



GRANDVIEW RESERVE METROPOLITAN DISTRICT NO. 1 - WELLS LFH-1 AND A-1 WELL COMPLETION REPORT

Prepared for:

Melody Homes, Inc.

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Project Number

4053HRG02

The technical material in this report was prepared by or under the supervision and direction of the undersigned, whose seal as a Professional Engineer is affixed below.



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SECTION 1: INTRODUCTION

This report summarizes LRE Water's (LRE) documentation of the drilling and well construction activities for Melody Homes, Inc. (Melody) and the Grandview Reserve Metropolitan District No. 1 (District) of a Laramie-Fox Hills aquifer well designated as (LFH-1) and an Arapahoe aquifer well designated as A-1. The report includes documentation of the well permitting, geologic conditions encountered, drilling progression, well construction, well development, and aquifer testing results and associated analyses for well LFH-1 and well A-1. Additionally, upon completion of the wells and near the end of the testing program, water quality samples were collected and analyzed for a complete suite of analyses for evaluation of water quality and for water treatment design purposes.

Well LFH-1 (Well Permit No. 88240-F) was completed in the Laramie-Fox Hills aquifer of the Upper Black Squirrel Creek Designated Basin (UBS) and well A-1 (Well Permit No. 88211-F) was completed in the Arapahoe aquifer, both wells are completed in the UBS area of the regional Denver Basin aquifer system. The Arapahoe aquifer is not differentiated into an upper portion and lower portion as it is in other areas of the Denver Basin aquifer system. Table 1 presents the well permit information for the wells.

Hydro Resources (Hydro) was contracted by the District for the drilling, construction, development, and testing of wells LFH-1 and A-1. Standard borehole geophysical electric logs were run for collection of geophysical data to include resistivity, gamma ray, and spontaneous potential. Additionally, a caliper log, neutron porosity, and dual compensated density log of the borehole were completed by Midwest Wireline. Lithologic, geologic, and hydrogeologic analyses along with construction observation were performed by LRE. As of the date of this report, the well pumping equipment has not been selected or installed. Figure 1 provides the location of the wells.

SECTION 2: PROJECT TIMELINE

The following is the project timeline:

- June 2023: Well permits received from the Colorado Division of Water Resources (DWR)
- September 2023: Hydro selected as the drilling contractor
- October 2023: Well pad prepared

- January 2024 through June 2024: LFH-1 and A-1 well drilling, construction, development, aquifer testing, and water quality sampling activities were completed

SECTION 3: WELL PERMITTING

Prior to well construction, the District filed Well Construction Permit applications with the DWR. The DWR issued permits in June 2023 under permit numbers 88240-F (LFH-1) and 88211-F (A-1). Permit amendments were approved by DWR to allow for a sump below the base of each of the respective aquifers, for amendment to the top elevation of the Arapahoe aquifer as summarized below, and for a geophysical log waiver for the A-1 borehole due to the proximity of the LFH-1 borehole location to the A-1 location.

Based on geophysical data, the Laramie-Fox Hills aquifer is within the LFH-1 (88240-F) permitted interval from 2,025 to 2,294 feet below ground surface (ft-bgs) and the Arapahoe aquifer is within the A-1 (88211-F) permitted interval of 1,190 to 1,705 ft-bgs. LRE consulted with the DWR, Hydrogeology group on March 14, 2024 upon review and interpretation of the geophysical logs to verify the aquifer picks (top and bottom) as permitted and interpreted from the logs and previous geologic modeling work completed by LRE. The DWR concurred with LRE's interpretation which resulted in an increase in total aquifer thickness of approximately 50 feet for A-1, to include additional sand packages near the top of the Arapahoe aquifer.

Appendix A contains the final permits and well completion reports for well LFH-1 and well A-1. Table 1 includes the permit details and coordinates for the wells.

SECTION 4: GEOLOGY

Standard geophysical logs to include gamma ray, resistivity, spontaneous potential, bulk density, caliper, and density porosity, were obtained from the borehole prior to construction of well LFH-1. Neutron porosity with a sandstone, limestone, and dolomite matrix was also obtained from the borehole. Appendix B presents the geophysical log results from the borehole for well LFH-1 through the entire drilled interval. The geophysical logs obtained from well LFH-1 were also used for interpretation of the aquifer intervals for well A-1 as discussed above, and as authorized by DWR.

Geology and lithology of each borehole was determined from samples collected during drilling and from interpretation of the geophysical logs. Grab samples were collected from the shaker plate by Hydro at 10 foot intervals, bagged, labeled, and stored for logging. The samples were logged by LRE and provided estimates of grain size distribution of sand, silt, clay, shale, and coal in the samples along with a visual description of color and

gradation. The lithologic logs are included in Appendix C. In general, the samples from the lower extents of the boreholes above the Laramie-Fox Hills (LFH-1) and Arapahoe (A-1) aquifers were often composed of or contaminated with mixed clays introduced by sluffing within the borehole and clay/mud production at the drill bit, compromising the accuracy of the lithologic log. The geophysical logs provide confirmation of the aquifer tops and bottoms, as well as the presence of sandstone, siltstone, claystone, shale or coal within the aquifer matrix. The ground surface elevation of the well site is approximately 6,973 feet mean sea level (ft-msl).

Geologic interpretation of the Laramie-Fox Hills aquifer interval (LFH-1):

The ground surface elevation for well LFH-1 is approximately 6,973 feet mean sea level (ft-msl). The Laramie formation represents a confining zone between the Arapahoe and the Laramie-Fox Hills aquifers, and is located from approximately 1,705 to 2,031 ft-bgs, approximately 326 feet in thickness. This confining zone is defined by dark gray clay and mudstone, with coal seams present from approximately 2,014 to 2,024 ft-bgs. The base of the Fox Hills formation, representing the base of the Laramie-Fox Hills aquifer, is characterized by dark gray clay with relatively low resistivity. The approximate 269-foot-thick Laramie-Fox Hills aquifer interval showed one thick sandstone package and several thin sandstone packages of high resistivity separated by thinner intervals of siltstone, claystone, and shale. Qualitatively, these results are typical of the Denver Basin, Laramie-Fox Hills aquifer. In general, the geophysical indicators of resistivity, gamma ray, and porosity show that the Laramie-Fox Hills aquifer has productive aquifer material.

Geologic interpretation of the Arapahoe aquifer interval (A-1):

The ground surface elevation for well A-1 is approximately 6,973 feet mean sea level (ft-msl). The confining bed between the overlying Denver aquifer and the Arapahoe aquifer is located approximately 1,166 to 1,189 ft-bgs, approximately 23 feet in thickness, and is defined by dark gray sandy clay. The lower confining bed starting at about 1,710 ft-bgs is characterized by dark gray, low resistivity, flaky mudstone and dark gray clay. The approximate 515-feet of the Arapahoe aquifer interval showed several moderately-thick sandstone packages of high resistivity separated by thick intervals of siltstone, claystone, and shale. Qualitatively, these results appeared typical of the Denver Basin Arapahoe aquifer in this area. In general, the geophysical indicators of resistivity, gamma ray, and porosity show that the Arapahoe aquifer has less productive aquifer material in comparison to the Laramie-Fox Hills aquifer.

SECTION 5: WELL CONSTRUCTION

5.1 BOREHOLE DRILLING

Well LFH-1:

- **Surface Casing:** The drilling and completion of the surface casing, a 24-inch outside diameter (OD) steel, 0.375-inch wall surface casing, from the ground surface to a depth of 40 feet, was set to support the rig during drilling activities and for a surface seal to protect the aquifer from surface contamination. The boring for the surface casing was advanced with a solid stem auger drill rig with a 36-inch diameter bit. The surface casing was cemented in place after being placed and centralized in the borehole.
- **Production Well:** For Well LFH-1, Hydro advanced a 17.5-inch diameter borehole with a Challenger 320 reverse rotary drilling rig, utilizing a flooded reverse circulation drilling technique. The borehole was kept open during drilling and well casing placement by maintaining a positive hydraulic head in the boring at the ground surface with drilling mud. A drilling mud program was developed by Hydro's mud engineer and implemented according to plan for protection of the borehole integrity during drilling and completion operations. Drilling penetration rates varied from approximately 3 to 152 feet per day during drilling of the LFH-1 borehole, generally slowing with depth. Borehole depth was limited to the bottom of the geologically identified Laramie-Fox Hills aquifer interval with an additional 30 feet of drilling below the aquifer, as authorized by the DWR to allow for a rathole and installation of a sump.

Well A-1:

- **Surface Casing:** The drilling and completion of the surface casing, a 20-inch outside diameter (OD) steel, 0.375-inch wall surface casing, from the ground surface to a depth of 40 feet. The boring for the surface casing was advanced with a solid auger drill rig with a 32-inch diameter bit. The surface casing was cemented in place after being placed and centralized in the borehole.
- **Production Well:** Hydro advanced a 14.75-inch diameter borehole with a Challenger 320 reverse rotary drilling rig, utilizing a flooded reverse circulation drilling technique. The borehole was kept open during drilling and well casing placement by maintaining a positive hydraulic head in the boring at the ground surface with drilling mud. A drilling mud program was developed by Hydro's mud engineer and implemented according to plan for protection of the borehole integrity

during drilling and completion operations. Drilling penetration rates varied from approximately 54 to 232 feet per day during drilling of the well A-1 borehole. Borehole depth was limited to the bottom of the geologically identified Arapahoe aquifer interval with an additional 40 feet of drilling below the aquifer, as authorized by the DWR, to allow for a rathole and installation of a sump.

For both boreholes, a Sure Shot tool was used to measure borehole alignment while drilling every 100 feet. All measurements indicated boreholes that were straight and within specification.

During the drilling of the well Hydro had several issues with equipment related to maintenance and breakdowns causing delays, otherwise drilling operations proceeded as planned.

5.2 WELL CONSTRUCTION

After drilling, Hydro constructed the wells according to the final screen designs prepared by LRE. The well construction is summarized as follows:

Well LFH-1: Constructed to the final screen design by placing 10.75-inch (OD) blank, plain end, carbon steel well casing, 0.365-inch wall, American Petroleum Institute (API) Range 3 (40 foot length), and 10.75-inch (OD), Type 304L, 0.02 inch (i.e. “20 slot”) slotted, stainless steel, wire wrapped screen in 10 and 20 foot lengths in the borehole according to the screen schedule. Each casing length was welded together as the casing was being placed. A 10.75-inch OD dissimilar metal connector, also called a dielectric coupler (10.75-inch OD low carbon steel by Type 304L stainless steel), was installed to minimize the long-term effects of corrosion induced by the connection of the two casing strings. The casing string screen was hung, in tension, above the bottom of the borehole and centralized in minimum 50-foot intervals to allow for a rathole at the bottom of the boring and for gravel packing purposes.

Sigmund Lidner (SiLi) beads 450708R (2.0 mm to 2.4 mm) were placed from the bottom of the borehole at well LFH-1 to 15 feet above the screen to 2,029 ft-bgs. SiLi Beads were used due to their greater sphericity and smoothness, which enhances well efficiency and long-term well performance and for easier well rehabilitation in the future. On top of the glass bead filter pack, a sand plug of approximately 5 feet of 8/12 mesh size silica sand was placed to seat the cement grout. All filter material was placed by tremie pipe in the annular space. The well was grouted in place via tremie pipe in the annular space from the top of the aquifer to the ground surface.

Well A-1: Constructed to the final screen design by placing 8.625-inch (OD) blank, plain end, carbon steel well casing, 0.312-inch wall, API Range 3, Type 304L stainless steel blank casing, API Range 3, and 8.625-inch (OD), Type 304L, 0.040 inch (i.e. "40 slot") slotted, stainless steel, wire wrapped screen in 5, 10 and 20 foot lengths in the borehole according to the screen schedule. Each casing length was welded together as the casing was being placed. An 8.625-inch OD dissimilar metal connector, also called a dielectric coupler (8.625-inch OD low carbon steel by Type 304L stainless steel), was installed to minimize the long-term effects of corrosion induced by the connection of the two casing strings. The casing string screen was hung, in tension, above the bottom of the borehole and centralized in minimum 50-foot intervals to allow for a rathole at the bottom of the boring and for gravel packing purposes.

Sigmund Lidner (SiLi) beads 450708R (2.0 mm to 2.4 mm) were placed from the bottom of the borehole at well A-1 to 25 feet above the screen, at 1,200 ft-bgs. On top of the glass bead filter pack, a sand plug of 10 feet of 8/12 mesh size silica sand was placed to seat the cement grout. All filter material was placed by tremie pipe in the annular space. The well was grouted in place via tremie in the annular space from the top of the aquifer to the ground surface.

5.3 WELL CONSTRUCTION DETAILS

The suite of geophysical information led to a determination of the depth intervals for well construction of wells LFH-1 and A-1. The wells were designed so that they are only screened across the Laramie-Fox Hills aquifer (LFH-1) and the Arapahoe aquifer (A-1). The filter pack intervals (glass beads, gravel, and fine sand) were aligned to ensure that production from the wells are limited to the permitted aquifer intervals. The screened intervals were selected by balancing cost, static water level measurements, and the presence of significant sandstone packages observed in the geologic and geophysical logging. Additionally, the aquifer depth intervals were adjusted in consultation with the CDWR to ensure that the permitted intervals were aligned with the CDWR interpretation of the aquifer depth intervals. For well LFH-1, the screened interval was chosen to maximize the coverage of the permitted Laramie-Fox Hills aquifer interval. For well A-1, information provided by the geophysical logs resulted in a larger permitted Arapahoe aquifer interval than initially expected. Screen material available on site at time of well construction could not span the entire permitted interval, so the screened interval was chosen to maximize coverage of packages identified by the geophysical logs, leaving a 40-foot section of blank, stainless steel casing within the permitted interval spanning zones with limited aquifer production potential identified by geophysical and lithological logs.

A summary of well LFH-1 and well A-1 well construction details are presented in Table 2. Appendix D contains the as-built construction diagrams for the well and the Well Construction reports submitted to the DWR.

5.4 WELL VIDEO LOG REVIEW

Wells LFH-1 and A-1 were video-logged at the end of the project to inspect the casing welds, current condition of the screens, and to verify well construction details. All welds inspected from the video logs appear to be satisfactory. Video review of the logs revealed some drilling mud intrusion or debris in the well screens and sumps as follows:

Well LFH-1: The bottom section of the screen has minor blockage from 2273.22 to 2283.23 ft below top of casing (btoc). Debris present in bottom portion of sump from 2287.9 to 2294.9 ft btoc.

Well A-1: The screen section from 1250.37 to 1648.23 ft btoc has intermittent minor blockage. The screen section from 1648.23 to 1687.96 ft btoc (the bottom of the screen) has minor to moderate blockage of the screen, likely resulting from low or no flow production zones within the aquifer.

The video logs and resulting observations completed after aquifer testing activities suggest no additional development will be necessary prior to pump installation. The minor to moderate screen blockage noted in well A-1 is likely a result of a low or no flow production zones in the Arapahoe aquifer where development activities were not as effective due to the lack of aquifer production in these discrete zones.

As a standard practice, if considerable time passes prior to the installation of permanent downhole well equipment, the wells should be video logged and reviewed for further well intervention and rehabilitation purposes. Additionally, the wells should always be video logged anytime the downhole equipment is pulled for maintenance or replacement purposes so a well maintenance evaluation can be completed prior to re-installation of the downhole equipment.

SECTION 6: WELL DEVELOPMENT

Well development is the process of breaking down the drilling mud used during drilling and lifting out the residual mud and fines accumulated in the completed well. This process is accomplished by initially pumping and agitating the well to remove fine-grained material adjacent to the well, in the well screen, in the filter pack, and along the well bore-aquifer interface to improve well production. The wells were developed in phases.

- The initial “heavies” (i.e., heavy mud and formation material produced during development) were reverse airlifted out for approximately 12 hours and disposed of off-site by Hydro.
- Initial development consisted of swabbing for 17 hours (LFH-1) and for 25.5 hours (A-1). During this process, sodium hypochlorite was added, after which the chemicals were allowed to sit for 33 hours (LFH-1) and 23.5 hours (A-1).
- Next, Hydro jetted the wells for 16.75 hours (LFH-1) and 22 hours (A-1). A combination of water and Nu-Well 220, a clay and drilling mud dispersant, were used during this process, after which the chemicals were left to set for 8 hours.
- The final phase of development consisted of conventional airlifting. Airlifting progressed for 28 hours for well LFH-1 and 22 hours for well A-1.

All water produced during development was disposed of off-site by Hydro.

SECTION 7: AQUIFER TESTING

Aquifer testing was conducted at well LFH-1 and well A-1 following well development. The aquifer tests included planned 8-hour duration, step-drawdown tests and multi-day constant rate tests. Discharge from the aquifer tests were discharged to a nearby field through a dewatering bag, as authorized by the Colorado Department of Public Health and Environment-Water Quality Control Division (CDPHE-WQCD) discharge permit obtained by Hydro.

8.1 STEP-DRAWDOWN TEST

Step testing consists of pumping the well at successively higher rates (i.e., steps). The purpose of step testing is to determine the rate for a constant rate test and evaluate non-linear well losses which affect the well efficiency.

Well LFH-1: Pumping rates for each step of testing at well LFH-1 are presented in Table 3. For the test, the initial step was set based on experience within the Denver Basin and indications of possible well production from the well development process. Drawdown for successive steps was based on the results from the previous step, and the capacity of the pump. After step 3, the pump malfunctioned, prematurely ending the test. As a result, LRE instructed Hydro to perform a separate 2-hour step rate test once the pump was replaced, at a production rate of 150 gallons per minute (gpm), averaging 149 gpm, to test the pump prior to the constant rate test and to evaluate the aquifer response at the higher rate. Figure 2 presents the step testing results for well LFH-1 as drawdown over

time. Table 3 presents the specific capacity results for well LFH-1, calculated as the pumping rate in gallons per minute divided by the drawdown at the end of the step.

Well A-1: Pumping rates for each step of testing at well A-1 are presented in Table 3. For the test, the initial step was set based on experience within the Denver Basin and indications of possible well production from the well development process. Drawdown for successive steps was based on the results from the previous step, and the capacity of the pump. During step 3, at an average production rate of 124 gpm, drawdown in the well failed to reach a steady state, indicating that a further increase in production rate in step 4 would not be feasible during the step rate test. As a result, LRE instructed Hydro to end the step rate test at the conclusion of step 3, at 6 hours. Figure 3 presents the step testing results for well A-1 as drawdown over time. Table 3 presents the specific capacity results for well A-1, calculated as the pumping rate in gallons per minute divided by the drawdown at the end of the step.

8.2 CONSTANT RATE TEST

Constant rate aquifer tests of 72-hours were planned for well LFH-1 and well A-1. However, due to aquifer response at the selected rate, which resulted in excessive drawdown during each test, the final constant rate tests for each well were 62.75 hours long (well LFH-1) and 62.5 hours long (well A-1). A summary of the constant rate test for each well are detailed below.

Well LFH-1: A production rate of 200 gallons per minute (gpm) was targeted for the planned 72-hour constant rate test at well LFH-1. The average production rate was 199 gpm for the first 45.25 hours, at which time the water level reached the minimum net positive suction head (NPSH) above the pump, defined by Hydro as 65 feet above the pump intake. In response, LRE instructed Hydro to reduce the pumping rate to 175 gpm. The new average production rate was 161 gpm for the next 17.5 hours. The test concluded at 62.75 total hours, and shut down prematurely due to mechanical issues with the generator. Figure 4 is a graphical presentation of the recovery response results observed at well LFH-1 after the testing was completed. The recovery analysis is presented as it was used to calculate aquifer parameters presented in the report and provides more reliable estimates of transmissivity than the variable rate drawdown test. Table 4 presents the pumping rates, duration, and specific capacity calculated for the LFH-1 constant rate test. Drawdown curves and analyses are included in Appendix E.

Well A-1: A production rate of 100 gallons per minute (gpm) was targeted for the planned 72-hour constant rate test at well A-1. The average production rate was 99 gpm for the first 9.25 hours, at which time the water level reached the minimum NPSH above the pump, specified by Hydro as 30 feet above the pump intake. In response, LRE instructed

Hydro to reduce the pumping rate to 75 gpm. The new average production rate was 75 gpm for the next 13.5 hours, at which point the water level again reached the minimum NPSH. LRE instructed Hydro to reduce the pumping rate to 50 gpm. The new average production rate was 50 gpm for the next 39.75 hours. The test concluded at 62.5 total hours. Figure 5 is a graphical representation of the recovery response results observed at well A-1 after the testing was completed. The recovery analysis is presented as it was used to calculate aquifer parameters presented in the report and provides more reliable estimates of transmissivity (T) than the variable rate drawdown test. Table 4 presents the pumping rates, duration, and specific capacity at the end of the well A-1 constant rate test.

8.3 AQUIFER TEST INTERPRETATION

The first step in the aquifer test analysis was to interpret the aquifer test results using the Theis (1935) analytical equation. The pumping phase data were used to interpret the step rate test results for each well, while the recovery data were used to interpret the constant rate test results. The reasoning for the approach to the analysis was due to the constant rate testing response, excessive drawdown observed during the tests, and the required flowrate reductions that were required to stabilize drawdown during the testing, which resulted in variable production rates throughout the testing.

The pumping phase of the well LFH-1 step rate test resulted in a transmissivity (T) value of approximately 88 ft²/day and a storage coefficient of 0.035. The recovery data from the constant rate test indicated a transmissivity (T) value of approximately 97.5 ft²/day. The pumping phase of the well A-1 constant rate test resulted in a transmissivity (T) value of approximately 35 ft²/day and a storage coefficient of 0.07. The recovery data from the constant rate test indicated a transmissivity (T) value of approximately 27.5 ft²/day.

During aquifer testing, each well exhibited behavior indicative of highly stratified aquifer production, where it is likely that there are discrete, highly productive water-bearing zones in the upper portions of each aquifer, overlying zones of lower or no production zones. Additionally, LRE believes that the aquifer response and erratic drawdown results may be a result of well to well interference from nearby, offsite pumping wells to the west of the project area.

8.4 WELL YIELD AND INTERFERENCE ANALYSIS

LRE completed additional analysis of the geophysical log data and aquifer test data for development of recommended well yields and interference analyses to inform future well siting decisions. This analysis is documented and presented in a separate technical memorandum to Melody Homes, Inc.

SECTION 9: PUMP DESIGN CRITERIA

The results of the aquifer testing provide the anticipated design criteria for pump sizing. The pump intake is recommended to be set to maximize available drawdown and well yield. **Table 5** provides the recommended pumping rates which were derived from LRE's well spacing and interference modeling analysis, provided separately. The recommended pumping rates assume a daily pump operating schedule of 16-hours on, 8-hours off. The pump design criteria are being developed by others as part of the water treatment and distribution system design.

SECTION 10: WATER QUALITY

Water quality samples from well A-1 were collected on April 24, 2024 at 0800 hours, approximately 43-hours into the constant rate test by LRE staff. Water quality samples from well LFH-1 were collected on May 30, 2024 at 0800 hours, approximately 44-hours into the constant rate test by LRE staff. Water quality data is summarized in Appendix E and will be used as the basis for the water treatment plant design for the development.

SECTION 11: RECOMMENDATIONS

The following recommendations are presented for Melody Homes, Inc. information and consideration:

1. If considerable time passes prior to the installation of permanent downhole well equipment, the wells should be video logged and reviewed for further well intervention and rehabilitation purposes prior to installation of permanent equipment.
2. The wells should be video logged anytime the downhole equipment is pulled to document the well condition and for a well maintenance/rehabilitation evaluation prior to re-installation of the downhole equipment.
3. During the constant rate pumping tests for each well a significant slope break was observed, where drawdown rates accelerated rapidly requiring a reduction in pumping rate during the tests. LRE believes the rapid drawdown observed is in part due to interference from nearby pumping wells, limited productive aquifer intervals in the producing zone and at depth, and test rates which turned out to be higher than the aquifer could sustain during the testing. The recommended pumping rates consider maintaining the water levels at or just above the top of the well screens.

4. Due to the drawdown responses observed during the step rate and constant rate aquifer testing, and neighboring wellfield far-field influence, LRE recommends purchasing and installing data logging pressure transducers in both wells prior to installing permanent equipment. The purpose of the additional monitoring is to better understand regional well to well influence and the magnitude of drawdown in the wells for future well operational considerations.
5. Assuming typical water quality encountered in the Denver Basin aquifers, moderate corrosivity as indicated by the water quality sampling results, regular well intervention and maintenance to reduce natural bacteria growth on the screens, and the installation of stainless steel screens and carbon steel blanks with a dissimilar metal connector (dielectric coupler) to prevent galvanic corrosion, well lifespans should exceed 20 to 30 years or longer.
6. LRE recommends Melody Homes, Inc. consider one or two additional wells be drilled and completed for water system redundancy purposes. Pump maintenance activities require the wells to be down for long periods of time due to the complexities of pump removal, contractor availability, and pumping equipment lead times.

Tables

Table 1: Well Coordinates and Permit Summary

Well	NAD 83 State Plane Colorado Central FIPS 502 (feet)		Aquifer	Permit Number	DWR Permitted Interval (ft-bgs)
	Latitude	Longitude			
LFH-1	38.9828	-104.5658	Laramie-Fox Hills	88240-F	2025-2294
A-1	38.9828	-104.5658	Arapahoe	88211-F	1190-1705

Table 2: Summary of Well Construction

Well	Borehole Diameter (inches)	Well Outside Diameter (inches)	Stainless Screen Intervals (ft bgs)	Stainless Steel Blank Intervals (ft bgs)	Carbon Steel Blank Intervals (ft bgs)	Dielectric Coupler (ft bgs)	SiLi Bead Interval (ft bgs)	Silica Transition Sand Interval (ft bgs)	Grout Interval (ft bgs)
LFH-1	17.5	10.375	2033-2281	NA	+2-2031	2031-2033	2029-2294	2029-2034	0-2034
A-1	14.75	8.625	1219-1288 1328-1688	1288-1328	+2-1217	1217-1219	1200-1716.5	1190-1200	0-1190

Table 3: Step Rate Test Summary

Well	Step #	Duration (hours)	Average Pumping Rate (gpm)	Specific Capacity (gpm/ft)
LFH-1	1	2	51	0.73
	2	2	76	0.74
	3	2	103	0.70
	1A	2	149	0.73
A-1	1	2	68	0.31
	2	2	102	0.32
	3	2	124	0.22

Table 4: Constant Rate Test Summary

Well	Duration (hours)	Pumping Rate (gpm)	Specific Capacity (gpm/ft)
LFH-1	45.25	199	0.38
	17.5	161	NA
A-1	9.25	99	0.19
	13.5	75	NA
	39.75	50	NA

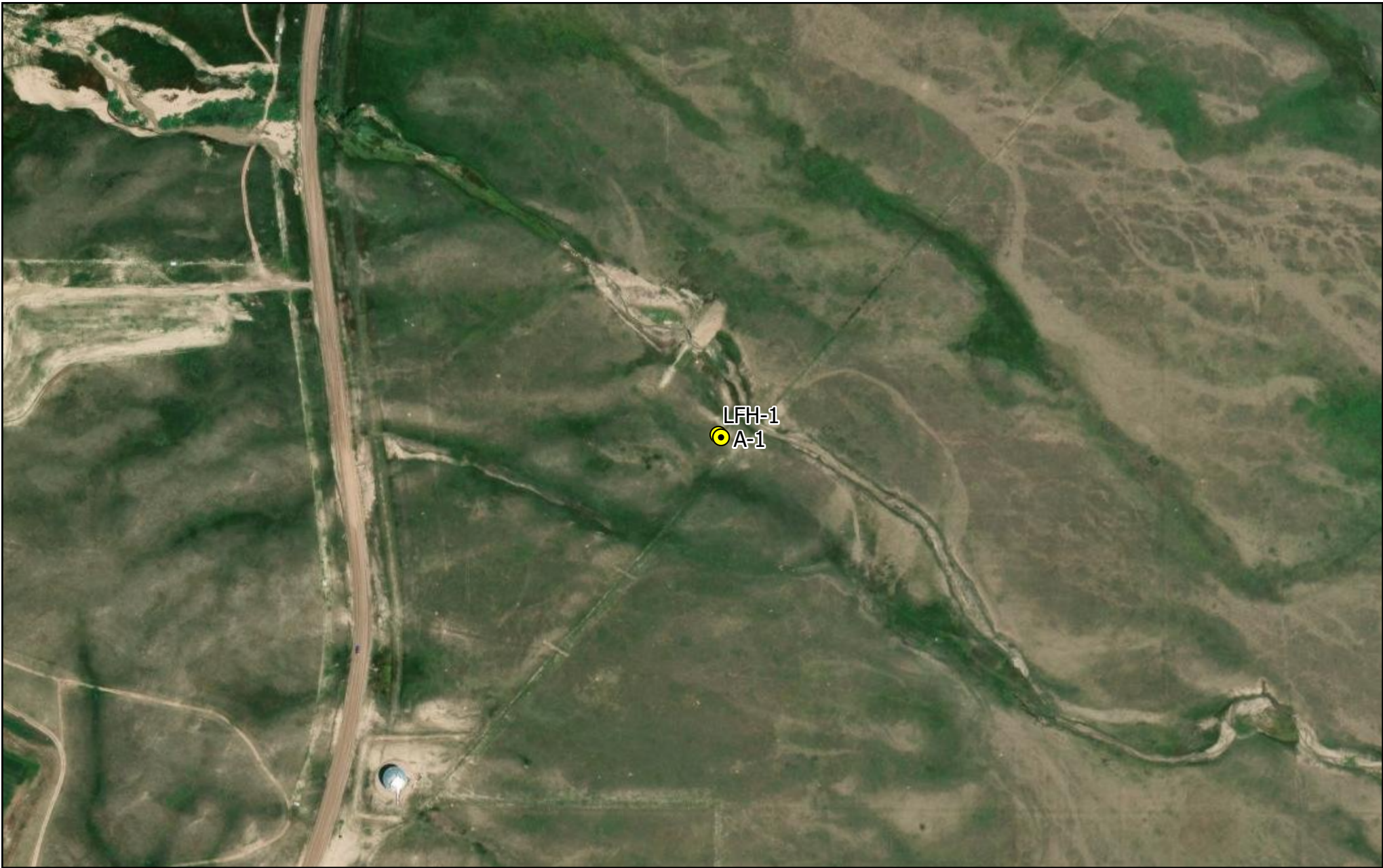
*NA – Not applicable due to reduction of the pumping rate during the test.

Table 5: Estimated Well Yields

Well	Recommended Pumping Rate (gpm)
LFH-1	120-130
A-1	25-35

Figures

Figure 1: Site Map



LFH-1
A-1

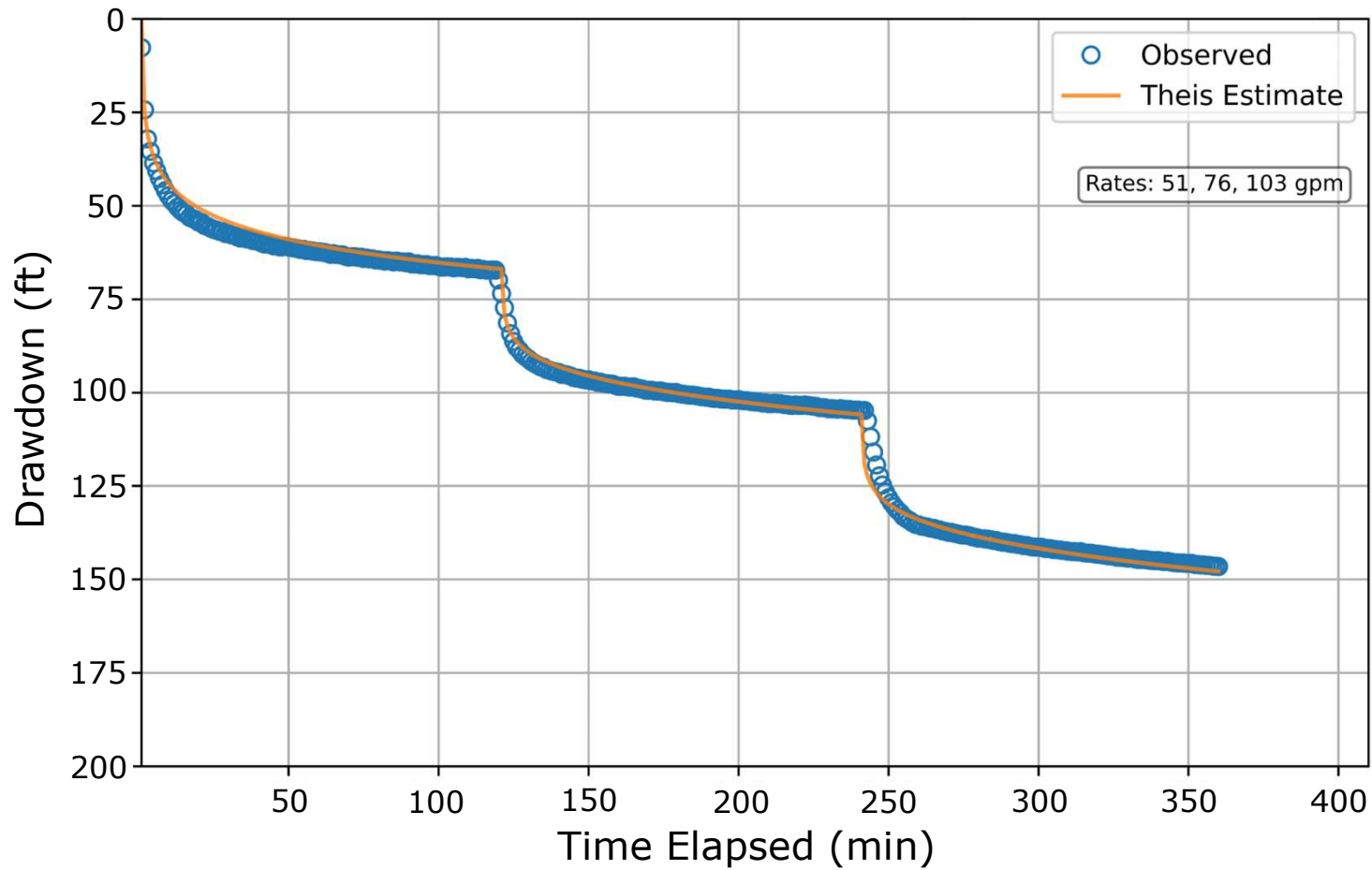


**FIGURE 1 - SITE VICINITY MAP
WELLS LFH-1 AND A-1**

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Figure 2: Well LFH-1 Step Test Results



DATE: 8/1/2024

AUTHOR: GW

CHECKED BY: JK

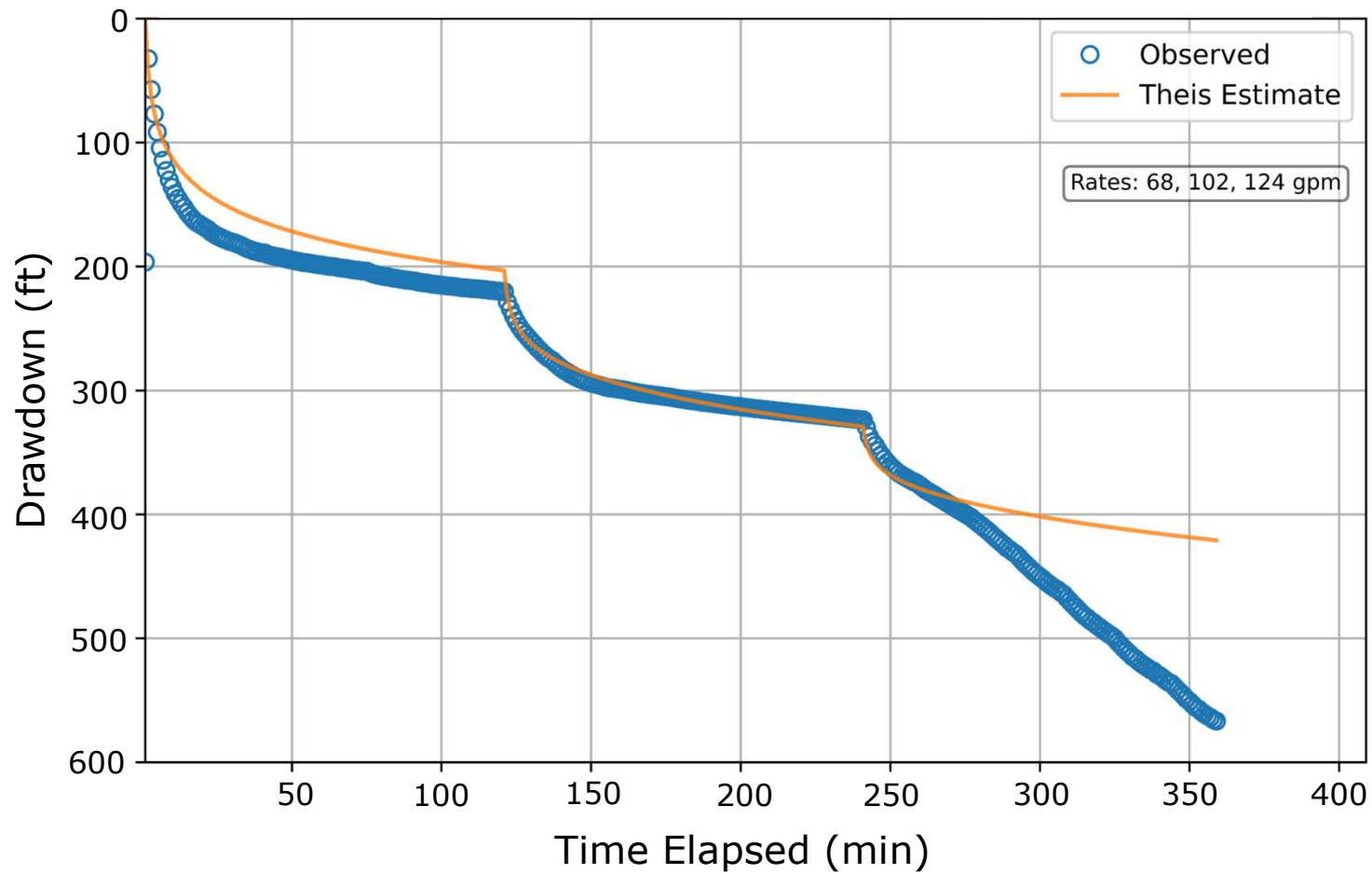
Figure 2 – Well LFH-1 Step Test
Drawdown Calibration



CONNECTING WATER TO LIFE

1221 Auraria Parkway, Denver,
CO 80204

Figure 3: Well A-1 Step Test Results



DATE: 8/1/2024

AUTHOR: GW

CHECKED BY: JK

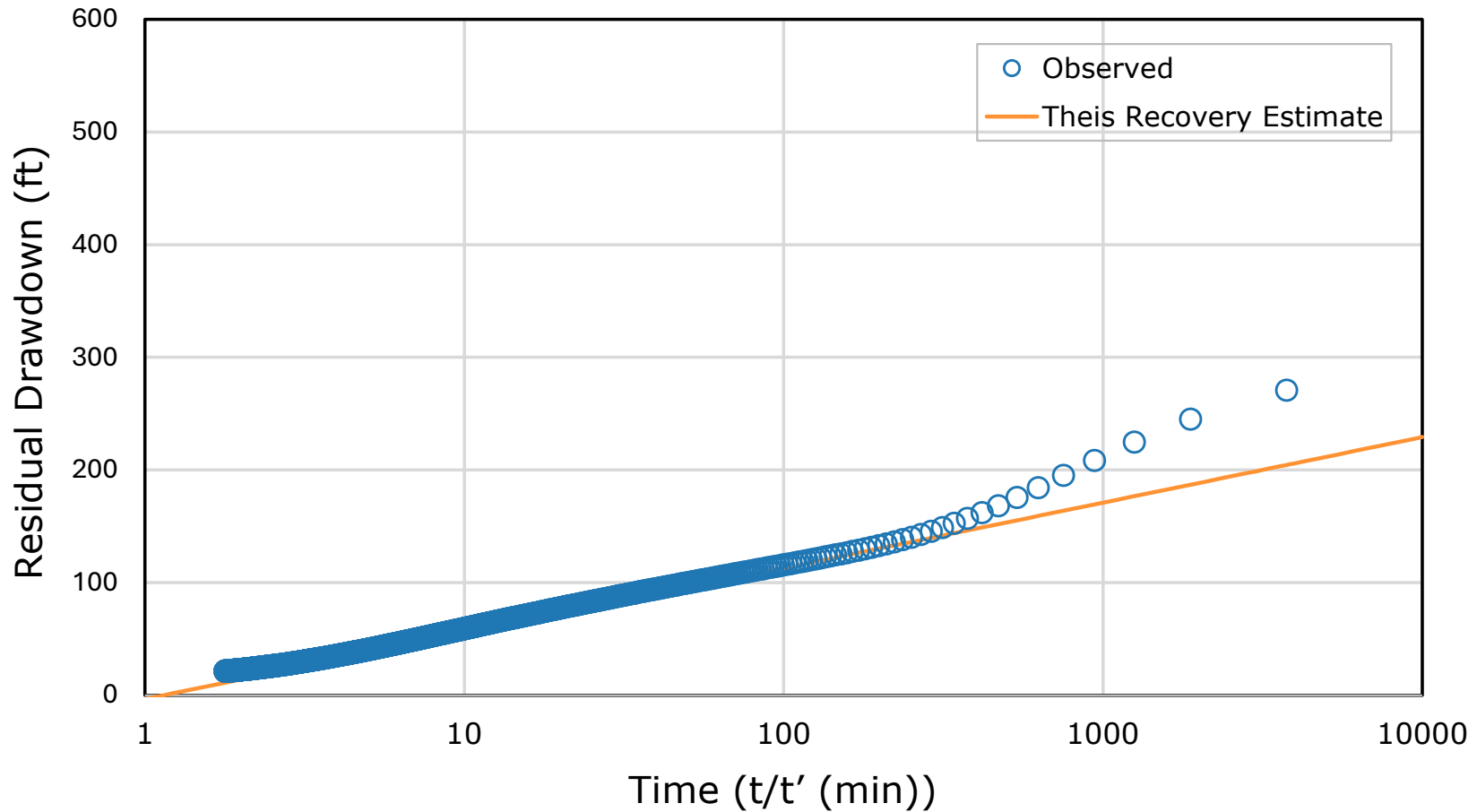
Figure 3 – Well A-1 Step Test
Drawdown Calibration



CONNECTING WATER TO LIFE

1221 Auraria Parkway, Denver,
CO 80204

Figure 4: Well LFH-1 Constant Rate Test Results Recovery Calibration



DATE: 8/1/2024

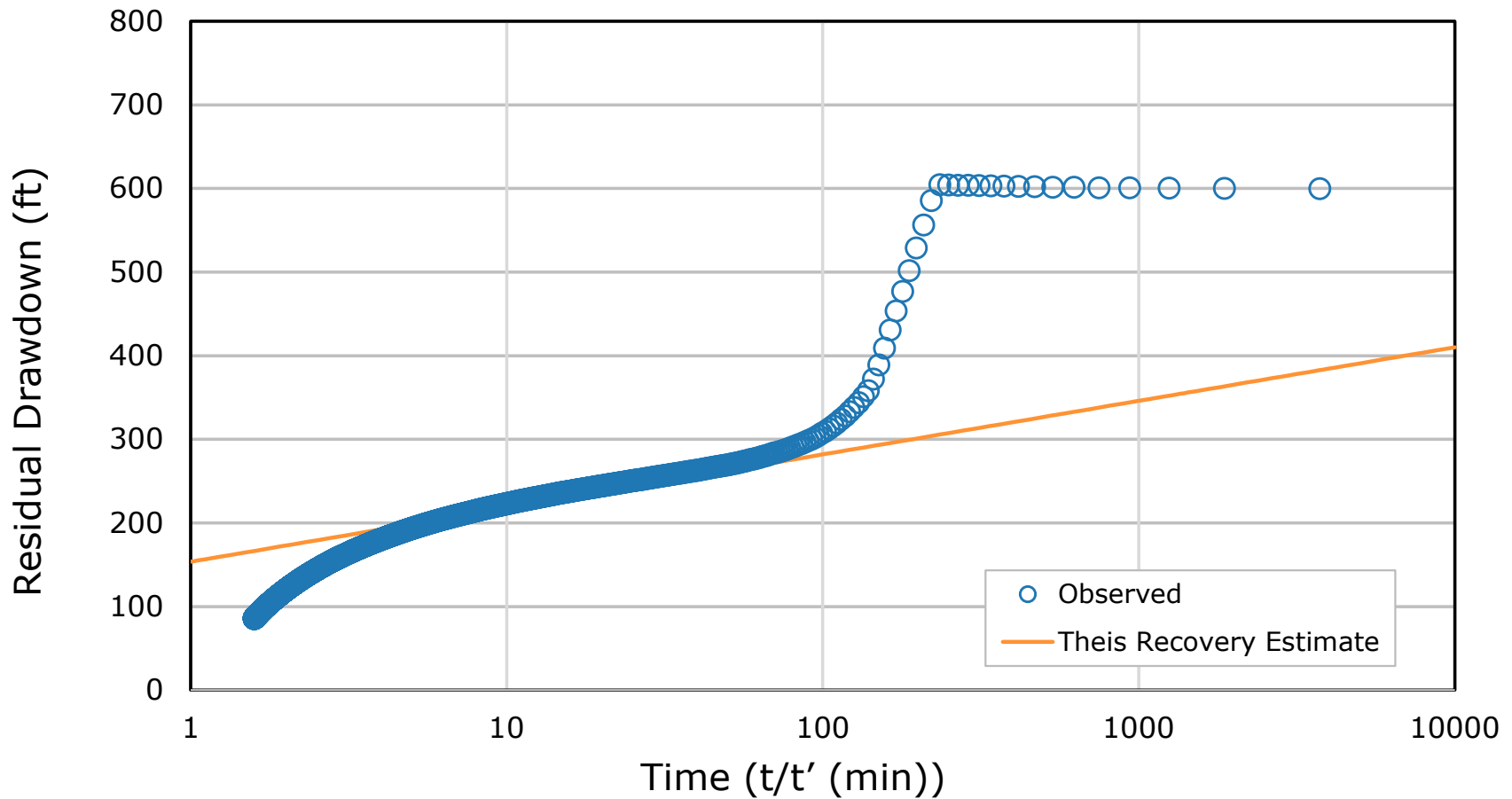
AUTHOR: GW

CHECKED BY: JK

Figure 4 - Well LFH-1 Constant Rate Test Recovery Calibration



Figure 5: Well A-1 Constant Rate Test Results Recovery Calibration



DATE: 8/1/2024

AUTHOR: GW

CHECKED BY: JK

Figure 5 – Well A-1 Constant Rate
Test Recovery Calibration



Appendices

Appendix A: Final DWR Well Permits



ORIGINAL PERMIT APPLICANT(S)

GRANDVIEW RESERVE METROPOLITAN DISTRICT NO. 1
 (PAUL HOWARD)

APPROVED WELL LOCATION

Water Division: 2 Water District: 10
 Designated Basin: UPPER BLACK SQUIRREL CREEK
 Management District: UPPER BLACK SQUIRREL
 County: EL PASO
 Parcel Name: N/A
 Physical Address: N/A
 NE 1/4 NW 1/4 Section 28 Township 12.0 S Range 64.0 W Sixth P.M.

UTM COORDINATES (Meters, Zone:13, NAD83)

Easting: 537609.0 Northing: 4314956.6

PERMIT TO CONSTRUCT A NEW WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT
CONDITIONS OF APPROVAL

- 1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
- 2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
- 3) Approved pursuant to CRS 37-90-107(7) and the Findings and Orders of the Colorado Ground Water Commission dated July 22, 2004 for Determination of Water Right No. 511-BD, December 3, 2008 Determination of Water Right No. 511-BD Amendment No. 1, and September 26, 2022 for Determination of Water Right No. 511-BD Amendment No. 2.
- 4) The pumping rate of this well shall not exceed 100 GPM.
- 5) **CONDITION REVOKED ON 03/14/2024 REPLACED BY CONDITION #6.**
 Production from this well is restricted to the Arapahoe aquifer, which corresponds to the interval between 1,210 feet and 1,675 feet below the ground surface.
- 6) Production from this well is limited to the Arapahoe aquifer, which is located 1,190 feet below land surface and extends to a depth of 1,705 feet. Total drilled depth must not exceed 1,745 feet below ground surface to accommodate a sump/rathole at the bottom of the well. In the event a sand unit is encountered in the interval below the base of the Arapahoe aquifer, the sand interval and intervening shale below the base of the Laramie-Fox Hills aquifer must be grouted in a manner sufficient to prevent communication between the Arapahoe and Laramie-Fox Hills aquifers. Plain casing must be installed and grouted to prevent the withdrawal of groundwater from other aquifers and the movement of groundwater between aquifers.
- 7) The allowed average annual amount of groundwater that may be withdrawn by this well under this permit may not exceed 1,400 acre-feet, subject to the conditions of Determination of Water Right no. 511-BD and Amendment No. 2 including but not limited to the allowed maximum annual amount of withdrawal.
- 8) The total amount of groundwater that may be withdrawn by this well under this permit may not exceed a volume of 140,000 acre-feet, subject to the conditions of Determination of Water Right no. 511-BD and Amendment No. 2.
- 9) The use of groundwater from this well is limited to domestic, livestock watering, lawn irrigation, commercial, industrial, replacement, augmentation and municipal use by Four-Way Ranch Metropolitan District and the Woodman Hills Metropolitan District; and all municipal purposes by the Grandview Reserve Metropolitan District No. 1 including: domestic, agricultural, stock watering, irrigation, commercial, industrial, manufacturing, fire protection, power generation, wetlands, piscatorial, and wildlife, either directly or after storage. The place of use shall be limited to the 8,095-acre land area and the service area of the Woodman Hills Metropolitan District within the Upper Black Squirrel Creek Designated Groundwater Basin claimed in the above described Order of the Commission dated December 3, 2008 for Amendment No. 1.
- 10) No more than 98% of the groundwater withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
- 11) The owner shall mark the well in a conspicuous location with the well permit number and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.

- 12) **CONDITION REVOKED ON 02/23/2024 REPLACED BY CONDITION #12.**
The entire length of the hole shall be geophysically logged as required by Rule 9 of the Statewide Nontributary Ground Water Rules prior to installing casing.
- 13) This well is located within 1,320 feet of an existing well constructed under permit no. 88240-F, for which an acceptable geophysical log is available. Pursuant to Rule 9A of the Statewide Nontributary Ground Water Rules the geophysical logging requirement can be waived.
- 14) A totalizing flow meter or Commission approved measuring device must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (collected at least annually) and submitted to the Upper Black Squirrel Creek Ground Water Management District and the Ground Water Commission upon request.
- 15) This well shall be constructed within 200 feet of the location specified on this permit. This well shall not be located within 600 feet of another large-capacity well completed in the Arapahoe aquifer.
- 16) **ADVANCE NOTICE REQUIRED** - Pursuant to Construction Rule 6.2.2.1 (2 CCR 402-2), licensed or private drillers and pump installers must provide advance notification (by 11:59 pm the day before) to the State Engineer prior to each of the following for this well: the start of well construction, the initial installation of the first permanent pump, and the initial installation of a cistern connected to the water well supply system. Any change in the date of construction/installation must be re-noticed prior to the activity (by 11:59 pm the day before). Information regarding the notification process and a link to the electronic notification form can be found on the Division of Water Resources website at dwr.colorado.gov

NOTE: This well is withdrawing water from a non-renewable aquifer. While the withdrawals from this aquifer are administered based on a 100 year aquifer life, water level declines may prevent this well from diverting the permitted amounts for that 100 years.

NOTE: This well is located within the Upper Black Squirrel Creek Ground Water Management District where local District Rules apply which may further limit the withdrawal and use of designated ground water as authorized under this permit.

NOTE: This well will be completed in a Type 1 aquifer overlain by multiple confining layers and must be constructed with solid steel casing and grouted in accordance with Well Construction Rule 10.4.5.2 (2 CCR 402-2).

NOTE: This permit will expire on the expiration date unless the well is constructed by that date. A Well Construction and Yield Estimate Report (GWS-31) must be submitted to the Division of Water Resources to verify the well has been constructed. A one-time extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64). Upon installation of the pump, a Pump Installation and Production Equipment Test Report (GWS-32) must be submitted to the Division of Water Resources. In addition, a Notice of Commencement of Beneficial Use (GWS-19) must be filed with the Division of Water Resources by the well owner within 30-days after first commencement of use. Forms are available at: dwr.colorado.gov



Date Issued: 6/22/2023

Expiration Date: N/A

Issued By WENLI DICKINSON

PERMIT HISTORY

- 03-14-2024 PERMIT AMENDMENT (CONDITIONS)
- 02-23-2024 GEOPHYSICAL LOG WAIVED



ORIGINAL PERMIT APPLICANT(S)

GRANDVIEW RESERVE METROPOLITAN DISTRICT NO. 1
 (PAUL HOWARD)

APPROVED WELL LOCATION

Water Division: 2 Water District: 10
 Designated Basin: UPPER BLACK SQUIRREL CREEK
 Management District: UPPER BLACK SQUIRREL
 County: EL PASO
 Parcel Name: N/A
 Physical Address: N/A

NE 1/4 NW 1/4 Section 28 Township 12.0 S Range 64.0 W Sixth P.M.

UTM COORDINATES (Meters, Zone:13, NAD83)

Easting: 537607.1 Northing: 4314958.4

PERMIT TO CONSTRUCT A NEW WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT
CONDITIONS OF APPROVAL

- 1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
- 2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
- 3) Approved pursuant to CRS 37-90-107(7) and the Findings and Orders of the Colorado Ground Water Commission dated July 22, 2004 for Determination of Water Right No. 510-BD, December 3, 2008 for Determination of Water Right No. 510-BD Amendment No. 1, and September 26, 2022 for Determination of Water Right No. 510-BD Amendment No. 2.
- 4) The pumping rate of this well shall not exceed 150 GPM.
- 5) The allowed average annual amount of groundwater that may be withdrawn by this well under this permit may not exceed 1,312.5 acre-feet, subject to the conditions of the above referenced Findings and Orders, including but not limited to the allowed maximum annual amount of withdrawal.
- 6) The total amount of groundwater that may be withdrawn by this well under this permit may not exceed a volume of 131,250 acre-feet, subject to the conditions of the above referenced Findings and Orders.
- 7) The use of groundwater from this well is limited to domestic, livestock watering, lawn irrigation, commercial, industrial, replacement, augmentation and municipal use by Four-Way Ranch Metropolitan District and the Woodman Hills Metropolitan District; and all municipal purposes by the Grandview Reserve Metropolitan District No. 1 including: domestic, agricultural, stock watering, irrigation, commercial, industrial, manufacturing, fire protection, power generation, wetlands, piscatorial, and wildlife, either directly or after storage. The place of use shall be limited to the 8,095-acre land area and the service area of the Woodman Hills Metropolitan District within the Upper Black Squirrel Creek Designated Groundwater Basin claimed in the above described Order of the Commission dated December 3, 2008 for Amendment No. 1.
- 8) **CONDITION REVOKED ON 01/30/2024 REPLACED BY CONDITION #9.**
 Production from this well is limited to the Laramie-Fox Hills aquifer which is located approximately 2,025 feet below ground surface and extends to a depth of approximately 2,290 feet. In accordance with Rule 10.4.8 of the Water Well Construction Rules, plain steel casing must be installed and grouted from the top of the permitted production zone up to at least ten feet above the base of the surface casing, or to the depth required by Rule 10.5.2.1, if no surface casing is installed. (NOTE: If coals and/or carbonaceous shales are encountered in the borehole, plain casing and grout should be installed through these intervals to exclude poor quality water from entering the well.)

- 9) **CONDITION REVOKED ON 02/12/2024 REPLACED BY CONDITION #10.**
 Production from this well is limited to the Laramie-Fox Hills aquifer, which is located approximately 2,025 feet below land surface and extends to a depth of approximately 2,290 feet. Total drilled depth must not exceed 2,320 feet below ground surface to accommodate a sump/rathole at the bottom of the well. Plain casing must be installed and grouted to prevent the withdrawal of groundwater from other aquifers and the movement of groundwater between aquifers. In accordance with Rule 10.4.8 of the Water Well Construction Rules, plain steel casing must be installed and grouted from the top of the permitted production zone up to at least ten feet above the base of the surface casing, or to the depth required by Rule 10.5.2.1, if no surface casing is installed. (NOTE: If coals and/or carbonaceous shales are encountered in the borehole, plain casing and grout should be installed through these intervals to exclude poor quality water from entering the well.)
- 10) **CONDITION REVOKED ON 02/14/2024 REPLACED BY CONDITION #11.**
 Production from this well is limited to the Laramie-Fox Hills aquifer, which is located approximately 2,025 feet below land surface and extends to a depth of approximately 2,294 feet. Total drilled depth must not exceed 2,324 feet below ground surface to accommodate a sump/rathole at the bottom of the well. Plain casing must be installed and grouted to prevent the withdrawal of groundwater from other aquifers and the movement of groundwater between aquifers. In accordance with Rule 10.4.8 of the Water Well Construction Rules, plain steel casing must be installed and grouted from the top of the permitted production zone up to at least ten feet above the base of the surface casing, or to the depth required by Rule 10.5.2.1, if no surface casing is installed. (NOTE: If coals and/or carbonaceous shales are encountered in the borehole, plain casing and grout should be installed through these intervals to exclude poor quality water from entering the well.)
- 11) Production from this well is limited to the Laramie-Fox Hills aquifer, which is located approximately 2,025 feet below land surface and extends to a depth of approximately 2,294 feet. Total drilled depth must not exceed 2,335 feet below ground surface to accommodate a sump/rathole at the bottom of the well. Plain casing must be installed and grouted to prevent the withdrawal of groundwater from other aquifers and the movement of groundwater between aquifers. In accordance with Rule 10.4.8 of the Water Well Construction Rules, plain steel casing must be installed and grouted from the top of the permitted production zone up to at least ten feet above the base of the surface casing, or to the depth required by Rule 10.5.2.1, if no surface casing is installed. (NOTE: If coals and/or carbonaceous shales are encountered in the borehole, plain casing and grout should be installed through these intervals to exclude poor quality water from entering the well.)
- 12) The owner shall mark the well in a conspicuous location with the well permit number and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
- 13) A totalizing flow meter or Commission approved measuring device must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (collected at least annually) and submitted to the Upper Black Squirrel Creek Ground Water Management District and the Ground Water Commission upon request.
- 14) The entire length of the hole shall be geophysically logged as required by Rule 9 of the Statewide Nontributary Ground Water Rules prior to installing casing.
- 15) This well shall be constructed within 200 feet of the location specified on this permit. This well shall not be located within 600 feet of another large-capacity well completed in the Laramie-Fox Hills aquifer.
- 16) No more than 98% of the groundwater withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
- 17) **ADVANCE NOTICE REQUIRED** - Pursuant to Construction Rule 6.2.2.1 (2 CCR 402-2), licensed or private drillers and pump installers must provide advance notification (by 11:59 pm the day before) to the State Engineer prior to each of the following for this well: the start of well construction, the initial installation of the first permanent pump, and the initial installation of a cistern connected to the water well supply system. Any change in the date of construction/installation must be re-noticed prior to the activity (by 11:59 pm the day before). Information regarding the notification process and a link to the electronic notification form can be found on the Division of Water Resources website at dwr.colorado.gov

NOTE: This well is withdrawing water from a non-renewable aquifer. While the withdrawals from this aquifer are administered based on a 100 year aquifer life, water level declines may prevent this well from diverting the permitted amounts for that 100 years.

NOTE: This well is located within the Upper Black Squirrel Creek Ground Water Management District where local District Rules apply which may further limit the withdrawal and use of designated ground water as authorized under this permit.

NOTE: This permit will expire on the expiration date unless the well is constructed by that date. A Well Construction and Yield Estimate Report (GWS-31) must be submitted to the Division of Water Resources to verify the well has been constructed. A one-time extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64). Upon installation of the pump, a Pump Installation and Production Equipment Test Report (GWS-32) must be submitted to the Division of Water Resources. In addition, a Notice of Commencement of Beneficial Use (GWS-19) must be filed with the Division of Water Resources by the well owner within 30-days after first commencement of use. Forms are available at: dwr.colorado.gov



Date Issued: 6/27/2023

Expiration Date: 6/27/2024

Issued By WENLI DICKINSON

WELL PERMIT NUMBER 88240-F

RECEIPT NUMBER 10027734

PERMIT HISTORY

02-14-2024	PERMIT AMENDMENT (CONDITIONS)
02-12-2024	PERMIT AMENDMENT (CONDITIONS)
01-30-2024	PERMIT AMENDMENT (CONDITIONS)

Appendix B: Well LFH-1 Geophysical Logs



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company **Hydro Resources**
 Well **Grandview Upper Black Squirrel**
 Field
 County **El Paso** State **Colorado**

Company **Hydro Resources**
 Well **Grandview Upper Black Squirrel**
 Field
 County **El Paso**
 State **Colorado**

Location: API #: **NE 1/4 NW 1/4**
 SEC 28 TWP 12S RGE 64 W
 Permanent Datum Ground Level Elevation
 Log Measured From Ground Level
 Drilling Measured From Ground Level
 Other Services
CNL/CDL

Date	2/12/2024
Run Number	One
Depth Driller	2321
Depth Logger	2318
Bottom Logged Interval	2317
Top Log Interval	0
Casing Driller	24 @ 32
Casing Logger	
Bit Size	17.5
Type Fluid in Hole	Chemical
Salinity, ppm CL	200
Density / Viscosity	9.0 30
pH / Fluid Loss	7.0 11.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	@
Rmt @ Meas. Temp	@
Rmc @ Meas. Temp	@
Source of Rmf / Rmc	CHARTS
Rm @ BHT	@
Operating Rig Time	2 Hours
Max Rec. Temp. F	
Equipment Number	110
Location	HAYS
Recorded By	D. Schmidt
Witnessed By	Kevin Whittemore

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments
N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.
 Permit #88240-F
 SO# 2879
 Log Measured From: Ground Level Ft. Above Permanent Datum
 THANK YOU FOR USING MIDWEST WIRELINE LLC
 785-625-3858

Your Midwest Wireline Crew	This Log Record Was Witnessed By
Engineer: D. Schmidt	Primary Witness: Kevin Whittemore
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Core	Offset (ft)	Depth	Description	Length (ft)	O.D. (in)	Weight (lb)
------	-------------	-------	-------------	-------------	-----------	-------------

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
GR	32.65		GR-M&W (105)	3.00	3.50	50.00	
CNLSC CNSSC	29.55 28.80		CNT-M&W (210)	5.00	3.50	100.00	
			MWLith-STEP LITHO Short (701-01)	8.40	5.00	250.00	
LCAL	20.63						
LLW8N	20.63						
LLW7N	20.63						
LLW6N	20.63						
LLW5N	20.63						
LLW4N	20.63						
LLW3N	20.63						
LLW2N	20.63						
LLW1N	20.63						
LSLOCK	20.38						
LLLOCK	20.38						
PELTMPR	20.38						
LSHVNG	20.38						
LLHVNG	20.38						
LSW8N	20.13						
LSW7N	20.13						
LSW6N	20.13			DIL-M&W (504 HT)	18.25	3.50	220.00
LSW5N	20.13						
LSW4N	20.13						
LSW3N	20.13						
LSW2N	20.13						
LSW1N	20.13						
RLL3F	15.50						
RLL3	15.50						
CILD	8.33						
CILM	4.50						
SP	0.20						

Dataset: hydro_grandview upper black squirrel.db: field/well/stack/pass2.12
 Total length: 34.65 ft
 Total weight: 620.00 lb
 O.D.: 5.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\hydro_grandview_upper_black_squirrel.db
 Dataset field/well/stack/pass2.12/_vars_

Top - Bottom

BOREID in 17.5	BOTTEMP degF 100	CASEOD in 10	CASETHCK in 0	FLUIDDEN g/cc 1	MATRXDEN g/cc 2.71	NPORSEL Limestone	PERFS No
SNDERR mmho/m 0	SNDERRM mmho/m 0	SPSHIFT mV 15	SRFTEMP degF 30	SZCOR Off	TDEPTH ft 2318		

Variable Description

BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 FLUIDDEN : Fluid Density
 MATRXDEN : Matrix Density
 NPORSEL : Neutron Porosity Curve Select

PERFS : Perforation Flag
 SNDERR : Deep Sonde Error Correction
 SNDERRM : Medium Sonde Error Correction
 SPSHIFT : S.P. Baseline Offset
 SRFTEMP : Surface Temperature
 SZCOR : CN Size Cor. ?
 TDEPTH : Total Depth



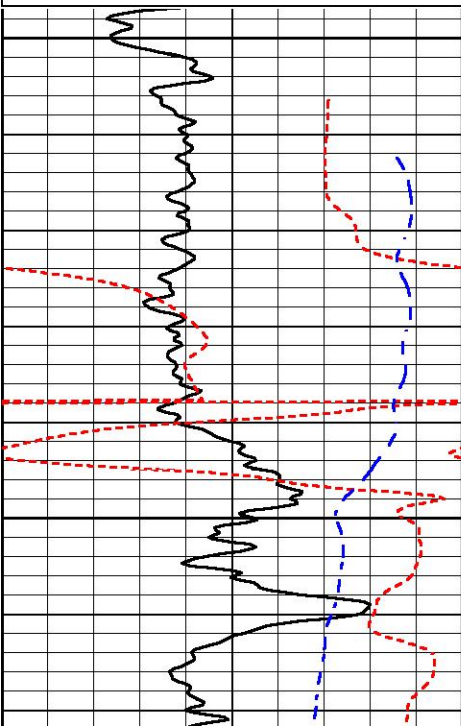
DETAIL SECTION

MAIN PASS

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 Charted by Depth in Feet scaled 1:240

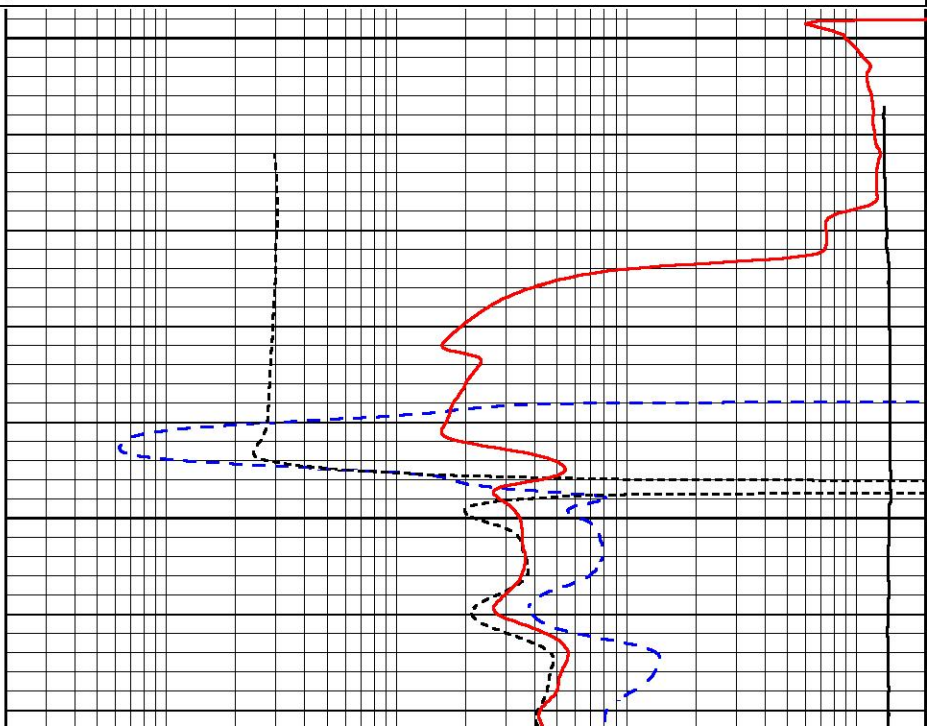
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50	RXORT	250
-200	SP (mV)	0

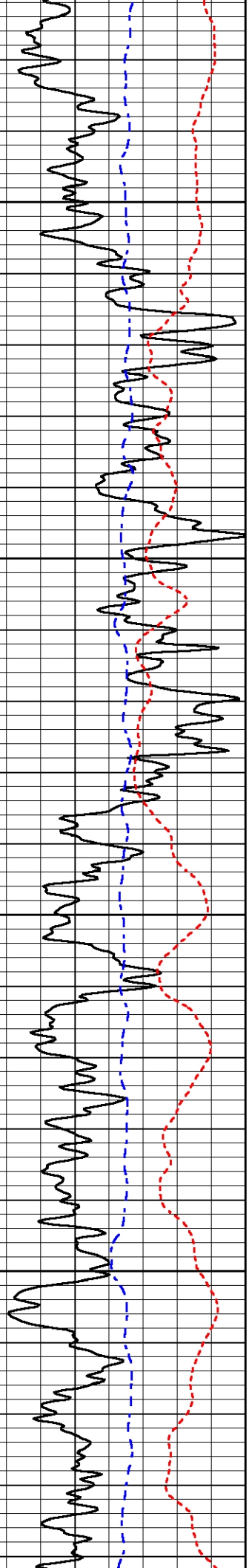
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0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0



0

50



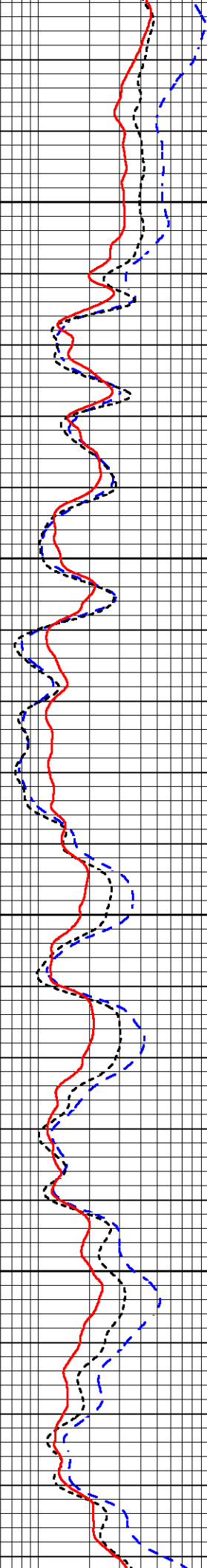


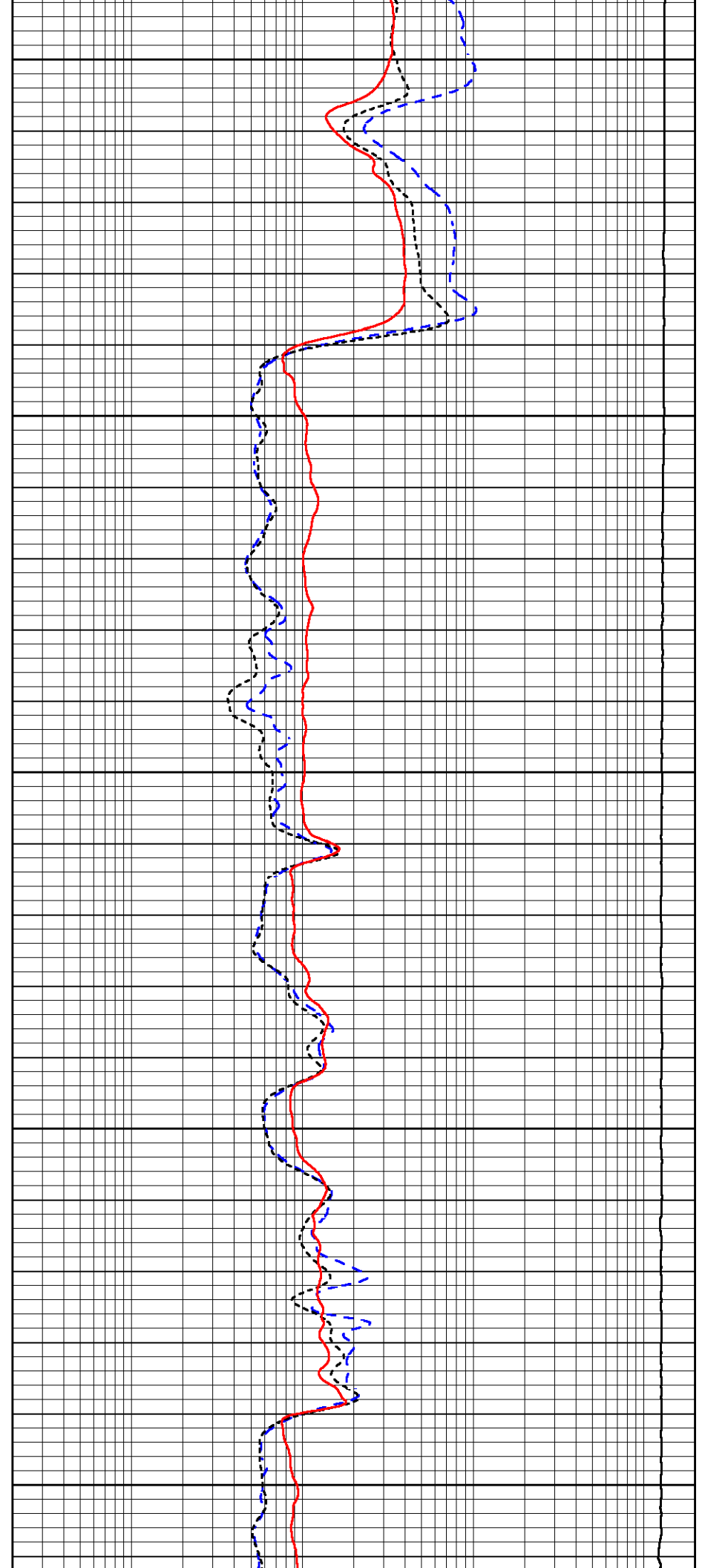
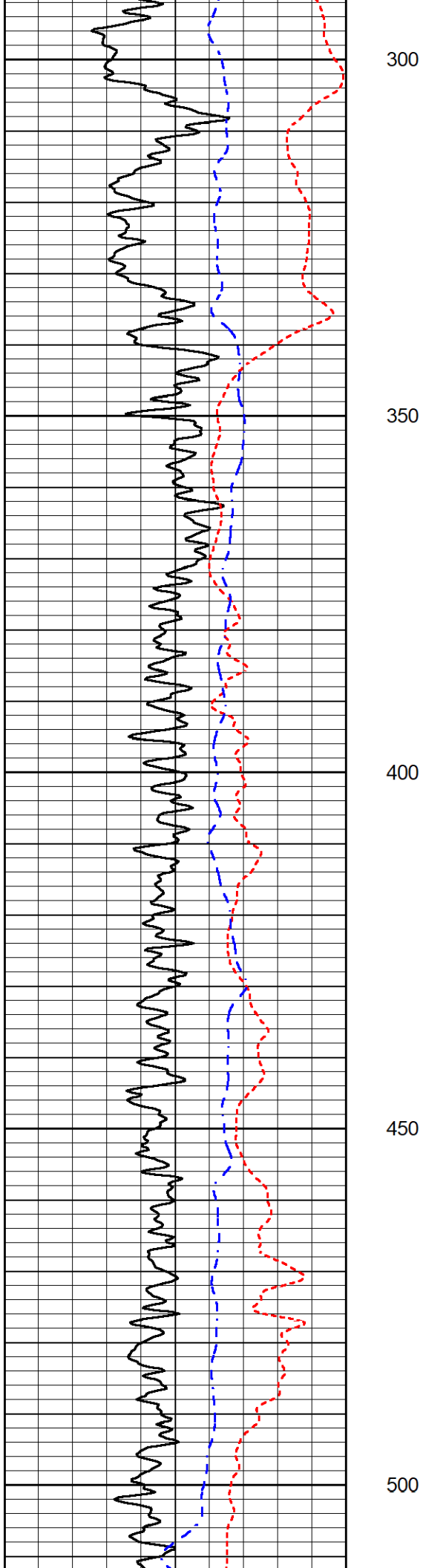
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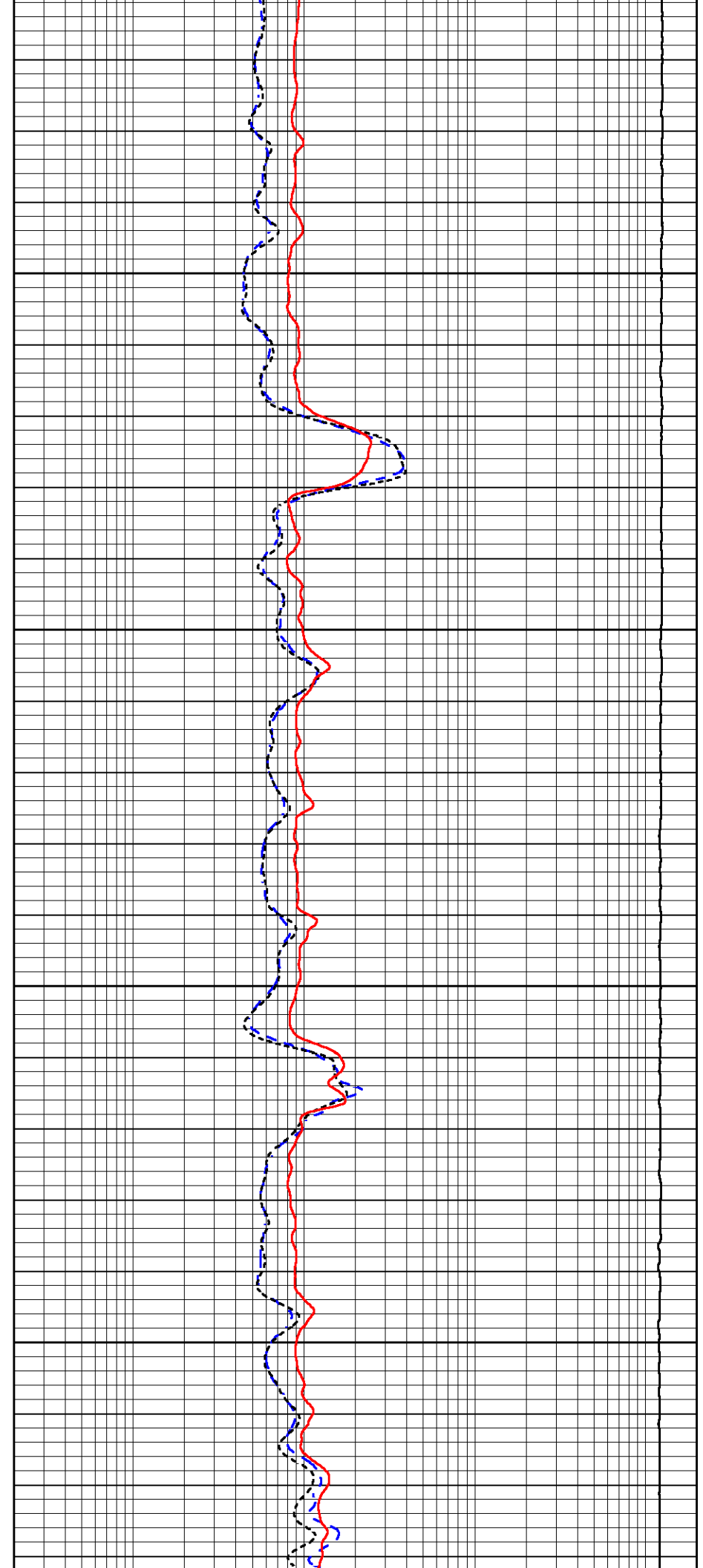
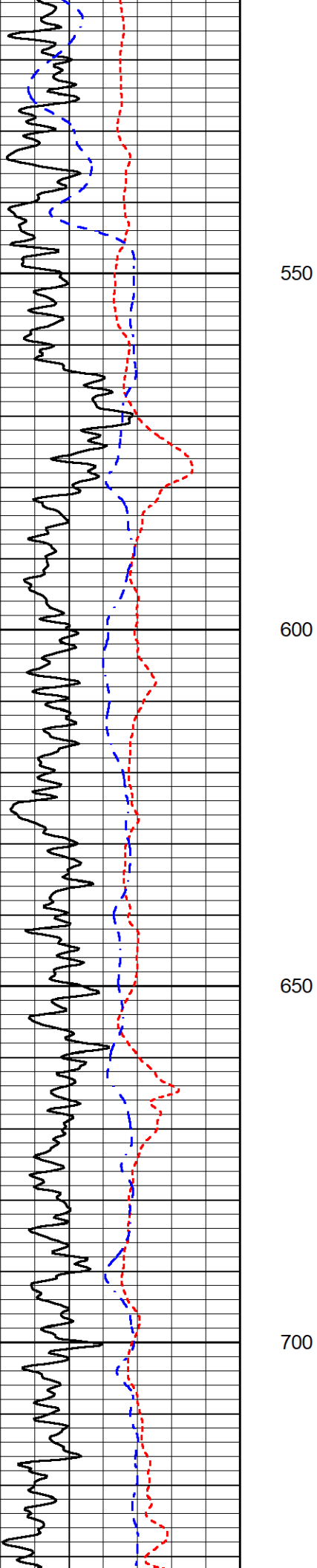
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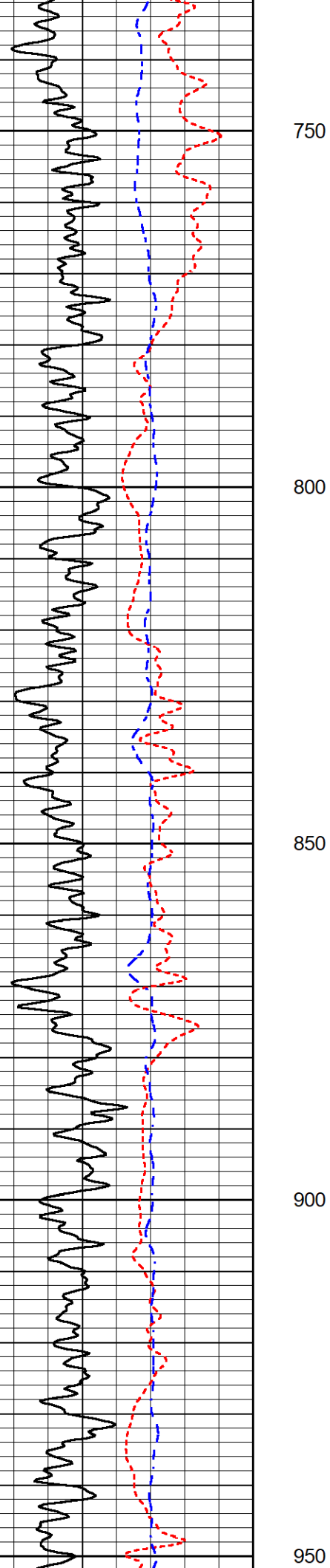
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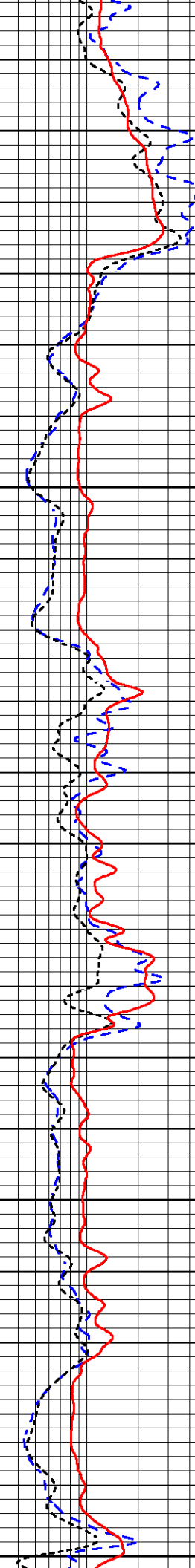
750

800

850

900

950



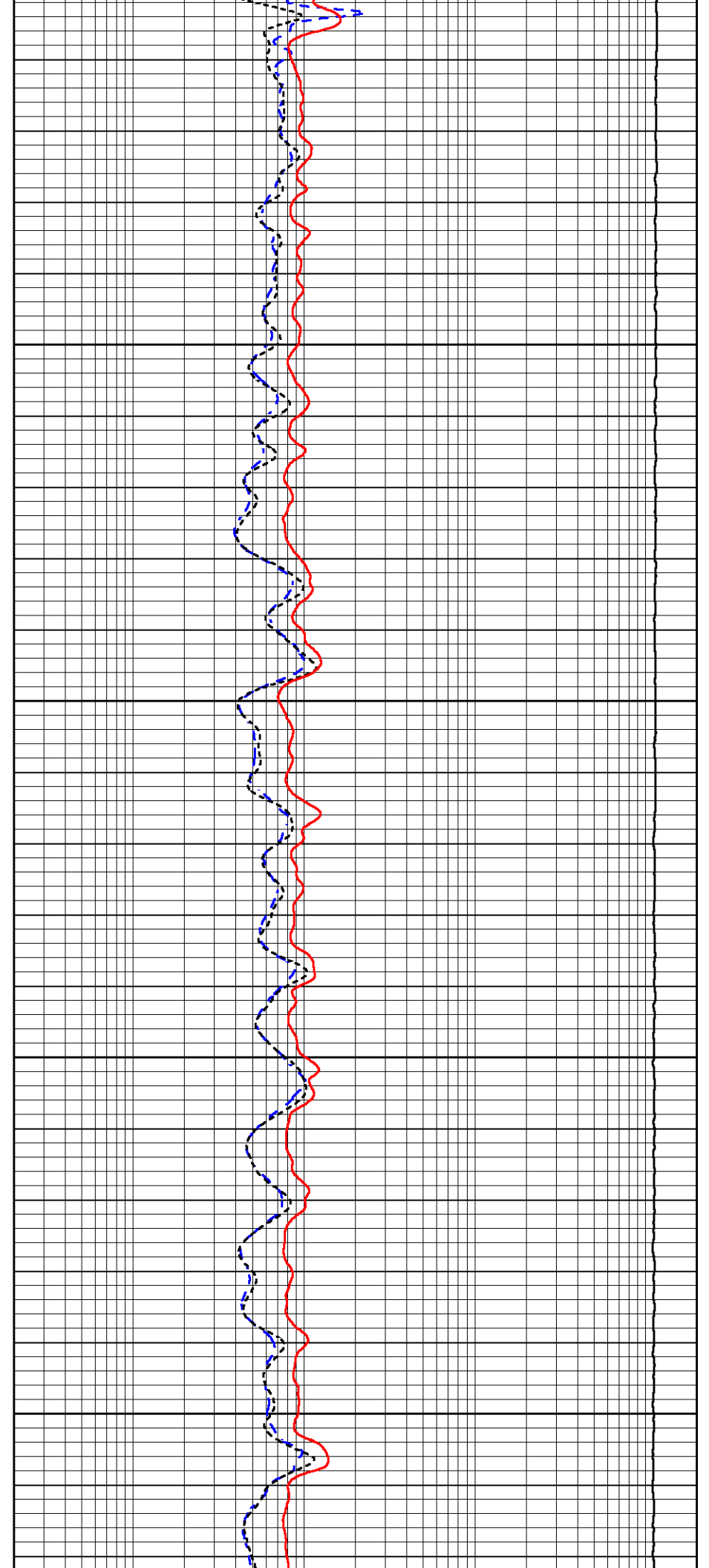
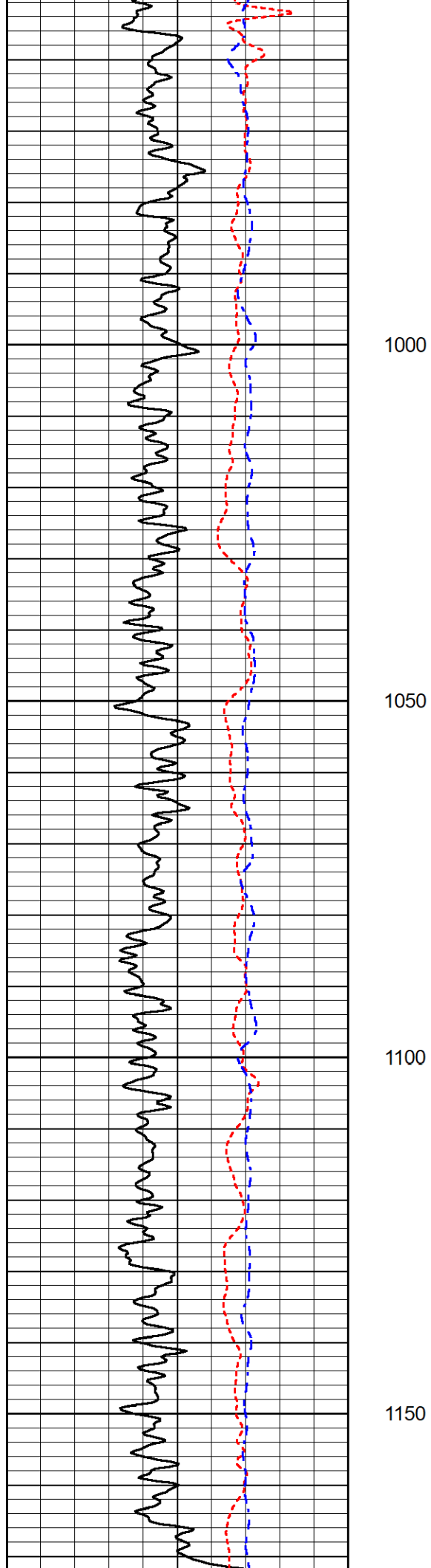
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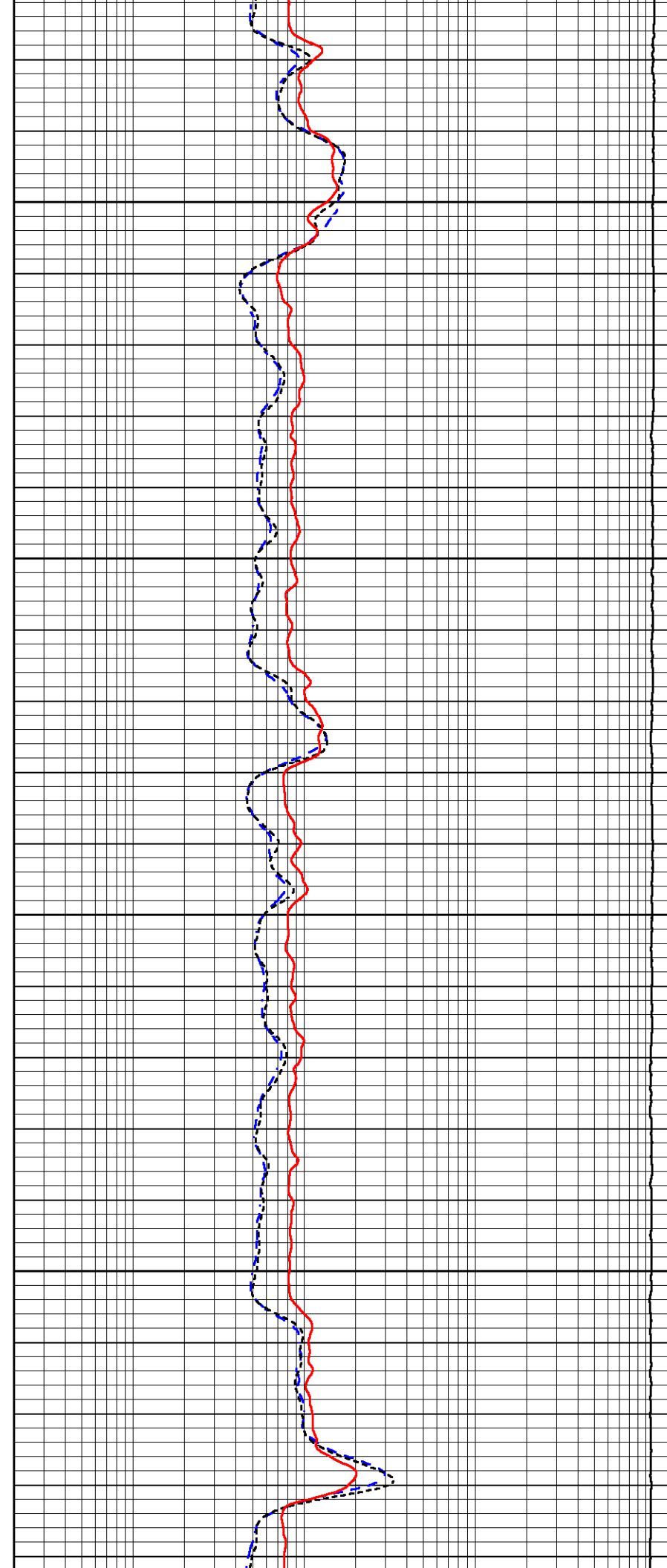
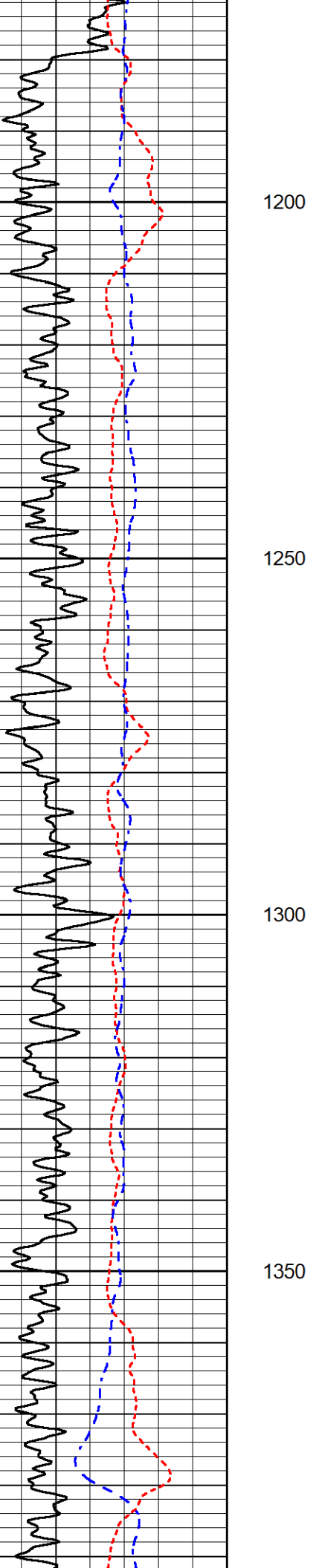
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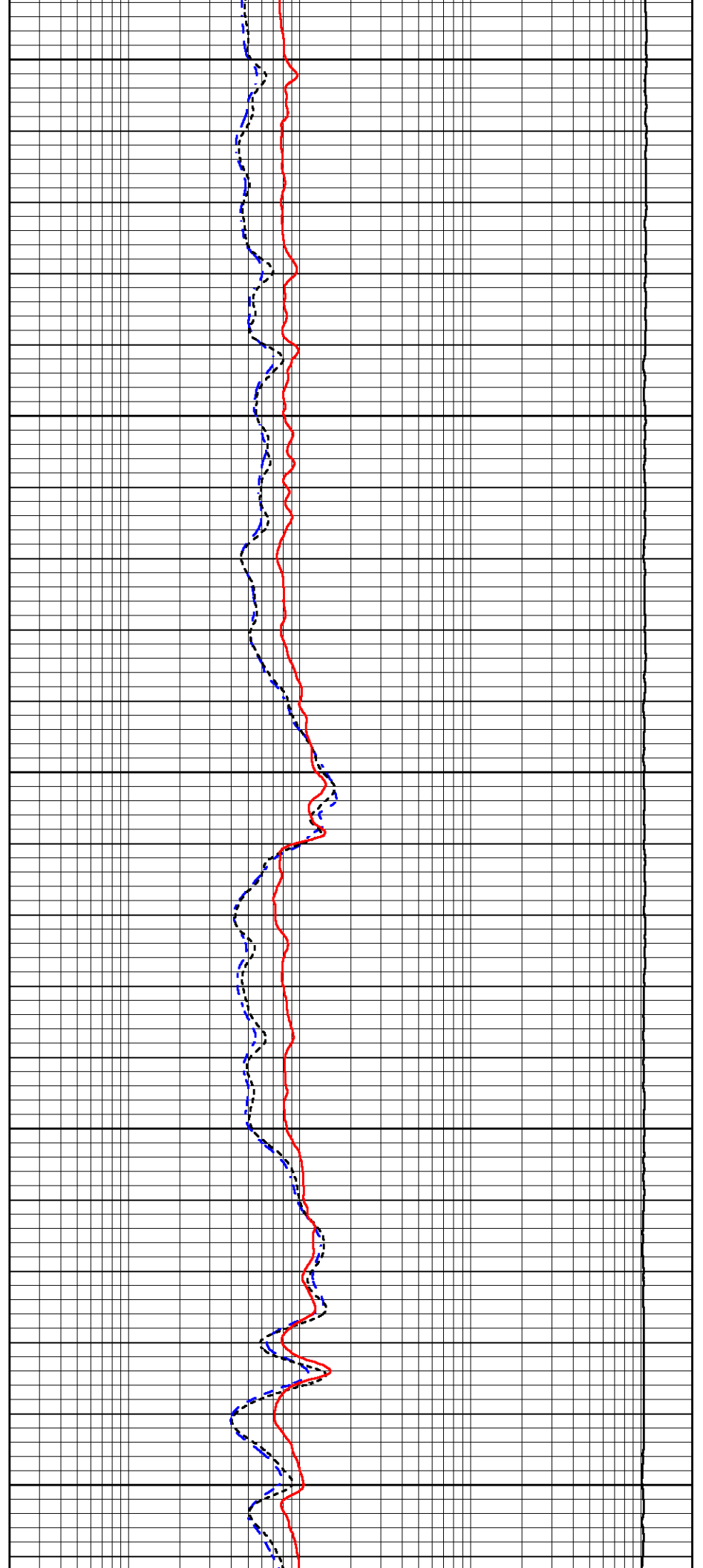
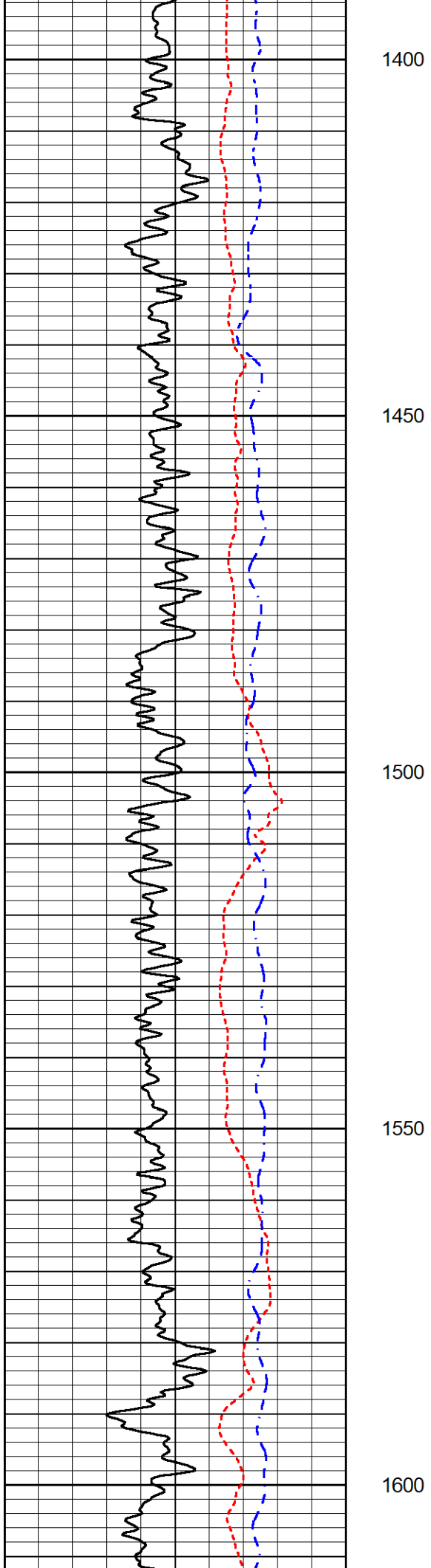
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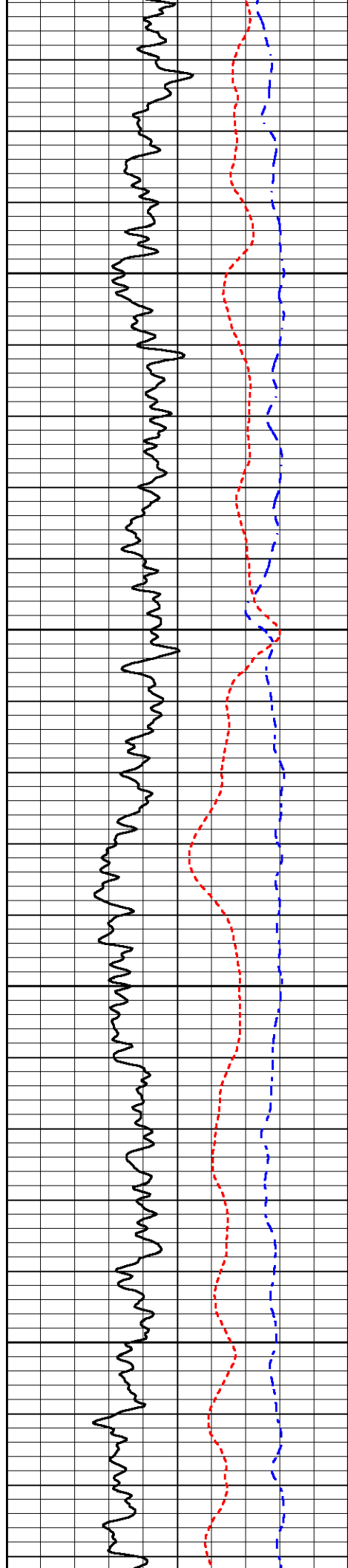
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950







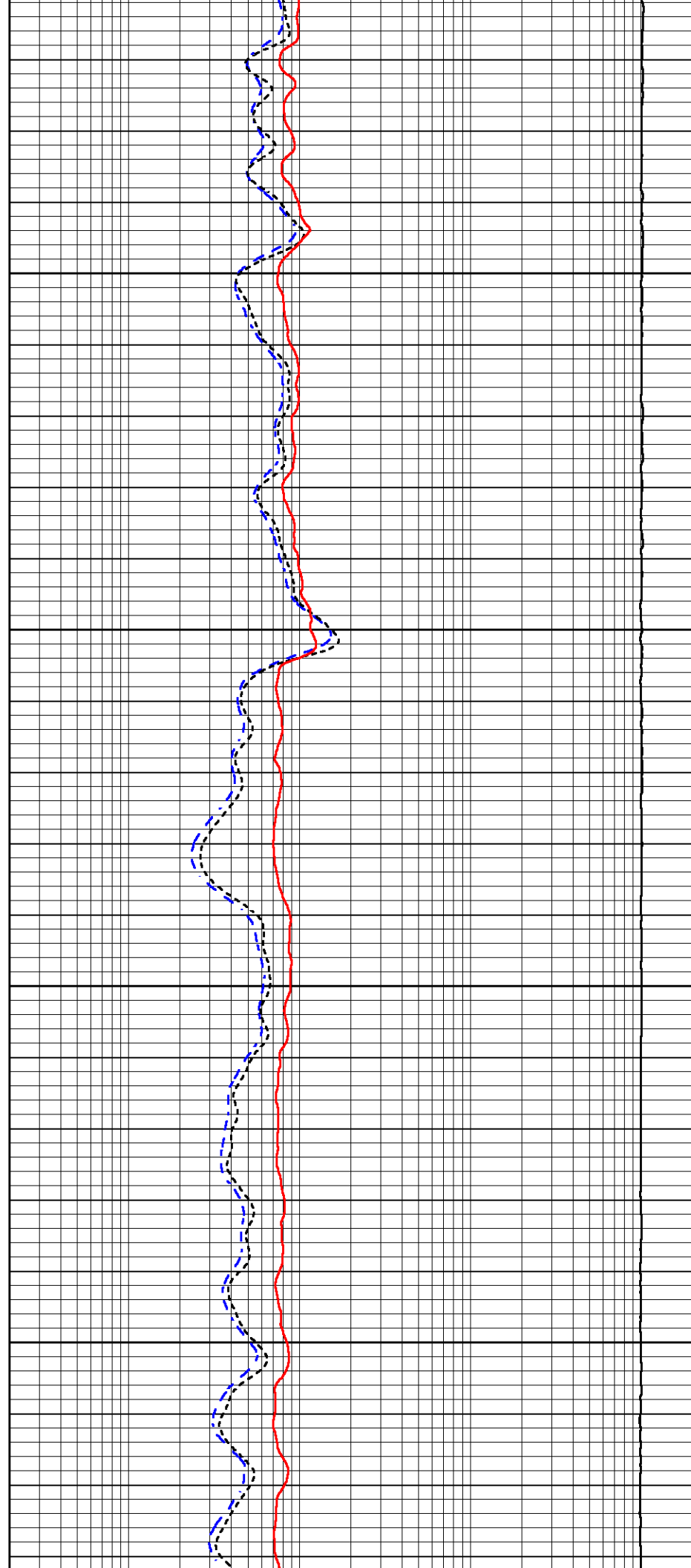


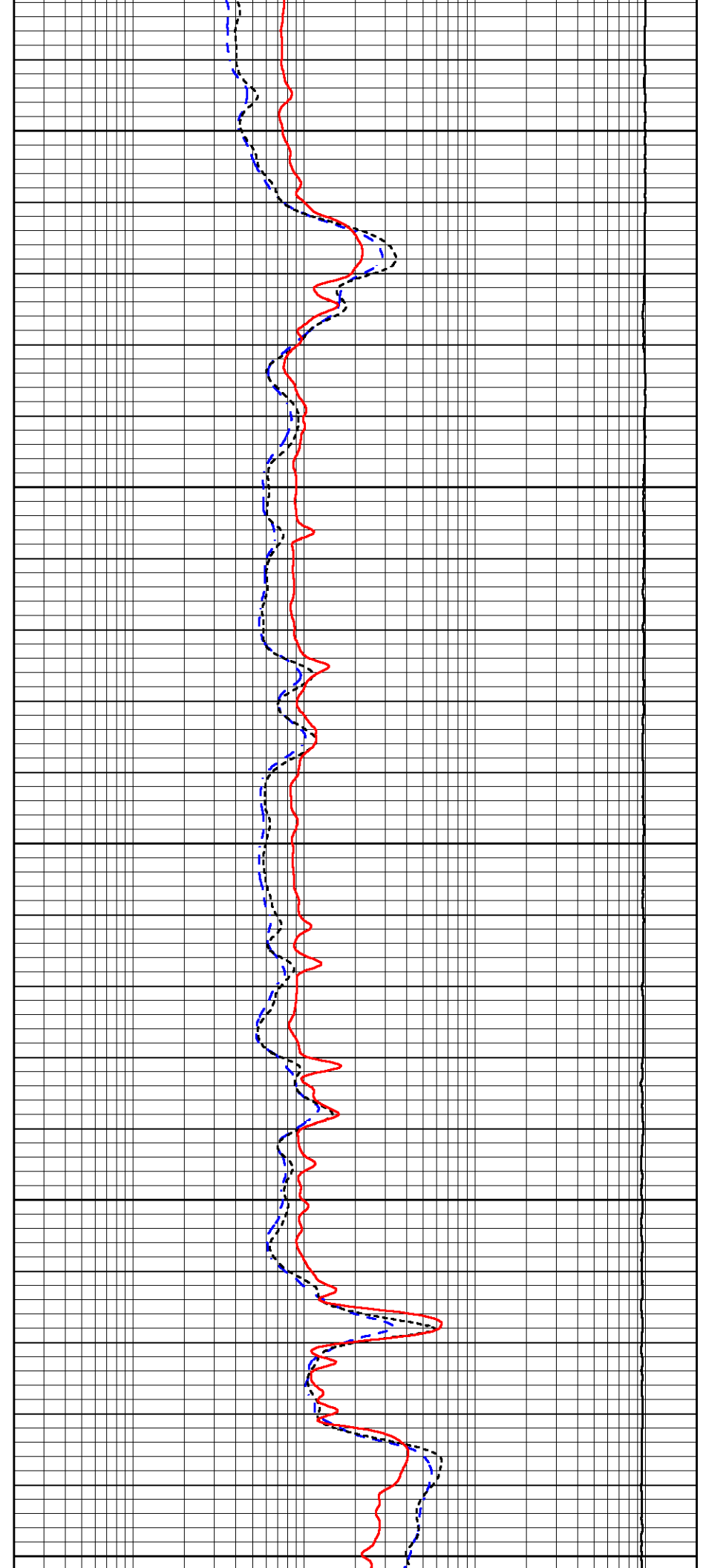
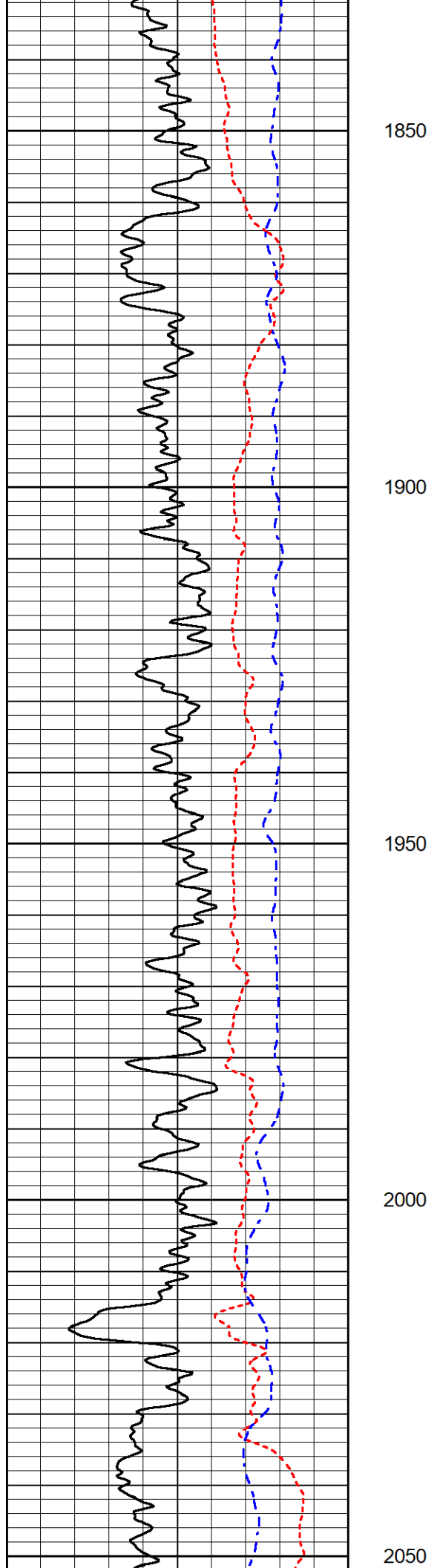
1650

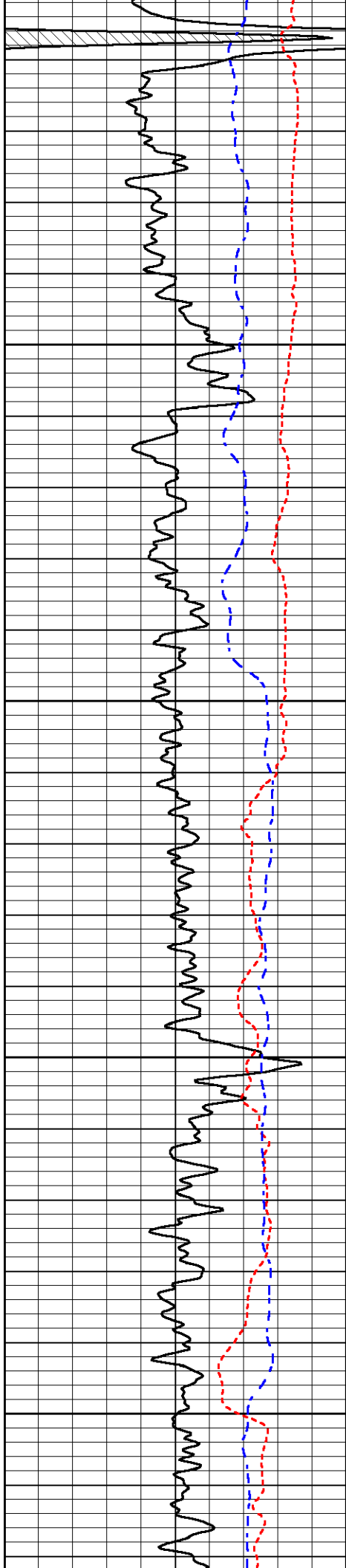
1700

1750

1800





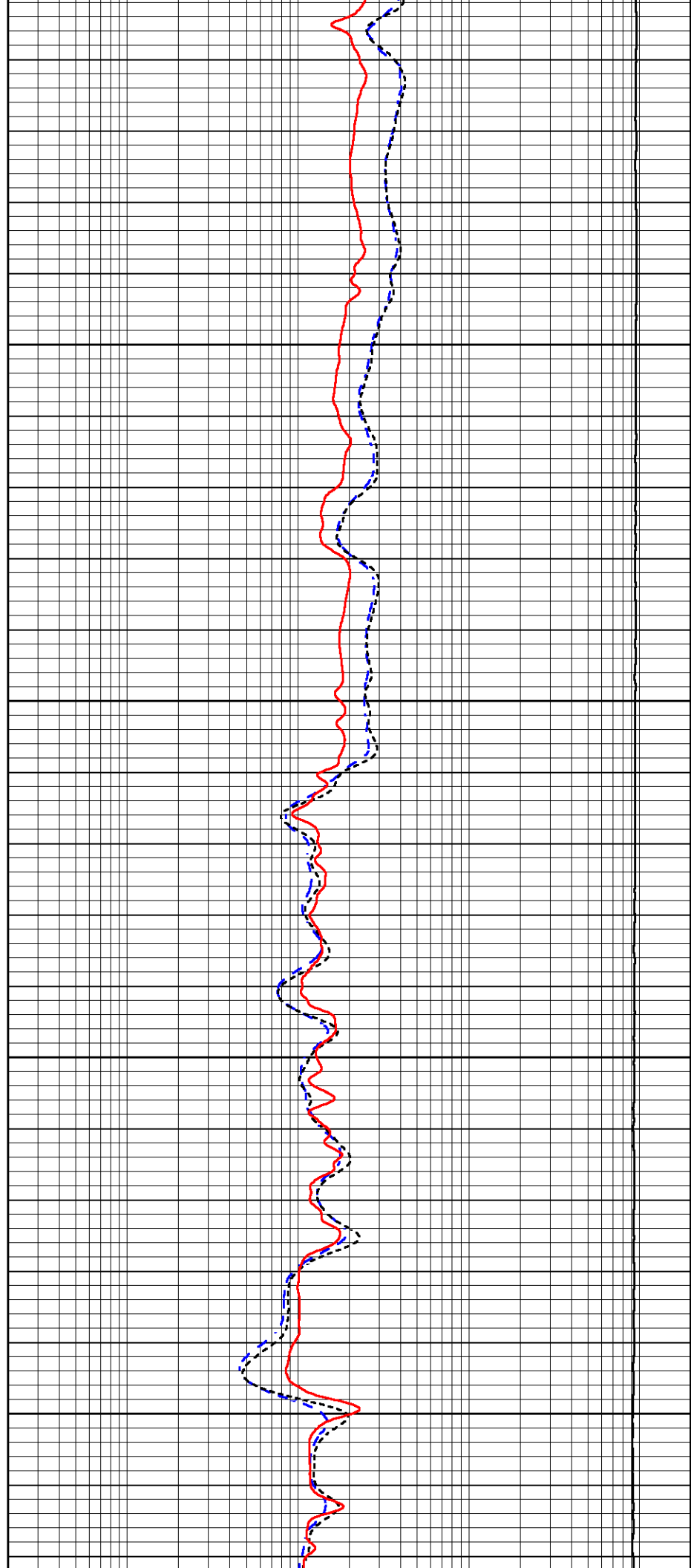


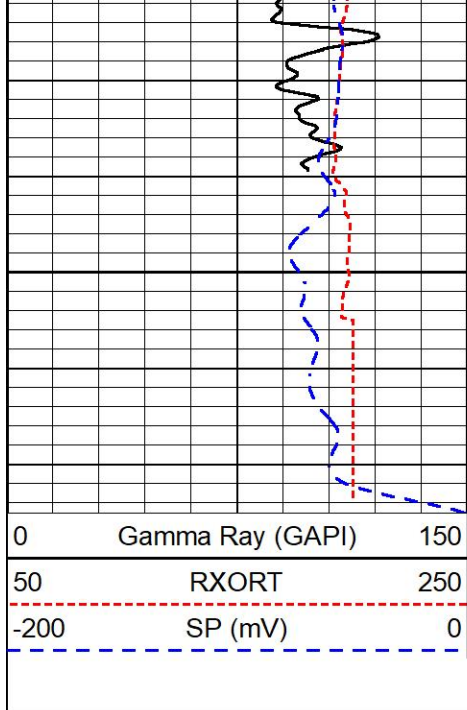
2100

2150

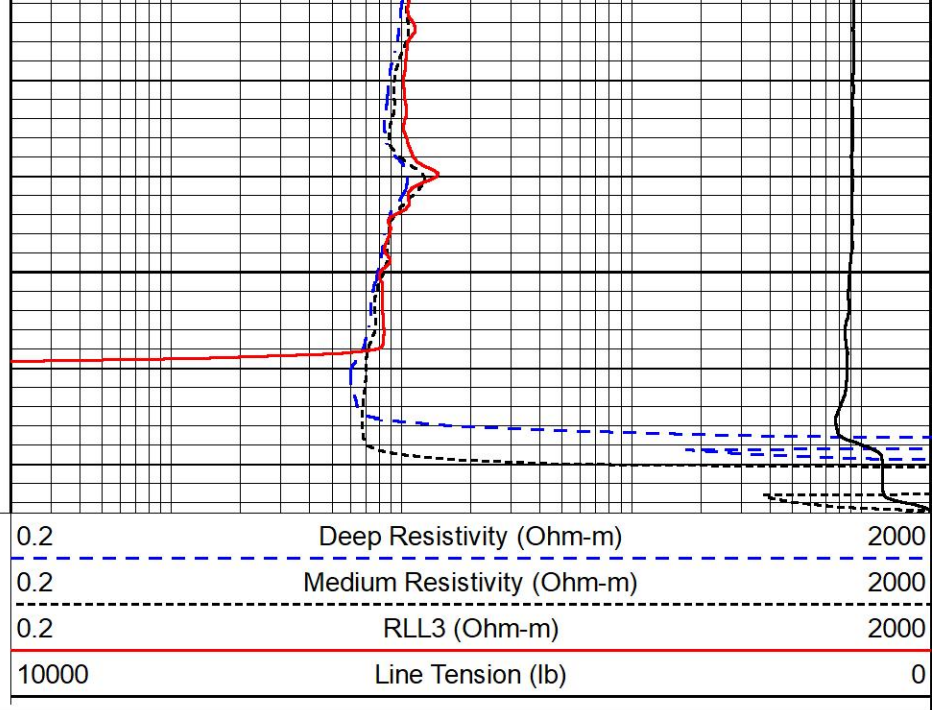
2200

2250





2300

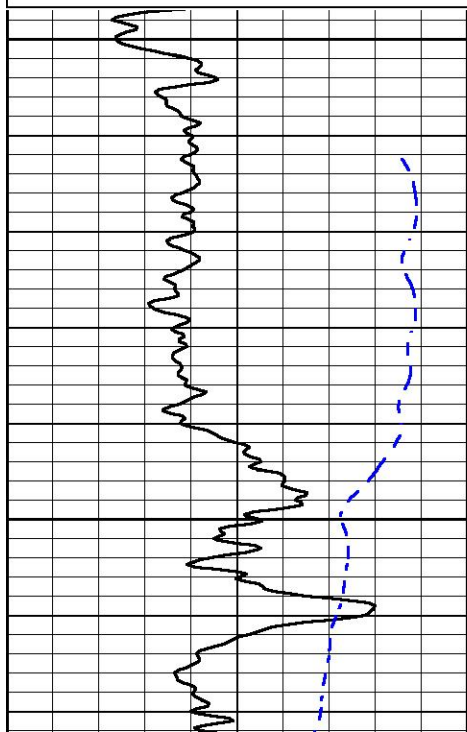
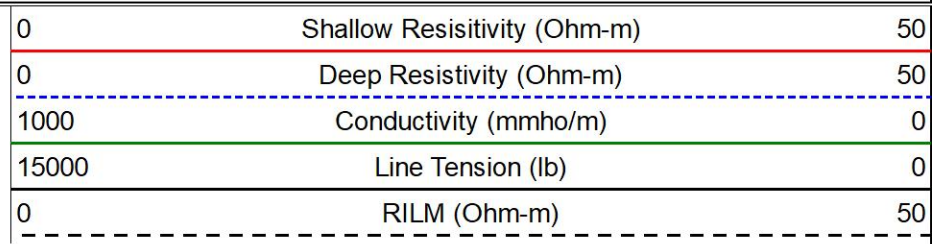
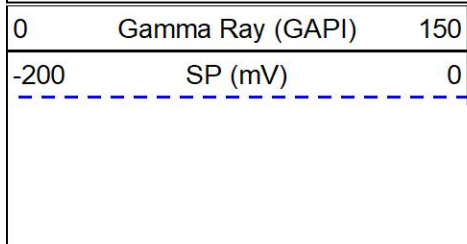


MIDWEST WIRELINE

DETAIL SECTION

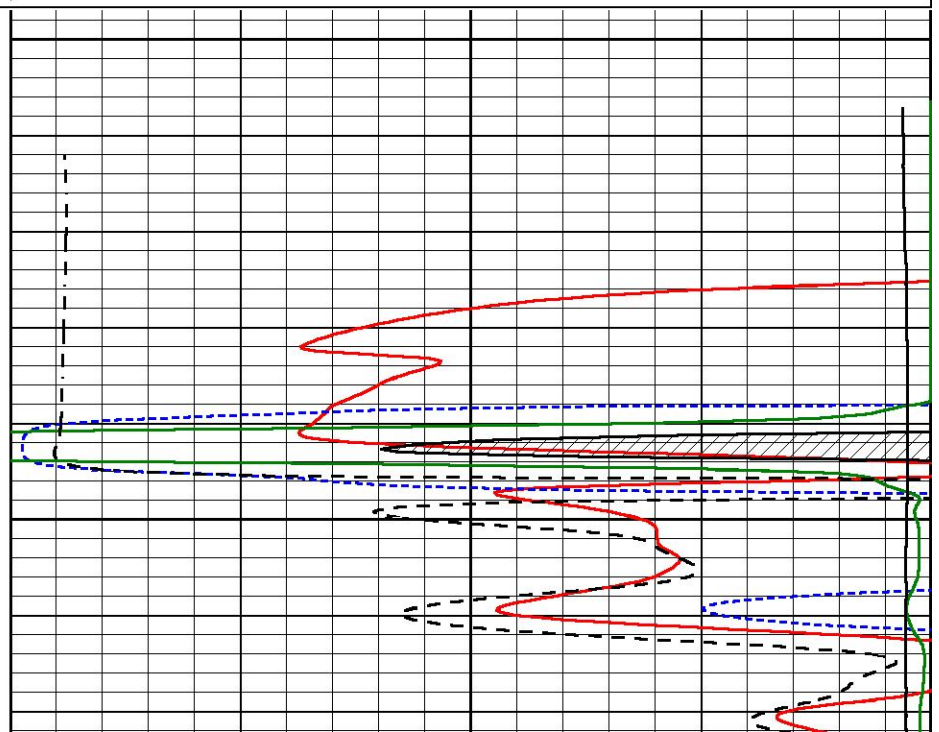
MAIN PASS

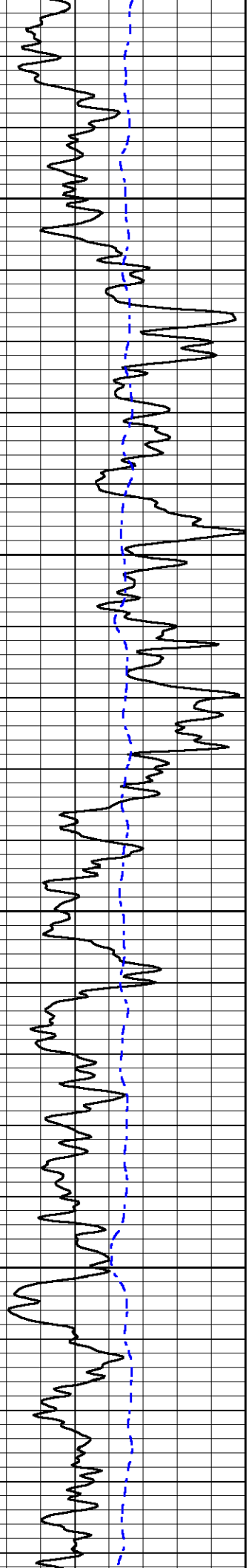
Database File hydro_grandview upper black squirrel.db
 Dataset Pathname stack/pass2.12
 Presentation Format dilhydro
 Dataset Creation Mon Feb 12 09:05:52 2024
 Charted by Depth in Feet scaled 1:240



0

50



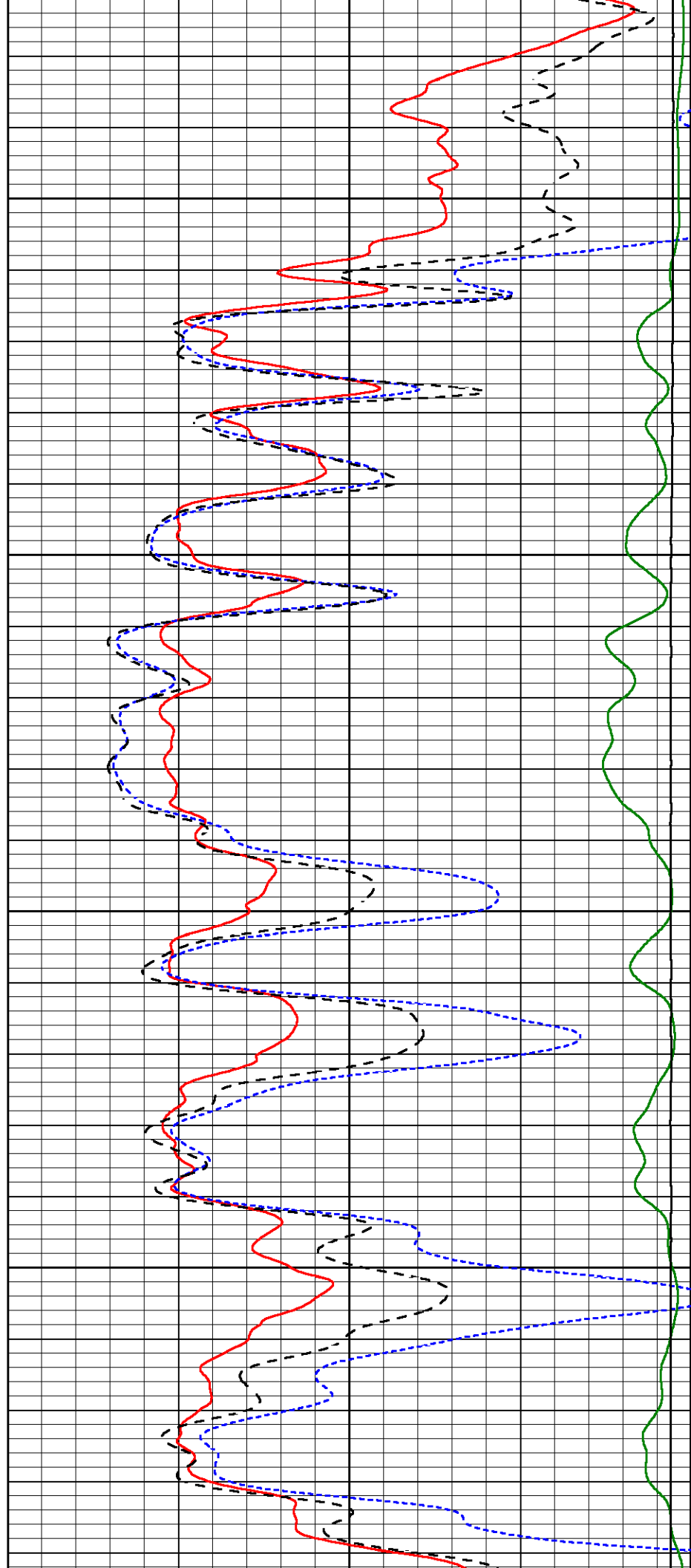


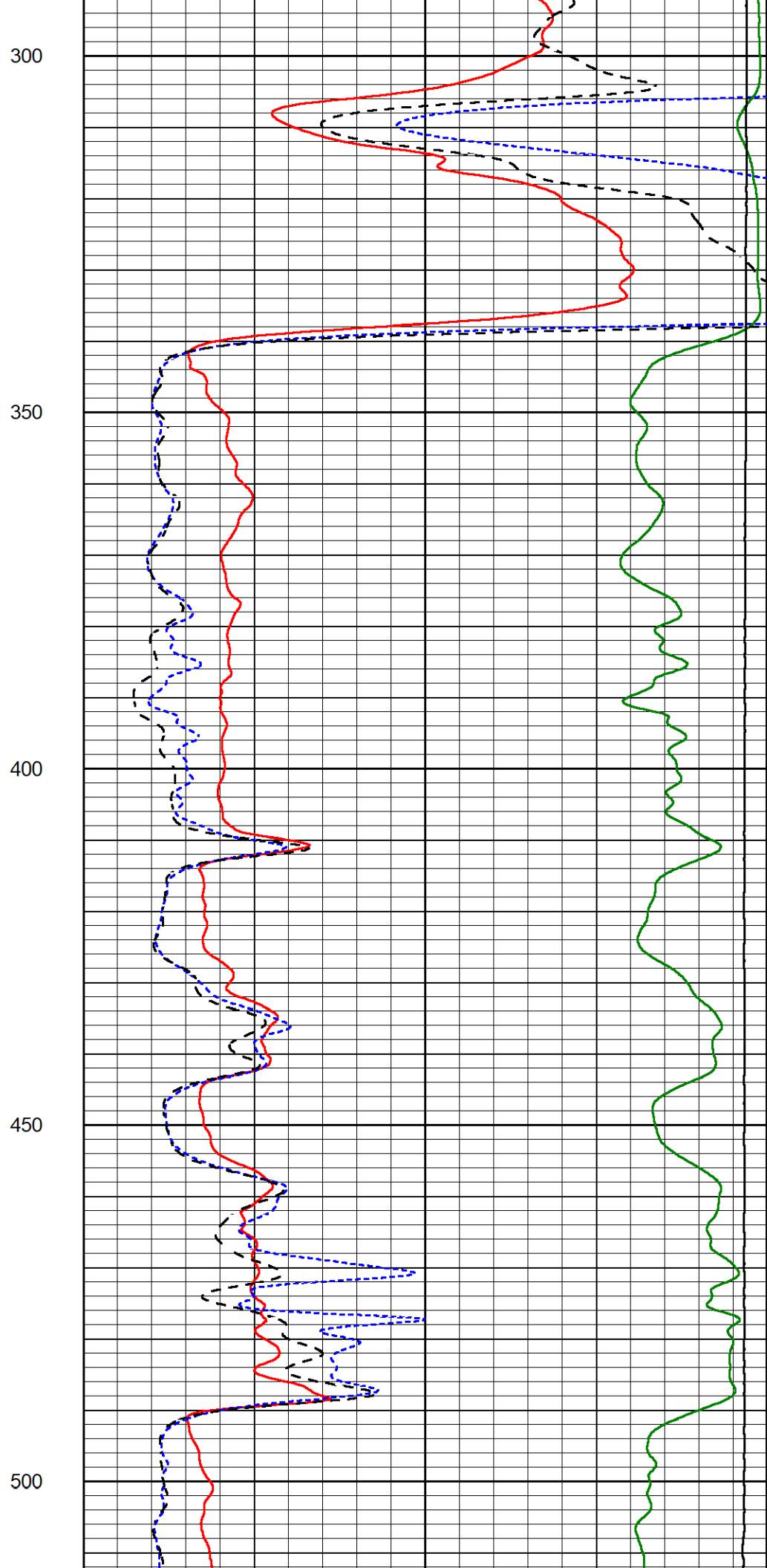
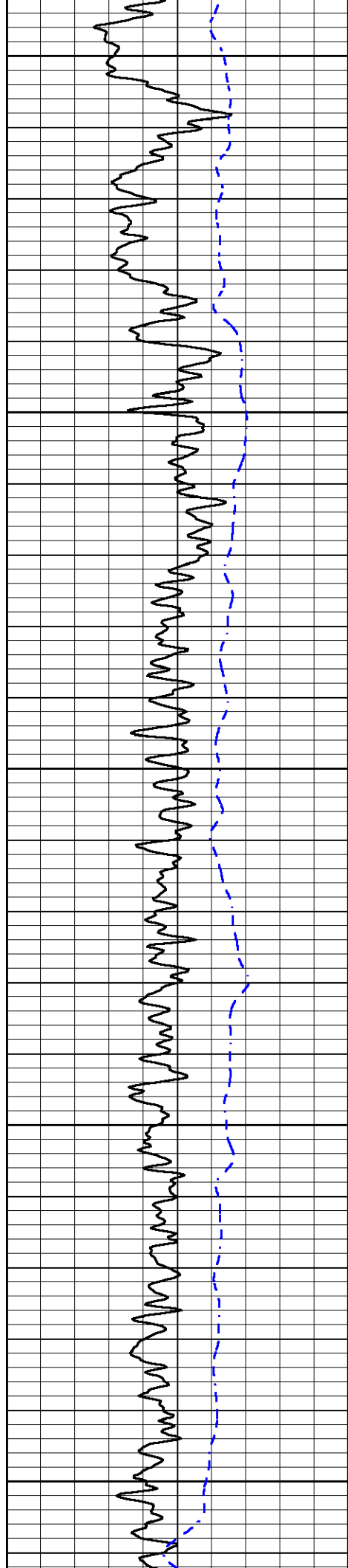
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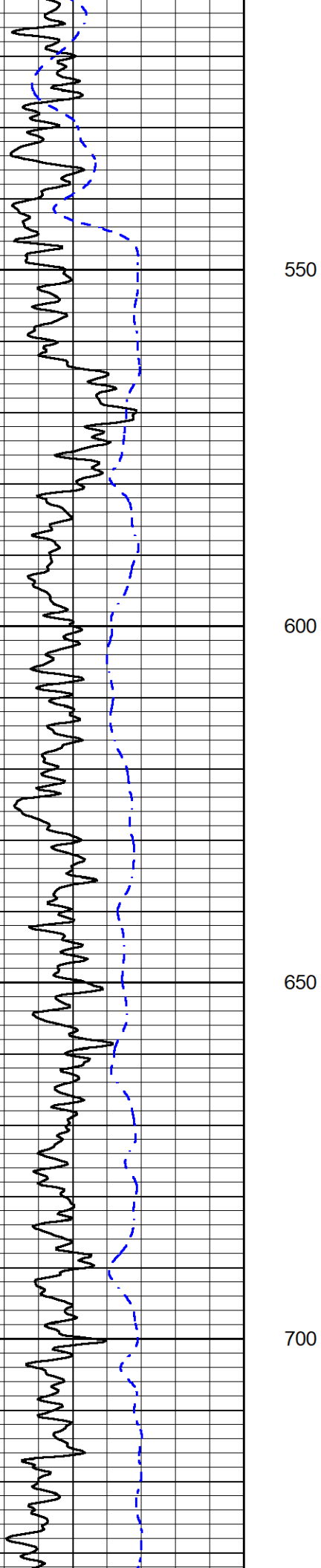
150

200

250





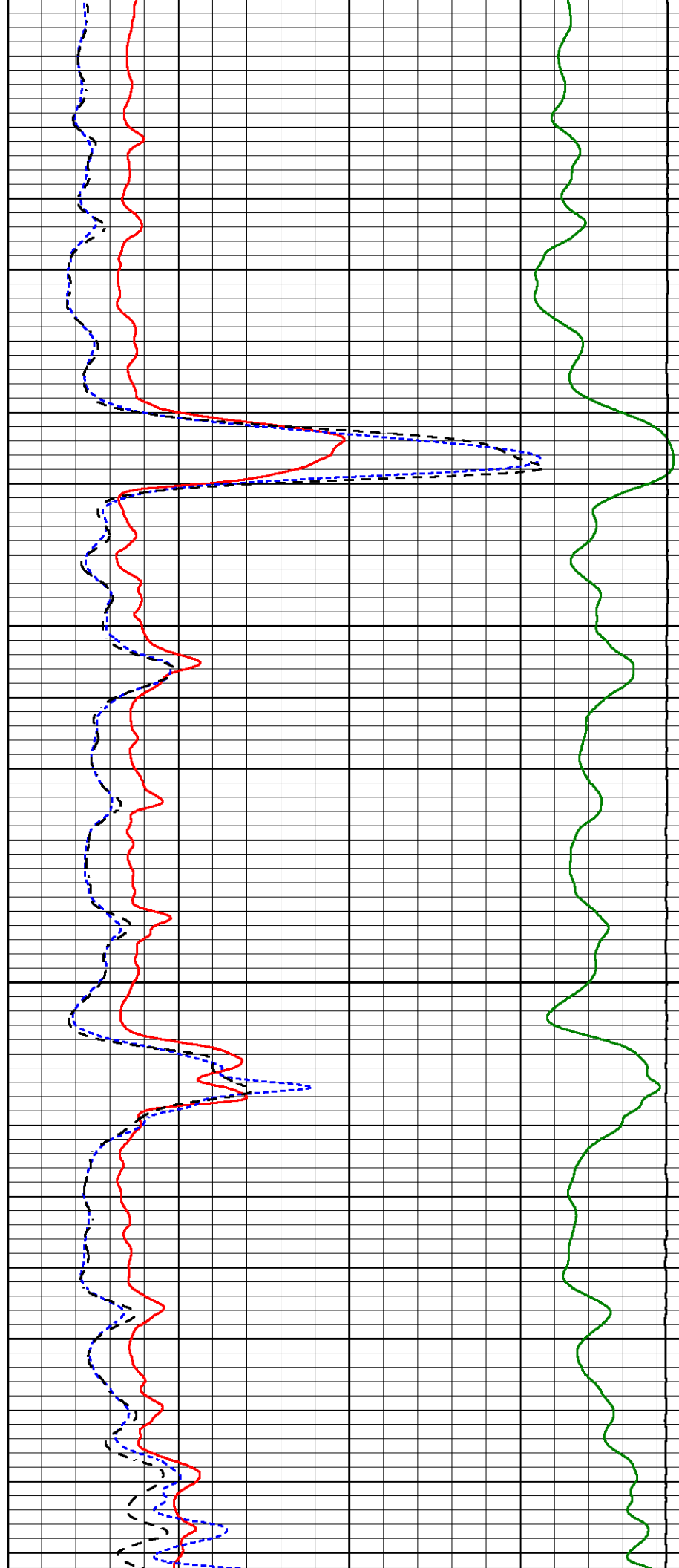


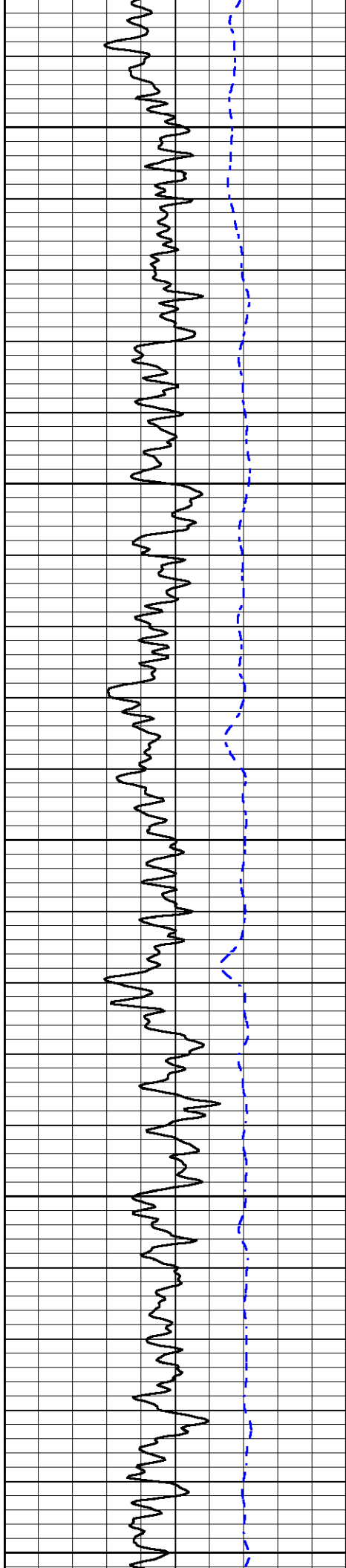
550

600

650

700





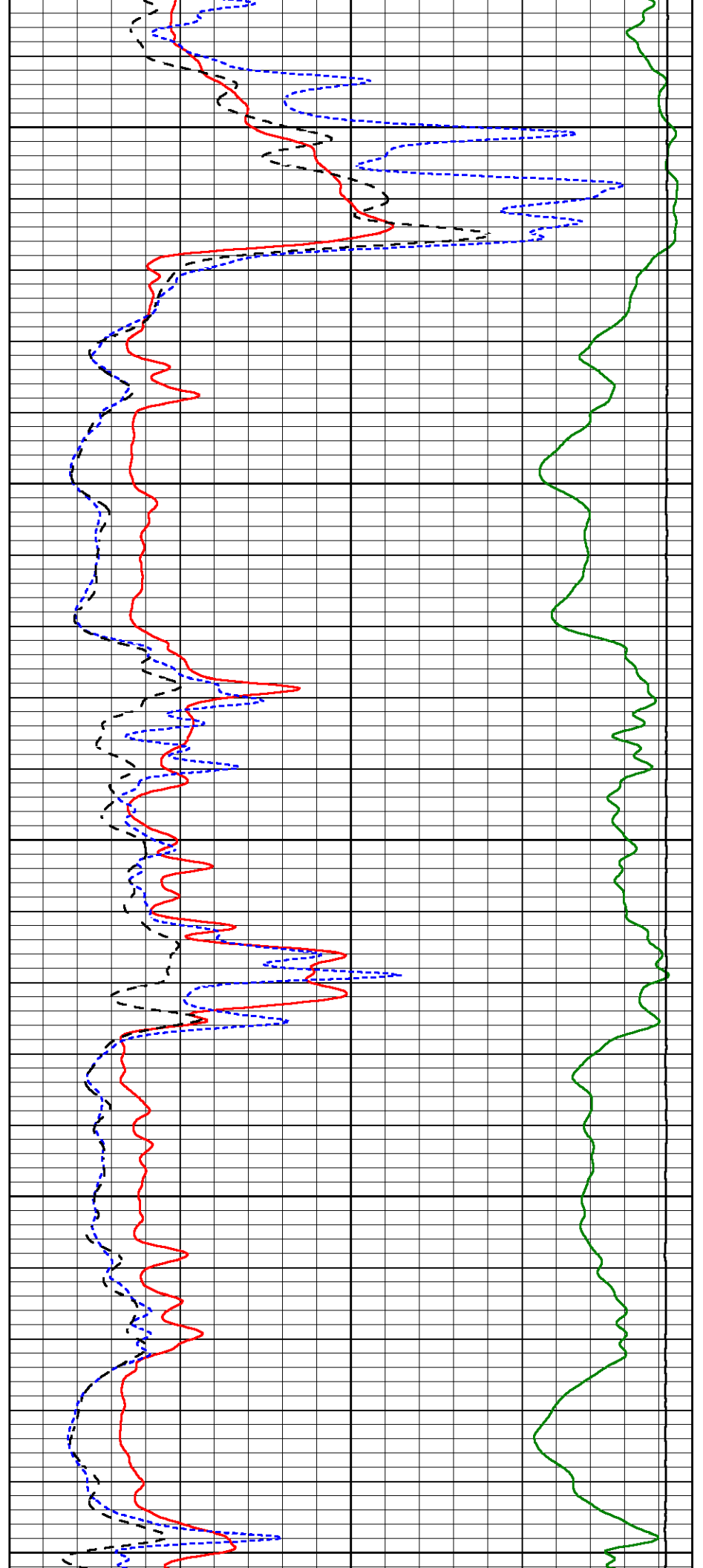
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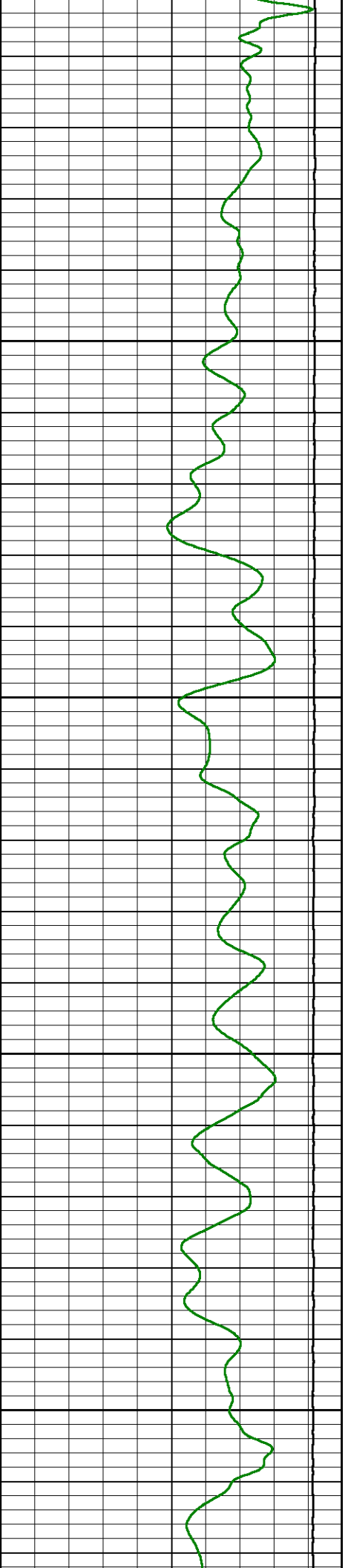
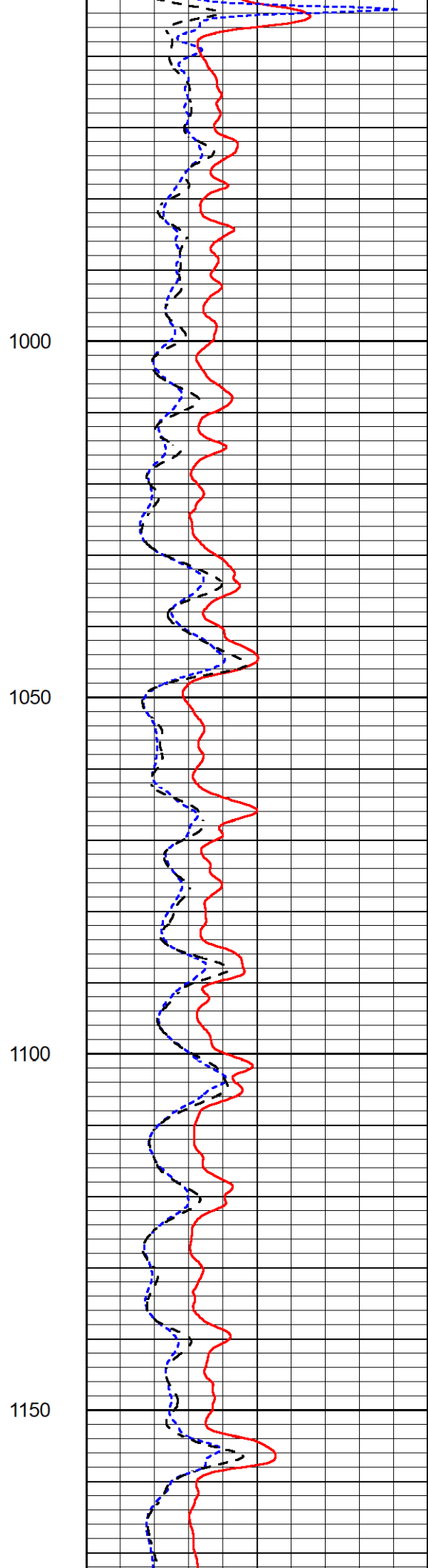
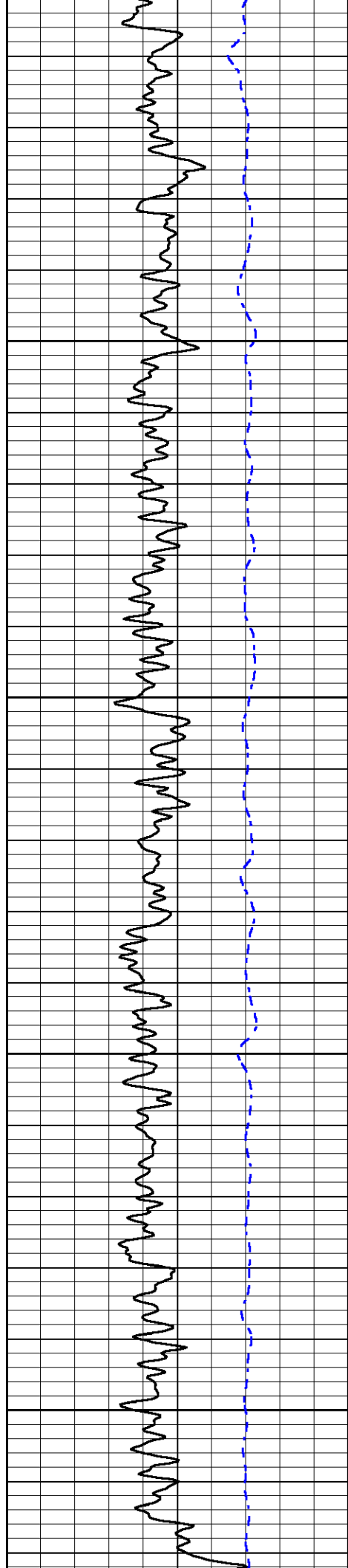
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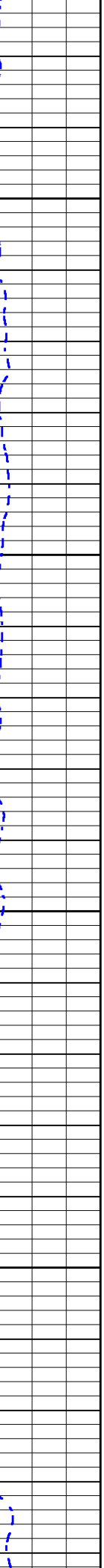
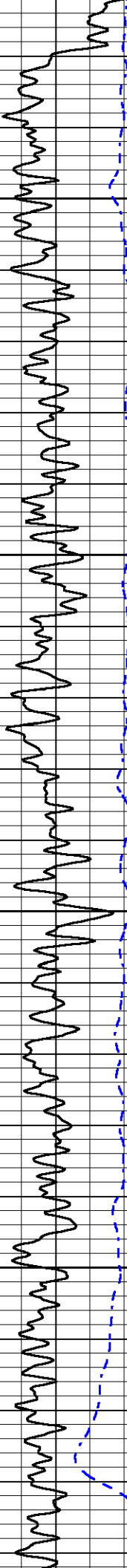
850

900

950





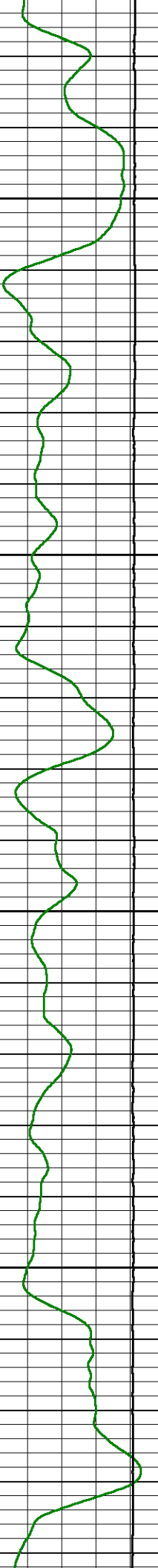
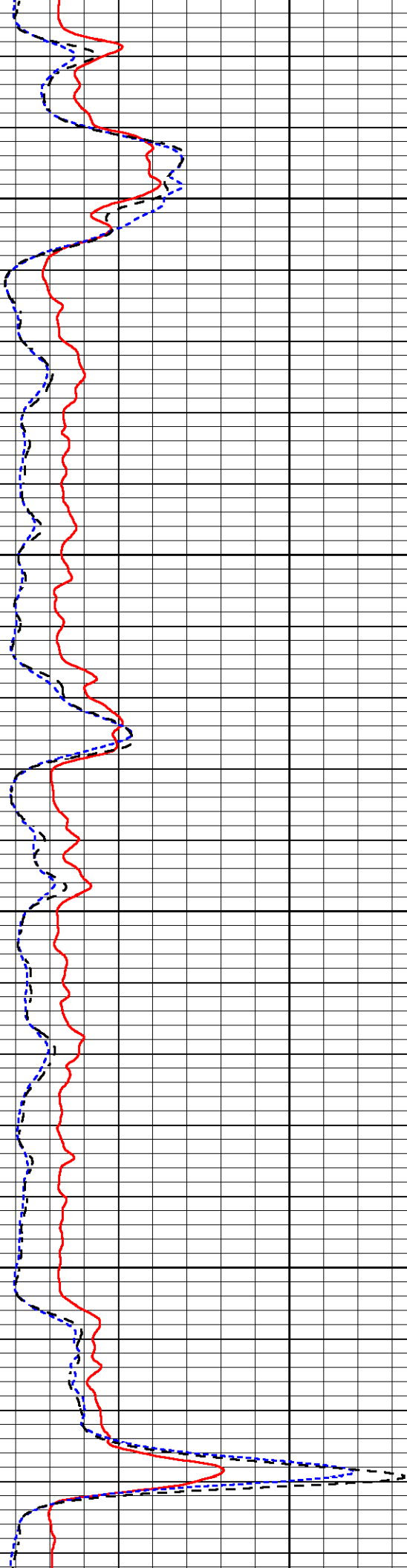


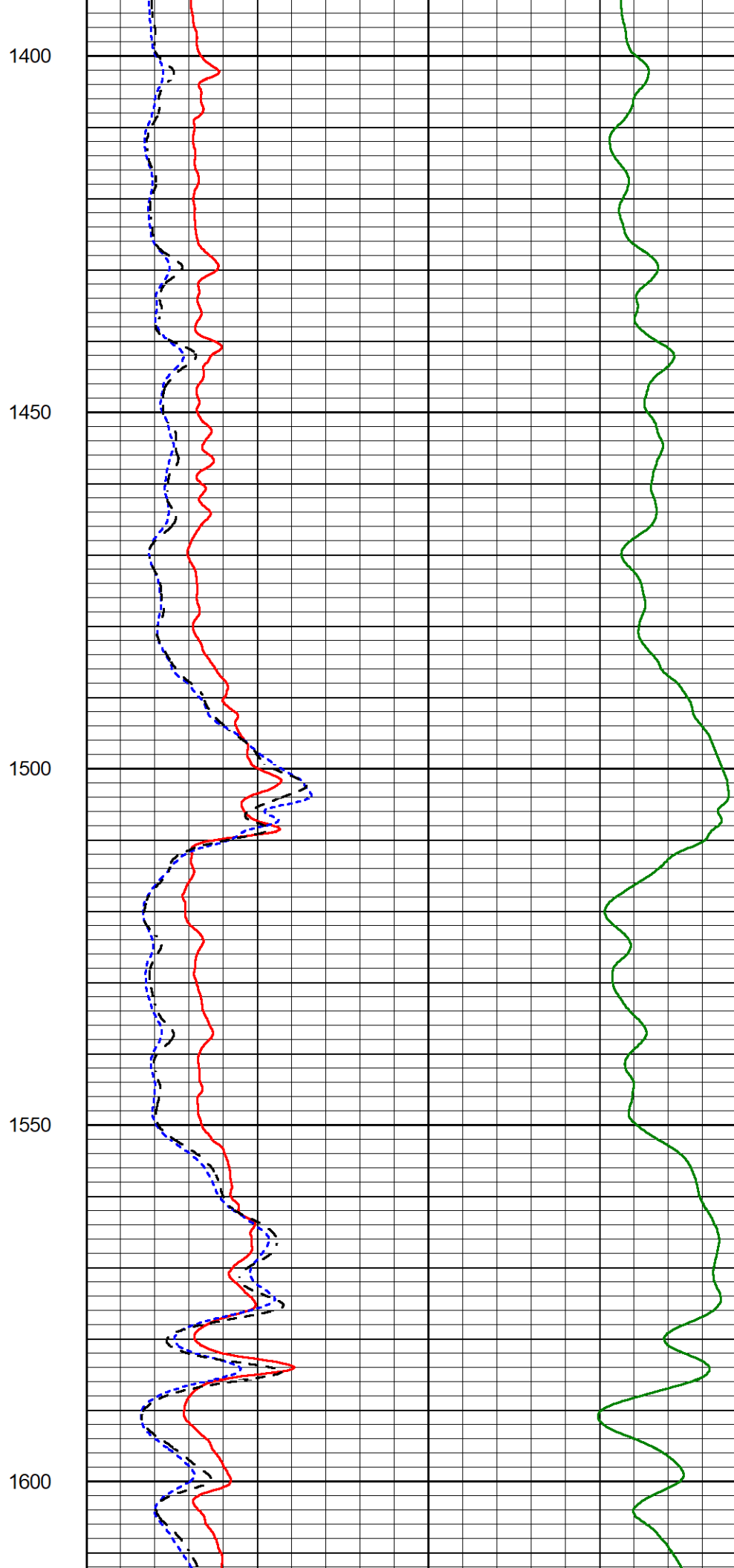
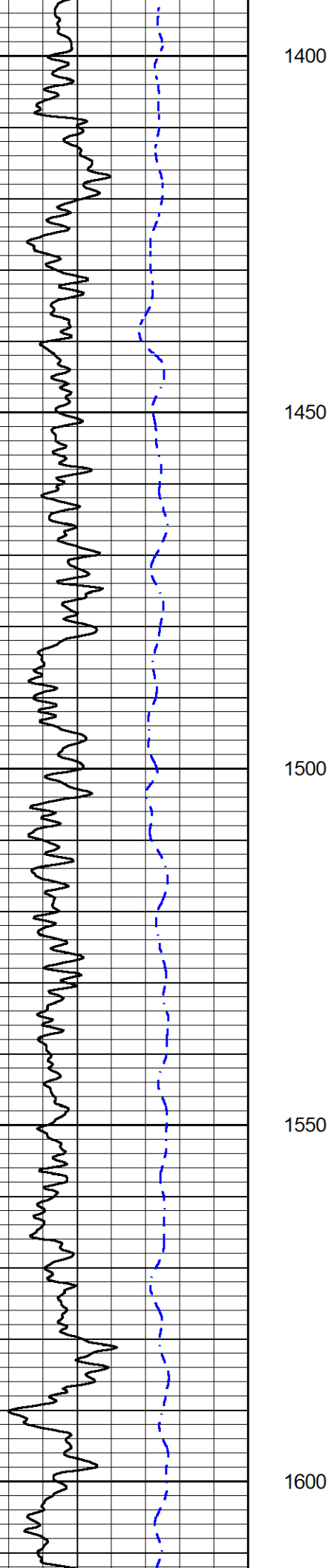
1200

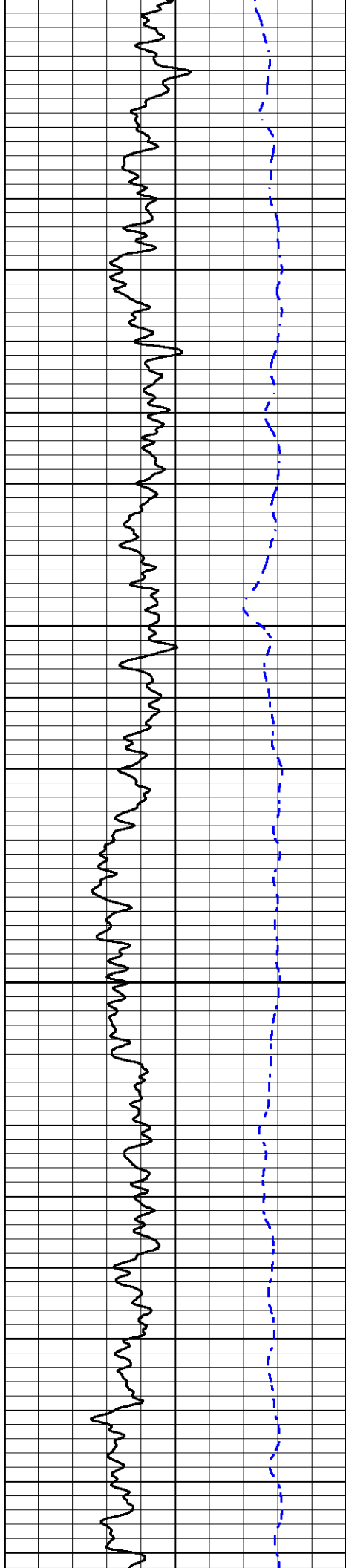
1250

1300

1350





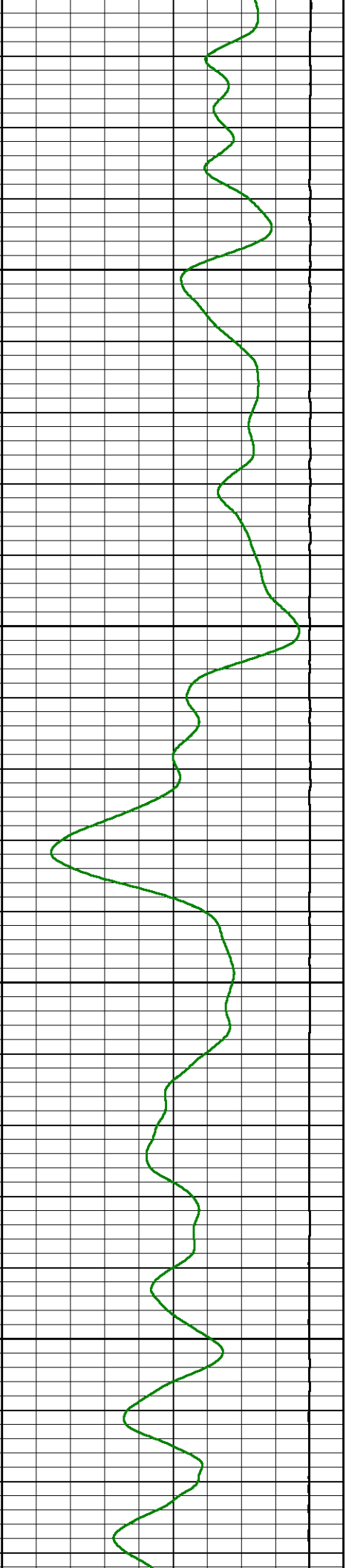
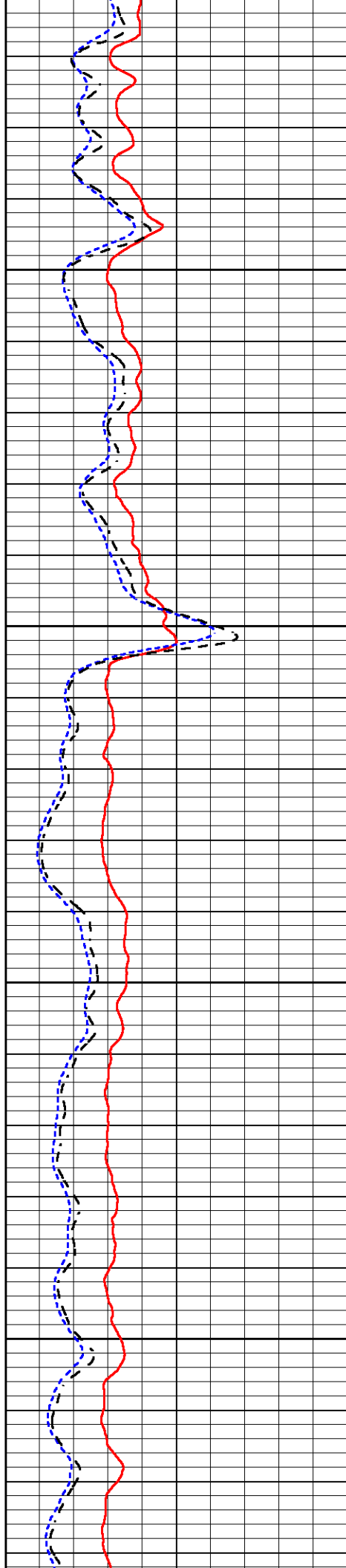


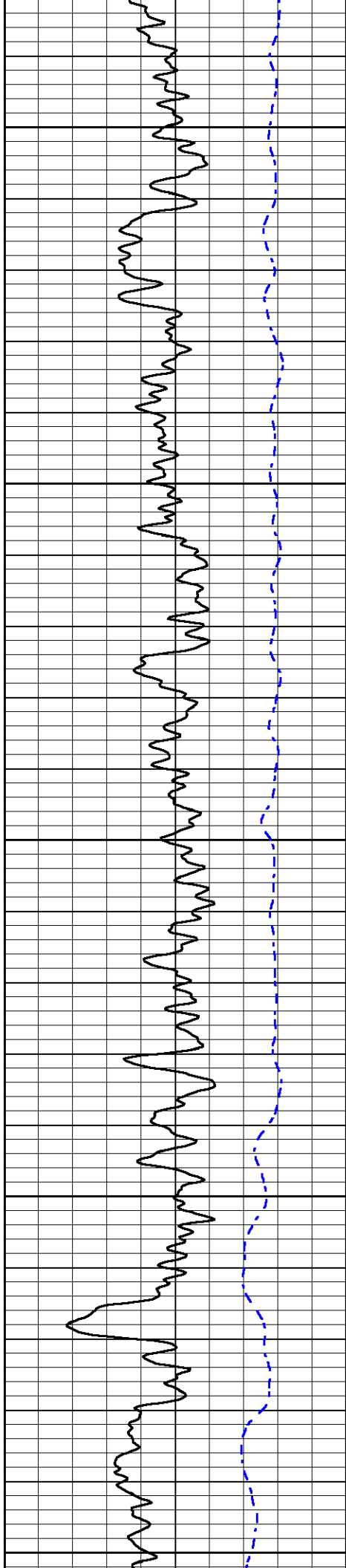
1650

1700

1750

1800





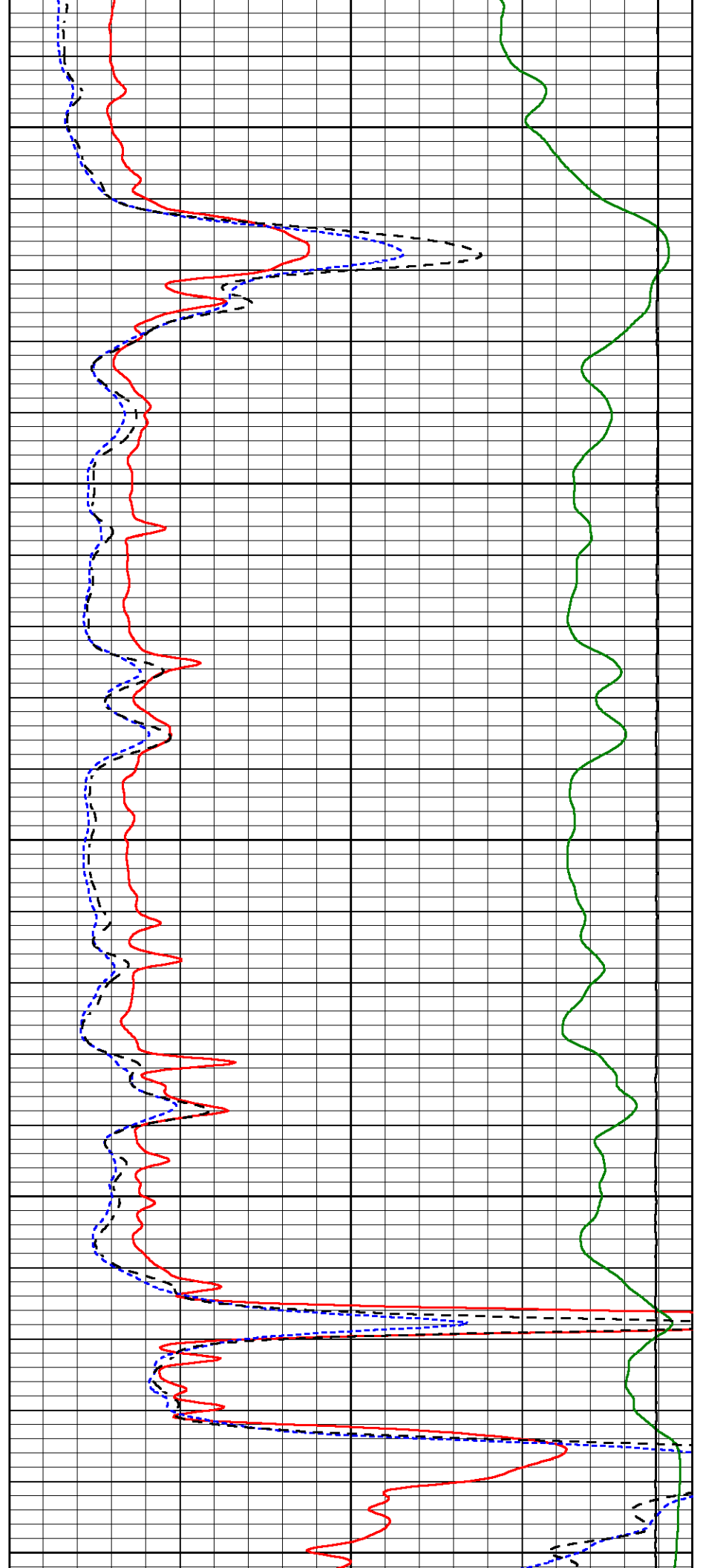
1850

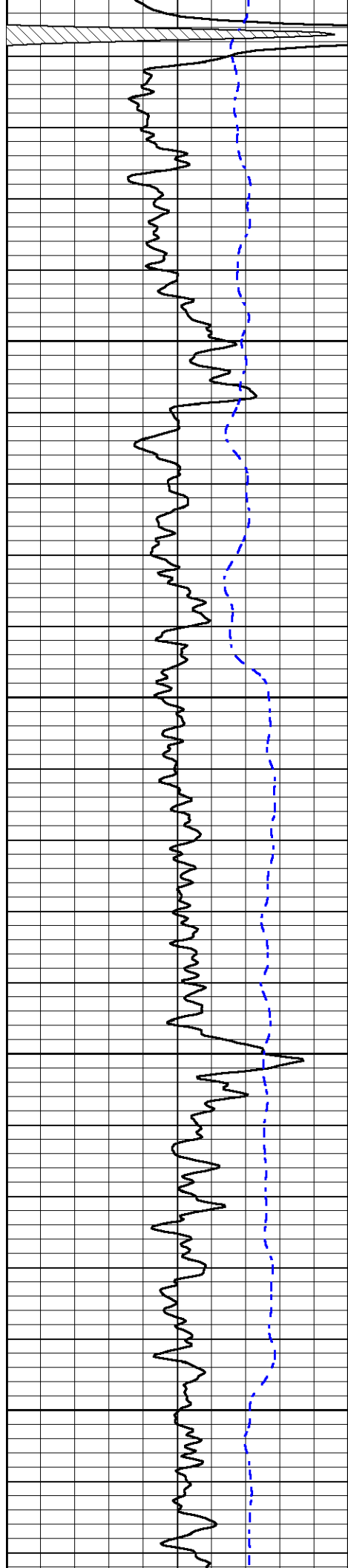
1900

1950

2000

2050



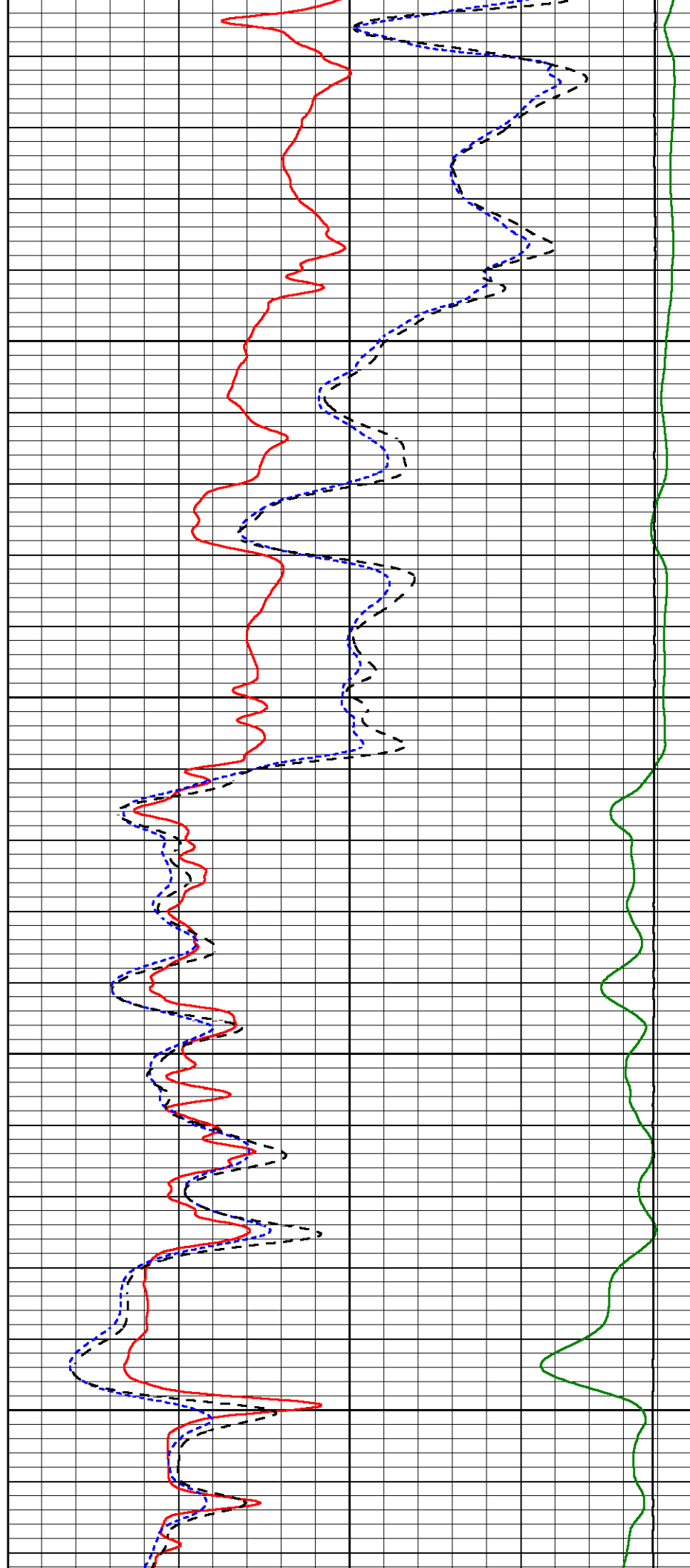


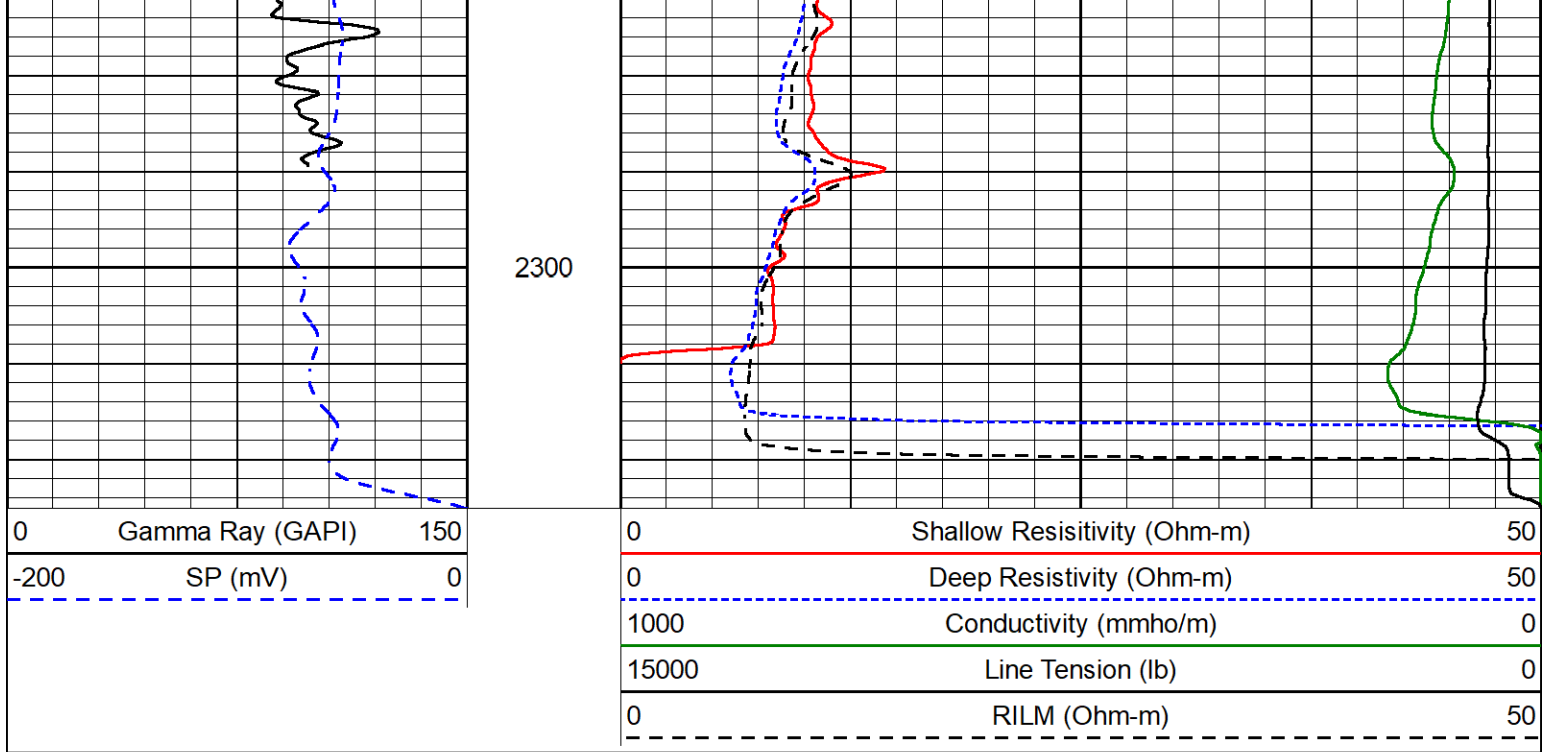
2100

2150

2200

2250





Calibration Report

Database File hydro_grandview upper black squirrel.db
 Dataset Pathname stack/pass2.12
 Dataset Creation Mon Feb 12 09:05:52 2024

Dual Induction Calibration Report

Serial-Model: 504 HT-M&W
 Surface Cal Performed: Sun Jan 28 10:54:35 2024

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	1.350	-9.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.950	-44.000

LITHODENSITY Calibration Report

Serial Number: 701-01
 Tool Model: STEP LITHO Short
 Performed: Fri Dec 15 13:02:54 2023

Source:

	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
Background:									
SS:	50	53	200	252	23	67	44	1	cps
LS:	78	88	332	424	48	131	87	3	cps

Aluminum:

SS:	1069	1323	3068	2763	51	72	47	3	cps
LS:	1171	2261	4196	1923	57	133	82	6	cps

Magnesium:

SS:	1756	2109	4999	4049	59	72	48	5	cps
LS:	4803	8914	16228	6562	125	123	85	17	cps

Aluminum+Iron:

SS:	682	909	2535	2363	47	72	47	3	cps
-----	-----	-----	------	------	----	----	----	---	-----

LS: 682 1582 3537 1707 57 132 82 5 cps

	Density Actual	Calibrated		PE Actual	Calibrated	Quality
Background:						
SS:						0.201
LS:						0.203
Aluminum:						
SS:	2.6000	2.6000	g/cc			0.208
LS:	2.6000	2.6000	g/cc			0.236
Magnesium:						
SS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.205
LS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.183
Aluminum+Iron:						
SS:					6.1800	0.210
LS:					6.1800	0.234

Caliper:	Reference:	Reading:
Small Ring:	6.0 in	0.2
Large Ring:	32.0 in	0.8
Gain:	41.487	
Offset:	-8.500	

Compensated Neutron Calibration Report

Serial Number: 210
Tool Model: M&W

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number: 105
Tool Model: M&W
Performed: Sat Oct 21 23:48:19 2023

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps
Calibrator Reading: 637.0 cps

Sensitivity: 0.6000 GAPI/cps



MIDWEST WIRELINE

Company Hydro Resources
Well Grandview Upper Black Squirrel
Field
County El Paso
State Colorado



MIDWEST WIRELINE

**DUAL COMPENSATED
POROSITY W/PE**

Company: Hydro Resources
Well: Grandview Upper Black Squirrel
Field: Grandview
County: El Paso
State: Colorado

Company: Hydro Resources
Well: Grandview Upper Black Squirrel
Field: Grandview
County: El Paso
State: Colorado

Location: API #: NE 1/4 NW 1/4
SEC 28 TWP 12S RGE 64 W
Permanent Datum: Ground Level Elevation: DIL
Log Measured From: Ground Level
Drilling Measured From: Ground Level

Date	2/12/2024						
Run Number	One						
Type Log	CNL/CDL						
Depth Driller	2321						
Depth Logger	2318						
Bottom Logged Interval	2297						
Top Logged Interval	0						
Type Fluid In Hole	Chemical						
Salinity, PPM CL	200						
Density	9.0						
Level	Full						
Max. Rec. Temp. F	2 Hours						
Operating Rig Time	110 Hays						
Equipment -- Location	110 Hays						
Recorded By	D. Schmidt						
Witnessed By	Kevin Whittemore						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	Casing Record	
One		0	32	24		From	To
Two	17.5	32	TD			0	32

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Permit #88240-F

SO# 2879

Log Measured From: Ground Level Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
785-625-3858

Your Midwest Wireline Crew

Engineer: D. Schmidt
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Kevin Whittemore
Secondary Witness:
Secondary Witness:
Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	32.65		GR-M&W (105)	3.00	3.50	50.00
CNLSC CNSSC	29.55 28.80		CNT-M&W (210)	5.00	3.50	100.00
			MWLith-STEP LITHO Short (701-01)	8.40	5.00	250.00
LCAL	20.63					
LLW8N	20.63					
LLW7N	20.63					
LLW6N	20.63					
LLW5N	20.63					
LLW4N	20.63					
LLW3N	20.63					
LLW2N	20.63					
LLW1N	20.63					
LSLOCK	20.38					
LLOCK	20.38					
PELTMPR	20.38					
LSHVNG	20.38					
LLHVNG	20.38					
LSW8N	20.13					
LSW7N	20.13					
LSW6N	20.13					
LSW5N	20.13					
LSW4N	20.13					
LSW3N	20.13					
LSW2N	20.13					
LSW1N	20.13					
RLL3F	15.50					
RLL3	15.50					
CILD	8.33					
CILM	4.50					
SP	0.20					
			DIL-M&W (504 HT)	18.25	3.50	220.00

Dataset: hydro_grandview upper black squirrel.db: field/well/stack/pass2.12
 Total length: 34.65 ft
 Total weight: 620.00 lb
 O.D.: 5.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\hydro_grandview_upper_black_squirrel.db
 Dataset field/well/stack/pass2.12/_vars_

Top - Bottom

BOREID in 17.5	BOTTEMP degF 100	CASEOD in 10	CASETHCK in 0	FLUIDDEN g/cc 1	MATRXDEN g/cc 2.71	NPORSEL Limestone	PERFS No
SNDERR mmho/m 0	SNDERRM mmho/m 0	SPSHIFT mV 15	SRFTEMP degF 30	SZCOR Off	TDEPTH ft 2318		

Variable Description

BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 FLUIDDEN : Fluid Density
 MATRXDEN : Matrix Density
 NPORSEL : Neutron Porosity Curve Select

PERFS : Perforation Flag
 SNDERR : Deep Sonde Error Correction
 SNDERRM : Medium Sonde Error Correction
 SPSHIFT : S.P. Baseline Offset
 SRFTEMP : Surface Temperature
 SZCOR : CN Size Cor. ?
 TDEPTH : Total Depth

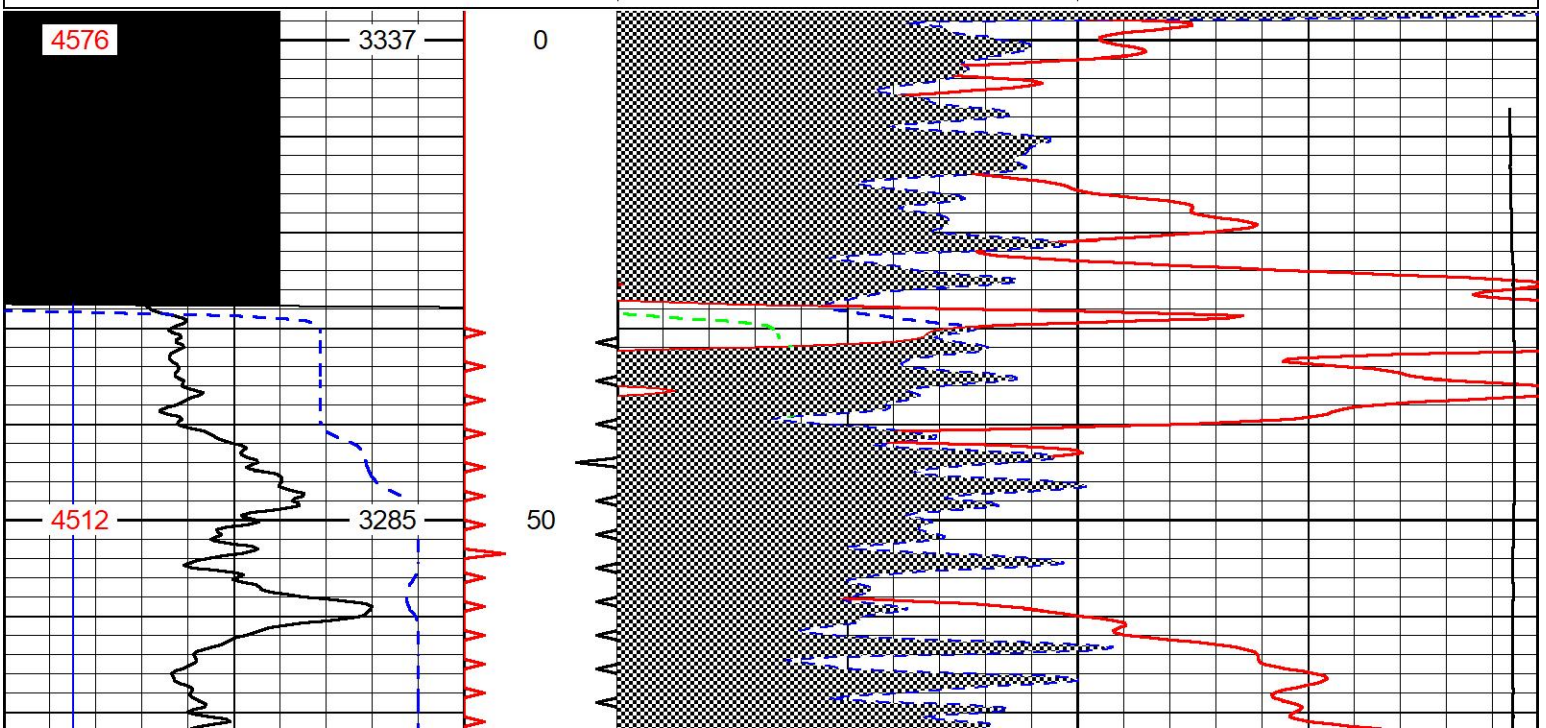


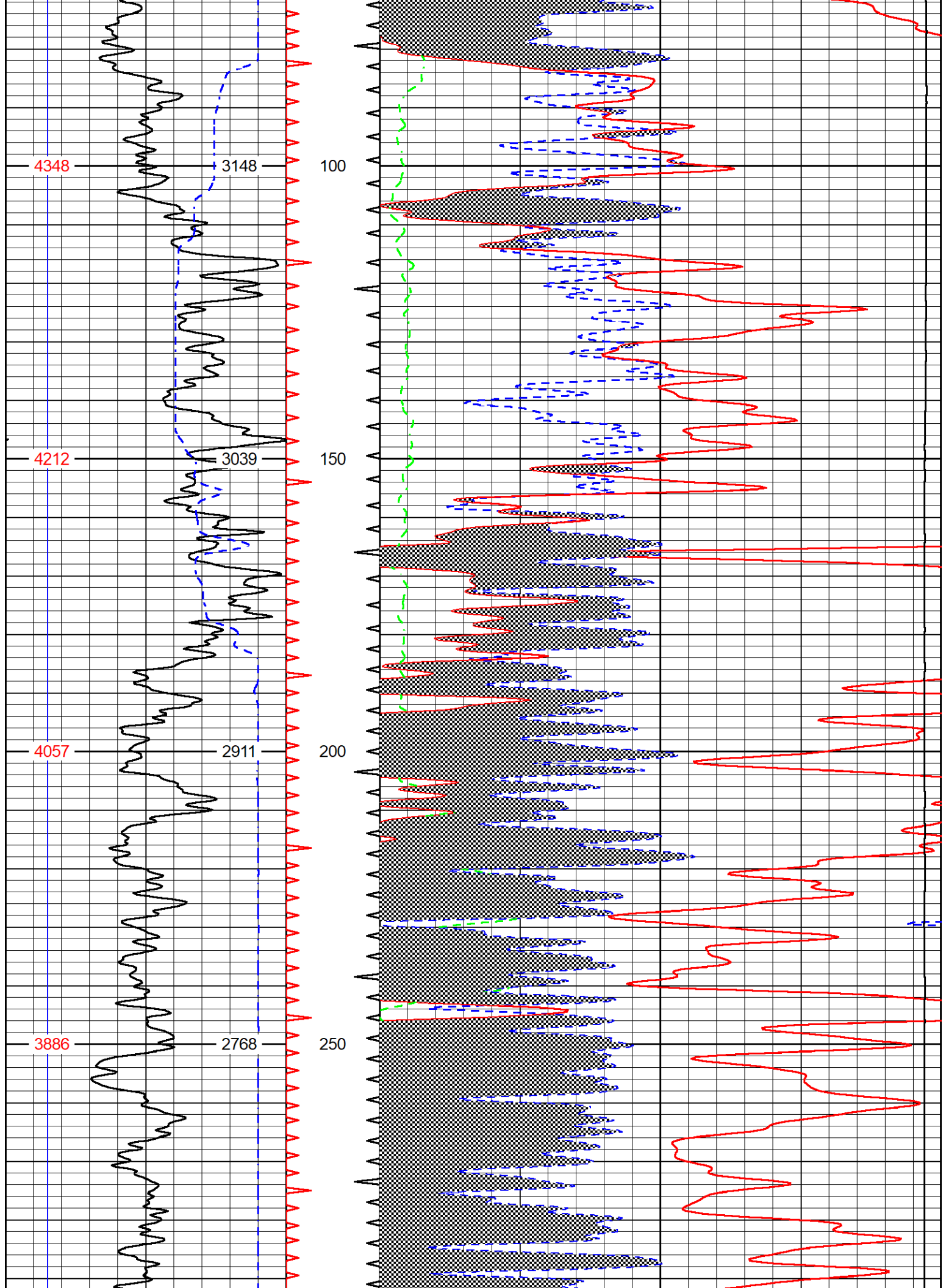
DETAIL SECTION

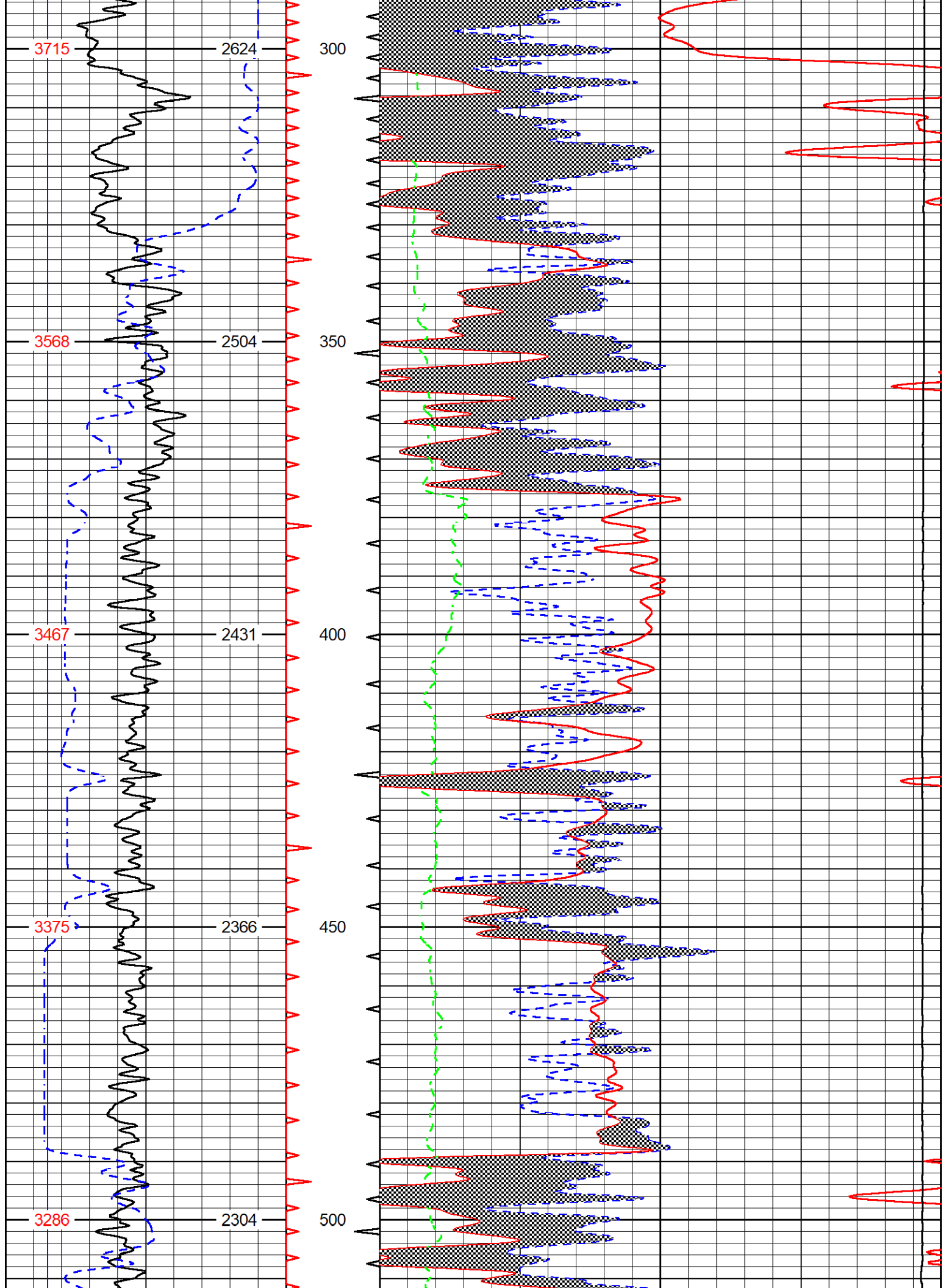
MAIN PASS

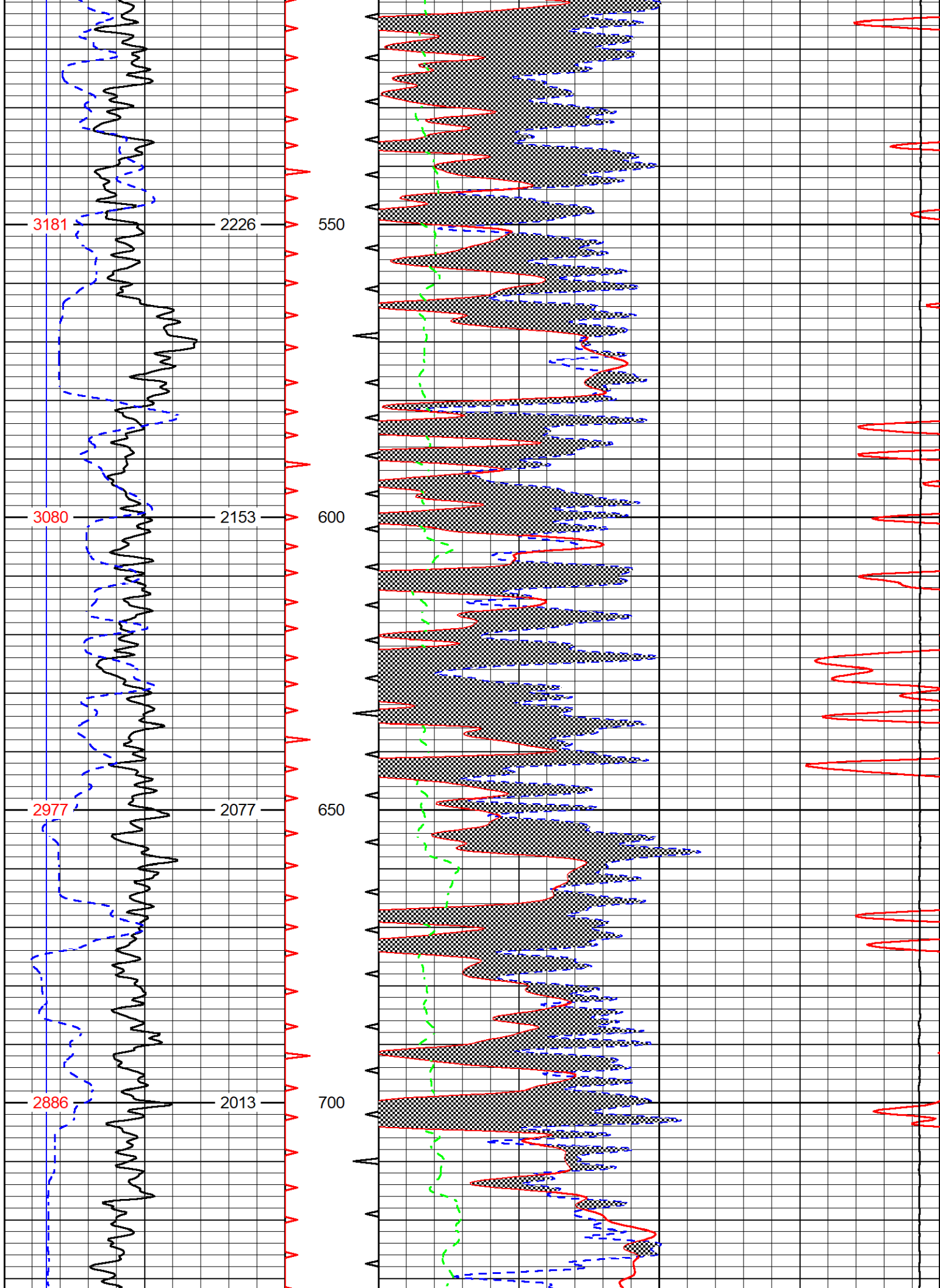
Database File hydro_grandview_upper_black_squirrel.db
 Dataset Pathname stack/pass2.12
 Presentation Format CNDLHY~1
 Dataset Creation Mon Feb 12 09:05:52 2024
 Charted by Depth in Feet scaled 1:240

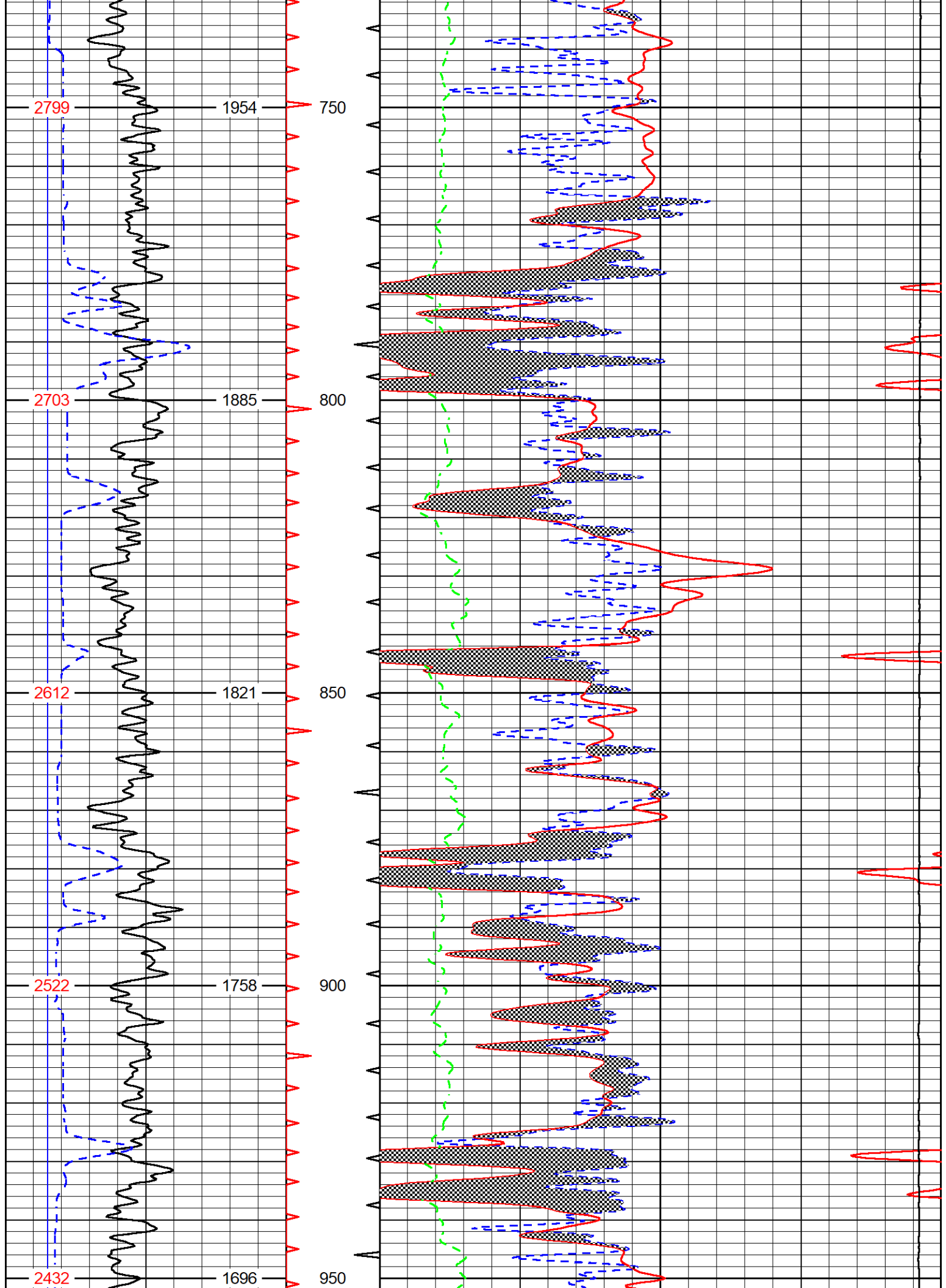
0	GAMMA RAY (GAPI)	150	60	CNPOR (pu)	0
16	lcal (in)	26	60	COMP DENSITY POROSITY (pu)	0
16	BIT SIZE (in)	26	15000	LINE TENSION (lb)	0
			0	PE	10

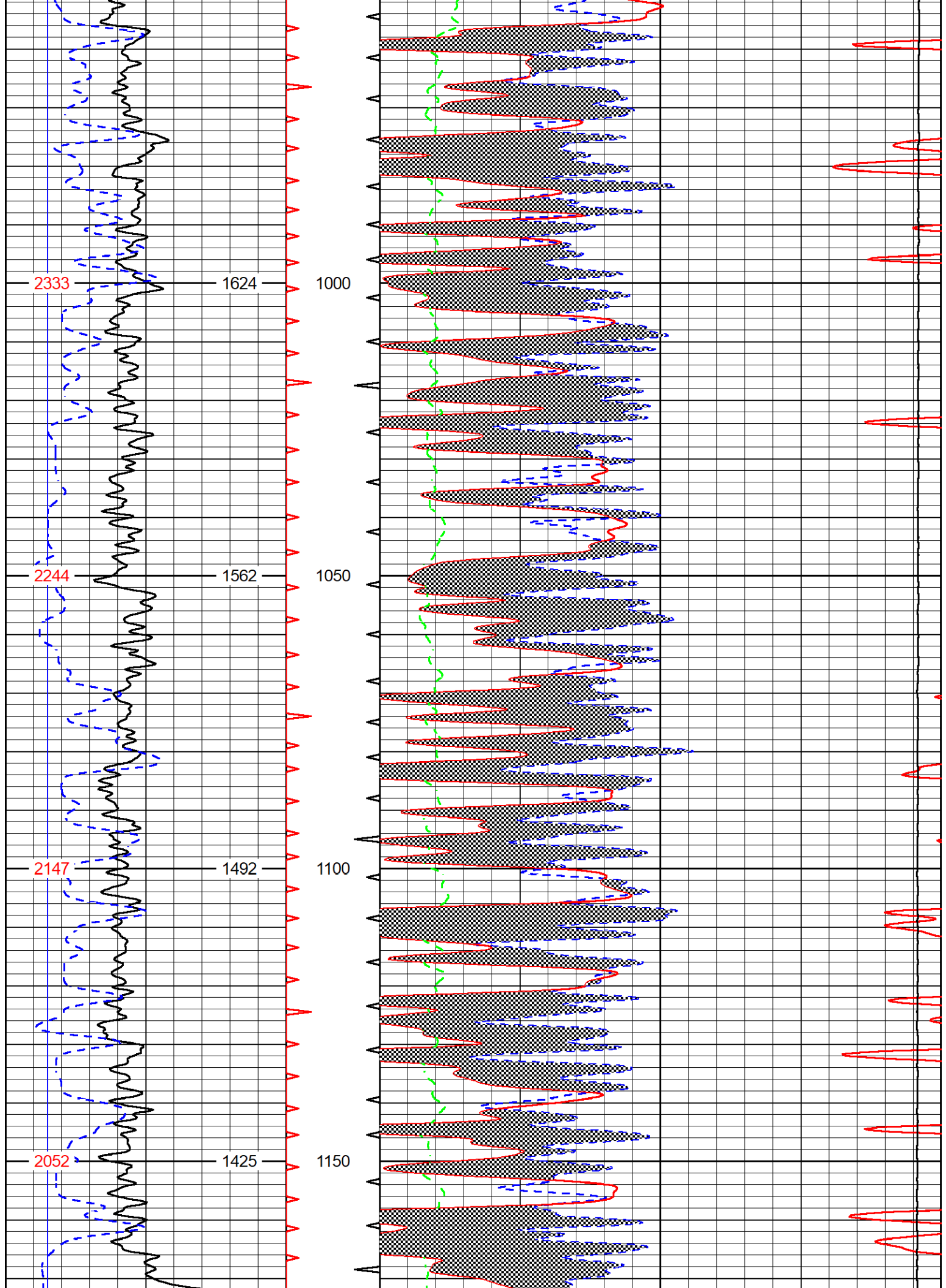


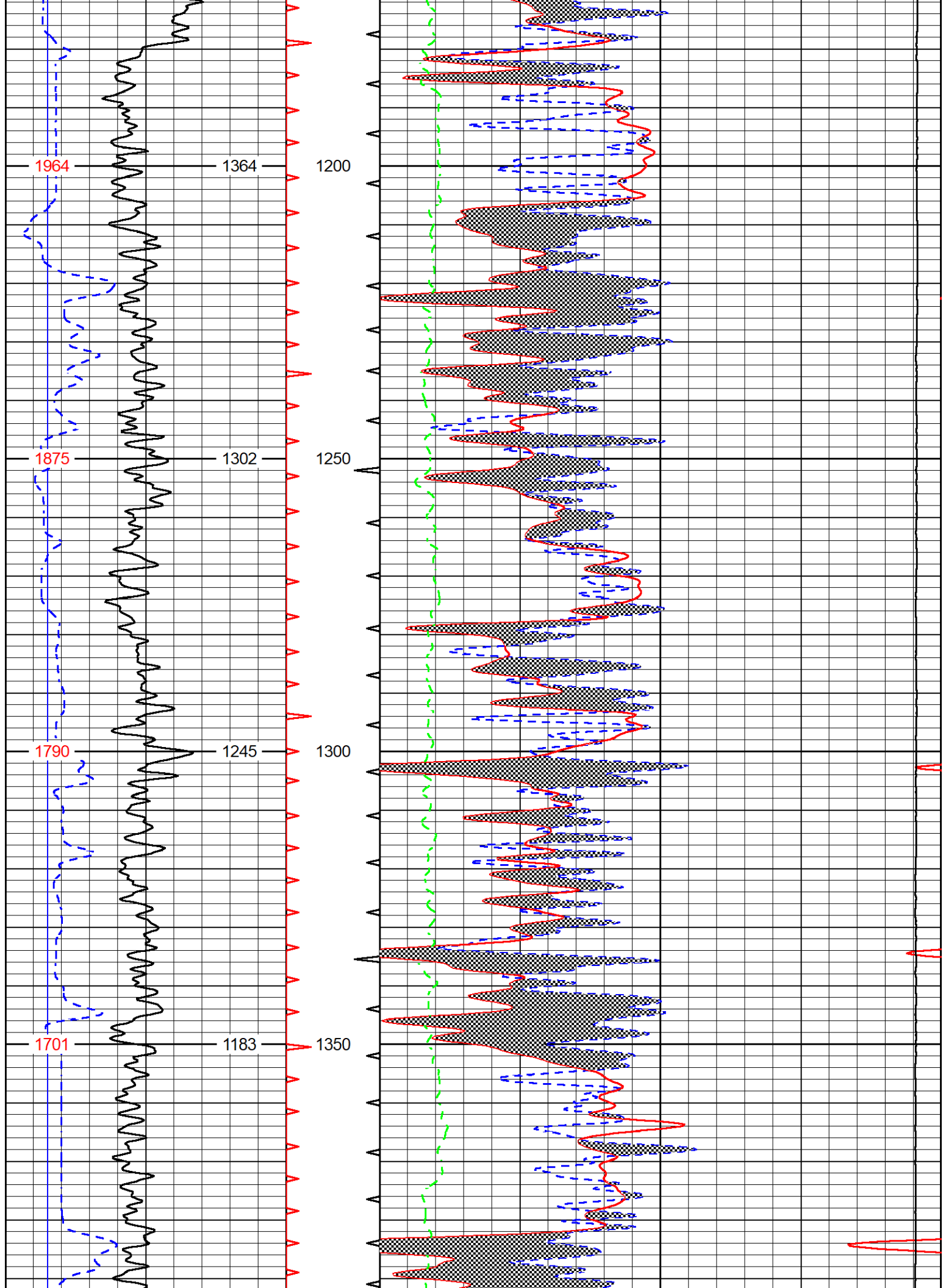


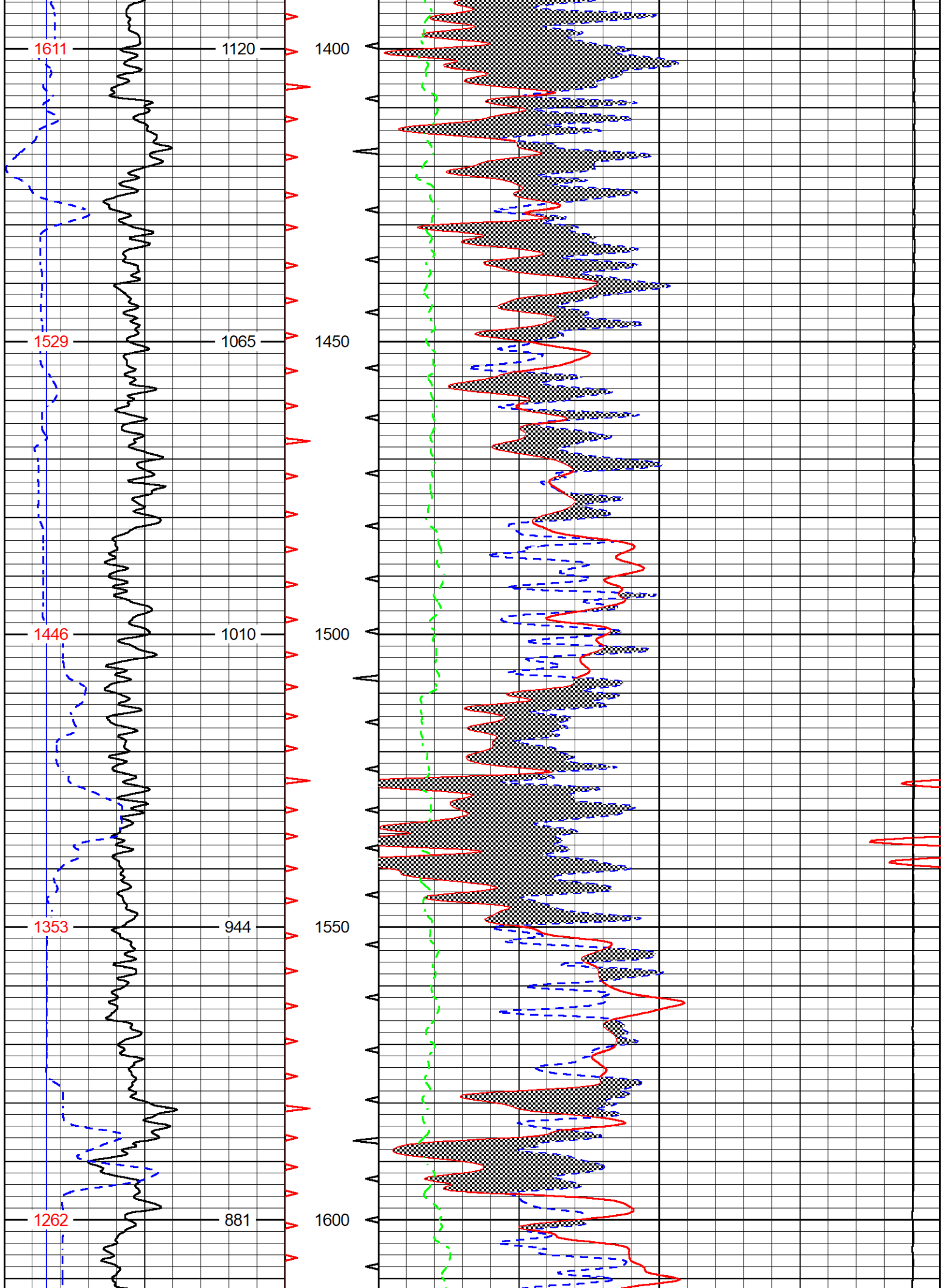


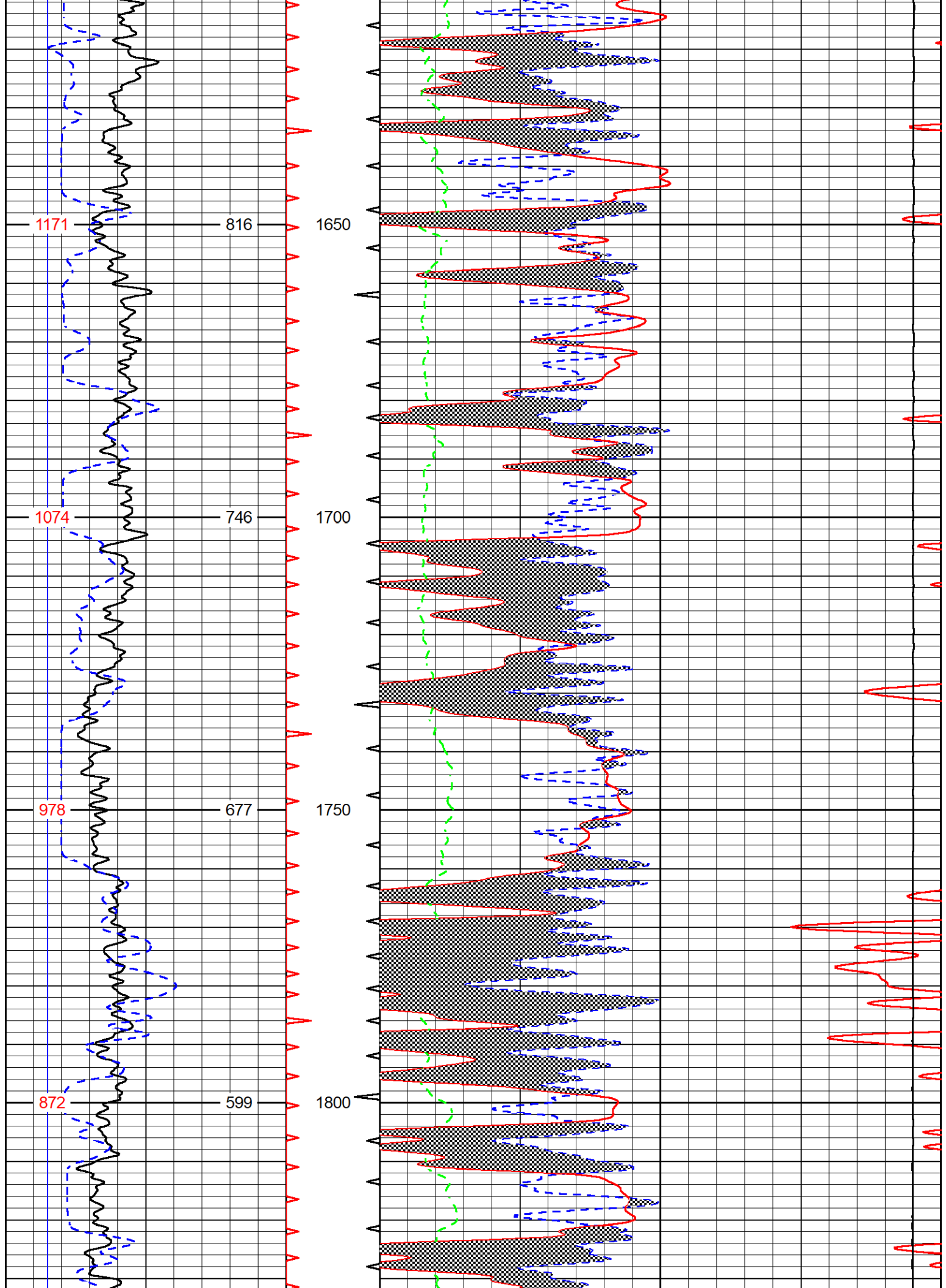


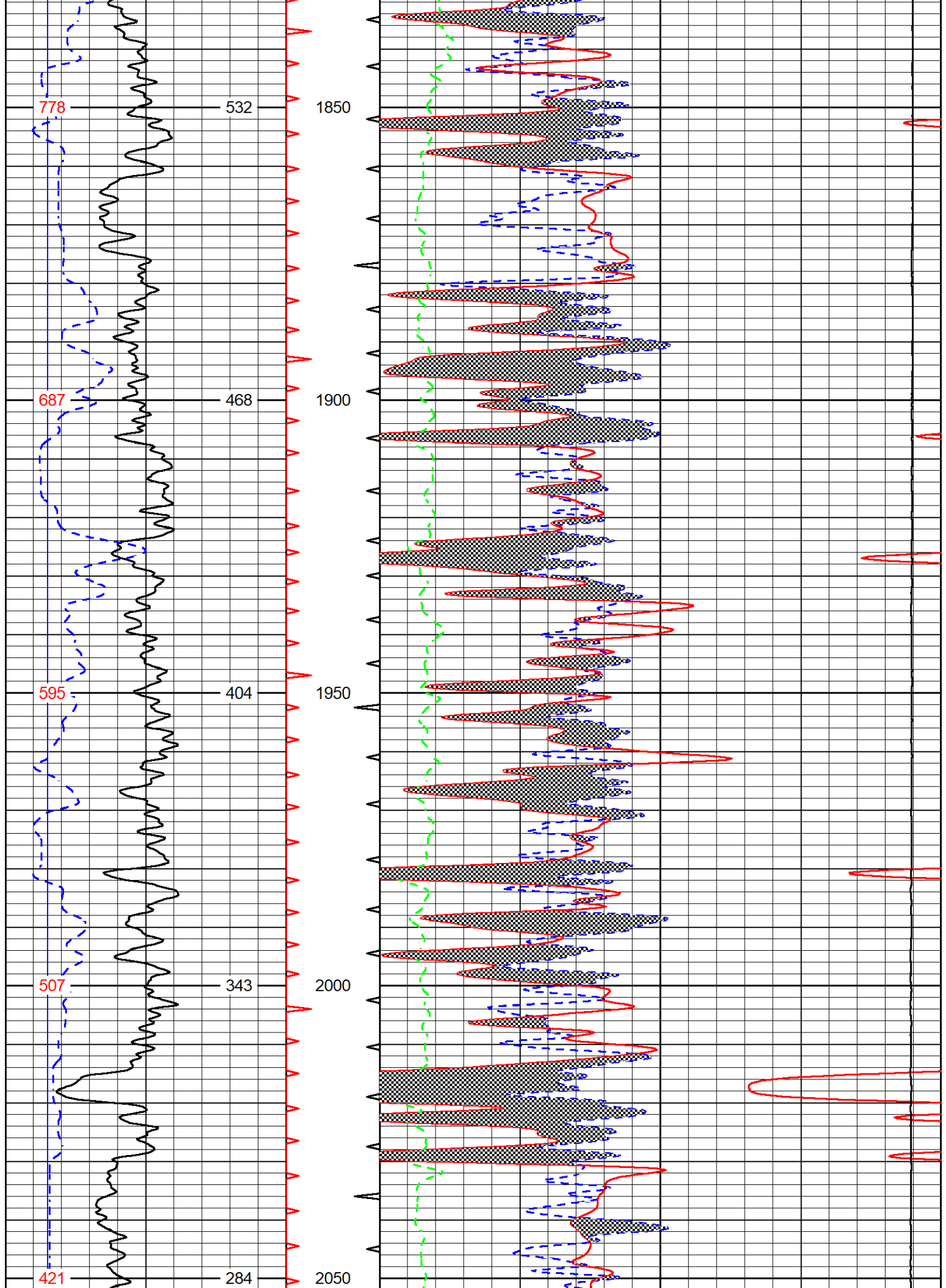


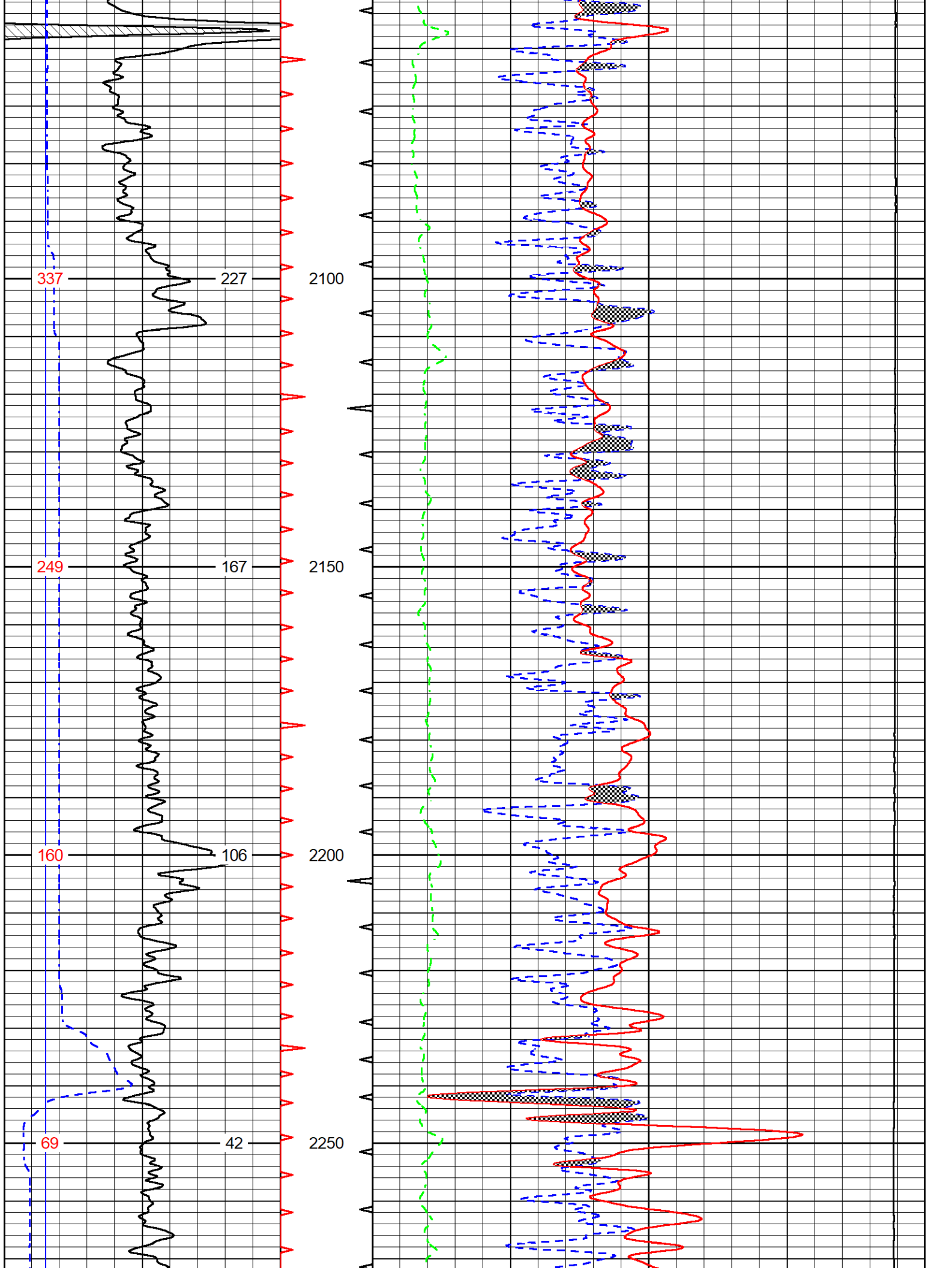


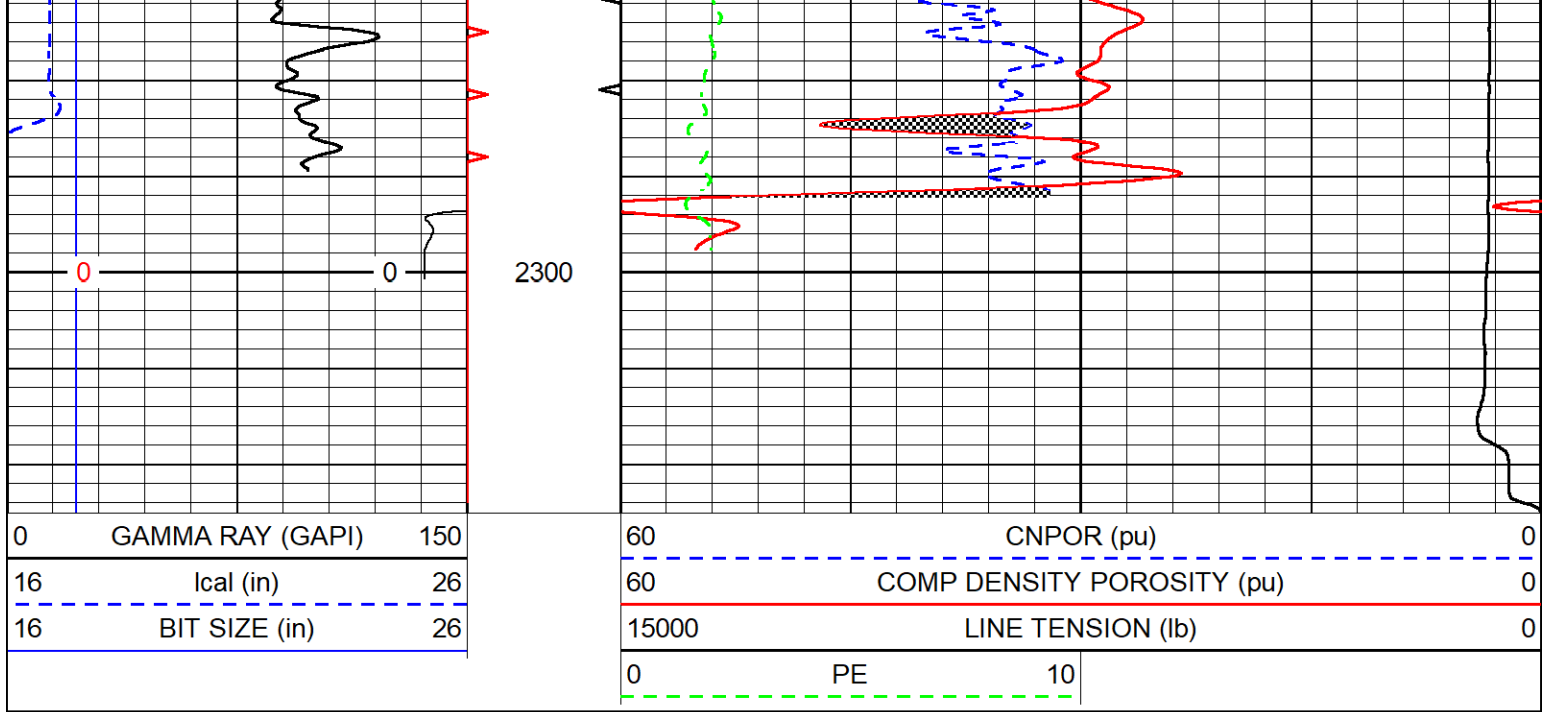












Calibration Report

Database File hydro_grandview upper black squirrel.db
 Dataset Pathname stack/pass2.12
 Dataset Creation Mon Feb 12 09:05:52 2024

Dual Induction Calibration Report

Serial-Model: 504 HT-M&W
 Surface Cal Performed: Sun Jan 28 10:54:35 2024

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	1.350	-9.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.950	-44.000

LITHODENSITY Calibration Report

Serial Number: 701-01
 Tool Model: STEP LITHO Short
 Performed: Fri Dec 15 13:02:54 2023

Source:

	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
Background:									
SS:	50	53	200	252	23	67	44	1	cps
LS:	78	88	332	424	48	131	87	3	cps

Aluminum:	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
SS:	1069	1323	3068	2763	51	72	47	3	cps
LS:	1171	2261	4196	1923	57	133	82	6	cps

Magnesium:	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
SS:	1756	2109	4999	4049	59	72	48	5	cps
LS:	4803	8914	16228	6562	125	123	85	17	cps

Aluminum+Iron:	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
SS:	682	909	2535	2363	47	72	47	3	cps
LS:	682	1582	3537	1707	57	132	82	5	cps

	Density Actual	Calibrated		PE Actual	Calibrated	Quality
Background:						
SS:						0.201
LS:						0.203
Aluminum:						
SS:	2.6000	2.6000	g/cc			0.208
LS:	2.6000	2.6000	g/cc			0.236
Magnesium:						
SS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.205
LS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.183
Aluminum+Iron:						
SS:					6.1800	0.210
LS:					6.1800	0.234

Caliper:	Reference:	Reading:
Small Ring:	6.0 in	0.2
Large Ring:	32.0 in	0.8
Gain:	41.487	
Offset:	-8.500	

Compensated Neutron Calibration Report

Serial Number:	210
Tool Model:	M&W

CALIBRATION				
Detector	Readings	Target		Normalization
Short Space	6240.00 cps	1000.00 cps		1.6025
Long Space	460.00 cps	1000.00 cps		1.9500

Gamma Ray Calibration Report

Serial Number:	105
Tool Model:	M&W
Performed:	Sat Oct 21 23:48:19 2023
Calibrator Value:	500.0 GAPI
Background Reading:	24.0 cps
Calibrator Reading:	637.0 cps
Sensitivity:	0.6000 GAPI/cps

 <p>MIDWEST WIRELINE</p>	Company	Hydro Resources
	Well	Grandview Upper Black Squirrel
	Field	
	County	El Paso
	State	Colorado

Appendix C: Lithologic Sample Logs for Wells LFH-1 and A-1



Well Name: Grandview A-1

Northing: 4314956.6

Easting: 537609.0

Logging Date: 3/26/2024

Depth [FEET]	Lithology %				Description
	Sand	Shale	Coal	Claystone/ Mudstone	
0					*No samples taken during surface casing installation.
10					*No samples taken during surface casing installation.
20					*No samples taken during surface casing installation.
30					*No samples taken during surface casing installation.
40					*No samples taken during surface casing installation.
50	95			5	Coarse, quartz-rich sand to fine gravel, loose, dry, moderately well-sorted, gray.
60	95			5	Same as above, wetter.
70	95			5	Same as above.
80	95			5	Same as above.
90	70			30	Fine, well sorted sand w/rounded clumps of packed clay, gray.
100	95			5	Fine, well sorted sand, gray, moist, like beach sand.
110	95			5	Same as above.
120	10			90	Sticky brown clay w/friable pieces of mudstone to 2 mm and round clumps of dry clay. Medium plasticity.
130	10			90	Same as above, stiffer clay.
140	35			65	Dark gray sandy clay, sticky, medium plasticity and soft. Sand is coarse, well sorted.
150					Sample missing.
160					Sample missing.
170	30			70	Tan sandy clay, high plasticity, soft, sand is coarse, moderately sorted, moist.
180	30			70	Same as above with dried out clumps of sandy clay.
190	30			70	Same as above, clay is stiffer.
200	30			70	Same as above.

210	60			40	Tan clayey sand, med-coarse, well sorted sand, moist.
220	50			50	Friable coarse sandstone, gray and round clumps of sandy clay, tan, soft, moderate plasticity.
230	35			65	Tan sandy clay, medium stiff, moderate plasticity, sand is coarse, well sorted.
240	65			35	Friable fine to medium sandstone with stiff tan sandy clay, moderate plasticity.
250	65			35	Same as above.
260	65			35	Same as above.
270	5			95	Dry, light gray clay in angular clumps to 2 cm.
280	5			95	Same as above.
290	5			95	Same as above.
300	98			<2	Loose coarse sand, well sorted, gray, moist.
310	98			<2	Same as above.
320	98			<2	Same as above, coarser.
330	98			<2	Same as above.
340	<2			98	Dry gray mudstone, in angular pieces up 2 cm, friable.
350	<2			98	Same as above, wetter.
360	<2			98	Hard gray mudstone in small angular pieces from 1-5 mm.
370	<2			98	Same as above.
380	15			85	Dark gray to black shale and hard gray mudstone. Some clumps of brown sandy clay.
390	5			95	Soft gray mudstone, some soft clay, dry and wet mudstone split throughout.
400	10			90	Same as above, more sand.
410	45			55	Stiff sandy clay, low plasticity, dark gray, fine sand.
420	10			90	Brown clay, soft and moist mixed in with dry pieces, ~1-2 mm, Some fine sand in matrix.
430	10			90	Moderately stiff brown clay, high plasticity, some fine sand in matrix, moist.
440	10			90	Sticky soft brown clay, high plasticity, w/mudstone pieces 1-2 mm, fine sand in matrix, moist.
450	5			95	Sticky soft brown clay, moist with clumps of dry tan clay, easily powdered.
460	40			60	Soft, dark gray sandy clay, low plasticity, moist, sand is fine, well sorted.

470	5			95	Stiff dark brown clay w/friable mudstone pieces 1-2 mm, clay has high plasticity.
480	<2			98	Friable, massive dark brown mudstone in pieces 1 mm to 3 cm.
490	<2			98	Stiff dark brown clay, high plasticity, w/pieces of mudstone 1-2 mm.
500	<2			98	Same as above.
510	<2			98	Same as above, more mudstone.
520	15			85	Stiff dark brown clay and hard mudstone in pieces to 5 mm. Few rounded fine grained sandstone pieces.
530	5			95	Crumbly dark brown mudstone, pieces 1 mm to 3 cm.
540	<2			98	Gray to dark gray mudstone/claystone, friable, massive. Some black crumbly shale.
550			10	90	Same as above, with some lignite coal.
560			10	90	Same as above.
570					Missing sample.
580	10			90	Soft friable brown mudstone in 1-2 mm pieces w/few hard claystone pieces to 3 cm.
590	10			90	Same as above.
600	10			90	Stiff gray clay, medium plasticity w/mudstone pieces to 2 cm, sand in matrix, fine.
610	5			95	Hard mudstone in blocky pieces to 3 cm, dark gray.
620	10			90	Same as above, w/large pieces of mudstone to 5 cm.
630	10			90	Same as above.
640	10			90	Same as above.
650	10			90	Same as above.
660	15			85	Stiff dark gray clay with angular mudstone pieces to 2 cm and fine sand in matrix.
670	15			85	Same as above.
680	10			90	Stiff, medium plasticity clay, dark gray, medium sand in matrix.
690	10			90	Stiff dark gray clay, w/crumbly mudstone pieces to 3 cm.
700	20			80	Rounded clumps of fine sandy clay, gray, easily crumbled.
710	40			60	Same as above, w/rounded hard sandstone clumps, medium grained.
720	40			60	Same as above.

730	60			40	Dark gray clayey sand, fine, moist, w/pieces of angular gray to black mudstone to 2 cm.
740	60			40	Same as above.
750	90			10	Fine, light gray sand, dry, well sorted, in easily crumbled clumps to 5 cm.
760	20			80	Dry, light gray clay in easily crumbled clumps to 5 cm, medium sand present.
770	20			80	Same as above.
780					Sample missing.
790	20			80	Gray, friable mudstone and coarse sand, gray.
800	<2			98	Sticky, soft dark brown clay, high plasticity.
810	5			95	Same as above, less sticky.
820	<2			98	Same as above, sticky.
830	<2			98	Same as above, with some large round and flat mudstone/claystone pieces to 5 cm.
840	15			85	Dark brown sandy clay with mudstone pieces to 3 cm, clay is sticky, high plasticity.
850	15			85	Same as above, no large mudstone pieces.
860	15			85	Same as above.
870	40			60	Stiff dark brown clay and hard rounded sandstone pieces to 5 cm.
880	40			60	Same as above.
890	5			95	Sticky dark brown clay, high plasticity with rounded friable mudstone pieces.
900	5			95	Same as above.
910	5			95	Same as above.
920	70			30	Dark brown clayey sand, moist and cohesive.
930	15			85	Soft sandy clay, brown, clumps of dark brown clay, high plasticity.
940	10			90	Stiff dark brown clay, with clumps of friable mudstone in rounded pieces. High plasticity clay.
950	10			90	Same as above.
960	20			80	Wet sandy clay, gray w/friable mudstone pieces to 2 cm, clumps of fine sandstone, easily powdered.
970	10			90	Same as above, with hard mudstone pieces to 5 cm.

980	25			75	Dark gray mudstone in angular pieces 1 mm to 2 cm, resembles an angular gravel.
990	25			75	Sandy clay, dark brown, soft, medium plasticity, pieces of hard mudstone to 3 cm, rounded.
1000	80			20	Soft sandstone in easily crumbled gray rounded clumps, w/some dark brown soft clay and mudstone pieces to 1 cm.
1010	20			80	Very stiff brown clay in large round clumps to 8 cm with large flat pieces of sandstone to 5 cm.
1020	15			85	Sticky brown clay with large flat, friable mudstone pieces to 5 cm and some fine sand present.
1030	15			85	Dark brown sticky clay, high plasticity with fine sand present.
1040	15			85	Same as above.
1050	5			95	Sticky dark brown clay, high plasticity with large pieces of hard mudstone to 3 cm.
1060	5			95	Same as above with mudstone pieces to 10 cm.
1070	5			95	Same as above.
1080	5			95	Same as above.
1090	5			95	Same as above.
1100	10			90	Soft dark brown clay, high plasticity, fine sand in matrix.
1110	<2			98	Sticky dark brown clay, high plasticity and soft, moist.
1120	<2			98	Same as above but stiff clay.
1130	<2			98	Soft, sticky dark brown clay, medium plasticity.
1140	5			95	Sticky gray clay, soft and medium plasticity.
1150	<2			98	Same as above, wet.
1160	<2			98	Same as above, wet.
1170	<2			98	Same as above with mudstone pieces to 1 cm.
1180	10			90	Sticky dark brown clay, medium stiff, high plasticity, sand in matrix.
1190	10			90	Same as above.
1200	15			85	Soft, wet clay, dark brown w/angular mudstone pieces to 1 cm and sand in matrix.
1210	85			15	Gray gravel w/clay, rounded pieces 0.5-2 cm, wet, sand present.
1220	60			40	Coarse sand/gravel and clay, gray, with large mudstone pieces to 2 cm, wet.

1230	70			30	Gray coarse sand, angular, poorly sorted, w/clay in matrix, wet.
1240	10			90	Sticky gray clay, very high plasticity, mudstone pieces present.
1250	35			65	Sticky, sandy gray clay, wet w/angular mudstone pieces to 1 cm.
1260	35			65	Same as above.
1270	35			65	Same as above.
1280	5			95	Dark gray soft clay, medium plasticity and friable black shale. Trace fine to medium sand present.
1290	5			95	Dark gray soft clay and gray to black mudstone pieces up to 3 cm, hard.
1300	<2			98	Dark brown medium stiff clay, high plasticity w/large dark brown mudstone pieces to 3 cm.
1310	<2			98	Same as above.
1320	<2			98	Same as above w/higher proportion of mudstone.
1330	5			95	Dry brown clay in crumbly pieces to 2 cm, trace sand present.
1340	<2			98	Brown mudstone, friable, with very stiff dark brown clay. Mudstone in pieces to 3 cm.
1350	10			90	Dark brown stiff clay, high plasticity w/pieces of dry sandy clay, light brown.
1360	10			90	Same as above.
1370	10			90	Same as above.
1380	15			85	Same as above, more sandy clay.
1390	15			85	Dark brown sandy clay, stiff, medium plasticity, w/large pieces of black, friable mudstone to 3 cm.
1400	15			85	Same as above.
1410	15			85	Dark brown sandy clay, stiff medium plasticity, w/pieces of crumbly, rounded light brown mudstone to 2 cm.
1420	10			90	Dark brown high plasticity, medium stiff clay, w/trace crumbly light gray sandstone.
1430	5			95	Same as above w/no trace sandstone.
1440	5			95	Same as above, but clay is drier.
1450	5			95	Same as above.
1460	5			95	Dark gray sticky clay, medium plasticity w/large pieces of gray, hard mudstone to 3 cm.
1470	5			95	Same as above, slightly more fine sand.
1480	15			85	Same as above, more fine sand.

1490	35			65	Brown sandy clay w/rounded pieces of fine gray sandstone.
1500	40			60	Brown medium stiff clay w/fine tan sand.
1510	40			60	Same as above.
1520	5			95	Brown clay, medium stiff, high plasticity. Pieces of hard gray mudstone.
1530	5			95	Same as above, clay is drier.
1540	50			50	Sandy clay, brown, soft, medium plasticity, w/tan sand, fine.
1550	5			95	Stiff, medium plasticity brown clay w/pieces of black mudstone to 1 cm.
1560	80			20	Tan to brown clayey sand, moist and cohesive. Some large hard mudstone pieces to 3 cm.
1570	60			40	Gray sandy clay w/sand in matrix, moist.
1580	15			85	Gray sandy clay, sticky, moist, small pieces of friable mudstone to 1 cm.
1590	20			80	Same as above w/more sand.
1600	10			90	Gray sticky clay, low plasticity, wet, w/large pieces of black mudstone to 3 cm, flat and friable.
1610	10			90	Same as above.
1620	10			90	Brown clay, stiff, high plasticity, w/fine sand in matrix.
1630	5			95	Gray sticky clay, soft, high plasticity, minimal fine sand in matrix.
1640	5			95	Same as above w/pieces of hard gray mudstone to 3 cm.
1650	15			85	Gray sandy clay, wet, low plasticity, soft.
1660	25			75	Same as above, more sand, coarse sand in matrix.
1670	5			95	Stiff brown clay, high plasticity, thin friable black mudstone/shale.
1680	10			90	Same as above, more sand.
1690	20			80	Sandy clay, wet, low plasticity, gray.
1700	30			70	Gray sandy clay, soft, medium plasticity, w/some crumbly gray sandstone.
1710	10			90	Stiff brown clay, high plasticity, w/fine sand.
1720	5			95	Gray clay, sticky, low plasticity, wet.

1730	<2			98	Same as above w/very large mudstone pieces to 10 cm.
1740	<2			98	Gray sticky clay w/pieces of hard mudstone to 2 cm.
1745	<2			98	Same as above. TD = 1745'.



Well Name: Grandview LFH-1

Northing: 4314958.4

Easting: 537607.1

Logging Date: 3/3/2024

Depth [FEET]	Lithology %				Description
	Sand	Shale	Coal	Claystone/ Mudstone	
0					*No samples taken during surface casing installation.
10					*No samples taken during surface casing installation.
20					*No samples taken during surface casing installation.
30					*No samples taken during surface casing installation.
40					*No samples taken during surface casing installation.
50	30			70	Tan to brown sandy clay, loose, moderately sorted sand, small pieces of dark gray mudstone.
60	98			<2	Coarse, tan quart-rich sand, well sorted.
70	90			10	Poorly sorted medium to coarse sand, tan to gray grains, quartz, grains up to 1 cm, moist, angular grains.
80	90			10	Poorly sorted gravelly sands, pink to gray quartz and feldspars, moist sub-angular to sub-rounded.
90	90			10	Same as above.
100	40			60	Gray sandy clay, loose, moist, sand grains fine to v. coarse, up to 4 mm.
110	60			40	Light gray clayey sand, sand grains v. fine, dry.
120	40			60	Brown sandy clay, soft, moist, medium plasticity, fine to v. fine sand, trace mica present.
130	30			70	Brown sandy clay, stiff, moist, high plasticity, fine to medium sand grains.
140	90			10	Light gray moderately sorted sand, loose and in clumps up to 2 cm, easy to crumble, dry, v. fine to coarse grains.
150	40			60	Brown sandy clay, soft, moist, medium plasticity, sand grains fine to medium.
160	70			30	Light gray moderately sorted sand w/gray sandy clay clumps, fine to medium sands, moist clay.
170	50			50	Same as above, with more clay.
180	70			30	Light gray well sorted sand in large clumps to 3 cm, with clay matrix. Fine to coarse sand.
190	40			60	Brown sandy clay, soft, moist, medium plasticity, fine to medium sand grains.

200	80			20	Orange to tan clayey sand, poorly sorted, v. fine to coarse sand, weathering present, angular grains.
210	80			20	Same as above.
220	80			20	Gray sand and gravel, sub-rounded and poorly sorted, moist, clay present in matrix.
230	80			20	Same as above.
240	50			50	Light gray well sorted sand and gray, soft clay. Sand v. fine to fine, dry, clay has medium plasticity, moist.
250	70			30	Gray clayey sand, moderately sorted, sand grains fine to medium with some coarse grains, moist.
260	80			20	Gray sand, moderately sorted, fine to coarse, v. moist, sub-rounded grains.
270	50			50	Light gray well sorted sand and gray, sort clay, sand v. fine to fine, dry, clay medium plasticity and moist.
280	40			60	Gray clay with friable mudstone pieces, medium plasticity, sand grains v. fine to coarse.
290	60			40	Gray clayey sand, moderately sorted, fine to coarse sand, moist.
300	80			20	Gray sand, moderately sorted, fine to coarse, moist, sub-angular grains.
310	30			70	Dark, gray clay w/friable mudstone pieces to 2 mm, clay is medium stiff with medium to high plasticity, sand v. fine, gray.
320	10			90	Dark gray clay w/friable mudstone pieces to 1 cm, clay is medium stiff, medium to high plasticity, moist.
330	10			90	Dark gray clay, friable mudstone pieces, soft and sticky, high plasticity, moist.
340	20			80	Same as above, w/more sand present.
350	20			80	Same as above.
360	20			80	Same as above.
370	20			80	Same as above.
380	25			75	Dark gray sandy clay, soft, medium plasticity, friable mudstone pieces present, fine grained sand.
390	35			65	Dark gray sandy clay, soft, medium plasticity, fine to medium sand grains, moist.
400	35			65	Same as above.
410	25			75	Brown clay w/hard mudstone pieces to 1 cm, clay soft w/medium plasticity, fine sand grains.
420	20			80	Brown clay w/coal, clay is soft, medium plasticity, v. fine sand.
430	40			60	Brwon clay and gray fine well sorted sand, soft clay w/ medium plasticity.
440	70			30	Sandy shale, friable, present in angular pieces to 1 cm, v. fine sand grains, some soft brown clay present.

450	25			75	Black shale w/large claystone pieces to 2 cm, friable, v. fine sand present.
460	20			80	Light brown crumbly clay, low plasticity, pieces of mudstone/claystone to 2 mm.
470	90			10	Gray silty sand, moist, loose, well sorted, mica present, v. fine to medium grains.
480	80			20	Same as above w/more clay content.
490	20			80	Brown clay w/mudstone pieces to 2 cm, soft, moderate plasticity.
500	20			80	Brown clay w/crumbly claystone/mudstone pieces to 2 cm, low plasticity, soft clay.
510	20			80	Same as above.
520	10			90	Dark brown clay, high plasticity, w/crumbly mudstone pieces to 2 mm, soft.
530	10			90	Same as above.
540	20			80	Same as above, w/ more sand content.
550	30			70	Crumbly dark gray to black sandy clay, clay is soft and medium plasticity, v. fine to fine sand grains, mica present.
560	20			80	Dark brown clay, soft w/high plasticity, some friable shale pieces to 5 mm, v. fine sand present.
570	20			80	Dark brown clay, medium plasticity, w/ mudstone pieces to 2 mm, v. fine to fine sand.
580	70			30	Gray to light gray silty sand, low plasticity, sand is well sorted, v. fine to fine grained, clumps of dry-packed sand present.
590	70			30	Same as above.
600	20			80	Dark brown clay, soft and high plasticity, friable claystone pieces present to 1.5 cm, sand v. fine w/some mica present.
610	30			70	Dark brown sandy clay, soft, medium plasticity, sand v. fine, some packets of dry, powdery, packed sand.
620	30	40		30	Black coal w/shale, pieces of fine-grained sandstone present to 3 cm, dry.
630	5			95	Dark gray clay, medium stiff and plasticity, w/gray claystone pieces to 1 cm, hard.
640	5			95	Dark gray clay, medium stiff and plasticity, few hard claystone pieces to 1 cm, clay in 5 mm clumps.
650	15			75	Gray shale, friable, in pieces to 1 cm, w/ dark gray medium stiff clay, medium plasticity, v. fine to fine sand.
660	50			50	Gray fine sand w/flaky shale, gray to dark gray up to 3 cm, sand present in dry clumps.
670	10			90	Dark gray clay, medium stiff and high plasticity, w/ gray mudstone pieces to 1 cm, friable.
680	10			90	Dark gray mudstone pieces to 1 cm, friable, dry, some v. fine to fine sand, some dry dark gray clay.

690	<2			98	Dark gray clay , medium stiff and plasticity, few hard but flaky gray claystone pieces.
700	<2			98	Same as above.
710	30			70	Dark gray sandy clay, soft w/low plasticity, v. fine sand grains.
720	20			80	Same as above w/ more clay content.
730	70			30	Fine gray sand in dry clumps to 2.5 cm. Some clumps of dark gray sandy clay to 2 cm.
740	50			50	Hard gray sandstone w/mica, dark gray sandy clay, soft and low plasticity, few hard tan claystone pieces to 3 cm.
750	70			30	Fine gray sand in dry clumps to 1 cm, some soft sandy clay, dark gray w/ low plasticity.
760	50			50	Same as above w/ more clay content.
770	60			40	Dark gray clayey sand, moist, w/ some gray hard claystone pieces to 1 cm.
780	20			80	Dark gray stiff clay, low plasticity w/some hard gray claystone pieces to 1 cm.
790	90			10	V. fine gray sandstone in 1-2 mm pieces (some to 2 cm), dry, sandstone is easily powdered.
800	30			70	V. fine gray sandstone in 1-2 mm pieces and dark gray mudstone pieces 1-2 mm.
810	20			80	Dark gray mudstone in <1 mm pieces and dry gray clumps of clay, v. low plasticity, crumbly, v. fine sand present.
820			90	10	Lignite coal with gray to light gray mudstone pieces to 2 mm. Coal is dull, black w/dark brown streak, lightweight.
830	90			10	V. fine clayey sand in clumps to 5 cm, easily crumbles, moist to dry.
840	80			20	Same as above w/more clay content.
850	5			95	Dark gray clay, medium stiff and medium plasticity, pieces of claystone present to 1 cm.
860	40			60	Dark gray sandy clay, soft and low plasticity, sand is gray and v. fine.
870	60			40	Gray to dark gray clayey sand w/pieces of black vitreous mudstone (coal?).
880	<2			98	Dark brown clay, medium stiff and high plasticity, present in small clay pieces 1-2 mm.
890	<2			98	Same as above.
900	<2			98	Same as above w/friable gray to dark gray mudstone pieces to 1 cm.
910	<2			98	Same as above.
920	<2			98	Same as above w/more mudstone pieces.

930	20			80	Dark gray clay, stiff w/ medium plasticity, hard mudstone/claystone pieces to 1 cm present, v. fine sand present in 1 cm clumps.
940	10			90	Dark gray to black mudstone, friable, present in large clumps to 8 cm.
950	98			<2	Gray sand, v. fine, present in large clumps and rounded pebble-sized clumps to 1 cm, dry.
960	98			<2	Same as above.
970	80			20	Gray v. fine sand in clumps to 1 cm, w/ dark gray clay and mudstone pieces to 5 mm, dry and loose.
980	98			<2	Gray sand, v. fine, present in large clumps to 5 cm and round pebble-sized clumps to 1 cm, dry.
990	15			85	Dark brown clay, medium stiff and plasticity, some v. fine sand present, some small mudstone pieces to 2 mm present.
1000	15			85	Same as above.
1010	50			50	Dark brown clay, medium stiff and plasticity, w/large clumps of powdery sand to 5 cm, gray v. fine sand, dry.
1020	15			85	Dark brown crumbly mudstone pieces to 3 cm, dry, some v. fine sand present.
1030	80			20	Gray v. fine sand in clumps to 3 cm, dry, some clay content present.
1040	30			70	Dark brown stiff clay, medium plasticity w/clumps of v. fine gray sand to 2 cm and crumbly gray mudstone to 2 cm.
1050	40			60	Dark gray sandy clay, low plasticity and medium stiff, sand present in gray clumps to 3 cm, dry.
1060	30			70	Dry sandy clay clumps to 2 cm, gray, some soft sandy clay present, clumps are dry and powdery.
1070	40			60	Same as above w/more sand.
1080	50			50	Gray v. fine sand in hard clumps to 2 cm, w/dark brown sandy clay clumps, low plasticity and soft.
1090	90			10	Gray v. fine sand (maybe sandstone) in large clumps to 3 cm made up of small pebble-sized clumps to 1 cm, dry, some clayey sand clumps present.
1100	98			<2	Sandstone, hard, fine to v. fine grained, gray, present in rounded pebbles to 3 cm.
1110	40			60	V. dry sandy clay, gray, v. fine sand, some powdery sand clumps present to 2 cm.
1120	40			60	Dark gray sandy clay, low plasticity, med. Stiff, w/ clayey sand, dry, gray.
1130	20			80	Dark gray clay, stiff and medium plasticity, moist, w/ clumps of dried out clay, some brown sand clumps present.
1140	20			80	Same as above.
1150	10			90	Gray to brown claystone present in large flat pieces to 6 cm, hard but able to break by hand.

1160	40			60	Gray sandy clay and v. fine gray sand in clumps to 1 cm, moderate stiff and high plasticity.
1170	10			90	Dark gray clay, medium stiff and plasticity, some claystone pieces to 1 cm present.
1180	10			90	Same as above.
1190	50			50	Dark gray sandy clay and v. fine sand, dry, medium stiff and plasticity.
1200	50			50	Gray soft sandstone pieces to 4 cm and sandy clay clumps, low plasticity, stiff.
1210	15			85	Dry gray clay, crumbly and present in clumps to 3 cm, some v. fine sand present.
1220	25			75	Same as above, more sand content.
1230	15			85	Dark gray clay, stiff w/high plasticity, some sand, v. fine, some clay is moist, some in dry clumps.
1240	15			85	Same as above.
1250			90	10	Coal, black, some powdery, some w/clay.
1260	90			10	Gray fine sand, well sorted w/some clay content. Moist and loose.
1270	65			35	Gray fine sand in 1-2 cm clumps, some sandy clay clumps 1-2 cm, few claystone pieces to 2 cm, hard.
1280			80	20	Coal, black w/clay content.
1290	<2			98	Dark gray v. stiff clay, medium plasticity, moist w/dry clumps.
1300	<2			98	Same as above, clay is softer.
1310	<2			98	Dark gray clay, medium stiff, high plasticity, moist.
1320	10			90	Dark gray clay, dry, some fine sand.
1330	<2			98	Dark gray clay, medium stiff, high plasticity, moist.
1340	<2			98	Dark gray to black clay, soft, high plasticity, moist.
1350	<2			98	Same as above.
1360	95			5	Fine well sorted, sand, "beach sand", gray, moist.
1370	95			5	Gray to light gray dry sand, loose, some white powdery sand-sized grains present, gypsum or other evaporite?
1380	95			5	Same as above.
1390	10			90	Dark gray clay, medium stiff, high plasticity, moist, some minor v. fine sand.
1400	10			90	Same as above.
1410	10			90	Same as above, but drier.
1420	20			80	Same as above, more sand content.

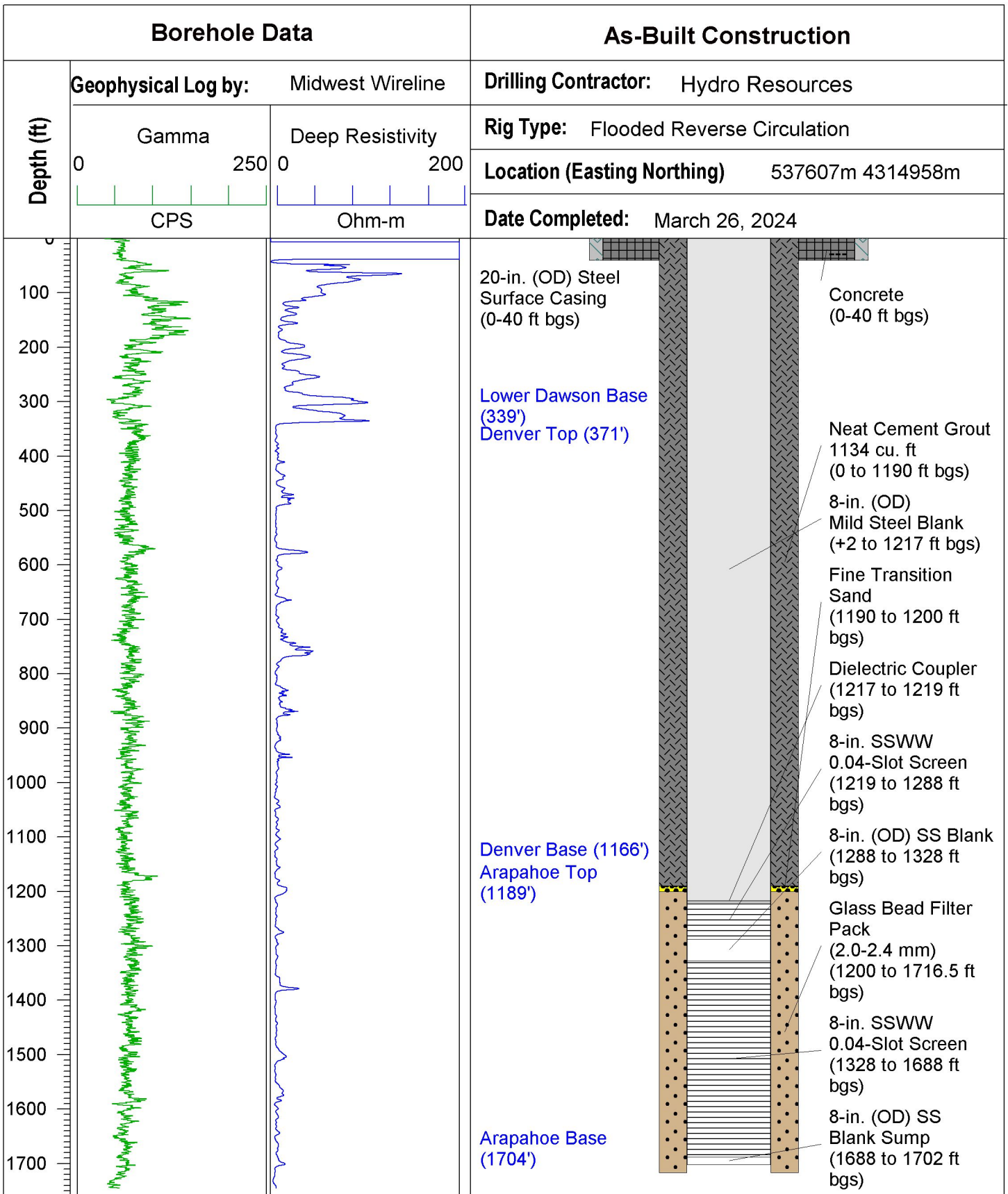
1430	10			90	Same as above, less sand.
1440	20			80	Same as above, more sand.
1450	25			75	Gray sandy clay, dry, crumbly, sand fine to v. fine.
1460	60			40	Rounded sandstone clumps to 2 cm, gray, w/clumps of hard dry clay.
1470	15			85	Sticky gray clay, moist, soft, high plasticity, some fine sand present.
1480	20			80	Sticky gray clay, moist, w/hard dry gray clay, more fine sand than above.
1490	90			10	Dark gray sand, wet and loose, clay in matrix.
1500	10			90	Dark gray clay, moist, stiff w/high plasticity.
1510	10			90	Same as above, with some mudstone pieces to 2 mm.
1520	5			95	Sticky dark gray clay, sift, high plasticity, low sand content, wet.
1530	10			90	Same as above, more sand.
1540	10			90	Same as above.
1550	15			85	Same as above, more sand.
1560	5			95	Gray clay, very wet, soft, high plasticity, low sand.
1570	50			50	Gray clay, wet, soft w/ gray sand, "beach sand", well sorted and fine grained.
1580	70			30	Gray well sorted sand, loose, wet, some clay in matrix.
1590	30			70	Gray sandy clay, wet, soft, some clumps of sand to 2 cm, sand grains are fine and well sorted.
1600	30			70	Same as above.
1610	5			95	Sticky gray clay, soft, high plasticity, wet.
1620	5			95	Same as above.
1630	80			20	Gray clayey sand, in clumps to 2 cm, crumbles easily, fine-grained to medium grained.
1640	40			60	Gray sandy clay, hard and stiff, sand is medium grained.
1650	40			60	Same as above.
1660	80			20	Gray fine to medium sand in clumps to 1 cm, dry and powders easily, some dark gray soft clay.

1670	80			20	Gray clayey sand, dry, easily powdered clumps, fine to coarse grains.
1680	20			80	Dark gray stiff clay in 2 mm clumps, fine sand grains present.
1690	35			65	Dark gray stiff clay in clumps w/friable sandstone pieces to 3 cm, sand medium grained and gray, clay medium plasticity.
1700	30			70	Dark gray flaky mudstone in pieces to 2 cm, fine gray sandy matrix.
1710	20			80	Dark gray clay, medium stiff, high plasticity, fine gray sand present.
1720	20			80	Same as above.
1730	10			90	Same as above, less sand.
1740	40			60	Dark gray clay, stiff, high plasticity, large pieces of friable sandstone, gray to 3 cm, fine to medium grained.
1750	40			60	Dark gray mudstone in pieces to 3 cm, friable w/chunks of hard sandstone, medium grained, gray.
1760	20			80	Dark gray soft sandy clay, high plasticity, fine grained sand.
1770	60			40	Fine to medium clayey sand, gray, dry, crumbly, some dark gray clay chunks.
1780	20			80	Dark gray stiff clay, medium plasticity, sand is fine-grained.
1790	20			80	Dark gray sandy clay, dry and crumbly, medium plasticity, fine grained sand.
1800	80			20	Light gray fine sandstone in pieces 1 mm to 2 cm, friable, some dark gray clay, medium stiff, high plasticity.
1810	15			85	Dark gray clay, medium stiff and high plasticity, fine sand in matrix.
1820	15			85	Same as above.
1830	20			80	Same as above, w/minor fine ss pieces to 1 cm, crumbly.
1840	10			90	Same as above, w/no ss, less sand.
1850	10			90	Dark gray soft clay, high plasticity, w/pieces of friable dark gray mudstone to 2 cm.
1860	20			80	Dark gray friable mudstone/claystone in pieces to 4 cm, some pieces angular, some pebble-sized, soft gray clay present.
1870	40			60	Dark gray clay medium stiff and plasticity w/pieces of friable dark gray shale, lots of fine tan sand in matrix.
1880	20			80	Friable dark gray mudstone in rounded pieces to 2 cm, fine sand, and dark gray clay, stiff and medium plasticity.
1890	60			40	Fine brown sand w/pieces of dark gray, hard shale.
1900	10			90	Stiff dark gray clay in pieces 1-2 mm, trace fine sandstone pieces to 1 cm.

1910	10			90	Dark gray clay, soft, some dry and crumbly large clumps to 6 cm, mudstone pieces present to 2 cm.
1920	20			80	Same as above.
1930	80			20	Rounded gray pieces of sandstone 1 to 3 cm, fine to medium grains, some rounded pieces of claystone.
1940	10			90	Very stiff dark gray clay, present in clumps to 3 cm.
1950	10			90	Same as above, medium stiff.
1960	10			90	Soft gray clay, medium plasticity, w/pieces of dark gray friable shale and mudstone, 0.5 to 1 cm.
1970	<2			98	Dark gray to black soft clay, high plasticity, w/pieces of friable black shale.
1980	<2			98	Dark gray soft clay and small pieces of very friable shale, 1-2 mm.
1990	<2			98	Soft dark gray clay, medium plasticity w/pieces of friable mudstone to 2 cm.
2000	10			90	Medium stiff gray clay, some dry, pieces of mudstone to 1 cm, fine sand.
2010	10			90	Same as above.
2020			60	40	Lignite coal, dull, w/black soft clay.
2030	20		40	40	Soft black clay, moist, coal in flat pieces to 3 cm w/shiny luster, fine dark sand.
2040	80			20	Fine dark gray sand, moist, clay in matrix.
2050	70			30	Soft friable light gray sandstone in rounded pebbles to 2 cm, w/soft clayey dark gray sand, fine grained.
2060	70			30	Soft v. fine light gray sandstone in pieces to 4 cm, rounded w/some claystone, hard and flat to 4 cm.
2070	80			20	Soft gray to light gray fine sand, w/fine sandstone pieces to 3 cm, some clay in matrix.
2080	80			20	Same as above w/trace hard gray claystone pieces to 3 cm.
2090	80			20	Same as above.
2100	90			10	V. fine brown sand, moist, some clay in matrix.
2110	10			90	Soft gray clay, moist, medium plasticity, fine sand present.
2120	10			90	Same as above.
2130	10			90	Same as above.
2140	5			95	Same as above.

2150	40			60	Tan to gray sandy clay, low plasticity, fine tan sand.
2160	30			70	Same as above, less sand.
2170	30			70	Same as above.
2180	10			90	Soft gray clay, medium plasticity, fine sand present.
2190	<2			98	Dark gray soft clay, high plasticity, moist, some small mudstone pieces present 1-2 mm.
2200	<2			98	Same as above.
2210	10			90	Dark gray soft clay, high plasticity and friable black mudstone pieces to 2 cm, fine sand.
2220	20			80	Same as above w/more sand.
2230	10			90	Soft gray clay, high plasticity and sticky w/large shale pieces to 10 cm, friable and flaky.
2240	<2			98	Sticky soft dark gray clay, wet w/dark gray friable mudstone pieces.
2250	10			90	Dark gray sticky clay, high plasticity, soft, pieces of friable mudstone present to 0.5 mm.
2260	20			80	Dark gray sandy clay, low plasticity, sand medium grained, large pieces of shale present to 2 cm.
2270	20			80	Dark gray medium stiff clay, high plasticity, large pieces of hard sandstone present to 2 cm.
2280	20			80	Same as above.
2290	10			90	Dark gray medium stiff play, high plasticity w/small friable pieces of shale.
2300	50			50	Dark gray soft clay, high plasticity w/coarse quartz sand, pieces of sandstone present to 1 cm.
2310	10			90	Dark gray, sticky clay, medium stiff, pieces of friable mudstone to 1 cm.
2320	10			90	Same as above. TD = 2320 ft.

Appendix D: As-Built Well Construction Data for Wells LFH-1 and A-1

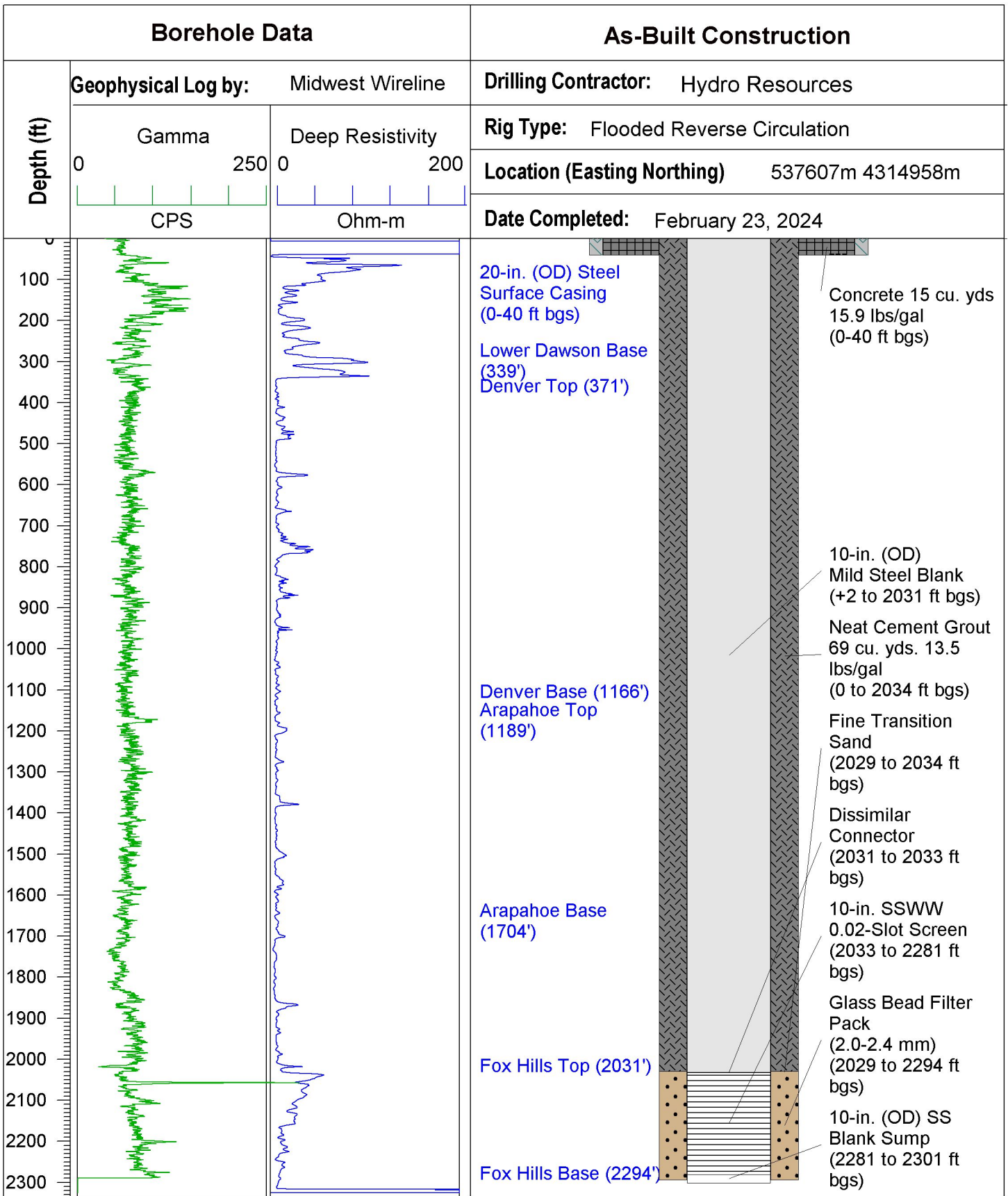


Drawn By: Gus Womeldorph
 Reviewed By: Justin Korkus
 4/8/2024

Grandview Reserve
Arapahoe Well (A-1)
As-built Construction Diagram



Form No. GWS-31 02/2024	WELL CONSTRUCTION AND YIELD ESTIMATE REPORT State of Colorado, Office of the State Engineer 1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581 dwr.colorado.gov and dwrpermitsonline@state.co.us	For Office Use Only
1. Well Permit Number: 88211-F Receipt Number: 10027733		
2. Owner's Well Designation: A-1		
3. Well Owner Name: Grandview Reserve metropolitan District Number 1		
4. Well Location Street Address: Londonberry Dr. and Eatonville Rd. Peyton, Colorado. 80831		
5. As Built GPS Well Location (required): <input type="checkbox"/> Zone 12 <input checked="" type="checkbox"/> Zone 13 Easting: 537609.0 Northing: 4314956.6		
6. Legal Well Location: NE <u> </u> 1/4, NW <u> </u> 1/4, Sec., <u> 28 </u> Twp. 12.0 <input type="checkbox"/> N or S <input checked="" type="checkbox"/> , Range <u> 64.0 </u> <input type="checkbox"/> E or W <input checked="" type="checkbox"/> , Sixth <u> </u> P.M. County: <u>El Paso</u> Subdivision: _____, Lot _____, Block _____, Filing (Unit) _____		
7. Ground Surface Elevation: <u>6951</u> feet Date Completed: <u>04/22/2024</u> Drilling Method: <u>Flooded Reverse</u>		
8. Completed Aquifer Name : <u>Arapahoe</u> Total Depth: <u>1,700</u> feet Depth Completed: <u>1,700</u> feet		
9. Advance Notification: Was Notification Required Prior to Construction? <input type="checkbox"/> Yes <input type="checkbox"/> No, Date Notification Given: _____		
10. Aquifer Type: <input type="checkbox"/> Type I (One Confining Layer) <input checked="" type="checkbox"/> Type I (Multiple Confining Layers) <input type="checkbox"/> Laramie-Fox Hills (Check one) <input type="checkbox"/> Type II (Not overlain by Type III) <input type="checkbox"/> Type II (Overlain by Type III) <input type="checkbox"/> Type III (alluvial/colluvial)		
11. Geologic Log:		12. Hole Diameter (in.)
Depth	Type	From (ft)
		To (ft)
		<u>32</u>
		<u>0</u>
		<u>40</u>
		<u>14 3/4</u>
		<u>40</u>
		<u>1,700</u>
	See attached	13. Plain Casing
		OD (in)
		Kind
		Wall Size (in)
		From (ft)
		To (ft)
		<u>20</u>
		<u>Steel</u>
		<u>.375</u>
		<u>0</u>
		<u>40</u>
		<u>8.625</u>
		<u>Steel</u>
		<u>.312</u>
		<u>+2</u>
		<u>1,250</u>
		<u>8.6.625</u>
		<u>Steel</u>
		<u>.312</u>
		<u>1,300</u>
		<u>1,320</u>
		<u>8.625</u>
		<u>Steel</u>
		<u>.312</u>
		<u>1,350</u>
		<u>1,410</u>
		Perforated Casing Screen Slot Size (in): <u>.040"</u>
		OD (in)
		Kind
		Wall Size (in)
		From (ft)
		To (ft)
		<u>8.625</u>
		<u>SSWW</u>
		<u>.312</u>
		<u>1,250</u>
		<u>1,300</u>
		<u>8.625</u>
		<u>SSWW</u>
		<u>.312</u>
		<u>1,320</u>
		<u>1,350</u>
		<u>8.625</u>
		<u>SSWW</u>
		<u>.312</u>
		<u>1,410</u>
		<u>1,470</u>
		14. Filter Pack:
		Material
		Glass beads
		Size
		2.0-2.4 mm
		Interval
		1,220' - 1,680'
		15. Packer Placement:
		Type
		Depth
		16. Grouting Record
		Material
		Amount
		Density
		Interval
		Method
		<u>Sand/Cement</u>
		<u>15.8</u>
		<u>5"-40"</u>
		<u>Pour</u>
		<u>Neat</u>
		<u>15.3</u>
		<u>5'-1,210</u>
		<u>Tremmie</u>
Remarks: The well was designed from the geo-physical logs from thhe LFH 75' away		
17. Disinfection: Type 65% HTH Granular Amt. Used <u>6 cups</u>		
18. Well Yield Estimate Data: <input type="checkbox"/> Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report Well Yield Estimate Method: <u>Test Pump</u>		
Static Level: <u>1,015'</u>	Estimated Yield (gpm) <u>75</u>	<input type="checkbox"/> Dry Hole, Keep Permit Active
Date/Time measured: <u>1:00 pm 4/22/2024</u>	Estimate Length (hrs) <u>24</u>	<input type="checkbox"/> Dry Hole, Mark "Well Constructed"
Remarks:		
19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402.2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to \$1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.		
Company Name: Hydro Resources Rocky Mountain Inc.	Email: jhale@hydroresources.com	Phone w/area code: (775) 304-3809
Mailing Address: 13027 County Road 18 Fort Lupton, Colorado 80621		License Number: 1466
Sign (or enter name if filing online) Jim Hale	Print Name and Title Jim Hale Drilling Manager	Date: 05/09/2024



Drawn By: Gus Womeldorph
Reviewed By: Justin Korkus
4/3/2024

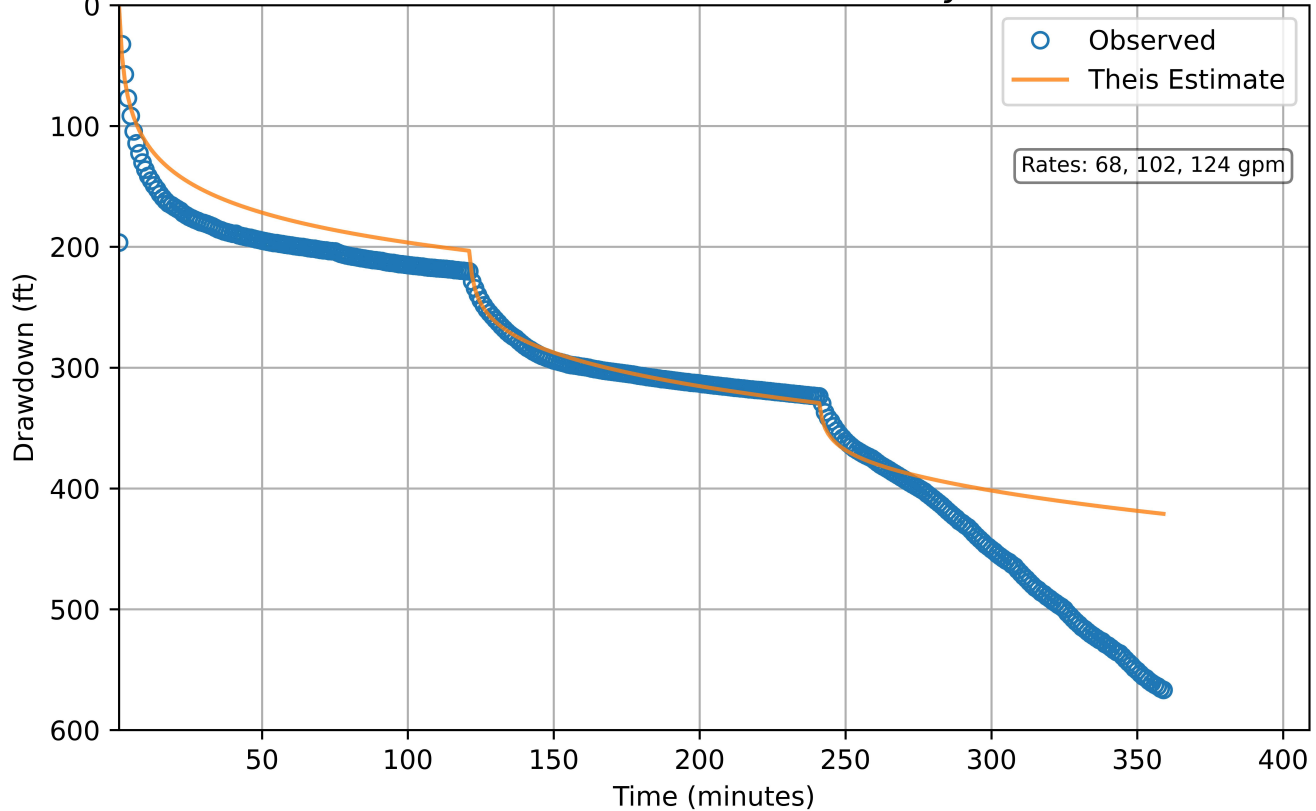
Grandview Reserve
LFH Well (LF-1)
As-built Construction Diagram



Appendix E: Aquifer Testing Results

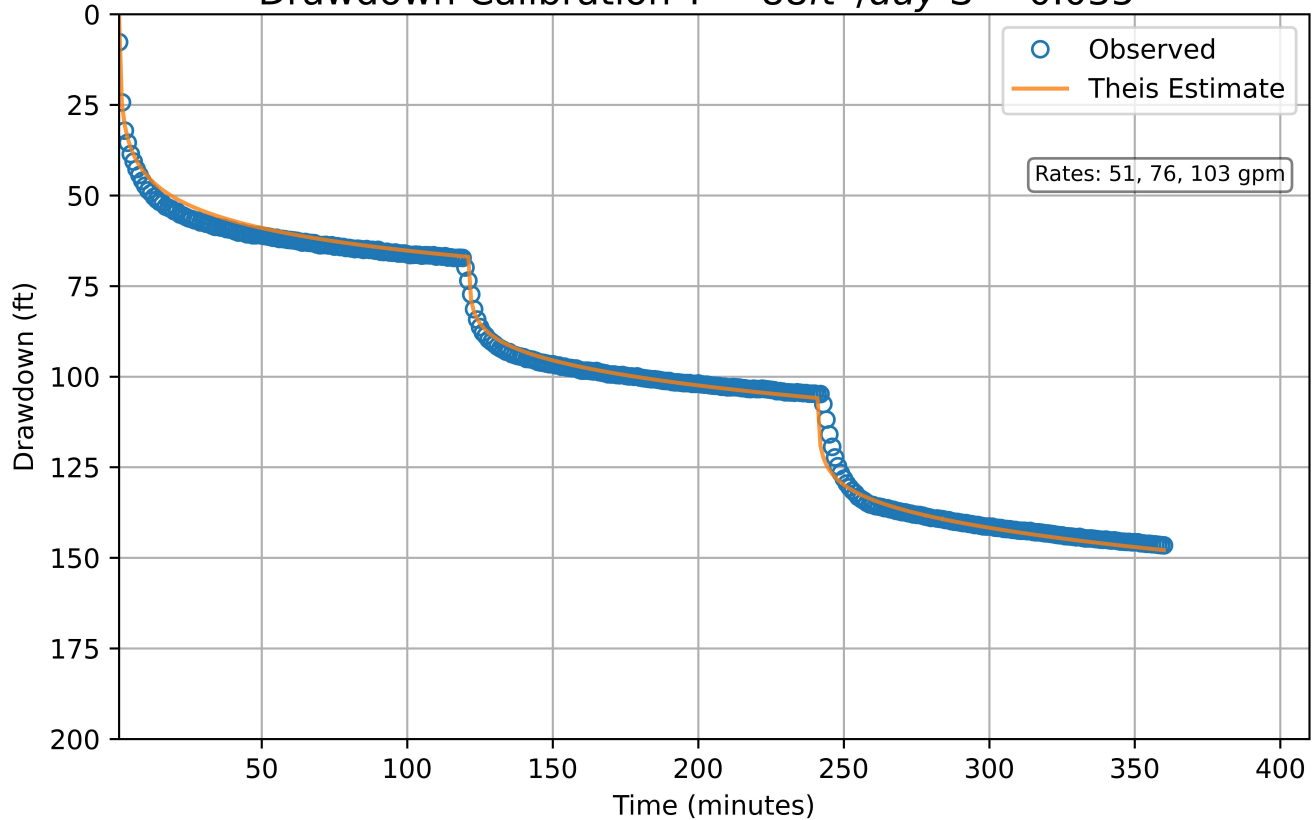
A-1 Step Test

Drawdown Calibration $T = 29.5 \text{ ft}^2/\text{day}$ $S = 0.07$



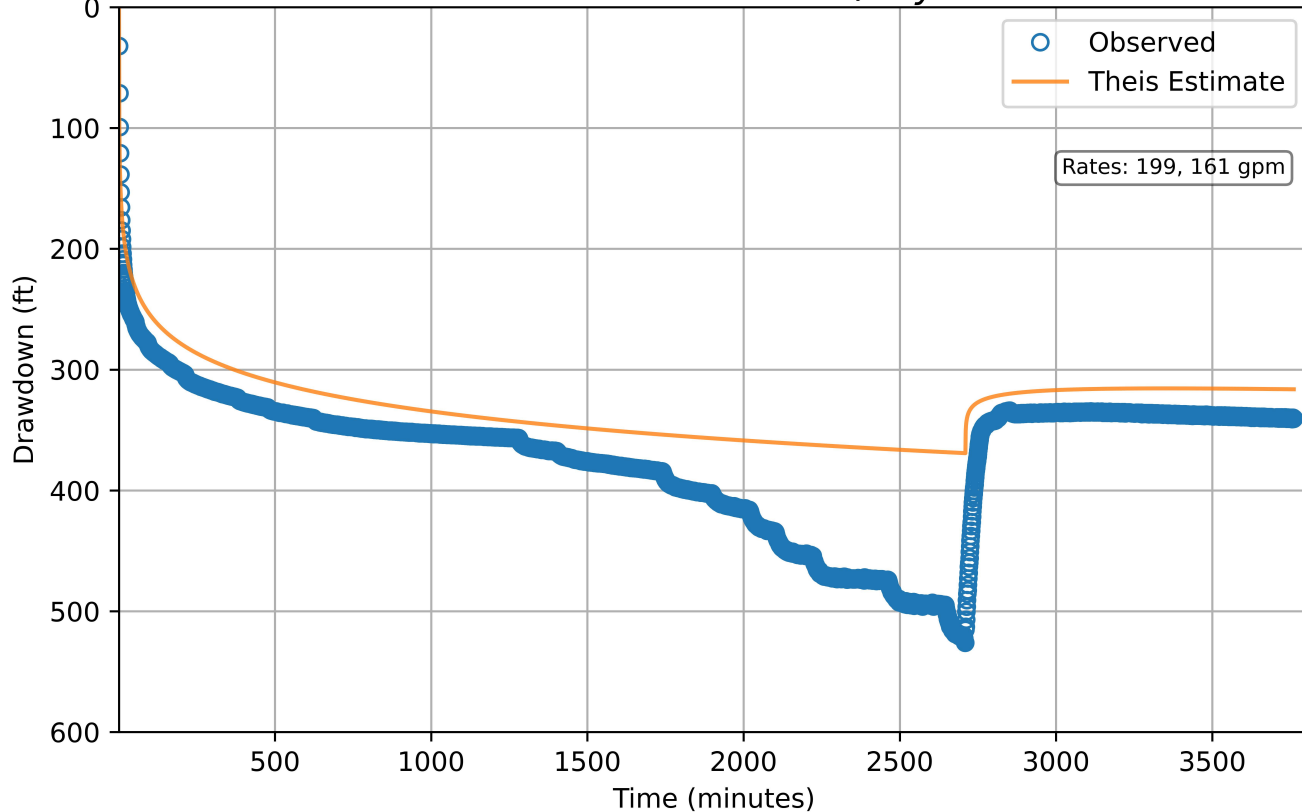
LFH-1 Step Test

Drawdown Calibration $T = 88\text{ft}^2/\text{day}$ $S = 0.035$



LFH-1 Constant Rate Test

Drawdown Calibration $T = 88\text{ft}^2/\text{day}$ $S = 0.035$



Appendix F: Water Quality Results

Analyte	Unit	Lab Reporting Limit	Colorado Primary Drinking Water Regulation 11 Maximum Contaminant Level	Laboratory Results			
				A-1	Qualifiers	LFH-1	Qualifiers
Wet Chemistry and Field Data							
Asbestos	Million Fibers/L	0.14	7 million Fibers/liter	<0.14	U	<0.14	U
Bicarbonate	mg/L as CaCO3	0.2		183		170.9	
Calcium as CaCO3	mg/L	0.1		1.7		3.5	
Carbon Dioxide	mg/L	1		170		NS	
Carbonate	mg/L as CaCO3	0.2		21.6		20.5	
Chloride	mg/L	0.5	250	4.7		10.7	
Color	color units (c.u.)	5	15	<5	U	ND	
Corrosivity			non-corrosive	Moderately Corrosive, see Langlier Index		Moderately Corrosive, see Langlier Index	
Cyanide - Free	mg/L	0.005	0.2	<0.005	U	<0.005	U
Dissolved Organic Carbon	mg/L	0.5		0.6		0.8	
Field Data - Conductivity	uS/cm			406.65		NS	
Field Data - Dissolved Oxygen	mg/L			0.13		4.2	
Field Data - Oxidation Reduction Potential (ORP)	mV			-165.7		6.12	
Field Data - Specific Conductivity	uS/cm			416.47		574.04	
Field Data - Temperature	degrees Celcius			24.14		25.72	
Fluoride	mg/L	0.1	4	3.15		0.57	
Foaming Agents/MBAS	mg/L	0.1	0.5	<0.1	U	<0.1	U
Hydroxide	mg/L as CaCO3	0.2		<0.2	U	<0.2	U
Langlier Index	units			-0.53		-0.24	
Odor	Treshhold Odor Number	0	3	3	HF	1	
pH	units	0.01	6.5-8.5	8.76	HF	8.77	
Sulfate	mg/L	0.5	250	1.76		67.3	
Sulfide	mg/L	0.1		<0.1	U	<0.1	U
Temperature	degrees Celcius	1		20		20	
Total Alkalinity	mg/L as CaCO3	4		204.6		191.4	
Total Dissolved Solids	mg/L	5	500	269		336	
Total Hardness	mg/L as CaCO3	0.1		2.1		8.6	
Total Organic Carbon	mg/L	0.5		0.7		0.8	
Turbidity	NTU	0.01		3.57		22	
Bacteriological							
Cryptosporidium		0.1		<0.1	U	<0.1	U
E-Coli		Present/Absent	Absent	Absent		Present	
Fecal Coliform		Present/Absent	Absent	NS		NS	
Giardia		0.1		<0.1	U	<0.1	U
Total Coliform		Present/Absent		Present		Present	
Disinfectants and Disinfection Byproducts							
Chlorine	mg/L	0.05		0.09		0.57	
Chloramines	mg/L	0.1	4.0 (as Cl2)	<0.10	U HF	<0.10	U HF
Chlorite			4.0 (as Cl2)	NS		NS	
Chlorine dioxide (1)	mg/L	0.24	4.0 (as Cl2)	<0.24	U HF	<0.24	U HF
Total Residual Chlorine	mg/L	0.05		0.09		0.57	
Total Trihalomethanes	ug/L	0.5	80.1	2.2		<0.5	
Chloroform	ug/L	0.5	70 MCLG	2.2		<0.5	
Haloacetic acids (five) (HAA5)	mg/L		0.0601	NS		NS	
Bromate	mg/L		0.01	NS		NS	
Metals							
Aluminum, Total	mg/L	0.001	0.05 to 0.2	0.078		0.558	
Antimony, Total	mg/L	0.0012	0.006	<0.0012	U	<0.0012	U
Arsenic, Total	mg/L	0.0006	0.01	0.0012		0.0015	
Barium, Total	mg/L	0.0007	2	0.0013		0.0128	
Beryllium, Total	mg/L	0.0001	0.004	<0.0001	U	<0.0001	U
Cadmium, Total	mg/L	0.0001	0.005	<0.0001	U	<0.0001	U
Calcium, Total	mg/L	0.1		0.8		2.4	
Chromium, Total	mg/L	0.0015	0.1	0.017		0.0029	
Copper, Total	mg/L	0.0008	1	0.117		0.0077	
Iron, Dissolved	mg/L	0.005	0.3	0.11		0.026	
Iron, Total	mg/L	0.005	0.3	1.6		1.54	
Lead, Total	mg/L	0.0001	0.015	<0.0001	U	0.0007	
Magnesium, Total	mg/L	0.02		0.03		0.63	
Manganese, Total	mg/L	0.0008	0.05	0.0233		0.0316	
Manganese, Dissolved	mg/L	0.0008	0.05	0.0104		0.0036	
Mercury, Total	mg/L	0.0001	0.002	<0.0001	U	<0.0001	U
Nickel, Total	mg/L	0.0009		0.2611		0.0116	
Potassium, Total	mg/L	0.1		0.5		0.9	
Selenium, Total	mg/L	0.0008	0.05	<0.0008	U	<0.0008	U
Silver, Total	mg/L	0.0005	0.1	<0.0005	U	<0.0005	U
Sodium, Total	mg/L	0.1		115		113	
Thallium, Total	mg/L	0.0002	0.002	<0.0002	U	<0.0002	U
Zinc, Total	mg/L	0.001	5	0.004		0.021	
Nutrients							
Ammonia Nitrogen	mg/L	0.03		0.18		0.34	
Nitrate Nitrogen	mg/L	0.05	10	<0.05	U	<0.05	U
Nitrate/Nitrite Nitrogen	mg/L	0.05	10	<0.05	U	<0.05	U
Nitrite Nitrogen	mg/L	0.03	1	<0.03	U	<0.03	U
Radionuclides							
Gross Alpha	pCi/L	2.2	15	<2.2	U	1.6	
Gross Beta	pCi/L	2.2		<2.2	U	<2.2	U
Radium 226	pCi/L	0.1		<0.1	U	<0.1	U
Radium 226 and Radium 228	pCi/L	--	5	0.8		ND	U
Radium 228	pCi/L	0.6		0.6		<0.6	
Strontium 90	pCi/L	3		<3	U	0.483	
Uranium	mg/L	0.0002	0.03	<0.0002	U	<0.0002	U
Synthetic Organic Chemicals							
2,3,7,8-TCDD (Dioxin)	mg/L	5.5 x 10-9	3 x 10-8	<5.5 x 10-9	U**	<5.5 x 10-9	U
2,4,5-TP (silvex)	ug/L	0.2	0.05	<0.2	U	<0.2	U
2,4,-D	ug/L	0.1	0.07	<0.1	U	<0.1	U
Alachlor	ug/L	0.2	0.002	<0.2	U	<0.2	U
Aldicarb	ug/L	0.6	0.003	<0.6	U	<0.6	U
Aldicarb sulfone	ug/L	1	0.002	<1	U	<1	U
Aldicarb sulfoxide	ug/L	0.7	0.004	<0.7	U	<0.7	U
Atrazine	ug/L	0.1	3	<0.1	U	<0.1	U
Benzo(a)pyrene	ug/L	0.02	0.2	<0.02	U	<0.02	U
Butachlor	ug/L	0.25		<0.25	U	<0.25	U
Carbofuran	ug/L	0.9	40	<0.9	U	<0.9	U
Chlordane	ug/L	0.2	2	<0.2	U	<0.2	U
Dalapon	ug/L	1	0.2	<1	U	<1	U

Analyte	Unit	Lab Reporting Limit	Colorado Primary Drinking Water Regulation 11 Maximum Contaminant Level	Laboratory Results			
				A-1	Qualifiers	LFH-1	Qualifiers
Di adipate	ug/L	0.6	40	<0.6	U	<0.6	U
Di Phthalate	ug/L	0.6	6	<0.6	U	<0.6	U
Dibromochloropropane	ug/L	0.02	0.0002	<0.02	U	<0.02	U
Dinoseb	ug/L	0.2	7	<0.2	U	<0.2	U
Diquat	ug/L	0.4	20	<0.4	U	<0.4	U
Endothall	ug/L	9	100	<9	U	<9	U
Endrin	ug/L	0.01	2	<0.01	U	<0.01	U
Ethylene dibromide	ug/L	0.013	0.05	<0.013	U	<0.013	U
Glyphosate	ug/L	6	700	<6	U	<6	U
Heptachlor	ug/L	0.04	0.4	<0.04	U	<0.04	U
Heptachlor epoxide	ug/L	0.02	0.2	<0.02	U	<0.02	U
Heptachlorobenzene	ug/L	0.1	1	<0.1	U	<0.1	U
Hexachlorocyclopentadiene	ug/L	0.1	50	<0.1	U	<0.1	U
Lindane	ug/L	0.02	0.2	<0.02	U	<0.02	U
Methoxychlor	ug/L	0.1	40	<0.1	U	<0.1	U
Oxamyl (Vydate)	ug/L	1	200	<1	U	<1	U
Pentachlorophenol	ug/L	0.04	1	<0.04	U	<0.04	U
Picloram	ug/L	0.1	500	<0.1	U	<0.1	U
Polychlorinated biphenyl's	ug/L	0.1	5	<0.1	U	<0.1	U
Propachlor	ug/L	0.25		<0.25	U	<0.25	U
Simazine	ug/L	0.07	4	<0.07	U	<0.07	U
Toxaphene	ug/L	1	3	<1	U	<1	U
Volatile Organic Compounds							
1,1,1-Trichloroethane	ug/L	0.5	200	<0.5	U	<0.5	U
1,1,2-Trichloroethane	ug/L	0.5	5	<0.5	U	<0.5	U
1,1-Dichloroethylene	ug/L	0.5	7	<0.5	U	<0.5	U
1,2,4-Trichlorobenzene	ug/L	0.5	70	<0.5	U	<0.5	U
1,2-Dichloroethane	ug/L	0.5	5	<0.5	U	<0.5	U
1,2-Dichloropropane	ug/L	0.5	5	<0.5	U	<0.5	U
Benzene	ug/L	0.5	5	<0.5	U	<0.5	U
Carbon tetrachloride	ug/L	0.5	5	<0.5	U	<0.5	U
Dichloromethane	ug/L	0.5	5	0.7		0.7	
Ethylbenzene	ug/L	0.5	700	<0.5	U	<0.5	U
o-Dichlorobenzene	ug/L	0.5	600	<0.5	U	<0.5	U
Styrene	ug/L	0.5	100	<0.5	U	<0.5	U
Toluene	ug/L	0.5	1000	<0.5	U	<0.5	U
Trans-1,2 Dichloroethylene	ug/L	0.5	100	<0.5	U	<0.5	U
Trichloroethylene	ug/L	0.5	5	<0.5	U	<0.5	U
Vinyl chloride	ug/L	0.5	2	<0.5	U	<0.5	U
Xylenes (total)	ug/L	0.5	10000	<0.5	U	<0.5	U
**+ = Lab Control Sample and/or Lab Control Sample Duplicate is outside acceptance limits, high biased. HF = Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time. NS = No Sample. U = Not detected at Minimum Detectable Concentration/ Result is less than the sample reporting limit.							

Analytical Results

TASK NO: 240424078

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240424078	Date Received: 4/24/24
Client PO:	Date Reported: 6/5/24
Client Project:	Matrix: Water - Drinking

Lab Number	Customer Sample ID	Sample Date/Time	Test	Result	Method	Date Analyzed
240424078-01C	A-1	4/24/24 9:45 AM	Total Coliform	Present	SM 9223	4/25/24
			E-Coli	Absent	SM 9223	4/25/24

Abbreviations/ References:

Absent = Coliform Not Detected
Present = Coliform Detected - Chlorination Recommended
Date Analyzed = Date Test Completed
SM = "Standard Methods for the Examination of Water and Wastewater"; APHA; 19th Edition; 1995



DATA APPROVED FOR RELEASE BY

Chain of Custody Form



Commerce City Lab
10411 Heinz Way
Commerce City CO 80640

Lakewood Service Center
610 Garrison St, Unit E
Lakewood CO 80215

Phone: 303-659-2313

www.coloradolab.com

Report To Information Company Name: <u>LRE Water</u> Contact Name: <u>Diana Trejo</u>	Bill To Information (If different from report to) Company Name: _____ Contact Name: _____	Project Name / Number <u>4053HGROZ</u> _____
Address: <u>1221 Aurora Parkway</u> City <u>Denver</u> State <u>CO</u> Zip <u>80204</u>	Address: _____ City State Zip	Task Number (Lab Use Only) CAL Task 240424078 JML
Phone: <u>7204217036</u>	Phone: _____	
Email: <u>diana.trejo@LREwater.com</u>	Email: _____	
Sample Collector: <u>Diana</u>	Sample Collector Phone: <u>7204217036</u>	

Sample Matrix (Select One Only)					Tests Requested																						
Waste Water <input type="checkbox"/>	Soil <input type="checkbox"/>	Drinking Water <input checked="" type="checkbox"/>	No. of Containers	Grab or (Check One Only) Composite	Please reference attached quote. quote # <u>QBC24040020</u> .																						
Ground Water <input checked="" type="checkbox"/>	Sludge <input type="checkbox"/>	<u>per quote & tests requested</u>																									
Surface Water <input type="checkbox"/>																											
Date	Time	Sample ID																									
<u>4/24/24</u>	<u>9:45am</u>	<u>A-1</u>		<input checked="" type="checkbox"/>																							
				<input type="checkbox"/>																							
				<input type="checkbox"/>																							
				<input type="checkbox"/>																							
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				<input type="checkbox"/>																							
				<input type="checkbox"/>																							
				<input type="checkbox"/>																							
Instructions: <u>PH: 9.23, DO: 0.13mg/L</u>					C/S Info: <u>AD</u>					Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>																	
Relinquished By: _____			Date/Time: _____		Received By: _____			Date/Time: _____		Relinquished By: _____			Date/Time: _____		Received By: _____			Date/Time: _____									

4/24/24
1311



**Built Environment Testing
Reservoirs**

May 04, 2024

Subcontractor Number:

Laboratory Report: RES 600096-1

Project #/P.O. #: 240424078

Project Description: Grandview 4053HGR02

Jessi Lupfer
Colorado Analytical Laboratories, Inc.
10411 Heinz Way
Commerce City CO 80640

Dear Jessi,

Eurofins Reservoirs is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA LAP, LLC), Lab ID 101533 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Eurofins Reservoirs has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 600096-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Eurofins Reservoirs will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed, as received and with the information provided by the customer. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Eurofins Reservoirs. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



by Norberto Zimbelman

Jeanne Spencer
President



EUROFINS RESERVOIRS ENVIRONMENTAL, INC

NVLAP Lab Code 101896-0

TABLE: I ANALYSIS: TEM WATER SAMPLE ANALYTICAL RESULTS

RES Job Number: **RES 600096-1**
 Client: **Colorado Analytical Laboratories, Inc.**
 Client Project/P.O.: **240424078**
 Client Project Description: **Grandview 4053HGR02**
 Date Samples Received: **April 25, 2024**
 Analysis Type: **REI TEM SOP / USEPA 100.2-M**
 Turnaround: **Standard 10**
 Date Samples Analyzed: **May 03, 2024**

NA = Not Analyzed
 NR = Not Received
 NSIB = No Sample In Bag
 ND = None Detected
 TR = Trace; <1 % Visual Estimate
 Trem-Act = Tremolite-Actinolite
 BAS = Below Analytical Sensitivity

Laboratory Sample ID	Aliquot Deposited on Filter	Dilution Factor	Total Number of Asbestos Structures Detected	Greater than 10 Micron Length Asbestos Structures Detected	Analytical Sensitivity (million struct/L)	Total Asbestos Concentration (million struct/L)	Greater than 10 Micron Length Asbestos Concentration (million struct/L)
Client ID Number	(ml)						
600096 - 240424078-01V A-1	25	1	ND	ND	0.14	BAS	BAS

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25mm

Effective Filter Area = 0mm²

Average Grid Opening = 0.010mm²



Norberto Zimbelman
Analyst

SUBMITTED BY		INVOICE TO		CONTACT INFORMATION		SERIES	
Company: Colorado Analytical Laboratories, Inc.		Company: Colorado Analytical Laboratories, Inc.		Contact: Jessi Lupfer		-1 TEM Standard 10	
Address: 10411 Heinz Way		Address: 10411 Heinz Way		Phone: (303) 659-2313			
Commerce City, CO 80640		Commerce City, CO 80640		Fax:			
Project Number and/or P.O. #: 240424078		Project Description/Location: Grandview 4053HGR02		Cell: (720) 208-6998			
				Final Data Deliverable Email Address:			
				jessilupfer@coloradolab.com (+ 7 ADDNL. CONTACTS)			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm & Sat. 8am - 5pm		REQUESTED ANALYSIS				VALID MATRIX CODES				LAB NOTES	
PLM / PCM / TEM	DTL RUSH PRIORITY STANDARD	PLM - Short Report, Long Report, CARB.435 TEM - Drinking Water (EPA 100.2) PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) Lead Only (7082, 7420 Waste Water, Foodware), Multi Metals (7303, 8020A, 200.8 Waste Water, Foodware, OSHA ID-125G), pH (Liquid or Non-Liquid), TCLP, RCRA 8 Scan, Welding Fume Scan, Full Metals Scan ORGANICS - Methamphetamine, TSS VIABLES - Campylobacter, Bacillus, Salmonella (Culturable or 1-2), Listeria, E.coli O157:H7, E.coli/Coliforms - Plated, S.aureus, Yeast & Mol, Aerobic Plate Count, Coliforms/E.coli - (State Water, Drinking Water, Non-Drinking Water, +/- Quantification), Lactic Acid, Viable Microbial Count (wo/ID or w/ID), Enterococcus (+/- or Quantification), Legionella (P, NP, C) MEDICAL - Bioburden, LAL MOLD - Spore Trap, Bulk Mold, Particulate Identification	Air = A	Bulk = B	Drinking Water = DW Waste Water = WW **ASTM E1792 approved wipe media only**		Laboratory Analysis Instructions				
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm			Dust = D	Food = F							
Dust	RUSH PRIORITY STANDARD		Paint = P	Soil = S							
Metals	RUSH PRIORITY STANDARD <small>*PRIOR NOTICE REQUIRED FOR SAME DAY TAT</small>		Surface = SU	Swab = SW							
Organics*	SAME DAY RUSH PRIORITY STANDARD		Tape = T	Wipe = W							
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 5pm											
Viable Analysis**	PRIORITY STANDARD <small>**TAT DEPENDENT ON SPEED OF MICROBIAL GROWTH</small>										
Medical Device Analysis	RUSH STANDARD										
Mold Analysis	RUSH PRIORITY STANDARD										
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.											
Special Instructions:											
Client Sample ID Number	(Sample ID's must be unique)	ASBESTOS	CHEMISTRY	MICROBIOLOGY	ICO	Sample Volume (L) / Area	Matrix Code	# of Containers	Date Collected mm/dd/yy	Time Collected hh:mm	
1	240424078-01V A-1	X				1L	W	1	04/24/24	09:00	

EREI establishes a unique Lab Sample ID, for each sample, by preceding each unique Client Sample ID with the laboratory RES Job Number.

EREI will analyze incoming samples based on information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing, client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By:		Jessi Lupfer	Date/Time: 04/25/2024 9:19:51	Sample Condition: Acceptable
Received By:		Emily Creasey	Date/Time: 04/25/2024 16:23:06	Carrier: Hand

Lab Name	Eurofins Reservoirs	Client	Colorado Analytical Laboratories, Inc.	Analyzed By	NZ
Primary Scope	JEM-1200EX	Sample Type	Water	Analysis Date	05/03/2024
Voltage	100KV	Vol/Area	1L	Prep Method	Indirect
Magnification	20000	Res Number	600096-1	Date Received	04/25/2024
Primary Filter Area (mm²)		Sec. Filter Area (mm²)	346	Grid Opening Area (mm²)	0.01
Sample ID	240424078-01V A-1	Method	EPA 100.2	Scope Align	05/03/2024
Suspension	1000	Aliquot	25	Grid Openings	10

Grid	GO	Type	Count	Total	Length	Width	ID	Mineral Class	Comments	Photo	EDS
A	G4-3	ND									
	F4-3	ND									
	E4-3	ND									
	C4-3	ND									
	B4-3	ND									
B	G2-3	ND									
	F2-6	ND									
	F2-3	ND									
	E2-6	ND									
	C2-6	ND									

*NAM = Non Asbestos Material

Analytical Results

TASK NO: 240424078

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240424078
Client PO:
Client Project:

Date Received: 4/24/24
Date Reported: 6/5/24
Matrix: Water - Drinking

Customer Sample ID A-1
Sample Date/Time: 4/24/24 9:45 AM
Lab Number: 240424078-01

Test	Result	Method	RL	Date Analyzed	QC Batch ID	Analyzed By
Bicarbonate	183.0 mg/L as CaCO3	SM 2320-B	0.2 mg/L as CaCO3	4/29/24	-	TAB
Calcium as CaCO3	1.7 mg/L	EPA 200.7	0.1 mg/L	4/26/24	-	MBN
Carbonate	21.6 mg/L as CaCO3	SM 2320-B	0.2 mg/L as CaCO3	4/29/24	-	TAB
Hydroxide	ND mg/L as CaCO3	SM 2320-B	0.2 mg/L as CaCO3	4/29/24	-	TAB
Langelier Index	-0.53 units	SM 2330-B	units	5/1/24	-	DPL
pH	8.76 units	SM 4500-H-B	0.01 units	4/24/24	-	ARH
Temperature	20 °C	SM 4500-H-B	1 °C	4/24/24	-	ARH
Total Alkalinity	204.6 mg/L as CaCO3	SM 2320-B	4.0 mg/L as CaCO3	4/29/24	QC73032	TAB
Total Dissolved Solids	269 mg/L	SM 2540-C	5 mg/L	4/25/24	QC72916	ISG

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) Spike amount low relative to the sample amount.
ND = Not Detected at Reporting Limit.

Analytical QC Summary

TASK NO: 240424078

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers

Receive Date: 4/24/24
Project Name:

Test	QC Batch ID	QC Type	Result	Method	Prep Date
Total Alkalinity	QC73032	Blank	ND	SM 2320-B	4/29/24
Total Dissolved Solids	QC72916	Blank	ND	SM 2540-C	4/24/24

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Total Alkalinity	QC73032	Duplicate -240424034-01	0 - 20	-	0.6	SM 2320-B
		LCS	90 - 110	100.9	-	
		LCS-2	90 - 110	103.7	-	
Total Dissolved Solids	QC72916	Duplicate -240424001-02	0 - 10	-	1.6	SM 2540-C
		LCS	85 - 115	102.0	-	

All analyses were performed in accordance with approved methods under the latest revision to 40 CFR Part 136 unless otherwise identified. Based on my inquiry of the person or persons directly responsible for analyzing the wastewater samples and generating the report (s), the analyses, report, and information submitted are, to the best of my knowledge and belief, true, accurate, and complete.



DATA APPROVED FOR RELEASE BY

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
 mg/L = Milligrams Per Liter or PPM
 ug/L = Micrograms Per Liter or PPB
 mph/100 mls = Most Probable Number Index/ 100 mls
 Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
 (s) Spike amount low relative to the sample amount.
 ND = Not Detected at Reporting Limit.

Chain of Custody Form



Commerce City Lab
10411 Heinz Way
Commerce City CO 80640

Lakewood Service Center
610 Garrison St, Unit E
Lakewood CO 80215

Phone: 303-659-2313

www.coloradolab.com

Report To Information Company Name: <u>LRE Water</u> Contact Name: <u>Diana Trejo</u>	Bill To Information (If different from report to) Company Name: _____ Contact Name: _____	Project Name / Number <u>4053HGRO2</u> _____
Address: <u>1221 Auraria Parkway</u> City: <u>Denver</u> State: <u>CO</u> Zip: <u>80204</u>	Address: _____ City: _____ State: _____ Zip: _____	Task Number (Lab Use Only) CAL Task 240424078 JML
Phone: <u>7204217036</u>	Phone: _____	
Email: <u>diana.trejo@LREwater.com</u>	Email: _____	
Sample Collector: <u>Diana</u>	Sample Collector Phone: <u>7204217036</u>	
Sample Collector Phone: _____	PO No.: _____	

Sample Matrix (Select One Only)				No. of Containers	Grab or (Check One Only) Composite	Tests Requested																															
Date	Time	Sample ID				Grab	Composite	Please reference attached quote. Quote # <u>QBC24040020</u> .																													
Waste Water <input type="checkbox"/> Soil <input type="checkbox"/> Ground Water <input checked="" type="checkbox"/> Sludge <input type="checkbox"/> Surface Water <input type="checkbox"/> Drinking Water <input checked="" type="checkbox"/>						Please reference attached quote. Quote # <u>QBC24040020</u> .																															
<u>4/24/24</u>	<u>9:45am</u>	<u>A-1</u>		<input checked="" type="checkbox"/>	<input type="checkbox"/>																	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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Instructions: <u>pH: 9.23, DO: 0.13mg/L</u>				C/S Info: <u>AD</u>																		Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>															
Relinquished By: _____		Date/Time: _____		Received By: _____																		Date/Time: _____		Relinquished By: _____		Date/Time: _____		C/S Charge <input type="checkbox"/> Temp. <u>1</u> °C/Ice <u>Y</u>		Sample Pres. Yes <input type="checkbox"/> No <input type="checkbox"/>		Received By: <u>[Signature]</u>		Date/Time: <u>4/24/24</u>			

4/24/24
1311



ANALYTICAL SUMMARY REPORT

June 05, 2024

Colorado Analytical Laboratories Inc
PO Box 507
Brighton, CO 80601-0507

Work Order: C24040865

Project Name: 240424078, 4053HGR02 Grandview

Energy Laboratories, Inc. Casper WY received the following 1 sample for Colorado Analytical Laboratories Inc on 4/26/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C24040865-001	24042078-01W,X,Y-A-1	04/24/24 9:45	04/26/24	Drinking Water	Gross Alpha, Gross Beta, Total pH Check for Nitric Radiochem FIRST Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Strontium 90

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



CLIENT: Colorado Analytical Laboratories Inc
Project: 240424078, 4053HGR02 Grandview
Work Order: C24040865

Report Date: 06/05/24

CASE NARRATIVE

Tests associated with analyst identified as "etasl" were subcontracted to Eurofins Test America, 13715 Rider Trail north, Earth City, MO 63045, TEL (314) 298-8566. Please see attached data packet for details.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 240424078, 4053HGR02 Grandview
Lab ID: C24040865-001
Client Sample ID: 24042078-01W,X,Y-A-1

Report Date: 06/05/24
Collection Date: 04/24/24 09:45
Date Received: 04/26/24
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Gross Alpha	-4	pCi/L	U			E900.0	05/07/24 07:27 / jno
Gross Alpha precision (±)	1.1	pCi/L				E900.0	05/07/24 07:27 / jno
Gross Alpha MDC	1.3	pCi/L				E900.0	05/07/24 07:27 / jno
Gross Beta	0.8	pCi/L	U		50	E900.0	06/04/24 03:36 / jno
Gross Beta precision (±)	1.2	pCi/L				E900.0	06/04/24 03:36 / jno
Gross Beta MDC	1.2	pCi/L				E900.0	06/04/24 03:36 / jno
Radium 226	0.3	pCi/L	U		5	E903.0	05/07/24 09:39 / alb
Radium 226 precision (±)	0.4	pCi/L				E903.0	05/07/24 09:39 / alb
Radium 226 MDC	0.4	pCi/L				E903.0	05/07/24 09:39 / alb
Radium 228	0.6	pCi/L			5	RA-05	05/06/24 11:29 / trs
Radium 228 precision (±)	0.5	pCi/L				RA-05	05/06/24 11:29 / trs
Radium 228 MDC	0.5	pCi/L				RA-05	05/06/24 11:29 / trs
Strontium 90	0.0752	pCi/L	U	3.00	8	E905.0	05/16/24 18:21 / etasl
Strontium 90 precision (±)	0.217	pCi/L				E905.0	05/16/24 18:21 / etasl
Strontium 90 MDC	0.376	pCi/L				E905.0	05/16/24 18:21 / etasl
Radium 226 + Radium 228	0.8	pCi/L			5	A7500-RA	05/07/24 12:44 / dmf
Radium 226 + Radium 228 precision (±)	0.7	pCi/L				A7500-RA	05/07/24 12:44 / dmf
Radium 226 + Radium 228 MDC	0.7	pCi/L				A7500-RA	05/07/24 12:44 / dmf

Report Definitions:
 RL - Analyte Reporting Limit
 QCL - Quality Control Limit
 U - Not detected at Minimum Detectable Concentration (MDC)

MCL - Maximum Contaminant Level
 ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc

Work Order: C24040865

Report Date: 06/05/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.0										
Batch: GrDW-2039										
Lab ID: Th230-GrDW-2039	3	Laboratory Control Sample								
						Run: TENNELEC-4_240502B				05/07/24 07:27
Gross Alpha		110	pCi/L	105		80	120			
Gross Alpha precision (±)		16	pCi/L							
Gross Alpha MDC		0.60	pCi/L							
Lab ID: MB-GrDW-2039	3	Method Blank								
						Run: TENNELEC-4_240502B				05/07/24 07:27
Gross Alpha		-2	pCi/L							U
Gross Alpha precision (±)		0.6	pCi/L							
Gross Alpha MDC		0.7	pCi/L							
Lab ID: C24040869-001AMS	3	Sample Matrix Spike								
						Run: TENNELEC-4_240502B				05/07/24 07:27
Gross Alpha		75	pCi/L	69		70	130			S
Gross Alpha precision (±)		11	pCi/L							
Gross Alpha MDC		1.1	pCi/L							
Lab ID: C24040869-001AMSD	3	Sample Matrix Spike Duplicate								
						Run: TENNELEC-4_240502B				05/07/24 07:27
Gross Alpha		81	pCi/L	75		70	130	7.8		20
Gross Alpha precision (±)		12	pCi/L							
Gross Alpha MDC		1.1	pCi/L							
		- The RER result is 0.7.								
Method: E900.0										
Batch: GrDW-2049										
Lab ID: Sr90-GrDW-2049	3	Laboratory Control Sample								
						Run: TENNELEC-4_240529A				06/04/24 03:36
Gross Beta		440	pCi/L	93		80	120			
Gross Beta precision (±)		40	pCi/L							
Gross Beta MDC		1.0	pCi/L							
Lab ID: MB-GrDW-2049	3	Method Blank								
						Run: TENNELEC-4_240529A				06/04/24 03:36
Gross Beta		0.9	pCi/L							U
Gross Beta precision (±)		1	pCi/L							
Gross Beta MDC		1	pCi/L							
Lab ID: C24050821-001BMS1	3	Sample Matrix Spike								
						Run: TENNELEC-4_240529A				06/04/24 03:36
Gross Beta		460	pCi/L	98		70	130			
Gross Beta precision (±)		42	pCi/L							
Gross Beta MDC		1.1	pCi/L							
Lab ID: C24050821-001BMSD1	3	Sample Matrix Spike Duplicate								
						Run: TENNELEC-4_240529A				06/04/24 03:36
Gross Beta		450	pCi/L	97		70	130	0.6		20
Gross Beta precision (±)		42	pCi/L							
Gross Beta MDC		1.2	pCi/L							
		- The RER result is 0.1.								

Qualifiers:

RL - Analyte Reporting Limit
S - Spike recovery outside of advisory limits

ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc

Work Order: C24040865

Report Date: 06/05/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226DW-1048										
Lab ID: LCS-RA226DW-1048	3	Laboratory Control Sample								
						Run: TENNELEC-3_240501A				05/07/24 10:54
Radium 226		19	pCi/L		97	90	110			
Radium 226 precision (±)		3.4	pCi/L							
Radium 226 MDC		0.36	pCi/L							
Lab ID: MB-RA226DW-1048	3	Method Blank								
						Run: TENNELEC-3_240501A				05/07/24 09:39
Radium 226		0.2	pCi/L							U
Radium 226 precision (±)		0.4	pCi/L							
Radium 226 MDC		0.4	pCi/L							
Lab ID: C24040387-001ADUP	3	Sample Duplicate								
						Run: TENNELEC-3_240501A				05/07/24 09:39
Radium 226		0.13	pCi/L					3.3	20	U
Radium 226 precision (±)		0.44	pCi/L							
Radium 226 MDC		0.48	pCi/L							
- The RER result is 0.0.										

Qualifiers:

RL - Analyte Reporting Limit

U - Not detected at Minimum Detectable Concentration (MDC)

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc

Work Order: C24040865

Report Date: 06/05/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05 Batch: RA228DW-0998										
Lab ID: LCS-228-RA228DW-09	3	Laboratory Control Sample				Run: TENNELEC-4_240501A			05/06/24 11:29	
Radium 228		5.0	pCi/L	80		80	120			
Radium 228 precision (±)		1.2	pCi/L							
Radium 228 MDC		0.52	pCi/L							
Lab ID: MB-228-RA228DW-099	3	Method Blank				Run: TENNELEC-4_240501A			05/06/24 11:29	
Radium 228		0.5	pCi/L							U
Radium 228 precision (±)		0.5	pCi/L							
Radium 228 MDC		0.5	pCi/L							
Lab ID: C24040387-001ADUP	3	Sample Duplicate				Run: TENNELEC-4_240501A			05/06/24 11:29	
Radium 228		0.25	pCi/L					77	20	UR
Radium 228 precision (±)		0.54	pCi/L							
Radium 228 MDC		0.55	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 2, the RER result is 0.8.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)



Work Order Receipt Checklist

Colorado Analytical Laboratories Inc

C24040865

Login completed by: Cristen C. Smith

Date Received: 4/26/2024

Reviewed by: tjones

Received by: CCS

Reviewed Date: 5/6/2024

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	0.2°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Contact and Corrective Action Comments:

The sample for Total Metals was preserved to pH <2 with 2 mL of nitric acid per 250 mL in the laboratory. In accordance with the Clean Water Act, these Metals samples must be held for 24 hours prior to analysis. CS 4/26/24



Ship To: Energy Labs

1088

221040865

Sub-Lab Chain of Custody Form

Report To Information Company Name <u>Colorado Analytical Laboratory</u> Report To: <u>Rebecca Manzanares</u> E-Mail: <u>rebeccamanzanares@coloradolab.com</u>	Project Name <u>4053HGR02_Grandview</u>
Address: <u>10411 Heinz Way</u> <u>Commerce City, CO 80640</u> Phone: <u>303-659-2313</u>	Bill To Information: (if different from report to) Address: CAL TASK <u>240424078</u> <u>JML</u>
	Compliance Samples: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Submit Data to CDPHE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Tests Requested

Sample Date/Time	Sample ID	Matrix	Container Type
4/24/24 9:45 AM	240424078-01W - A-1	Water - Drinking	1L - Unpreserved
4/24/24 9:45 AM	240424078-01X - A-1	Water - Drinking	4 - 1L - Unpreserved

Gross Alpha/Beta (Sub - En)	<input checked="" type="checkbox"/>
Radium 226 (Sub - Energy)	<input checked="" type="checkbox"/>
Radium 228 (Sub - Energy)	<input checked="" type="checkbox"/>
Strontium-90 (Sub)	<input type="checkbox"/>

Comment:

Relinquished by: (Signature) <u>ADAMA</u>	Date: Time <u>4/25/24</u> <u>1500</u>	Received by: (Signature) <u>Joe-Hub</u> <u>Custom Smoke</u>	Date: Time <u>4/26/24 09:22</u>
--	---	---	------------------------------------



Ship To: Energy Labs

2012

C240670 865

Report To Information Company Name Colorado Analytical Laboratory Report To: Rebecca Manzanares E-Mail: rebeccamanzanares@coloradolab.com Address: 10411 Heinz Way Commerce City, CO 80640 Phone: 303-659-2313	Bill To Information: (If different from report to) Project Name 4053HGR02 Grandview	Compliance Samples: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Submit Data to CDPHE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	--	--

Tests Requested

Gross Alpha/Beta (Sub - En
 Radium 226 (Sub - Energy
 Radium 228 (Sub - Energy
 Strontium-90 (Sub)

Sample Date/Time	Sample ID	Matrix	Container Type
4/24/24 9:45 AM	240424078-01Y - A-1	Water - Drinking	3 - 1L Cylinder - HNO3

Comment:

UNPRESERVED

Relinquished by: (Signature) <i>[Signature]</i>	Date: Time: 4/25/24 1500	Received by: (Signature) <i>[Signature]</i>	Date: Time: 4/26/24 09:22
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 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Casper Reporting
Energy Laboratories, Inc.
2393 Salt Creek Highway
Casper, Wyoming 82601

Generated 5/17/2024 12:06:58 PM

JOB DESCRIPTION

Radiochemistry
C24040865

JOB NUMBER

160-53969-1

Eurofins St. Louis

Job Notes

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



Generated
5/17/2024 12:06:58 PM

Authorized for release by
Casey Robertson, Project Manager
Casey.Robertson@et.eurofinsus.com
(314)298-8566



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Case Narrative

Client: Energy Laboratories, Inc.
Project: Radiochemistry

Job ID: 160-53969-1

Job ID: 160-53969-1

Eurofins St. Louis

Job Narrative 160-53969-1

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The matrix for the Method Blank and LCS/LCSD is as close to the samples as can be reasonably achieved. Detailed information can be found in the most current revision of the associated SOP.

Receipt

The sample was received on 5/3/2024 9:30 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -0.5°C.

Method SR-03-RC - Strontium-90 (GFPC)

Sample C24040865-001A (160-53969-1) was analyzed for Strontium-90 (GFPC). The sample was prepared on 5/7/2024 and analyzed on 5/16/2024.

No analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Login Sample Receipt Checklist

Client: Energy Laboratories, Inc.

Job Number: 160-53969-1

SDG Number: C24040865

Login Number: 53969

List Number: 1

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Definitions/Glossary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-53969-1
SDG: C24040865

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-53969-1
SDG: C24040865

Method	Method Description	Protocol	Laboratory
SR-03-RC	Strontium-90 (GFPC)	DOE	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

Protocol References:

DOE = U.S. Department of Energy
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-53969-1
SDG: C24040865

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-53969-1	C24040865-001A	Water	04/24/24 09:45	05/03/24 09:30

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Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-53969-1
SDG: C24040865

Client Sample ID: C24040865-001A

Lab Sample ID: 160-53969-1

Date Collected: 04/24/24 09:45

Matrix: Water

Date Received: 05/03/24 09:30

Method: DOE SR-03-RC - Strontium-90 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.0752	U	0.217	0.217	3.00	0.376	pCi/L	05/07/24 09:01	05/16/24 18:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	76.8		30 - 110					05/07/24 09:01	05/16/24 18:21	1
Y Carrier	89.3		30 - 110					05/07/24 09:01	05/16/24 18:21	1

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QC Sample Results

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-53969-1
SDG: C24040865

Method: SR-03-RC - Strontium-90 (GFPC)

Lab Sample ID: MB 160-660414/1-A
Matrix: Water
Analysis Batch: 661878

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 660414

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac	
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)							
Strontium-90	0.03495	U	0.207	0.207	3.00	0.368	pCi/L	05/07/24 09:01	05/16/24 16:27	1	
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed		Dil Fac
Sr Carrier	73.4		30 - 110				05/07/24 09:01		05/16/24 16:27		1
Y Carrier	82.2		30 - 110				05/07/24 09:01		05/16/24 16:27		1

Lab Sample ID: LCS 160-660414/2-A
Matrix: Water
Analysis Batch: 661878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 660414

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Strontium-90	7.15	7.742		0.846	3.00	0.318	pCi/L	108	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Sr Carrier	82.4		30 - 110						
Y Carrier	92.7		30 - 110						

Lab Sample ID: 890-6575-AD-1-A DU
Matrix: Water
Analysis Batch: 661878

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 660414

Analyte	Sample	Sample	DU	DU	Total	RL	MDC	Unit	RER	RER
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					Limit
Strontium-90	0.159	U	0.1105	U	0.215	3.00	0.366	pCi/L	0.11	1
Carrier	DU %Yield	DU Qualifier	Limits							
Sr Carrier	74.6		30 - 110							
Y Carrier	84.9		30 - 110							

QC Association Summary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-53969-1
SDG: C24040865

Rad

Prep Batch: 660414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-53969-1	C24040865-001A	Total/NA	Water	PrecSep-7	
MB 160-660414/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-660414/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
890-6575-AD-1-A DU	Duplicate	Total/NA	Water	PrecSep-7	

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Tracer/Carrier Summary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-53969-1
SDG: C24040865

Method: SR-03-RC - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)
160-53969-1	C24040865-001A	76.8	89.3
890-6575-AD-1-A DU	Duplicate	74.6	84.9
LCS 160-660414/2-A	Lab Control Sample	82.4	92.7
MB 160-660414/1-A	Method Blank	73.4	82.2

Tracer/Carrier Legend

Sr = Sr Carrier

Y = Y Carrier

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240424078	Date Received: 4/24/24
Client PO:	Date Reported: 6/5/24
Client Project:	Matrix: Water - Drinking

Customer Sample ID A-1
Sample Date/Time: 4/24/24 9:45 AM
Lab Number: 240424078-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Cyanide-Free	ND mg/L	ASTM D4282-15	0.005 mg/L		4/26/24	QC72947	KRB
Nitrate/ Nitrite Nitrogen	ND mg/L	Calculation	0.05 mg/L		4/25/24	-	AMJ
Chloride	4.7 mg/L	EPA 300.0	0.5 mg/L	250	4/25/24	QC72938	AMJ
Fluoride	3.15 mg/L	EPA 300.0	0.10 mg/L	4	4/25/24	QC72943	AMJ
Nitrate Nitrogen	ND mg/L	EPA 300.0	0.05 mg/L	10	4/25/24	QC72939	AMJ
Nitrite Nitrogen	ND mg/L	EPA 300.0	0.03 mg/L	1	4/25/24	QC72940	AMJ
Sulfate	17.6 mg/L	EPA 300.0	0.5 mg/L	250	4/25/24	QC72942	AMJ
Dibromochloropropane	ND ug/L	EPA 504.1	0.02 ug/L	0.2	4/29/24	QC72980	SPF
Ethylene dibromide	ND ug/L	EPA 504.1	0.01 ug/L	0.05	4/29/24	QC72980	SPF
Aldrin	ND ug/L	EPA 505	0.05 ug/L		4/30/24	QC72981	SPF
Chlordane	ND ug/L	EPA 505	0.2 ug/L	2	4/30/24	QC72981	SPF
Dieldrin	ND ug/L	EPA 505	0.05 ug/L		4/30/24	QC72981	SPF
Endrin	ND ug/L	EPA 505	0.01 ug/L	2	4/30/24	QC72981	SPF
Heptachlor epoxide	ND ug/L	EPA 505	0.02 ug/L	0.2	4/30/24	QC72981	SPF
Hexachlorobenzene	ND ug/L	EPA 505	0.1 ug/L	1	4/30/24	QC72981	SPF
Hexachlorocyclopentadiene	ND ug/L	EPA 505	0.1 ug/L	50	4/30/24	QC72981	SPF
Lindane	ND ug/L	EPA 505	0.02 ug/L	0.2	4/30/24	QC72981	SPF
Methoxychlor	ND ug/L	EPA 505	0.1 ug/L	40	4/30/24	QC72981	SPF
Polychlorinated biphenyl's	ND ug/L	EPA 505	0.1 ug/L	0.5	4/30/24	QC72981	SPF
Toxaphene	ND ug/L	EPA 505	1 ug/L	3	4/30/24	QC72981	SPF

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) The accuracy of the spike recovery value is reduced due to the analyte concentration in the sample being disproportionate to the spike level. The laboratory control sample recovery was acceptable

MCL = Maximum contaminant level per the EPA
ND = Not Detected at Reporting Limit.

Analytical Results

TASK NO: 240424078

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240424078
Client PO:
Client Project:

Date Received: 4/24/24
Date Reported: 6/5/24
Matrix: Water - Drinking

Customer Sample ID A-1
Sample Date/Time: 4/24/24 9:45 AM
Lab Number: 240424078-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
2,4,5-TP	ND ug/L	EPA 515.4	0.2 ug/L	50	4/27/24	QC72962	SPF
2,4,-D	ND ug/L	EPA 515.4	0.1 ug/L	70	4/27/24	QC72962	SPF
Dalapon	ND ug/L	EPA 515.4	1.0 ug/L	200	4/27/24	QC72962	SPF
Dicamba	ND ug/L	EPA 515.4	0.5 ug/L		4/27/24	QC72962	SPF
Dinoseb	ND ug/L	EPA 515.4	0.2 ug/L	7	4/27/24	QC72962	SPF
Pentachlorophenol	ND ug/L	EPA 515.4	0.04 ug/L	1	4/27/24	QC72962	SPF
Picloram	ND ug/L	EPA 515.4	0.1 ug/L	500	4/27/24	QC72962	SPF
Alachlor	ND ug/L	EPA 525.2	0.2 ug/L	2	4/29/24	QC72963	MBS
Atrazine	ND ug/L	EPA 525.2	0.1 ug/L	3	4/29/24	QC72963	MBS
Benzo(a)pyrene	ND ug/L	EPA 525.2	0.02 ug/L	0.2	4/29/24	QC72963	MBS
Butachlor	ND ug/L	EPA 525.2	0.25 ug/L		4/29/24	QC72963	MBS
Di(2-ethylhexyl)adipate	ND ug/L	EPA 525.2	0.6 ug/L	400	4/29/24	QC72963	MBS
Di(2-ethylhexyl)phthalate	ND ug/L	EPA 525.2	0.6 ug/L	6	4/29/24	QC72963	MBS
Heptachlor	ND ug/L	EPA 525.2	0.04 ug/L	0.4	4/29/24	QC72963	MBS
Metolachlor	ND ug/L	EPA 525.2	0.25 ug/L		4/29/24	QC72963	MBS
Metribuzin	ND ug/L	EPA 525.2	0.25 ug/L		4/29/24	QC72963	MBS
Propachlor	ND ug/L	EPA 525.2	0.25 ug/L		4/29/24	QC72963	MBS
Simazine	ND ug/L	EPA 525.2	0.07 ug/L	4	4/29/24	QC72963	MBS
3-Hydroxycarbofuran	ND ug/L	EPA 531.1	0.5 ug/L		4/30/24	QC73007	MBS
Aldicarb	ND ug/L	EPA 531.1	0.6 ug/L		4/30/24	QC73007	MBS
Aldicarb sulfone	ND ug/L	EPA 531.1	1.0 ug/L		4/30/24	QC73007	MBS
Aldicarb sulfoxide	ND ug/L	EPA 531.1	0.7 ug/L		4/30/24	QC73007	MBS

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Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240424078 **Date Received:** 4/24/24
Client PO: **Date Reported:** 6/5/24
Client Project: **Matrix:** Water - Drinking

Customer Sample ID A-1
Sample Date/Time: 4/24/24 9:45 AM
Lab Number: 240424078-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Carbaryl	ND ug/L	EPA 531.1	0.5 ug/L		4/30/24	QC73007	MBS
Carbofuran	ND ug/L	EPA 531.1	0.9 ug/L	40	4/30/24	QC73007	MBS
Methomyl	ND ug/L	EPA 531.1	0.5 ug/L		4/30/24	QC73007	MBS
Oxamyl	ND ug/L	EPA 531.1	1.0 ug/L	200	4/30/24	QC73007	MBS
Glyphosate	ND ug/L	EPA 547	6.0 ug/L	700	5/2/24	-	Outside Lab
Endothall	ND ug/L	EPA 548.1	9 ug/L	100	4/30/24	QC72918	MBS
Diquat	ND ug/L	EPA 549.2	0.4 ug/L	20	4/29/24	QC72917	MLT
1,1,1,2-Tetrachloroethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
1,1,1-Trichloroethane	ND ug/L	EPA-524.2	0.5 ug/L	200	4/29/24	QC72996	SPF
1,1,2,2-Tetrachloroethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
1,1,2-Trichloroethane	ND ug/L	EPA-524.2	0.5 ug/L	5	4/29/24	QC72996	SPF
1,1-Dichloroethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
1,1-Dichloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	7	4/29/24	QC72996	SPF
1,1-Dichloropropene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
1,2,3-Trichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
1,2,3-Trichloropropane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
1,2,4-Trichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L	70	4/29/24	QC72996	SPF
1,2,4-Trimethylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
1,2-Dichloroethane	ND ug/L	EPA-524.2	0.5 ug/L	5	4/29/24	QC72996	SPF
1,2-Dichloropropane	ND ug/L	EPA-524.2	0.5 ug/L	5	4/29/24	QC72996	SPF
1,3,5-Trimethylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF

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Matrix: Water - Drinking

Customer Sample ID A-1
Sample Date/Time: 4/24/24 9:45 AM
Lab Number: 240424078-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
1,3-Dichloropropane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
1,3-Dichloropropene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Benzene	ND ug/L	EPA-524.2	0.5 ug/L	5	4/29/24	QC72996	SPF
Bromobenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Bromochloromethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Bromodichloromethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Bromoform	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Bromomethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Carbon Tetrachloride	ND ug/L	EPA-524.2	0.5 ug/L	5	4/29/24	QC72996	SPF
Chlorodibromomethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Chloroethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Chloroform	2.2 ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Chloromethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
cis-1,2-Dichloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	70	4/29/24	QC72996	SPF
Dibromomethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Dichlorodifluoromethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Dichloromethane	0.7 ug/L	EPA-524.2	0.5 ug/L	5	4/29/24	QC72996	SPF
Ethylbenzene	ND ug/L	EPA-524.2	0.5 ug/L	700	4/29/24	QC72996	SPF
Fluorotrichloromethane	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Hexachlorobutadiene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Isopropylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
m-Dichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Monochlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L	100	4/29/24	QC72996	SPF

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Client PO:
Client Project:

Date Received: 4/24/24
Date Reported: 6/5/24
Matrix: Water - Drinking

Customer Sample ID A-1
Sample Date/Time: 4/24/24 9:45 AM
Lab Number: 240424078-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Naphthalene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
n-Butylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
n-Propylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
o-Chlorotoluene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
o-Dichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L	600	4/29/24	QC72996	SPF
Para-Dichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L	75	4/29/24	QC72996	SPF
p-Chlorotoluene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
p-Isopropyltoluene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
sec-Butylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Styrene	ND ug/L	EPA-524.2	0.5 ug/L	100	4/29/24	QC72996	SPF
tert-Butylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		4/29/24	QC72996	SPF
Tetrachloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	5	4/29/24	QC72996	SPF
Toluene	ND ug/L	EPA-524.2	0.5 ug/L	1000	4/29/24	QC72996	SPF
Total Trihalomethanes	2.2 ug/L	EPA-524.2	0.5 ug/L	80	4/29/24	QC72996	SPF
trans-1,2-Dichloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	100	4/29/24	QC72996	SPF
Trichloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	5	4/29/24	QC72996	SPF
Vinyl chloride	ND ug/L	EPA-524.2	0.5 ug/L	2	4/29/24	QC72996	SPF
Xylenes (total)	ND ug/L	EPA-524.2	0.5 ug/L	10000	4/29/24	QC72996	SPF
Turbidity	3.57 NTU	SM 2130-B	0.01 NTU		4/24/24	-	ARH
Total Residual Chlorine	0.09 mg/L	SM 4500-CL-G	0.05 mg/L		4/24/24	-	ARH
Ammonia Nitrogen	0.18 mg/L	SM 4500-NH3-G	0.03 mg/L		4/26/24	QC72953	KRB

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Analytical Results

TASK NO: 240424078

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1221 Auraria Pkwy
Denver CO 80204

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Denver CO 80204

Task No.: 240424078
Client PO:
Client Project:

Date Received: 4/24/24
Date Reported: 6/5/24
Matrix: Water - Drinking

Customer Sample ID A-1
Sample Date/Time: 4/24/24 9:45 AM
Lab Number: 240424078-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Sulfide as H ₂ S	ND mg/L	SM 4500-S2-G	0.1 mg/L		5/1/24	QC73067	ARH
Dissolved Organic Carbon	0.6 mg/L	SM 5310-C	0.5 mg/L		5/1/24	QC73017	KRI
Total Organic Carbon	0.7 mg/L	SM 5310-C	0.5 mg/L		5/1/24	QC73016	KRI
MBAS (calculated as LAS, mol wt 340)	ND mg/L	SM 5540-C	0.1 mg/L		4/25/24	QC72951	AJP
<u>Dissolved</u>							
Iron	0.110 mg/L	EPA 200.7	0.005 mg/L		4/26/24	QC72973	MBN
Manganese	0.0104 mg/L	EPA 200.8	0.0008 mg/L	0.05	4/30/24	QC73030	MBN
<u>Total</u>							
Calcium	0.8 mg/L	EPA 200.7	0.1 mg/L		4/26/24	QC72973	MBN
Iron	1.60 mg/L	EPA 200.7	0.005 mg/L		4/26/24	QC72973	MBN
Magnesium	0.03 mg/L	EPA 200.7	0.02 mg/L		4/26/24	QC72973	MBN
Potassium	0.5 mg/L	EPA 200.7	0.1 mg/L		4/26/24	QC72973	MBN
Sodium	115 mg/L	EPA 200.7	0.1 mg/L		4/26/24	QC72973	MBN
Aluminum	0.078 mg/L	EPA 200.8	0.001 mg/L	0.05	4/30/24	QC73030	MBN
Antimony	ND mg/L	EPA 200.8	0.0012 mg/L	0.006	4/30/24	QC73030	MBN
Arsenic	0.0012 mg/L	EPA 200.8	0.0006 mg/L	0.01	4/30/24	QC73030	MBN
Barium	0.0013 mg/L	EPA 200.8	0.0007 mg/L	2	4/30/24	QC73030	MBN
Beryllium	ND mg/L	EPA 200.8	0.0001 mg/L	0.004	4/30/24	QC73030	MBN
Cadmium	ND mg/L	EPA 200.8	0.0001 mg/L	0.005	4/30/24	QC73030	MBN

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TASK NO: 240424078

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Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240424078
Client PO:
Client Project:

Date Received: 4/24/24
Date Reported: 6/5/24
Matrix: Water - Drinking

Customer Sample ID A-1
Sample Date/Time: 4/24/24 9:45 AM
Lab Number: 240424078-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
<i>Total</i>							
Chromium	0.0170 mg/L	EPA 200.8	0.0015 mg/L	0.1	4/30/24	QC73030	MBN
Copper	0.1170 mg/L	EPA 200.8	0.0008 mg/L	1.3	4/30/24	QC73030	MBN
Lead	ND mg/L	EPA 200.8	0.0001 mg/L	0.015	4/30/24	QC73030	MBN
Manganese	0.0233 mg/L	EPA 200.8	0.0008 mg/L	0.05	4/30/24	QC73030	MBN
Mercury	ND mg/L	EPA 200.8	0.0001 mg/L	0.002	4/30/24	QC73030	MBN
Nickel	0.2611 mg/L	EPA 200.8	0.0009 mg/L		4/30/24	QC73030	MBN
Selenium	ND mg/L	EPA 200.8	0.0008 mg/L		4/30/24	QC73030	MBN
Silver	ND mg/L	EPA 200.8	0.0005 mg/L	0.1	4/30/24	QC73030	MBN
Thallium	ND mg/L	EPA 200.8	0.0002 mg/L	0.002	4/30/24	QC73030	MBN
Uranium	ND mg/L	EPA 200.8	0.0002 mg/L	0.03	4/30/24	QC73030	MBN
Zinc	0.004 mg/L	EPA 200.8	0.001 mg/L	5	4/30/24	QC73030	MBN
Total Hardness	2.1 mg/L as CaCO3	SM 2340-B	0.1 mg/L as CaCO3		4/26/24	-	MBN

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Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers

Receive Date: 4/24/24
Project Name:

Test	QC Batch ID	QC Type	Result	Method	Prep Date
Dibromochloropropane	QC72980	Method Blank	ND	EPA 504.1	4/29/24
Ethylene dibromide	QC72980	Method Blank	ND	EPA 504.1	4/29/24
Aldrin	QC72981	Method Blank	ND	EPA 505	4/29/24
Chlordane	QC72981	Method Blank	ND	EPA 505	4/29/24
Dieldrin	QC72981	Method Blank	ND	EPA 505	4/29/24
Endrin	QC72981	Method Blank	ND	EPA 505	4/29/24
Heptachlor epoxide	QC72981	Method Blank	ND	EPA 505	4/29/24
Hexachlorobenzene	QC72981	Method Blank	ND	EPA 505	4/29/24
Hexachlorocyclopentadiene	QC72981	Method Blank	ND	EPA 505	4/29/24
Lindane	QC72981	Method Blank	ND	EPA 505	4/29/24
Methoxychlor	QC72981	Method Blank	ND	EPA 505	4/29/24
Polychlorinated biphenyl's	QC72981	Method Blank	ND	EPA 505	4/29/24
Toxaphene	QC72981	Method Blank	ND	EPA 505	4/29/24
2,4,5-TP	QC72962	Method Blank	ND	EPA 515.4	4/26/24
2,4,-D	QC72962	Method Blank	ND	EPA 515.4	4/26/24
Dalapon	QC72962	Method Blank	ND	EPA 515.4	4/26/24
Dicamba	QC72962	Method Blank	ND	EPA 515.4	4/26/24
Dinoseb	QC72962	Method Blank	ND	EPA 515.4	4/26/24
Pentachlorophenol	QC72962	Method Blank	ND	EPA 515.4	4/26/24
Picloram	QC72962	Method Blank	ND	EPA 515.4	4/26/24
1,1,1,2-Tetrachloroethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,1,1-Trichloroethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,1,2,2-Tetrachloroethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,1,2-Trichloroethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,1-Dichloroethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,1-Dichloroethylene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,1-Dichloropropene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,2,3-Trichlorobenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,2,3-Trichloropropane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,2,4-Trichlorobenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,2,4-Trimethylbenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,2-Dichloroethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,2-Dichloropropane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,3,5-Trimethylbenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,3-Dichloropropane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
1,3-Dichloropropene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Benzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Bromobenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Bromochloromethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Bromodichloromethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Bromoform	QC72996	Method Blank	ND	EPA-524.2	4/29/24

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Bromomethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Carbon Tetrachloride	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Chlorodibromomethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Chloroethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Chloroform	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Chloromethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
cis-1,2-Dichloroethylene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Dibromomethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Dichlorodifluoromethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Dichloromethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Ethylbenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Fluorotrichloromethane	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Hexachlorobutadiene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Isopropylbenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
m-Dichlorobenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Monochlorobenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Naphthalene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
n-Butylbenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
n-Propylbenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
o-Chlorotoluene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
o-Dichlorobenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Para-Dichlorobenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
p-Chlorotoluene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
p-Isopropyltoluene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
sec-Butylbenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Styrene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
tert-Butylbenzene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Tetrachloroethylene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Toluene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Total Trihalomethanes	QC72996	Method Blank	ND	EPA-524.2	4/29/24
trans-1,2-Dichloroethylene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Trichloroethylene	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Vinyl chloride	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Xylenes (total)	QC72996	Method Blank	ND	EPA-524.2	4/29/24
Alachlor	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Atrazine	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Benzo(a)pyrene	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Butachlor	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Di(2-ethylhexyl)adipate	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Di(2-ethylhexyl)phthalate	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Heptachlor	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Metolachlor	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Metribuzin	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Propachlor	QC72963	Method Blank	ND	EPA 525.2	4/26/24
Simazine	QC72963	Method Blank	ND	EPA 525.2	4/26/24
3-Hydroxycarbofuran	QC73007	Method Blank	ND	EPA 531.1	4/30/24
Aldicarb	QC73007	Method Blank	ND	EPA 531.1	4/30/24
Aldicarb sulfone	QC73007	Method Blank	ND	EPA 531.1	4/30/24
Aldicarb sulfoxide	QC73007	Method Blank	ND	EPA 531.1	4/30/24
Carbaryl	QC73007	Method Blank	ND	EPA 531.1	4/30/24
Carbofuran	QC73007	Method Blank	ND	EPA 531.1	4/30/24
Methomyl	QC73007	Method Blank	ND	EPA 531.1	4/30/24

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Oxamyl	QC73007	Method Blank	ND	EPA 531.1	4/30/24
Endothall	QC72918	Method Blank	ND	EPA 548.1	4/25/24
Diquat	QC72917	Method Blank	0.6 ug/L B	EPA 549.2	4/25/24
Ammonia Nitrogen	QC72953	Method Blank	ND	SM 4500-NH3-G	4/25/24
Chloride	QC72938	Blank	ND	EPA 300.0	4/24/24
Cyanide-Free	QC72947	Blank	ND	ASTM D4282-15	4/25/24
Dissolved Organic Carbon	QC73017	Blank	ND	SM 5310-C	4/30/24
Fluoride	QC72943	Blank	ND	EPA 300.0	4/24/24
MBAS (calculated as LAS, mol wt 340)	QC72951	Blank	ND	SM 5540-C	4/25/24
Aluminum	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Antimony	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Arsenic	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Barium	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Beryllium	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Cadmium	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Chromium	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Copper	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Lead	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Manganese	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Mercury	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Nickel	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Selenium	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Silver	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Thallium	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Uranium	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Zinc	QC73030	Method Blank	ND	EPA 200.8	4/24/24
Calcium	QC72973	Method Blank	ND	EPA 200.7	4/24/24
Iron	QC72973	Method Blank	ND	EPA 200.7	4/24/24
Magnesium	QC72973	Method Blank	ND	EPA 200.7	4/24/24
Potassium	QC72973	Method Blank	ND	EPA 200.7	4/24/24
Sodium	QC72973	Method Blank	ND	EPA 200.7	4/24/24
Nitrate Nitrogen	QC72939	Blank	ND	EPA 300.0	4/24/24
Nitrite Nitrogen	QC72940	Blank	ND	EPA 300.0	4/24/24
Sulfate	QC72942	Blank	ND	EPA 300.0	4/24/24
Sulfide as H2S	QC73067	Blank	ND	SM 4500-S2-G	5/1/24
Total Organic Carbon	QC73016	Blank	ND	SM 5310-C	4/30/24

B - The analyte was found in the associated blank. Batch accepted due to all samples being non-detect or having results ≥ 5 times the background concentration found in the blank.

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Dibromochloropropane	QC72980	LCS	70 - 130	94.0	-	EPA 504.1
		MS -240424065-01B	65 - 135	94.4	-	
Ethylene dibromide	QC72980	LCS	70 - 130	99.6	-	EPA 504.1
		MS -240424065-01B	65 - 135	100.8	-	
Aldrin	QC72981	LCS	70 - 130	107.0	-	EPA 505
		MS -240424078-01K	65 - 135	103.6	-	
Chlordane	QC72981	LCS	70 - 130	97.4	-	EPA 505
		MS -240424078-01K	65 - 135	-	-	
Dieldrin	QC72981	LCS	70 - 130	99.2	-	EPA 505
		MS -240424078-01K	65 - 135	96.6	-	
Endrin	QC72981	LCS	70 - 130	76.4	-	EPA 505
		MS -240424078-01K	65 - 135	73.0	-	

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Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Heptachlor epoxide	QC72981	LCS	70 - 130	98.6	-	EPA 505
		MS -240424078-01K	65 - 135	95.6	-	
Hexachlorobenzene	QC72981	LCS	70 - 130	104.8	-	EPA 505
		MS -240424078-01K	65 - 135	102.4	-	
Hexachlorocyclopentadiene	QC72981	LCS	70 - 130	87.4	-	EPA 505
		MS -240424078-01K	65 - 135	80.0	-	
Lindane	QC72981	LCS	70 - 130	90.2	-	EPA 505
		MS -240424078-01K	65 - 135	85.8	-	
Methoxychlor	QC72981	LCS	70 - 130	81.2	-	EPA 505
		MS -240424078-01K	65 - 135	80.0	-	
Toxaphene	QC72981	LCS	70 - 130	0.0	-	EPA 505
		MS -240424078-01K	65 - 135	-	-	
EPA 505 multicomponent analytes include: Chlordane, Toxaphene, and PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260. Batch QC includes one multicomponent; continually rotating analytes. Samples with apparent patterns are confirmed prior to reporting.						
2,4,5-TP	QC72962	LCS	70 - 130	98.0	-	EPA 515.4
		MS -240423026-01D	70 - 130	96.1	-	
		MSD -240423026-01D	0 - 30	-	3.4	
2,4,-D	QC72962	LCS	70 - 130	88.1	-	EPA 515.4
		MS -240423026-01D	70 - 130	100.4	-	
		MSD -240423026-01D	0 - 30	-	0.4	
Dalapon	QC72962	LCS	70 - 130	87.0	-	EPA 515.4
		MS -240423026-01D	70 - 130	81.8	-	
		MSD -240423026-01D	0 - 30	-	3.4	
Dicamba	QC72962	LCS	70 - 130	98.5	-	EPA 515.4
		MS -240423026-01D	70 - 130	101.2	-	
		MSD -240423026-01D	0 - 30	-	1.5	
Dinoseb	QC72962	LCS	70 - 130	100.0	-	EPA 515.4
		MS -240423026-01D	70 - 130	97.4	-	
		MSD -240423026-01D	0 - 30	-	3.0	
Pentachlorophenol	QC72962	LCS	70 - 130	93.3	-	EPA 515.4
		MS -240423026-01D	70 - 130	93.0	-	
		MSD -240423026-01D	0 - 30	-	1.7	
Picloram	QC72962	LCS	70 - 130	97.5	-	EPA 515.4
		MS -240423026-01D	70 - 130	97.3	-	
		MSD -240423026-01D	0 - 30	-	3.0	
1,1,1,2-Tetrachloroethane	QC72996	LCS	70 - 130	109.0	-	EPA-524.2
		LCS Dup	0 - 20	-	5.5	
1,1,1-Trichloroethane	QC72996	LCS	70 - 130	117.6	-	EPA-524.2
		LCS Dup	0 - 20	-	1.4	
1,1,2,2-Tetrachloroethane	QC72996	LCS	70 - 130	108.8	-	EPA-524.2
		LCS Dup	0 - 20	-	0.7	
1,1,2-Trichloroethane	QC72996	LCS	70 - 130	98.4	-	EPA-524.2
		LCS Dup	0 - 20	-	13.1	
1,1-Dichloroethane	QC72996	LCS	70 - 130	110.6	-	EPA-524.2
		LCS Dup	0 - 20	-	0.4	
1,1-Dichloroethylene	QC72996	LCS	70 - 130	115.0	-	EPA-524.2
		LCS Dup	0 - 20	-	2.7	
1,1-Dichloropropene	QC72996	LCS	70 - 130	108.4	-	EPA-524.2
		LCS Dup	0 - 20	-	7.6	
1,2,3-Trichlorobenzene	QC72996	LCS	70 - 130	108.8	-	EPA-524.2

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		LCS Dup	0 - 20	-	2.5	
1,2,3-Trichloropropane	QC72996	LCS	70 - 130	105.4	-	EPA-524.2
		LCS Dup	0 - 20	-	6.8	
1,2,4-Trichlorobenzene	QC72996	LCS	70 - 130	103.4	-	EPA-524.2
		LCS Dup	0 - 20	-	4.5	
1,2,4-Trimethylbenzene	QC72996	LCS	70 - 130	99.6	-	EPA-524.2
		LCS Dup	0 - 20	-	6.6	
1,2-Dichloroethane	QC72996	LCS	70 - 130	108.8	-	EPA-524.2
		LCS Dup	0 - 20	-	2.2	
1,2-Dichloropropane	QC72996	LCS	70 - 130	97.6	-	EPA-524.2
		LCS Dup	0 - 20	-	10.9	
1,3,5-Trimethylbenzene	QC72996	LCS	70 - 130	95.2	-	EPA-524.2
		LCS Dup	0 - 20	-	7.3	
1,3-Dichloropropane	QC72996	LCS	70 - 130	91.2	-	EPA-524.2
		LCS Dup	0 - 20	-	11.4	
Benzene	QC72996	LCS	70 - 130	106.4	-	EPA-524.2
		LCS Dup	0 - 20	-	5.3	
Bromobenzene	QC72996	LCS	70 - 130	107.0	-	EPA-524.2
		LCS Dup	0 - 20	-	7.7	
Bromochloromethane	QC72996	LCS	70 - 130	114.4	-	EPA-524.2
		LCS Dup	0 - 20	-	0.4	
Bromodichloromethane	QC72996	LCS	70 - 130	104.8	-	EPA-524.2
		LCS Dup	0 - 20	-	2.8	
Bromoform	QC72996	LCS	70 - 130	118.4	-	EPA-524.2
		LCS Dup	0 - 20	-	5.1	
Bromomethane	QC72996	LCS	70 - 130	95.4	-	EPA-524.2
		LCS Dup	0 - 20	-	4.3	
Carbon Tetrachloride	QC72996	LCS	70 - 130	112.2	-	EPA-524.2
		LCS Dup	0 - 20	-	4.4	
Chlorodibromomethane	QC72996	LCS	70 - 130	97.8	-	EPA-524.2
		LCS Dup	0 - 20	-	14.6	
Chloroethane	QC72996	LCS	70 - 130	104.0	-	EPA-524.2
		LCS Dup	0 - 20	-	1.6	
Chloroform	QC72996	LCS	70 - 130	104.6	-	EPA-524.2
		LCS Dup	0 - 20	-	1.1	
Chloromethane	QC72996	LCS	70 - 130	98.4	-	EPA-524.2
		LCS Dup	0 - 20	-	0.6	
cis-1,2-Dichloroethylene	QC72996	LCS	70 - 130	111.2	-	EPA-524.2
		LCS Dup	0 - 20	-	3.7	
Dibromomethane	QC72996	LCS	70 - 130	107.4	-	EPA-524.2
		LCS Dup	0 - 20	-	9.4	
Dichlorodifluoromethane	QC72996	LCS	70 - 130	105.2	-	EPA-524.2
		LCS Dup	0 - 20	-	5.9	
Dichloromethane	QC72996	LCS	70 - 130	124.4	-	EPA-524.2
		LCS Dup	0 - 20	-	2.1	
Ethylbenzene	QC72996	LCS	70 - 130	93.6	-	EPA-524.2
		LCS Dup	0 - 20	-	11.1	
Fluorotrichloromethane	QC72996	LCS	70 - 130	114.6	-	EPA-524.2
		LCS Dup	0 - 20	-	3.1	
Hexachlorobutadiene	QC72996	LCS	70 - 130	119.4	-	EPA-524.2

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Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
		LCS Dup	0 - 20	-	0.8	
Isopropylbenzene	QC72996	LCS	70 - 130	88.2	-	EPA-524.2
		LCS Dup	0 - 20	-	8.3	
m-Dichlorobenzene	QC72996	LCS	70 - 130	113.4	-	EPA-524.2
		LCS Dup	0 - 20	-	3.0	
Monochlorobenzene	QC72996	LCS	70 - 130	93.2	-	EPA-524.2
		LCS Dup	0 - 20	-	13.2	
Naphthalene	QC72996	LCS	70 - 130	97.6	-	EPA-524.2
		LCS Dup	0 - 20	-	2.4	
n-Butylbenzene	QC72996	LCS	70 - 130	104.2	-	EPA-524.2
		LCS Dup	0 - 20	-	6.9	
n-Propylbenzene	QC72996	LCS	70 - 130	93.6	-	EPA-524.2
		LCS Dup	0 - 20	-	9.4	
o-Chlorotoluene	QC72996	LCS	70 - 130	102.8	-	EPA-524.2
		LCS Dup	0 - 20	-	9.6	
o-Dichlorobenzene	QC72996	LCS	70 - 130	111.4	-	EPA-524.2
		LCS Dup	0 - 20	-	5.1	
Para-Dichlorobenzene	QC72996	LCS	70 - 130	111.4	-	EPA-524.2
		LCS Dup	0 - 20	-	4.7	
p-Chlorotoluene	QC72996	LCS	70 - 130	106.4	-	EPA-524.2
		LCS Dup	0 - 20	-	8.8	
p-Isopropyltoluene	QC72996	LCS	70 - 130	99.2	-	EPA-524.2
		LCS Dup	0 - 20	-	9.4	
sec-Butylbenzene	QC72996	LCS	70 - 130	104.8	-	EPA-524.2
		LCS Dup	0 - 20	-	6.6	
Styrene	QC72996	LCS	70 - 130	91.4	-	EPA-524.2
		LCS Dup	0 - 20	-	10.8	
tert-Butylbenzene	QC72996	LCS	70 - 130	92.2	-	EPA-524.2
		LCS Dup	0 - 20	-	13.5	
Tetrachloroethylene	QC72996	LCS	70 - 130	110.6	-	EPA-524.2
		LCS Dup	0 - 20	-	8.5	
Toluene	QC72996	LCS	70 - 130	91.8	-	EPA-524.2
		LCS Dup	0 - 20	-	13.2	
trans-1,2-Dichloroethylene	QC72996	LCS	70 - 130	106.8	-	EPA-524.2
		LCS Dup	0 - 20	-	2.1	
Trichloroethylene	QC72996	LCS	70 - 130	107.8	-	EPA-524.2
		LCS Dup	0 - 20	-	4.5	
Vinyl chloride	QC72996	LCS	70 - 130	106.8	-	EPA-524.2
		LCS Dup	0 - 20	-	0.6	
Alachlor	QC72963	LCS	70 - 130	103.0	-	EPA 525.2
		MS -240423036-01	70 - 130	101.0	-	
Atrazine	QC72963	LCS	70 - 130	113.0	-	EPA 525.2
		MS -240423036-01	70 - 130	111.0	-	
Benzo(a)pyrene	QC72963	LCS	70 - 130	93.0	-	EPA 525.2
		MS -240423036-01	70 - 130	70.0	-	
Butachlor	QC72963	LCS	70 - 130	96.0	-	EPA 525.2
		MS -240423036-01	70 - 130	96.0	-	
Di(2-ethylhexyl)adipate	QC72963	LCS	70 - 130	89.0	-	EPA 525.2
		MS -240423036-01	70 - 130	89.0	-	
Di(2-ethylhexyl)phthalate	QC72963	LCS	70 - 130	84.0	-	EPA 525.2

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Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
		MS -240423036-01	70 - 130	92.0	-	
Heptachlor	QC72963	LCS	70 - 130	99.0	-	EPA 525.2
		MS -240423036-01	70 - 130	111.0	-	
Metolachlor	QC72963	LCS	70 - 130	105.0	-	EPA 525.2
		MS -240423036-01	70 - 130	107.0	-	
Metribuzin	QC72963	LCS	70 - 130	102.0	-	EPA 525.2
		MS -240423036-01	70 - 130	119.0	-	
Propachlor	QC72963	LCS	70 - 130	103.0	-	EPA 525.2
		MS -240423036-01	70 - 130	100.0	-	
Simazine	QC72963	LCS	70 - 130	100.0	-	EPA 525.2
		MS -240423036-01	70 - 130	103.0	-	
3-Hydroxycarbofuran	QC73007	LCS	80 - 120	90.1	-	EPA 531.1
		MS -240424065-01G	65 - 135	87.9	-	
Aldicarb	QC73007	LCS	80 - 120	83.6	-	EPA 531.1
		MS -240424065-01G	65 - 135	90.5	-	
Aldicarb sulfone	QC73007	LCS	80 - 120	93.1	-	EPA 531.1
		MS -240424065-01G	65 - 135	91.8	-	
Aldicarb sulfoxide	QC73007	LCS	80 - 120	94.9	-	EPA 531.1
		MS -240424065-01G	65 - 135	94.9	-	
Carbaryl	QC73007	LCS	80 - 120	84.7	-	EPA 531.1
		MS -240424065-01G	65 - 135	81.7	-	
Carbofuran	QC73007	LCS	80 - 120	97.7	-	EPA 531.1
		MS -240424065-01G	65 - 135	94.6	-	
Methomyl	QC73007	LCS	80 - 120	92.0	-	EPA 531.1
		MS -240424065-01G	65 - 135	90.1	-	
Oxamyl	QC73007	LCS	80 - 120	87.0	-	EPA 531.1
		MS -240424065-01G	65 - 135	85.8	-	
Endothall	QC72918	LCS	52 - 137	87.6	-	EPA 548.1
		MS -240423026-01H	39 - 133	77.3	-	
Diquat	QC72917	LCS	70 - 130	83.9	-	EPA 549.2
		MS -240423026-01I	70 - 130	81.6	-	
Ammonia Nitrogen	QC72953	Duplicate -240423012-01	0 - 20	-	12.7	SM 4500-NH3-G
		LCS	90 - 110	109.3	-	
		MS -240423033-02B	75 - 125	87.2	-	
Chloride	QC72938	Duplicate -240424035-01	0 - 20	-	3.5	EPA 300.0
		LCS	90 - 110	96.3	-	
		MS -240424035-01	75 - 125	96.6	-	
Cyanide-Free	QC72947	Duplicate -240424078-01	0 - 20	-	0.0	ASTM D4282-15
		LCS	90 - 110	105.9	-	
		MS -240424078-01F	75 - 125	113.5	-	
Dissolved Organic Carbon	QC73017	Duplicate -240429103-04	0 - 10	-	0.7	SM 5310-C
		LCS	90 - 110	104.0	-	
		MS -240429103-03B	85 - 115	87.6	-	
Fluoride	QC72943	Duplicate -240424078-01	0 - 20	-	2.4	EPA 300.0
		LCS	90 - 110	98.9	-	
		MS -240424078-01	75 - 125	97.7	-	
MBAS (calculated as LAS, mol wt 340)	QC72951	LCS	90 - 110	104.0	-	SM 5540-C
		MS -240424078-01A	90 - 110	105.0	-	
		MSD -240424078-01A	0 - 10	-	3.9	
Aluminum	QC73030	LCS	90 - 110	101.3	-	EPA 200.8

Abbreviations/References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) The accuracy of the spike recovery value is reduced due to the analyte concentration in the sample being disproportionate to the spike level. The laboratory control sample recovery was acceptable

MCL = Maximum contaminant level per the EPA
ND = Not Detected at Reporting Limit.

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Antimony	QC73030	MS -240423127-04	70 - 130	75.1	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	1.0	
		LCS	90 - 110	105.6	-	
Arsenic	QC73030	MS -240423127-04	70 - 130	101.3	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	0.5	
		LCS	90 - 110	101.7	-	
Barium	QC73030	MS -240423127-04	70 - 130	102.3	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	1.6	
		LCS	90 - 110	101.6	-	
Beryllium	QC73030	MS -240423127-04	70 - 130	95.2	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	0.7	
		LCS	90 - 110	102.2	-	
Cadmium	QC73030	MS -240423127-04	70 - 130	93.3	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	1.5	
		LCS	90 - 110	99.9	-	
Chromium	QC73030	MS -240423127-04	70 - 130	100.3	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	0.1	
		LCS	90 - 110	106.2	-	
Copper	QC73030	MS -240423127-04	70 - 130	102.9	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	1.0	
		LCS	90 - 110	100.5	-	
Lead	QC73030	MS -240423127-04	70 - 130	99.0	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	0.1	
		LCS	90 - 110	100.8	-	
Manganese	QC73030	MS -240423127-04	70 - 130	85.8	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	3.1	
		LCS	90 - 110	103.6	-	
Mercury	QC73030	MS -240423127-04	70 - 130	98.3	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	4.3	
		LCS	90 - 110	98.8	-	
Nickel	QC73030	MS -240423127-04	70 - 130	98.9	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	0.3	
		LCS	90 - 110	107.3	-	
Selenium	QC73030	MS -240423127-04	70 - 130	103.0	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	2.1	
		LCS	90 - 110	93.0	-	
Silver	QC73030	MS -240423127-04	70 - 130	95.6	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	2.1	
		LCS	90 - 110	100.0	-	
Thallium	QC73030	MS -240423127-04	70 - 130	87.7	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	2.3	
		LCS	90 - 110	104.3	-	
Uranium	QC73030	MS -240423127-04	70 - 130	85.2	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	1.2	
		LCS	90 - 110	101.2	-	
Zinc	QC73030	MS -240423127-04	70 - 130	83.6	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	4.5	
		LCS	90 - 110	100.6	-	
	QC73030	MS -240423127-04	70 - 130	102.9	-	EPA 200.8
		MSD -240423127-04	0 - 10	-	1.6	
		LCS	90 - 110	100.6	-	

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mph/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

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ND = Not Detected at Reporting Limit.

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Calcium	QC72973	Duplicate -240424018-01	0 - 20	-	0.3	EPA 200.7
		LCS	90 - 110	108.5	-	
		MS -240423127-04	75 - 125	109.7	-	
Iron	QC72973	Duplicate -240424018-01	0 - 20	-	0.0	EPA 200.7
		LCS	90 - 110	104.6	-	
		MS -240423127-04	75 - 125	110.1	-	
Magnesium	QC72973	Duplicate -240424018-01	0 - 20	-	0.2	EPA 200.7
		LCS	90 - 110	105.2	-	
		MS -240423127-04	75 - 125	110.5	-	
Potassium	QC72973	Duplicate -240424018-01	0 - 20	-	1.8	EPA 200.7
		LCS	90 - 110	98.8	-	
		MS -240423127-04	75 - 125	102.9	-	
Sodium	QC72973	Duplicate -240424018-01	0 - 20	-	5.5	EPA 200.7
		LCS	90 - 110	110.0	-	
		MS -240423127-04	75 - 125	111.8	-	
Nitrate Nitrogen	QC72939	Duplicate -240424035-01	0 - 20	-	0.0	EPA 300.0
		LCS	90 - 110	92.2	-	
		MS -240424035-01	75 - 125	92.2	-	
Nitrite Nitrogen	QC72940	Duplicate -240424035-01	0 - 20	-	0.0	EPA 300.0
		LCS	90 - 110	92.4	-	
		MS -240424035-01	75 - 125	93.4	-	
Sulfate	QC72942	Duplicate -240424035-01	0 - 20	-	0.8	EPA 300.0
		LCS	90 - 110	94.5	-	
		MS -240424035-01	75 - 125	95.8	-	
Sulfide as H2S	QC73067	Duplicate -240424115-01	0 - 20	-	4.8	SM 4500-S2-G
		LCS	70 - 130	94.9	-	
Total Organic Carbon	QC73016	Duplicate -240429097-01	0 - 10	-	0.0	SM 5310-C
		LCS	90 - 110	104.0	-	
		MS -240429097-02	85 - 115	105.0	-	

All analyses were performed in accordance with approved methods under the latest revision to 40 CFR Part 136 unless otherwise identified. Based on my inquiry of the person or persons directly responsible for analyzing the wastewater samples and generating the report (s), the analyses, report, and information submitted are, to the best of my knowledge and belief, true, accurate, and complete.



DATA APPROVED FOR RELEASE BY

Abbreviations/References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) The accuracy of the spike recovery value is reduced due to the analyte concentration in the sample being disproportionate to the spike level. The laboratory control sample recovery was acceptable

MCL = Maximum contaminant level per the EPA
ND = Not Detected at Reporting Limit.

Chain of Custody Form



Commerce City Lab
10411 Heinz Way
Commerce City CO 80640

Lakewood Service Center
610 Garrison St, Unit E
Lakewood CO 80215

Phone: 303-659-2313

www.coloradolab.com

Report To Information Company Name: <u>LRE Water</u> Contact Name: <u>Diana Trejo</u>	Bill To Information (If different from report to) Company Name: _____ Contact Name: _____	Project Name / Number <u>4053HGRO2</u>
Address: <u>1221 Auraria Parkway</u> City: <u>Denver</u> State: <u>CO</u> Zip: <u>80204</u>	Address: _____ City: _____ State: _____ Zip: _____	Task Number (Lab Use Only) CAL Task 240424078 JML
Phone: <u>7204217036</u>	Phone: _____	
Email: <u>diana.trejo@LREwater.com</u>	Email: _____	
Sample Collector: <u>Diana</u>	PO No.: _____	
Sample Collector Phone: <u>7204217036</u>		

Sample Matrix (Select One Only)			No. of Containers	Grab or (Check One Only) Composite	Tests Requested															
Date	Time	Sample ID			Please reference attached quote. Quote # <u>QBC24040020</u> .															
Waste Water <input type="checkbox"/> Soil <input type="checkbox"/> Ground Water <input checked="" type="checkbox"/> Sludge <input type="checkbox"/> Surface Water <input type="checkbox"/> Drinking Water <input checked="" type="checkbox"/>					Please reference attached quote. Quote # <u>QBC24040020</u> .															
<i>per quote & tests requested</i>																				
<u>4/24/24</u>	<u>9:45am</u>	<u>A-1</u>		<input checked="" type="checkbox"/>																
				<input type="checkbox"/>																
				<input type="checkbox"/>																
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				<input type="checkbox"/>																

Instructions: pH: <u>9.23</u> , DO: <u>0.13mg/L</u>			C/S Info: <u>AD</u>			Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>						
Relinquished By: _____		Date/Time: _____	Received By: _____		Date/Time: _____	Relinquished By: _____		Date/Time: _____	C/S Charge <input type="checkbox"/> Temp. <u>1</u> °C/Ice <u>Y</u>		Sample Pres. Yes <input type="checkbox"/> No <input type="checkbox"/>	
Page 17 of 19				Received By: <u>[Signature]</u>		Date/Time: <u>4/24/24</u>						



ANALYTICAL REPORT

PREPARED FOR

Attn: Rebecca Manzanares
Colorado Analytical Laboratories Inc
10411 Heinz Way
Commerce City, Colorado 80640

Generated 5/13/2024 3:54:04 PM

JOB DESCRIPTION

4056HGR02 Grandview
240424078

JOB NUMBER

280-190619-1

Eurofins Denver

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



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5/13/2024 3:54:04 PM

Authorized for release by
Natalie Stone, Project Manager
Natalie.Stone@et.eurofinsus.com
(303)736-0100



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Case Narrative

Client: Colorado Analytical Laboratories Inc
Project: 4056HGR02 Grandview

Job ID: 280-190619-1

Job ID: 280-190619-1

Eurofins Denver

Job Narrative 280-190619-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 4/25/2024 3:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

Receipt Exceptions

The following samples were received outside of holding time for 4500_CI_F_ClrAm and 4500_CIO2_D: 240424078-01T - A-1 (280-190619-3) and 240424078-01U - A-1 (280-190619-4). The client was contacted regarding this and instructed the laboratory to proceed with analysis.

Method 547 - Glyphosate (DAI HPLC) - Dissolved

Sample 240424078-01R - A-1 (280-190619-1) was analyzed for Glyphosate (DAI HPLC) - Dissolved. The sample was analyzed on 5/2/2024.

Method 1613B - Tetra Chlorinated Dioxin (HRGC/HRMS)

Sample 240424078-01S - A-1 (280-190619-2) was analyzed for Tetra Chlorinated Dioxin (HRGC/HRMS). The sample was prepared on 5/3/2024 and analyzed on 5/12/2024.

The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 140-86248 and analytical batch 140-86566 recovered outside control limits for 2,3,7,8-TCDD. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 4500 CI F Amine - Chloramines

Sample 240424078-01T - A-1 (280-190619-3) was analyzed for Chloramines. The sample was analyzed on 4/29/2024.

Method 4500 CIO2 D - Chlorine Dioxide

Sample 240424078-01U - A-1 (280-190619-4) was analyzed for Chlorine Dioxide. The sample was analyzed on 4/29/2024.

Eurofins Denver

Definitions/Glossary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
SDG: 240424078

Qualifiers

Dioxin

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Detection Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
SDG: 240424078

Client Sample ID: 240424078-01R - A-1

Lab Sample ID: 280-190619-1

No Detections.

Client Sample ID: 240424078-01S - A-1

Lab Sample ID: 280-190619-2

No Detections.

Client Sample ID: 240424078-01T - A-1

Lab Sample ID: 280-190619-3

No Detections.

Client Sample ID: 240424078-01U - A-1

Lab Sample ID: 280-190619-4

No Detections.

- 1
- 2
- 3
- 4
- 5
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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
SDG: 240424078

Method	Method Description	Protocol	Laboratory
547	Glyphosate (DAI HPLC)	EPA	EA SB
1613B	Tetra Chlorinated Dioxin (HRGC/HRMS)	EPA	EET KNX
4500 Cl F Amine	Chloramines	SM	EA SB
4500 ClO2 D	Chlorine Dioxide	SM	EA SB
Filtration	Sample Filtration	None	EA SB
HRMS-Sepf	Separatory Funnel (Liquid-Liquid) Extraction	EPA	EET KNX

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
SDG: 240424078

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-190619-1	240424078-01R - A-1	Water	04/24/24 09:45	04/25/24 15:35
280-190619-2	240424078-01S - A-1	Water	04/24/24 09:45	04/25/24 15:35
280-190619-3	240424078-01T - A-1	Water	04/24/24 09:45	04/25/24 15:35
280-190619-4	240424078-01U - A-1	Water	04/24/24 09:45	04/25/24 15:35

- 1
- 2
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- 13
- 14

Client Sample Results

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
 SDG: 240424078

Method: EPA 547 - Glyphosate (DAI HPLC) - Dissolved

Client Sample ID: 240424078-01R - A-1
Date Collected: 04/24/24 09:45
Date Received: 04/25/24 15:35

Lab Sample ID: 280-190619-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Glyphosate	ND		6.0	4.0	ug/L			05/02/24 21:18	1

Method: EPA 1613B - Tetra Chlorinated Dioxin (HRGC/HRMS)

Client Sample ID: 240424078-01S - A-1
Date Collected: 04/24/24 09:45
Date Received: 04/25/24 15:35

Lab Sample ID: 280-190619-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND	*+	5.5	0.42	pg/L		05/03/24 08:32	05/12/24 20:48	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C-2,3,7,8-TCDD	39		31 - 137				05/03/24 08:32	05/12/24 20:48	1

General Chemistry

Client Sample ID: 240424078-01T - A-1
Date Collected: 04/24/24 09:45
Date Received: 04/25/24 15:35

Lab Sample ID: 280-190619-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Monochloramine (SM 4500 Cl F Amine)	ND	HF	0.10	0.10	mg/L			04/29/24 13:07	1
Dichloramine (SM 4500 Cl F Amine)	ND	HF	0.10	0.10	mg/L			04/29/24 13:07	1
Nitrogen trichloride (SM 4500 Cl F Amine)	ND	HF	0.20	0.20	mg/L			04/29/24 13:07	1
Chloramines, Total (SM 4500 Cl F Amine)	ND	HF	0.20	0.20	mg/L			04/29/24 13:07	1

Client Sample ID: 240424078-01U - A-1
Date Collected: 04/24/24 09:45
Date Received: 04/25/24 15:35

Lab Sample ID: 280-190619-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine dioxide, Residual (SM 4500 ClO2 D)	ND	HF	0.24	0.24	mg/L			04/29/24 13:37	1

QC Sample Results

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
 SDG: 240424078

Method: 547 - Glyphosate (DAI HPLC)

Lab Sample ID: MB 810-97449/2-A
 Matrix: Water
 Analysis Batch: 97477

Client Sample ID: Method Blank
 Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Glyphosate	ND		6.0	4.0	ug/L			05/02/24 15:19	1

Lab Sample ID: LCS 810-97449/1-A
 Matrix: Water
 Analysis Batch: 97477

Client Sample ID: Lab Control Sample
 Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Glyphosate	50.0	49.9		ug/L		100	73 - 122

Lab Sample ID: LLCS 810-97449/3-A
 Matrix: Water
 Analysis Batch: 97477

Client Sample ID: Lab Control Sample
 Prep Type: Dissolved

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Glyphosate	6.00	6.45		ug/L		107	42 - 160

Method: 1613B - Tetra Chlorinated Dioxin (HRGC/HRMS)

Lab Sample ID: MB 140-86248/4-A
 Matrix: Water
 Analysis Batch: 86566

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 86248

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		5.0	0.22	pg/L		05/03/24 08:32	05/12/24 18:49	1
Isotope Dilution	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
¹³ C-2,3,7,8-TCDD	54		31 - 137				05/03/24 08:32	05/12/24 18:49	1

Lab Sample ID: LCS 140-86248/3-A
 Matrix: Water
 Analysis Batch: 86566

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 86248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	200	312	*+	pg/L		156	73 - 146
Isotope Dilution	%Recovery	LCS Qualifier	Limits				
¹³ C-2,3,7,8-TCDD	33		25 - 141				

Method: 4500 Cl F Amine - Chloramines

Lab Sample ID: MBL 810-97066/1
 Matrix: Water
 Analysis Batch: 97066

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Monochloramine	ND		0.10	0.10	mg/L			04/29/24 13:05	1
Dichloramine	ND		0.10	0.10	mg/L			04/29/24 13:05	1
Nitrogen trichloride	ND		0.20	0.20	mg/L			04/29/24 13:05	1
Chloramines, Total	ND		0.20	0.20	mg/L			04/29/24 13:05	1

Eurofins Denver

QC Sample Results

Client: Colorado Analytical Laboratories Inc
Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
SDG: 240424078

Method: 4500 Cl F Amine - Chloramines (Continued)

Lab Sample ID: MBL 810-97066/3
Matrix: Water
Analysis Batch: 97066

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Monochloramine	ND		0.10	0.10	mg/L			04/29/24 13:09	1
Dichloramine	ND		0.10	0.10	mg/L			04/29/24 13:09	1
Nitrogen trichloride	ND		0.20	0.20	mg/L			04/29/24 13:09	1
Chloramines, Total	ND		0.20	0.20	mg/L			04/29/24 13:09	1

Method: 4500 ClO2 D - Chlorine Dioxide

Lab Sample ID: MBL 810-97081/1
Matrix: Water
Analysis Batch: 97081

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine dioxide, Residual	ND		0.24	0.24	mg/L			04/29/24 13:36	1

Lab Sample ID: MBL 810-97081/4
Matrix: Water
Analysis Batch: 97081

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine dioxide, Residual	ND		0.24	0.24	mg/L			04/29/24 13:38	1

QC Association Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
SDG: 240424078

HPLC/IC

Filtration Batch: 97449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190619-1	240424078-01R - A-1	Dissolved	Water	Filtration	
MB 810-97449/2-A	Method Blank	Dissolved	Water	Filtration	
LCS 810-97449/1-A	Lab Control Sample	Dissolved	Water	Filtration	
LLCS 810-97449/3-A	Lab Control Sample	Dissolved	Water	Filtration	

Analysis Batch: 97477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190619-1	240424078-01R - A-1	Dissolved	Water	547	97449
MB 810-97449/2-A	Method Blank	Dissolved	Water	547	97449
LCS 810-97449/1-A	Lab Control Sample	Dissolved	Water	547	97449
LLCS 810-97449/3-A	Lab Control Sample	Dissolved	Water	547	97449

Specialty Organics

Prep Batch: 86248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190619-2	240424078-01S - A-1	Total/NA	Water	HRMS-Sepf	
MB 140-86248/4-A	Method Blank	Total/NA	Water	HRMS-Sepf	
LCS 140-86248/3-A	Lab Control Sample	Total/NA	Water	HRMS-Sepf	

Analysis Batch: 86566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190619-2	240424078-01S - A-1	Total/NA	Water	1613B	86248
MB 140-86248/4-A	Method Blank	Total/NA	Water	1613B	86248
LCS 140-86248/3-A	Lab Control Sample	Total/NA	Water	1613B	86248

General Chemistry

Analysis Batch: 97066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190619-3	240424078-01T - A-1	Total/NA	Water	4500 Cl F Amine	
MBL 810-97066/1	Method Blank	Total/NA	Water	4500 Cl F Amine	
MBL 810-97066/3	Method Blank	Total/NA	Water	4500 Cl F Amine	

Analysis Batch: 97081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190619-4	240424078-01U - A-1	Total/NA	Water	4500 ClO2 D	
MBL 810-97081/1	Method Blank	Total/NA	Water	4500 ClO2 D	
MBL 810-97081/4	Method Blank	Total/NA	Water	4500 ClO2 D	

Lab Chronicle

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
 SDG: 240424078

Client Sample ID: 240424078-01R - A-1

Lab Sample ID: 280-190619-1

Date Collected: 04/24/24 09:45

Matrix: Water

Date Received: 04/25/24 15:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			40 mL	40 mL	97449	05/02/24 07:52	AM	EA SB
Dissolved	Analysis	547		1			97477	05/02/24 21:18	RS	EA SB

Client Sample ID: 240424078-01S - A-1

Lab Sample ID: 280-190619-2

Date Collected: 04/24/24 09:45

Matrix: Water

Date Received: 04/25/24 15:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sept			912 mL	10 uL	86248	05/03/24 08:32	DAC	EET KNX
Total/NA	Analysis	1613B		1			86566	05/12/24 20:48	MSP	EET KNX

Client Sample ID: 240424078-01T - A-1

Lab Sample ID: 280-190619-3

Date Collected: 04/24/24 09:45

Matrix: Water

Date Received: 04/25/24 15:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	4500 Cl F Amine		1	100 mL	100 mL	97066	04/29/24 13:07	KH	EA SB

Client Sample ID: 240424078-01U - A-1

Lab Sample ID: 280-190619-4

Date Collected: 04/24/24 09:45

Matrix: Water

Date Received: 04/25/24 15:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	4500 ClO2 D		1	100 mL	100 mL	97081	04/29/24 13:37	AN	EA SB

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
 SDG: 240424078

Laboratory: Eurofins Eaton Analytical South Bend

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	5794.01	07-31-24
Alabama	State	40700	06-30-24
Alaska	State	IN00035	06-30-24
Arizona	State	AZ0432	07-26-24
Arkansas (DW)	State	EPA IN00035	06-30-24
California	State	2920	06-30-24
Colorado	State	IN00035	02-28-25
Connecticut	State	PH-0132	03-31-26
Delaware (DW)	State	IN00035	06-30-24
Florida	NELAP	E87775	06-30-24
Georgia (DW)	State	929	06-30-24
Guam	State	23-011R	07-15-24
Hawaii	State	IN035	06-30-24
Idaho (DW)	State	IN00035	12-31-24
IL Dept. of Public Health (Micro)	State	17767	07-01-24
Illinois	NELAP	200001	09-19-24
Indiana	State	C-71-01	12-31-25
Indiana (Micro)	State	M-76-07	12-31-25
Iowa	State	IA Lab #098	11-01-25
Kansas	NELAP	E-10233	10-31-24
Kentucky (DW)	State	KY90056	12-31-24
Louisiana (DW)	State	LA014	12-31-24
Maine	State	IN00035	05-01-25
Maryland	State	209	06-30-24
Massachusetts	State	M-IN035	06-30-24
MI - RadChem Recognition	State	9926	06-30-24
Michigan	State	9926	06-30-24
Minnesota	NELAP	1989807	12-31-24
Mississippi	State	IN00035	06-30-24
Missouri	State	880	09-30-24
Montana (DW)	State	CERT0026	01-01-25
Nebraska	State	NE-OS-05-04	06-30-24
Nevada	State	IN000352024-01	07-31-24
New Hampshire	NELAP	2124	11-05-24
New Jersey	NELAP	IN598	06-30-24
New Mexico	State	IN00035	06-30-24
New York	NELAP	11398	04-01-25
North Carolina (DW)	State	18700	07-31-24
North Dakota	State	R-035	06-30-24
Northern Mariana Islands (DW)	State	IN00035	06-30-24
Ohio	State	87775	06-30-24
Oklahoma	NELAP	D9508	08-31-24
Oregon	NELAP	4156	09-16-24
Pennsylvania	NELAP	68-00466	04-30-25
Puerto Rico	State	IN00035	04-01-25
Rhode Island	State	LAO00343	12-30-24
South Carolina	State	95005001	07-01-25
South Dakota (DW)	State	IN00035	06-30-24
Tennessee	State	TN02973	06-30-24
Texas	NELAP	T104704187-22-16	12-31-24

Accreditation/Certification Summary

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
 SDG: 240424078

Laboratory: Eurofins Eaton Analytical South Bend (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	TCEQ Water Supply	TX207	06-30-24
USEPA Reg X SDWA	US Federal Programs	IN00035	08-24-24
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25
Utah	NELAP	IN00035	07-31-24
Vermont	State	VT-8775	11-15-24
Virginia	NELAP	460275	03-14-25
Washington	State	C837	01-01-25
West Virginia (DW)	State	9927 C	01-31-25
Wisconsin	State	999766900	08-31-24
Wisconsin (Micro)	State	10121	12-31-24
Wyoming	State	8TMS-L	06-30-24

Laboratory: Eurofins Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-24
Colorado	State	TN00009	02-28-25
Connecticut	State	PH-0223	10-01-26
Florida	NELAP	E87177	06-30-24
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-24
Kansas	NELAP	E-10349	10-31-24
Kentucky (DW)	State	90101	12-31-24
Louisiana (All)	NELAP	83979	06-30-24
Louisiana (DW)	State	LA019	12-31-24
Maryland	State	277	03-31-25
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-24
New Hampshire	NELAP	2999	01-17-25
New Jersey	NELAP	TN001	07-01-24
New York	NELAP	10781	03-31-25
North Carolina (DW)	State	21705	07-31-24
North Carolina (WW/SW)	State	64	12-31-24
Oklahoma	State	9415	08-31-24
Oregon	NELAP	TNI0189	01-01-25
Pennsylvania	NELAP	68-00576	12-31-24
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-23-18	08-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-24
Virginia	NELAP	460176	09-14-24
Washington	State	C593	01-19-25
West Virginia (DW)	State	9955C	12-31-24
West Virginia DEP	State	345	04-30-25

Accreditation/Certification Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4056HGR02 Grandview

Job ID: 280-190619-1
SDG: 240424078

Laboratory: Eurofins Knoxville (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998044300	08-31-24

- 1
- 2
- 3
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- 12
- 13
- 14

Login Sample Receipt Checklist

Client: Colorado Analytical Laboratories Inc

Job Number: 280-190619-1

SDG Number: 240424078

Login Number: 190619

List Number: 1

Creator: Roehsner, Karen P

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: Colorado Analytical Laboratories Inc

Job Number: 280-190619-1

SDG Number: 240424078

Login Number: 190619

List Number: 2

Creator: Moore, Gary

List Source: Eurofins Eaton Analytical South Bend

List Creation: 04/27/24 09:31 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Ship To: Eurofins TA Denver

Sub-Lab Chain of Custody Form

Report To Information Company Name <u>Colorado Analytical Laboratory</u> Report To: <u>Rebecca Manzanares</u> E-Mail: <u>rebeccamanzanares@coloradolab.com</u>	Bill To Information: (if different from report to) 	Project Name <u>4053HGR02_Grandview</u>
Address: <u>10411 Heinz Way</u> <u>Commerce City, CO 80640</u> Phone: <u>303-659-2313</u>	Address: 	Compliance Samples: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Submit Data to CDPHE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Tests Requested

Sample Date/Time	Sample ID	Matrix	Container Type
4/24/24 9:45 AM	240424078-01R - A-1	Water - Drinking	2 - 40ml vwa - NazS203
4/24/24 9:45 AM	240424078-01S - A-1	Water - Drinking	2 - 1L Amber - Unpreserved
4/24/24 9:45 AM	240424078-01T - A-1	Water - Drinking	1l Cylinder - Unpreserved
4/24/24 9:45 AM	240424078-01U - A-1	Water - Drinking	500 ml Cylinder - Unpreserved

Dioxin (2,3,7,8 TCDD) - (Su
 547 Glyphosate (Sub)
 Chloramines (Sub)
 Chlorine Dioxide Residual (

Comment:



280-190619 Chain of Custody

Relinquished by: (Signature) <i>[Signature]</i>	Date: Time: 4/25/24 14:30	Received by: (Signature) <i>[Signature]</i>	Date: Time: 4/25/24 15:55
Relinquished by: (Signature) <i>[Signature]</i>	Date: Time: 4/25/24 14:30	Received by: (Signature) <i>[Signature]</i>	Date: Time: 4/25/24 15:55

11 IR Naga CF 0.2



Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Stone, Natalie B	Carrier Tracking No(e): 280-699613.1
Client Contact: Shipping/Receiving		E-Mail: Natalie.Stone@eurofins.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		State of Origin: Colorado	
Address: 5815 Middlebrook Pike,		Job #: 280-190619-1	
City: Knoxville		Preservation Codes:	
State, Zip: TN, 37921			
Phone: 865-291-3000(Tel) 865-584-4315(Fax)			
Email:			
Project Name: 4056HGR02 Grandview			
Site: Colorado Analytical			
Due Date Requested: 5/16/2024			
TAT Requested (days):			
PO #:			
WO #:			
Project #: 28018714			
SSOW#:			
Sample Date		Sample Time	Sample Type (C=Comp, G=grab)
4/24/24	09:45 Mountain		
Sample ID (Lab ID)		Matrix (W=water, S=solid, O=water/oil, BT=tissue, A=air)	Preservation Code
240424078-01S - A-1 (280-190619-2)		Water	
Custody Seal Intact		Field Filtered Sample (Yes or No)	Perform MS/MSD (Sep or No)
Received at RT: 0.7/5:0.9°C		X	X
DH 4/27/24		1613B DW/1613B_P_Sep 2,3,7,8-TCDD in Drinking Water	
Koder FedEx 7079 6024 6429 90S		Total Number of Containers	
		2	
		Special Instructions/Note:	
		280-190619 Chain of Custody	
<p>Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.</p>			
<p>Possible Hazard Identification <input type="checkbox"/> Unconfirmed <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p>			
<p>Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2</p>			
Empty Kit Relinquished by:		Method of Shipment:	
Date/Time:		Date/Time:	
4/24/24 1550		4/27/24 11:30	
Relinquished by:		Received by:	
[Signature]		D. H. H. H.	
Relinquished by:		Received by:	
Date/Time:		Date/Time:	
Date/Time:		Date/Time:	
Custody Seal Intact: A Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	



EUROFINS KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Containers, Broken	
2. Were ambient air containers received intact?			<input checked="" type="checkbox"/>	<input type="checkbox"/> Checked in lab	
3. The coolers/containers custody seal if present, is it intact?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Yes <input type="checkbox"/> NA	<u>PH 7</u> <u>RCINC</u>
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : <u>576</u> Correction factor: <u>+0.20C</u>	<input checked="" type="checkbox"/>			<input type="checkbox"/> Cooler Out of Temp, Client Contacted, Proceed/Cancel <input type="checkbox"/> Cooler Out of Temp, Same Day Receipt	
5. Were all of the sample containers received intact?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Containers, Broken	
6. Were samples received in appropriate containers?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Containers, Improper; Client Contacted; Proceed/Cancel	
7. Do sample container labels match COC? (IDs, Dates, Times)	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC & Samples Do Not Match <input type="checkbox"/> COC Incorrect/Incomplete <input type="checkbox"/> COC Not Received	
8. Were all of the samples listed on the COC received?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Sample Received, Not on COC <input type="checkbox"/> Sample on COC, Not Received	
9. Is the date/time of sample collection noted?	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC; No Date/Time; Client Contacted	
10. Was the sampler identified on the COC?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/> Sampler Not Listed on COC	
11. Is the client and project name/# identified?	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC Incorrect/Incomplete	
12. Are tests/parameters listed for each sample?	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC No tests on COC	
13. Is the matrix of the samples noted?	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC Incorrect/Incomplete	
15. Were samples received within holding time?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Holding Time - Receipt	
16. Were samples received with correct chemical preservative (excluding Encore)?			<input checked="" type="checkbox"/>	<input type="checkbox"/> pH Adjusted, pH Included (See box 16A) <input type="checkbox"/> Incorrect Preservative	
17. Were VOA samples received without headspace?			<input checked="" type="checkbox"/>	<input type="checkbox"/> Headspace (VOA only) <input type="checkbox"/> Residual Chlorine	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: <u>4005A 2021/09</u>	<input checked="" type="checkbox"/>				
19. For 1613B water samples is pH<9?	<input checked="" type="checkbox"/>			<input type="checkbox"/> If no, notify lab to adjust <input type="checkbox"/> Project missing info	
20. For rad samples was sample activity info. Provided?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
Project #: <u>28018714</u> PM Instructions: _____					
Sample Receiving Associate: <u>Don Holt</u> Date: <u>4/27/24</u>					



Chain of Custody Record

Eurofins Denver
 4955 Yarrow Street
 Arvada, CO 80002
 Phone: 303-736-0100 Fax: 303-431-7171



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):		COC No:																												
Client Contact:		Stone, Natalie B	Stone, Natalie B	State of Origin:		280-699614.1																												
Shipping/Receiving		Phone:	E-Mail:	Colorado		Page: 1 of 1																												
Company:		Natalie.Stone@et.eurofins.com		Job #:		280-190619-1																												
Eurofins Eaton Analytical		Accreditations Required (See note):		Preservation Codes:																														
Address:		Due Date Requested:		<table border="1"> <thead> <tr> <th colspan="3">Analysis Requested</th> <th>Field Filtered Sample (Yes or No)</th> <th>547_PREC/Filtration_OP_Glyphosate</th> <th>4500_CL_F_CiAm/Chloramines</th> <th>4500_CIO2_D/Chlorine Dioxide</th> <th>Total Number of Parameters</th> <th>Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> </tbody> </table>				Analysis Requested			Field Filtered Sample (Yes or No)	547_PREC/Filtration_OP_Glyphosate	4500_CL_F_CiAm/Chloramines	4500_CIO2_D/Chlorine Dioxide	Total Number of Parameters	Special Instructions/Note:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	
Analysis Requested			Field Filtered Sample (Yes or No)					547_PREC/Filtration_OP_Glyphosate	4500_CL_F_CiAm/Chloramines	4500_CIO2_D/Chlorine Dioxide	Total Number of Parameters	Special Instructions/Note:																						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					X	X	X	X																							
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X																											
110 S Hill Street,	City:	South Bend	TAT Requested (days):					Other:																										
State, Zip:	IN, 46617	PO #:	WO #:																															
Phone:	574-233-4777(Tel)	574-233-8207(Fax)	Project #:																															
Email:			28018714																															
SSOWN#:			SSOWN#:																															
Project Name:	4056HGR02 Grandview		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, B=soil, A=air)	Preservation Code:																											
Site:	Colorado Analytical		4/24/24	09:45 Mountain	Water	Water																												
			4/24/24	09:45 Mountain	Water	Water																												
			4/24/24	09:45 Mountain	Water	Water		Initial Temp: 1.2																										
								Corrected Temp: 1.4																										
								Lab Gun # 2422																										

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Return To Client Disposal By Lab Archive For _____ Months
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Special Instructions/QC Requirements: Primary Deliverable Rank: 2

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: <i>[Signature]</i>	4/26/24	1523	Received by: <i>[Signature]</i>	
Relinquished by:	Date/Time:	Company:	Received by:	
Relinquished by:	Date/Time:	Company:	Received by:	
Custody Seals Intact:	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
<input type="checkbox"/> Yes <input type="checkbox"/> No				

ANALYSIS FOR WATERBORNE PARTICULATES

CH Diagnostic and Consulting Service, Inc.
512 5th Street, Berthoud, CO 80513
P: (970) 532-2078 F: (970) 532-3358

Invoice 20240079

Customer 20201521
 LRE Water
 1221 Auraria Parkway
 Denver, CO 80204

Laboratory Information

Hand Delivery; 4/24/2024; 1400 Hrs; 2.2°C; Carboy
 Results submitted by:



Sample Identification: Grandview, A-1

Sample Information: SOURCE: Drilled Well; 1745' deep; Unchlorinated; pH 9.23; 24.24°C, TREATMENT: No Treatment

Sample Date & Time: 4/24/2024 09:45 AM

Sampler: Diana Trejo

Amount: 10 L

Filter Color: N/A

Filter Type: Envirochek™ HV capsule

Date/Time Eluted: 4/27/2024 12:00 AM

Centrifugate: 1 mL/100 L

RESULTS OF 1623 GIARDIA AND CRYPTOSPORIDIUM ANALYSIS

Amount of sample assayed: 10 L

		Total IFA Count	Empty	Amorphous Structure	1 Internal Structure	>=2 Internal Structure	Internal Structure	DAPI+ (nuclei stained)	DAPI+ (intense internal staining)	DAPI-
Giardia	detected	0	0	0	0	0		0	0	0
	# / L	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
Cryptosporidium	detected	0	0	0			0	0	0	0
	# / L	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1

This sample was analyzed for *Giardia* and *Cryptosporidium* by the method outlined in Method 1623: *Cryptosporidium* and *Giardia* in Water by Filtration/IMS/FA, December 2005. USEPA, Washington D.C., EPA-815-R-05-002. All limitations stated in the method apply. Detection limit calculated from volume assayed. If HV capsule was received, method was modified by filtering sample through a Pall Envirochek™ HV capsule at the sample site. If Microscopic Particulate Analysis was also performed, particulate extraction was modified.



ANALYTICAL SUMMARY REPORT

May 02, 2024

Leonard Rice Engineers
1221 Auraria Parkway
Denver, CO 80204-1836

Work Order: B24041845
Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Leonard Rice Engineers on 4/25/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24041845-001	A-1	04/24/24 09:45	04/25/24	Aqueous	Alkalinity to pH 4.5 Carbon Dioxide Color Odor pH

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Leonard Rice Engineers
Project: Not Indicated
Lab ID: B24041845-001
Client Sample ID: A-1

Report Date: 05/02/24
Collection Date: 04/24/24 09:45
Date Received: 04/25/24
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	9.1	s.u.	H	0.1		A4500-H B	04/25/24 12:12 / njp
pH Measurement Temp	14.8	°C		1.0		A4500-H B	04/25/24 12:12 / njp
Color	ND	cu		5		A2120 B	04/25/24 12:34 / caa
Odor	3	T.O.N.	H			A2150 B	04/25/24 11:22 / caa
Odor Measurement Temp	60	°C	H			A2150 B	04/25/24 11:22 / caa
pH at Time of Color Analysis	9.0	s.u.		0.1		A2120 B	04/25/24 12:34 / caa
INORGANICS							
Alkalinity, Total as CaCO3	206	mg/L		4		A2320 B	04/29/24 18:22 / spb
Bicarbonate as HCO3	222	mg/L		4		A2320 B	04/29/24 18:22 / spb
Carbonate as CO3	15	mg/L		4		A2320 B	04/29/24 18:22 / spb
Carbon Dioxide, Total	170	mg/L		1		Calculation	04/30/24 11:27 / bap

Report Definitions:
 RL - Analyte Reporting Limit
 QCL - Quality Control Limit
 H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level
 ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Leonard Rice Engineers

Work Order: B24041845

Report Date: 05/02/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2120 B										Batch: R420328
Lab ID: MB-R420328		Method Blank								Run: MISC-WC_240425B 04/25/24 12:34
Color		ND	cu							
Lab ID: LCS-R420328		Laboratory Control Sample								Run: MISC-WC_240425B 04/25/24 12:34
Color		25.0	cu	5.0	100	90	110			
Lab ID: B24041845-001ADUP	2	Sample Duplicate								Run: MISC-WC_240425B 04/25/24 12:34
Color		1.00	cu	5.0						10
pH at Time of Color Analysis		9.05	s.u.	0.10				0.0		3

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Leonard Rice Engineers

Work Order: B24041845

Report Date: 05/02/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2150 B										Batch: R420328
Lab ID: MB-R420328	2	Method Blank								Run: MISC-WC_240425B 04/25/24 11:22
Odor		ND	T.O.N.							
Odor Measurement Temp		60	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Leonard Rice Engineers

Work Order: B24041845

Report Date: 05/02/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B Batch: R420417										
Lab ID: MBLK Run: METROHM 2_240429A										
		Method Blank						04/29/24 16:25		
Alkalinity, Total as CaCO3		ND	mg/L	4						
Lab ID: LCS Run: METROHM 2_240429A										
		Laboratory Control Sample						04/29/24 16:29		
Alkalinity, Total as CaCO3		101	mg/L	4.0	101	90	110			
Lab ID: B24041841-003ADUP Run: METROHM 2_240429A										
		3 Sample Duplicate						04/29/24 18:08		
Alkalinity, Total as CaCO3		31.7	mg/L	4.0				0.1	10	
Bicarbonate as HCO3		38.7	mg/L	4.0				0.1	10	
Carbonate as CO3		ND	mg/L	4.0					10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Leonard Rice Engineers

Work Order: B24041845

Report Date: 05/02/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: A4500-H B		Analytical Run: PHSC _101-B_240425A									
Lab ID: pH 8	2	Initial Calibration Verification Standard								04/25/24 09:04	
pH		8.0	s.u.	0.1	100	98	102				
pH Measurement Temp		20.8	°C	1.0							
Lab ID: CCV - pH 7	2	Continuing Calibration Verification Standard								04/25/24 13:08	
pH		7.0	s.u.	0.1	101	98	102				
pH Measurement Temp		22.6	°C	1.0		0	0				
Method: A4500-H B		Batch: R420274									
Lab ID: B24041835-002ADUP	2	Sample Duplicate								Run: PHSC _101-B_240425A	04/25/24 10:14
pH		7.3	s.u.	0.1				0.3	3	H	
pH Measurement Temp		13.3	°C	1.0							
Lab ID: B24041859-001ADUP	2	Sample Duplicate								Run: PHSC _101-B_240425A	04/25/24 14:19
pH		8.5	s.u.	0.1				0.1	3	H	
pH Measurement Temp		13.9	°C	1.0							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

H - Analysis performed past the method holding time



Work Order Receipt Checklist

Leonard Rice Engineers

B24041845

Login completed by: Crystal M. Jones

Date Received: 4/25/2024

Reviewed by: cindy

Received by: AAG

Reviewed Date: 4/30/2024

Carrier name: Return-UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	0.1°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Contact and Corrective Action Comments:

The sample for Odor was received past the 24-hour holding time. Proceeded with analysis per phone conversation with Diana Trejo on 4/25/24. CJ 04/25/24



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page ____ of ____

Account Information (Billing Information)

Company/Name UREwater
 Contact Diana Trejo
 Phone 720 421 7036
 Mailing Address 1221 Auraria Parkway
City, State, Zip Denver, CO. 80304
 Email diana.trejo@UREwater
 Receive Invoice Hard Copy Email
 Purchase Order Quote
 Receive Report Hard Copy Email
 Bottle Order 183146

Report Information (if different than Account Information)

Company/Name
 Contact
 Phone
 Mailing Address
 City, State, Zip
 Email
 Receive Report Hard Copy Email
 Special Report/Formats:
 LEVEL IV NELAC EDD/EDT (contact laboratory) Other

Comments

Grandview - Region - Arapahoe well - A-1
USE time on COC for bottle time.

Project Information

Project Name, PWSID, Permit, etc.
 Sampler Name Diana Trejo Sampler Phone 720 421 7036
 EPA/State Compliance Yes No
 Sample Origin State Colorado
URANIUM MINING CLIENTS MUST indicate sample type
 Unprocessed Ore
 Processed Ore (Ground or Refined) **CALL BEFORE SENDING
 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

- A - Air
- W - Water
- S - Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

Analysis Requested

Matrix Codes	Number of Containers (See Codes above)	Matrix (See Codes above)
Color	X	W
Odor	X	
CO2	X	

All turnaround times are standard unless marked as RUSH.
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

See Attached

ELI LAB ID Laboratory Use Only

RUSH TAT B24041845

Sample Identification (Name, Location, Interval, etc.)	Collection		Matrix (See Codes above)	Number of Containers (See Codes above)	Date	Time	Signature	Signature	Date/Time	Date/Time	Amount \$	Receipt Number (cash/check only)
	Date	Time										
1 A-1	4/24/24	945	W	4			<i>[Signature]</i>	<i>[Signature]</i>				
2												
3												
4												
5												
6												
7												
8												
9												

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed
 Relinquished by (print) Diana Trejo Date/Time 4/24/24 Signature *[Signature]*
 Relinquished by (print) Diana Trejo Date/Time 4/24/24 Signature *[Signature]*
 Received by (print) [Signature] Date/Time 4/24/24 Signature *[Signature]*
 Received by Laboratory (print) [Signature] Date/Time 4/24/24 Signature *[Signature]*
 Shipped By
 Cooler ID(s) Y N C B Intact Y N Receipt Temp °C Temp Blank Y N On Ice Y N Payment Type Cash Check
 Laboratory Use ONLY

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Analytical Results

TASK NO: 240530117

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117	Date Received: 5/30/24
Client PO:	Date Reported: 7/17/24
Client Project: Grandview 4053HRG02	Matrix: Water - Drinking

Lab Number	Customer Sample ID	Sample Date/Time	Test	Result	Method	Date Analyzed
240530117-01C	LF-1	5/30/24 8:30 AM	Total Coliform	Present	SM 9223	5/31/24
			E-Coli	Present	SM 9223	5/31/24

Abbreviations/ References:

Absent = Coliform Not Detected
Present = Coliform Detected - Chlorination Recommended
Date Analyzed = Date Test Completed
SM = "Standard Methods for the Examination of Water and Wastewater"; APHA; 19th Edition; 1995



DATA APPROVED FOR RELEASE BY

Chain of Custody Form



Commerce City Lab
10411 Heinz Way
Commerce City CO 80640

Lakewood Service Center
610 Garrison St, Unit E
Lakewood CO 80215

Phone: 303-659-2313

www.coloradolab.com

Report To Information Company Name: <u>LRE Water</u> Contact Name: <u>Gus Womeldorph</u>		Bill To Information (If different from report to) Company Name: _____ Contact Name: _____		Project Name / Number <u>4053HRG02</u>	
Address: <u>1221 Auraria Parkway</u> City: <u>Denver</u> State: <u>CO</u> Zip: <u>80204</u>		Address: _____ City: _____ State: _____ Zip: _____		Task Number (Lab Use Only) CAL Task 240530117 JML	
Phone: <u>303-931-0818</u>		Phone: _____			
Email: <u>gus.womeldorph@LREWater.com</u>		Email: _____			
Sample Collector: _____		PO No.: _____			
Sample Collector Phone: _____					

Sample Matrix (Select One Only)				No. of Containers	Grab or (Check One Only) Composite	Tests Requested															
Waste Water <input type="checkbox"/>		Soil <input type="checkbox"/>				Drinking Water <input type="checkbox"/>		Please reference attached quote. Quote # QBO244422.													
Ground Water <input checked="" type="checkbox"/>		Sludge <input type="checkbox"/>																			
Surface Water <input type="checkbox"/>																					
Date	Time	Sample ID																			
5/30/24	8:30a	LF-1			<input checked="" type="checkbox"/>																
5/30/24	1340	LF-1 - Rads / Asbestos / Chloramines only - JK			<input type="checkbox"/>																
Missing containers for Rads, Asbestos & Chloramines					<input type="checkbox"/>																
Additional volume collected @ 1340 & delivered to lab 5/30/24 @ 1556 - JK					<input type="checkbox"/>																
Per Diana ok to run Asbestos out of holding time. -JL 6-3-24					<input type="checkbox"/>																
Instructions: PH 8.94 00: 4.2 mg/L 25.57 °C				C/S Info: Deliver Via: <u>HAND</u>		Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>															
Relinquished By: <u>Abigail Moon</u>		Date/Time: <u>5/30 11:20a</u>		Received By: _____		Date/Time: _____		Relinquished By: _____		Date/Time: _____		Received By: <u>KA</u>		Date/Time: <u>5/30/24</u>							



**Built Environment Testing
Reservoirs**

June 27, 2024

Subcontractor Number:

Laboratory Report: RES 606448-1

Project #/P.O. #: 240530117

Project Description: Grandview 4053HRG02

Jessi Lupfer
Colorado Analytical Laboratories, Inc.
10411 Heinz Way
Commerce City CO 80640

Dear Jessi,

Eurofins Reservoirs is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA LAP, LLC), Lab ID 101533 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Eurofins Reservoirs has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 606448-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Eurofins Reservoirs will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed, as received and with the information provided by the customer. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Eurofins Reservoirs. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



by Norberto Zimbelman

Jeanne Spencer
President



EUROFINS RESERVOIRS ENVIRONMENTAL, INC

NVLAP Lab Code 101896-0
AIHA LAP, LLC. LAB ID 101533

TABLE: I ANALYSIS: TEM WATER SAMPLE ANALYTICAL RESULTS

RES Job Number: **RES 606448-1**
 Client: **Colorado Analytical Laboratories, Inc.**
 Client Project/P.O.: **240530117**
 Client Project Description: **Grandview 4053HRG02**
 Date Samples Received: **June 21, 2024**
 Analysis Type: **REI TEM SOP / USEPA 100.2-M**
 Turnaround: **Standard 10**
 Date Samples Analyzed: **June 27, 2024**

NA = Not Analyzed
 NR = Not Received
 NSIB = No Sample In Bag
 ND = None Detected
 TR = Trace; <1 % Visual Estimate
 Trem-Act = Tremolite-Actinolite
 BAS = Below Analytical Sensitivity

Laboratory Sample ID	Aliquot Deposited on Filter	Dilution Factor	Total Number of Asbestos Structures Detected	Greater than 10 Micron Length Asbestos Structures Detected	Analytical Sensitivity (million struct/L)	Total Asbestos Concentration (million struct/L)	Greater than 10 Micron Length Asbestos Concentration (million struct/L)
Client ID Number	(ml)						
606448 - 240530117-02A LF-1	25	1	ND	ND	0.14	BAS	BAS

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25mm

Effective Filter Area = 0mm²

Average Grid Opening = 0.010mm²



Norberto Zimbelman
Analyst

SUBMITTED BY	INVOICE TO	CONTACT INFORMATION	SERIES
Company: Colorado Analytical Laboratories, Inc.	Company: Colorado Analytical Laboratories, Inc.	Contact: Jessi Lupfer	-1 TEM Standard 10
Address: 10411 Heinz Way	Address: 10411 Heinz Way	Phone: (303) 659-2313	
Commerce City, CO 80640	Commerce City, CO 80640	Fax:	
Project Number and/or P.O. #: 240530117		Cell: (720) 208-6998	
Project Description/Location: Grandview 4053HRG02		Final Data Deliverable Email Address: jessilupfer@coloradolab.com (+ 7 ADDNL. CONTACTS)	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm & Sat. 8am - 5pm	REQUESTED ANALYSIS				VALID MATRIX CODES				LAB NOTES
PLM / PCM / TEM DTL RUSH PRIORITY STANDARD	PLM - Short Report, Long Report, CARB.435 TEM - Drinking Water (EPA 100.2) PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) Lead Only (7082, 7420 Waste Water, Foodware), Multi Metals (7303, 8020A, 200.8, Waste Water, Foodware, OSHA ID-125G), pH (Liquid or Non-Liquid), TCLP, RCRA 8 Scan, Welding Fume Scan, Full Metals Scan ORGANICS - Methamphetamine, TSS VIABLES - Campylobacter, Bacillus, Salmonella (Culturable or 1-2), Listeria, E.coli O157:H7, E.coli/Coliforms - Plated, S.aureus, Yeast & Mol, Aerobic Plate Count, Coliforms/E.coli - (State Water, Drinking Water, Non-Drinking Water, +/- Quantification), Lactic Acid, Viable Microbial Count (wo/ID or w/ID), Enterococcus (+/- or Quantification), Legionella (P, NP, C) MEDICAL - Bioburden, LAL MOLD - Spore Trap, Bulk Mold, Particulate Identification	Air = A	Bulk = B					Drinking Water = DW Waste Water = WW **ASTM E1792 approved wipe media only**	Laboratory Analysis Instructions
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm		Dust = D	Food = F						
Dust RUSH PRIORITY STANDARD		Paint = P	Soil = S						
Metals RUSH PRIORITY STANDARD *PRIOR NOTICE REQUIRED FOR SAME DAY TAT		Surface = SU	Swab = SW						
Organics* SAME DAY RUSH PRIORITY STANDARD		Tape = T	Wipe = W						
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 5pm									
Viability Analysis** PRIORITY STANDARD **TAT DEPENDENT ON SPEED OF MICROBIAL GROWTH									
Medical Device Analysis RUSH STANDARD									
Mold Analysis RUSH PRIORITY STANDARD									
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.									
Special Instructions: OK to perform testing outside of holding time. -JL									
Client Sample ID Number (Sample ID's must be unique)	ASBESTOS	CHEMISTRY	MICROBIOLOGY	ICO	Sample Volume (L) / Area	Matrix Code	# of Containers	Date Collected mm/dd/yy	Time Collected hh:mm
1 240530117-02A LF-1	X				1L	W	1	05/30/24	13:40

EREI establishes a unique Lab Sample ID, for each sample, by preceding each unique Client Sample ID with the laboratory RES Job Number.

EREI will analyze incoming samples based on information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing, client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By:	Jessi Lupfer	Date/Time: 06/03/2024 10:29:44	Sample Condition: Acceptable
Received By:	Emily Creasey	Date/Time: 06/21/2024 10:56:59	Carrier: Fed-Ex

Lab Name	Eurofins Reservoirs	Client	Colorado Analytical Laboratories, Inc.	Analyzed By	NZ
Primary Scope	JEM-1200EX	Sample Type	Water	Analysis Date	06/27/2024
Voltage	100KV	Vol/Area	1L	Prep Method	Indirect
Magnification	20000	Res Number	606448-1	Date Received	06/21/2024
Primary Filter Area (mm²)		Sec. Filter Area (mm²)	346	Grid Opening Area (mm²)	0.01
Sample ID	240530117-02A LF-1	Method	EPA 100.2	Scope Align	06/27/2024
Suspension	1000	Aliquot	25	Grid Openings	10

Grid	GO	Type	Count	Total	Length	Width	ID	Mineral Class	Comments	Photo	EDS
B	E5-4	ND									
	F4-6	ND									
	F4-3	ND									
	E5-6	ND									
A	G3-1	ND									
	F3-4	ND									
	F3-1	ND									
	E3-4	ND									
	E4-1	ND									
	B4-1	ND									

*NAM = Non Asbestos Material

Analytical Results

TASK NO: 240530117

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117
Client PO:
Client Project: Grandview 4053HRG02

Date Received: 5/30/24
Date Reported: 7/17/24
Matrix: Water - Drinking

Customer Sample ID LF-1
Sample Date/Time: 5/30/24 8:30 AM
Lab Number: 240530117-01

Test	Result	Method	RL	Date Analyzed	QC Batch ID	Analyzed By
Bicarbonate	170.9 mg/L as CaCO3	SM 2320-B	0.2 mg/L as CaCO3	6/3/24	-	KJP
Calcium as CaCO3	3.5 mg/L	EPA 200.7	0.1 mg/L	6/4/24	-	JJA
Carbonate	20.5 mg/L as CaCO3	SM 2320-B	0.2 mg/L as CaCO3	6/3/24	-	KJP
Hydroxide	ND mg/L as CaCO3	SM 2320-B	0.2 mg/L as CaCO3	6/3/24	-	KJP
Langelier Index	-0.24 units	SM 2330-B	units	6/5/24	-	DPL
pH	8.77 units	SM 4500-H-B	0.01 units	5/30/24	-	ARH
Temperature	20 °C	SM 4500-H-B	1 °C	5/30/24	-	ARH
Total Alkalinity	191.4 mg/L as CaCO3	SM 2320-B	4.0 mg/L as CaCO3	6/3/24	QC73778	KJP
Total Dissolved Solids	336 mg/L	SM 2540-C	5 mg/L	6/4/24	QC73781	ISG

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) Spike amount low relative to the sample amount.
ND = Not Detected at Reporting Limit.

Analytical QC Summary

TASK NO: 240530117

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers

Receive Date: 5/30/24
Project Name: Grandview 4053HRG02

Test	QC Batch ID	QC Type	Result	Method	Prep Date
Total Alkalinity	QC73778	Blank	ND	SM 2320-B	6/3/24
Total Dissolved Solids	QC73781	Blank	ND	SM 2540-C	6/3/24

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Total Alkalinity	QC73778	Duplicate -240530003-01	0 - 20	-	7.9	SM 2320-B
		LCS	90 - 110	95.5	-	
		LCS-2	90 - 110	102.3	-	
Total Dissolved Solids	QC73781	Duplicate -240530079-01	0 - 10	-	2.8	SM 2540-C
		LCS	85 - 115	98.0	-	

All analyses were performed in accordance with approved methods under the latest revision to 40 CFR Part 136 unless otherwise identified. Based on my inquiry of the person or persons directly responsible for analyzing the wastewater samples and generating the report (s), the analyses, report, and information submitted are, to the best of my knowledge and belief, true, accurate, and complete.



DATA APPROVED FOR RELEASE BY

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
 mg/L = Milligrams Per Liter or PPM
 ug/L = Micrograms Per Liter or PPB
 mph/100 mls = Most Probable Number Index/ 100 mls
 Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
 (s) Spike amount low relative to the sample amount.
 ND = Not Detected at Reporting Limit.

Chain of Custody Form



Commerce City Lab
10411 Heinz Way
Commerce City CO 80640

Lakewood Service Center
610 Garrison St, Unit E
Lakewood CO 80215

Phone: 303-659-2313

www.coloradolab.com

Report To Information		Bill To Information (If different from report to)		Project Name / Number	
Company Name: <u>LRE Water</u>		Company Name: _____		<u>4053HRG02</u>	
Contact Name: <u>Gus Womeldorph</u>		Contact Name: _____		_____	
Address: <u>1221 Auraria Parkway</u>		Address: _____		Task Number (Lab Use Only) CAL Task 240530117 JML	
City <u>Denver</u> State <u>CO</u> Zip <u>80204</u>		City _____ State _____ Zip _____			
Phone: <u>303-931-0818</u>		Phone: _____			
Email: <u>gus.womeldorph@LREWater.com</u>		Email: _____			
Sample Collector: _____		PO No.: _____			
Sample Collector Phone: _____		_____		_____	

Sample Matrix (Select One Only)				No. of Containers	Grab or (Check One Only) Composite	Tests Requested															
Waste Water <input type="checkbox"/>		Soil <input type="checkbox"/>				Drinking Water <input type="checkbox"/>		Please reference attached quote. Quote # QB0244422.													
Ground Water <input checked="" type="checkbox"/>		Sludge <input type="checkbox"/>																			
Surface Water <input type="checkbox"/>																					
Date	Time	Sample ID																			
5/30/24	8:30a	LF-1			<input checked="" type="checkbox"/>																
5/30/24	1340	LF-1 - Rads/Asbestos/Chloramines only - JK			<input type="checkbox"/>																
Missing containers for Rads, Asbestos & Chloramines					<input type="checkbox"/>																
Additional volume collected @ 1340 & delivered to lab 5/30/24 @ 1556 - JK					<input type="checkbox"/>																
Per Diana ok to run Asbestos out of holding time. -JL 6-3-24					<input type="checkbox"/>																
Instructions: PH 8.94 00: 4.2 mg/L 25.57 °C				C/S Info: _____		Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>															
Relinquished By: <u>Abigail Moon</u>				Date/Time: <u>5/30 11:20a</u>		Received By: _____		Date/Time: _____		Relinquished By: _____		Date/Time: _____		C/S Charge <input type="checkbox"/>		Temp. <u>2</u> °C/Ice <u>Y</u>		Sample Pres. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			



ANALYTICAL SUMMARY REPORT

July 16, 2024

Colorado Analytical Laboratories Inc
PO Box 507
Brighton, CO 80601-0507

Work Order: C24060124

Project Name: 240530117, 4053HRG02 Grandview

Energy Laboratories, Inc. Casper WY received the following 1 sample for Colorado Analytical Laboratories Inc on 6/4/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C24060124-001	240530117-02B-D - LF-1	05/30/24 13:40	06/04/24	Drinking Water	Gross Alpha, Gross Beta, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Strontium 90

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy, Casper, WY 82601-9601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.



CLIENT: Colorado Analytical Laboratories Inc
Project: 240530117, 4053HRG02 Grandview
Work Order: C24060124

Report Date: 07/16/24

CASE NARRATIVE

Some tests were subbed to Eurofins TA-St Louis in Earth City, MO. Please see attached data packet for details.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 240530117, 4053HRG02 Grandview
Lab ID: C24060124-001
Client Sample ID: 240530117-02B-D - LF-1

Report Date: 07/16/24
Collection Date: 05/30/24 13:40
Date Received: 06/04/24
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Gross Alpha	2.2	pCi/L				E900.0	06/11/24 04:17 / jno
Gross Alpha precision (±)	2.1	pCi/L				E900.0	06/11/24 04:17 / jno
Gross Alpha MDC	1.6	pCi/L				E900.0	06/11/24 04:17 / jno
Gross Beta	1	pCi/L	U		50	E900.0	06/11/24 04:17 / jno
Gross Beta precision (±)	1.2	pCi/L				E900.0	06/11/24 04:17 / jno
Gross Beta MDC	1.2	pCi/L				E900.0	06/11/24 04:17 / jno
Radium 226	0.02	pCi/L	U		5	E903.0	06/25/24 12:22 / trs
Radium 226 precision (±)	0.3	pCi/L				E903.0	06/25/24 12:22 / trs
Radium 226 MDC	0.3	pCi/L				E903.0	06/25/24 12:22 / trs
Radium 228	0.4	pCi/L	U		5	RA-05	06/17/24 11:01 / trs
Radium 228 precision (±)	0.7	pCi/L				RA-05	06/17/24 11:01 / trs
Radium 228 MDC	0.7	pCi/L				RA-05	06/17/24 11:01 / trs
Strontium 90	0.483	pCi/L	U		8	E905.0	06/24/24 00:00 / etasl
Strontium 90 precision (±)	0.662	pCi/L				E905.0	06/24/24 00:00 / etasl
Strontium 90 MDC	1.11	pCi/L				E905.0	06/24/24 00:00 / etasl
Radium 226 + Radium 228	0.5	pCi/L	U		5	A7500-RA	06/27/24 11:08 / dmf
Radium 226 + Radium 228 precision (±)	0.8	pCi/L				A7500-RA	06/27/24 11:08 / dmf
Radium 226 + Radium 228 MDC	0.8	pCi/L				A7500-RA	06/27/24 11:08 / dmf

Report Definitions:
 RL - Analyte Reporting Limit
 QCL - Quality Control Limit
 U - Not detected at Minimum Detectable Concentration (MDC)

MCL - Maximum Contaminant Level
 ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc

Work Order: C24060124

Report Date: 06/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.0										
Batch: GrDW-2052										
Lab ID: Th230-GrDW-2052	3	Laboratory Control Sample								
						Run: TENNELEC-4_240606A				06/11/24 04:17
Gross Alpha		100	pCi/L	102		80	120			
Gross Alpha precision (±)		15	pCi/L							
Gross Alpha MDC		0.48	pCi/L							
Lab ID: Sr90-GrDW-2052	3	Laboratory Control Sample								
						Run: TENNELEC-4_240606A				06/11/24 04:17
Gross Beta		440	pCi/L	94		80	120			
Gross Beta precision (±)		41	pCi/L							
Gross Beta MDC		1.1	pCi/L							
Lab ID: MB-GrDW-2052	6	Method Blank								
						Run: TENNELEC-4_240606A				06/11/24 04:17
Gross Alpha		-0.2	pCi/L							U
Gross Alpha precision (±)		0.6	pCi/L							
Gross Alpha MDC		0.6	pCi/L							
Gross Beta		0.7	pCi/L							U
Gross Beta precision (±)		1	pCi/L							
Gross Beta MDC		1	pCi/L							
Lab ID: C24060088-001BMS	3	Sample Matrix Spike								
						Run: TENNELEC-4_240606A				06/11/24 04:17
Gross Alpha		130	pCi/L	128		70	130			
Gross Alpha precision (±)		20	pCi/L							
Gross Alpha MDC		2.0	pCi/L							
Lab ID: C24060088-001BMSD	3	Sample Matrix Spike Duplicate								
						Run: TENNELEC-4_240606A				06/11/24 04:17
Gross Alpha		120	pCi/L	119		70	130	6.8		20
Gross Alpha precision (±)		19	pCi/L							
Gross Alpha MDC		1.8	pCi/L							
- The RER result is 0.6.										
Lab ID: C24060089-001BMS1	3	Sample Matrix Spike								
						Run: TENNELEC-4_240606A				06/11/24 04:17
Gross Beta		460	pCi/L	99		70	130			
Gross Beta precision (±)		43	pCi/L							
Gross Beta MDC		1.1	pCi/L							
Lab ID: C24060089-001BMSD1	3	Sample Matrix Spike Duplicate								
						Run: TENNELEC-4_240606A				06/11/24 04:17
Gross Beta		460	pCi/L	99		70	130	0.8		20
Gross Beta precision (±)		43	pCi/L							
Gross Beta MDC		1.3	pCi/L							
- The RER result is 0.1.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc

Work Order: C24060124

Report Date: 06/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226DW-1056										
Lab ID: LCS-RA226DW-1056	3	Laboratory Control Sample				Run: TENNELEC-4_240610A		06/25/24 14:14		
Radium 226		19	pCi/L	93		90	110			
Radium 226 precision (±)		3.1	pCi/L							
Radium 226 MDC		0.23	pCi/L							
Lab ID: MB-RA226DW-1056	3	Method Blank				Run: TENNELEC-4_240610A		06/25/24 12:22		
Radium 226		0.01	pCi/L							U
Radium 226 precision (±)		0.2	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C24060331-001ADUP	3	Sample Duplicate				Run: TENNELEC-4_240610A		06/25/24 12:22		
Radium 226		0.17	pCi/L					180	20	UR
Radium 226 precision (±)		0.25	pCi/L							
Radium 226 MDC		0.26	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 2, the RER result is 0.9.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc

Work Order: C24060124

Report Date: 06/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05								Batch: RA228DW-1008		
Lab ID: LCS-228-RA228DW-10	3	Laboratory Control Sample				Run: TENNELEC-3_240607A		06/17/24 11:01		
Radium 228		11	pCi/L	104		80	120			
Radium 228 precision (±)		2.3	pCi/L							
Radium 228 MDC		0.71	pCi/L							
Lab ID: MB-228-RA228DW-100	3	Method Blank				Run: TENNELEC-3_240607A		06/17/24 11:01		
Radium 228		0.6	pCi/L							U
Radium 228 precision (±)		0.8	pCi/L							
Radium 228 MDC		0.8	pCi/L							
Lab ID: C24050670-001ADUP	3	Sample Duplicate				Run: TENNELEC-3_240607A		06/17/24 11:01		
Radium 228		3.6	pCi/L					28	20	R
Radium 228 precision (±)		1.1	pCi/L							
Radium 228 MDC		0.95	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 2, the RER result is 1.3.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)



Work Order Receipt Checklist

Colorado Analytical Laboratories Inc

C24060124

Login completed by: Aaron J. Smith

Date Received: 6/4/2024

Reviewed by: lcadreau

Received by: AJS

Reviewed Date: 6/11/2024

Carrier name: FedEx NDA

Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on all shipping container(s)/cooler(s)? Yes [] No [] Not Present [checked]
Custody seals intact on all sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Temp Blank received in all shipping container(s)/cooler(s)? Yes [] No [checked] Not Applicable []
Container/Temp Blank temperature: 15.9°C No Ice
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4"). Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [checked] No [] Not Applicable []

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as -dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None



ANALYTICAL REPORT

PREPARED FOR

Attn: Casper Reporting
Energy Laboratories, Inc.
2393 Salt Creek Highway
Casper, Wyoming 82601

Generated 6/24/2024 3:46:26 PM

JOB DESCRIPTION

Radiochemistry
C24060124

JOB NUMBER

160-54269-1

Eurofins St. Louis

Job Notes

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



Generated
6/24/2024 3:46:26 PM

Authorized for release by
Casey Robertson, Project Manager
Casey.Robertson@et.eurofinsus.com
(314)298-8566



Table of Contents

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Case Narrative

Client: Energy Laboratories, Inc.
Project: Radiochemistry

Job ID: 160-54269-1

Job ID: 160-54269-1

Eurofins St. Louis

Job Narrative 160-54269-1

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The matrix for the Method Blank and LCS/LCSD is as close to the samples as can be reasonably achieved. Detailed information can be found in the most current revision of the associated SOP.

Receipt

The sample was received on 6/6/2024 9:25 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved. The temperature of the cooler at receipt time was 7.1°C.

Method SR-03-RC - Strontium-90 (GFPC)

Sample C24060124-001B (160-54269-1) was analyzed for Strontium-90 (GFPC). The sample was prepared on 6/12/2024 and analyzed on 6/20/2024.

Strontium-90 Prep Batch 665846:

The following sample was prepared at a reduced aliquot due to Matrix: C24060124-001B (160-54269-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins St. Louis



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Analyte Setup for Workorder: C24060124

Test	Sample ID	Analyte	PQL	Units
Strontium 90 RAD-SR90-DW	C24060124-001B	Strontium 90	-1000	pCi/L
		Strontium 90 MDC	0	pCi/L
		Strontium 90 precision (±)	0	pCi/L

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Login Sample Receipt Checklist

Client: Energy Laboratories, Inc.

Job Number: 160-54269-1

SDG Number: C24060124

Login Number: 54269

List Number: 1

Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-54269-1
SDG: C24060124

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-54269-1
SDG: C24060124

Method	Method Description	Protocol	Laboratory
SR-03-RC	Strontium-90 (GFPC)	DOE	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

Protocol References:

DOE = U.S. Department of Energy
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-54269-1
SDG: C24060124

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
160-54269-1	C24060124-001B	Water	05/30/24 13:40	06/06/24 09:25

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Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-54269-1
SDG: C24060124

Client Sample ID: C24060124-001B

Lab Sample ID: 160-54269-1

Date Collected: 05/30/24 13:40

Matrix: Water

Date Received: 06/06/24 09:25

Method: DOE SR-03-RC - Strontium-90 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Strontium-90	0.483	U	0.662	0.663	3.00	1.11	pCi/L	06/12/24 09:09	06/20/24 18:24	1
Carrier	%Yield	Qualifier	Limits							
Sr Carrier	87.9		30 - 110							
Y Carrier	95.7		30 - 110							
					Prepared	Analyzed		Dil Fac		
					06/12/24 09:09	06/20/24 18:24		1		
					06/12/24 09:09	06/20/24 18:24		1		

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QC Sample Results

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-54269-1
SDG: C24060124

Method: SR-03-RC - Strontium-90 (GFPC)

Lab Sample ID: MB 160-665846/1-A
Matrix: Water
Analysis Batch: 667128

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 665846

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Strontium-90	0.2194	U	0.186	0.187	3.00	0.296	pCi/L	06/12/24 09:09	06/20/24 18:22	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac	
Sr Carrier	85.4		30 - 110				06/12/24 09:09	06/20/24 18:22	1	
Y Carrier	95.7		30 - 110				06/12/24 09:09	06/20/24 18:22	1	

Lab Sample ID: LCS 160-665846/2-A
Matrix: Water
Analysis Batch: 667128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 665846

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec	Limits
	%Yield	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)						
Strontium-90			7.13	6.850		0.753	3.00	0.310	pCi/L	96	75 - 125	
Carrier	LCS %Yield	LCS Qualifier	Limits									
Sr Carrier	92.7		30 - 110									
Y Carrier	96.1		30 - 110									

Lab Sample ID: LCSD 160-665846/3-A
Matrix: Water
Analysis Batch: 667128

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 665846

Analyte	LCSD LCSD		Spike	LCSD	LCSD	Total	RL	MDC	Unit	%Rec	%Rec	RER	RER Limit
	%Yield	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)							
Strontium-90			7.13	6.268		0.700	3.00	0.280	pCi/L	88	75 - 125	0.40	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits										
Sr Carrier	91.2		30 - 110										
Y Carrier	97.9		30 - 110										

QC Association Summary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-54269-1
SDG: C24060124

Rad

Prep Batch: 665846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-54269-1	C24060124-001B	Total/NA	Water	PrecSep-7	
MB 160-665846/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-665846/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-665846/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

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Tracer/Carrier Summary

Client: Energy Laboratories, Inc.
Project/Site: Radiochemistry

Job ID: 160-54269-1
SDG: C24060124

Method: SR-03-RC - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Sr</u> <u>(30-110)</u>	<u>Y</u> <u>(30-110)</u>				
160-54269-1	C24060124-001B	87.9	95.7				
LCS 160-665846/2-A	Lab Control Sample	92.7	96.1				
LCSD 160-665846/3-A	Lab Control Sample Dup	91.2	97.9				
MB 160-665846/1-A	Method Blank	85.4	95.7				

Tracer/Carrier Legend

Sr = Sr Carrier

Y = Y Carrier

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117 **Date Received:** 5/30/24
Client PO: **Date Reported:** 7/17/24
Client Project: Grandview 4053HRG02 **Matrix:** Water - Drinking

Customer Sample ID LF-1
Sample Date/Time: 5/30/24 8:30 AM
Lab Number: 240530117-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Cyanide-Free	ND mg/L	ASTM D4282-15	0.005 mg/L		6/4/24	QC73805	KRB
Nitrate/ Nitrite Nitrogen	ND mg/L	Calculation	0.05 mg/L		6/3/24	-	NRP
Chloride	10.7 mg/L	EPA 300.0	0.1 mg/L	250	5/31/24	QC73767	NRP
Fluoride	0.57 mg/L	EPA 300.0	0.10 mg/L	4	5/31/24	QC73770	NRP
Nitrate Nitrogen	ND mg/L	EPA 300.0	0.05 mg/L	10	5/31/24	QC73765	NRP
Nitrite Nitrogen	ND mg/L	EPA 300.0	0.03 mg/L	1	5/31/24	QC73766	NRP
Sulfate	67.3 mg/L	EPA 300.0	0.1 mg/L	250	5/31/24	QC73769	NRP
Dibromochloropropane	ND ug/L	EPA 504.1	0.02 ug/L	0.2	6/4/24	QC73772	MBS
Ethylene dibromide	ND ug/L	EPA 504.1	0.01 ug/L	0.05	6/4/24	QC73772	MBS
Aldrin	ND ug/L	EPA 505	0.05 ug/L		6/4/24	QC73773	mbs
Chlordane	ND ug/L	EPA 505	0.2 ug/L	2	6/4/24	QC73773	mbs
Dieldrin	ND ug/L	EPA 505	0.05 ug/L		6/4/24	QC73773	mbs
Endrin	ND ug/L	EPA 505	0.01 ug/L	2	6/4/24	QC73773	mbs
Heptachlor epoxide	ND ug/L	EPA 505	0.02 ug/L	0.2	6/4/24	QC73773	mbs
Hexachlorobenzene	ND ug/L	EPA 505	0.1 ug/L	1	6/4/24	QC73773	mbs
Hexachlorocyclopentadiene	ND ug/L	EPA 505	0.1 ug/L	50	6/4/24	QC73773	mbs
Lindane	ND ug/L	EPA 505	0.02 ug/L	0.2	6/4/24	QC73773	mbs
Methoxychlor	ND ug/L	EPA 505	0.1 ug/L	40	6/4/24	QC73773	mbs
Polychlorinated biphenyl's	ND ug/L	EPA 505	0.1 ug/L	0.5	6/4/24	QC73773	mbs
Toxaphene	ND ug/L	EPA 505	1 ug/L	3	6/4/24	QC73773	mbs

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) The accuracy of the spike recovery value is reduced due to the analyte concentration in the sample being disproportionate to the spike level. The laboratory control sample recovery was acceptable

MCL = Maximum contaminant level per the EPA
ND = Not Detected at Reporting Limit.

Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117
Client PO:
Client Project: Grandview 4053HRG02

Date Received: 5/30/24
Date Reported: 7/17/24
Matrix: Water - Drinking

Customer Sample ID LF-1
Sample Date/Time: 5/30/24 8:30 AM
Lab Number: 240530117-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
2,4,5-TP	ND ug/L	EPA 515.4	0.2 ug/L	50	6/7/24	QC73852	MBS
2,4,-D	ND ug/L	EPA 515.4	0.1 ug/L	70	6/7/24	QC73852	MBS
Dalapon	ND ug/L	EPA 515.4	1.0 ug/L	200	6/7/24	QC73852	MBS
Dicamba	ND ug/L	EPA 515.4	0.5 ug/L		6/7/24	QC73852	MBS
Dinoseb	ND ug/L	EPA 515.4	0.2 ug/L	7	6/7/24	QC73852	MBS
Pentachlorophenol	ND ug/L	EPA 515.4	0.04 ug/L	1	6/7/24	QC73852	MBS
Picloram	ND ug/L	EPA 515.4	0.1 ug/L	500	6/7/24	QC73852	MBS
Alachlor	ND ug/L	EPA 525.2	0.2 ug/L	2	6/10/24	QC73782	MBS
Atrazine	ND ug/L	EPA 525.2	0.1 ug/L	3	6/10/24	QC73782	MBS
Benzo(a)pyrene	ND ug/L	EPA 525.2	0.02 ug/L	0.2	6/10/24	QC73782	MBS
Butachlor	ND ug/L	EPA 525.2	0.25 ug/L		6/10/24	QC73782	MBS
Di(2-ethylhexyl)adipate	ND ug/L	EPA 525.2	0.6 ug/L	400	6/10/24	QC73782	MBS
Di(2-ethylhexyl)phthalate	ND ug/L	EPA 525.2	0.6 ug/L	6	6/10/24	QC73782	MBS
Heptachlor	ND ug/L	EPA 525.2	0.04 ug/L	0.4	6/10/24	QC73782	MBS
Metolachlor	ND ug/L	EPA 525.2	0.25 ug/L		6/10/24	QC73782	MBS
Metribuzin	ND ug/L	EPA 525.2	0.25 ug/L		6/10/24	QC73782	MBS
Propachlor	ND ug/L	EPA 525.2	0.25 ug/L		6/10/24	QC73782	MBS
Simazine	ND ug/L	EPA 525.2	0.07 ug/L	4	6/10/24	QC73782	MBS
3-Hydroxycarbofuran	ND ug/L	EPA 531.1	0.5 ug/L		6/7/24	QC73817	MBS
Aldicarb	ND ug/L	EPA 531.1	0.6 ug/L		6/7/24	QC73817	MBS
Aldicarb sulfone	ND ug/L	EPA 531.1	1.0 ug/L		6/7/24	QC73817	MBS
Aldicarb sulfoxide	ND ug/L	EPA 531.1	0.7 ug/L		6/7/24	QC73817	MBS

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1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117	Date Received: 5/30/24
Client PO:	Date Reported: 7/17/24
Client Project: Grandview 4053HRG02	Matrix: Water - Drinking

Customer Sample ID LF-1
Sample Date/Time: 5/30/24 8:30 AM
Lab Number: 240530117-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Carbaryl	ND ug/L	EPA 531.1	0.5 ug/L		6/7/24	QC73817	MBS
Carbofuran	ND ug/L	EPA 531.1	0.9 ug/L	40	6/7/24	QC73817	MBS
Methomyl	ND ug/L	EPA 531.1	0.5 ug/L		6/7/24	QC73817	MBS
Oxamyl	ND ug/L	EPA 531.1	1.0 ug/L	200	6/7/24	QC73817	MBS
Glyphosate	ND ug/L	EPA 547	6.0 ug/L	700	6/7/24	-	Outside Lab
Endothall	ND ug/L	EPA 548.1	9 ug/L	100	6/4/24	QC73777	MBS
Diquat	ND ug/L	EPA 549.2	0.4 ug/L	20	6/4/24	QC73776	MLT
1,1,1,2-Tetrachloroethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
1,1,1-Trichloroethane	ND ug/L	EPA-524.2	0.5 ug/L	200	6/11/24	QC73955	SPF
1,1,2,2-Tetrachloroethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
1,1,2-Trichloroethane	ND ug/L	EPA-524.2	0.5 ug/L	5	6/11/24	QC73955	SPF
1,1-Dichloroethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
1,1-Dichloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	7	6/11/24	QC73955	SPF
1,1-Dichloropropene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
1,2,3-Trichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
1,2,3-Trichloropropane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
1,2,4-Trichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L	70	6/11/24	QC73955	SPF
1,2,4-Trimethylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
1,2-Dichloroethane	ND ug/L	EPA-524.2	0.5 ug/L	5	6/11/24	QC73955	SPF
1,2-Dichloropropane	ND ug/L	EPA-524.2	0.5 ug/L	5	6/11/24	QC73955	SPF
1,3,5-Trimethylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF

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Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117
Client PO:
Client Project: Grandview 4053HRG02

Date Received: 5/30/24
Date Reported: 7/17/24
Matrix: Water - Drinking

Customer Sample ID LF-1
Sample Date/Time: 5/30/24 8:30 AM
Lab Number: 240530117-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
1,3-Dichloropropane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
1,3-Dichloropropene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Benzene	ND ug/L	EPA-524.2	0.5 ug/L	5	6/11/24	QC73955	SPF
Bromobenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Bromochloromethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Bromodichloromethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Bromoform	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Bromomethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Carbon Tetrachloride	ND ug/L	EPA-524.2	0.5 ug/L	5	6/11/24	QC73955	SPF
Chlorodibromomethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Chloroethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Chloroform	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Chloromethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
cis-1,2-Dichloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	70	6/11/24	QC73955	SPF
Dibromomethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Dichlorodifluoromethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Dichloromethane	0.7 ug/L	EPA-524.2	0.5 ug/L	5	6/11/24	QC73955	SPF
Ethylbenzene	ND ug/L	EPA-524.2	0.5 ug/L	700	6/11/24	QC73955	SPF
Fluorotrichloromethane	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Hexachlorobutadiene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Isopropylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
m-Dichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Monochlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L	100	6/11/24	QC73955	SPF

Abbreviations/References:

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ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
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(d) RPD acceptable due to low duplicate and sample concentrations.
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Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117
Client PO:
Client Project: Grandview 4053HRG02

Date Received: 5/30/24
Date Reported: 7/17/24
Matrix: Water - Drinking

Customer Sample ID LF-1
Sample Date/Time: 5/30/24 8:30 AM
Lab Number: 240530117-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Naphthalene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
n-Butylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
n-Propylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
o-Chlorotoluene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
o-Dichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L	600	6/11/24	QC73955	SPF
Para-Dichlorobenzene	ND ug/L	EPA-524.2	0.5 ug/L	75	6/11/24	QC73955	SPF
p-Chlorotoluene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
p-Isopropyltoluene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
sec-Butylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Styrene	ND ug/L	EPA-524.2	0.5 ug/L	100	6/11/24	QC73955	SPF
tert-Butylbenzene	ND ug/L	EPA-524.2	0.5 ug/L		6/11/24	QC73955	SPF
Tetrachloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	5	6/11/24	QC73955	SPF
Toluene	ND ug/L	EPA-524.2	0.5 ug/L	1000	6/11/24	QC73955	SPF
Total Trihalomethanes	ND ug/L	EPA-524.2	0.5 ug/L	80	6/11/24	QC73955	SPF
trans-1,2-Dichloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	100	6/11/24	QC73955	SPF
Trichloroethylene	ND ug/L	EPA-524.2	0.5 ug/L	5	6/11/24	QC73955	SPF
Vinyl chloride	ND ug/L	EPA-524.2	0.5 ug/L	2	6/11/24	QC73955	SPF
Xylenes (total)	ND ug/L	EPA-524.2	0.5 ug/L	10000	6/11/24	QC73955	SPF
Turbidity	22.00 NTU	SM 2130-B	0.01 NTU		5/30/24	-	ARH
Total Residual Chlorine	0.57 mg/L	SM 4500-CL-G	0.05 mg/L		5/30/24	-	ARH
Ammonia Nitrogen	0.34 mg/L	SM 4500-NH3-G	0.03 mg/L		6/5/24	QC73798	DPL

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Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117
Client PO:
Client Project: Grandview 4053HRG02

Date Received: 5/30/24
Date Reported: 7/17/24
Matrix: Water - Drinking

Customer Sample ID LF-1
Sample Date/Time: 5/30/24 8:30 AM
Lab Number: 240530117-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Sulfide as H ₂ S	ND mg/L	SM 4500-S2-G	0.1 mg/L		6/3/24	QC73830	ARH
Dissolved Organic Carbon	0.8 mg/L	SM 5310-C	0.5 mg/L		6/7/24	QC73894	ISG
Total Organic Carbon	0.8 mg/L	SM 5310-C	0.5 mg/L		6/7/24	QC73893	ISG
MBAS (calculated as LAS, mol wt 340)	ND mg/L	SM 5540-C	0.1 mg/L		5/31/24	QC73752	LEH
<u>Dissolved</u>							
Iron	0.026 mg/L	EPA 200.7	0.005 mg/L		6/4/24	QC73784	JJA
Manganese	0.0036 mg/L	EPA 200.8	0.0008 mg/L	0.05	6/6/24	QC73824	MBN
<u>Total</u>							
Calcium	2.4 mg/L	EPA 200.7	0.1 mg/L		6/4/24	QC73784	JJA
Iron	1.54 mg/L	EPA 200.7	0.005 mg/L		6/4/24	QC73784	JJA
Magnesium	0.63 mg/L	EPA 200.7	0.02 mg/L		6/4/24	QC73784	JJA
Potassium	0.9 mg/L	EPA 200.7	0.1 mg/L		6/4/24	QC73784	JJA
Sodium	113 mg/L	EPA 200.7	0.1 mg/L		6/4/24	QC73784	JJA
Aluminum	0.558 mg/L	EPA 200.8	0.001 mg/L	0.05	6/6/24	QC73824	MBN
Antimony	ND mg/L	EPA 200.8	0.0012 mg/L	0.006	6/6/24	QC73824	MBN
Arsenic	0.0015 mg/L	EPA 200.8	0.0006 mg/L	0.01	6/6/24	QC73824	MBN
Barium	0.0128 mg/L	EPA 200.8	0.0007 mg/L	2	6/6/24	QC73824	MBN
Beryllium	ND mg/L	EPA 200.8	0.0001 mg/L	0.004	6/6/24	QC73824	MBN
Cadmium	ND mg/L	EPA 200.8	0.0001 mg/L	0.005	6/6/24	QC73824	MBN

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1221 Auraria Pkwy
Denver CO 80204

Bill To: Accounts Payable
Company: LRE Water - Leonard Rice Engineers
1221 Auraria Pkwy
Denver CO 80204

Task No.: 240530117 **Date Received:** 5/30/24
Client PO: **Date Reported:** 7/17/24
Client Project: Grandview 4053HRG02 **Matrix:** Water - Drinking

Customer Sample ID LF-1
Sample Date/Time: 5/30/24 8:30 AM
Lab Number: 240530117-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
<i>Total</i>							
Chromium	0.0029 mg/L	EPA 200.8	0.0015 mg/L	0.1	6/6/24	QC73824	MBN
Copper	0.0077 mg/L	EPA 200.8	0.0008 mg/L	1.3	6/6/24	QC73824	MBN
Lead	0.0007 mg/L	EPA 200.8	0.0001 mg/L	0.015	6/6/24	QC73824	MBN
Manganese	0.0316 mg/L	EPA 200.8	0.0008 mg/L	0.05	6/6/24	QC73824	MBN
Mercury	ND mg/L	EPA 200.8	0.0001 mg/L	0.002	6/6/24	QC73824	MBN
Nickel	0.0116 mg/L	EPA 200.8	0.0009 mg/L		6/6/24	QC73824	MBN
Selenium	ND mg/L	EPA 200.8	0.0008 mg/L		6/6/24	QC73824	MBN
Silver	ND mg/L	EPA 200.8	0.0005 mg/L	0.1	6/6/24	QC73824	MBN
Thallium	ND mg/L	EPA 200.8	0.0002 mg/L	0.002	6/6/24	QC73824	MBN
Uranium	ND mg/L	EPA 200.8	0.0002 mg/L	0.03	6/6/24	QC73824	MBN
Zinc	0.021 mg/L	EPA 200.8	0.001 mg/L	5	6/6/24	QC73824	MBN
Total Hardness	8.6 mg/L as CaCO3	SM 2340-B	0.1 mg/L as CaCO3		6/4/24	-	JJA

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Report To: Diana Trejo Calzada
Company: LRE Water - Leonard Rice Engineers

Receive Date: 5/30/24
Project Name: Grandview 4053HRG02

Test	QC Batch ID	QC Type	Result	Method	Prep Date
Dibromochloropropane	QC73772	Method Blank	ND	EPA 504.1	6/3/24
Ethylene dibromide	QC73772	Method Blank	ND	EPA 504.1	6/3/24
Aldrin	QC73773	Method Blank	ND	EPA 505	6/3/24
Chlordane	QC73773	Method Blank	ND	EPA 505	6/3/24
Dieldrin	QC73773	Method Blank	ND	EPA 505	6/3/24
Endrin	QC73773	Method Blank	ND	EPA 505	6/3/24
Heptachlor epoxide	QC73773	Method Blank	ND	EPA 505	6/3/24
Hexachlorobenzene	QC73773	Method Blank	ND	EPA 505	6/3/24
Hexachlorocyclopentadiene	QC73773	Method Blank	ND	EPA 505	6/3/24
Lindane	QC73773	Method Blank	ND	EPA 505	6/3/24
Methoxychlor	QC73773	Method Blank	ND	EPA 505	6/3/24
Polychlorinated biphenyl's	QC73773	Method Blank	ND	EPA 505	6/3/24
Toxaphene	QC73773	Method Blank	ND	EPA 505	6/3/24
2,4,5-TP	QC73852	Method Blank	ND	EPA 515.4	6/6/24
2,4,-D	QC73852	Method Blank	ND	EPA 515.4	6/6/24
Dalapon	QC73852	Method Blank	ND	EPA 515.4	6/6/24
Dicamba	QC73852	Method Blank	ND	EPA 515.4	6/6/24
Dinoseb	QC73852	Method Blank	ND	EPA 515.4	6/6/24
Pentachlorophenol	QC73852	Method Blank	ND	EPA 515.4	6/6/24
Picloram	QC73852	Method Blank	ND	EPA 515.4	6/6/24
1,1,1,2-Tetrachloroethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,1,1-Trichloroethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,1,2,2-Tetrachloroethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,1,2-Trichloroethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,1-Dichloroethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,1-Dichloroethylene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,1-Dichloropropene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,2,3-Trichlorobenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,2,3-Trichloropropane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,2,4-Trichlorobenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,2,4-Trimethylbenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,2-Dichloroethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,2-Dichloropropane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,3,5-Trimethylbenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,3-Dichloropropane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
1,3-Dichloropropene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Benzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Bromobenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Bromochloromethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Bromodichloromethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Bromoform	QC73955	Method Blank	ND	EPA-524.2	6/10/24

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Bromomethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Carbon Tetrachloride	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Chlorodibromomethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Chloroethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Chloroform	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Chloromethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
cis-1,2-Dichloroethylene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Dibromomethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Dichlorodifluoromethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Dichloromethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Ethylbenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Fluorotrichloromethane	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Hexachlorobutadiene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Isopropylbenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
m-Dichlorobenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Monochlorobenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Naphthalene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
n-Butylbenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
n-Propylbenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
o-Chlorotoluene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
o-Dichlorobenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Para-Dichlorobenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
p-Chlorotoluene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
p-Isopropyltoluene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
sec-Butylbenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Styrene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
tert-Butylbenzene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Tetrachloroethylene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Toluene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Total Trihalomethanes	QC73955	Method Blank	ND	EPA-524.2	6/10/24
trans-1,2-Dichloroethylene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Trichloroethylene	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Vinyl chloride	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Xylenes (total)	QC73955	Method Blank	ND	EPA-524.2	6/10/24
Alachlor	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Atrazine	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Benzo(a)pyrene	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Butachlor	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Di(2-ethylhexyl)adipate	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Di(2-ethylhexyl)phthalate	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Heptachlor	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Metolachlor	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Metribuzin	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Propachlor	QC73782	Method Blank	ND	EPA 525.2	6/4/24
Simazine	QC73782	Method Blank	ND	EPA 525.2	6/4/24
3-Hydroxycarbofuran	QC73817	Method Blank	ND	EPA 531.1	6/5/24
Aldicarb	QC73817	Method Blank	ND	EPA 531.1	6/5/24
Aldicarb sulfone	QC73817	Method Blank	ND	EPA 531.1	6/5/24
Aldicarb sulfoxide	QC73817	Method Blank	ND	EPA 531.1	6/5/24
Carbaryl	QC73817	Method Blank	ND	EPA 531.1	6/5/24
Carbofuran	QC73817	Method Blank	ND	EPA 531.1	6/5/24
Methomyl	QC73817	Method Blank	ND	EPA 531.1	6/5/24

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Oxamyl	QC73817	Method Blank	ND	EPA 531.1	6/5/24
Endothall	QC73777	Method Blank	ND	EPA 548.1	6/3/24
Diquat	QC73776	Method Blank	ND	EPA 549.2	6/3/24
Ammonia Nitrogen	QC73798	Method Blank	ND	SM 4500-NH3-G	6/4/24
Chloride	QC73767	Blank	ND	EPA 300.0	5/30/24
Cyanide-Free	QC73805	Blank	ND	ASTM D4282-15	6/4/24
Dissolved Organic Carbon	QC73894	Blank	ND	SM 5310-C	6/6/24
Fluoride	QC73770	Blank	ND	EPA 300.0	5/30/24
MBAS (calculated as LAS, mol wt 340)	QC73752	Blank	ND	SM 5540-C	5/31/24
Aluminum	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Antimony	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Arsenic	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Barium	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Beryllium	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Cadmium	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Chromium	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Copper	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Lead	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Manganese	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Mercury	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Nickel	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Selenium	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Silver	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Thallium	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Uranium	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Zinc	QC73824	Method Blank	ND	EPA 200.8	5/30/24
Calcium	QC73784	Method Blank	ND	EPA 200.7	5/30/24
Iron	QC73784	Method Blank	ND	EPA 200.7	5/30/24
Magnesium	QC73784	Method Blank	ND	EPA 200.7	5/30/24
Potassium	QC73784	Method Blank	ND	EPA 200.7	5/30/24
Sodium	QC73784	Method Blank	ND	EPA 200.7	5/30/24
Nitrate Nitrogen	QC73765	Blank	ND	EPA 300.0	5/30/24
Nitrite Nitrogen	QC73766	Blank	ND	EPA 300.0	5/30/24
Sulfate	QC73769	Blank	ND	EPA 300.0	5/30/24
Sulfide as H2S	QC73830	Blank	ND	SM 4500-S2-G	6/5/24
Total Organic Carbon	QC73893	Blank	ND	SM 5310-C	6/6/24

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Dibromochloropropane	QC73772	LCS	70 - 130	104.0	-	EPA 504.1
		MS -240529050-01A	65 - 135	103.2	-	
Ethylene dibromide	QC73772	LCS	70 - 130	103.2	-	EPA 504.1
		MS -240529050-01A	65 - 135	106.4	-	
Aldrin	QC73773	LCS	70 - 130	100.0	-	EPA 505
		MS -240521116-01A	65 - 135	92.0	-	
Chlordane	QC73773	LCS	70 - 130	0.0	-	EPA 505
		MS -240521116-01A	65 - 135	-	-	
EPA 505 multicomponent analytes include: Chlordane, Toxaphene, and PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260. Batch QC includes one multicomponent; continually rotating analytes. Samples with apparent patterns are confirmed prior to reporting.						
Dieldrin	QC73773	LCS	70 - 130	107.0	-	EPA 505
		MS -240521116-01A	65 - 135	102.8	-	
Endrin	QC73773	LCS	70 - 130	94.0	-	EPA 505
		MS -240521116-01A	65 - 135	88.4	-	

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Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Heptachlor epoxide	QC73773	LCS	70 - 130	105.2	-	EPA 505
		MS -240521116-01A	65 - 135	101.4	-	
Hexachlorobenzene	QC73773	LCS	70 - 130	96.4	-	EPA 505
		MS -240521116-01A	65 - 135	93.4	-	
Hexachlorocyclopentadiene	QC73773	LCS	70 - 130	94.2	-	EPA 505
		MS -240521116-01A	65 - 135	90.8	-	
Lindane	QC73773	LCS	70 - 130	98.0	-	EPA 505
		MS -240521116-01A	65 - 135	94.6	-	
Methoxychlor	QC73773	LCS	70 - 130	103.8	-	EPA 505
		MS -240521116-01A	65 - 135	90.2	-	
Toxaphene	QC73773	LCS	70 - 130	0.0	-	EPA 505
		MS -240521116-01A	65 - 135	-	-	
EPA 505 multicomponent analytes include: Chlordane, Toxaphene, and PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260. Batch QC includes one multicomponent; continually rotating analytes. Samples with apparent patterns are confirmed prior to reporting.						
2,4,5-TP	QC73852	LCS	70 - 130	100.1	-	EPA 515.4
		MS -240604143-01B	70 - 130	99.6	-	
		MSD -240604143-01B	0 - 30	-	2.3	
2,4,-D	QC73852	LCS	70 - 130	96.4	-	EPA 515.4
		MS -240604143-01B	70 - 130	93.4	-	
		MSD -240604143-01B	0 - 30	-	0.5	
Dalapon	QC73852	LCS	70 - 130	86.6	-	EPA 515.4
		MS -240604143-01B	70 - 130	101.8	-	
		MSD -240604143-01B	0 - 30	-	14.8	
Dicamba	QC73852	LCS	70 - 130	106.9	-	EPA 515.4
		MS -240604143-01B	70 - 130	95.7	-	
		MSD -240604143-01B	0 - 30	-	1.5	
Dinoseb	QC73852	LCS	70 - 130	101.7	-	EPA 515.4
		MS -240604143-01B	70 - 130	101.4	-	
		MSD -240604143-01B	0 - 30	-	6.0	
Pentachlorophenol	QC73852	LCS	70 - 130	96.9	-	EPA 515.4
		MS -240604143-01B	70 - 130	89.5	-	
		MSD -240604143-01B	0 - 30	-	3.6	
Picloram	QC73852	LCS	70 - 130	92.8	-	EPA 515.4
		MS -240604143-01B	70 - 130	98.6	-	
		MSD -240604143-01B	0 - 30	-	6.6	
1,1,1,2-Tetrachloroethane	QC73955	LCS	70 - 130	100.2	-	EPA-524.2
		LCS Dup	0 - 20	-	6.2	
1,1,1-Trichloroethane	QC73955	LCS	70 - 130	96.6	-	EPA-524.2
		LCS Dup	0 - 20	-	4.5	
1,1,2,2-Tetrachloroethane	QC73955	LCS	70 - 130	104.8	-	EPA-524.2
		LCS Dup	0 - 20	-	3.7	
1,1,2-Trichloroethane	QC73955	LCS	70 - 130	96.6	-	EPA-524.2
		LCS Dup	0 - 20	-	8.2	
1,1-Dichloroethane	QC73955	LCS	70 - 130	103.6	-	EPA-524.2
		LCS Dup	0 - 20	-	3.7	
1,1-Dichloroethylene	QC73955	LCS	70 - 130	116.0	-	EPA-524.2
		LCS Dup	0 - 20	-	13.4	
1,1-Dichloropropene	QC73955	LCS	70 - 130	86.0	-	EPA-524.2
		LCS Dup	0 - 20	-	15.6	
1,2,3-Trichlorobenzene	QC73955	LCS	70 - 130	120.4	-	EPA-524.2

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Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
		LCS Dup	0 - 20	-	10.7	
1,2,3-Trichloropropane	QC73955	LCS	70 - 130	106.8	-	EPA-524.2
		LCS Dup	0 - 20	-	6.4	
1,2,4-Trichlorobenzene	QC73955	LCS	70 - 130	109.2	-	EPA-524.2
		LCS Dup	0 - 20	-	8.0	
1,2,4-Trimethylbenzene	QC73955	LCS	70 - 130	106.4	-	EPA-524.2
		LCS Dup	0 - 20	-	6.4	
1,2-Dichloroethane	QC73955	LCS	70 - 130	96.2	-	EPA-524.2
		LCS Dup	0 - 20	-	3.7	
1,2-Dichloropropane	QC73955	LCS	70 - 130	96.0	-	EPA-524.2
		LCS Dup	0 - 20	-	0.8	
1,3,5-Trimethylbenzene	QC73955	LCS	70 - 130	103.0	-	EPA-524.2
		LCS Dup	0 - 20	-	4.0	
1,3-Dichloropropane	QC73955	LCS	70 - 130	89.0	-	EPA-524.2
		LCS Dup	0 - 20	-	0.9	
Benzene	QC73955	LCS	70 - 130	101.6	-	EPA-524.2
		LCS Dup	0 - 20	-	2.8	
Bromobenzene	QC73955	LCS	70 - 130	105.8	-	EPA-524.2
		LCS Dup	0 - 20	-	2.9	
Bromochloromethane	QC73955	LCS	70 - 130	85.8	-	EPA-524.2
		LCS Dup	0 - 20	-	12.5	
Bromodichloromethane	QC73955	LCS	70 - 130	97.4	-	EPA-524.2
		LCS Dup	0 - 20	-	0.6	
Bromoform	QC73955	LCS	70 - 130	105.2	-	EPA-524.2
		LCS Dup	0 - 20	-	4.7	
Bromomethane	QC73955	LCS	70 - 130	113.8	-	EPA-524.2
		LCS Dup	0 - 20	-	13.5	
Carbon Tetrachloride	QC73955	LCS	70 - 130	96.0	-	EPA-524.2
		LCS Dup	0 - 20	-	4.7	
Chlorodibromomethane	QC73955	LCS	70 - 130	89.6	-	EPA-524.2
		LCS Dup	0 - 20	-	0.7	
Chloroethane	QC73955	LCS	70 - 130	115.6	-	EPA-524.2
		LCS Dup	0 - 20	-	15.1	
Chloroform	QC73955	LCS	70 - 130	85.6	-	EPA-524.2
		LCS Dup	0 - 20	-	11.5	
Chloromethane	QC73955	LCS	70 - 130	128.0	-	EPA-524.2
		LCS Dup	0 - 20	-	16.6	
cis-1,2-Dichloroethylene	QC73955	LCS	70 - 130	86.4	-	EPA-524.2
		LCS Dup	0 - 20	-	9.9	
Dibromomethane	QC73955	LCS	70 - 130	96.8	-	EPA-524.2
		LCS Dup	0 - 20	-	6.6	
Dichlorodifluoromethane	QC73955	LCS	70 - 130	170.0	-	EPA-524.2
		LCS Dup	0 - 20	-	17.0	
		Analyte recovery above upper QC limits. Analyte not detected above MRL in samples, no corrective action required. SPF 6/11/2024				
		LCS Dup	0 - 20	-	17.0	
		Analyte recovery above upper QC limits. Analyte not detected above MRL in samples, no corrective action required. SPF 6/11/2024				
Dichloromethane	QC73955	LCS	70 - 130	113.4	-	EPA-524.2
		LCS Dup	0 - 20	-	11.6	
Ethylbenzene	QC73955	LCS	70 - 130	102.6	-	EPA-524.2
		LCS Dup	0 - 20	-	4.6	

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Fluorotrichloromethane	QC73955	LCS	70 - 130	122.2	-	EPA-524.2	
		LCS Dup	0 - 20	-	13.4		
Hexachlorobutadiene	QC73955	LCS	70 - 130	108.2	-	EPA-524.2	
		LCS Dup	0 - 20	-	8.7		
Isopropylbenzene	QC73955	LCS	70 - 130	96.8	-	EPA-524.2	
		LCS Dup	0 - 20	-	7.3		
m-Dichlorobenzene	QC73955	LCS	70 - 130	107.6	-	EPA-524.2	
		LCS Dup	0 - 20	-	6.9		
Monochlorobenzene	QC73955	LCS	70 - 130	97.6	-	EPA-524.2	
		LCS Dup	0 - 20	-	6.3		
Naphthalene	QC73955	LCS	70 - 130	110.2	-	EPA-524.2	
		LCS Dup	0 - 20	-	7.7		
n-Butylbenzene	QC73955	LCS	70 - 130	114.2	-	EPA-524.2	
		LCS Dup	0 - 20	-	7.6		
n-Propylbenzene	QC73955	LCS	70 - 130	109.0	-	EPA-524.2	
		LCS Dup	0 - 20	-	7.8		
o-Chlorotoluene	QC73955	LCS	70 - 130	109.8	-	EPA-524.2	
		LCS Dup	0 - 20	-	7.6		
o-Dichlorobenzene	QC73955	LCS	70 - 130	108.8	-	EPA-524.2	
		LCS Dup	0 - 20	-	5.1		
Para-Dichlorobenzene	QC73955	LCS	70 - 130	105.8	-	EPA-524.2	
		LCS Dup	0 - 20	-	5.0		
p-Chlorotoluene	QC73955	LCS	70 - 130	108.8	-	EPA-524.2	
		LCS Dup	0 - 20	-	1.3		
p-Isopropyltoluene	QC73955	LCS	70 - 130	110.4	-	EPA-524.2	
		LCS Dup	0 - 20	-	5.6		
sec-Butylbenzene	QC73955	LCS	70 - 130	113.4	-	EPA-524.2	
		LCS Dup	0 - 20	-	5.4		
Styrene	QC73955	LCS	70 - 130	102.0	-	EPA-524.2	
		LCS Dup	0 - 20	-	5.9		
tert-Butylbenzene	QC73955	LCS	70 - 130	93.0	-	EPA-524.2	
		LCS Dup	0 - 20	-	5.0		
Tetrachloroethylene	QC73955	LCS	70 - 130	95.0	-	EPA-524.2	
		LCS Dup	0 - 20	-	1.1		
Toluene	QC73955	LCS	70 - 130	97.2	-	EPA-524.2	
		LCS Dup	0 - 20	-	2.7		
trans-1,2-Dichloroethylene	QC73955	LCS	70 - 130	113.6	-	EPA-524.2	
		LCS Dup	0 - 20	-	14.3		
Trichloroethylene	QC73955	LCS	70 - 130	95.8	-	EPA-524.2	
		LCS Dup	0 - 20	-	7.0		
Vinyl chloride	QC73955	LCS	70 - 130	126.0	-	EPA-524.2	
		LCS Dup	0 - 20	-	11.6		
Alachlor	QC73782	LCS	70 - 130	124.0	-	EPA 525.2	
		MS -240603145-01M	70 - 130	131.0	-		
Atrazine	QC73782	LCS	70 - 130	136.0	-	EPA 525.2	
		Analyte is above the QC criteria in the LCS; all samples below MRL. No corrective action necessary. MBS 6/13/2024					
		MS -240603145-01M	70 - 130	110.0	-		
Benzo(a)pyrene	QC73782	LCS	70 - 130	111.0	-	EPA 525.2	
		MS -240603145-01M	70 - 130	122.0	-		

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Butachlor	QC73782	LCS	70 - 130	119.0	-	EPA 525.2
		MS -240603145-01M	70 - 130	126.0	-	
Di(2-ethylhexyl)adipate	QC73782	LCS	70 - 130	114.0	-	EPA 525.2
		MS -240603145-01M	70 - 130	118.0	-	
Di(2-ethylhexyl)phthalate	QC73782	LCS	70 - 130	119.0	-	EPA 525.2
		MS -240603145-01M	70 - 130	123.0	-	
Heptachlor	QC73782	LCS	70 - 130	106.0	-	EPA 525.2
		MS -240603145-01M	70 - 130	120.0	-	
Metolachlor	QC73782	LCS	70 - 130	131.0	-	EPA 525.2
		Analyte is above the QC criteria in the LCS; all samples below MRL. No corrective action necessary. MBS 6/13/2024 MS -240603145-01M	70 - 130	128.0	-	
Metribuzin	QC73782	LCS	70 - 130	110.0	-	EPA 525.2
		MS -240603145-01M	70 - 130	117.0	-	
Propachlor	QC73782	LCS	70 - 130	125.0	-	EPA 525.2
		MS -240603145-01M	70 - 130	125.0	-	
Simazine	QC73782	LCS	70 - 130	135.0	-	EPA 525.2
		Analyte is above the QC criteria in the LCS; all samples below MRL. No corrective action necessary. MBS 6/13/2024 MS -240603145-01M	70 - 130	112.0	-	
3-Hydroxycarbofuran	QC73817	LCS	80 - 120	83.9	-	EPA 531.1
		MS -240529050-01E	65 - 135	91.8	-	
Aldicarb	QC73817	LCS	80 - 120	85.6	-	EPA 531.1
		MS -240529050-01E	65 - 135	96.0	-	
Aldicarb sulfone	QC73817	LCS	80 - 120	88.6	-	EPA 531.1
		MS -240529050-01E	65 - 135	99.4	-	
Aldicarb sulfoxide	QC73817	LCS	80 - 120	89.5	-	EPA 531.1
		MS -240529050-01E	65 - 135	103.8	-	
Carbaryl	QC73817	LCS	80 - 120	80.2	-	EPA 531.1
		MS -240529050-01E	65 - 135	85.8	-	
Carbofuran	QC73817	LCS	80 - 120	88.5	-	EPA 531.1
		MS -240529050-01E	65 - 135	94.0	-	
Methomyl	QC73817	LCS	80 - 120	84.0	-	EPA 531.1
		MS -240529050-01E	65 - 135	93.6	-	
Oxamyl	QC73817	LCS	80 - 120	82.2	-	EPA 531.1
		MS -240529050-01E	65 - 135	92.6	-	
Endothall	QC73777	LCS	52 - 137	83.5	-	EPA 548.1
		MS -240528086-01G	39 - 133	86.7	-	
Diquat	QC73776	LCS	70 - 130	78.2	-	EPA 549.2
		MS -240528086-01H	70 - 130	80.8	-	
Ammonia Nitrogen	QC73798	Duplicate -240530040-01	0 - 20	-	0.0	SM 4500-NH3-G
		LCS	90 - 110	107.5	-	
		MS -240603066-08	75 - 125	108.2	-	
Chloride	QC73767	Duplicate -240529113-01	0 - 20	-	17.8	EPA 300.0
		LCS	90 - 110	102.6	-	
		MS -240529113-01	75 - 125	100.1	-	
Cyanide-Free	QC73805	Duplicate -240603129-02	0 - 20	-	4.9	ASTM D4282-15
		LCS	90 - 110	100.9	-	
		MS -240528008-09	75 - 125	81.5	-	
		MSD -240528008-09	0 - 30	-	0.0	
Dissolved Organic Carbon	QC73894	Duplicate -240604126-01	0 - 10	-	0.3	SM 5310-C
		LCS	90 - 110	104.0	-	

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Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
		MS -240604126-02	85 - 115	107.0	-	
Fluoride	QC73770	Duplicate -240530104-01	0 - 20	-	3.0	EPA 300.0
		LCS	90 - 110	96.2	-	
		MS -240530104-01	75 - 125	94.8	-	
MBAS (calculated as LAS, mol wt 340)	QC73752	LCS	90 - 110	107.0	-	SM 5540-C
		MS -240530117-01A	90 - 110	101.0	-	
		MSD -240530117-01A	0 - 10	-	1.0	
Aluminum	QC73824	LCS	90 - 110	102.9	-	EPA 200.8
		MS -240529099-02A	70 - 130	86.8	-	
		MSD -240529099-02A	0 - 10	-	2.6	
Antimony	QC73824	LCS	90 - 110	103.9	-	EPA 200.8
		MS -240529099-02A	70 - 130	97.1	-	
		MSD -240529099-02A	0 - 10	-	3.5	
Arsenic	QC73824	LCS	90 - 110	101.7	-	EPA 200.8
		MS -240529099-02A	70 - 130	104.6	-	
		MSD -240529099-02A	0 - 10	-	3.3	
Barium	QC73824	LCS	90 - 110	101.0	-	EPA 200.8
		MS -240529099-02A	70 - 130	97.4	-	
		MSD -240529099-02A	0 - 10	-	8.3	
Beryllium	QC73824	LCS	90 - 110	104.3	-	EPA 200.8
		MS -240529099-02A	70 - 130	94.5	-	
		MSD -240529099-02A	0 - 10	-	3.3	
Cadmium	QC73824	LCS	90 - 110	101.1	-	EPA 200.8
		MS -240529099-02A	70 - 130	96.8	-	
		MSD -240529099-02A	0 - 10	-	6.7	
Chromium	QC73824	LCS	90 - 110	105.2	-	EPA 200.8
		MS -240529099-02A	70 - 130	103.1	-	
		MSD -240529099-02A	0 - 10	-	0.9	
Copper	QC73824	LCS	90 - 110	98.6	-	EPA 200.8
		MS -240529099-02A	70 - 130	97.7	-	
		MSD -240529099-02A	0 - 10	-	1.5	
Lead	QC73824	LCS	90 - 110	108.5	-	EPA 200.8
		MS -240529099-02A	70 - 130	94.6	-	
		MSD -240529099-02A	0 - 10	-	3.6	
Manganese	QC73824	LCS	90 - 110	107.2	-	EPA 200.8
		MS -240529099-02A	70 - 130	100.4	-	
		MSD -240529099-02A	0 - 10	-	2.0	
Mercury	QC73824	LCS	90 - 110	101.6	-	EPA 200.8
		MS -240529099-02A	70 - 130	97.6	-	
		MSD -240529099-02A	0 - 10	-	0.7	
Nickel	QC73824	LCS	90 - 110	106.6	-	EPA 200.8
		MS -240529099-02A	70 - 130	102.1	-	
		MSD -240529099-02A	0 - 10	-	0.4	
Selenium	QC73824	LCS	90 - 110	99.2	-	EPA 200.8
		MS -240529099-02A	70 - 130	113.8	-	
		MSD -240529099-02A	0 - 10	-	1.7	
Silver	QC73824	LCS	90 - 110	101.2	-	EPA 200.8
		MS -240529099-02A	70 - 130	93.6	-	
		MSD -240529099-02A	0 - 10	-	1.2	
Thallium	QC73824	LCS	90 - 110	107.1	-	EPA 200.8

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Uranium	QC73824	MS -240529099-02A	70 - 130	90.4	-	EPA 200.8
		MSD -240529099-02A	0 - 10	-	2.2	
Zinc	QC73824	LCS	90 - 110	107.4	-	EPA 200.8
		MS -240529099-02A	70 - 130	93.8	-	
		MSD -240529099-02A	0 - 10	-	3.3	
Calcium	QC73784	LCS	90 - 110	94.6	-	EPA 200.7
		MS -240529099-02A	70 - 130	97.0	-	
		MSD -240529099-02A	0 - 10	-	2.8	
Iron	QC73784	Duplicate -240530002-01	0 - 20	-	1.5	EPA 200.7
		LCS	90 - 110	96.1	-	
		MS -240530054-01A	75 - 125	101.5	-	
Magnesium	QC73784	Duplicate -240530002-01	0 - 20	-	0.3	EPA 200.7
		LCS	90 - 110	103.7	-	
		MS -240530054-01A	75 - 125	112.6	-	
Potassium	QC73784	Duplicate -240530002-01	0 - 20	-	0.5	EPA 200.7
		LCS	90 - 110	98.6	-	
		MS -240530054-01A	75 - 125	105.4	-	
Sodium	QC73784	Duplicate -240530002-01	0 - 20	-	1.6	EPA 200.7
		LCS	90 - 110	106.6	-	
		MS -240530054-01A	75 - 125	116.7	-	
Nitrate Nitrogen	QC73765	Duplicate -240529003-01	0 - 20	-	1.2	EPA 200.7
		LCS	90 - 110	100.1	-	
		MS -240530054-01A	75 - 125	108.1	-	
Nitrite Nitrogen	QC73765	Duplicate -240529003-01	0 - 20	-	1.0	EPA 300.0
		LCS	90 - 110	100.9	-	
		MS -240529003-01	75 - 125	89.3	-	
Sulfate	QC73766	Duplicate -240529003-01	0 - 20	-	0.0	EPA 300.0
		LCS	90 - 110	94.9	-	
		MS -240529003-01	75 - 125	96.9	-	
Sulfide as H2S	QC73769	Duplicate -240529113-01	0 - 20	-	11.5	EPA 300.0
		LCS	90 - 110	99.6	-	
		MS -240529113-01	75 - 125	97.7	-	
Total Organic Carbon	QC73830	Duplicate -240529072-01	0 - 20	-	3.1	SM 4500-S2-G
		LCS	70 - 130	98.4	-	
Total Organic Carbon	QC73893	Duplicate -240603160-02	0 - 10	-	1.0	SM 5310-C
		LCS	90 - 110	104.0	-	
		MS -240603160-01A	85 - 115	101.0	-	

All analyses were performed in accordance with approved methods under the latest revision to 40 CFR Part 136 unless otherwise identified. Based on my inquiry of the person or persons directly responsible for analyzing the wastewater samples and generating the report (s), the analyses, report, and information submitted are, to the best of my knowledge and belief, true, accurate, and complete.



DATA APPROVED FOR RELEASE BY

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ANALYTICAL REPORT

PREPARED FOR

Attn: Rebecca Manzanares
Colorado Analytical Laboratories Inc
10411 Heinz Way
Commerce City, Colorado 80640

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JOB DESCRIPTION

4053HRG02 Grandview
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280-192226-1

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Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



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Case Narrative

Client: Colorado Analytical Laboratories Inc
Project: 4053HRG02 Grandview

Job ID: 280-192226-1

Job ID: 280-192226-1

Eurofins Denver

Job Narrative 280-192226-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 6/3/2024 2:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

Receipt Exceptions

The following samples were received outside of holding time: 240530117-01T - LF-1 (280-192226-3) and 240530117-02 - LF-1 (280-192226-4).

Two plastic 1L containers were received for the following sample, while the COC only lists one: 240530117-02 - LF-1 (280-192226-4).

Method 547 - Glyphosate (DAI HPLC) - Dissolved

Sample 240530117-01R - LF-1 (280-192226-1) was analyzed for Glyphosate (DAI HPLC) - Dissolved. The sample was analyzed on 6/7/2024.

Method 1613B - Tetra Chlorinated Dioxin (HRGC/HRMS)

Sample 240530117-01S - LF-1 (280-192226-2) was analyzed for Tetra Chlorinated Dioxin (HRGC/HRMS). The sample was prepared on 6/7/2024 and analyzed on 6/13/2024.

Method 4500 Cl F Amine - Chloramines

Sample 240530117-02 - LF-1 (280-192226-4) was analyzed for Chloramines. The sample was analyzed on 6/5/2024.

The following sample was received outside of holding time: 240530117-02 - LF-1 (280-192226-4).

Method 4500 ClO2 D - Chlorine Dioxide

Sample 240530117-01T - LF-1 (280-192226-3) was analyzed for Chlorine Dioxide. The sample was analyzed on 6/5/2024.

The following sample was received outside of holding time: 240530117-01T - LF-1 (280-192226-3).

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Definitions/Glossary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
SDG: 240530117

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Detection Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
SDG: 240530117

Client Sample ID: 240530117-01R - LF-1

Lab Sample ID: 280-192226-1

No Detections.

Client Sample ID: 240530117-01S - LF-1

Lab Sample ID: 280-192226-2

No Detections.

Client Sample ID: 240530117-01T - LF-1

Lab Sample ID: 280-192226-3

No Detections.

Client Sample ID: 240530117-02 - LF-1

Lab Sample ID: 280-192226-4

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
SDG: 240530117

Method	Method Description	Protocol	Laboratory
547	Glyphosate (DAI HPLC)	EPA	EA SB
1613B	Tetra Chlorinated Dioxin (HRGC/HRMS)	EPA	EET KNX
4500 Cl F Amine	Chloramines	SM	EA SB
4500 ClO2 D	Chlorine Dioxide	SM	EA SB
Filtration	Sample Filtration	None	EA SB
HRMS-Sepf	Separatory Funnel (Liquid-Liquid) Extraction	EPA	EET KNX

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
SDG: 240530117

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-192226-1	240530117-01R - LF-1	Water	05/30/24 08:30	06/03/24 14:25
280-192226-2	240530117-01S - LF-1	Water	05/30/24 08:30	06/03/24 14:25
280-192226-3	240530117-01T - LF-1	Water	05/30/24 08:30	06/03/24 14:25
280-192226-4	240530117-02 - LF-1	Water	05/30/24 13:40	06/03/24 14:25

- 1
- 2
- 3
- 4
- 5
- 6
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- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
 SDG: 240530117

Method: EPA 547 - Glyphosate (DAI HPLC) - Dissolved

Client Sample ID: 240530117-01R - LF-1
Date Collected: 05/30/24 08:30
Date Received: 06/03/24 14:25

Lab Sample ID: 280-192226-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Glyphosate	ND		6.0	3.0	ug/L			06/07/24 22:39	1

Method: EPA 1613B - Tetra Chlorinated Dioxin (HRGC/HRMS)

Client Sample ID: 240530117-01S - LF-1
Date Collected: 05/30/24 08:30
Date Received: 06/03/24 14:25

Lab Sample ID: 280-192226-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		5.1	0.27	pg/L		06/07/24 12:49	06/13/24 08:41	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C-2,3,7,8-TCDD	34		31 - 137				06/07/24 12:49	06/13/24 08:41	1

General Chemistry

Client Sample ID: 240530117-01T - LF-1
Date Collected: 05/30/24 08:30
Date Received: 06/03/24 14:25

Lab Sample ID: 280-192226-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine dioxide, Residual (SM 4500 ClO2 D)	ND	HF	0.24	0.24	mg/L			06/05/24 15:04	1

Client Sample ID: 240530117-02 - LF-1
Date Collected: 05/30/24 13:40
Date Received: 06/03/24 14:25

Lab Sample ID: 280-192226-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Monochloramine (SM 4500 Cl F Amine)	ND	HF	0.10	0.10	mg/L			06/05/24 12:26	1
Dichloramine (SM 4500 Cl F Amine)	ND	HF	0.10	0.10	mg/L			06/05/24 12:26	1
Nitrogen trichloride (SM 4500 Cl F Amine)	ND	HF	0.20	0.20	mg/L			06/05/24 12:26	1
Chloramines, Total (SM 4500 Cl F Amine)	ND	HF	0.20	0.20	mg/L			06/05/24 12:26	1

QC Sample Results

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
 SDG: 240530117

Method: 547 - Glyphosate (DAI HPLC)

Lab Sample ID: MB 810-101859/1-A
 Matrix: Water
 Analysis Batch: 101905

Client Sample ID: Method Blank
 Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Glyphosate	ND		6.0	3.0	ug/L			06/07/24 16:58	1

Lab Sample ID: LCS 810-101859/3-A
 Matrix: Water
 Analysis Batch: 101905

Client Sample ID: Lab Control Sample
 Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Glyphosate	50.0	47.9		ug/L		96	73 - 122

Lab Sample ID: LLCS 810-101859/2-A
 Matrix: Water
 Analysis Batch: 101905

Client Sample ID: Lab Control Sample
 Prep Type: Dissolved

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Glyphosate	6.00	5.95	J	ug/L		99	42 - 160

Method: 1613B - Tetra Chlorinated Dioxin (HRGC/HRMS)

Lab Sample ID: MB 140-87415/6-A
 Matrix: Water
 Analysis Batch: 87592

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 87415

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		5.0	0.16	pg/L		06/07/24 12:49	06/13/24 04:42	1
Isotope Dilution	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
¹³ C-2,3,7,8-TCDD	48		31 - 137				06/07/24 12:49	06/13/24 04:42	1

Lab Sample ID: LCS 140-87415/5-A
 Matrix: Water
 Analysis Batch: 87592

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 87415

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	200	200		pg/L		100	73 - 146
Isotope Dilution	%Recovery	LCS Qualifier	Limits				
¹³ C-2,3,7,8-TCDD	47		25 - 141				

Method: 4500 CI F Amine - Chloramines

Lab Sample ID: MBL 810-101521/1
 Matrix: Water
 Analysis Batch: 101521

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Monochloramine	ND		0.10	0.10	mg/L			06/05/24 12:25	1
Dichloramine	ND		0.10	0.10	mg/L			06/05/24 12:25	1
Nitrogen trichloride	ND		0.20	0.20	mg/L			06/05/24 12:25	1
Chloramines, Total	ND		0.20	0.20	mg/L			06/05/24 12:25	1

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QC Sample Results

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
 SDG: 240530117

Method: 4500 Cl F Amine - Chloramines (Continued)

Lab Sample ID: MBL 810-101521/3
Matrix: Water
Analysis Batch: 101521

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Monochloramine	ND		0.10	0.10	mg/L			06/05/24 12:28	1
Dichloramine	ND		0.10	0.10	mg/L			06/05/24 12:28	1
Nitrogen trichloride	ND		0.20	0.20	mg/L			06/05/24 12:28	1
Chloramines, Total	ND		0.20	0.20	mg/L			06/05/24 12:28	1

Method: 4500 ClO2 D - Chlorine Dioxide

Lab Sample ID: MBL 810-101576/1
Matrix: Water
Analysis Batch: 101576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine dioxide, Residual	ND		0.24	0.24	mg/L			06/05/24 15:03	1

Lab Sample ID: MBL 810-101576/4
Matrix: Water
Analysis Batch: 101576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine dioxide, Residual	ND		0.24	0.24	mg/L			06/05/24 15:05	1

QC Association Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
SDG: 240530117

HPLC/IC

Filtration Batch: 101859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-192226-1	240530117-01R - LF-1	Dissolved	Water	Filtration	
MB 810-101859/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 810-101859/3-A	Lab Control Sample	Dissolved	Water	Filtration	
LLCS 810-101859/2-A	Lab Control Sample	Dissolved	Water	Filtration	

Analysis Batch: 101905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-192226-1	240530117-01R - LF-1	Dissolved	Water	547	101859
MB 810-101859/1-A	Method Blank	Dissolved	Water	547	101859
LCS 810-101859/3-A	Lab Control Sample	Dissolved	Water	547	101859
LLCS 810-101859/2-A	Lab Control Sample	Dissolved	Water	547	101859

Specialty Organics

Prep Batch: 87415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-192226-2	240530117-01S - LF-1	Total/NA	Water	HRMS-Sepf	
MB 140-87415/6-A	Method Blank	Total/NA	Water	HRMS-Sepf	
LCS 140-87415/5-A	Lab Control Sample	Total/NA	Water	HRMS-Sepf	

Analysis Batch: 87592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-192226-2	240530117-01S - LF-1	Total/NA	Water	1613B	87415
MB 140-87415/6-A	Method Blank	Total/NA	Water	1613B	87415
LCS 140-87415/5-A	Lab Control Sample	Total/NA	Water	1613B	87415

General Chemistry

Analysis Batch: 101521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-192226-4	240530117-02 - LF-1	Total/NA	Water	4500 CI F Amine	
MBL 810-101521/1	Method Blank	Total/NA	Water	4500 CI F Amine	
MBL 810-101521/3	Method Blank	Total/NA	Water	4500 CI F Amine	

Analysis Batch: 101576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-192226-3	240530117-01T - LF-1	Total/NA	Water	4500 CIO2 D	
MBL 810-101576/1	Method Blank	Total/NA	Water	4500 CIO2 D	
MBL 810-101576/4	Method Blank	Total/NA	Water	4500 CIO2 D	

Lab Chronicle

Client: Colorado Analytical Laboratories Inc
Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
SDG: 240530117

Client Sample ID: 240530117-01R - LF-1

Lab Sample ID: 280-192226-1

Date Collected: 05/30/24 08:30

Matrix: Water

Date Received: 06/03/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			40 mL	40 mL	101859	06/07/24 09:28	MR	EA SB
Dissolved	Analysis	547		1			101905	06/07/24 22:39	RS	EA SB

Client Sample ID: 240530117-01S - LF-1

Lab Sample ID: 280-192226-2

Date Collected: 05/30/24 08:30

Matrix: Water

Date Received: 06/03/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sepf			981.5 mL	10 uL	87415	06/07/24 12:49	DAC	EET KNX
Total/NA	Analysis	1613B		1			87592	06/13/24 08:41	MSP	EET KNX

Client Sample ID: 240530117-01T - LF-1

Lab Sample ID: 280-192226-3

Date Collected: 05/30/24 08:30

Matrix: Water

Date Received: 06/03/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	4500 ClO2 D		1	100 mL	100 mL	101576	06/05/24 15:04	GB	EA SB

Client Sample ID: 240530117-02 - LF-1

Lab Sample ID: 280-192226-4

Date Collected: 05/30/24 13:40

Matrix: Water

Date Received: 06/03/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	4500 Cl F Amine		1	100 mL	100 mL	101521	06/05/24 12:26	KH	EA SB

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
 SDG: 240530117

Laboratory: Eurofins Eaton Analytical South Bend

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	5794.01	07-31-24
Alabama	State	40700	06-30-24
Alaska	State	IN00035	06-30-24
Arizona	State	AZ0432	07-26-24
Arkansas (DW)	State	EPA IN00035	06-30-24
California	State	2920	06-30-24
Colorado	State	IN00035	02-28-25
Connecticut	State	PH-0132	03-31-26
Delaware (DW)	State	IN00035	06-30-24
Florida	NELAP	E87775	06-30-24
Georgia (DW)	State	929	06-30-24
Guam	State	23-011R	07-15-24
Hawaii	State	IN035	06-30-24
Idaho (DW)	State	IN00035	12-31-24
IL Dept. of Public Health (Micro)	State	17767	07-01-24
Illinois	NELAP	200001	09-19-24
Indiana	State	C-71-01	12-31-25
Indiana (Micro)	State	M-76-07	12-31-25
Iowa	State	IA Lab #098	11-01-25
Kansas	NELAP	E-10233	10-31-24
Kentucky (DW)	State	KY90056	12-31-24
Louisiana (DW)	State	LA014	12-31-24
Maine	State	IN00035	05-01-25
Maryland	State	209	06-30-25
Massachusetts	State	M-IN035	06-30-25
MI - RadChem Recognition	State	9926	06-12-24
Michigan	State	9926	06-12-24
Minnesota	NELAP	1989807	12-31-24
Mississippi	State	IN00035	06-30-24
Missouri	State	880	09-30-24
Montana (DW)	State	CERT0026	01-01-25
Nebraska	State	NE-OS-05-04	06-30-24
Nevada	State	IN000352024-01	07-31-24
New Hampshire	NELAP	2124	11-05-24
New Jersey	NELAP	IN598	06-30-24
New Mexico	State	IN00035	06-30-24
New York	NELAP	11398	04-01-25
North Carolina (DW)	State	18700	07-31-24
North Dakota	State	R-035	06-30-24
Northern Mariana Islands (DW)	State	IN00035	06-30-24
Ohio	State	87775	06-30-24
Oklahoma	NELAP	D9508	08-31-24
Oregon	NELAP	4156	09-16-24
Pennsylvania	NELAP	68-00466	04-30-25
Puerto Rico	State	IN00035	04-01-25
Rhode Island	State	LAO00343	12-30-24
South Carolina	State	95005001	07-01-25
South Dakota (DW)	State	IN00035	06-30-24
Tennessee	State	TN02973	06-30-24
Texas	NELAP	T104704187-22-16	12-31-24

Accreditation/Certification Summary

Client: Colorado Analytical Laboratories Inc
 Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
 SDG: 240530117

Laboratory: Eurofins Eaton Analytical South Bend (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	TCEQ Water Supply	TX207	06-30-24
USEPA Reg X SDWA	US Federal Programs	IN00035	08-24-24
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25
Utah	NELAP	IN00035	07-31-24
Vermont	State	VT-8775	11-15-24
Virginia	NELAP	460275	03-14-25
Washington	State	C837	01-01-25
West Virginia (DW)	State	9927 C	01-31-25
Wisconsin	State	999766900	08-31-24
Wisconsin (Micro)	State	10121	12-31-24
Wyoming	State	8TMS-L	06-30-24

Laboratory: Eurofins Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-17-25
Colorado	State	TN00009	02-28-25
Connecticut	State	PH-0223	10-01-26
Florida	NELAP	E87177	06-30-24
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-24
Kansas	NELAP	E-10349	10-31-24
Kentucky (DW)	State	90101	12-31-24
Louisiana (All)	NELAP	83979	06-30-24
Louisiana (DW)	State	LA019	12-31-24
Maryland	State	277	03-31-25
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-24
New Hampshire	NELAP	2999	01-17-25
New Jersey	NELAP	TN001	07-01-24
New York	NELAP	10781	03-31-25
North Carolina (DW)	State	21705	07-31-24
North Carolina (WW/SW)	State	64	12-31-24
Oklahoma	State	9415	08-31-24
Oregon	NELAP	TNI0189	01-01-25
Pennsylvania	NELAP	68-00576	12-31-24
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-23-18	08-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-24
Virginia	NELAP	460176	09-14-24
Washington	State	C593	01-19-25
West Virginia (DW)	State	9955C	12-31-24
West Virginia DEP	State	345	04-30-25

Accreditation/Certification Summary

Client: Colorado Analytical Laboratories Inc
Project/Site: 4053HRG02 Grandview

Job ID: 280-192226-1
SDG: 240530117

Laboratory: Eurofins Knoxville (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998044300	08-31-24

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 10
- 11
- 12
- 13
- 14

Login Sample Receipt Checklist

Client: Colorado Analytical Laboratories Inc

Job Number: 280-192226-1

SDG Number: 240530117

Login Number: 192226

List Number: 1

Creator: Held, Wesley

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Colorado Analytical Laboratories Inc

Job Number: 280-192226-1

SDG Number: 240530117

Login Number: 192226

List Number: 2

Creator: Williams, Kameron

List Source: Eurofins Eaton Analytical South Bend

List Creation: 06/05/24 10:06 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	False	Client provided containers



BY APPOINTMENT ONLY

Ship To: Eurofins TA Denver

Sub-Lab Chain of Custody Form

Report To Information Company Name <u>Colorado Analytical Laboratory</u> Report To: <u>Rebecca Manzanares</u> E-Mail: <u>rebeccamanzanares@coloradolab.com</u>	Bill To Information: (If different from report to) Project Name <u>4053HRG02_Grandview</u>
Address: <u>10411 Heinz Way</u> <u>Commerce City, CO 80640</u> Phone: <u>303-659-2313</u>	Compliance Samples: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Submit Data to CDPHE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> CAL TASK <u>240530117</u> JML

Tests Requested

Sample Date/Time	Sample ID	Matrix	Tests Requested	Container Type
5/30/24 8:30 AM	240530117-01R - LF-1	Water - Drinking	Dioxin (2,3,7,8 TCDD) - (Su) <input checked="" type="checkbox"/> 547 Glyphosate (Sub) <input checked="" type="checkbox"/> Chloramines (Sub) <input type="checkbox"/> Chlorine Dioxide Residual (<input type="checkbox"/>	2 - 40ml vva - Na2S2O3
5/30/24 8:30 AM	240530117-01S - LF-1	Water - Drinking		2 - 1L Amber - Unpreserved
5/30/24 8:30 AM	240530117-01T - LF-1	Water - Drinking		500 ml Cylinder - Unpreserved
5/30/24 1:40 PM	240530117-02 - LF-1	Water - Drinking		1l Cylinder - Unpreserved

Comment:



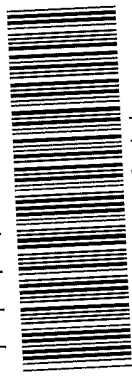
1-888-NAC-150-2

Relinquished by: (Signature) <u>[Signature]</u>	Date: Time <u>6/13/24</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date: Time <u>6/13/24</u>
Received by: (Signature) <u>[Signature]</u>	Date: Time <u>6/13/24</u>	Received by: (Signature) <u>[Signature]</u>	Date: Time <u>6/13/24</u>

1030



Chain of Custody Record

Client Information (Sub Contract Lab)		Lab PM: Stone, Natalie B	Carrier Tracking No(s):	COC No: 280-704696.1	
Shipping/Receiving		E-Mail: Natalie.Stone@et.eurofins.com	State of Origin: Colorado	Page: Page 1 of 1	
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):			
Address: 5815 Middlebrook Pike,		Preservation Codes: 280-192226-1			
City: Knoxville	Due Date Requested: 6/17/2024	Analysis Requested			
State, Zip: TN, 37921	TAT Requested (days):				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:				
Email:	WO #:				
Project Name: 4053HRG02 Grandview	Project #: 28018714	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	163B_DW/613B_P_Sep 2,3,7,8-TCDD in Drinking Water	
Site: Colorado Analytical	SOW#:	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Titania, A=Air)	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Preservation Code	Special Instructions/Note:
		240530117-01S - LF-1 (280-192226-2)	5/30/24	08:30 Mountain	
Custody Seal Intact Received at RT: 1.4 CT: 1.5 °C SN 615/24 1 Cooler FedEx 7385 6147 2395 PD				280-192226 Chain of Custody	
		Total Number of Containers: 2			
		Other:			
		Special Instructions/Note:			
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.					
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) _____ Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <i>[Signature]</i> Date: 6/14/24 15:10 Relinquished by: _____ Date: _____ Relinquished by: _____ Date: _____ Custody Seals Intact: _____ Custody Seal No.: _____ Δ Yes Δ No					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:					
Primary Deliverable Rank: 2 Date: _____ Time: _____ Method of Shipment: _____ Received by: <i>[Signature]</i> Date/Time: 6/15/24 10:00 Company: ETA KJX Received by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks:					

EUROFINS KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	<input checked="" type="checkbox"/>				
2. Were ambient air containers received intact?	<input checked="" type="checkbox"/>				
3. The coolers/containers custody seal if present, is it intact?	<input checked="" type="checkbox"/>				pH 7 RCINC
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : <u>5376</u> Correction factor: <u>+0.1°C</u>	<input checked="" type="checkbox"/>				
5. Were all of the sample containers received intact?	<input checked="" type="checkbox"/>				
6. Were samples received in appropriate containers?	<input checked="" type="checkbox"/>				
7. Do sample container labels match COC? (IDs, Dates, Times)	<input checked="" type="checkbox"/>				
8. Were all of the samples listed on the COC received?	<input checked="" type="checkbox"/>				
9. Is the date/time of sample collection noted?	<input checked="" type="checkbox"/>				
10. Was the sampler identified on the COC?	<input checked="" type="checkbox"/>				
11. Is the client and project name/# identified?	<input checked="" type="checkbox"/>				
12. Are tests/parameters listed for each sample?	<input checked="" type="checkbox"/>				
13. Is the matrix of the samples noted?	<input checked="" type="checkbox"/>				
14. Was COC relinquished? (Signed/Dated/Timed)	<input checked="" type="checkbox"/>				
15. Were samples received within holding time?	<input checked="" type="checkbox"/>				
16. Were samples received with correct chemical preservative (excluding Encore)?	<input checked="" type="checkbox"/>				
17. Were VOA samples received without headspace?	<input checked="" type="checkbox"/>				
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: <u>465A 2624/09</u>	<input checked="" type="checkbox"/>				
19. For 1613B water samples is pH<9?	<input checked="" type="checkbox"/>				
20. For rad samples was sample activity info. Provided?	<input checked="" type="checkbox"/>				
Project #: <u>28018714</u> PM Instructions: _____					
Sample Receiving Associate: <u>Dan Hest</u> Date: <u>6/15/24</u>					
Labeling Verified by: _____ Date: _____					
pH test strip lot number: <u>AC329089</u>					
Box 16A: pH Preservation					Box 18A: Residual Chlorine
Preservative: _____					
Lot Number: _____					
Exp Date: _____					
Analyst: _____					
Date: _____					
Time: _____					



Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:							
Client Contact		Phone:	Stone, Natalie B		280-704697.1							
Shipping/Receiving			E-Mail:	State of Origin:	Page							
Company:			Natalie.Stone@et.eurofins.com	Colorado	Page 1 of 1							
Eurofins Eaton Analytical			Accreditations Required (See note):									
Address:		Due Date Requested:	Preservation Codes:									
110 S Hill Street,		6/17/2024										
City:		TAT Requested (days):	Analysis Requested									
South Bend												
State, Zip:		PO #:										
IN, 46617		WO #:										
Phone:		Project #:										
574-233-4777(Tel) 574-233-8207(Fax)		28018714										
Email:		SSOW#:										
Project Name:												
4053HRG02 Grandview												
Site:												
Colorado Analytical												
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, B=Soil, O=Water, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Preservation Code:	4500_CL_F_ClrAm/Chloramines	4500_CIO2_D/Chlorine Dioxide	547_PRC/Filtration_OP/Glyphosate	Perform MS/MSD (Yes or No)	Total Number of Containers	Special Instructions/Notes:
240530117-01R - LF-1 (280-192226-1)	5/30/24	08:30 Mountain	Water	Water	X			X		X	2	
240530117-01T - LF-1 (280-192226-3)	5/30/24	08:30 Mountain	Water	Water				X			1	Initial Temp: 2.8 Corrected Temp: 13.067 IR Gun #
240530117-02 - LF-1 (280-192226-4)	5/30/24	13:40 Mountain	Water	Water				X			2	Client Provided Sample Container *OK to proceed 4500CL2 & 4500CL1 F-ClrAm through hold time
<p>Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.</p>												
<p>Possible Hazard Identification <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p>												
<p>Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2</p>												
<p>Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____</p>												
<p>Relinquished by: <i>Barbara Stang</i> Date/Time: 6/17/24 14:40 Company: EETDEM Received by: <i>Kameron Williams</i> Date/Time: 05/16/24 09:15 Company: CEA-SB</p>												
<p>Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____</p>												
<p>Custody Seals Intact: _____ Cooler Temperature(s) °C and Other Remarks: _____ Δ Yes Δ No</p>												

ANALYSIS FOR WATERBORNE PARTICULATES

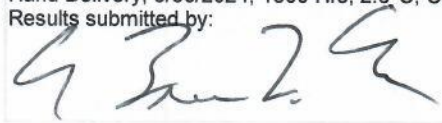
CH Diagnostic and Consulting Service, Inc.
 512 5th Street, Berthoud, CO 80513
 P: (970) 532-2078 F: (970) 532-3358

Invoice 20240124

Customer 20201521
 LRE Water
 1221 Auraria Parkway
 Denver, CO 80204

Laboratory Information

Hand Delivery; 5/30/2024; 1300 Hrs; 2.6°C; Carboy
 Results submitted by:



Sample Identification: L-1, Raw water

Sample Information: Unchlorinated; pH 8.94; 25.57°C

Sample Date & Time: 5/30/2024 09:00 AM

Sampler: Abbey Moore

Amount: 10 L

Filter Color: N/A

Filter Type: Envirochek™ HV capsule

Date/Time Eluted: 5/31/2024 12:00 AM

Centrifugate: 5 mL/100 L

RESULTS OF 1623 GIARDIA AND CRYPTOSPORIDIUM ANALYSIS

Amount of sample assayed: 10 L

		Total IFA Count	Empty	Amorphous Structure	1 Internal Structure	>=2 Internal Structure	Internal Structure	DAPI+ (nuclei stained)	DAPI+ (intense internal staining)	DAPI-
Giardia	detected	0	0	0	0	0		0	0	0
	# / L	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
Cryptosporidium	detected	0	0	0			0	0	0	0
	# / L	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1

This sample was analyzed for *Giardia* and *Cryptosporidium* by the method outlined in: Method 1623: *Cryptosporidium* and *Giardia* in Water by Filtration/IMS/FA December 2005. USEPA, Washington D.C., EPA-815-R-05-002. All limitations stated in the method apply. Detection limit calculated from volume assayed. If HV capsule was received, method was modified by filtering sample through a Pall Envirochek™ HV capsule at the sample site. If Microscopic Particulate Analysis was also performed, particulate extraction was modified.