U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION VIII WATER BRANCH, ENFORCEMENT
AND COMPLIANCE ASSURANCE DIVISION
CLEAN WATER ACT
COMPLIANCE INSPECTION REPORT

for

Name of Facility: Molson Coors USA Golden Brewery
Facility Address: 12th and Ford Streets, Golden CO 80401
Mailing Address: PO Box 4030 Mail Code BC 400 Golden, CO 80401

Report Prepared on: 8/8/2022 By: (b) (6)
Date *Signature*
Danny O'Connell, Environmental Scientist (PG Environmental)

Report Final as of: 8/24/2022 By: _____, EPA
Date *Signature*
Michael Boeglin, Supervisor, EPA Region 8

General Information

Type of Inspection: Industrial Wastewater CEI

Owner: Molson Coors USA, LLC

Operator: Molson Coors USA, LLC

Permittee: Molson Coors USA Golden Brewery

CDPS Permit No: CO0001163

CDPS Permit Effective Date: June 29, 2018, with modifications July 27, 2018, September 28, 2018, November 8, 2018, December 31, 2018, May 25, 2019, April 3, 2020, and October 30, 2020

CDPS Permit Expiration Date: October 31, 2023

Number of Outfalls: 1 external (001A) 3 internal

Receiving Water: Clear Creek

Latitude and Longitude: 39.757° N, 105.218° W

On-Site Facility Inspection Overview

Inspection Date: June 23, 2022
Approximate Entry Time: 7:55 a.m. (MDT)
Approximate Exit Time: 5:30 p.m. (MDT)

On June 23, 2022, a representative from U.S. Environmental Protection Agency (EPA) Region VIII and EPA's contract inspectors from PG Environmental (the EPA Inspection Team), conducted a compliance evaluation inspection (CEI) of wastewater discharges from the Molson Coors USA Golden Brewery in Golden, Colorado. Molson Coors USA, LLC is identified as the Permittee and owns and operates the Facility.

TABLE OF CONTENTS

List of Attachments

Appendix A: Photograph Log

Appendix B: Exhibit Log

- Exhibit 1 – GWTP, PWTP, and APTP Aerial Imagery – Location Maps
- Exhibit 2 – Golden Brewery Waste Alert Procedure (Stage Alerts)
- Exhibit 3 – Golden Brewery "General Waste Treatment Plant Operating Parameters" Packet
- Exhibit 4 – Molson Coors General Plant Jar Testing Procedure 2022
- Exhibit 5 – Process & General Waste Treatment Plants – Combined Laboratory Reports
- Exhibit 6 – GWTP Graveyard Shift Log Sheet
- Exhibit 7 – Process Flow Diagrams – GWTP, PWTP, and APTP
- Exhibit 8 – EPA's Integrated Compliance Information System (ICIS) Effluent Violations (April 1, 2019, through April 30, 2022)
- Exhibit 9 – EPA's Enforcement and Compliance History Online (ECHO) Effluent Violations (April 1, 2019, through April 30, 2022)
- Exhibit 10 – Historical Satellite Imagery – Clear Creek (Outfall 001A) 6/10/2021 and 9/29/2020
- Exhibit 11 – Molson Coors Golden Brewery Compliance Schedule Report: Activities to meet copper, cyanide, dissolved iron, and total recoverable iron final limits (October 2021)
- Exhibit 12 – Molson Coors Operations Log: Entries on May 5, 2022, May 6, 2022, and May 7, 2022

Appendix C: CDPS Permit No. CO0001163

I. INTRODUCTION

On June 23, 2022, a representative from U.S. Environmental Protection Agency (EPA) Region VIII and EPA's contract inspectors from PG Environmental (hereinafter, collectively referred to as the EPA Inspection Team) inspected the Molson Coors USA Golden Brewery (hereinafter, Facility) in Golden, Colorado. Molson Coors USA, LLC (hereinafter, Permittee) is identified as the Permittee and owns and operates the Facility. The EPA Inspection Team was joined on the inspection by representatives from Colorado Department of Public Health and Environment (CDPHE). The primary purpose of the inspection was to review and evaluate Facility operations and wastewater management, to review the accuracy and reliability of the Permittee's self-monitoring and reporting program, and to obtain information that will assist EPA in assessing the Permittee's compliance with the requirements of the Permit. The weather at the time of the inspection was hot and sunny.

The Facility is authorized to discharge process wastewater to Clear Creek consistent with the terms and conditions of Colorado Discharge Permit System (CDPS) Permit No. CO0001163 (hereinafter, the Permit). The Permit was issued on June 29, 2018, and was modified on July 27, 2018, September 28, 2018, November 8, 2018, December 31, 2018, May 25, 2019, April 3, 2020, and October 30, 2020. The Permit expires on October 31, 2023.

Photographs taken during the inspection are maintained on file with EPA Region VIII, some of which are included in this report as Appendix A, Photograph Log. Supporting documentation is included in Appendix B, Exhibit Log. A copy of the Permit is included as Appendix C.

Facility Description

The Facility treats waste from the beer making process (malting, boilers, clean-in-place (CIP) operations, and brewery waste), can manufacturing processes, and domestic waste from the City of Golden. Waste streams generated from beer making and can manufacturing are currently treated at the Process Waste Treatment Plant (PWTP), while domestic waste is treated at the General Waste Treatment Plant (GWTP). The PWTP receives 5.85 million gallons per day (MGD), while the GWTP receives 1.5-1.6 MGD. The Facility can also send process wastewater through the GWTP if necessary, although recently has discontinued this practice due to multiple effluent exceedances. A third treatment plant, the Anaerobic Pre-Treatment Plant (APTP) is used to pre-treat the strongest waste streams (highest level of organics) generated from the beer making process before treatment at the PWTP. The APTP receives 1.5 MGD, which represents approximately 35% of the total waste stream coming from the beer making process at the Facility. The Facility is located in Golden, Colorado, within Jefferson County.

The Facility comprises three separate process treatment plants referred to by the Permittee as the PWTP, GWTP, and APTP (refer to Appendix B, Exhibit 1). The APTP is located directly west the GWTP, and the PWTP is located approximately 0.80 miles to the northeast, on the northern side of Highway 58 in Golden, CO. After effluent from the PWTP and GWTP is chlorinated, the streams are combined prior to dechlorination and discharge at Outfall 001A, located within Clear Creek approximately 400 yards east of its intersection with McIntyre Street. Manufacturing waste from the can plant is transported by the MidValley lift station and pumped into the PWTP using a temporary diesel pump trailer. Sludge from the PWTP and the GWTP is processed at the onsite Sludge Process Plant. Sludge from the PWTP is pumped to sludge holding tanks at the GWTP. The sludge is then pumped to a single belt filter press which dewaters all of the sludge at the Facility. A second belt filter press was present at the Sludge Process Plant, but Facility representatives stated that it was permanently out of service and offline.

Process wastewater discharges from the Facility are authorized to discharge into Clear Creek through one external outfall, Outfall 001A. The Facility has three internal outfalls. Outfall 020 is treated water from the GWTP prior to mixing with the PWTP treated effluent or any other sources. Outfall 022 is from the can

making process prior to mixing with any other waste streams. Outfall 030 is from the PWTP prior to mixing with the GWTP treated effluent or any other sources.

Wastewater Generation and Treatment

The Facility generates various wastewater streams from the beer making process, including the malting, boiler cooling, CIP operations, and brewery processes, all of which are treated at the PWTP. A Facility representative stated that half of the wastewater generated from the beer making process comes from the malting of beer, and that this process also contributes to high dissolved iron in the process waste streams. Other wastewater streams treated at the PWTP include waste from the can manufacturing plant. Approximately 35% of the waste generated from the beer making process is pre-treated at the APTP before it is sent through the PWTP. The GWTP treats domestic wastewater from the City of Golden. City of Golden wastewater is gravity fed into the Facility, while process waste is pumped from locations with the manufacturing areas into the PWTP for treatment.

Facility representatives stated that the GWTP underwent a major process control change in April 2022. Due to multiple ammonia exceedances, the Facility no longer treats the wastewater at the GWTP with carbon, but rather manually doses with urea. Facility representatives indicated that the elimination of the carbon source in April has helped to reduce ammonia levels in the effluent. They also stated that the GWTP was re-seeded in May 2022 using sludge from Metro Water Recovery, which further helped with process control operations associated with biomass performance and effluent exceedances.

Domestic waste from the City of Golden is fed into a splitter box at the headworks of the GWTP, before it goes through initial screening and grit removal. The GWTP receives approximately 1.5 (MGD) on average, according to a plant operator. While the GWTP is capable of receiving wastewater from the brewery as well, it was only receiving domestic waste at the time of the inspection. Large solids and debris are removed by an automatic bar screen at the headworks, which operates based on a level float in the influent channel. After initial solids removal, wastewater flows through grit tanks, where grit settles out and is pumped upward from the bottom of the chambers into a grit tower. Grit classifiers facilitate solids settling, before screw augers remove the grit and deliver it to a dumpster for landfill disposal. The wastewater is then routed through a surge tank (equalization basin) which is primarily used for flow equalization, although some aeration is provided here as well. Next, the wastewater is pumped out of the surge tank at an influent pump station into a primary clarifier. Primary clarified effluent flows to the aeration basins, and sludge from this clarifier is sent to digester #1.

There are six aeration basins at the GWTP where primary clarified effluent is sent for aeration to support biomass operations and performance. Facility representatives stated that there were four blowers present in the blower building located adjacent to the aeration basins, but that only two were in-service at a given time. Wastewater flows through the aeration basins before entering secondary clarifier #2. Return activated sludge (RAS) from secondary clarification is pumped back to the aeration basins, and waste activated sludge (WAS) is pumped into the six digesters for further processing. The final sludge product is then sent to the sludge plant for dewatering at the belt filter press. The secondary clarified effluent is disinfected before being pumped to and combined with treated effluent from the PWTP. The combined effluent flows from GWTP and PWTP is dechlorinated approximately 200 feet upstream of the final discharge to the Clear Creek via Outfall 001A. At the time of inspection, the bleach (sodium hypochlorite 12.5% solution, operations team calls it “bleach”) storage tank was undergoing replacement, and a temporary tank was being utilized for bleach storage outside of the storage building.

Process waste is treated separately from domestic waste at the APTP and PWTP. Facility representatives stated that strongest waste streams with the highest level of toxicity are pre-treated at the APTP before entering the PWTP. At the APTP, brewery wastewater pumped by the Cellar 12 Lift Station is processed by two drum screens at the top of a tower. The wastewater is then gravity fed through a pre-acidification equalization (PAQ) tank, where it has a residence time of approximately twelve hours. It is then pumped

into an Internal Circulation (IC) Reactor tank, where it has a six-hour residence time. The gaseous environment within the reactor tank is scrubbed using an "iron sponge" scrubber for odor control. The biogas is then burned off using a flare. The pre-treated wastewater from the APTP is sent to the PWTP for further treatment. Wastewater from the can manufacturing plant and other industrial processes from the MidValley Lift Station is combined with the APTP effluent before being sent through the PWTP. Prior to November 2021, this waste stream was treated at the GWTP, but since then a portable diesel trailer pump was installed to route the flow away from the headworks of the GWTP and into the PWTP.

Wastewater is gravity fed through the headworks at the PWTP, which includes an automatic bar screen and grit removal system that are similar to that at the GWTP. Facility representatives stated that twice as much grit is removed at the PWTP than is removed at the GWTP. At the time of inspection, the automatic bar screen was out of service at the PWTP, and a manual bar screen was being used for large solids/debris removal. Solids and grit that are initially removed are sent to dumpsters for landfill disposal, and the wastewater flows into a surge tank (equalization basin), similar to the GWTP. Adjacent to the surge tank is a smaller "sidecar" tank, and Facility representatives stated that this was used for extra surge capacity if necessary. They also indicated that this tank could be isolated and used if the main tank is undergoing repair/maintenance. Wastewater is then pumped into primary clarifier #1 (#2 was offline at the time of inspection). Sludge from the primary clarifier is pumped to a sludge thickener tank before ultimately being pumped to the GWTP for final sludge processing.

Primary clarified effluent then flows through an internal ammonia monitoring station, before flowing through the Purox aeration basins. The Purox aeration basins are receiving pure oxygen instead of air from standard blower units to support the biological operations within the basins. There are five trains at the Purox basins, although only trains #1-#3 are regularly used for treatment. Trains #4 and #5 are connected, and can be filled with "emergency dumps," when a particularly strong or highly toxic load is identified by operators or brewery staff. At this point, operators can decide that they want to retain it for further treatment before passing it through the rest of the treatment system. A splitter box located before the Purox basins contains gates which allow flow to be routed into any of the basins. During an "emergency dump," trains #1-#3 can be gated off, and a gate to trains #4 and #5 can be opened, allowing flow to only enter trains #4 and #5. Mixer pumps are used to homogenize wastewaters within basins and prevent solids settling in these trains. Operators stated that they recirculate the emergency dumps back through the headworks of the PWTP based on the characteristics of the influent entering the plant at that time. The oxygen utilized in the Purox basins is made at an onsite oxygen plant.

Once the treated, oxygenated water leaves the Purox basins, it is sent through secondary clarifiers #2 and #3 (#1 was out of service at the time of the inspection). RAS from the secondary clarifier is sent back into the Purox basins, and WAS is sent to the GWTP. Secondary clarified effluent is then disinfected and combined with GWTP treated effluent before dechlorination and final discharge into Clear Creek via Outfall 001A.

Wastewater Monitoring and Flow

CDPS compliance self-monitoring activities and samples are conducted by Molson Coors laboratory staff at Outfall 001A. An automatic ISCO composite sampler is positioned at Outfall 001A. The laboratory manager stated that when she is unable to collect the composite sample during the overnight shift, a night-shift operator takes the samples and leaves them in the laboratory until she arrives in the morning. The samples are occasionally left on the counter, unrefrigerated, due to a lack of fridge space in the lab. This practice and the associated variables were discussed with the lab and operations team members. After the EPA Inspection Team identified this sampling procedure as a possible misrepresentation of effluent samples, a Facility representative stated that they started the process of ordering new refrigerators that would be able to accommodate all the samples to avoid this refrigeration gap. Additionally, the lab manager stated that occasionally the composite sampler bottles are not changed out at standardized 24-hour intervals. This results in some 24-hour composite samples representing either more than or less than 24-

hours. The laboratory staff indicated that they were working towards creating a standardized 24-hour sample schedule to avoid this inconsistency.

Process control composite samples at the plant are taken using automatic samplers at the headworks of the GWTP and PWTP plants and are collected by Facility operators. 1-liter grab samples are also taken for process control, and Facility representatives stated that they had recently implemented a "Retain Program," in which these samples are stored and refrigerated after collection and stored for sixty days. This helps the Facility to pinpoint the date and time at which significant wastewater quality change or an exceedance may have occurred.

Samples are analyzed using both on-site and contract laboratories. pH, temperature, ammonia, and total suspended solids (TSS) sampling is conducted in house and is analyzed at the Facility's onsite laboratory, while the other Permit effluent parameters are analyzed by a contract laboratory, SGS North America, located in Wheat Ridge, Colorado. Whole effluent toxicity (WET) testing is conducted by another one of the Permittee's contract laboratories, GEI Consultants, Inc., located in Denver, Colorado. Dissolved Oxygen (DO) probes are installed in the aeration basins and digesters and are tied into the Facility's SCADA system. An operator stated that DO could be trended, controlled, and regulated via telemetrically from the control room by activating blowers or mixers.

Facility discharge monitoring reports (DMRs) for 2019 through 2022 were reviewed as a component of this inspection process. The review included a comparison of reported monitoring results versus requirements and limitations contained within the Permit. Permit limit exceedances were identified and are presented in Section III, Observation No. 1 of this report for additional details. The EPA Inspection Team briefly visited the onsite Molson Coors laboratory and met with lab staff, including the laboratory manager. During the inspection, lab staff briefly explained CDPS compliance sample collection and analysis procedures and recordkeeping. Sample analysis and other lab information is documented in the Permittee's electronic Hach WIMS database.

A "stage alert" system has been implemented at the Facility based on process control sampling results. If the Facility is experiencing excessive hydraulic or organic (TOC) loading, or excessively hot water at the APTP or PWTP, the stage alert system enables operators and Facility staff members to report and react on three separate levels, depending on the severity of the event, and how long the event persists for. The three stages and associated procedures are outlined in Appendix B, Exhibit 2). During a Stage 1 Alert, the Golden Brewery operations teams are all required to report their discharges to the drains for the last twelve hours that were outside of their normal shift waste volume. They are also required to check all of their processes for spills or any other event that could cause an unusual discharge. Finally, they are required to call the on-shift PWTP operator to report their findings, even if they didn't find anything unusual. A Stage 2 Alert requires the Golden Brewery staff to follow the same steps over again. During this stage however, the PWTP begins diverting part of the incoming flow to the "emergency dump" storage Purox trains #4 and #5 the PWTP. Additionally, sampling for TOC, pH, NH_3, and temperature are taken throughout the treatment process to refine the source location of the excessive loading. A Stage 3 Alert can only be issued by the PWTP Chief Plant Operator, and requires a halt to all production involving brewing, packaging, or malting operations. Operations can only resume once the source of the excessive loading has been found and the problem has been resolved.

Wastewater Solids Handling (Sludge Processing)

Solids generated from the PWTP and the GWTP are pumped to an onsite Sludge Processing Plant. WAS from the GWTP is pumped from the digesters to thickened sludge storage tanks where it is held before being pumped to a single belt filter press. Polymer is added and blended into the sludge before it reaches the press. WAS from the PWTP is pumped to a sludge thickening tank before being pumped to the GWTP thickened sludge storage tanks. Facility representatives stated that in November 2021 they had stopped using potassium permanganate for odor control in the sludge storage tanks, and approximately two weeks

before the inspection they had switched to hydrogen peroxide 50% solution. There were two belt filter presses present in the Sludge Processing Plant at the time of the inspection, but one was permanently out of service and offline. Facility representatives stated that they were currently in the process of staging parts and equipment for the rehabbing the online belt filter press but had no plans to bring the other back online.

WWTP Operation and Maintenance Management

The Permittee utilizes and maintains an SAP maintenance management system to track Facility work orders, maintenance activities, and to support asset management within the facility. Facility representatives provided an overview of the SAP system to the EPA Inspection Team. They indicated that equipment calibration logs and predictive/reliability-based maintenance schedules are also built into this system.

II. INSPECTION PROCESS

Inspection Opening Conference

The EPA Inspection Team arrived at the Facility on June 23, 2022, at 7:55 a.m. (MDT) for the inspection. Danny O'Connell of PG Environmental and Stephanie Meyers of EPA Region VIII displayed their Clean Water Act inspector credentials to Mark Koch, an Environmental Engineer, at the outset of the inspection and explained the purpose of the inspection was to observe compliance with the Permit. The EPA Inspection Team informed the Permittee that any information that the Facility deemed to be confidential business information ("CBI") should be identified to EPA representatives during the inspection and it would be handled as CBI according to EPA's CBI procedures. No information provided to the EPA Inspection Team was identified as CBI during the course of the inspection. The list below describes the individuals that participated in the inspection.

Inspection Attendee List:

EPA Inspectors and Contractors:
Stephanie Meyers, US EPA Region 8
Danny O'Connell, PG Environmental (EPA Contractor)
Jake Okun, PG Environmental (EPA Contractor)

Colorado Department of Public Health (CDPHE) Representatives:
Paul Kosik, CDPHE
Eric Mink, CDPHE

Molson Coors USA Golden Brewery Representatives:
Mark Koch, Environmental Engineer
Gabe Racz, Attorney
Alyssa Hintz, Environmental Engineer (Aquionix)

Facility Site Walk

As part of the inspection process, the EPA Inspection Team visually observed the treatment train and site conditions in the presence of Molson Coors environmental engineers and operators. The following components of the treatment process were observed. The wastewater process train consists of:

General Waste Treatment Plant (GWTP)

- Automated Bar Screen
- Grit Chambers, Pumps, and Screw Augers
- Surge Tank (Equalization Basin)
- Primary Clarifier #1

- Aeration Basins #1-#6
- Digesters #1-#6
- Blowers #1-#4
- Secondary Clarifiers #1-#2 (#1 offline during inspection)
- Blowers
- Liquid Bleach Storage
- Chlorine Contact Tanks
- Disinfection Injection and Monitoring Instrumentation Area
- Dechlorination Building (shared by GWTP and PWTP)

Process Waste Treatment Plant (PWTP)

- Iron Sponge (H_2S Removal/Odor Control)
- Automated Bar Screen (out of service during inspection, manual bar screen in use)
- Grit Chambers, Pumps, and Screw Augers
- Surge Tank (Equalization Basin) with Sidecar Tank
- Primary Clarifiers #1-#2 (#2 offline during inspection)
- Sludge Thickening Tank
- Purox Oxygen System
- Purox System Aeriation Basins #1-#5
- Secondary Clarifiers #1-#3 (#1 offline during inspection)
- Disinfection Injection and Monitoring Instrumentation Area
- Chlorine Contact Tanks
- Dechlorination Building (shared by GWTP and PWTP)

Anaerobic Pre-Treatment Plant (APTP)

- Rotary Drum Screens #1-#2
- Pre-Acidification/Equalization Tank
- Internal Circulation (IC) Reactor Tank
- Effluent Wet Well/Sewer Line to PWTP
- Iron Sponge (H_2S Removal/Odor Control)
- Gas Flare

Solids Handling (Sludge Processing)

- Belt Filter Press (only one, second press permanently out of service)
- Sludge storage tanks
- Odor Scrubber

On June 23, 2022, the EPA Inspection Team observed various areas of the Facility to evaluate wastewater collection, monitoring, conveyance, treatment, and discharge. The field observations made pertaining to this inspection report occurred in the GWTP, the PWTP, and the APTP, which are responsible for treating discharge under the CDPS Permit. The Facility walkthrough began at the splitter box, located before the headworks of the GWTP. At the splitter box, a portable diesel trailer pump was installed to pump waste from the can manufacturing plant (transported by the MidValley lift station) away from the GWTP and into the AWTP effluent wet well that led to the headworks of the PWTP (refer to Appendix A, Photographs 1 and 2). Facility representatives stated that this hose line was installed into the pipe coming from the can manufacturing plant in November 2021 to try to reduce influent loading at the GWTP, since the PWTP was designed to treat industrial waste stream characteristics or qualities. They also stated that a seal had been created so that all of the waste flow from this source was being diverted into the PWTP rather than the

GWTP. The EPA Inspection Team observed the water entering the effluent wet well that connected to the PWTP (refer to Appendix A, Photograph 3), and noticed an extremely strong H_2S odor emanating from this area.

After observing the flow bypass at the splitter box of the GWTP, operators showed the bar screens at the headworks. The automatic bar screen at this point had a high degree of solids built up in the teeth of the screen (refer to Appendix A, Photograph 4), and an operator indicated that this was normal. The flow did not appear to be impacted by this level of a build-up of solids. A Hach automatic sampler at this location was taking time-based composite samples during the inspection, but the refrigeration component of the sampler was out of service. The operator stated that they were in the process of replacing the sampler. After the headworks, Facility representatives showed the grit tanks, where grit was being pumped into a grit tower (refer to Appendix A, Photograph 5). They indicated that there were two grit pumps, and both were in service at the time of the inspection. The EPA Inspection Team observed the grit classifiers within the tower, and screw augers that were transferring the grit into a dumpster for landfill disposal (refer to Appendix A, Photograph 6).

Next, Facility representatives showed the surge tank, which they stated was essentially an equalization tank used to create consistent raw influent volume before the wastewater is pumped into the activated sludge treatment units of the plant at the influent pump station (refer to Appendix A, Photograph 7). An operator stated that some aeration occurs at the surge tank as well, although that was not the primary function of the tank. Two pumps were present at the influent pump station, and both were operational at the time of the inspection (refer to Appendix A, Photograph 8). Following the surge tank, Facility representatives showed the primary clarifier (refer to Appendix A, Photograph 9). They indicated that sludge from this stage is pumped to digester #1, scum from the surface of this clarifier is sent to a scum building, and primary clarified effluent is sent to the aeration basins. Next, the EPA Inspection Team observed the six aeration basins (refer to Appendix A, Photograph 10).

At this stage. an operator stated that the DO in the aeration basins is monitored using DO probes which are tied to their supervisory control and data acquisition (SCADA) system, and that blowers could be controlled telemetrically from the control room. The EPA Inspection Team then entered the GWTP control room. Here, operators showed their Programmable Logic Control (PLC) system, which displayed information regarding the GWTP blowers (refer to Appendix A, Photograph 11). There were four blowers in the adjacent blower building. Operators showed how the blowers were used to regulate DO levels in the aeration basins and explained that they generally operated with two blowers at a time (a lead and a lag) with a third blower on standby if needed. An operator stated that they try to maintain a DO of 2.0 mg/L in the aeration basins, and this was reflected in one of the PLC screens (refer to Appendix A, Photograph 12). Another process control screen displayed other process control variables available to the operators to be evaluated and trended as needed (refer to Appendix A, Photograph 13). Operators stated that they tried to maintain a mixed liquor suspended solid (MLSS) concentration of 2500-3000 mg/L in the aeration basins, and that they were averaging ~2800 mg/L at the time of the inspection. They indicated that a MLSS measurement was taken every day, and that samples were either taken from the clarifier splitter box, or from aeration basin #6, suggesting that MLSS samples are not taken from a consistent location each time. Operators also walked the EPA Inspection Team through their other process control parameters for variables such as TSS in their final effluent, including acceptable ranges for these variables, and corrective actions for when a variable is outside of their acceptable limits. This information was outlined in a "General Waste Treatment Plant Operating Parameters" packet, which was shared with the EPA Inspection Team at the time of the inspection (refer to Appendix B, Exhibit 3). Operational set points were also displayed on a white board in the control room at the time of inspection (refer to Appendix A, Photograph 14).

Surrounding the six aeration basins were six digesters, where WAS from primary and secondary clarification is sent after settling (refer to Appendix A, Photograph 15). Facility representatives stated that solids processed in the digesters are sent to sludge holding tanks before being processed at the onsite solids handling facility. Following the digesters, the EPA Inspection Team observed secondary clarifiers #1 and #2 (refer to Appendix A, Photograph 16). At the time of the inspection, secondary clarifier #1 was out of

service, and an operator stated that it had been for at least ten years (refer to Appendix A, Photograph 17). They indicated that there were no plans to bring the clarifier back online, and that currently secondary clarifier #2 was handling all of the waste flow. They stated that RAS was pumped into the aeration basins from secondary clarifier #2 via three RAS pumps, although only one pump is operated at a given time. The secondary clarified effluent that was flowing over the weirs at the time of inspection appeared to be clear and free of solids (refer to Appendix A, Photographs 18 and 19), and operators stated that they had process control plans set in place if the effluent quality was to diminish at this stage (refer to Appendix B, Exhibit 3). Next, the EPA Inspection Team observed the liquid bleach storage tank within the bleach building at the GWTP (refer to Appendix A, Photograph 20). At the time of inspection, a Rain for Rent tank was being delivered next to the bleach building, and operators stated that this tank would be used for liquid bleach storage temporarily while the permanent liquid bleach storage was replaced (refer to Appendix A, Photograph 21). Operators showed where total and free chlorine were monitored after bleach injection at the GWTP. At approximately 12:00 p.m. on the day of the inspection, the total chlorine level of the GWTP effluent was 3.55 mg/L, and the free chlorine level was 2.00 mg/L, according to the Hach CL17 chlorine analyzers (refer to Appendix A, Photographs 22 and 23). The EPA Inspection Team observed the Hach maintenance tags on each of the chlorine analyzers (total and free) and noticed that both of them were last serviced in August 2021 and scheduled to be serviced again in February 2022. Neither of the analyzers appeared to have been serviced since August 2021 (refer to Appendix A, Photographs 24 and 25). Finally, the EPA Inspection Team observed the effluent pump building, where treated effluent is pumped to be combined with treated effluent from the PWTP before chlorination, dechlorination, and final discharge (refer to Appendix A, Photograph 26).

After the GWTP, the EPA Inspection Team observed the APTP from outside fence line. The APTP walkthrough consisted of a phone call with the Chief Operator of the PWTP and APTP, Kevin Dickerson, who was out with COVID-19 on the day of the inspection. The operator verbally walked the EPA Inspection Team through the treatment process at the APTP. He indicated that approximately 35% of the wastewater from the beer making process is sent to the APTP for pre-treatment before it enters the PWTP, and that the waste is sent here because it has the highest concentration of organics (strongest waste). The wastewater is pumped to two rotary drum screens at the top of the drum screen tower. Next, it is gravity-fed into a pre-acidification/equalization tank (refer to Appendix A, Photograph 27). The operator stated that the wastewater had an approximately 12-hour residence time in the tank. He indicated that the pH in the tank could range anywhere from 6-13, depending on if a clean in place (CIP) operations are occurring at the Facility. He then stated that the wastewater is sent to the Internal Circulation (IC) reactor tank, where it has an approximately 6-hour residence time (refer to Appendix A, Photograph 28). During this stage, H_2S is removed from the head of the reactor tank, scrubbed in an onsite iron sponge scrubber (refer to Appendix A, Photograph 29), and then sent to a biogas flare where it is burned off (refer to Appendix A, Photograph 30). The operator said that there were four vacuum points in the roof of the tank for the H_2S to be properly removed. After pre-treatment at the APTP, the operator said that the wastewater is sent to the PWTP for further treatment.

The EPA Inspection Team toured the Facility's GWTP laboratory and discussed a process control station was set up where jar testing could occur (refer to Appendix A, Photograph 31). Laboratory representatives stated that they were able to monitor and analyze different chemical doses and changes in chemistry at this position in the lab to further support the treatment process. They had a written outline in the lab which outlined their jar testing procedures (refer to Appendix B, Exhibit 4). Operational notes and safety information were displayed on white boards in the lab as well so that team members could clearly see what was occurring associated with process control operations. The EPA Inspection Team observed that one of the boards displayed information regarding the use of a new coagulant being used starting on June 22, 2022, the day before the inspection (refer to Appendix A, Photograph 32). This board also reflected the use of the diesel pump to bypass flow from the can manufacturing plant (from the MidValley lift station) to the headworks of the PWTP starting November 10, 2021, which reflected what Facility representatives had stated earlier in the inspection. Operational values that were critical to process control on June 22, 2022, were also displayed on a white board at the time of the inspection (refer to Appendix A, Photograph 33). Lab sheets were also observed and evaluated at this time during the inspection to verify operator statements

and observe process control values. The sheets showed internal process samples and flow data that were being taken at the PWTP and GWTP, and a laboratory representative stated that they had the ability to trend their sample data based on the information collected on these sheets (refer to Appendix B, Exhibit 5). Operators stated that the values on the lab sheets were derived from hourly shift cards that were carried by all on-shift operators and filled out based on hourly measurements (refer to Appendix A, Photograph 34). A "graveyard shift" (overnight) log sheet was also observed, containing different operating parameters than the daily log, based on the different operational time that the parameters were observed (refer to Appendix B, Exhibit 6).

After the APTP, The EPA Inspection Team toured the PWTP. At the headworks of the PWTP, operators stated that the automatic bar screen was offline, and had been out of service for approximately two weeks (refer to Appendix A, Photograph 35). They said that they were waiting on the parts to bring it back online, and that a manual bar screen was being used until that occurred. Facility representatives then showed the iron scrubber that was being used for odor control at the PWTP, since the ionizer that was installed for odor control had never functioned properly (refer to Appendix A, Photograph 36). They also showed the ISCO automatic sampler that was present and functioning at the headworks of the PWTP (refer to Appendix A, Photograph 37). Next, the EPA Inspection Team observed the grit tanks, classifiers, and screw augers (refer to Appendix A, Photographs 38 and 39). Operators stated that there were three grit pumps at the PWTP, and one was offline and under repair at the time of inspection (refer to Appendix A, Photograph 40). The pump had been offline for several months according to operators. They also stated that the grit removal system at the PWTP removes double the amount of grit that the GWTP removes. After the grit removal system, the EPA Inspection Team observed the surge tank/equalization basin (also used for flow control like at the GWTP) and a "sidecar" tank used for extra surge capacity, or for if maintenance is being done on the main tank (refer to Appendix A, Photographs 41 and 42). Facility representatives then showed the influent lift station, where wastewater is pumped into the primary clarifiers (refer to Appendix A, Photograph 43). Three pumps were present, and all were operational at the time of the inspection. Primary clarifier #2 was offline, but primary clarifier #1 was functioning. Operators did not state when primary clarifier #2 was expected to be put back online. At the time of inspection, bulking solids were observed at the surface of primary clarifier #1, and the water in the clarifier was cloudy and brown (refer to Appendix A, Photograph 44). Additionally, solids could be seen along the weir plate and in the effluent trough (refer to Appendix A, Photograph 45).

Operators stated that the sludge that settles out during primary clarification is pumped to a sludge thickening tank at the PWTP, which the EPA Inspection Team observed. Once the sludge thickens, it is pumped to the sludge holding tanks at the GWTP. Following the sludge thickening tank, Facility representatives showed the Purox system aeration basins. They stated that oxygen was generated onsite at the Facility's oxygen plant before being added into the Purox system. A splitter box was observed, which contained gates leading to the five trains (basins) (refer to Appendix A, Photograph 46). Only basins #1-#3 were being used at the time of the inspection, and an operator stated that basins #4 and #5 were used for "emergency dump" storage, and that they were connected. The EPA Inspection Team observed that basin #4 was full during the inspection, and a mixing pump was operating to prevent solids settling. The operator stated that a toxic-heavy load had come through the PWTP approximately two weeks prior to the inspection due to a new coolant being used at the can manufacturing plant. The load was being held in basin #4 while it could be bled back into the headworks of the PWTP when influent conditions allowed, and operators said that they were sampling the wastewater in basin #4 for parameters such as TOC and pH. After the Purox aeration basins, the EPA Inspection Team observed secondary clarifiers #1-#3, with #1 being offline at the time of inspection. The EPA Inspection Team observed some light foam in the secondary clarifier #3 effluent trough (refer to Appendix A, Photograph 47). There were also solids along the weir trough in this secondary clarifier, and some solids were observed floating at the surface (refer to Appendix A, Photographs 48 and 49). Operators indicated that some of the sludge from the secondary clarifiers is being pumped to the Purox basins as RAS, while the rest (WAS) is sent to the holding tanks at the GWTP. They stated that they tried to maintain a four to five day-long sludge age in the secondary clarifiers, and that they tried to keep the sludge blanket at approximately one foot. While at the PWTP, the EPA Inspection Team

also observed an internal ammonia tracking station, where primary effluent is sent through prior to treatment for internal ammonia monitoring (refer to Appendix A, Photograph 50).

Facility representatives then showed the chlorine contact basins (north and south) where chlorination/disinfection occurs for PWTP effluent. Operators stated that the chlorine analyzed should be tied into their SCADA system, but it was not at the time of inspection due to a communication error with the flow meter. A sodium hypochlorite 12.5% solution is used for chlorination at the PWTP, and operators indicated that their TRC measurement was taken at the end of the chlorine contact chamber three times per shift at a minimum. The water in both basins appeared to be cloudy and green (refer to Appendix A, Photograph 51). In addition to the color, heavy foam was building up at the end of the north contact building at the point where it was being discharged toward the outfall (refer to Appendix A, Photograph 52). The EPA Inspection Team also observed floating solids at the surface of the south chlorine contact basin (refer to Appendix A, Photograph 53). The solids in the south basin ranged in size and were seen in multiple locations, including flowing over the edge of the tank to the outfall (refer to Appendix A, Photograph 54). Some of the solids appeared to be newer while some appeared to have been at the surface for a longer period of time (refer to Appendix A, Photograph 55). Operators stated that the north chlorine contact basin had been emptied and cleaned in the days prior to the inspection, resulting in all of the effluent from the PWTP being sent to the south contact basin, and suggested that this was why there were solids floating at the surface.

Next, Facility representatives showed the dechlorination system, including a sodium bisulfite tank and injection point. Finally, the EPA Inspection Team observed Outfall 001A, and the final effluent sampling building located adjacent to the Clear Creek. The Facility was discharging at the time of inspection, and the discharge was foamy and cloudy/greenish in color (refer to Appendix A, Photographs 56-58). A faint H_2S odor was also present. Inside the sample building, the EPA Inspection Team observed a food-grade antifoam chemical being stored in tanks (refer to Appendix A, Photograph 59). Operators stated that it was not being used on the day of the inspection. The Permit compliance sampling point was also observed. An automatic ISCO sampler was being used, and it was functioning properly at the time of inspection (refer to Appendix A, Photograph 60).

Lastly, the EPA Inspection Team observed the Sludge Process Plant. Facility representatives showed the north and south sludge storage tanks, located outside of the sludge process building (refer to Appendix A, Photographs 61 and 62). Both tanks were connected to an odor scrubber system. An operator indicated that they had had challenges with high H_2S odors at this location in the past, and in November 2021 they had stopped using potassium permanganate for odor control because they weren't seeing low enough H_2S levels. They stated that approximately two weeks prior to the date of the inspection they had started using hydrogen peroxide 50% solution to lower H_2S levels in the sludge tanks, and that they had seen lower H_2S readings since they made the switch. Facility representatives also stated that a new 350,000-gallon aerated sludge storage tank was being constructed adjacent to the old sludge storage tanks, and that construction was expected to be finished between August and November 2022 (refer to Appendix A, Photograph 62). Inside the sludge process building, the EPA Inspection Team observed the polymer addition point, and an operator indicated that sludge from the PWTP and GWTP was blended in the tanks before polymer is added for sludge thickening. Next, Facility representatives showed two belt filter presses, one actively processing sludge (refer to Appendix A, Photograph 63) and stated that one was out of service and had been taken permanently offline (refer to Appendix A, Photograph 64). Facility representatives stated that there were no plans to bring the second filter press online. The online belt filter press was being prepared for rehab at the time of inspection. The EPA Inspection Team observed the staging area for the rehab parts and equipment that was going to be used on the one remaining functional belt filter press (refer to Appendix A, Photograph 65). Operators stated that a four-day rehab was being planned for the month of July 2022, during which they had enough capacity in the treatment train to stop processing solids for the entire four days. They also stated that if they needed longer than four days, a trailer belt filter press could be brought online to continue processing solids. The operator said that the remaining functional belt filter press was run daily for 15-18 hours, and the solids coming out of the belt filter press during the inspection appeared to be dry, and of a high quality (refer to Appendix A, Photograph 66).

Process flow diagrams from the GWTP, PWTP, and APTP are included in Appendix B, Exhibit 7.

Records Review

The EPA Inspection Team conducted a records review to evaluate the Permittee's compliance with the Permit. Some of the records and reports required by the Permit were available for review prior to and after the inspection. Standard operating procedures (SOPs), operator logs, contract lab bench sheets, process flow diagrams, compliance schedule reports, and calibration records were reviewed onsite. The Plant's discharge monitoring report (DMR) data was obtained electronically and reviewed offsite after the onsite inspection. The following were reviewed:

- DMR data during the period from January 1, 2019, through April 30, 2022
- Contract lab report (February 2022)
- Lab bench sheet (June 2022)
- Chain of Custody Forms
- Process control rounds sheets
- Noncompliance notification responses
- Compliance schedule reports
- Permit amendments
- DMR QA Study Results
- WET Test Results (Quarter 1 2022)
- Biosolids reports (2021)
- Contract Lab Certification
- SOPs (PWTP Operating Plan 2022)
- Equipment calibration logs
- GWTP, PWTP, and APTP flow diagrams
- Site technical maps

III. SUMMARY OF OBSERVATIONS

The following section summarizes the EPA Inspection Team's observations relative to the Permit requirements, including the status of certain treatment units, operation and maintenance practices, and the Permittee's monitoring and reporting documentation.

Part I.A.2 of the Permit defines Limitations, Monitoring Frequencies, and Sample Types for Outfall 001A discharges.

As part of the data review, the EPA Inspection Team reviewed EPA's Integrated Compliance Information System (ICIS) database and monthly DMRs to compare reported values against effluent limitations defined in the Permit (refer to Appendix B, Exhibit 8) as well as EPA's Enforcement and Compliance History Online (ECHO) database (refer to Appendix B, Exhibit 9) in order to evaluate compliance.

Observation 1. According to EPA's ICIS database and monthly DMRs provided by the Permittee, the Facility experienced 31 effluent limit exceedances from Outfall 001A between April 1, 2019, and April 30, 2022 (refer to Appendix B, Exhibit 8, and Table 1 below). The ECHO database indicates the Facility was in a state of significant noncompliance (SNC) from April 1, 2021, through December 31, 2021, with additional violations noted for the period of April 1, 2022, through July 15, 2022 (refer to Appendix B, Exhibit 9).

Table 1. Outfall 001A Final Effluent Exceedances (April 1, 2019, through April 30, 2022)

Permit #	Monitoring Period End Date	Parameter Name	DMR Value	Permit Limit	Units	Limit Type
CO0001163	12/31/2019	Solids, total suspended	55.5	44.8	mg/L	Daily Maximum
CO0001163	02/29/2020	BOD, 5-day, 20 deg. C	32	30.	mg/L	30-Day Average
CO0001163	02/29/2020	Solids, total suspended	62	44.8	mg/L	Daily Maximum
CO0001163	02/29/2020	Oil and grease	27.2	10.5	mg/L	Instantaneous Maximum
CO0001163	02/29/2020	Oil and grease	1594.5146	1141.	lb/d	Daily Maximum
CO0001163	04/30/2020	Oil and grease	33.4	10.5	mg/L	Instantaneous Maximum
CO0001163	04/30/2020	Oil and grease	1598.3543	1141.	lb/d	Daily Maximum
CO0001163	08/31/2020	Nitrogen, ammonia total [as N]	3.9	2.9	mg/L	30-Day Average
CO0001163	02/28/2021	Solids, total suspended	51.5	44.8	mg/L	Daily Maximum
CO0001163	03/31/2021	Solids, total suspended	31.7	30.1	mg/L	30-Day Average
CO0001163	03/31/2021	Manganese, dissolved [as Mn]	362	244.	ug/L	30-Day Average
CO0001163	03/31/2021	Selenium, potentially dissolved	6.6	4.6	ug/L	30-Day Average
CO0001163	05/31/2021	Solids, total suspended	37.3	30.1	mg/L	30-Day Average
CO0001163	05/31/2021	Solids, total suspended	58	44.8	mg/L	Daily Maximum
CO0001163	06/30/2021	Manganese, dissolved [as Mn]	667	244.	ug/L	30-Day Average
CO0001163	07/31/2021	Manganese, dissolved [as Mn]	395	244.	ug/L	30-Day Average
CO0001163	08/31/2021	Manganese, dissolved [as Mn]	412.5	244.	ug/L	30-Day Average
CO0001163	10/31/2021	Solids, total suspended	98	44.8	mg/L	Daily Maximum
CO0001163	10/31/2021	Solids, total suspended	5144	4857.	lb/d	Daily Maximum
CO0001163	10/31/2021	Manganese, dissolved [as Mn]	304	244.	ug/L	30-Day Average
CO0001163	10/31/2021	Oil and grease	19.2	10.5	mg/L	Instantaneous Maximum
CO0001163	10/31/2021	E. coli	1553	252.	#/100mL	Maximum 7-Day Geometric Mean
CO0001163	11/30/2021	Solids, total suspended	34	30.1	mg/L	30-Day Average
CO0001163	11/30/2021	Solids, total suspended	114.5	44.8	mg/L	Daily Maximum
CO0001163	11/30/2021	Solids, total suspended	5889	4857.	lb/d	Daily Maximum
CO0001163	11/30/2021	Iron, dissolved [as Fe]	324.2	300.	ug/L	30-Day Average
CO0001163	12/31/2021	Iron, dissolved [as Fe]	324.6	300.	ug/L	30-Day Average
CO0001163	12/31/2021	Oil and grease	19.9	10.5	mg/L	Instantaneous Maximum
CO0001163	03/31/2022	Iron, dissolved [as Fe]	327.8333	300.	ug/L	30-Day Average
CO0001163	04/30/2022	Oil and grease	17.5	10.5	mg/L	Instantaneous Maximum
CO0001163	04/30/2022	Solids, suspended percent removal	82.5	85.	%	Monthly Average Minimum

Observation 2. Facility representatives stated that the Selenium exceedance recorded on 3/31/2021 was due to a cyberattack on all of the Molson Coors breweries worldwide, which caused a

temporary universal brewery shutdown. The cyberattack occurred in mid-March of 2021, and the Facility was unable to resample for Selenium in time for the March DMR submittal due to the shutdown.

Observation 3. Facility representatives stated that they expected a total inorganic nitrogen (TIN) daily maximum exceedance for the month of May 2022. They attribute this exceedance to the major process control change that occurred during that month, when the Facility began using a urea feed at the PWTP. Facility representatives stated that this process control change was made in an effort to reduce ammonia levels in the effluent. They indicated that since they have changed this process control, it has helped to lower ammonia levels in their effluent from 2 mg/L to an average of 0.28 mg/L in the month of June 2022. In addition to this process control change, Facility representatives stated that the PWTP was re-seeded in May 2022. Sludge was acquired from Metro Water in Denver to help with inconsistency process control performance and effluent values. A team member stated that the critical process control variable that they now try to focus on is a mean cell residence time (MCRT) of 4-5 days, to try to retain a MLSS of 2500-3000 mg/L.

Part I.B.1, Facilities Operation and Maintenance, of the Permit states, "The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee as necessary to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective performance, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary features or similar systems when installed by the permittee only when necessary to achieve compliance with the conditions of the permit."

Observation 4. The bar screen at the headworks of the GWTP was inundated with solids (refer to Appendix A, Photograph 4). Operators stated that this was the amount of solids that they normally had in the screens. However, the teeth were barely visible, and the system appeared to have an abnormally large amount of debris. The influent flow didn't appear to be impacted. Additionally, the automatic bar screen at the headworks of the PWTP was out of service at the time of inspection. Facility representatives stated that it had been out of service for approximately two weeks prior to the inspection. A manual bar screen was in use at the time of the inspection, and it was being raked clean manually by operators.

Observation 5. The EPA Inspection Team observed the Hach CL17 chlorine analyzers' maintenance tags for total and free chlorine and noticed that both of them were last serviced in August 2021. The analyzers were scheduled to be serviced again in February 2022, according to the tags. Neither of the analyzers appeared to have been serviced since August 2021 (refer to Appendix A, Photographs 24 and 25).

Observation 6. One of the two belt filter presses at the Sludge Process Plant was permanently out of service at the time of the inspection (refer to Appendix A, Photograph 64). Operators stated that they were in the process of staging for the rehabilitation of the in-service belt filter press (refer to Appendix A, Photograph 65), but that they had no plans to bring the other unit back online, creating a lack of redundancy in the solids handling process. Facility representatives did indicate that temporary solids handling equipment could be contracted in case of a filter press failure, and that they had a four-day window before they ran out of solids holding capability in their treatment train.

Observation 7. Purox system aeration basins #4-#5 are used for extra storage of "emergency dumps," or for segregating possible high strength wastes when the operators would like more time before final treatment, or to blend wastewaters into the treatment process. Of the five Purox system aeration basins, only #1-#3 regularly receive flow at the PWTP. If

wastewater is held in trains #4-#5, it is recirculated back to the headworks of the plant for additional treatment. At the time of inspection, basin #4 was activated, and wastewater was being held/mixed in the basin before being sent back to the headworks of the plant due to high strength waste characteristics. Facility representatives stated that approximately two weeks prior to the inspection, a change in coolant used at the can manufacturing plant had caused a high strength waste to enter the PWTP. The Facility issued a Stage 2 Alert, causing some of the toxic load to be diverted into storage basin #4, where it was still being held on the day of the inspection. Operators stated that they were sampling the wastewater in the basin for parameters such as TOC and pH, as they would normally for all influent process control samples.

In response to this event, the Chief Operator stated that internal problem-solving meetings have been taking place three times a week to support operations at the can manufacturing plant. Additionally, the operator stated that coaching on instrumentation and catching issues such as this one earlier (e.g., upstream in the process) has been taking place at the Facility since the event took place.

Observation 8. In November 2021, a portable diesel trailer pump was placed at the splitter box located before the headworks of the GWTP, due to repeated effluent violations (refer to Appendix A, Photographs 1 and 2). This was installed to pump waste from the can manufacturing plant away from the GWTP and into the PWTP. Prior to November 2021 waste from the can plant was treated at the GWTP, but Facility representatives thought that the PWTP was better suited for treating this industrial waste stream. They stated that since the switch was made, they have seen improvements in the quality of their final effluent. Facility representatives stated that no decision has been made yet about installing a permanent solution to this problem, but that the diesel pump was working well for now. An extremely strong H_2S odor was observed at the point where the can manufacturing waste was being pumped into the AWTP effluent wet well leading to the PWTP treatment train (refer to Appendix A, Photograph 3).

Observation 9. At the time of inspection, small amounts of bulking solids were observed at the surface of primary clarifier #1 at the PWTP, and the water in the clarifier appeared cloudy and brown (refer to Appendix A, Photograph 44). Additionally, solids could be seen along the weir plate and in the effluent trough (refer to Appendix A, Photograph 45).

Observation 10. The EPA Inspection Team observed some light foam in the secondary clarifier #3 effluent trough (refer to Appendix A, Photograph 47). Additionally, there were solids along the effluent weir trough in this secondary clarifier, and some solids were observed floating at the surface of the secondary clarifier (refer to Appendix A, Photographs 48 and 49). This issue is noted in an operations logbook entry from May 5, 2022 (refer to Appendix B, Exhibit 12).

Observation 11. The water in the North chlorine contact basin was greenish and cloudy in color at the time of the inspection. It also had a noticeable H2S odor, and heavy foam accumulating at the discharge point at the end of the north chlorine contact basin (refer to Appendix A, Photograph 52). The South chlorine contact basin was also cloudy and greenish with an H2S odor. However, in the south basin large amounts of floating solids ranging in size from a golf ball to a football were floating at the surface (refer to Appendix A, Photographs 53, 54, and 55). Solids were going through the entire serpentine-basin path and were flowing over the edge to final discharge. Operators stated that the north contact basin had undergone maintenance from June 20, 2022, through June 23, 2022 (the days prior to the inspection). During that time, the north basin was completely emptied and refilled. Operators speculated that once the north basin was refilled and put back online on

June 23, 2022 (the day of the inspection) this could've caused floating solids to rise to the surface of the south basin. They also stated that they were switching to a less toxic coagulant on the day of the inspection, which could have caused the cloudiness in the contact basins.

Observation 12. The water being discharged at Outfall 001A was noticeably foamy on the day of the inspection (refer to Appendix A, Photographs 56-58). Large amounts of heavy foam were accumulating on the surface of Clear Creek, and there was a noticeable difference in quality of the water upstream from the outfall and downstream. There was also an H2S odor present at the outfall, and the water was greenish and cloudy as it discharged into the river. The Chief Operator stated that they were not using their defoamer chemical on the day of the inspection, but that the defoamer was used during April, May, and early June 2022. He said that they were used to a higher creek level this time of year, so they usually don't need to add defoamer to the final effluent. During the closing conference video/phone call on June 29, 2022, he stated that since the inspection, the defoamer has been used during all discharges, and will continue to be used during every discharge.

Historical satellite imagery obtained from Google Earth reveals foam at Outfall 001A entering the Clear Creek. An image from June 10, 2021, shows foam entering the creek and continuing with the flow for approximately 60 feet. The foam is especially apparent when comparing the 6/10/2021 image to a historical image that shows minimal/no foam entering the creek on September 29, 2020. This image shows some white ripples that appear to be due to exposed rocks at the outfall, but the white foam and 60-foot tail are not observed in the September imagery (refer to Appendix B, Exhibit 10).

An operations log with entries on May 5, 2022, May 6, 2022, and May 7, 2022 indicated that the Facility was experiencing challenges with large amounts of foam in their aeration basins in early May (refer to Appendix B, Exhibit 12). The log states that more air was introduced to the basins to try to reduce the foam, and that it had ultimately helped. Light foam was also observed in the effluent trough of secondary clarifier #3 at the time of inspection (refer to Appendix A, Photograph 47).

Part I.B.2.b, Compliance Schedules - Activities to meet dissolved copper, cyanide, dissolved iron, and total recoverable iron final limits, of the Permit states, "In order to meet dissolved copper, cyanide, dissolved iron, and total recoverable iron limitations, the following schedule is included in the permit: CS017- Achieve Final Compliance with Discharge Limits: Submit study results that show compliance has been attained with the final dissolved copper, cyanide, dissolved iron, and total recoverable iron limitations [by] 10/31/2021."

Observation 13. The Facility has experienced three dissolved iron effluent exceedances since 10/31/2021 (11/30/2021, 12/31/2021, and 3/31/2022, see Table 2 above). Section 4.0 "Dissolved iron" of the Molson Coors Golden Brewery Compliance Schedule Report: Activities to meet copper, cyanide, dissolved iron, and total recoverable iron final limits, dated October 2021 discusses the possible challenges and near-term actions being implemented to deal with dissolved iron reduction (refer to Appendix B, Exhibit 11). The report states that the brewing and malting process generates a uniquely high volume of dissolved iron, posing a challenge for meeting the permitted dissolved iron limits. During the inspection, Facility representatives stated that their request to use hydrogen peroxide in the treatment process was rejected by CDPHE because it would require more extensive testing. Currently, hydrogen peroxide is primarily used for odor control, but Facility representatives stated that it also helps reduce dissolved iron. They also stated that the new aerated sludge storage tank should reduce dissolved iron concentrations in the effluent, and that the

construction of this tank was expected to be finished between August and November 2022.

Part I.E.2, Representative Sampling, of the Permit states, "Samples and measurements taken for the respective identified monitoring points as required herein shall be representative of the volume and nature of the monitored discharge…"

Observation 14. The lab manager stated that sometimes composite sample jugs aren't switched out at exactly 24-hour intervals, resulting in some samples not representing a full 24-hour cycle, and others representing more than one full 24-hour cycle.

Observation 15. According to a Facility representative during the inspection of the onsite laboratory at the GWTP, Mixed Liquor Suspended Solids (MLSS) samples are either taken at the end of aeration basin #6 or at the clarifier splitter box. However, the Golden Brewery "General Waste Treatment Plant Operating Parameters" packet states that MLSS sampling should take place only at the end of aeration basin #6 (refer to Appendix B, Exhibit 3). Sampling at different locations in the treatment process can result in inconsistent results.

Part I.E.4, Analytical and Sampling Methods for Monitoring and Reporting, of the Permit states, "All sampling shall be performed by the permittee according to specified methods in 40 C.F.R. Part 136; methods approved by EPA pursuant to 40 C.F.R. Part 136; or methods approved by the division in the absence of a method specified in or approved pursuant to 40 C.F.R. Part 136…"

Observation 16. Samples taken overnight by operators are occasionally left unrefrigerated on the counter until the lab manager arrives at 5:00 a.m. for her daily shift. Facility representatives stated that this was due to a lack of fridge space in the laboratory. Facility representatives stated that they were in the process of ordering new refrigerators for their laboratory to ensure that there was enough room to refrigerate all samples after they are collected.

Observation 17. The refrigeration component of the automatic Hach influent sampler at the headworks of the GWTP was not functioning at the time of inspection. This sampler was used for internal process control data, not for compliance values. The thermometer on the inside of the refrigerator read 15° C (the highest temperature reading possible on the thermometer), although the actual temperature was higher than that. Operators stated that they had plans to order a new sampler for this location to replace the one they were currently using.

IV. CLOSING CONFERENCE

At approximately 5:15 p.m. (MDT) on June 23, 2022, the EPA Inspection Team met with the Facility representatives for a closing conference and shared preliminary observations. An additional phone conference with the original members of the June 23 inspection took place on June 29, 2022 at 9:30 a.m. (MDT) to discuss preliminary findings that were not discussed on the date of the original inspection. The EPA Inspection Team reiterated that all preliminary observations discussed were not compliance determinations. Any preliminary observations shared were subject to further investigation by the EPA Inspection Team upon the additional review of records and documentation. Additional observations may be contained in this inspection report that were not identified at the time of the closing conference.

The inspection concluded on June 23, 2022, at approximately 5:30 p.m. (MDT).