




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

for

**Name of Facility:** Suncor Energy (USA) Inc. Commerce City Refinery  
**Facility Address:** 5801 Brighton Blvd., Commerce City, CO 80022  
**Mailing Address:** 5801 Brighton Blvd., Commerce City, CO 80022

Report Prepared on: 8/23/2021 By: ,  
 Sr. Environmental Scientist (PG Environmental)  
*Date* *Signature*

Report Final as of: 9/01/2021 By: , EPA  
 NPDES & Wetlands Enforcement Section Chief  
*Date* *Signature*

**General Information**

**Type of Inspection:** Industrial Wastewater CEI  
**Owner:** Suncor Energy (USA) Inc.  
**Operator:** Suncor Energy (USA) Inc.  
**Permittee:** Suncor Energy (USA) Inc.  
**NPDES Permit No:** CO0001147  
**NPDES Permit Effective Date:** November 1, 2012 (Minor Amendments 2013, 2015, 2017)  
**NPDES Permit Expiration Date:** October 31, 2017 (administratively extended)  
**Number of Outfalls** 1 external, three internal  
**Receiving Water:** Sand Creek  
**Latitude and Longitude:** 39° 48' 18" N, 104° 56' 35 " W

**On-Site Facility Inspection Overview**

**Inspection Dates:** June 22, 23, and 24, 2021  
**Approximate Entry Time:** 9:00 a.m. (MDT) on June 22, 2021  
**Approximate Exit Time:** 3:40 p.m. (MDT) on June 24, 2021

On June 22-24, 2021, 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 of wastewater discharges from the Suncor Energy (USA) Inc. Commerce City Refinery (Facility) in Commerce City, Colorado. Suncor Energy (USA) Inc. is identified as the Permittee and owns and operates the Facility.

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### **List of Attachments**

#### **Appendix A: Photograph Log**

#### **Appendix B: Exhibit Log**

- o Exhibit 1 – SWMP Figure 1A – Location Map
- o Exhibit 2 – Figure 5 – Wastewater and Stormwater Outfalls
- o Exhibit 3 – Figure 4 – Wastewater Treatment Flow Diagram
- o Exhibit 4 – Figure 1: Block Flow Diagram of the Wastewater Treatment System
- o Exhibit 5 – Figure 6 -Wastewater and Stormwater Contributions to CO0001147 Outfalls
- o Exhibit 6 – Technology Laboratories Inc. DMR QA Study Results
- o Exhibit 7 – Chain of Custody Forms and Documentation

#### **Appendix C: NPDES Permit No. CO0001147**

#### **Appendix D: EPA Pre-Inspection Records Request (Completed by Suncor June 3, 2021)**

#### **Appendix E: November 30, 2018 Suncor Flume Assessment Technical Memorandum by Brown and Caldwell**

## **I. INTRODUCTION**

On June 22-24, 2021, 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 Suncor Energy (USA), Inc. Commerce City Refinery (hereinafter, Facility) in Commerce City, Colorado. Suncor Energy (USA), Inc. (hereinafter, Permittee or Suncor) is identified as the Permittee and owns and operates the Facility. The EPA Inspection Team was joined on the inspection by a representative from EPA Region X for training purposes, as well as a representative 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 each day was warm and mostly sunny.

The Facility is authorized to discharge process wastewater to Sand Creek consistent with the terms and conditions of Colorado Discharge Permit System (CDPS) Permit No. CO0001147 (hereinafter, the Permit). The Permit was issued on November 1, 2012 and was modified on May 28, 2013, February 25, 2015, and January 25, 2017. The Permit expired on October 31, 2017 but has been administratively extended.

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. Furthermore, a pre-inspection records request submitted by the EPA Inspection Team and completed by Suncor on June 3, 2021 is included in this report as Appendix D.

This inspection was conducted concurrently with an evaluation of the Permittee's compliance with CDPS Permit No. COS000009 associated with industrial stormwater discharges to Sand Creek and a tributary of the South Platte River; observations pertaining to CDPS Permit No. COS0000009 are documented in a separate inspection report.

### **Facility Description**

The Facility is a 98,000-barrel-per-day petroleum refinery producing gasoline, diesel and distillate fuels, paving-grade asphalt, and other petroleum products. The Facility is located in Commerce City, Colorado, in southwestern Adams County.

The Facility is approximately 274 acres and located just south of Sand Creek and Highway 270. The Facility comprises three separate process areas referred to by the Permittee as Plant 1, Plant 2, and Plant 3 (refer to Appendix B, Exhibit 1). Brighton Boulevard bisects the Facility from north to south, with Plant 1 located west and Plants 2 and 3 located east of Brighton Boulevard. Two Suncor-owned buildings are located to the north of Highway 270, the Nelson Property (a contractor-operated maintenance facility) and the ERT building (used to house spill and emergency response equipment). Private businesses border the south and east perimeters of the Facility along 56th Avenue and York Street. Metro Wastewater Reclamation District and Denver Water operate facilities immediately west of Plant 1 and opposite the Burlington Ditch waterway.

Plants 1, 2, and 3 are each bordered by Sand Creek to the north, which flows northwest into the South Platte River approximately 1/3-mile downstream of the Facility's northwest corner. Process wastewater discharges from the Facility are authorized to discharge into Sand Creek through one outfall, Outfall 020A. The Facility has two internal outfalls, Outfalls 002B and 003B which flow to Outfall 020A and subsequently Sand Creek (refer to Appendix B, Exhibit 2).

## **Wastewater Generation and Treatment**

The Facility generates various wastewater streams from the desalters, asphalt unit, tank water draws, hydrostatic testing, loading terminal runoff and truck wash water, process area drains, steam generation, cooling tower blowdown, and stormwater runoff. Wastewater streams are collected and conveyed through oily-water or non-oily water sewer systems to the onsite wastewater treatment plant (WWTP), located in Plant 1. The WWTP utilizes conventional activated sludge treatment technology (refer to Appendix B, Exhibits 3, 4, and 5).

Process wastewater from the desalters, process sewers, and tank water draws flows to the WWTP headworks where it is processed through a grinder and pumped to two American Petroleum Institute (API) oil/water separator units for hydrocarbon removal. From the APIs, wastewater is pumped into a 600,000-gallon equalization tank referred to as T-60. Non-oily water sewers and stormwater runoff from process areas combine with API effluent at T-60. From the T-60 equalization tank, wastewater is routed through three separate trains (referred to as Train A, Train B, and Train C) comprised of dissolved gas flotation (DGF), activated sludge treatment, clarification, and membrane filtration. A dedicated membrane bioreactor (MBR) constructed in 2018 services Train C, exclusively. Trains A and B utilize a (0.02 micron) ultra-filtration system. Facility representatives stated that flow rate for Trains A, B, and C are typically 400 gallons per minute (gpm), 500 gpm, and 1,700 gpm, respectively. Collectively, secondary treated wastewater is referred to by the Permittee as DGF water. At the time of the inspection, all three treatment trains were operational or in standby. The Permittee completed construction of the activated sludge aeration building and membrane bioreactor (MBR) building in 2018. Wastewater from Trains A, B, and C then enters three lagoons in series (Lagoon Nos. 1, 2, and 3). Lagoon No. 1 is not aerated and Lagoon Nos. 2 and 3 are aerated by fountain aerators.

Sour water stripped from de-sulfuring operations is treated through an iron co-precipitation/flocculation process for selenium reduction. Following the iron co-precipitation/flocculation process, the sour water stripper flows through a dissolved air flotation (DAF) unit and into Lagoon No. 4. From Lagoon No. 4, this wastewater is then commingled with DGF water in Lagoon Nos. 1, 2, and 3. On April 30, 2019, the Permittee provided written notice to CDPHE that the Permit compliance schedule for cleaning Lagoon No. 4 was completed.

Effluent from Lagoon No. 3 is considered final treated effluent from the WWTP which flows through Outfall 002B and subsequently Outfall 020A. On June 22, 2021 at 10:54 a.m. MDT, flow from Outfall 020A to Sand Creek was documented in the Permittee's Pi system as 1,220 gpm.

Additionally, the Facility operates a groundwater treatment system (GWTS) that treats groundwater pumped from the groundwater recovery system located along the Facility's boundary with Sand Creek. The GWTS consists of oxidation, hydrogen peroxide and polyaluminum chloride (PAC) addition, flocculation, sand filtration, and air stripping. The groundwater recovery system also pumped contaminated groundwater to the WWTP for treatment. Facility representatives estimated that flows from the groundwater recovery system to the GWTS and WWTP were 250 gpm and 265 gpm, respectively. Additionally, Facility representatives stated that certain groundwater wells have shown high levels of benzene (Wells 29-33), and that these wells are routed to the WWTP for biological treatment. Wells 1 through 5 are pumped solely to the GWTS. Treated groundwater is routed through and monitored at Outfall 003B. Treated wastewater from Outfall 002B and treated groundwater from Outfall 003B combine at the Outfall 020A aerated sampling vault. From the vault, combined effluent is piped north and discharged to Sand Creek at Outfall 020A (refer to Appendix A, Photographs 1, 2, and 3).

## **Wastewater Monitoring and Flow**

NPDES compliance self-monitoring activities and samples are conducted by Suncor laboratory staff at Outfall 002B, Outfall 003B, and the Outfall 020A aerated sampling vault using three automatic ISCO

samplers (refer to Appendix B, Exhibit 2, and Appendix A, Photographs 4, 5, and 6). Process control samples are also collected by Facility operators. Sample collection locations and methods appeared to provide representative samples. The samples are analyzed using both on-site and contract laboratories. Analysis for total suspended solids, pH, dissolved oxygen (DO), temperature, biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon (TOC), n-hexane extractable material oil and grease (Grav), sulfide (H<sub>2</sub>S), benzene, BTEX, and methyl tert-butyl ether (MTBE) are conducted at the onsite Suncor laboratory. Analysis for total arsenic, potentially dissolved copper, potentially dissolved lead, potentially dissolved manganese, potentially dissolved selenium, potentially dissolved silver, potentially dissolved uranium, potentially dissolved nickel, potentially dissolved zinc, cyanide, total mercury, total recoverable iron, total chromium, calcium, magnesium, potassium, sodium, and total inorganic nitrogen is conducted by the Permittee's contract laboratory Technology Laboratories in Fort Collins, Colorado. Whole effluent toxicity (WET) testing is conducted by the Permittee's contract laboratory, SeaCrest Group in Louisville, Colorado. Facility discharge monitoring reports (DMRs) for 2018 through 2020 were reviewed as a component of this inspection. 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 Suncor laboratory and met with lab staff including Jennifer Stapp (Lead Chemist, Commerce City Refinery) and Nick Shelton (NPDES sampler, Commerce City Refinery). During the inspection, lab staff briefly explained NPDES compliance sample collection and analysis procedures and recordkeeping. Sample analysis and equipment calibration records are documented in the Permittee's electronic BLISS database.

Effluent flow at Outfalls 002B, 003B, and 020A are measured with Parshall flumes equipped with ultrasonic transducers. Facility representatives stated the flow meters are calibrated by the Suncor instrumentation team. Based on documentation provided by the Permittee, the Parshall flumes are configured such that the sum of the flow rates from Outfall 002B and Outfall 003B should equal the flowrate measured at Outfall 020A. At the time of the inspection (approximately 10:30 a.m.) flow at Outfalls 002B, Outfall 003B, and Outfall 020A were 899 gpm, 260 gpm, and 1220 gpm, respectively.

### **Wastewater Solids Handling**

Solids generated from the WWTP are stored in two sludge tanks. One tank is used to store hazardous sludge generated from the two API oil/water separation units as well as DGF float solids. This sludge is dewatered by an onsite 3-stage centrifuge that is operated by a contractor. Dry cake is hauled off as hazardous waste. The other sludge tank is used to store non-hazardous DAF skimming solids from selenium treatment, solids from GWTS, and waste activated sludge (WAS) from Trains A, B, and C. This sludge is dewatered at the abovementioned 3-stage centrifuge or dewatering boxes. During the inspection, the EPA Inspection Team briefly observed the dewatering boxes from a vehicle and noted that they drain to the concrete conveyance channel that flows to the Facility's onsite Finger Lake impoundment (refer to Appendix A, Photographs 18 and 22).

### **WWTP Operation and Maintenance Management**

The Permittee utilizes and maintains an SAP maintenance management system to track Facility maintenance refinery-wide, including for the WWTP. Facility representatives provided an overview of the SAP system to the EPA Inspection Team. The SAP system utilizes a risk matrix to identify asset criticality and assign priority to tasks. This risk matrix system was demonstrated during various work orders reviewed with Facility representatives.

## II. INSPECTION PROCESS

### Inspection Opening Conference

The EPA Inspection Team arrived at the Facility on June 22, 2021 at 9:00 a.m. (MDT) for the inspection. Jared Richardson and Anthony D’Angelo of PG Environmental, and Stephanie Meyers of EPA Region VIII displayed their Clean Water Act inspector credentials to Wes McNeil (Suncor Environmental Team Lead, Commerce City Refinery) 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. Table 1 describes the individuals that participated in the inspection.

**Table 1: Inspection Attendee List**

Name	Affiliation	Telephone	Email
<b>EPA Inspectors and Contractors</b>			
Jared Richardson	PG Environmental (EPA Contractor)	(720) 789-8036	<a href="mailto:Jared.richardson@pgenv.com">Jared.richardson@pgenv.com</a>
Anthony D’Angelo	PG Environmental (EPA Contractor)	(720) 789-8049	<a href="mailto:Anthony.dangelo@pgenv.com">Anthony.dangelo@pgenv.com</a>
Stephanie Meyers	EPA Region VIII	(303) 312-6938	<a href="mailto:Meyers.stephanie@epa.gov">Meyers.stephanie@epa.gov</a>
Michelle Lanzoni	EPA Region X	(907) 271-6627	<a href="mailto:Lanzoni.michelle@epa.gov">Lanzoni.michelle@epa.gov</a>
<b>Colorado Department of Public Health and Environment (CDPHE) Representatives</b>			
Clayton Moores	Unit Manager, Field Services Unit 1	(303) 241-9296	<a href="mailto:clayton.moores@state.co.us">clayton.moores@state.co.us</a>
Meg Parish*	Permits Section Manager, Water Quality Control Division	--	<a href="mailto:meg.parish@state.co.us">meg.parish@state.co.us</a>
<b>Suncor Energy (USA), Inc. Representatives</b>			
Eric Marler	Sr. Environmental Advisor	(303) 227-7524	<a href="mailto:EMarler@Suncor.com">EMarler@Suncor.com</a>
Wes McNeil	Environmental Team Lead	(720) 838-1644	<a href="mailto:wmcneil@suncor.com">wmcneil@suncor.com</a>
Donald Austin*	Vice President of Commerce City Refinery	--	<a href="mailto:daustin@suncor.com">daustin@suncor.com</a>
Brian Nelson	EHS Manager	(303) 286-5711	<a href="mailto:bnelson@suncor.com">bnelson@suncor.com</a>
Brian Lilly	ORC	(303) 286-5748	<a href="mailto:blilly@suncor.com">blilly@suncor.com</a>
Aaron James	CFT Manager	(720) 322-2503	<a href="mailto:ajames@suncor.com">ajames@suncor.com</a>
Chris Mack	WWTP Superintendent	(303) 286-5745	<a href="mailto:chmack@csuncor.com">chmack@csuncor.com</a>
Brian Killough	Remediation Advisor	(303) 286-5714	<a href="mailto:bkillough@suncor.com">bkillough@suncor.com</a>
Heather Sazdov*	Operations Manager	--	--
Jacy Rock*	Senior Legal Council	--	--
Ana Rodriguez	Document Control	(720) 630-3495	<a href="mailto:arodriguez@suncor.com">arodriguez@suncor.com</a>
Lisa Kouf	Document Control	(970) 213-5035	<a href="mailto:lkouf@suncor.com">lkouf@suncor.com</a>

\*only present for closing conference on June 24, 2021

### **Facility Site Walk**

Over the course of June 22, 23, and 24, 2021, the EPA Inspection Team observed various areas of the Facility to observe both stormwater and wastewater collection, conveyance, treatment, and discharge. However, the majority of field observations made pertaining to this inspection report occurred in Plant 1 at the WWTP and GWTS. While at the WWTP, the EPA Inspection Team met with the Facility's Chief WWTP Operator, Chris Mack, to discuss the operation and maintenance (O&M) of the WWTP. Mr. Mack demonstrated significant knowledge and understanding of the WWTP assets and associated O&M. Mr. Mack did acknowledge that the WWTP assets were inherited when Suncor purchased the Facility from Conoco Phillips. During the site walk to the WWTP, the EPA Inspection Team requested to know the purpose and flow pathway of some Facility assets. Mr. Mack stated that not all Facility flow pathways and assets were fully understood and he believed some assets to be historical or decommissioned equipment. This was not verified during the inspection. Mr. Marler explained that Suncor conducted a detailed survey of the Facility's sewer systems in 2013 and that all assets at the WWTP were evaluated at that time.

A WWTP diagram is included in [Appendix B, Exhibits 3 and 4](#).

### **Records Review**

The EPA Inspection Team conducted a records review to evaluate the Permittee's compliance with the Permit. On May 27, 2021, EPA Inspector Stephanie Meyers provided a records request to the Permittee. Additional records were requested during and following the inspection. Most of the records and reports required by the Permit were available for review prior to, during, and after the inspection. However, some records provided by the Permittee were noted as deficient (refer to Section III. Summary of Observations of this report for details). Refer to [Appendix D, Suncor Completed EPA Records Request](#).

## **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, Limitations Monitoring Frequencies and Sample Types**, of the Permit identifies effluent limitations, monitoring frequencies and sample type requirements.

**Observation 1.** The EPA Inspection Team observed that the Permittee experienced four effluent limitation exceedances during the period of review (2018-2020):

- The Permittee experienced a pH effluent limitation (6.5-9.0 s.u.) exceedance at Outfall 020A on January 13, 2018 (reported 6.2 s.u.). Facility representatives stated that this exceedance was a result of additional wash water utilization to remove spent catalyst in a process unit. The Permittee provided notifications of this exceedance to CDPHE as required by Part II.A.4 of the Permit.
- The Permittee experienced a TSS effluent limitation (30-day avg. 30 mg/l) exceedance at Outfall 003B on July 31, 2020 (reported 87 mg/l). Facility representatives stated that this was due to operator error during maintenance activities on the GWTS surge basin. Specifically, the basin was pumped down to a level causing sediment suspension in the surge basin resulting in the TSS exceedance at Outfall 003B. During the inspection, the EPA Inspection Team observed accumulated sediment and vegetative growth in the GWTS surge basin; refer to Observation No. 6 of this report for additional details.

- The Permittee experienced a BOD<sub>5</sub> effluent limitation (daily max. 1575 lbs/day) exceedance at Outfall 002B on November 30, 2020 (reported 1875 lbs/day) and December 31, 2020 (reported 2915 lbs/day). Facility representatives stated that cause of the exceedance was unknown, but it was potentially due to a changeover to citric acid cleaning solutions used on the WWTP membrane filters and/or from Finger Lake cleaning activities during this timeframe.

**Part II.A.4.a, Noncompliance Notification**, of the Permit states, “If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitations or standards specified in this permit, the permittee shall, at a minimum, provide the Division and EPA with the following information:

- i. A description of the discharge and cause of noncompliance;
- ii. The period of noncompliance, including exact dates and times and/or the anticipated time when the discharge will return to compliance; and
- iii. Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.”

**Observation 2.** The EPA Inspection Team observed that clear and definitive steps or corrective actions (e.g., redundant or dedicated backup power and/or adequate controls for isolation/containment of the aerated sampling vault to inflow) were not planned or implemented to prevent or reduce a recurrence of oil discharges from the Facility.

- On May 7, 2020, the Permittee observed an oil sheen on Sand Creek, approximately 500 feet upstream of Outfall 020A. Notification was provided to CDPHE in accordance with the Permit (CDPHE Case Number 2020-0222). During the inspection, Facility representatives stated that this was most likely caused by seepage from historic groundwater contamination beyond the subsurface slurry barrier wall to Sand Creek.
- On May 22, 2021, the Permittee observed an oil sheen on Sand Creek at end of pipe of Outfall 020A. Notification was provided to CDPHE in accordance with the Permit (CDPHE Case No. 2021-0227). The Permittee provided information to CDPHE that this sheen was attributed to a loss of power at the GWTS and further stated that the sheen was attributed to petroleum-laden stormwater runoff in Plant 1 from a spill associated with fuel powered generators for work in the area that entered the Outfall 020A aerated monitoring basin. During the inspection, Facility representatives informed the EPA Inspection Team that the Facility has mobile generators that can be utilized throughout the Facility; however, the GWTS is not equipped for a mobile or dedicated backup power supply.
- On May 31, 2021, the Permittee observed an oil sheen on Sand Creek at end of pipe of Outfall 020A. Notification was provided to CDPHE in accordance with the Permit (CDPHE Case No. 2021-0243). Facility representatives explained during the inspection that this sheen was attributed to petroleum-laden stormwater runoff in Plant 1 from a spill associated with fuel powered generators for work in the area that entered the Outfall 020A aerated monitoring basin (refer to Appendix A, Photograph 7). They explained that the root cause of the petroleum-laden stormwater runoff was from improper coverage and containment of an upgradient contractor generator set and fuel pack in which a spill occurred during fueling operations. Facility samples taken during this event at Outfall 020A identified a benzene level of 37.97 mcg/l and BTEX level of 458.24 mcg/l. It should be noted that the Permit daily maximum limits for benzene and BTEX are 5 mcg/l and 100 mcg/l, respectively.



- At the time of the inspection, the EPA Inspection Team observed accumulated stormwater on the ground surface immediately upgradient of the Outfall 020A aerated sampling vault, as well as an improperly installed (i.e., unconsolidated) sediment and gravel berm placed upgradient of the Outfall 020A aerated sampling vault in response to the prior May 31 event (refer to Appendix A, Photographs 7 and 8).

**Part I.D.3, 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 3.** The EPA Inspection Team observed that the results of Suncor’s most recent DMR QA report (dated November 18, 2020) for the contract analytical laboratory, Technology Laboratory, Inc. (USEPA Lab ID CO00064) identified several parameters (total dissolved solids, total hardness, total alkalinity, calcium, magnesium, potassium, sodium) with a rating of “Not Acceptable” and at the time of the inspection a reanalysis and resubmission of test results ensuring an “acceptable” rating for these parameters at this laboratory had not been conducted (refer to Appendix B, Exhibit 6). The Permittee provided additional documentation after the inspection identifying “Acceptable” ratings for the total dissolved solids, calcium, potassium, sodium (refer to Appendix B, Exhibit 6); however, total alkalinity was still noted as “Not Acceptable” and Total Hardness and Magnesium were noted as “Not Reported.”

**Observation 4.** The EPA Inspection Team observed that both the onsite and contract (Technology Laboratory, Inc.) laboratory chain-of-custody documentation was lacking the minimum information needed to document the sample container type (refer to Appendix B, Exhibit 7), as required by 40 CFR, Part 136.

**Observation 5.** The EPA Inspection Team observed that the Permittee was not conducting verification and calibration of temperature probes and equipment to ensure proper sample preservation methods in accordance with 40 CFR Part 136. Specifically, during the inspection, the EPA Inspection Team observed that the Permittee’s ISCO automatic samplers at Outfalls 002B, 003B, and the 020A aerated sampling vault were not equipped with independently calibrated thermometers, and procedures were not implemented to independently verify the accuracy and calibration of the ISCO samplers’ thermometers and temperature readings. Facility laboratory representatives stated that they relied on the temperature reading of the ISCO sampler to document preservation temperature readings and that verification of the sampler readings was not performed.

**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.”

**Observation 6.** The EPA Inspection Team observed accumulated solids and vegetative growth within the GWTS surge basin (refer to Appendix A, Photograph 9). Facility representatives stated that the GWTS surge basin was not on a routine cleaning schedule and admitted to difficulties encountered in cleaning access to all areas of the basin. As noted in Observation No. 1 of this report, the Permittee experienced a TSS effluent limitation

exceedance at Outfall 003B on July 31, 2020, which was attributed to sediment suspension associated with pumping down the GWTS surge basin.

- Observation 7.** The EPA Inspection Team observed accumulated solids and vegetative growth within WWTP Lagoon Nos. 1, 2, and 3, most notably at the Lagoon 1 forebay from the “Morgan Box.” The lagoon weirs were also observed to be visibly deteriorated and corroded (refer to Appendix A, Photographs 10 through 13). Facility representatives stated that they were not aware of the last time cleaning or maintenance activities occurred for the lagoon weirs.
- Observation 8.** The EPA Inspection Team observed the need for maintenance on the Webber’s Pond impoundment, utilized by the Permittee to capture flow prior to pumping influent to the WWTP. Specifically, the EPA Inspection Team observed evidence of erosion and rill formation on the east embankment of Webber’s Pond resulting in deposition of sediment into the pond (refer to Appendix A, Photograph 20). Additionally, the EPA Inspection Team observed trash and debris within the pond (refer to Appendix A, Photograph 19) and a torn and deteriorated poly liner on the central-east side of Webber’s Pond (refer to Appendix A, Photographs 20 and 21). Furthermore, Mr. Marler explained that to the best of his knowledge, Webber’s Pond has never been maintained due to risk associated with tearing the poly liner of the pond.
- Observation 9.** The EPA Inspection Team observed a hose leading from the WWTP Train B clarifier skimming tank (Tank No. 4513) into the adjacent concrete conveyance channel that flows to Finger Lake (refer to Appendix A, Photographs 16 and 17). Facility representatives stated that it was likely that due to minimal skimmings collected from the clarifier, the skimming tank was most likely full of clarified wastewater and that instead of pumping this wastewater out with a vac truck, Facility operators most likely allowed this water to drain to the adjacent concrete conveyance channel and into Finger Lake.

**Part I.D.5, Flow Measuring Device**, of the Permit states, “At the request of the Division, the permittee shall show proof of the accuracy of any flow-measuring device used in obtaining data submitted in the monitoring report.”

- Observation 10.** The EPA Inspection Team observed that the flow measurement devices at Outfalls 002B, 003B, and 020A may not be accurate. Specifically, notable turbulence and disturbance was observed in the flow and approach channel upstream of the Outfall 003B Parshall flume (refer to Appendix A, Photographs 14 and 15). Mr. Marler explained that the turbulence was previously noted by Suncor and was investigated in 2018 which did not warrant further action. Upon request following the inspection, the Permittee provided a November 30, 2018 Suncor Flume Assessment Technical Memorandum from Brown and Caldwell (refer to Appendix E) which states that the Parshall flumes associated with Outfalls 002, 003, and 020 “are configured such that the sum of the flow rates from Flume 002 and Flume 003 should equal the flowrate measured at Flume 020. However, data shows that the flowrate measured at Flume 020 is lower than the sum of the two upstream flumes.”

Additionally, Section, 1.4, Conclusions, of the memo states, “The analysis of the two data sets indicate that the measured flow rates are generally within the expected range of accuracy at each flume. The recommendations to increase accuracy is to routinely recalibrate the flow measuring devices, monitor the data for increasing deviations, and check for submerged flume conditions.” Section 2.2, Models Results, of the November 30, 2018 Suncor Flume Assessment Technical Memorandum states that as long as flow

through Flume 003 remains below 600 gpm, acceptable flow conditions are expected for Flume 003.” The EPA Inspection Team requested flow meter calibration records during the inspection; however, these records were not provided by the Permittee by the time this inspection report was finalized.

#### **IV. CLOSING CONFERENCE**

At approximately 3:00 p.m. on June 24, 2021, the EPA Inspection Team met with the Facility representatives for a closing conference and shared preliminary observations. 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 24, 2021 at approximately 3:40 p.m. (MDT).