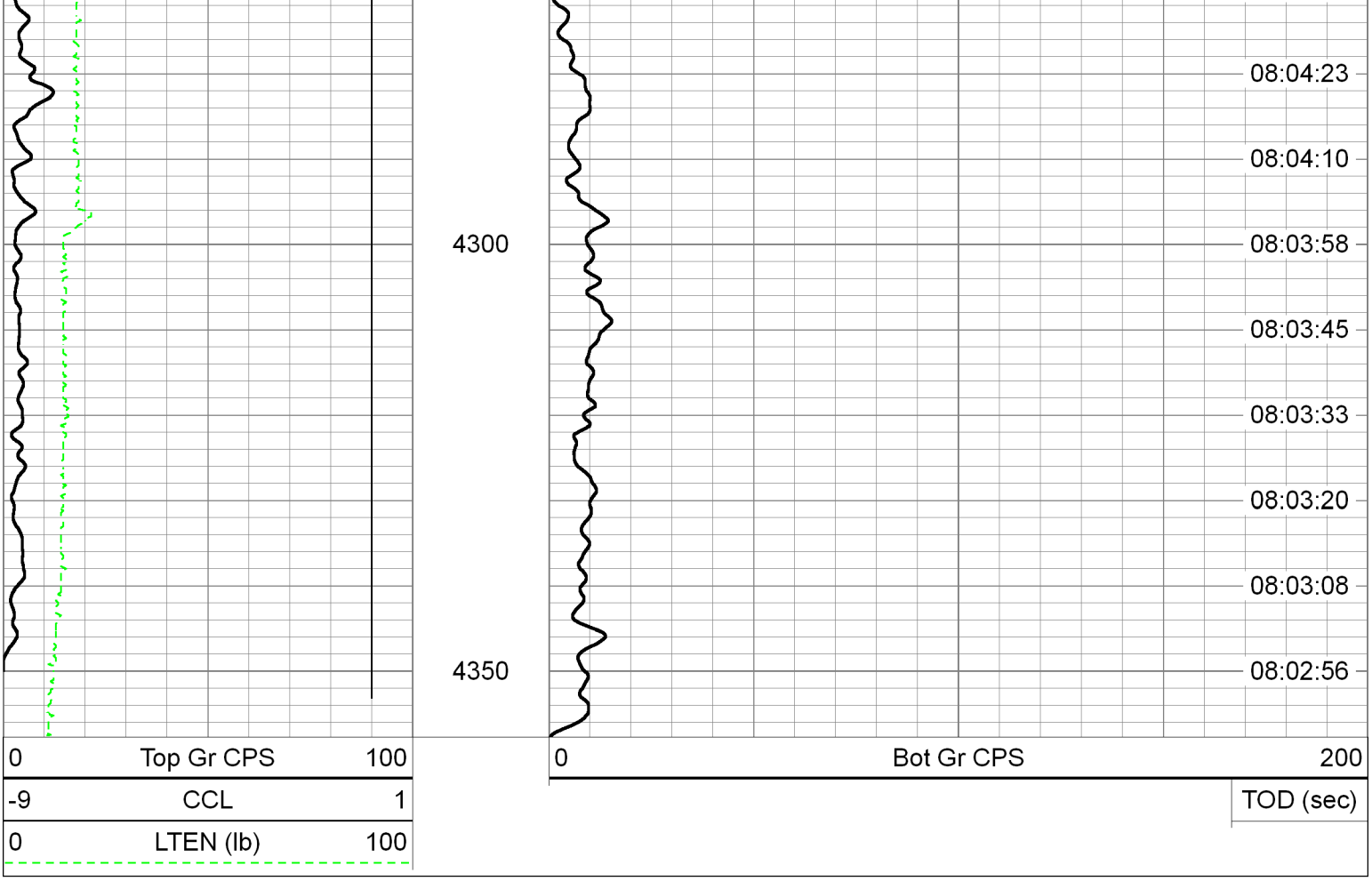
08:05:39
08:05:26
08:05:14
08:05:01
08:04:48
08:04:36



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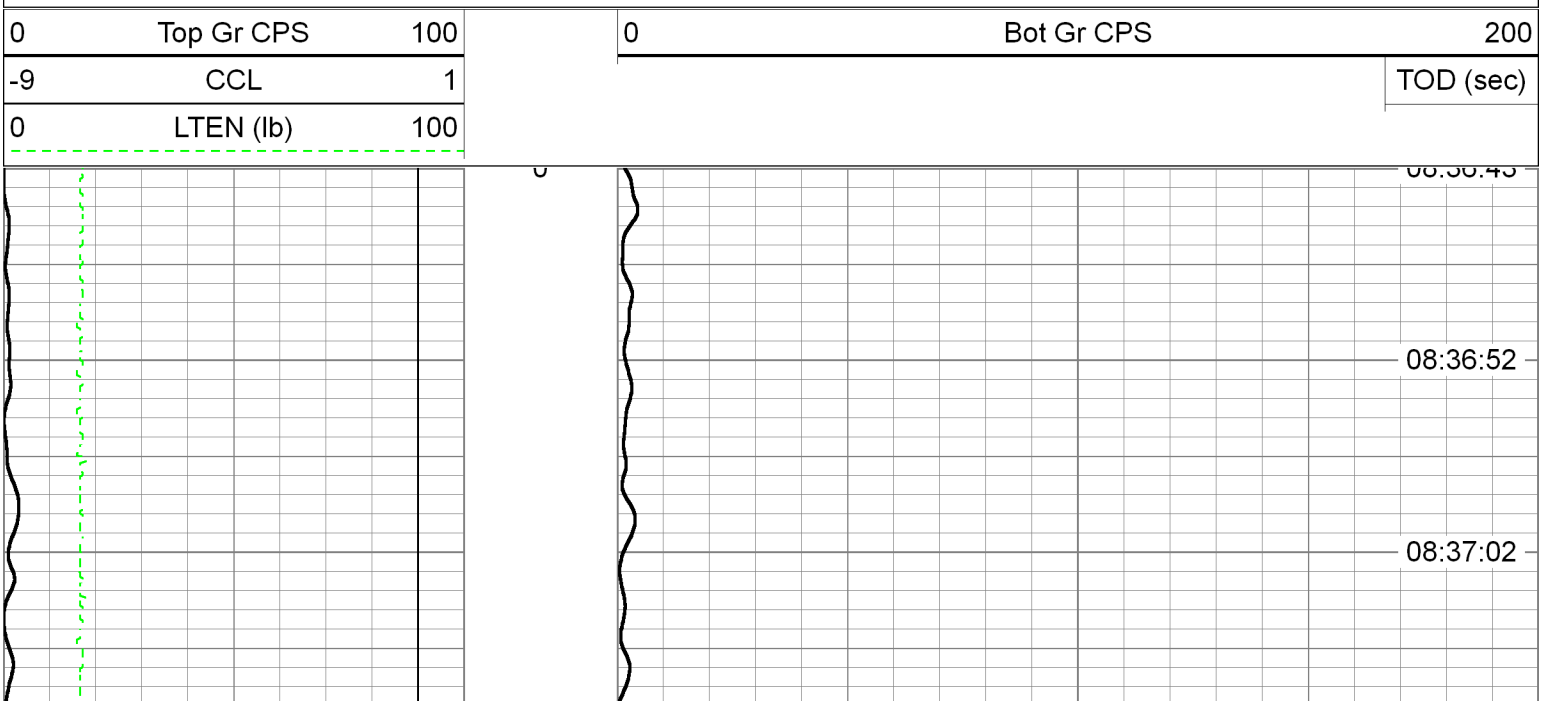
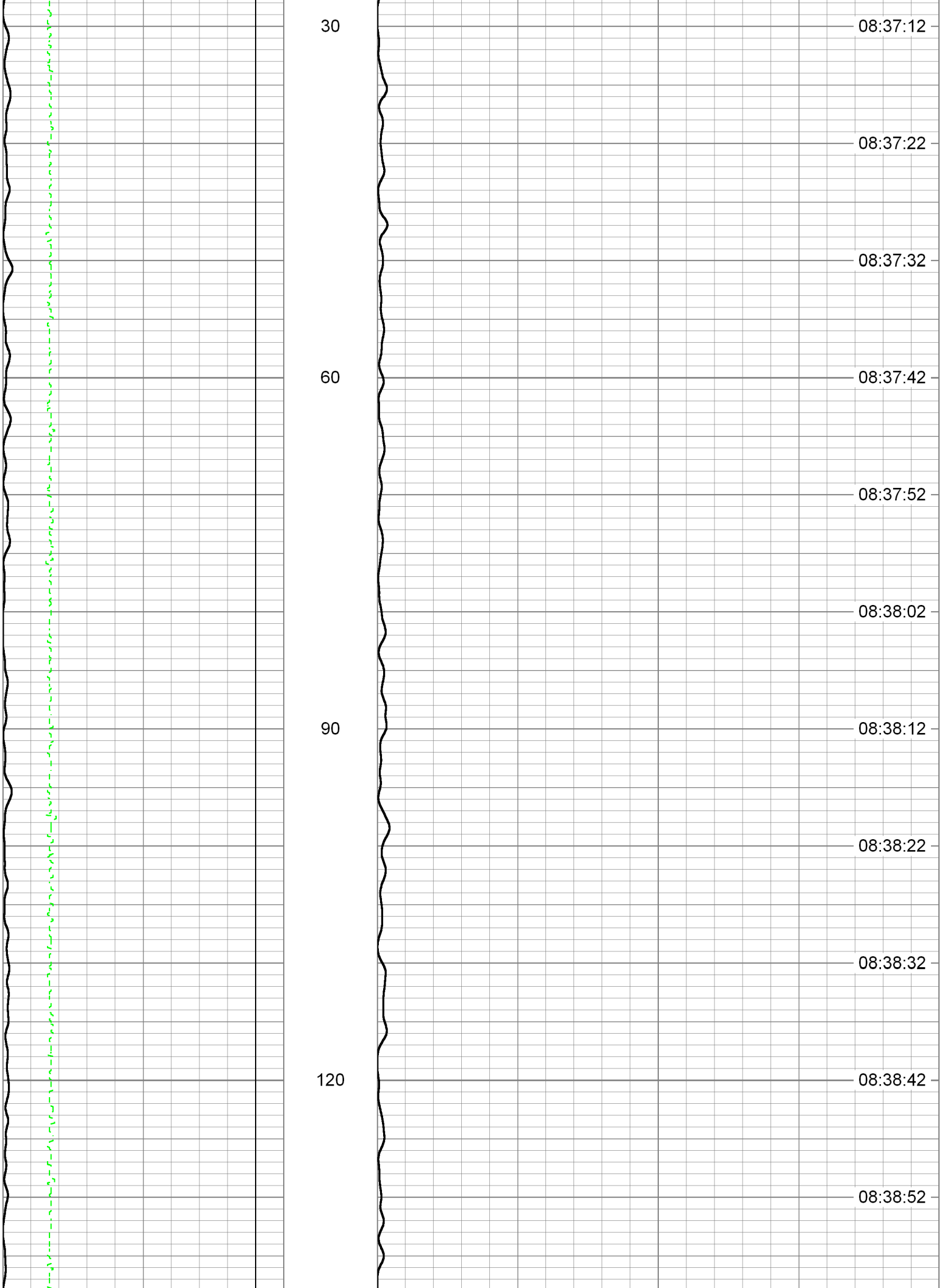
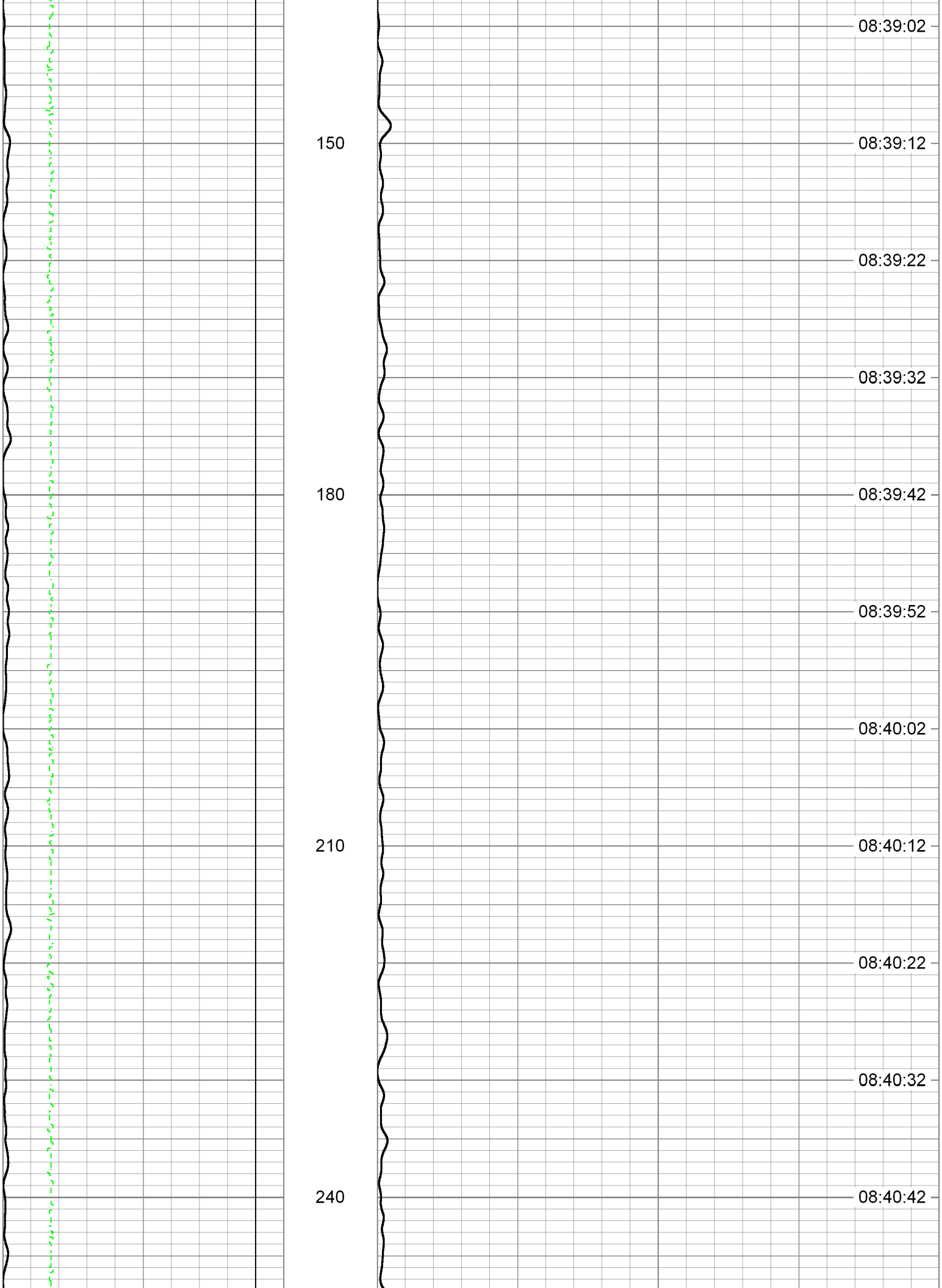
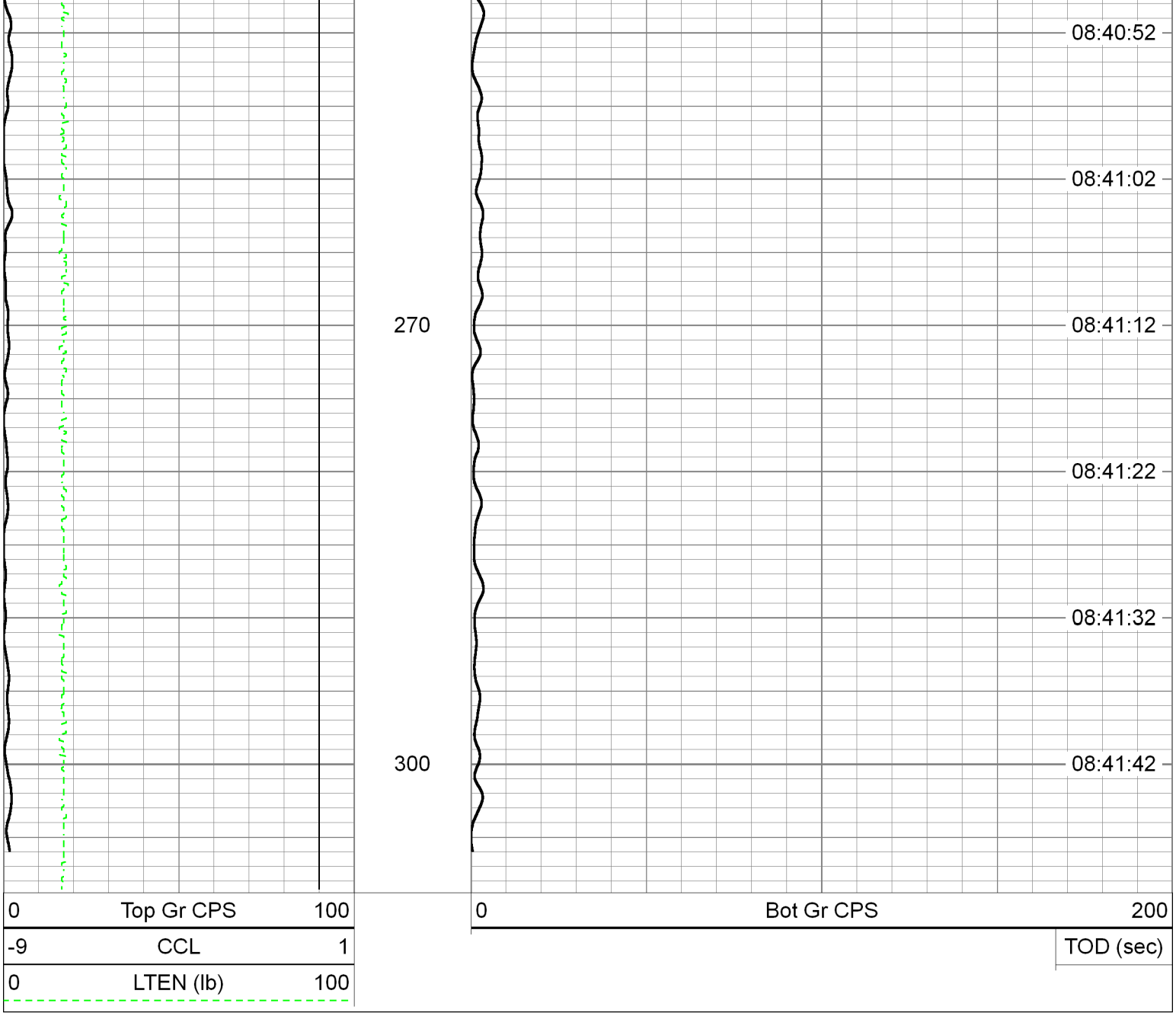
5 MINUTE STAT CHECK 3800'

Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	3800_5MIN
Presentation Format	tracer_time_10
Dataset Creation	Tue Sep 05 08:36:43 2023
Charted by	Time scaled 360/hour




30
60
90
120
08:37:12
08:37:22
08:37:32
08:37:42
08:37:52
08:38:02
08:38:12
08:38:22
08:38:32
08:38:42
08:38:52


08:39:02
150
08:39:12
08:39:22
08:39:32
180
08:39:42
08:39:52
08:40:02
210
08:40:12
08:40:22
08:40:32
240
08:40:42



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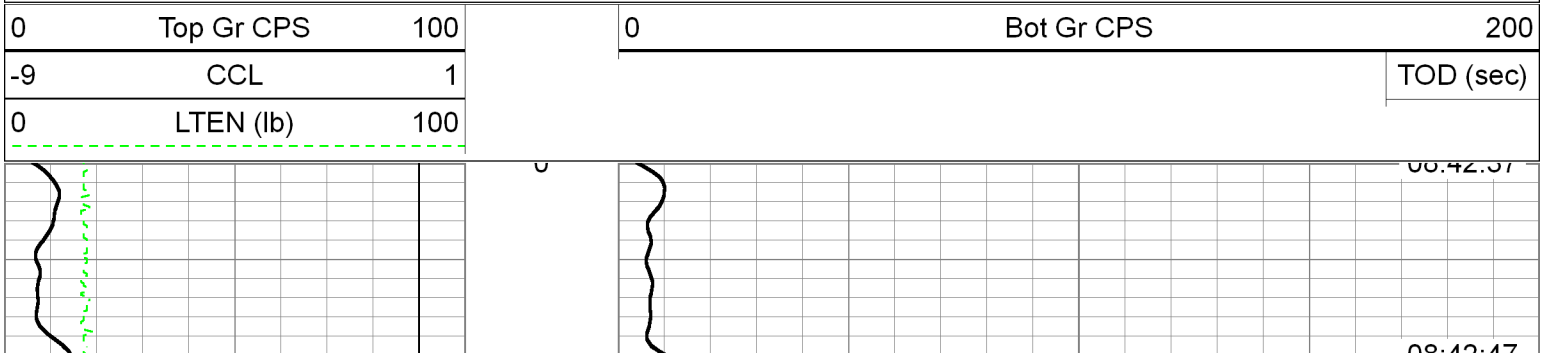
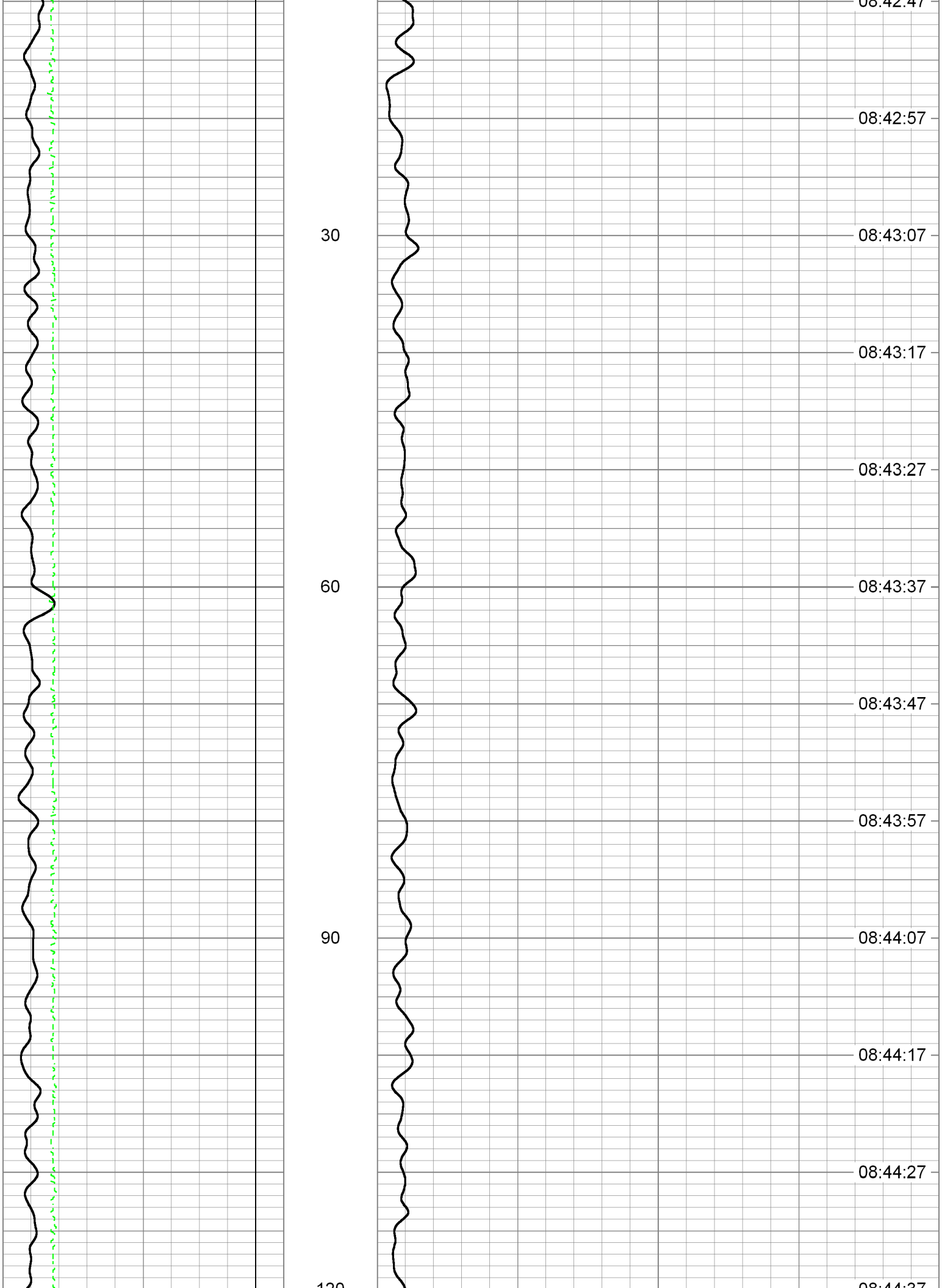
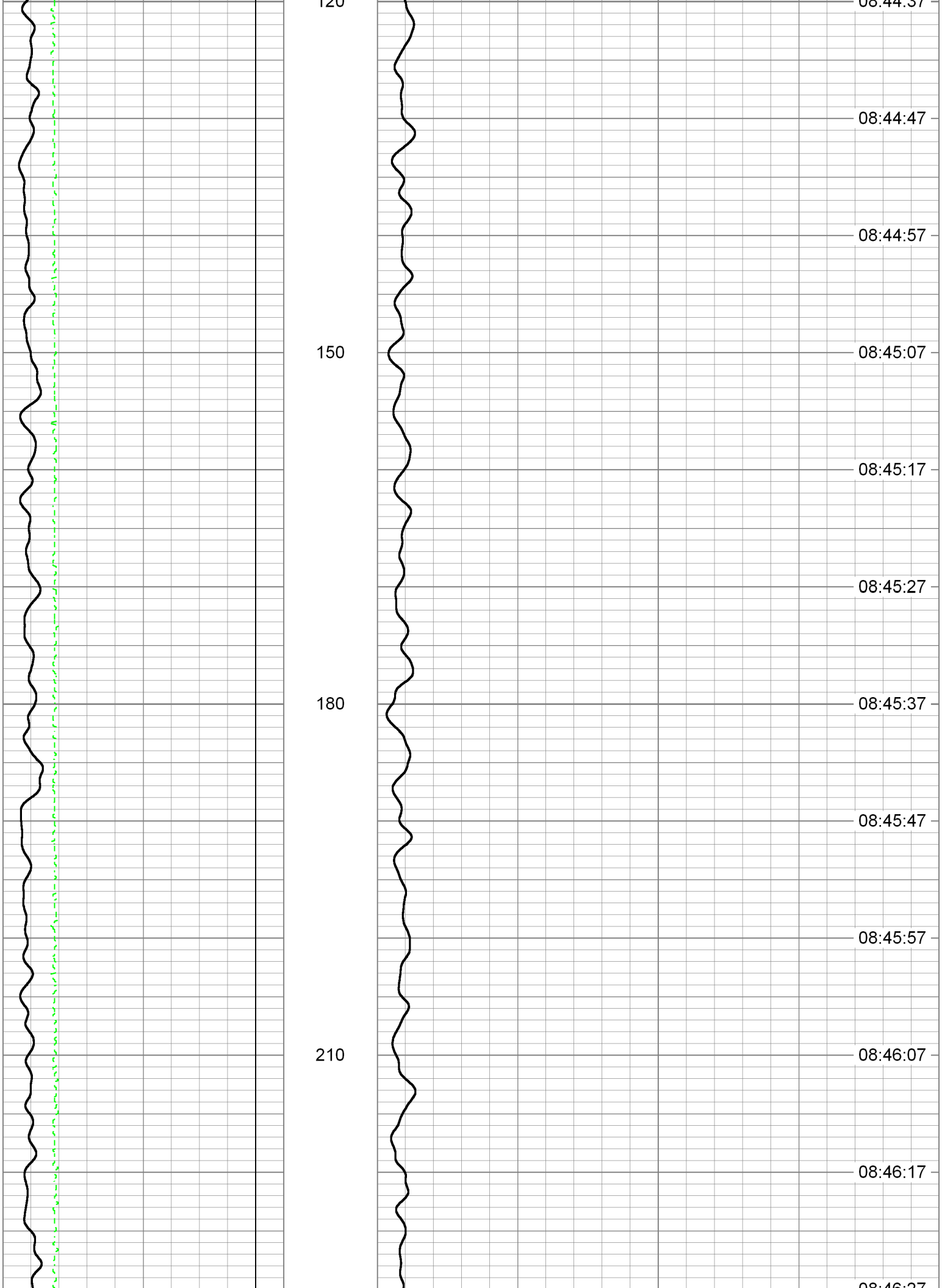
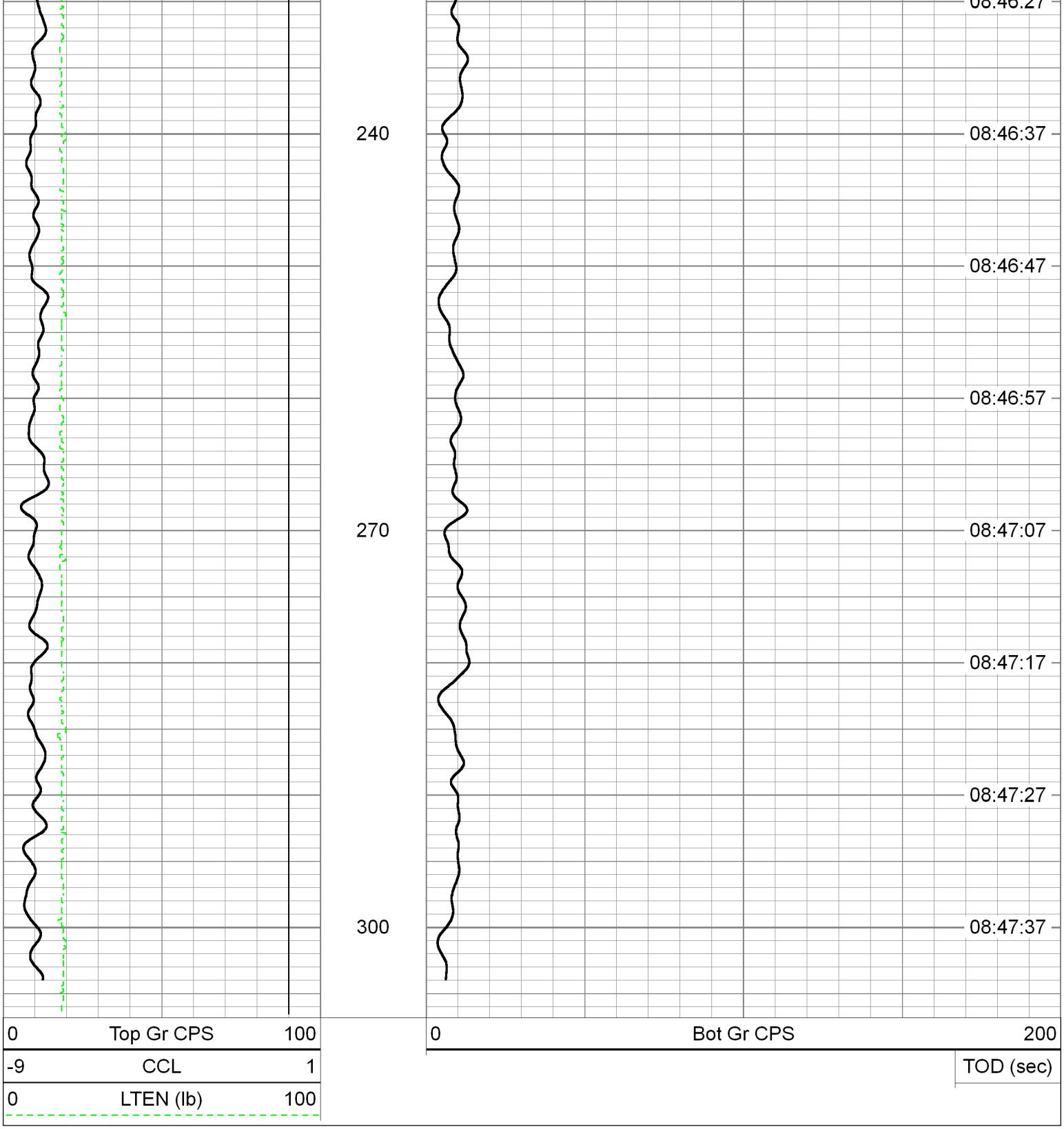
5 MINUTE STAT CHECK 3855'

Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	3855_5MIN
Presentation Format	tracer_time_10
Dataset Creation	Tue Sep 05 08:42:37 2023
Charted by	Time scaled 360/hour




08:42:47
08:42:57
30
08:43:07
08:43:17
08:43:27
60
08:43:37
08:43:47
08:43:57
90
08:44:07
08:44:17
08:44:27


120
150
180
210
08:44:37
08:44:47
08:44:57
08:45:07
08:45:17
08:45:27
08:45:37
08:45:47
08:45:57
08:46:07
08:46:17



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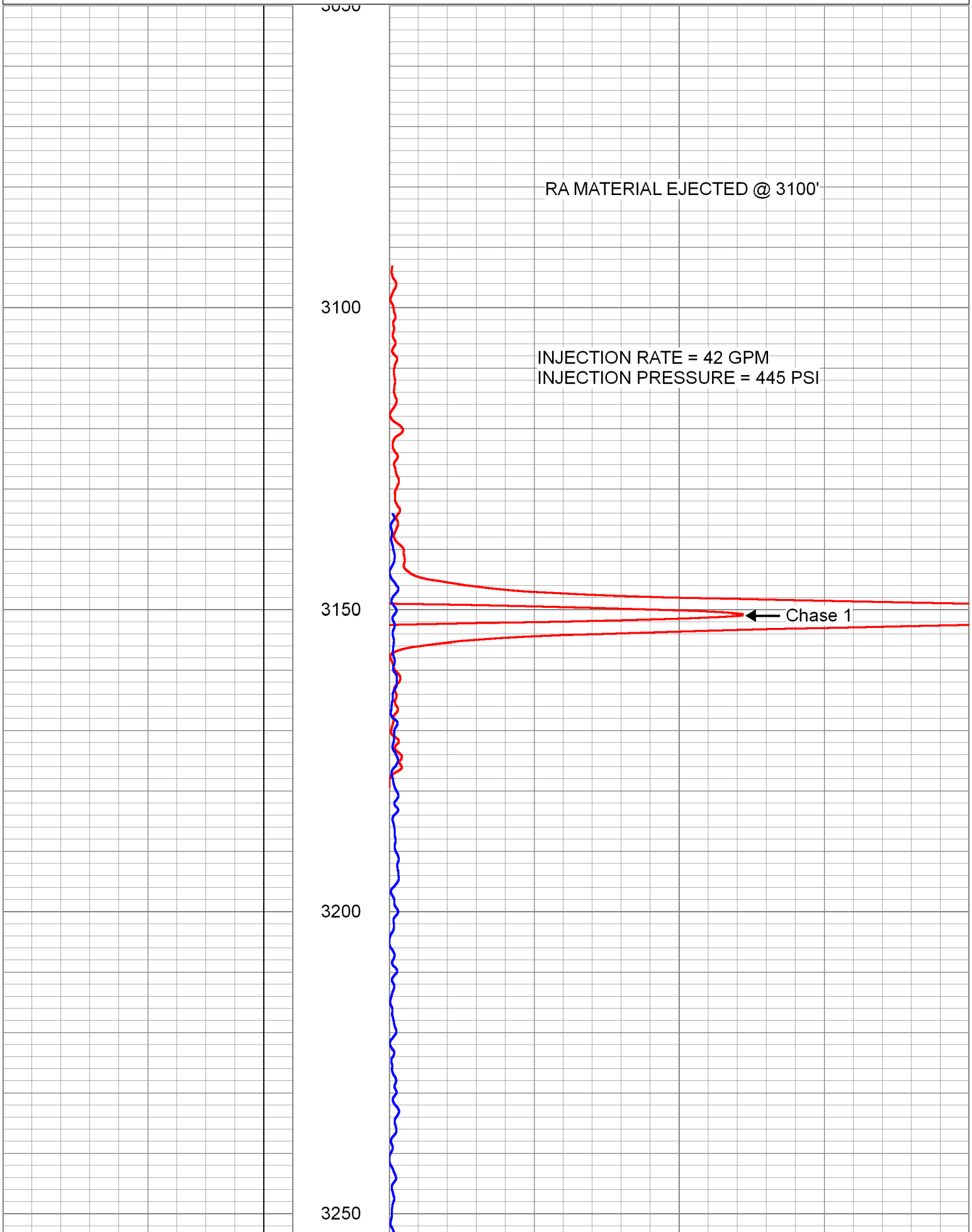
CHASE MERGED PASSES

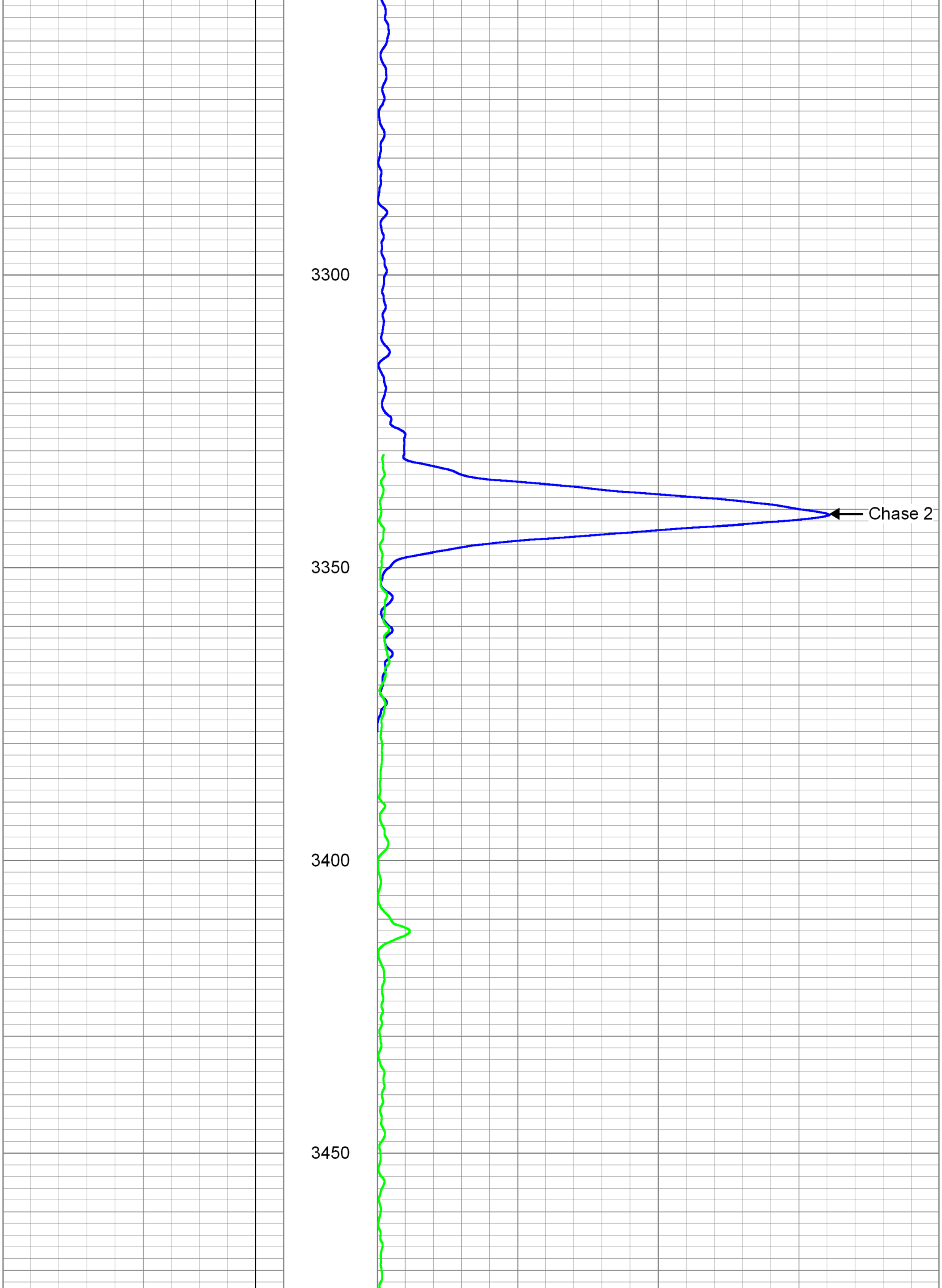
INJECTION RATE 42 GPM
INJECTION PRESSURE 445 PSI

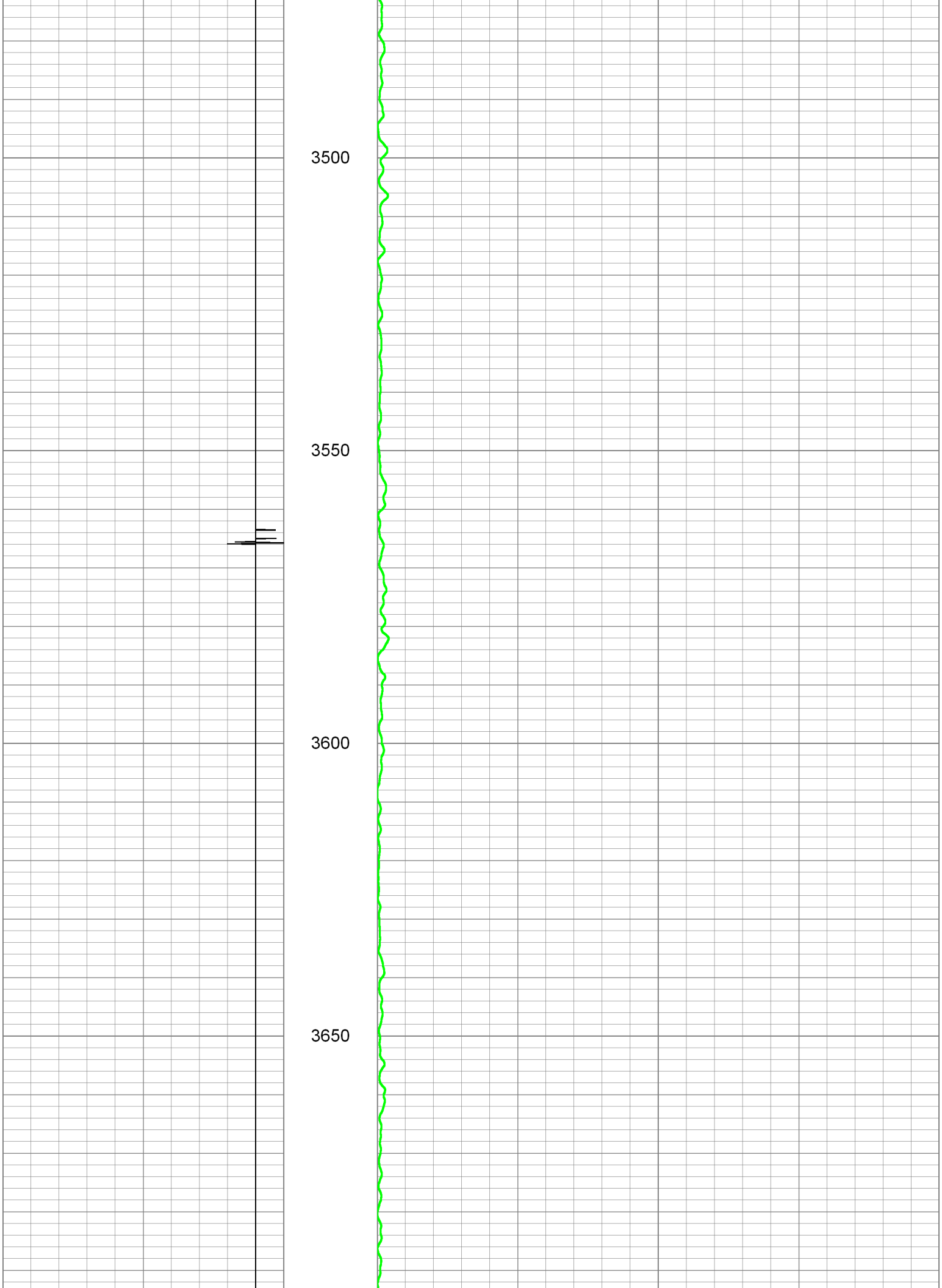
Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	CHASE
Presentation Format	tracer_chase
Dataset Creation	Tue Sep 05 09:45:34 2023
Charted by	Depth in Feet scaled 1:240

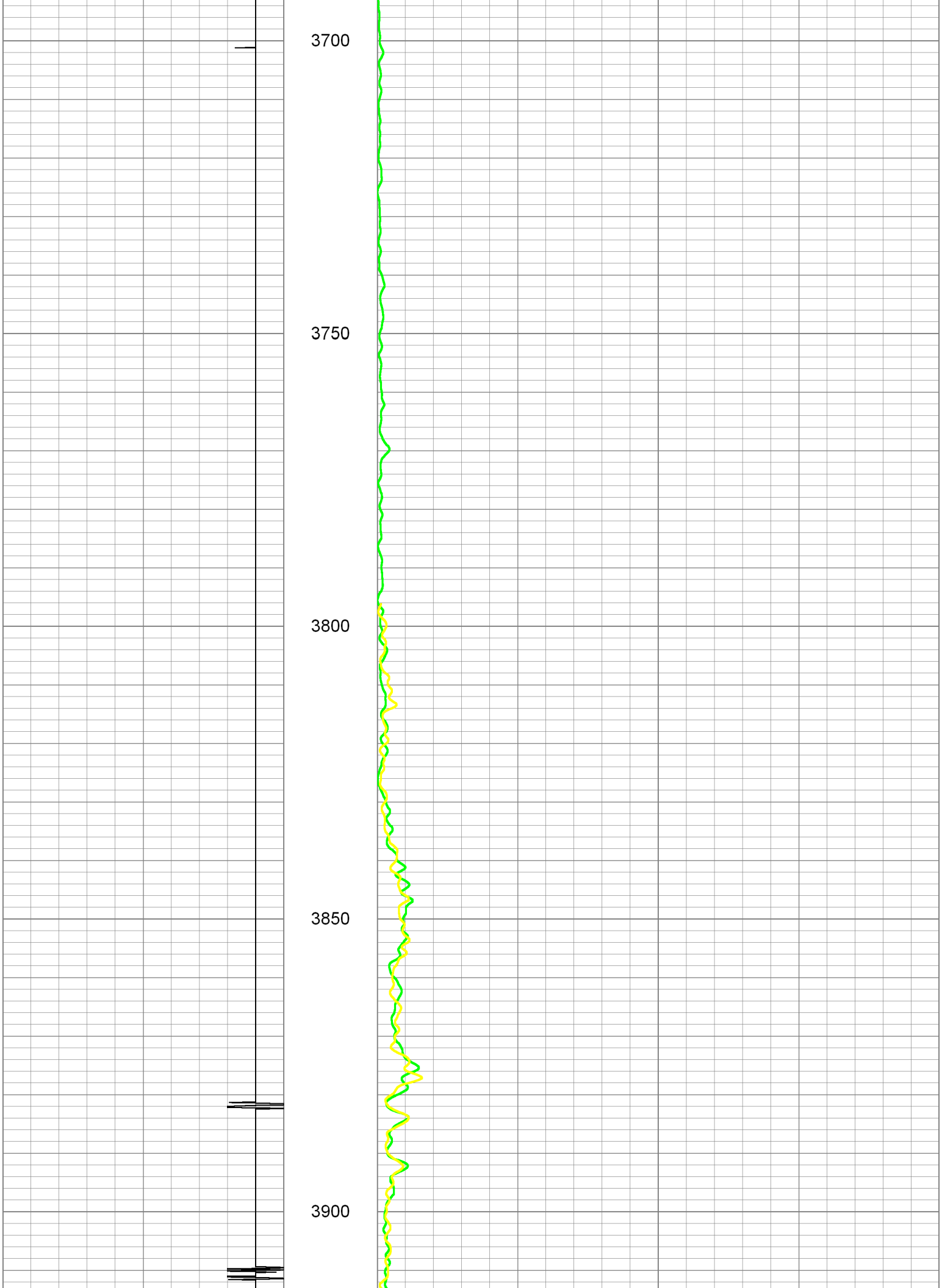
-9	CCL	1	0	Chase 1	200

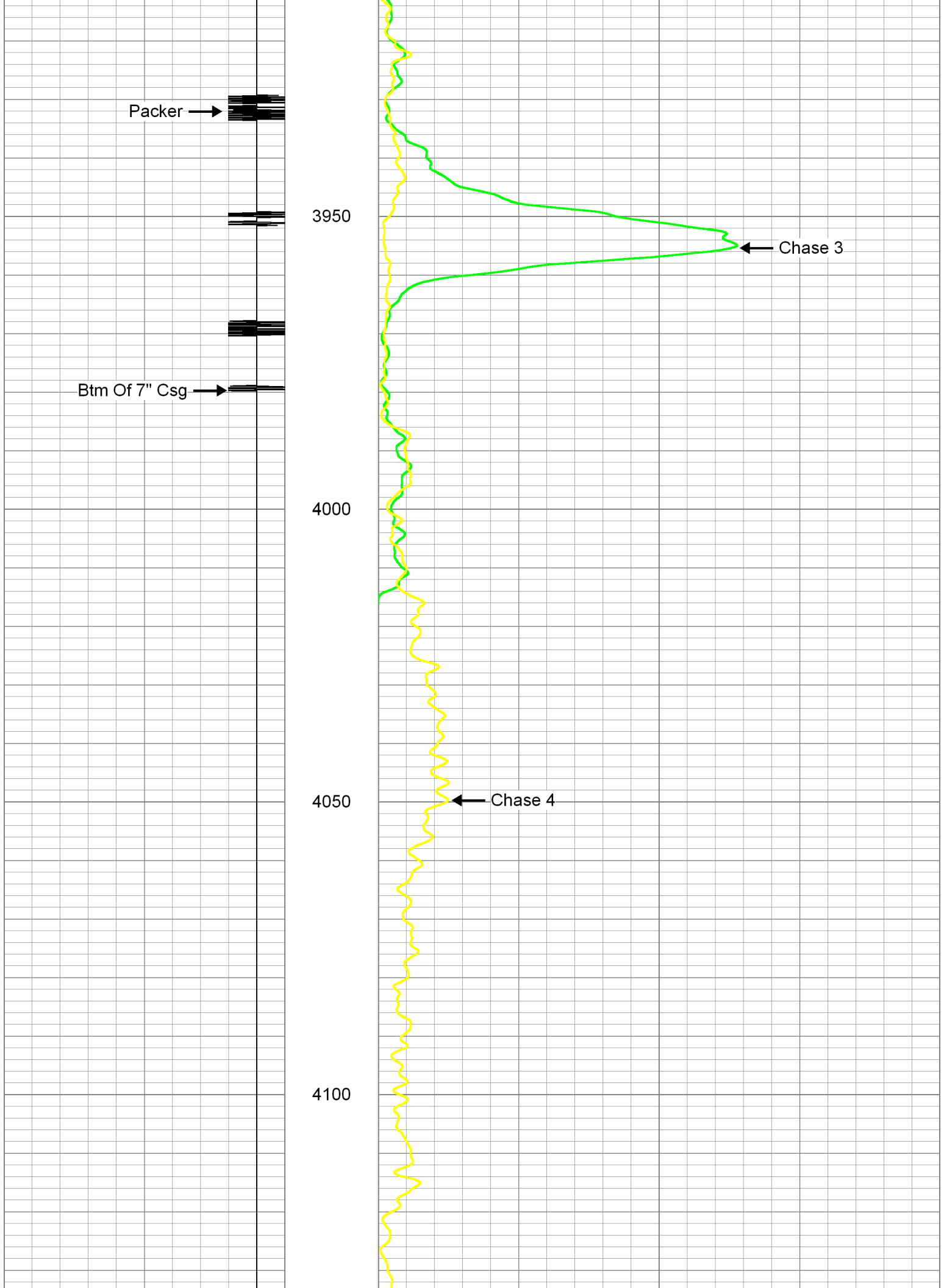
0	Chase 2	200
0	Chase 3	200
0	Chase 4	200

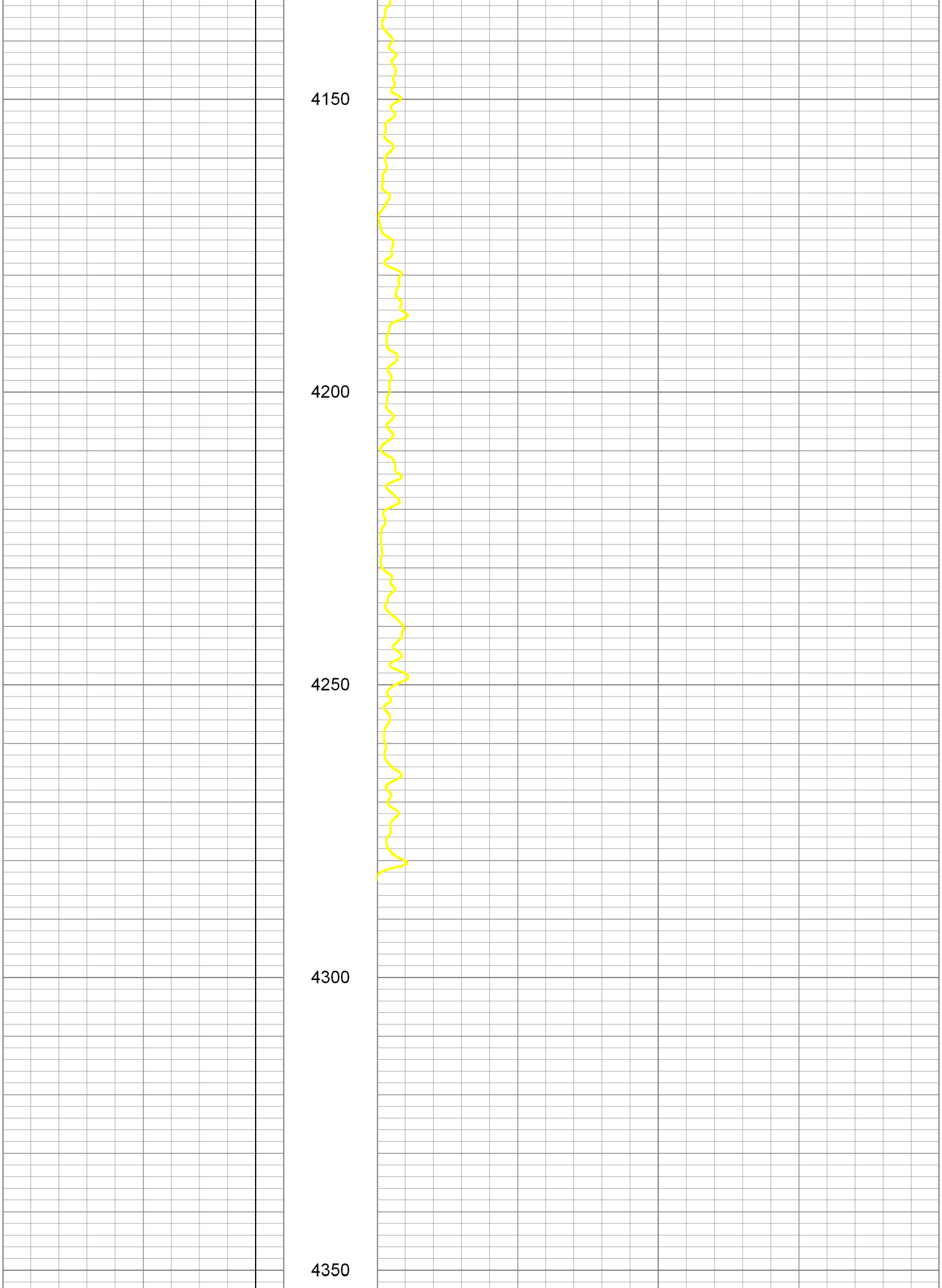



3300
3350
3400
3450
Chase 2


3500
3550
3600
3650


3700
3750
3800
3850
3900


Packer
Btm Of 7" Csg
3950
4000
4050
4100
Chase 3
Chase 4


4150
4200
4250
4300
4350

-9	CCL	1

0	Chase 1	200
0	Chase 2	200
0	Chase 3	200
0	Chase 4	200

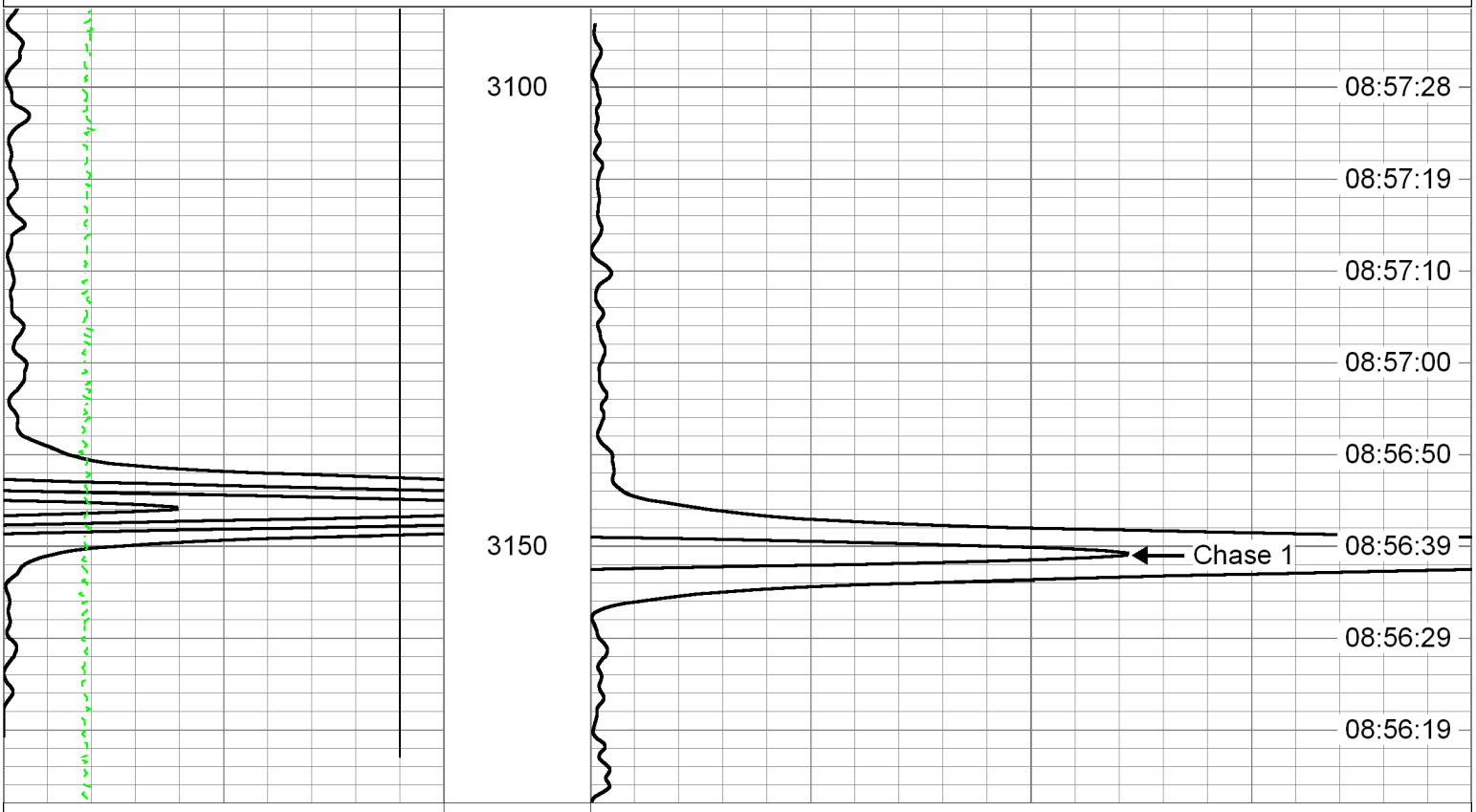
michigan wireline services

CHASE 1

Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	CHASE1
Presentation Format	tracermwl
Dataset Creation	Tue Sep 05 08:56:11 2023
Charted by	Depth in Feet scaled 1:240

0	Top Gr CPS	100
-9	CCL	1
0	LTEN (lb)	100

0	Bot Gr CPS	200
	TOD (sec)	



0	Top Gr CPS	100
-9	CCL	1
0	LTEN (lb)	100

0	Bot Gr CPS	200
	TOD (sec)	

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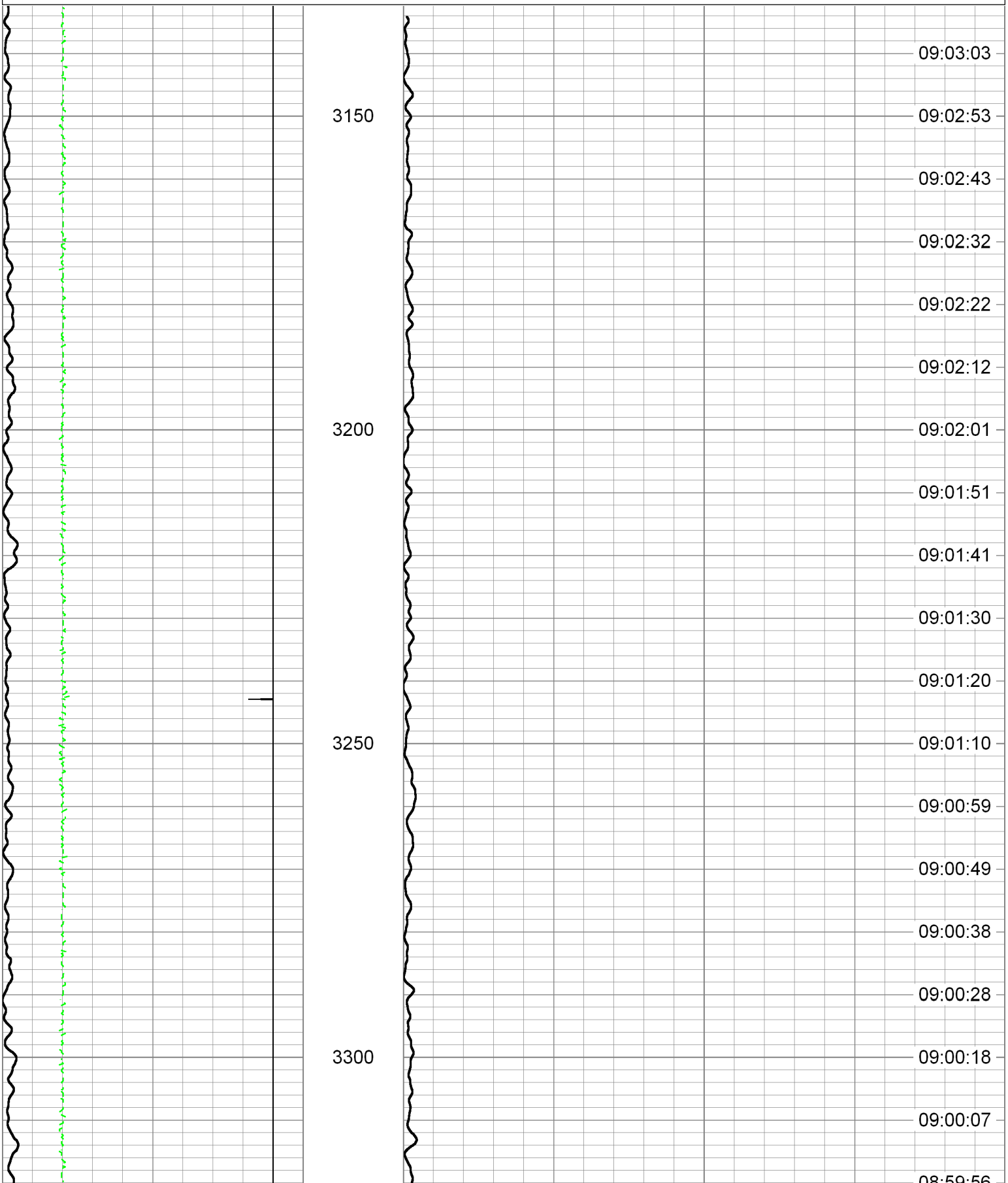
CHASE 2

Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db

Dataset Pathname	CHASE2
Presentation Format	tracermwl
Dataset Creation	Tue Sep 05 08:58:48 2023
Charted by	Depth in Feet scaled 1:240

0	Top Gr CPS	100
-9	CCL	1
0	LTEN (lb)	100

0	Bot Gr CPS	200
	TOD (sec)	



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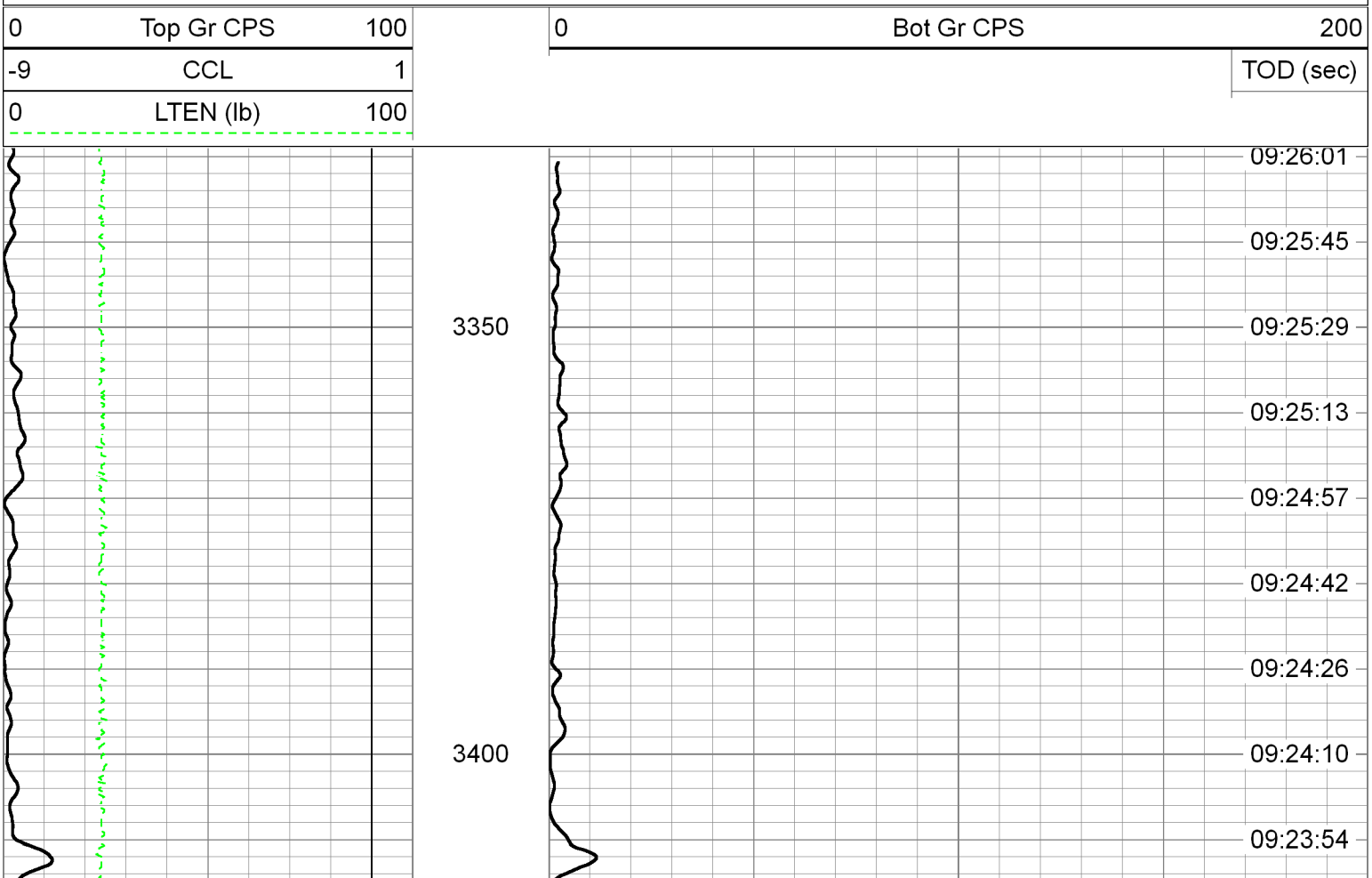
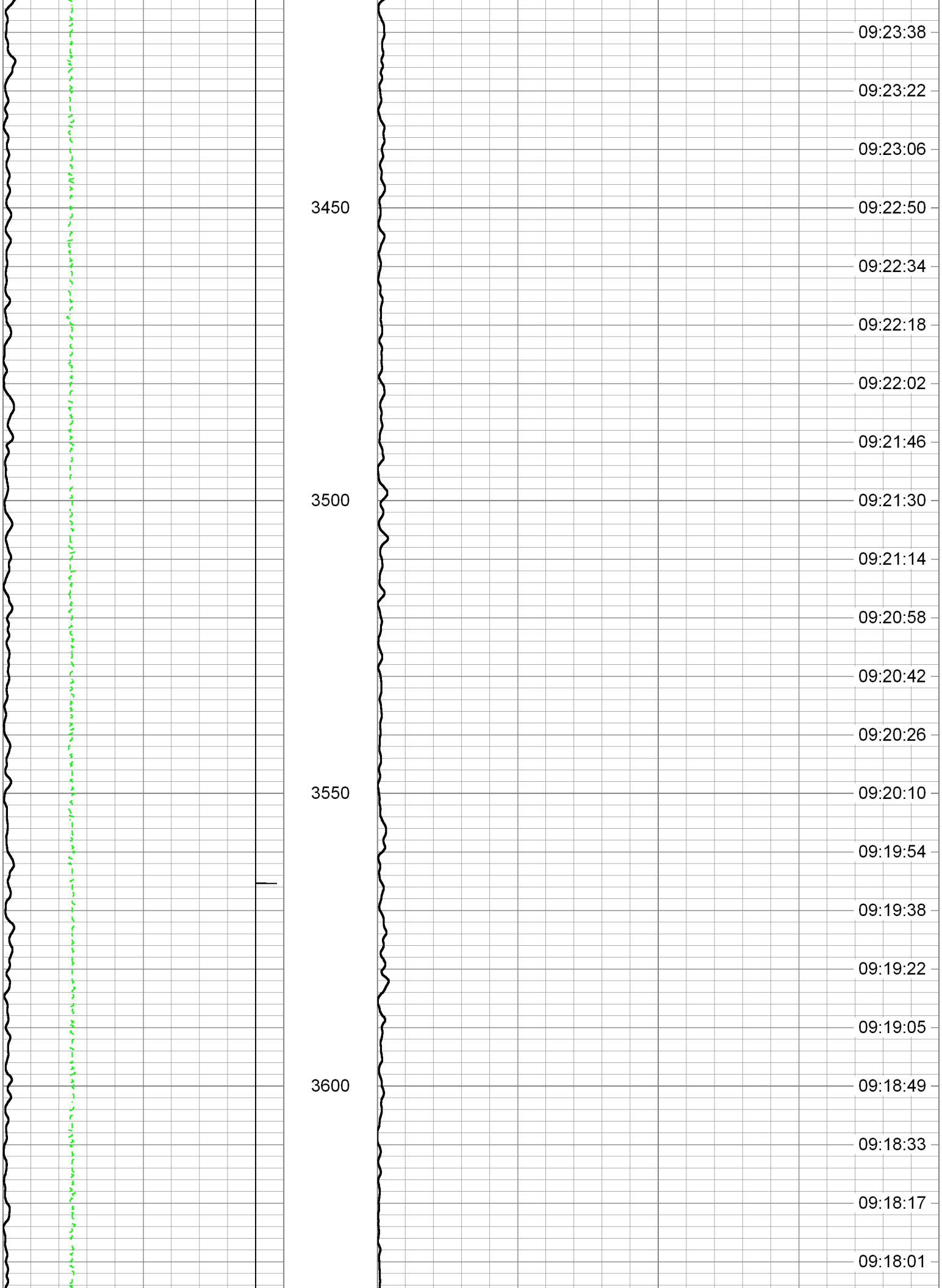
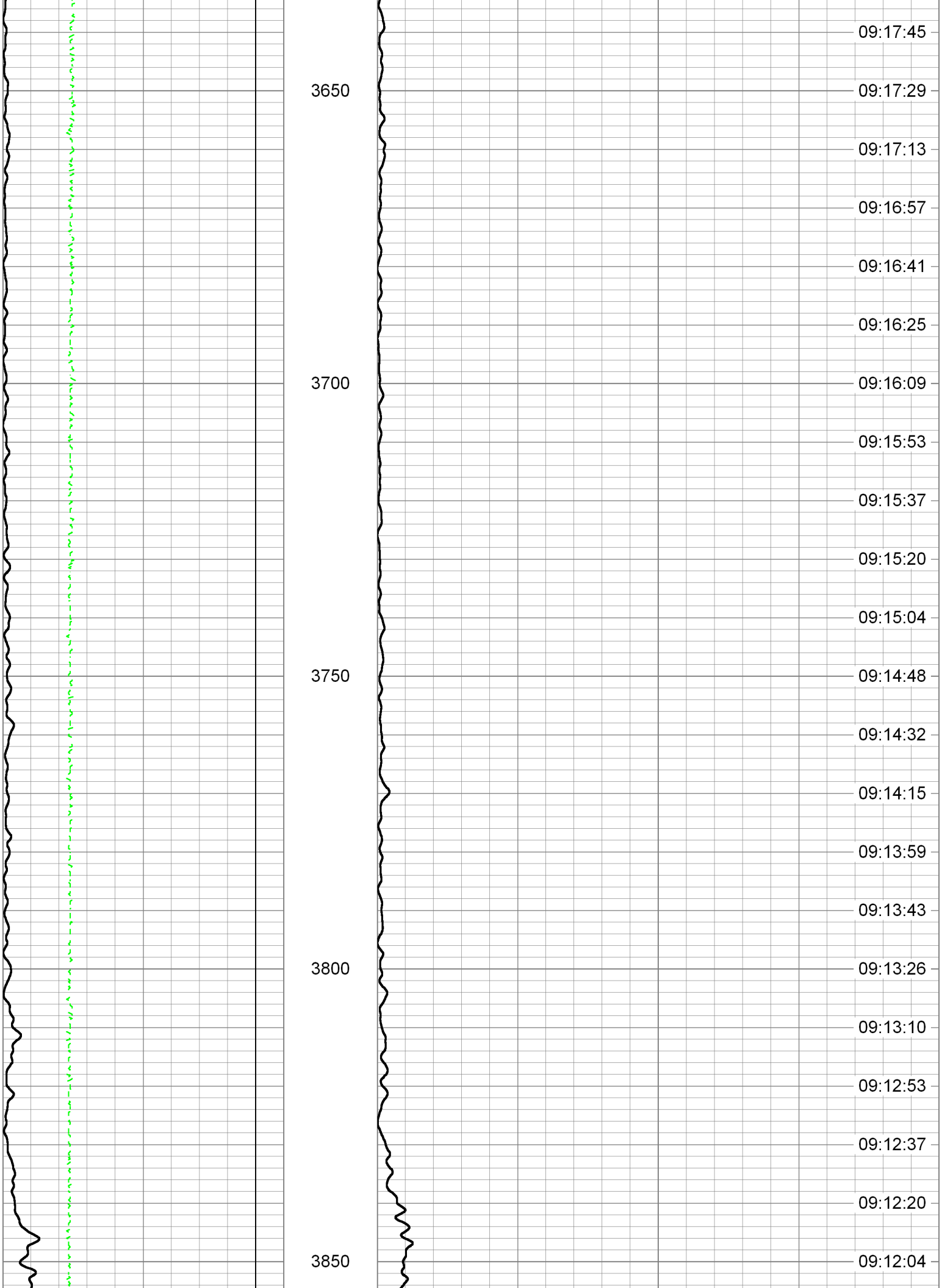
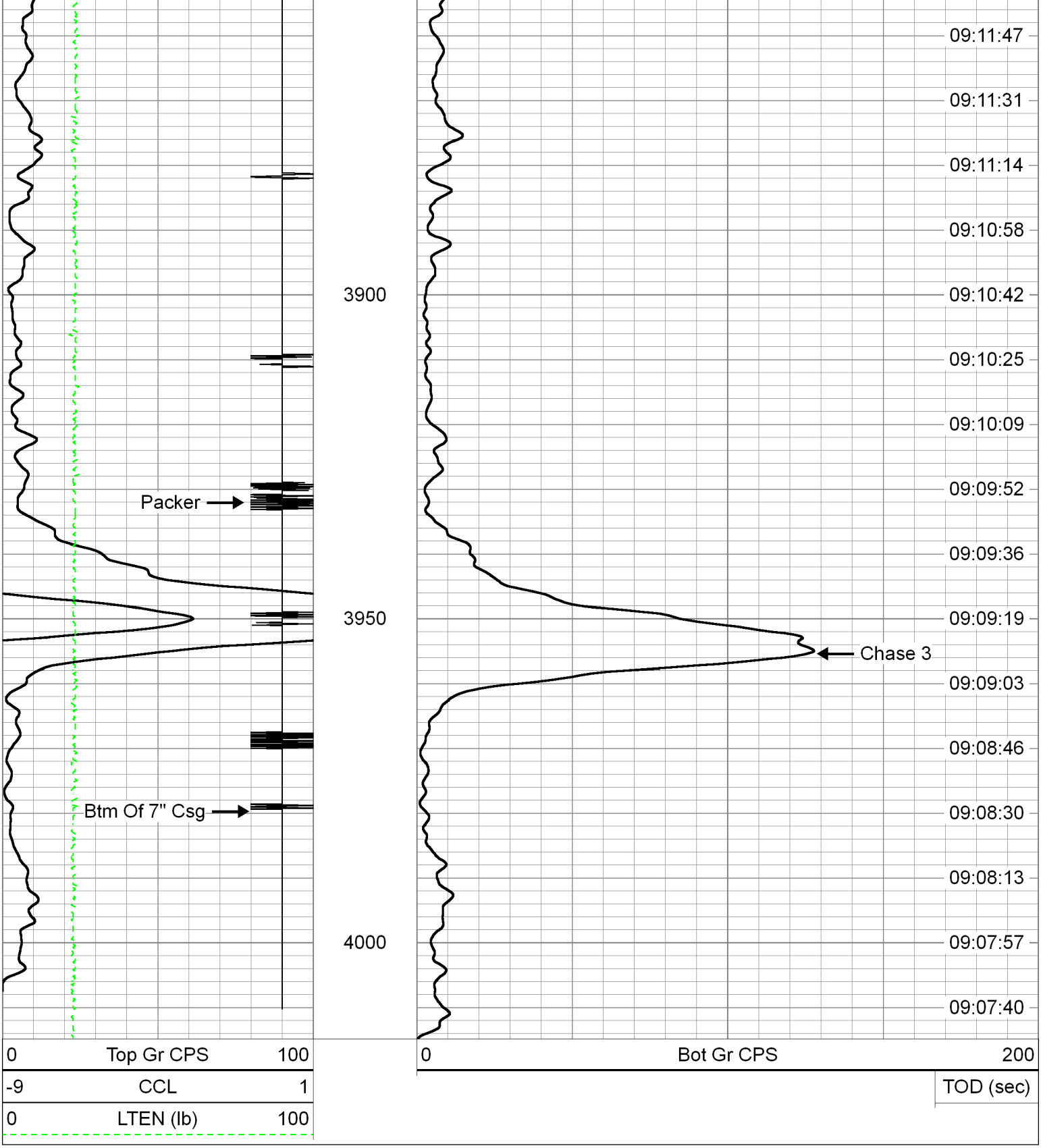
CHASE 3

Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	CHASE3
Presentation Format	tracermwl
Dataset Creation	Tue Sep 05 09:07:33 2023
Charted by	Depth in Feet scaled 1:240




3450
3500
3550
3600
09:23:38
09:23:22
09:23:06
09:22:50
09:22:34
09:22:18
09:22:02
09:21:46
09:21:30
09:21:14
09:20:58
09:20:42
09:20:26
09:20:10
09:19:54
09:19:38
09:19:22
09:19:05
09:18:49
09:18:33
09:18:17
09:18:01

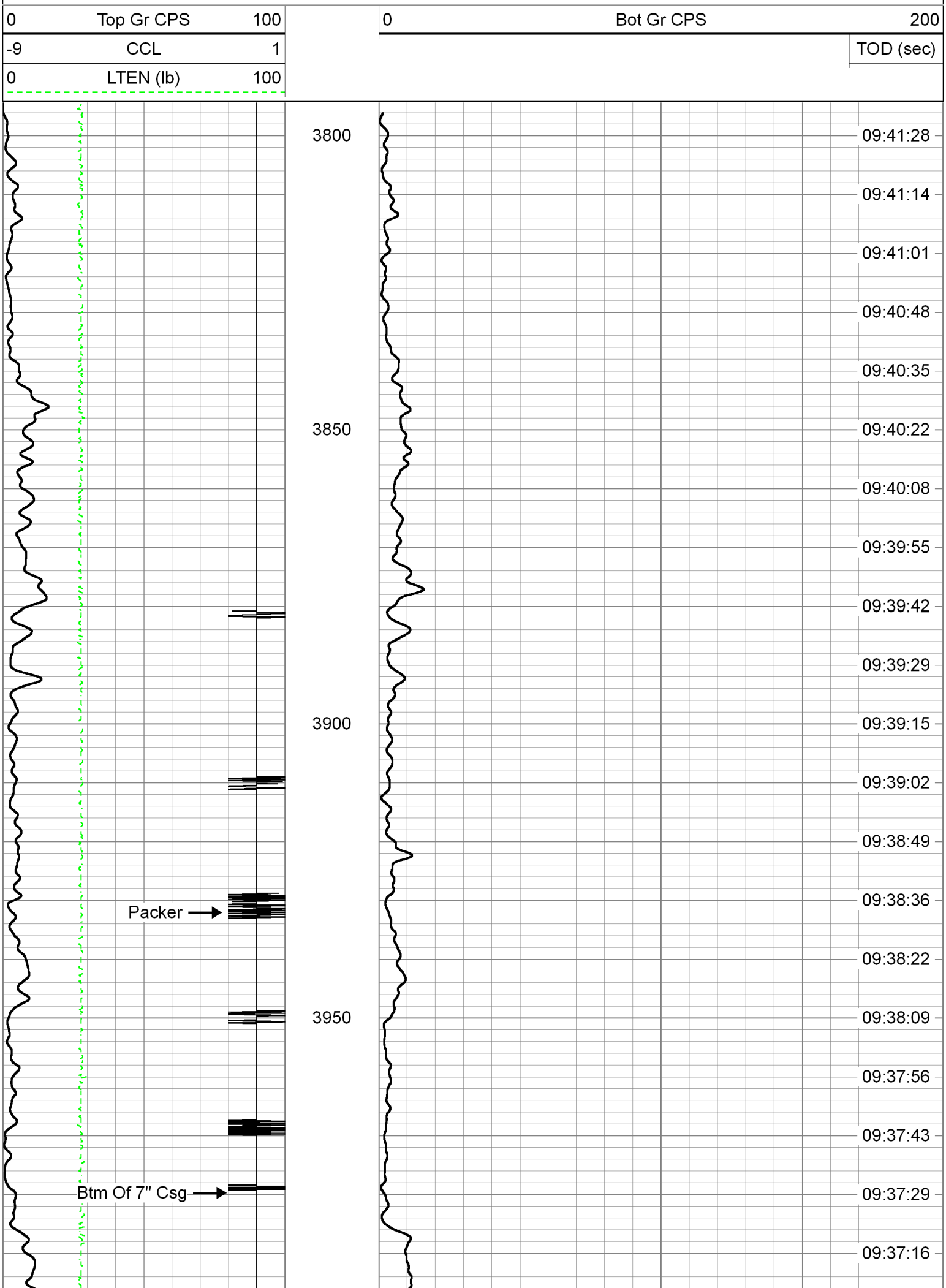

3650
3700
3750
3800
3850
09:17:45
09:17:29
09:17:13
09:16:57
09:16:41
09:16:25
09:16:09
09:15:53
09:15:37
09:15:20
09:15:04
09:14:48
09:14:32
09:14:15
09:13:59
09:13:43
09:13:26
09:13:10
09:12:53
09:12:37
09:12:20
09:12:04



michigan wireline services

CHASE 4

Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	CHASE4
Presentation Format	tracermwl
Dataset Creation	Tue Sep 05 09:30:48 2023
Charted by	Depth in Feet scaled 1:240


0
Top Gr CPS
100
-9
CCL
1
0
LTEN (lb)
100
0
Bot Gr CPS
200
TOD (sec)
3800
3850
3900
3950
09:41:28
09:41:14
09:41:01
09:40:48
09:40:35
09:40:22
09:40:08
09:39:55
09:39:42
09:39:29
09:39:15
09:39:02
09:38:49
09:38:36
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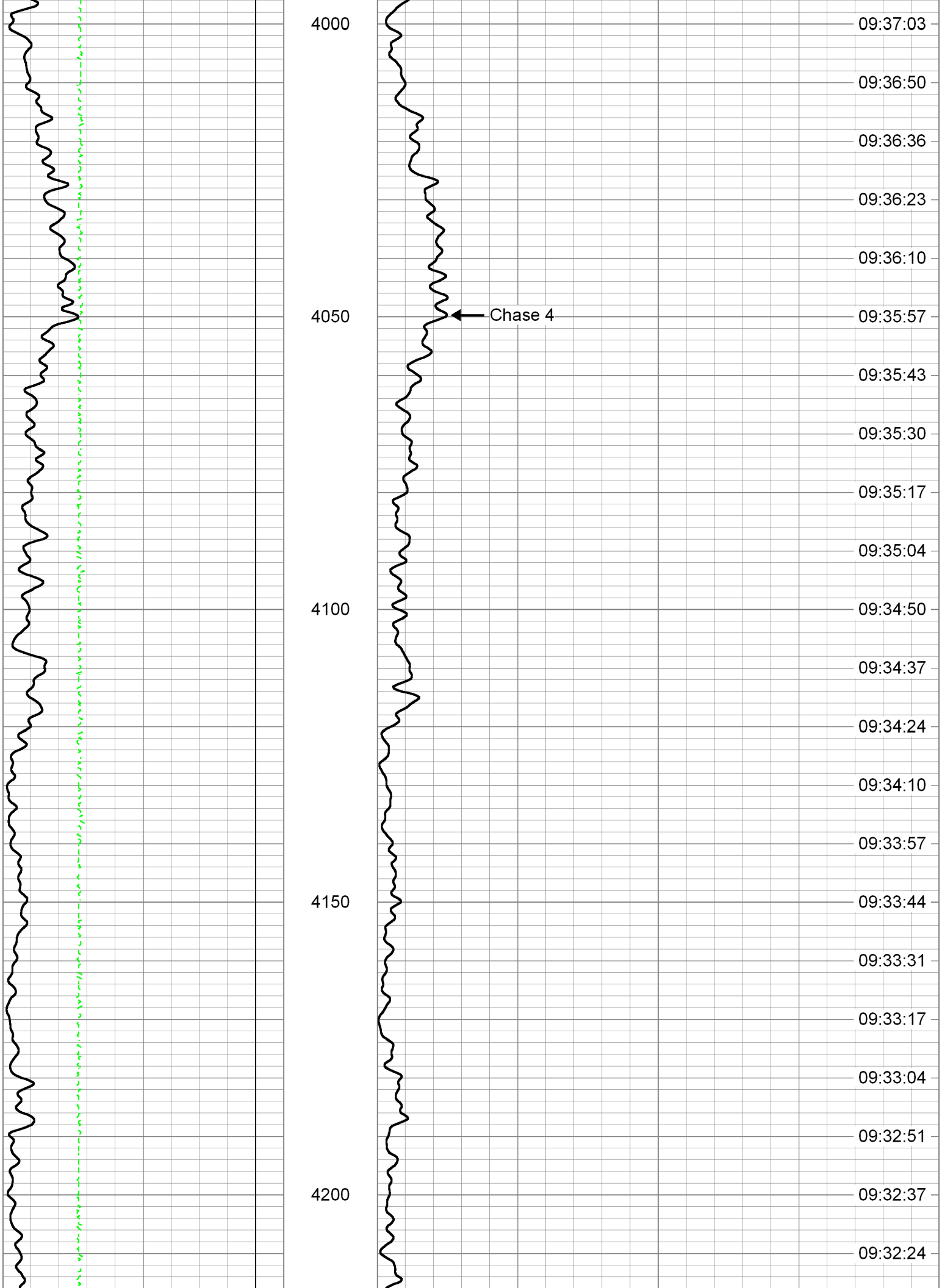
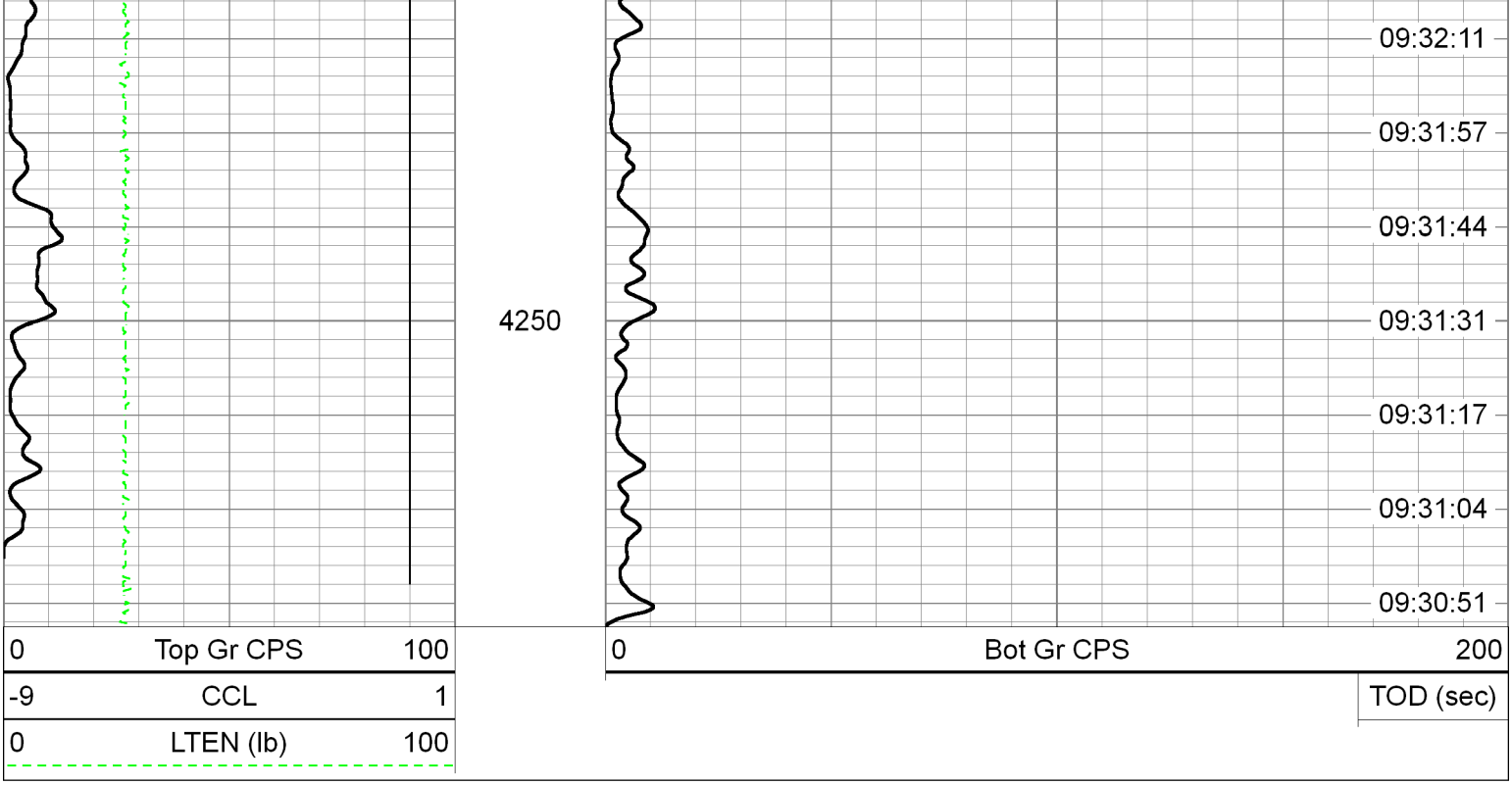
09:37:56
09:37:43
09:37:29
09:37:16
Packer
Btm Of 7" Csg


4000
4050
4100
4150
4200
Chase 4
09:37:03
09:36:50
09:36:36
09:36:23
09:36:10
09:35:57
09:35:43
09:35:30
09:35:17
09:35:04
09:34:50
09:34:37
09:34:24
09:34:10
09:33:57
09:33:44
09:33:31
09:33:17
09:33:04
09:32:51
09:32:37
09:32:24



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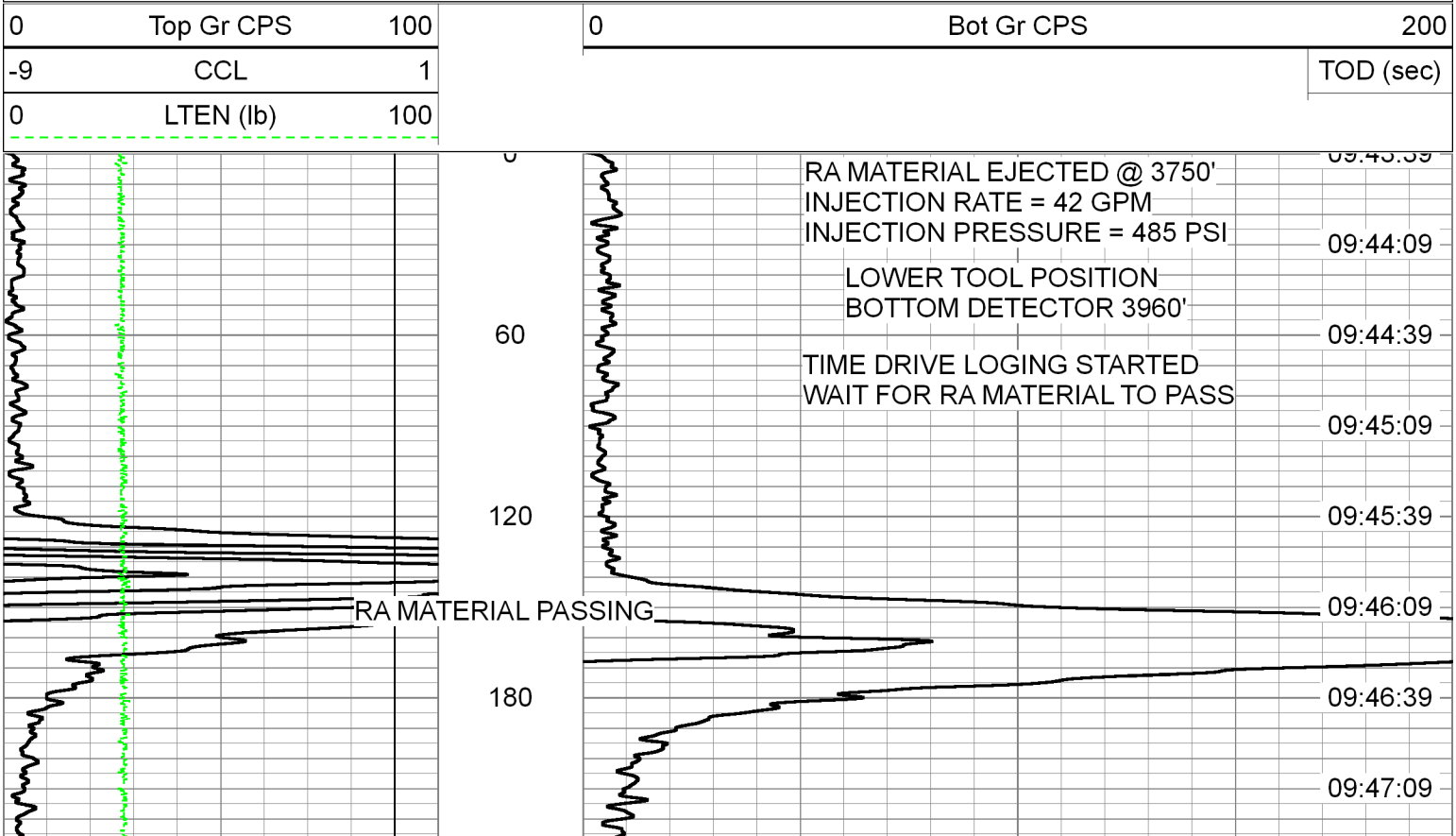
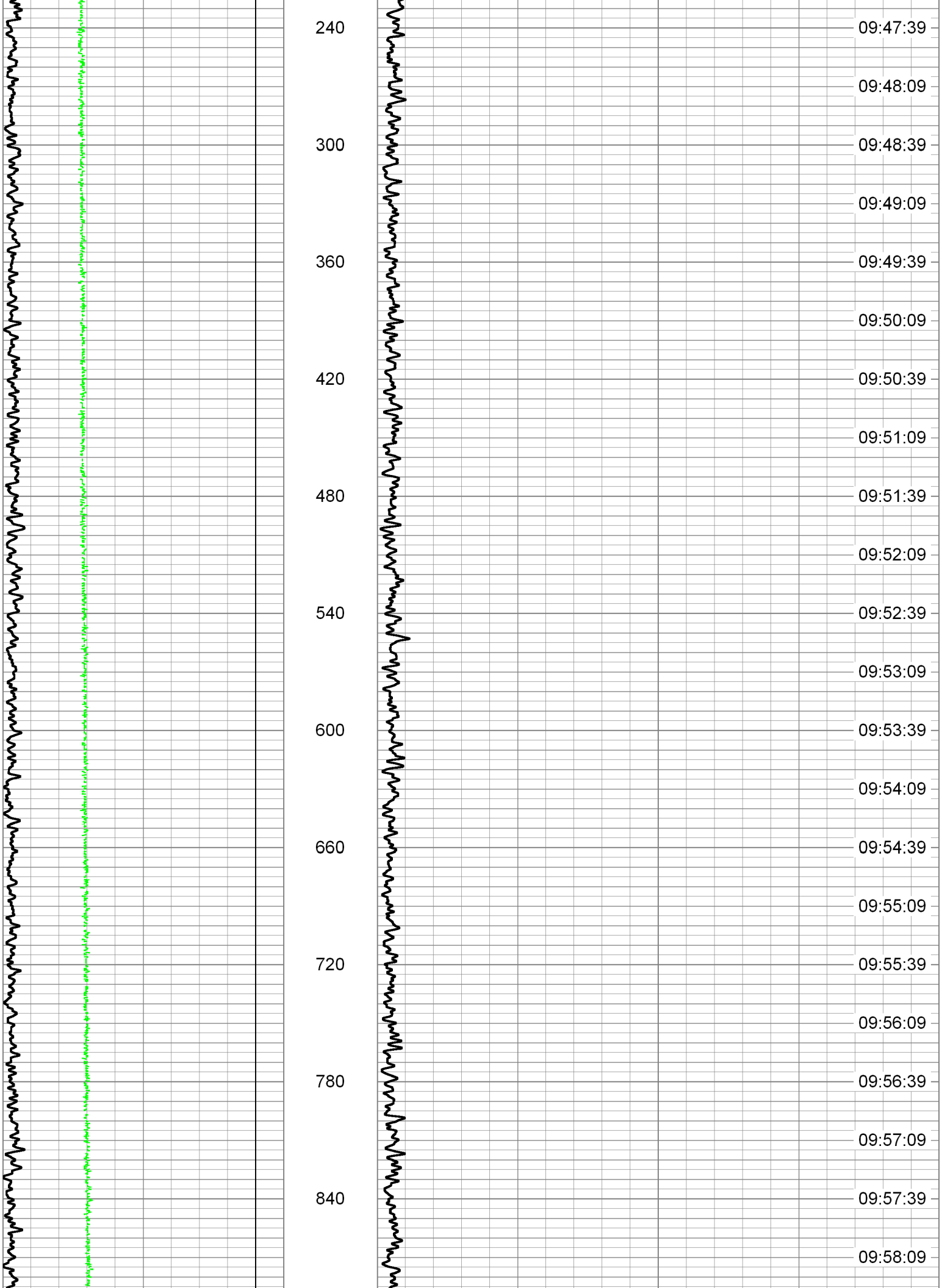
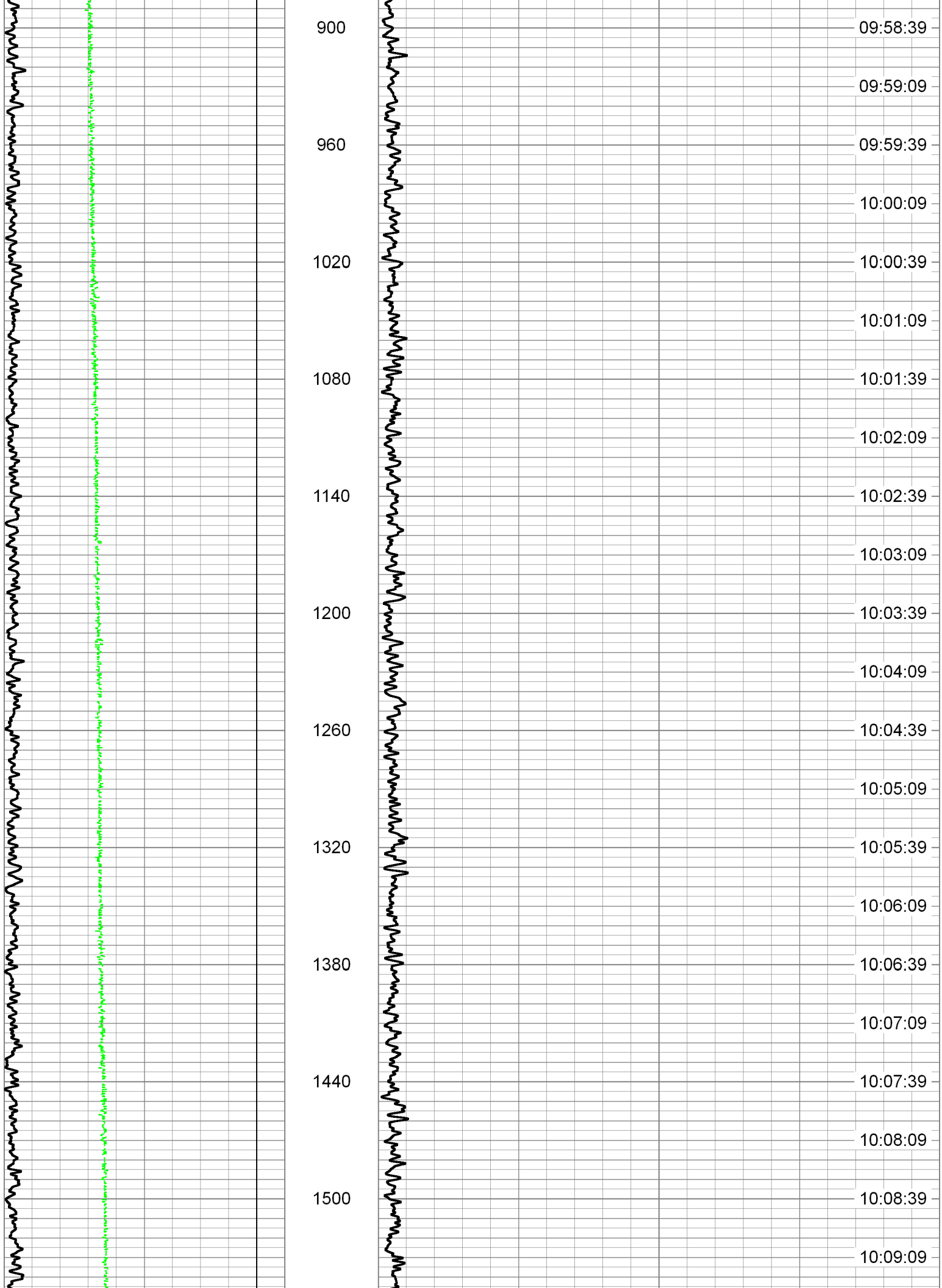
TIME DRIVE SURVEY

RA MATERIAL EJECTED AT 3750'
INJECTION 42 GPM 485 PSI

Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	30MIN
Presentation Format	tracer_time_60
Dataset Creation	Tue Sep 05 09:43:39 2023
Charted by	Time scaled 60/hour




240
300
360
420
480
540
600
660
720
780
840
09:47:39
09:48:09
09:48:39
09:49:09
09:49:39
09:50:09
09:50:39
09:51:09
09:51:39
09:52:09
09:52:39
09:53:09
09:53:39
09:54:09
09:54:39
09:55:09
09:55:39
09:56:09
09:56:39
09:57:09
09:57:39
09:58:09


900
960
1020
1080
1140
1200
1260
1320
1380
1440
1500
09:58:39
09:59:09
09:59:39
10:00:09
10:00:39
10:01:09
10:01:39
10:02:09
10:02:39
10:03:09
10:03:39
10:04:09
10:04:39
10:05:09
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10:06:09
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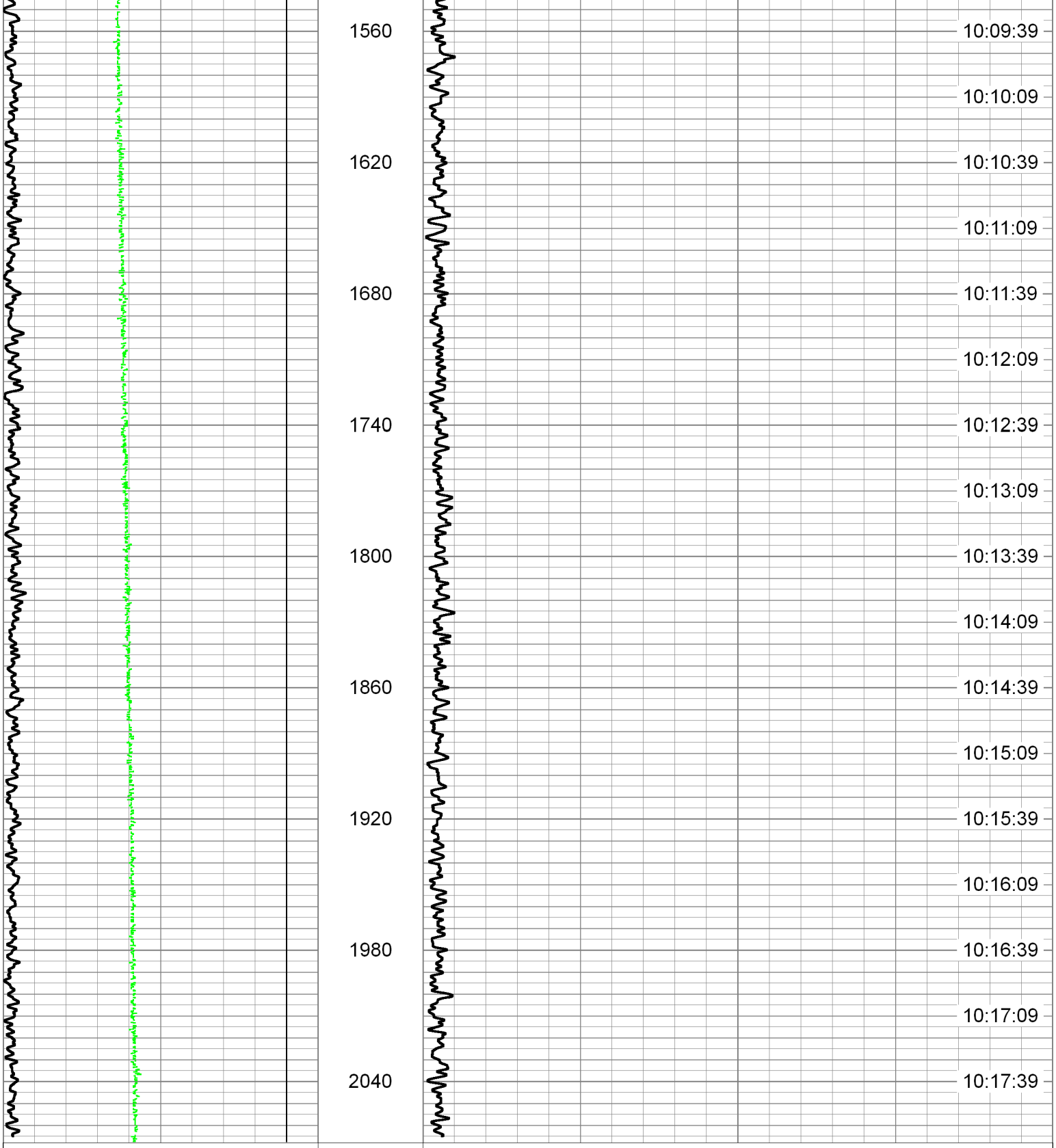
10:07:09
10:07:39
10:08:09
10:08:39
10:09:09



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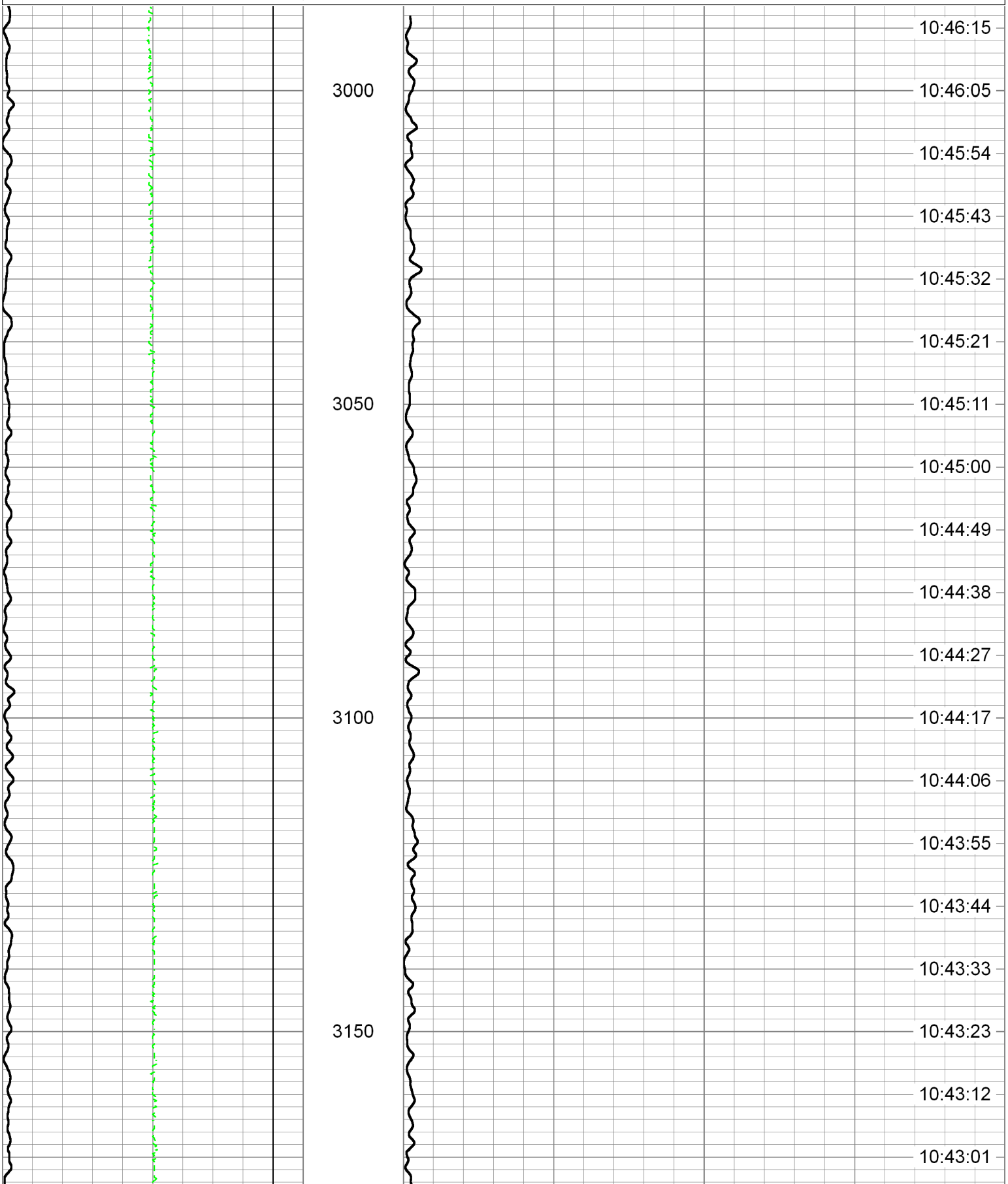
FINAL PASS

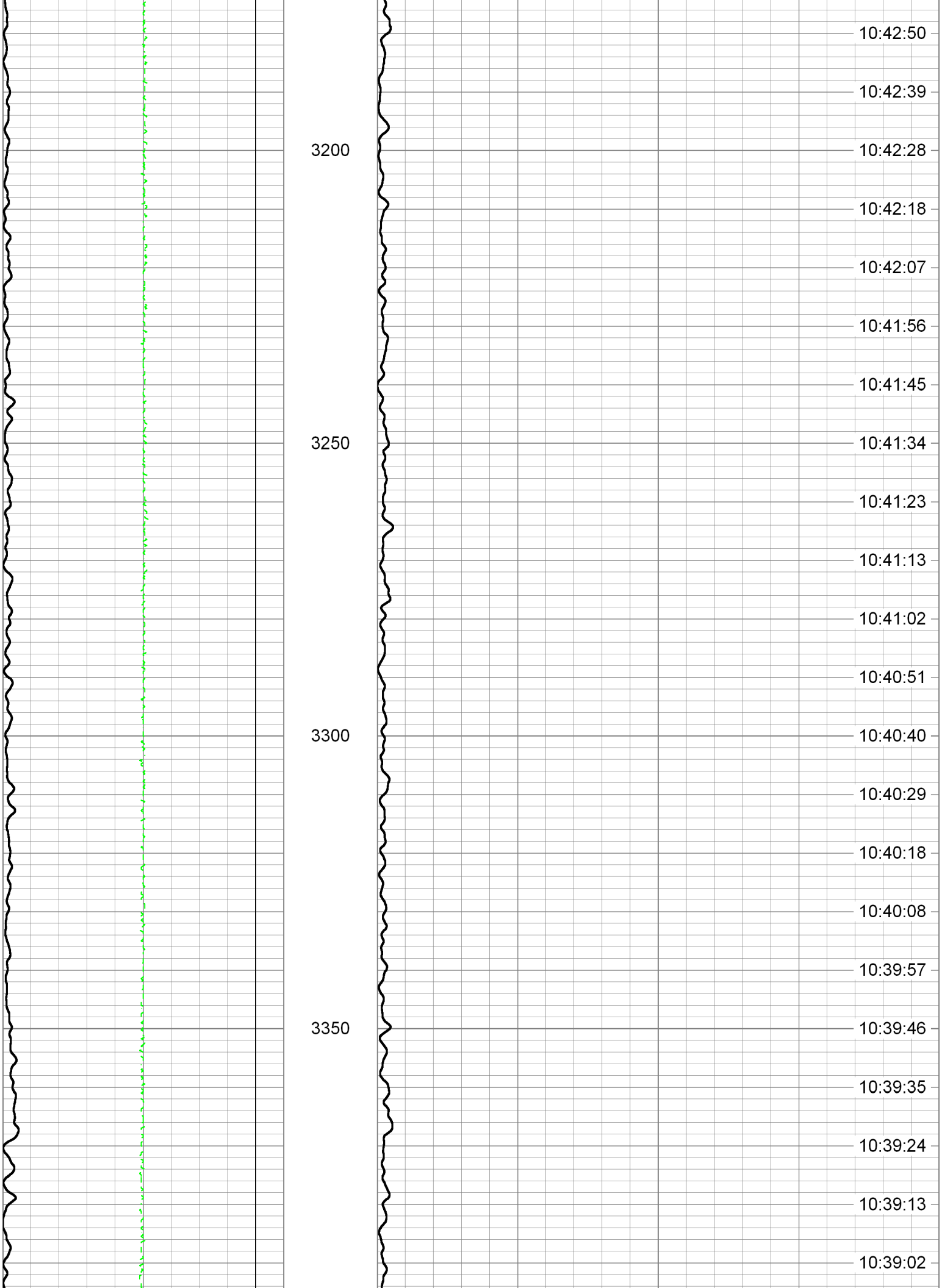
Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db

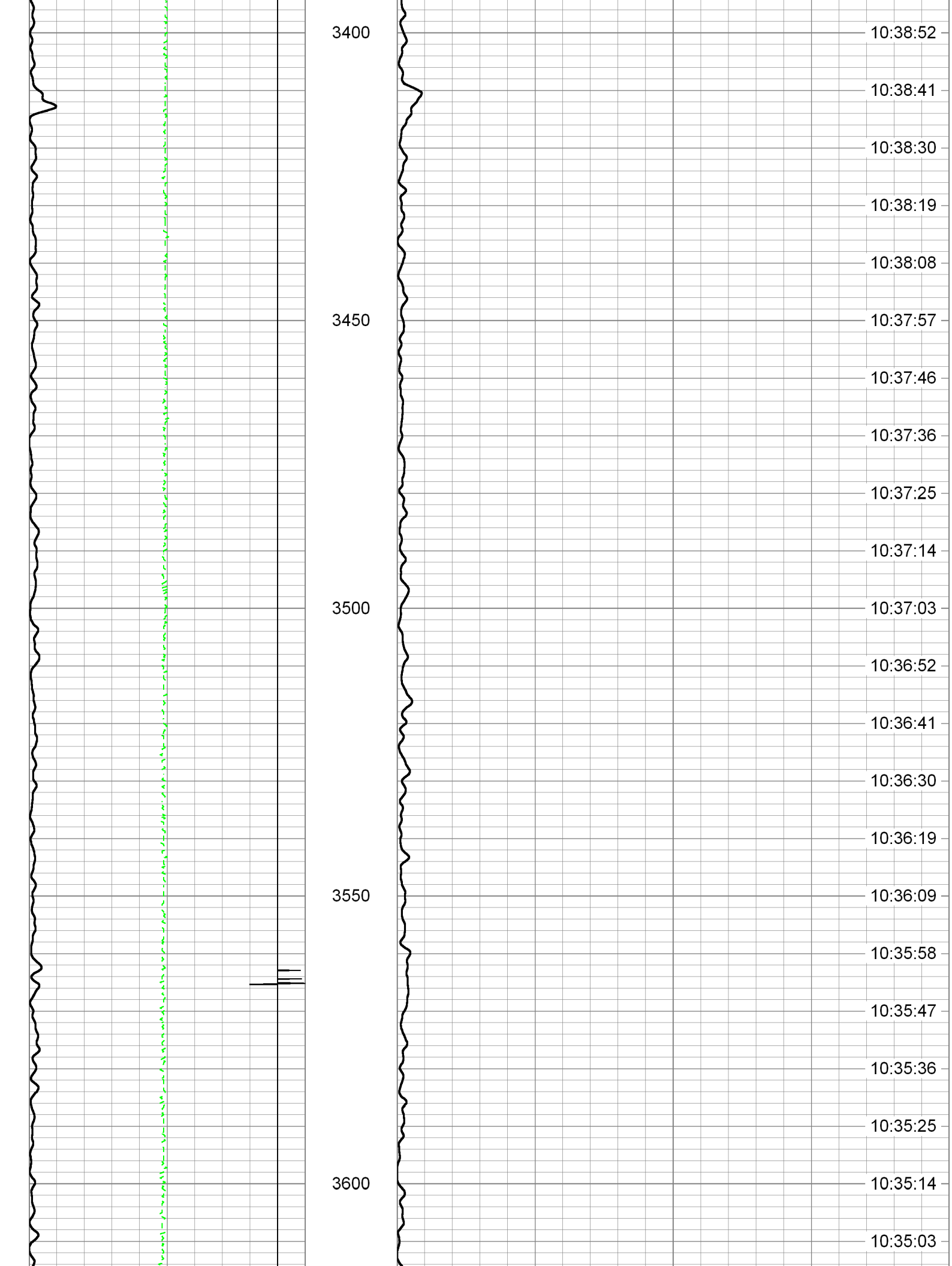
Dataset Pathname	FINAL
Presentation Format	tracermwl
Dataset Creation	Tue Sep 05 10:22:10 2023
Charted by	Depth in Feet scaled 1:240

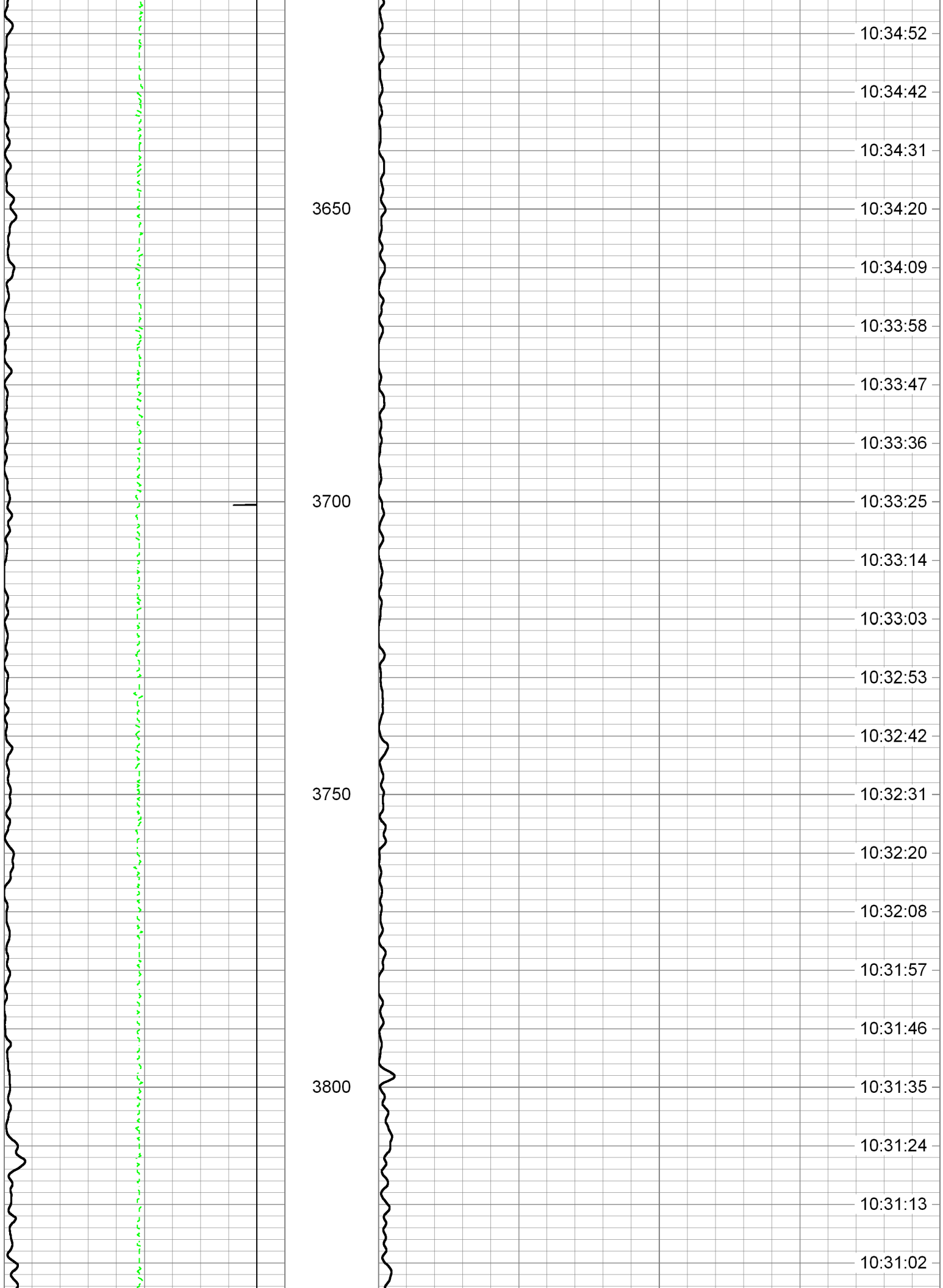
0	Top Gr CPS	100
-9	CCL	1
0	LTEN (lb)	100

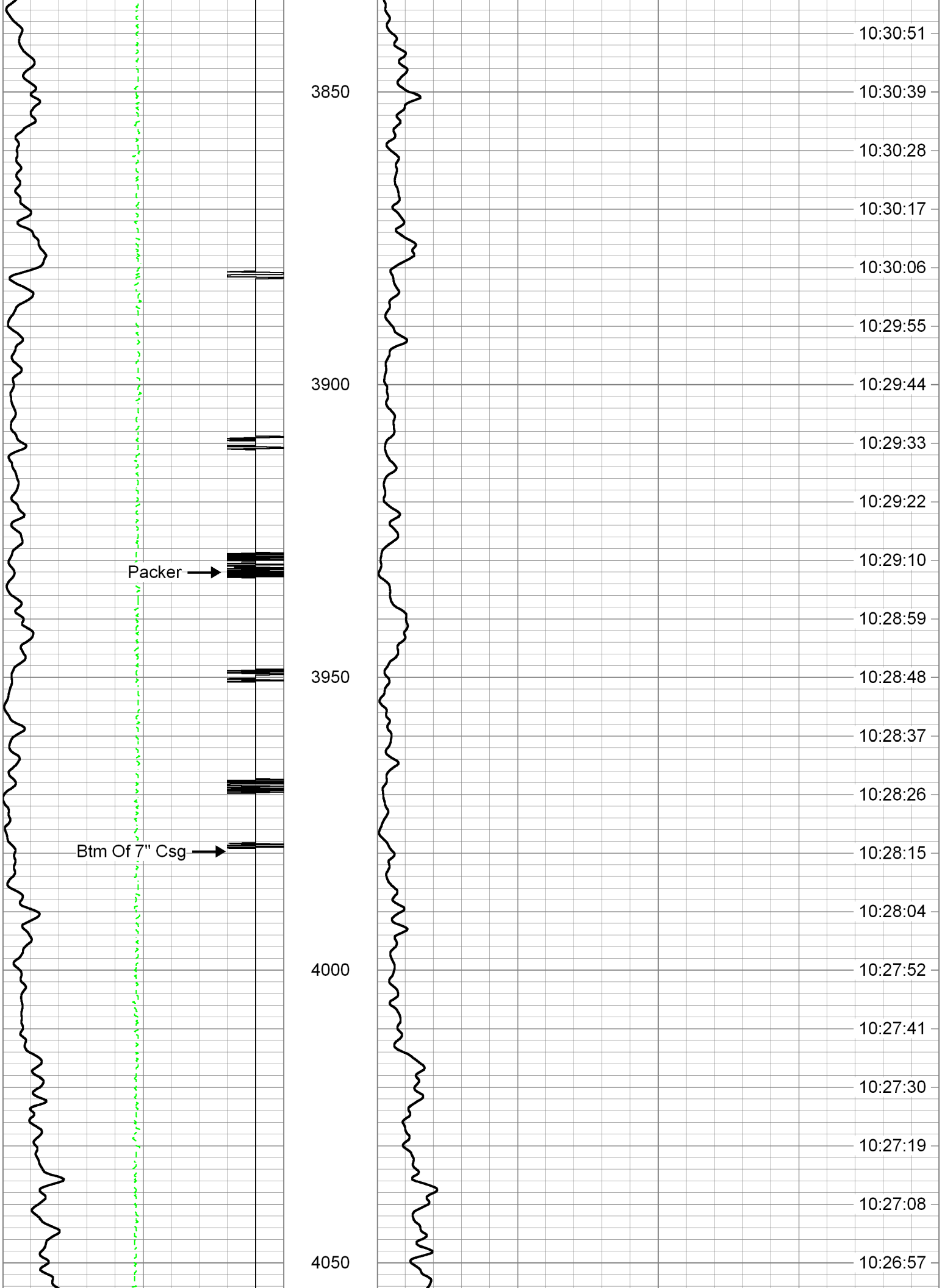
0	Bot Gr CPS 200
	TOD (sec)

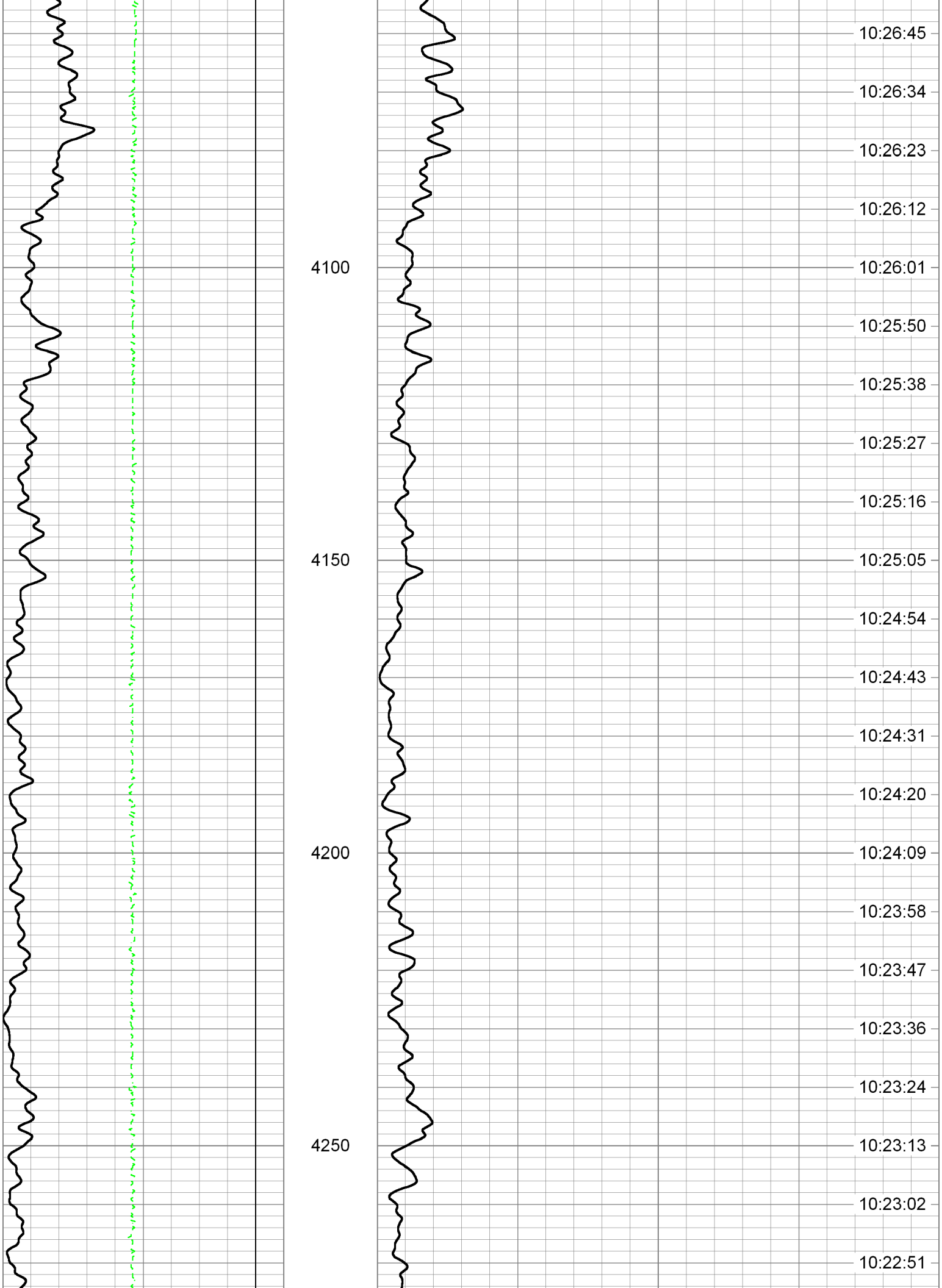


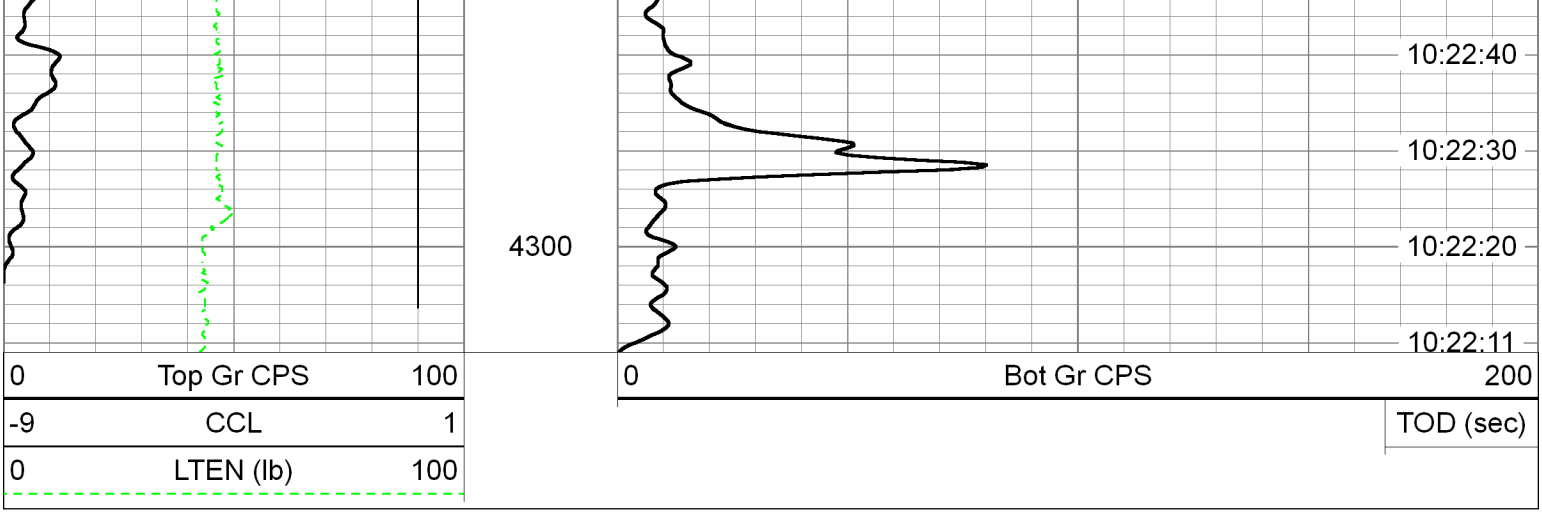

3200
3250
3300
3350
10:42:50
10:42:39
10:42:28
10:42:18
10:42:07
10:41:56
10:41:45
10:41:34
10:41:23
10:41:13
10:41:02
10:40:51
10:40:40
10:40:29
10:40:18
10:40:08
10:39:57
10:39:46
10:39:35
10:39:24
10:39:13
10:39:02


3400
3450
3500
3550
3600
10:38:52
10:38:41
10:38:30
10:38:19
10:38:08
10:37:57
10:37:46
10:37:36
10:37:25
10:37:14
10:37:03
10:36:52
10:36:41
10:36:30
10:36:19
10:36:09
10:35:58
10:35:47
10:35:36
10:35:25
10:35:14
10:35:03


3650
3700
3750
3800
10:34:52
10:34:42
10:34:31
10:34:20
10:34:09
10:33:58
10:33:47
10:33:36
10:33:25
10:33:14
10:33:03
10:32:53
10:32:42
10:32:31
10:32:20
10:32:08
10:31:57
10:31:46
10:31:35
10:31:24
10:31:13
10:31:02


3850
3900
3950
4000
4050
Packer
Btm Of 7" Csg
10:30:51
10:30:39
10:30:28
10:30:17
10:30:06
10:29:55
10:29:44
10:29:33
10:29:22
10:29:10
10:28:59
10:28:48
10:28:37
10:28:26
10:28:15
10:28:04
10:27:52
10:27:41
10:27:30
10:27:19
10:27:08
10:26:57


4100
4150
4200
4250
10:26:45
10:26:34
10:26:23
10:26:12
10:26:01
10:25:50
10:25:38
10:25:27
10:25:16
10:25:05
10:24:54
10:24:43
10:24:31
10:24:20
10:24:09
10:23:58
10:23:47
10:23:36
10:23:24
10:23:13
10:23:02
10:22:51



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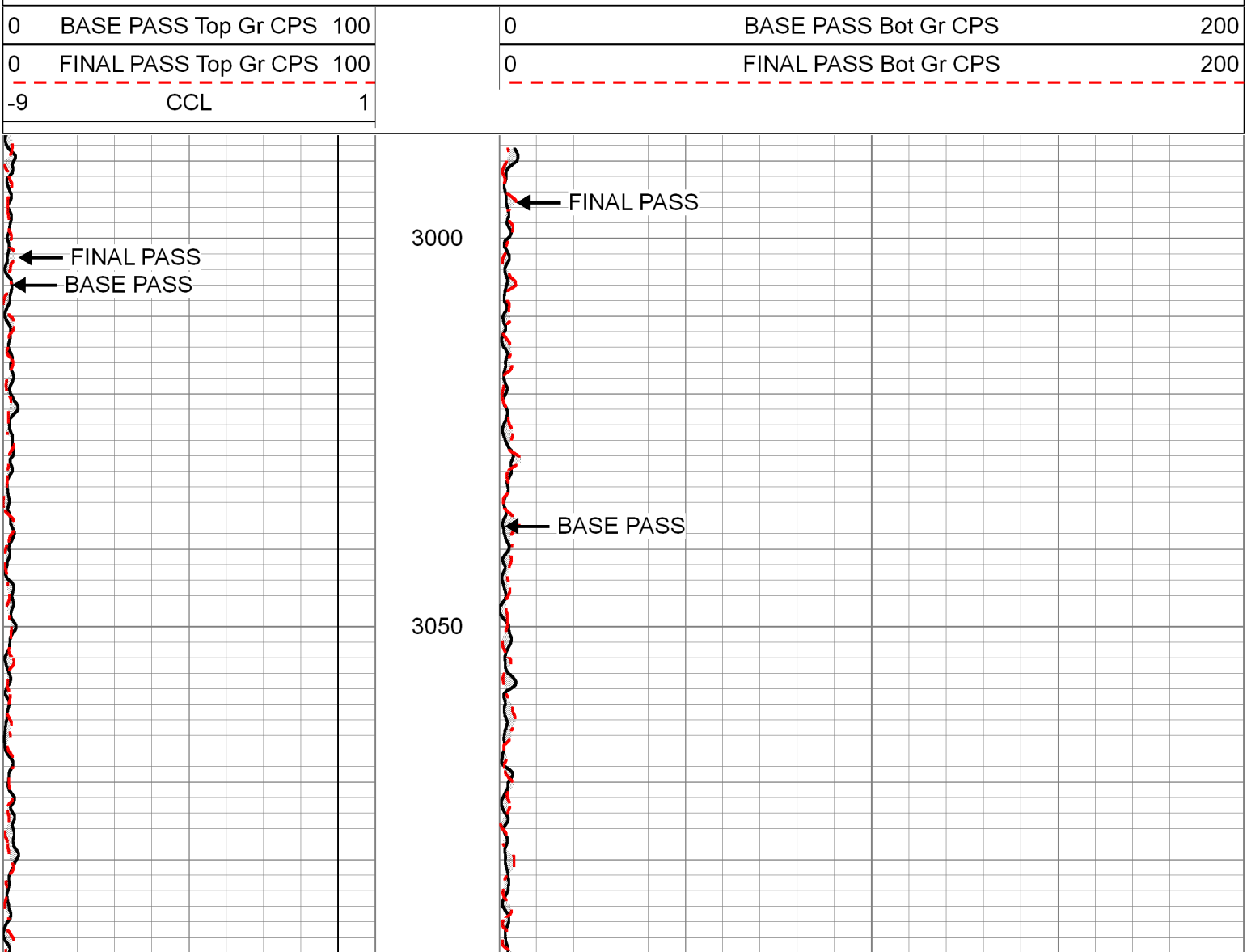
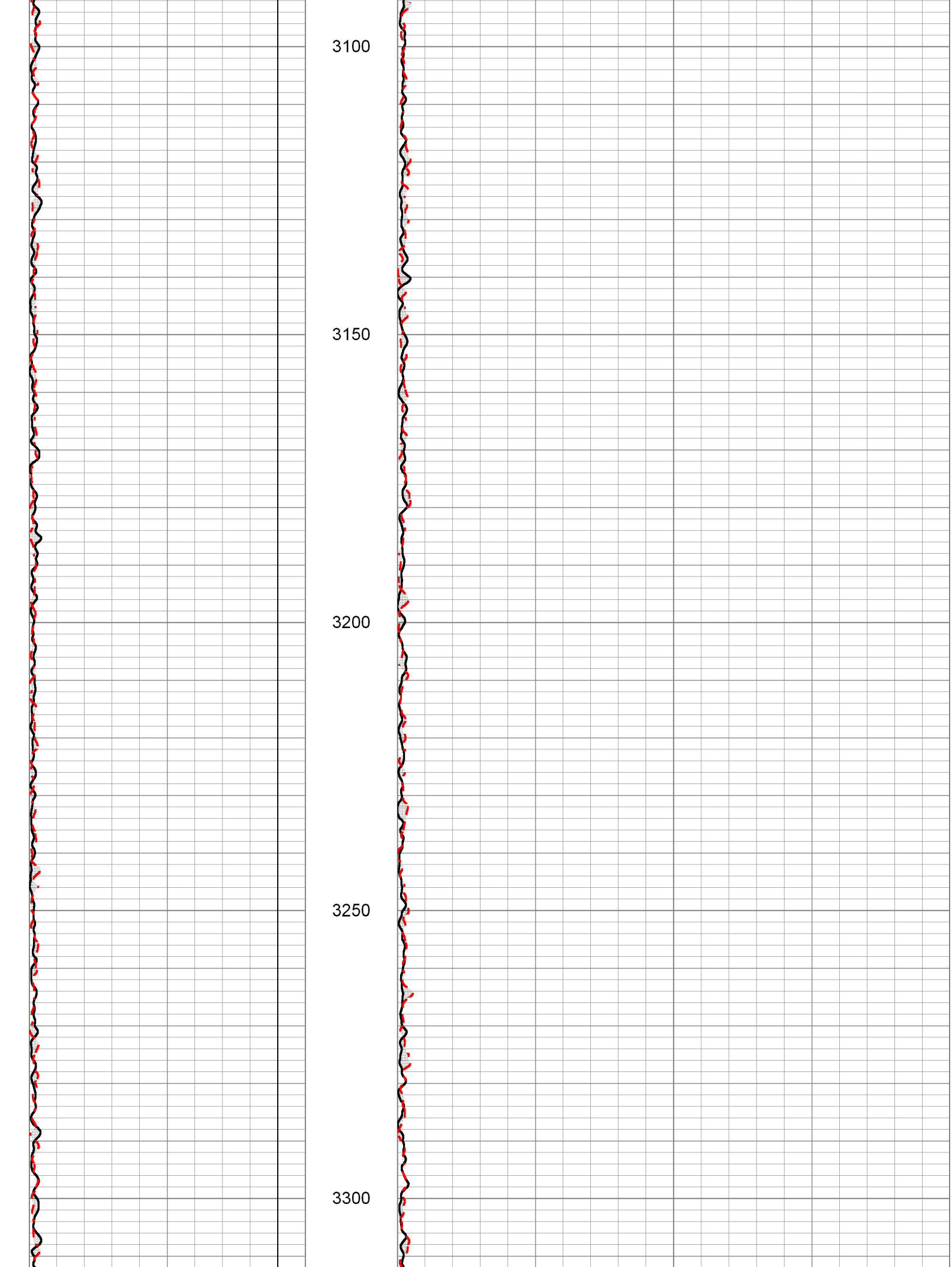
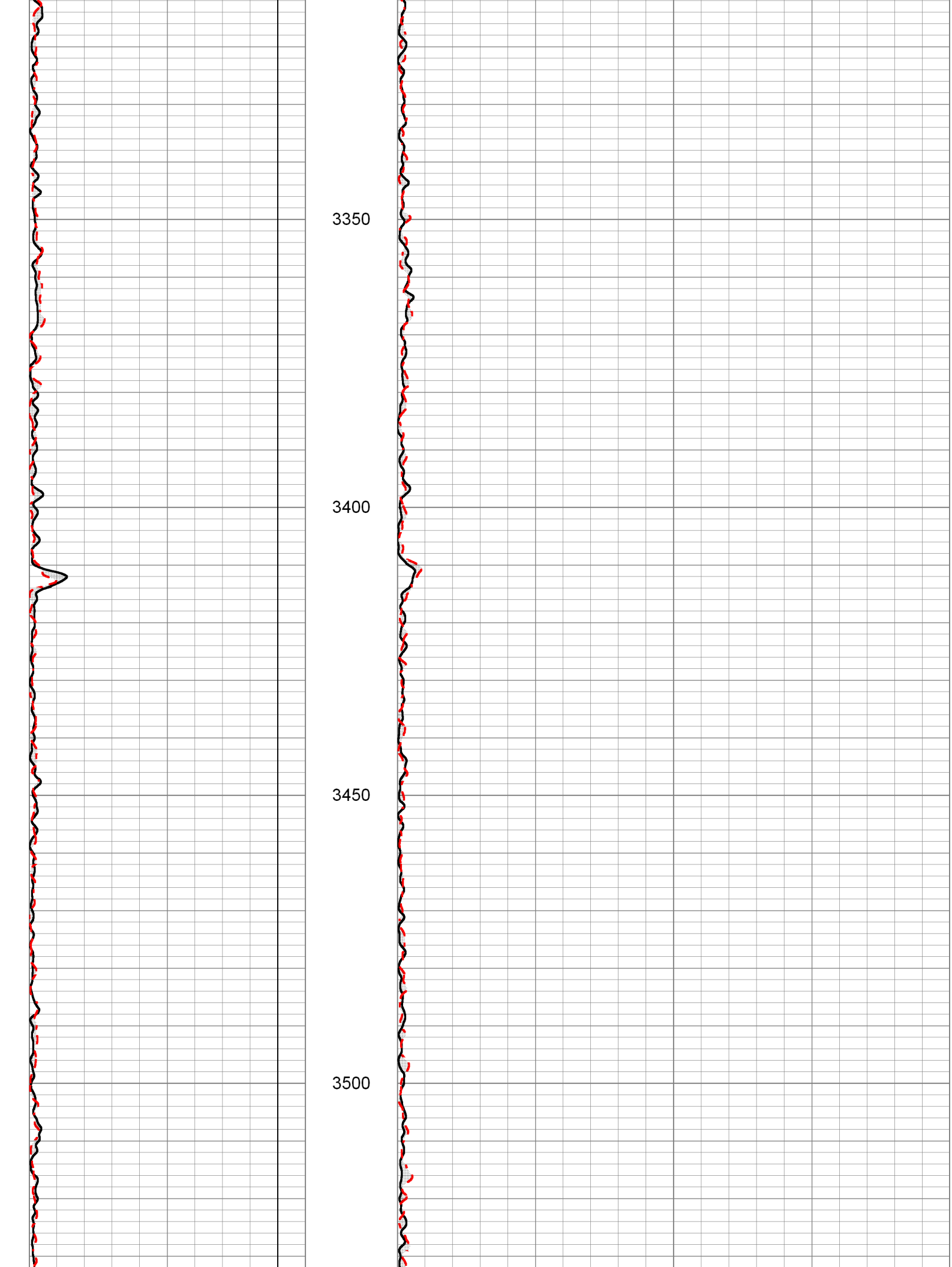
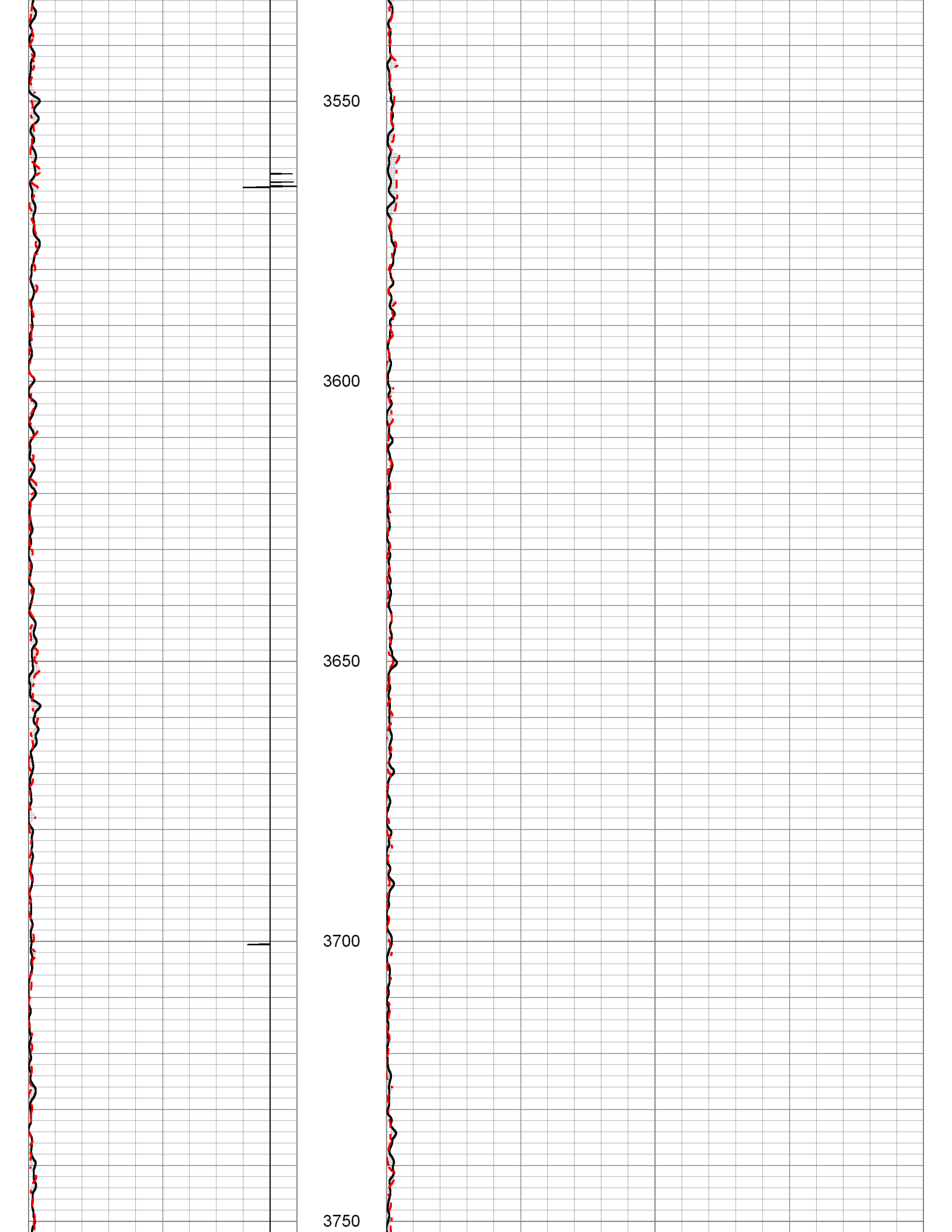
FINAL VS BASE

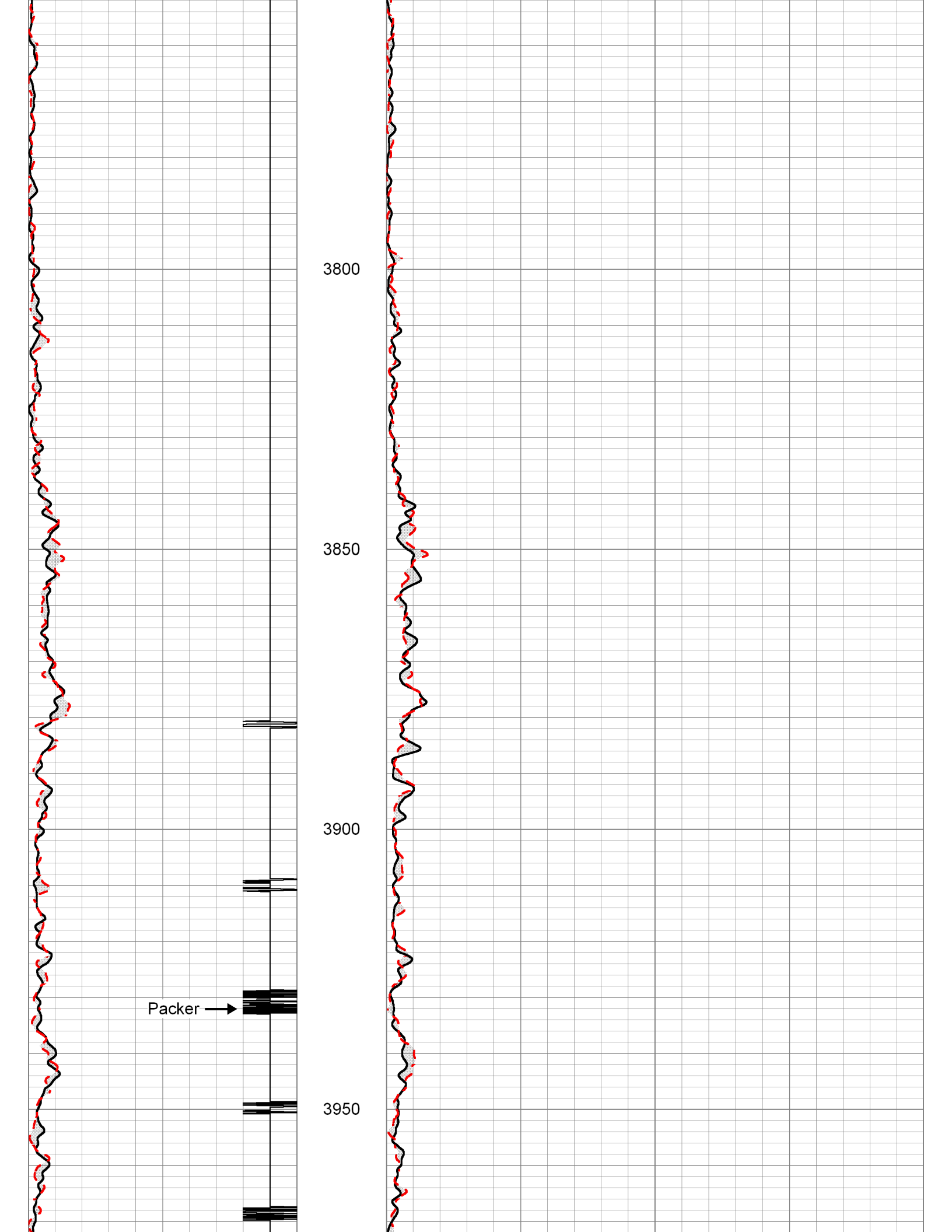
Database File	z:\enviromental geotech technologies\romulus storage\egt #2-12\2023\egt 2-12 2023.db
Dataset Pathname	FINAL_BASE
Presentation Format	tracer_final_vs_base
Dataset Creation	Tue Sep 05 10:46:43 2023
Charted by	Depth in Feet scaled 1:240

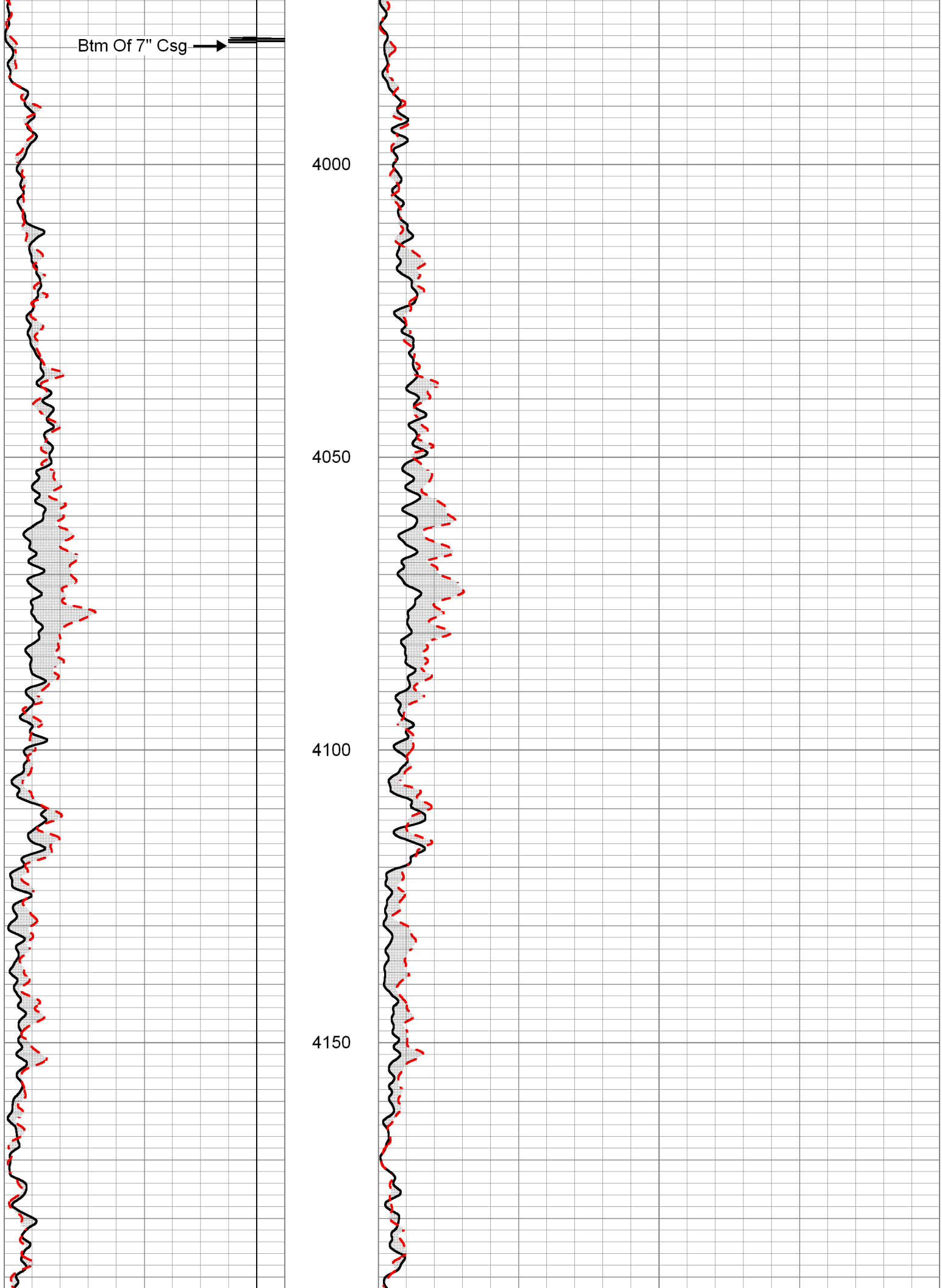


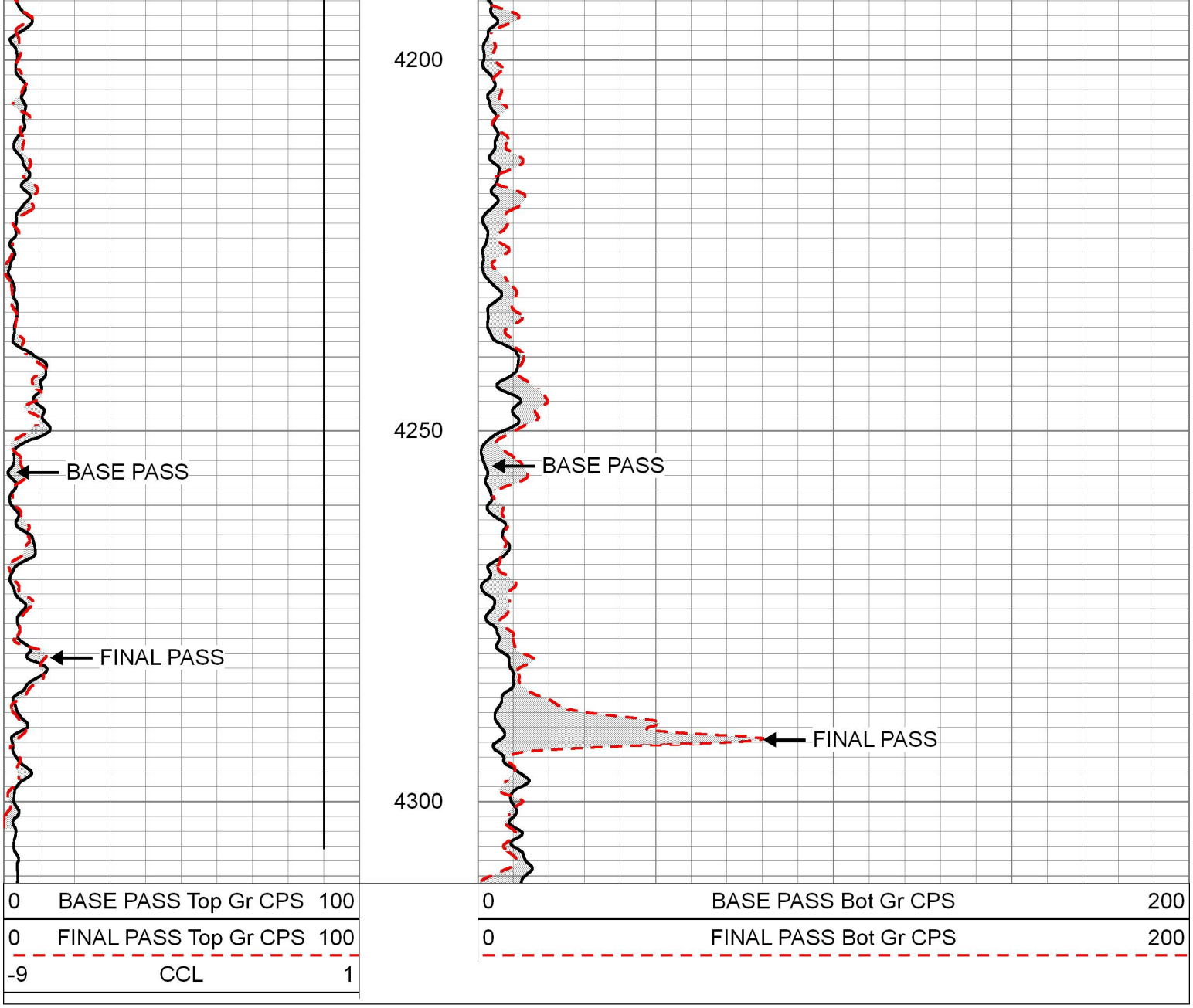

3100
3150
3200
3250
3300


3350
3400
3450
3500


3550
3600
3650
3700
3750


3800
3850
3900
3950
Packer


Btm Of 7" Csg
4000
4050
4100
4150



Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			TREJCT-COMPROBE_MID (0004) Comprobe Ejector DO NOT EXCEED 100ma	0.08	1.38	25.00
DET$2	9.73					

			TRDET-COMPROBE_MID_NO_BAR_SHORT (0006) Comprobe Middle Ejector no spacer bar	13.15	1.38	10.00
CCL	4.50					
DET$1	1.00					
LOCTIM	0.00					

Dataset:	egt 2-12 2023.db: field/well/run1/FINAL_BASE
Total length:	13.23 ft
Total weight:	35.00 lb
O.D.:	1.38 in

ATTACHMENTS

ATTACHMENT 1

RAW PRESSURE AND TEMPERATURE DATA FROM FALLOFF AND STATIC PRESSURE GRADIENT (09-06-23 – 09-07-23)

ATTACHMENT 2

WELL 2-12 RAT SURVEY - 4 CHASE PASSES (09-05-23).LAS

ATTACHMENT 3

WELL 2-12 RAT SURVEY - TIME-DRIVE (09-05-23).LAS

ATTACHMENT 4

WELL 2-12 RAT SURVEY - BASE_FINAL PASSES (09-05-23).LAS