



October 7, 2022
Via Electronic Mail

Mr. Paul Hlavinka, Chief
Industrial Stormwater Permits Division
Wastewater Permits Program
Water and Science Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
paul.hlavinka@maryland.gov

Re: Hawkins Point Plant Industrial Waste Landfill NPDES Permit Renewal State Discharge Permit 21DP2954, NPDES Permit MD0066206

Dear Mr. Paul Hlavinka,

Thank you for the opportunity to comment on the Maryland Department of the Environment's (the "Department") tentative determination to renew the National Pollutant Discharge Elimination System (NPDES) Permit No. MD00069035 (State Permit No. 21-DP-2954) ("Draft Permit") held by Hawkins Landfill LLC. These comments are submitted by the Chesapeake Accountability Project (CAP, referred to herein as "Commenters")

A. BACKGROUND

The Hawkins Point Plant Landfill ("the Landfill") is an active landfill located at 3801 Fort Armistead Road, Baltimore, Maryland, 21226, on a 35-acre property, owned by Hawkins Landfill, LLC. Prior to November 2020, the Landfill was used to dispose of waste materials generated at the former titanium oxide manufacturing plant located just northeast of the Landfill, which included gypsum, dewatered dredged solids, settling ponds solids, and discarded refractory bricks. During that time, the Landfill was privately operated and only accepted waste from the manufacturing plant, which was owned by Tronox and before that by Cristal USA. Currently, the Landfill accepts waste from the public and is primarily used to dispose of construction and demolition debris, including friable asbestos-containing materials.

A leachate collection system located beneath the landfill is currently connected to the Tronox wastewater treatment facility adjacent to the Landfill. Currently, leachate from the Landfill flows from the collection to the Tronox wastewater treatment facility, is treated there, and is discharged according to the terms of NPDES Permit No. MD0001261 (State Discharge Permit 15-DP-0164), held by Tronox. With this application, Hawkins Landfill, LLC seeks authorization to reroute the landfill leachate to its own

prospective treatment system and discharge it after treatment directly to the Patapsco River. This re-routing would involve the construction of an on-site wastewater treatment system.

The site also includes a truck washing area at the end of the eastern exit ramp. Stormwater and truck rinse water from this vehicle wash area is discharged through outfall 003, which is proposed to be relocated based on a change in the location of the truck washing area. The proposed permit would authorize both this discharge of stormwater and truck rinse water through outfall 003 and the new leachate discharge through outfall 002. The comments presented here relate to the discharge of landfill leachate through outfall 002.

The Landfill discharges to the Patapsco River, which is designated for freshwater aquatic life. Draft Fact Sheet at 1. This permit should include all limits needed to protect that use. The Clean Water Act requires NPDES permits to include any limitations necessary to meet water quality standards in the receiving water body. 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(1); *see also* COMAR 26.08.03.01 (permitting discharges when “they do not contravene the surface water quality standards established by this State to protect legitimate beneficial water uses”); 40 C.F.R. §§ 122.44(d), (d)(1) (permits must include “any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318, and 405 of CWA necessary to: [a]chieve water quality standards”); 40 C.F.R. § 123.25 (applying 40 C.F.R. § 122.44 to delegated states like Maryland). Pursuant to the “Chesapeake 2000 Agreement,” no mixing zone for dilution is available to the Landfill for persistent or bioaccumulative toxics like mercury, PFAS, and iron. Draft Fact Sheet at 9; *see also* Chesapeake 2000 Agreement.¹ Any permit for the landfill should require that the Landfill meet these water quality standards at “end of pipe.”

B. THE PERMIT SHOULD INCLUDE LIMITS FOR MERCURY AND PFAS PARAMETERS AT OUTFALL 002.

The Draft Permit is missing several parameters in its effluent limitations for Outfall 002 that are particularly important to protect the Patapsco River from landfill leachate.

Landfills are known sources of several toxic pollutants that harm aquatic life; accordingly, the permit should include effluent limitations for pollutants that present a potential risk to the aquatic life use.

1. The Department should add effluent limitations for mercury at Outfall 002.

Solid waste landfills, including industrial landfills, are known sources of mercury because of the variety of everyday products that contain mercury and end up in landfills.² Mercury in waterways presents a risk to human health and the environment due to the process of methylation, which converts elemental mercury to methylmercury, which can build up in fish and shellfish. Methylmercury is a powerful

¹ https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/chesapeake_2000.pdf

² *See, e.g.,* EPA, *Mercury Study Report to Congress, Volume II: An Inventory of Anthropogenic Mercury Emissions in the United States*, Table 1-2 (listing landfills as Anthropogenic Mercury Sources With Sufficient Data to Estimate National Emissions), <https://www.epa.gov/sites/default/files/2015-09/documents/volume2.pdf>; EPA, *Environmental Laws that Apply to Mercury*, <https://www.epa.gov/mercury/environmental-laws-apply-mercury> (noting that runoff from landfills may contaminate drinking water sources with mercury); EPA, *A Guide To Mercury Reduction In Industrial and Commercial Settings* (discussing sources of mercury in industrial production), <https://archive.epa.gov/region5/mercury/web/pdf/industrialhgredution.pdf>.

neurotoxin and people exposed to high levels may experience adverse health effects, including loss of peripheral vision; “pins and needles” feelings; lack of coordination of movements; impairment of speech, hearing, walking; and/or muscle weakness. Exposure to mercury by infants in the womb from mothers consuming fish and shellfish containing methylmercury can adversely affect the infants’ cognitive thinking, memory, attention, language, fine motor skills, and visual spatial skills.

The most common way people in the U.S. are exposed to mercury is by eating fish containing methylmercury. Fishing is a protected use for the Patapsco River, which receives the discharge from the Landfill. Community members fish and may consume the fish they catch. This would be a potential exposure pathway for methylmercury to affect human health of community members.

To protect aquatic life and the public from exposure to methylmercury due to any discharges of mercury from the landfill, the Department should impose daily maximum and monthly average effluent limitations for mercury.

Maryland has an acute water quality standard for freshwater aquatic life for mercury of 1.4 ug/l and a chronic standard of .77 ug/l.³ This permit must include limits to ensure that this discharge will not cause or contribute to an exceedance of those water quality standards. As such, to ensure that the permit protects human health and aquatic life from the harmful effects of mercury and does not interfere with the designated use of the Patapsco River, the Department should include a daily maximum mercury limit of 1.4 ug/l at Outfall 002 and a monthly average limit of .77 ug/l. We note that the application includes one sample of mercury at Outfall 002 at “nondetect.” Due to the variability of landfill leachate, one sample is not enough to determine that there is no mercury present in the leachate, nor that the landfill leachate does not have the reasonable potential to cause or contribute to an exceedance of either water quality standard. As such, the Department should take a protective approach, make a finding of “qualitative reasonable potential,” and include these limits in the permit given the severity of mercury’s impacts to aquatic life and human health.

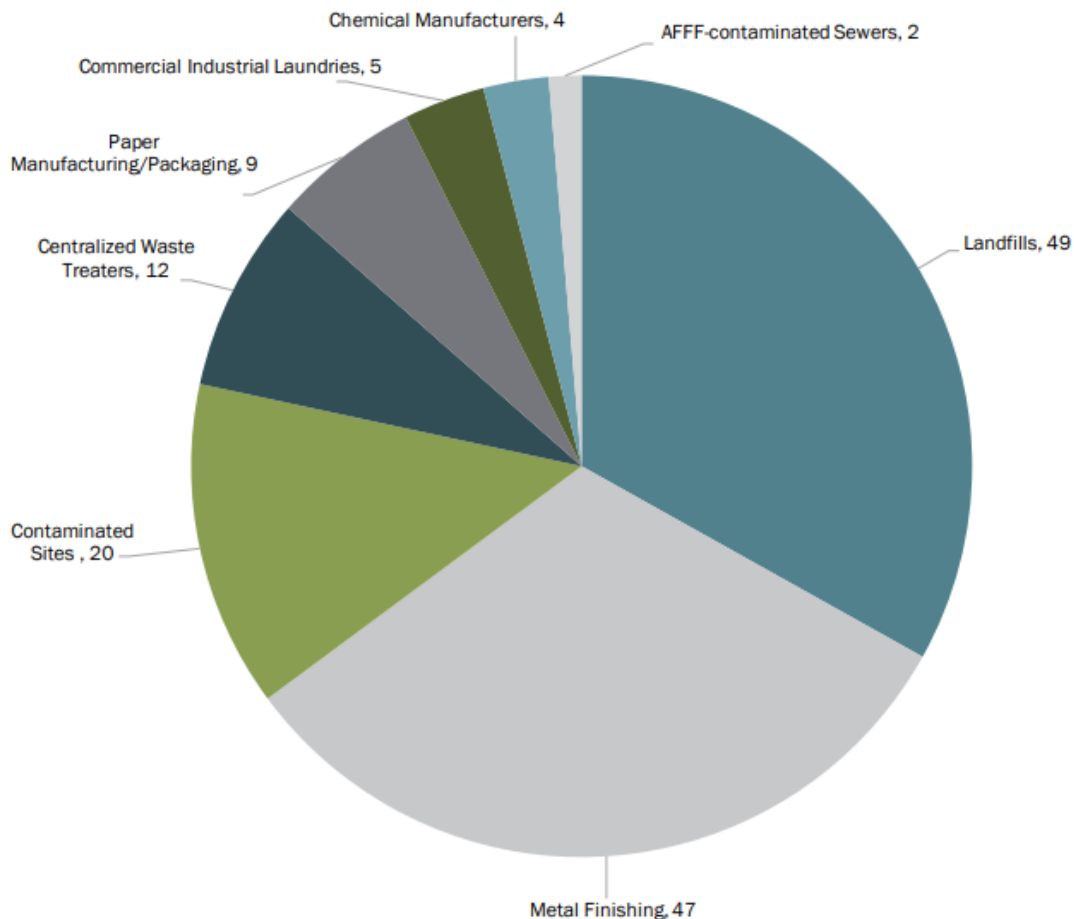
If the Department finds that there is no reasonable potential for the landfill to cause or contribute to an exceedance of the mercury water quality standard and limits are not needed, the Department should include monthly monitoring requirements in the permit to provide the Department and the public with additional information regarding the content of the Landfill leachate and to provide the Department with enough data to conduct a quantitative reasonable potential analysis at permit renewal.

³ <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>. Maryland also has a water quality standard for methylmercury based on consumption of a contaminated organism, which is 0.3 mg/kg in fish tissue. The Maryland regulations note, however, that total mercury concentrations, as opposed to methylmercury, are used in the Department’s fish consumption risk-calculation. Therefore, Commenters recommend imposing a mercury concentration limit but would not oppose also adding a methylmercury limit.

2. The Department should add monitoring for per- and polyfluoroalkyl (PFAS) substances and effluent limits for PFOS and PFOA at Outfall 002.

The Department should require monthly monitoring for all PFAS substances included in EPA Draft Method 1633.⁴ We have listed these in Exhibit A to these comments. PFAS are a group of manufactured chemicals that have been used in industrial products since the 1940s. Here, the Department has a strong basis for expecting PFAS substances to be present given their prevalence in industrial products and the fact that the Landfill is an industrial landfill. *See, e.g., Michigan Industrial Pretreatment Program (IPP) PFAS Initiative, Identified Industrial Sources of PFOS to Municipal Wastewater Treatment Plants* at p. 3 (Aug. 2020)⁵ (finding in Michigan that 49 of the 56 landfills or 88% of all landfills evaluated were found to be sources of PFOS). Chemical manufacturers, the source of much of the landfill waste here, and landfills are two industries that contribute significant levels of PFOS to WWTPs, according to a Michigan analysis. The figure below reflects the most significant sources of PFAS from this analysis.

Figure 1. Sources of PFOS, Number by Type



⁴ For more information on EPA Draft Method 1633, see https://www.epa.gov/system/files/documents/2021-09/method_1633_draft_aug-2021.pdf

⁵ <https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/IPP/pfas-ipp-initiative-identified-sources.pdf?rev=0f234a957d4947968ba3b44711a93e10>

Our request for monitoring is consistent with the Environmental Protection Agency (EPA) November 2020 memorandum detailing recommendations from the PFAS NPDES Regional Coordinators Committee for a PFAS NPDES interim strategy. EPA, *Recommendations from the PFAS NPDES Regional Coordinators Committee Interim Strategy for Per- and Polyfluoroalkyl Substances in Federally Issued National Pollutant Discharge Elimination System Permits*.⁶ This memorandum recommends that permit writers consider incorporating permit requirements for monitoring PFAS at facilities where PFAS are expected to be present. Our request is also consistent with the NPDES Permit Writer’s Manual guidance to include limitations even in the absence of monitoring data when the permit writer has a strong basis for expecting that the pollutant could be present in the discharge.⁷ Moreover, the Department itself is working to increase its understanding of potential sources of PFAS to the environment, such as in landfill leachate. In August 2021, the Department issued a discharge permit to the wastewater treatment plant at Naval Support Facility Indian Head requiring monitoring for PFAS in effluent and biosolids. Including PFAS monitoring requirements in the Landfill permit would be consistent with the Department’s commitment to expanding its knowledge of PFAS sources, including landfill leachate.

We also request that the Department include limits for two PFAS substances, Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS), for which EPA proposed draft aquatic life criteria in May 2022. 87 Fed. Reg. 26199 (May 3, 2022).⁸

EPA’s draft maximum and chronic concentrations for PFOA and PFOS are listed below. We request that the maximum concentrations be included as daily maximums in the permit and the chronic concentrations be included as a 4-day average limit in the permit.

	Acute water column (Criteria Maximum Concentration)	Chronic water column (Criterion Continuous Concentration)
PFOA	49 mg/L (1-hour average)	0.094 mg/L (4-day average)
PFOS	3.0 mg/L (1-hour average)	0.0084 mg/L (4-day average)

These criteria “reflect the latest scientific knowledge regarding the effects of PFOA and PFOS on freshwater organisms,” 87 Fed. Reg. at 26199, and thus should be included in the permit in order to ensure that the permit will not lead to exceedances of Maryland’s narrative water quality standard, which requires that “the waters of this State may not be polluted by ... toxic substances attributable to sewage, industrial wastes, or other wastes in concentrations outside designated mixing zones, which: [i]nterfere directly or indirectly with designated uses, or [a]re harmful to human, plant, or aquatic life.” COMAR 26.08.02.03, *Surface Water Quality Criteria*. Here, the receiving water (the Patapsco River) is designated for freshwater aquatic life and this permit should include all limits needed to protect that use.

⁶ https://www.epa.gov/sites/default/files/2020-11/documents/pfas_npdes_interim_strategy_november_2020_signed.pdf

⁷ EPA, NPDES Permit Writers Manual, Section 6.2.1.5, *Pollutants Otherwise Expected to be Present in the Discharge* (2010), <https://www.epa.gov/npdes/npdes-permit-writers-manual>

⁸ <https://www.govinfo.gov/content/pkg/FR-2022-05-03/pdf/2022-09441.pdf>

We further note that other states have already included both PFAS monitoring and limits in landfill permits, even without initial sampling showing PFAS, because PFAS is likely to be present in the effluent and can be harmful at such small levels.⁹

C. THE DEPARTMENT SHOULD LOWER THE MONTHLY AVERAGE IRON LIMIT TO 1 mg/l AT OUTFALL 002 BASED ON ITS TOXICITY TO FISH

The Landfill is, without question, a significant source of iron, as is the adjacent Hawkins Point Plant. In fact, the plant is currently in violation of its permit's iron limits.

Iron is a known fish toxicant, and the protected uses for the Patapsco River include aquatic life and wildlife. A 2018 study observed that “[i]n neutral waters, [iron] has been found to increase turbidity, reduce primary production, and reduce interstitial space in the benthic zone, which smothers invertebrates, periphyton, and eggs. Iron precipitates also physically clog and damage gills causing respiratory impairment.” The same study evaluated iron toxicity in several species over a period of 30 days. The authors found that iron was lethal in boreal toad tadpoles, and also caused a variety of sublethal effects, including “reduced growth for boreal toad tadpoles and mountain whitefish, reduced development for boreal toad tadpoles, and reduced reproduction for Lumbriculus [blackworm].”¹⁰ Indeed, while Maryland lacks a freshwater aquatic life criteria for iron, EPA has a national recommended freshwater chronic water quality standard of 1 mg/l iron to avoid adverse effects to aquatic life in the receiving water body.¹¹

EPA's chronic criteria of 1 mg/l iron should be applied as a monthly average limit in the permit in order to ensure that the permit will not lead to exceedances of Maryland's narrative water quality standard, which requires that “the waters of this State may not be polluted by ... toxic substances attributable to sewage, industrial wastes, or other wastes in concentrations outside designated mixing zones, which: [i]nterfere directly or indirectly with designated uses, or [a]re harmful to human, plant, or aquatic life.” COMAR 26.08.02.03, *Surface Water Quality Criteria*.

D. THE PERMIT SHOULD REQUIRE WHOLE EFFLUENT TOXICITY TESTING

The Department should require Whole Effluent Toxicity (WET) testing. COMAR 26.08.03.07D(2) provides that the Department must require the permittee to perform biological or chemical monitoring for toxic substances when the Department has reason to believe the discharge may cause toxicity. Specifically, “[t]he Department shall require any permittee who has a discharge that falls into one of the following categories to perform biological or chemical monitoring for toxic substances: . . . (d) A discharger whose discharge the Department has reason to believe may cause toxicity as determined by an evaluation of manufacturing processes, indirect discharges, treatment processes, effluent or receiving water data, or other relevant information.” Therefore, the Department should have done an evaluation of the

⁹ See, e.g., Glenwood Springs Landfill, Permit No. CO0048815 (attached as Exhibit B) (establishing limits of 70 ppt for a combination of PFOA, PFOS, and PFNa pursuant to Colorado's narrative water quality standard).

¹⁰ P. Cadmus et al., *Chronic Toxicity of Ferric Iron for North American Aquatic Organisms: Derivation of a Chronic Water Quality Criterion Using Single Species and Mesocosm Data*, 74 Arch. of Env'tl. Contamination and Toxicology 605, 611 (2018), <https://link.springer.com/article/10.1007/s00244-018-0505-2>.

¹¹ <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>

processes, indirect discharges, effluent data, etc., for the Landfill and based its conclusion for WET testing on this analysis.

Rather than specifically analyzing a potential need for WET testing for this facility, in the draft fact sheet the Department merely noted that permits for other facilities of this type indicated that the Department routinely determines biomonitoring is unnecessary for similar discharges. The Department should conduct a specific review of the factors relevant to the Landfill and include in the fact sheet its specific analysis as to why WET testing is or is not necessary at the Landfill.

E. THE DEPARTMENT SHOULD INSPECT THE FACILITY AND OUTFALLS PRIOR TO ISSUING THE FINAL PERMIT

The Department should inspect the facility and outfalls prior to issuing the final permit to ensure that all facilities or systems are in good working order. Part B of the Draft Permit, section 3 Facility Operation, requires: "All treatment control and monitoring facilities, or systems installed or used by the permittee, are to be maintained in good working order and operated efficiently." To ensure compliance with this requirement, and that additional, more specific requirements are not needed to meet this standard, the Department should conduct an inspection. Though Compliance performed an inspection of the area where Hawkins Landfill LLC had noted that vehicle washing was occurring in August of 2021, an inspection of the entire facility and the potential discharge point for new outfall 002 would be helpful to ensure compliance with the permit terms.

* * *

Thank you for considering our comments. Please feel free to contact me at 216-212-7330 or ncabrera@environmentalintegrity.org with any questions.

Sincerely,

Natalia Cabrera
Staff Attorney
Environmental Integrity Project

Meg Parish
Senior Water Quality Attorney
Environmental Integrity Project

Josh Kurtz
Maryland Executive Director
Chesapeake Bay Foundation

Patrick DeArmey
Staff Attorney
Chesapeake Legal Alliance

EXHIBIT A

ICIS Code	Effluent Parameter	Effluent Limitation		Monitoring Requirements	
		Daily Max	30-day Avg.	Frequency	Sample Type
51521	Perfluorooctanoic Acid [PFOA], ng/l	Report	Report	Monthly	Grab
51522	Perfluorobutanoic Acid [PFBA], ng/l	Report	Report	Monthly	Grab
51525	Perfluorooctanesulfonamide [PFOSA (or FOSA)], ng/l	Report	Report	Monthly	Grab
51623	Perfluoropentanoic acid [PFPeA], ng/l	Report	Report	Monthly	Grab
51624	Perfluorohexanoic acid [PFHxA], ng/l	Report	Report	Monthly	Grab
51625	Perfluoroheptanoic acid [PFHpA], ng/l	Report	Report	Monthly	Grab
51626	Perfluorononanoic acid [PFNA], ng/l	Report	Report	Monthly	Grab
51627	Perfluorodecanoic acid [PFDA], ng/l	Report	Report	Monthly	Grab
51628	Perfluoroundecanoic acid [PFUnA (or PFUDA)], ng/l	Report	Report	Monthly	Grab
51629	Perfluorododecanoic acid [PFDoA], ng/l	Report	Report	Monthly	Grab
51630	Perfluorotridecanoic acid [PFTrDA (or RFTriA)], ng/l	Report	Report	Monthly	Grab
51631	Perfluorotetradecanoic acid [PFTeDA (or PFTA or PFTeA)], ng/l	Report	Report	Monthly	Grab
51641	N-ethyl perfluorooctanesulfonamidoethanol [NEtFOSE], ng/l	Report	Report	Monthly	Grab
51642	N-methyl perfluorooctanesulfonamidoethanol [NMeFOSE], ng/l	Report	Report	Monthly	Grab
51643	2-[N-ethylperfluorooctanesulfonamido] acetic acid [NEtFOSAA], ng/l	Report	Report	Monthly	Grab
51644	2-[N-methylperfluorooctanesulfonamido] acetic acid [NMeFOSAA], ng/l	Report	Report	Monthly	Grab
52602	Perfluorobutanesulfonic acid [PFBS], ng/l	Report	Report	Monthly	Grab
52602	Perfluorobutanesulfonic acid [PFBS], ng/l	Report	400,000	Monthly	Grab
52603	Perfluorodecanesulfonic acid [PFDS], ng/l	Report	Report	Monthly	Grab
52604	Perfluoroheptanesulfonic acid [PFHpS], ng/l	Report	Report	Monthly	Grab
52605	Perfluorohexanesulfonic acid [PFHxS], ng/l	Report	Report	Monthly	Grab
52605	Perfluorohexanesulfonic acid [PFHxS], ng/l	Report	700	Monthly	Grab
52606	Perfluorooctanesulfonic acid [PFOS], ng/l	Report	Report	Monthly	Grab
52607	4:2 Fluorotelomer sulfonic acid [4:2 FTS], ng/l	Report	Report	Monthly	Grab
52608	6:2 Fluorotelomer sulfonic acid [6:2 FTS], ng/l	Report	Report	Monthly	Grab
52609	8:2 Fluorotelomer sulfonic acid [8:2 FTS], ng/l	Report	Report	Monthly	Grab
52610	Perfluoropentane sulfonic acid [PFPeS], ng/l	Report	Report	Monthly	Grab
52611	Perfluorononane sulfonic acid [PFNS], ng/l	Report	Report	Monthly	Grab
52612	Hexafluoropropylene oxide dimer acid [Gen-X (or HFPO-DA or HPFA-DA)], ng/l	Report	Report	Monthly	Grab
52624	Perfluoro-3-methoxypropanoic acid [PFMPA], ng/l	Report	Report	Monthly	Grab
52626	Nonafluoro-3,6-dioxaheptanoic acid [NFDHA], ng/l	Report	Report	Monthly	Grab
52629	Perfluoro(2-ethoxyethane)sulfonic acid [PFEESA], ng/l	Report	Report	Monthly	Grab
52632	Perfluorododecanesulfonic acid [PFDoS], ng/l	Report	Report	Monthly	Grab
52636	4,8-Dioxa-3H-perfluorononanoic acid [ADONA], ng/l	Report	Report	Monthly	Grab
52638	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid [9CL-PF3ONS], ng/l	Report	Report	Monthly	Grab
52639	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid [11CL-PF3OUDS], ng/l	Report	Report	Monthly	Grab
52641	N-methyl perfluorooctanesulfonamide [NMeFOSA], ng/l	Report	Report	Monthly	Grab
52642	N-ethyl perfluorooctanesulfonamide [NEtFOSA], ng/l	Report	Report	Monthly	Grab
87006	PFAS Sum, ng/l* until 12/31/2024	Report	Report	Monthly	Calculated
87006	PFAS Sum, ng/l* beginning 1/1/2025	70	70	Monthly	Calculated

**	Perfluoro-4-methoxybutanoic acid [PFMBA], ng/l	Report **	Report**	Monthly	Grab
**	3-Perfluoropropyl propanoic acid 3:3 [FTCA], ng/l	Report **	Report**	Monthly	Grab
**	2H,2H,3H,3H-Perfluorooctanoic acid [5:3 FTCA], ng/l	Report **	Report**	Monthly	Grab
**	3-Perfluoroheptyl propanoic acid [7:3 FTCA], ng/l	Report **	Report**	Monthly	Grab

EXHIBIT B



STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
Water Quality Control Division

**AUTHORIZATION TO DISCHARGE UNDER THE
COLORADO DISCHARGE PERMIT SYSTEM
PERMIT NUMBER CO0048815**

In compliance with the provisions of the Colorado Water Quality Control Act, (25-8-101 et seq., CRS, 1973 as amended), for both discharges to surface and ground waters, and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"), for discharges to surface waters only, the

City of Glenwood Springs

is authorized to discharge from the South Canyon Landfill located at 1205 CR 134, Glenwood Springs, CO, 81601
39.57333, -107.47666

to **Unnamed Tributary to South Canyon Creek, South Canyon Creek and the Colorado River**

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof. All discharges authorized herein shall be consistent with the terms and conditions of this permit.

This permit and the authorization to discharge shall expire at midnight, April 30, 2026.

This modified permit issued and signed this 30th day of March, 2022.

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Meg Parish

Meg Parish, Permits Section Manager
Water Quality Control Division

Modification 3- Minor Modification: Issued and Effective: April 1, 2022 (Part I.C.1.)

Modification 2- Minor Modification: Issued and Effective: February 28, 2022 (Part I.C.1.)

Modification 1- Minor Modification: Issued and Effective: May 24, 2021 (Part I.C.1., Part I.F.1, Part I.F.2)

Original Issued and Signed: April 30, 2021, Effective: May 1, 2021

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PART I

A. PERMITTED FEATURES

Beginning no later than the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from, and self-monitoring samples taken in accordance with the monitoring requirements shall be obtained from permitted feature(s):

Outfall	Description	Latitude Longitude	Wastewater Source	Receiving Water
001A	Landfill Leachate Pond	39.55027°N, 107.41440°W	Landfill Leachate and spring water	Unnamed Tributary to South Canyon Creek, South Canyon Creek and the Colorado River
001Z- For PFAS	Landfill Leachate Pond	39.55027°N, 107.41440°W	Landfill Leachate and spring water	Unnamed Tributary to South Canyon Creek, South Canyon Creek and the Colorado River
002	Internal ELG- Landfill leachate	39.55158°N, 107.42542°W	Internal location for monitoring landfill leachate prior to dilution with spring water	NA

The location(s) provided above will serve as the point(s) of compliance for this permit and are appropriate as they are located prior to discharge to the receiving water.

B. PERMIT COMPLIANCE

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Section 61.8(2), 5 C.C.R. 1002-61, and the federal Effluent Limitation Guideline for the Landfill Point Source (40 CFR 445), the permitted discharge shall not contain effluent parameter concentrations which exceed the limitations specified below or exceed the specified flow limitation. All discharges authorized under this permit shall comply with all the terms and conditions required by this permit. Violation of the terms and conditions specified in this permit may be subject to civil and criminal liability pursuant to sections 25-8-601 through 612, C.R.S.. Failure to take any required corrective actions, as detailed in the CORRECTIVE ACTIONS section, constitutes an independent, additional violation of this permit and may be subject to civil and criminal liability. [remove sentence if no stormwater only outfalls]

1. Facilities Operation and Maintenance

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 facilities or similar systems when installed by the permittee only when necessary to achieve compliance with the conditions of the permit.

Any sludge produced at the wastewater treatment facility shall be disposed of in accordance with State and Federal guidelines and regulations. The permittee shall take all reasonable steps to minimize or prevent any discharge of sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. As necessary, accelerated or additional monitoring to determine the nature and impact of the noncomplying discharge is required.

C. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Numeric Effluent Limitations and Site-Specific Monitoring (Outfalls 001 and 002)

In order to obtain an indication of the probable compliance or noncompliance with the effluent limitations specified in this part, the permittee shall monitor all effluent parameters at the frequencies and sample types specified below. Such monitoring will begin immediately and last for the life of the permit unless otherwise noted. The results of such monitoring shall be reported on the Discharge Monitoring Report form (See Part I.L.)

Self-monitoring sampling by the permittee for compliance with the effluent monitoring requirements specified in this permit, shall be performed at the location(s) noted in Part I.A. above. If the permittee, using an approved analytical method, monitors any parameter more frequently than required by this permit, then the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (DMRs) or other forms as required by the Division. Such increased frequency shall also be indicated.

- a. Oil and Grease Monitoring: For every permitted feature with oil and grease monitoring, in the event an oil sheen or floating oil is observed, a grab sample shall be collected, analyzed, and reported on the appropriate DMR. In addition, corrective action shall be taken immediately to mitigate the discharge of oil and grease. A description of the corrective action taken should be included with the DMR.
- b. Salinity Parameters In order to obtain an indication of the quantity of Salinity, measured as total dissolved solids (TDS), being discharged from the site the permittee shall monitor the wastewater effluent. Self-monitoring samples taken in compliance with the monitoring requirements specified in this part shall be taken at those locations listed in Part I.A.
- c. Chlorine- Use of chlorine was not listed as treatment by the permittee and is not authorized under this permit.

Outfall 001

Permitted Feature 001A

<u>ICIS Code</u>	<u>Effluent Parameter</u>	<u>Effluent Limitations Maximum Concentrations</u>				<u>Monitoring Requirements</u>	
		<u>30-Day Average</u>	<u>7-Day Average</u>	<u>Daily Maximum</u>	<u>2-Year Average</u>	<u>Frequency</u>	<u>Sample Type</u>
50050	Effluent Flow (MGD)	0.006		Report		Continuous	Recorder
00400	pH (su)			6.5-9.0		Daily	Grab
51040	E. coli (#/100 ml)	630	1260		95	Weekly	Grab
00640	Total Inorganic Nitrogen as N (mg/l) until 12/31/2022			847715		Monthly	Grab
00640	Total Inorganic Nitrogen as N (mg/l) Beginning 1/1/2023			10		Monthly	Grab
00610	Total Ammonia as N (mg/l)						Grab
	January	4.9		25		3 Days / Week	Grab
	February	4.4		20		3 Days / Week	Grab
	March	3.8		16		3 Days / Week	Grab
	April	3.5		13		3 Days / Week	Grab
	May	3.1		12		3 Days / Week	Grab
	June	2.9		12		3 Days / Week	Grab
	July	2.4		12		3 Days / Week	Grab
	August	3.5		19		3 Days / Week	Grab
	September	3.4		15		3 Days / Week	Grab
	October	4.3		19		3 Days / Week	Grab
	November	4.1		18		3 Days / Week	Grab
	December	3.3		13		3 Days / Week	Grab
84066	Oil and Grease (visual)			Report		3 Days / Week	Visual
03582	Oil and Grease (mg/l)			10		Contingent	Grab
70295	TDS (mg/l)			Report		Quarterly	Grab

00978	As, TR (µg/l) until 12/31/2026	3			2.7	Monthly	Grab
00978	As, TR (µg/l) beginning 1/1/2027	0.02			2.7	Monthly	Grab
01113	Cd, TR (µg/l)			Report		Monthly	Grab
01313	Cd, PD (µg/l)	3		6.5	0.41	Monthly	Grab
01314	Cr+3, PD (µg/l)			Report		Monthly	Grab
01220	Cr+6, Dis (µg/l)	11		16		Monthly	Grab
01306	Cu, PD (µg/l)	2.23		50		Monthly	Grab
00980	Fe, TR (µg/l)	1000			425	Monthly	Grab
01114	Pb, TR (µg/l)			Report		Monthly	Grab
01318	Pb, PD (µg/l)	11		281	2	Monthly	Grab
1319	Mn, PD (µg/l)	2618		4738	452	Monthly	Grab
51671	Mo, PD (µg/l)	Report				Monthly	Grab
50286	Hg, Tot (µg/l) (low-level)	Report				Quarterly	Grab
01074	Ni, TR (µg/l)	Report				Monthly	Grab
01322	Ni, PD (µg/l)	168		1513		Monthly	Grab
01323	Se, PD (µg/l)	4.6		18		Monthly	Grab
01304	Ag, PD (µg/l)	0.81		22	0.12	Monthly	Grab
22708	U, TR (µg/l)	Report				Monthly	Grab
01326	U, PD (µg/l)	Report		Report		Monthly	Grab
01303	Zn, PD (µg/l)	428		564	64	Monthly	Grab
82057	B, Tot (mg/l)	Report				Monthly	Grab
00940	Chloride (mg/l)	Report		Report		Monthly	Grab
81020	Sulfate (mg/l)	Report				Monthly	Grab
51202	Sulfide as H ₂ S (mg/l)	Report				Monthly	Grab
00900	Hardness, total [as CaCO ₃]	Report		Report		Monthly	Grab
34694	Phenol (µg/l)	2100		10,200	329	Monthly	Grab
82388	1,4- dioxane	Report				Monthly	Grab
34423	Methylene Chloride (µg/l)	Report		Report		Monthly	Grab
34010	Toluene(µg/l)	Report		Report		Monthly	Grab
	WET, chronic						
TKP6C	Static Renewal 7 Day Chronic Pimephales promelas			NOEC or IC25 ≥ IWC		Quarterly	3 Grabs / Test
TKP3B	Static Renewal 7 Day Chronic Ceriodaphnia dubia			NOEC or IC25 ≥ IWC		Quarterly	3 Grabs / Test

Permitted Feature 001Z

ICIS Code	Effluent Parameter	Effluent Limitation		Monitoring Requirements	
		Daily Maximum	30-day Average	Frequency	Sample Type
51521	Perfluorooctanoic Acid [PFOA], ng/l	Report	Report	Weekly	Grab
51522	Perfluorobutanoic Acid [PFBA], ng/l	Report	Report	Weekly	Grab
51525	Perfluorooctanesulfonamide [PFOSA (or FOSA)], ng/l	Report	Report	Weekly	Grab
51623	Perfluoropentanoic acid [PFPeA], ng/l	Report	Report	Weekly	Grab
51624	Perfluorohexanoic acid [PFHxA], ng/l	Report	Report	Weekly	Grab
51625	Perfluoroheptanoic acid [PFHpA], ng/l	Report	Report	Weekly	Grab
51626	Perfluorononanoic acid [PFNA], ng/l	Report	Report	Weekly	Grab
51627	Perfluorodecanoic acid [PFDA], ng/l	Report	Report	Weekly	Grab
51628	Perfluoroundecanoic acid [PFUnA (or PFUDa)], ng/l	Report	Report	Weekly	Grab
51629	Perfluorododecanoic acid [PFDoA], ng/l	Report	Report	Weekly	Grab
51630	Perfluorotridecanoic acid [PFTrDA (or RFTriA)], ng/l	Report	Report	Weekly	Grab
51631	Perfluorotetradecanoic acid [PFTeDA (or PFTA or PFTeA)], ng/l	Report	Report	Weekly	Grab
51643	2-[N-ethylperfluorooctanesulfonamido] acetic acid [NEtFOSAA], ng/l	Report	Report	Weekly	Grab
51644	2-[N-methylperfluorooctanesulfonamido] acetic acid [NMeFOSAA], ng/l	Report	Report	Weekly	Grab
52602	Perfluorobutanesulfonic acid [PFBS], ng/l until 12/31/2023	Report	Report	Weekly	Grab
52602	Perfluorobutanesulfonic acid [PFBS], ng/l beginning 1/1/2024	Report	400,000**	Weekly	Grab
52603	Perfluorodecanesulfonic acid [PFDS], ng/l	Report	Report	Weekly	Grab
52604	Perfluoroheptanesulfonic acid [PFHpS], ng/l	Report	Report	Weekly	Grab
52605	Perfluorohexanesulfonic acid [PFHxS], ng/l until 12/31/2023	Report	Report	Weekly	Grab
52605	Perfluorohexanesulfonic acid [PFHxS], ng/l beginning 1/1/2024	Report	700**	Weekly	Grab
52606	Perfluorooctanesulfonic acid [PFOS], ng/l	Report	Report	Weekly	Grab
52607	4:2 Fluorotelomer sulfonic acid [4:2 FTS], ng/l	Report	Report	Weekly	Grab
52608	6:2 Fluorotelomer sulfonic acid [6:2 FTS], ng/l	Report	Report	Weekly	Grab
52609	8:2 Fluorotelomer sulfonic acid [8:2 FTS], ng/l	Report	Report	Weekly	Grab
52610	Perfluoropentane sulfonic acid [PFPeS], ng/l	Report	Report	Weekly	Grab
52611	Perfluorononane sulfonic acid [PFNS], ng/l	Report	Report	Weekly	Grab
52612	Hexafluoropropylene oxide dimer acid [Gen-X (or HFPO-DA or HPFA-DA)], ng/l	Report	Report	Weekly	Grab
87006	PFAS Sum, ng/l* until 12/31/2023	Report	Report	Weekly	Calculated
87006	PFAS Sum, ng/l* beginning 1/1/2024	70**	70**	Weekly	Calculated

**The PFAS sum is calculated based on the following equation:

$$\text{PFAS Sum (ng/l)} = [\text{PFOA}] \text{ (ng/l)} + [\text{PFOSA}] \text{ (ng/l)} + [\text{PFNA}] \text{ (ng/l)} + ([\text{NEtFOSAA}] \text{ (ng/l)} * 0.85) + ([\text{NMeFOSAA}] \text{ (ng/l)} * 0.88) + [\text{PFOS}] \text{ (ng/l)} + ([8:2 \text{ FTS}] \text{ (ng/l)} * 0.78)$$

This calculation is performed for each sampling event, and the resulting daily maximum and maximum 30-day average results shall be reported on the discharge monitoring report submitted for the monthly monitoring period.

Outfall 002

ICIS Code	Effluent Parameter	Effluent Limitations Maximum Concentrations				Monitoring Requirements	
		30-Day Average	7-Day Average	Daily Maximum	2-Year Average	Frequency	Sample Type
00400	pH (su)			6.0-9.0		Daily	Grab
00610	Total Ammonia as N (mg/l)						Grab
	January	4.9		10		3 Days / Week	Grab
	February	4.9		10		3 Days / Week	Grab
	March	4.9		10		3 Days / Week	Grab
	April	4.9		10		3 Days / Week	Grab
	May	4.9		10		3 Days / Week	Grab
	June	4.9		10		3 Days / Week	Grab
	July	4.9		10		3 Days / Week	Grab
	August	4.9		10		3 Days / Week	Grab
	September	4.9		10		3 Days / Week	Grab
	October	4.9		10		3 Days / Week	Grab
	November	4.9		10		3 Days / Week	Grab
	December	4.9		10		3 Days / Week	Grab
00310	BOD ₅ (mg/l)	37		140		3 Days / Week	Grab
00530	TSS (mg/l)	27		88		3 Days / Week	Grab
01094	Zn, TR (µg/l)	110		200		Weekly	Grab
77493	alpha- terpineol (µg/l)	16		33		Monthly	Grab
77247	Benzoic Acid (µg/l)	71		120		Monthly	Grab
77146	p-Cresol (µg/l)	14		25		Monthly	Grab
34694	Phenol (µg/l)	15		26		Monthly	Grab

D. WHOLE EFFLUENT TOXICITY TESTING

1. Chronic WET Testing (Outfalls 001)

a. General Chronic WET Testing and Reporting Requirements

The permittee shall conduct the chronic WET test using *Ceriodaphnia dubia* and *Pimephales promelas*, as a static renewal 7-day test using three separate grab samples. The permittee shall conduct each chronic WET test in accordance with the 40 CFR Part 136 methods described in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002 (EPA-821-R-02-013) or the most current edition

The following minimum dilution series should be used: 0% effluent (control), 20%, 40%, 60%, 80%, and 100% effluent. If the permittee uses more dilutions than prescribed, and accelerated testing is to be performed, the same dilution series shall be used in the accelerated testing (if applicable) as was initially used in the failed test.

Tests shall be done at the frequency listed in Part I.C. Test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting period when the sample was taken. (i.e., WET testing results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, etc.) The permittee shall submit all laboratory statistical summary sheets, summaries of the determination of a valid,

invalid or inconclusive test, and copies of the chain of custody forms, along with the DMR for the reporting period.

If a test is considered invalid, the permittee is required to perform additional testing during the monitoring period to obtain a valid test result. Failure to obtain a valid test result during the monitoring period shall result in a violation of the permit for failure to monitor.

b. Violations of the Permit Limit, Failure of One Test Statistical Endpoint and Division Notification

A chronic WET test is considered a violation of a permit limitation when both the NOEC and the IC25, for the same sub-lethal endpoint are at any effluent concentration less than the IWC. This determination is made independently for each test species. The IWC for this permit has been determined to be 100% effluent.

A chronic WET test is considered to have failed one of the two statistical endpoints when either the NOEC or the IC25 are at any effluent concentration less than the IWC. Simultaneous failure of both the NOEC and IC25 for both sub-lethal endpoints, when tests are performed on identical split samples, constitutes only a single violation of the Daily Maximum Effluent Limitation for Chronic WET specified in Part I.C of this permit. The IWC for this permit has been determined to be 100% effluent.

In the event of a permit violation, or during a report only period when both the NOEC and the IC25 are at any effluent concentration less than the IWC, or when two consecutive reporting periods have resulted in failure of one of the two statistical endpoints (regardless of which statistical endpoints are failed), the permittee must provide written notification to the Division. Such notification should explain whether it was a violation or two consecutive failures of a single endpoint, and must indicate whether accelerated testing or a Toxicity Identification Evaluation or Toxicity Reduction Evaluation (TIE or TRE) is being performed, unless otherwise exempted, in writing, by the Division. **Notification must be received by the Division within 14 calendar days of the permittee receiving notice of the WET testing results.**

c. Automatic Compliance Response

The permittee is responsible for implementing the automatic compliance response provisions of this permit when one of the following occurs:

- there is a violation of the permit limit (both the NOEC and the IC25 endpoints are less than the applicable IWC)
- during a report only period when both the NOEC and the IC25 are at any effluent concentration less than the IWC
- two consecutive monitoring periods have resulted in failure of one of the two statistical endpoints (either the IC25 or the NOEC), including during a report-only period. This determination is made independently for each test species.
- the permittee is otherwise informed by the Division that a compliance response is necessary.

When one of the above listed events occurs, the following automatic compliance response shall apply. The permittee shall either:

- conduct accelerated testing using the single species found to be more sensitive
- conduct a Toxicity Identification Evaluation (TIE) or a Toxicity Reduction Evaluation (TRE) investigation as described below.

i. Accelerated Testing

If accelerated testing is being performed, testing will be at least once every two weeks for up to five tests, running only one test at a time, using only the IC25 statistical endpoint to determine if the test passed or failed at the appropriate IWC. Accelerated testing shall continue until; 1) two consecutive tests fail or three of five tests fail, in which case a pattern of toxicity has been demonstrated or 2) two consecutive tests pass or three of five tests pass, in which case no pattern of toxicity has been found. Note that the same dilution series should be used in the accelerated testing as was used in the initial test(s) that result in the accelerated testing requirement.

If accelerated testing is required due to failure of one statistical endpoint in two consecutive monitoring periods, and in both of those failures it was the NOEC endpoint that was failed, then the NOEC shall be the only statistical endpoint used to determine whether the accelerated testing passed or failed at the appropriate IWC. Note that the same dilution series should be used in the accelerated testing as was used in the initial test(s) that result in the accelerated testing requirement.

If no pattern of toxicity is found the toxicity episode is considered to be ended and routine testing is to resume. If a pattern of toxicity is found, a TIE/TRE investigation is to be performed. If a pattern of toxicity is not demonstrated but a significant level of erratic toxicity is found, the Division may require an increased frequency of routine monitoring or some other modified approach. The permittee shall provide written notification of the results within 14 calendar days of completion of the Pattern of Toxicity/No Toxicity demonstration.

ii. Toxicity Identification Evaluation (TIE) or Toxicity Reduction Evaluation (TRE)

If a TIE or a TRE is being performed, the results of the investigation are to be received by the Division within 180 calendar days of the demonstration chronic WET in the routine test, as defined above, or if accelerated testing was performed, the date the pattern of toxicity is demonstrated. A status report is to be provided to the Division at the 60 and 120 calendar day points of the TIE or TRE investigation. The Division may extend the time frame for investigation where reasonable justification exists. A request for an extension must be made in writing and received prior to the 180 calendar day deadline. Such request must include a justification and supporting data for such an extension.

Under a TIE, the permittee may use the time for investigation to conduct a preliminary TIE (PTIE) or move directly into the TIE. A PTIE consists of a brief search for possible sources of WET, where a specific parameter(s) is reasonably suspected to have caused such toxicity, and could be identified more simply and cost effectively than a formal TIE. If the PTIE allows resolution of the WET incident, the TIE need not necessarily be conducted in its entirety. If, however, WET is not identified or resolved during the PTIE, the TIE must be conducted within the allowed 180 calendar day time frame.

The Division recommends that the EPA guidance documents regarding TIEs be followed. If another method is to be used, this procedure should be submitted to the Division prior to initiating the TIE.

If the pollutant(s) causing toxicity is/are identified, and is/are controlled by a permit effluent limitation(s), this permit may be modified upon request to adjust permit requirements regarding the automatic compliance response.

If the pollutant(s) causing toxicity is/are identified, and is/are not controlled by a permit effluent limitation(s), the Division may develop limitations the parameter(s), and the permit may be reopened to include these limitations.

If the pollutant causing toxicity is not able to be identified, or is unable to be specifically identified, or is not able to be controlled by an effluent limit, the permittee will be required to perform either item 1 or item 2 below.

- 1) Conduct an investigation which demonstrates actual instream aquatic life conditions upstream and downstream of the discharge, or identify, for Division approval, and conduct an alternative investigation which demonstrates the actual instream impact. This should include WET testing and chemical analyses of the ambient water. Depending on the results of the study, the permittee may also be required to identify the control program necessary to eliminate the toxicity and its cost. Data collected may be presented to the WQCC for consideration at the next appropriate triennial review of the stream standards;
- 2) Move to a TRE by identifying the necessary control program or activity and proceed with elimination of the toxicity so as to meet the WET effluent limit.

If toxicity spontaneously disappears in the midst of a TIE, the permittee shall notify the Division within 10 calendar days of such disappearance. The Division may require the permittee to conduct accelerated testing to demonstrate that no pattern of toxicity exists, or may amend the permit to require an increased

frequency of WET testing for some period of time. If no pattern of toxicity is demonstrated through the accelerated testing or the increased monitoring frequency, the toxicity incident response will be closed and normal WET testing shall resume.

The control program developed during a TRE consists of the measures determined to be the most feasible to eliminate WET. This may happen through the identification of the toxicant(s) and then a control program aimed specifically at that toxicant(s) or through the identification of more general toxicant treatability processes. A control program is to be developed and submitted to the Division within 180 calendar days of beginning a TRE. Status reports on the TRE are to be provided to the Division at the 60 and 120 calendar day points of the TRE investigation.

If toxicity spontaneously disappears in the midst of a TRE, the permittee shall notify the Division within 10 calendar days of such disappearance. The Division may require the permittee to conduct accelerated testing to demonstrate that no pattern of toxicity exists, or may amend the permit to require an increased frequency for some period of time. If no pattern of toxicity is demonstrated through the accelerated testing or the increased monitoring frequency, the toxicity incident response will be closed and normal WET testing shall resume.

d. Toxicity Reopener

This permit may be reopened and modified to include additional or modified numerical permit limitations, new or modified compliance response requirements, changes in the WET testing protocol, the addition of both acute and chronic WET requirements, or any other conditions related to the control of toxicants.

E. SPECIAL STUDIES AND ADDITIONAL MONITORING REQUIREMENTS

1. VOC and Base Neutral Acid Scans

The facility is required to conduct annual VOC and BNA full suite scans of the effluent or, when a discharge does not occur within a year, a sample should be taken from the leachate pond.

Code	Event	Description	Due Date
27599	Pollutant Characterization Report	The permittee is to submit results of the annual VOC and BNA analytical data of the effluent or when discharge does not occur within a year a sample should be taken from the leachate pond. The analysis should include laboratory analyzed identifications of "TICs," tentatively identified compounds, as well as the full suite of compounds	Annually Due on or before December 31 of each year

F. COMPLIANCE SCHEDULE(S)

1. Activities to Meet PFAS Final Limits - In order to meet final limits, the following schedule is included in the permit.

Code	Event	Description	Due Date
43699	Facility Evaluation Plan	Submit a report showing either 1) that the facility can consistently meet the permit limits or 2) identifying sources of PFAS into the wastewater and list strategies to control these sources or list treatment alternatives such that compliance with the final limitations may be attained.	12/31/2021
00899	Implementation Schedule	Submit a progress report summarizing the progress in implementing the selected strategy(ies) (selected specific strategy(ies) must be listed in the report) such that compliance with the final limitations will be attained.	06/30/2022

Code	Event	Description	Due Date
00899	Implementation Schedule	Submit a progress report summarizing the continued progress in implementing the strategies such that compliance with the final limitations will be attained.	12/31/2022
00899	Implementation Schedule	Submit a progress report summarizing the continued progress in implementing the strategies such that compliance with the final limitations will be attained.	6/30/2023
CS017	Achieve Final Compliance with Discharge Limits	Submit study results that show compliance has been attained with the final PFAS limitations.	12/31/2023

2. Activities to Meet Total Recoverable Arsenic Final Limits - In order to meet Total Recoverable Arsenic limitations, the following schedule are included in the permit.

Code	Event	Description	Due Date
43699	Facility Evaluation Plan	Submit a report that identifies sources of arsenic to the facility and identify strategies for treatment or water management alternatives such that compliance with the final limitations may be attained.	6/30/2025
00899	Implementation Schedule	Submit a progress report summarizing the continued progress in implementing the strategies such that compliance with the final limitations will be attained.	12/31/2025
00899	Implementation Schedule	Submit a progress report summarizing the continued progress in implementing the strategies such that compliance with the final limitations will be attained.	6/30/2026
CS017	Achieve Final Compliance with Discharge Limits	Submit study results that show compliance has been attained with the final limitations.	12/31/2026

All documents required by this compliance schedule (except permit modification applications) must be submitted to the Division accompanied by a fully completed “Permit Narrative Conditions Form” available at <https://www.colorado.gov/pacific/cdphe/wq-permit-forms>.

Regulation 61.8(3)(n)(i) states that a report shall be submitted to the Division no later than 14 calendar days following each date identified in the schedule of compliance. Consistent with 61.8(5)(b), the 14 days have already been incorporated into the above dates and therefore all reports are due on or before the date listed in the table.

G. PERMIT SPECIFIC MONITORING AND SAMPLING REQUIREMENTS

1. Representative Sampling

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. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water, or substance. Monitoring points shall not be changed without notification to and approval by the Division.

2. Influent and Effluent Sampling Points

Influent (if required) and effluent sampling points shall be so designed or modified so that: 1) a sample of the influent can be obtained after preliminary treatment and prior to primary or biological treatment and 2) a sample of the effluent can be obtained at a point after the final treatment process and prior to discharge to state waters. The permittee shall provide access to the Division to sample at these points.

3. Analytical and Sampling Methods for Monitoring and Reporting

The permittee shall install, calibrate, use and maintain monitoring methods and equipment, including biological and indicated pollutant monitoring methods. 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.

The permittee may use an equivalent and acceptable alternative to an EPA-approved method without EPA review where the requirements of 40 CFR Part 136.6 are met and documented. The permittee may use an Alternative Test Procedure (ATP). An ATP is defined as a way in which an analyte is identified and quantified that is reviewed and approved by EPA in accordance with 40 CFR Part 136.4 for nationwide use, or a modification to a 40 CFR 136 approved method that is reviewed and approved by EPA in accordance with 40 CFR Part 136.5 for limited use.

- a. The permittee must select a test procedure that is “sufficiently sensitive” for all monitoring conducted in accordance with this permit.
- b. The PQLs for specific parameters are listed in Table 1 below. Quantification Limits and method requirements for other parameters included in this permit are also listed below.
- c. If the permit contains an interim effluent limitation (a limit is report until such time as a numeric effluent limit becomes effective) for a parameter, the final numeric effluent limit shall be considered the AWQC for the purpose of determining whether a test method is sufficiently sensitive.
- d. When the analytical method which complies with the above requirements has an ML greater than the permit limit, and the permittee’s analytical result is less than the ML, the permittee shall report “BDL” on the DMR. Such reports will not be considered as violations of the permit limit, as long as the method is sufficiently sensitive. For parameters that have a report only limitation, and the permittee’s analytical result is less than the ML, (where X = the ML) “< X” shall be reported on the DMR.
- e. In the calculation of average concentrations (i.e. 7- day, 30-day average, 2-year rolling average) any individual analytical result that is less than the ML shall be considered to be zero for the calculation purposes. When reporting:

If all individual analytical results are less than the ML, the permittee shall report either “BDL” or “<X” (where X = the ML), following the guidance above.

If one or more individual results is greater than the ML, an average shall be calculated and reported. Note that it does not matter if the final calculated average is greater or less than the ML, it must be reported as a value.

Table 1: Practical quantitation limits - Metals, inorganics, nutrients, radiological parameters, and nonylphenol

Parameter	Reporting Units	PQL	Parameter	Reporting Units	PQL
Aluminum	µg/L ¹	15	Ammonia Nitrogen	mg/L ² N	0.2
Antimony	µg/L	2	Nitrate+Nitrite Nitrogen	mg/L N	0.1
Arsenic	µg/L	1	Nitrate Nitrogen	mg/L N	0.1
Barium	µg/L	1	Nitrite Nitrogen	mg/L N	0.05
Beryllium	µg/L	2	Total Kjeldahl Nitrogen	mg/L N	0.5
Boron	µg/L	20	Total Nitrogen	mg/L N	0.5
Cadmium	µg/L	0.5	Total Inorganic Nitrogen	mg/L N	0.2
Calcium	µg/L	120	Phosphorus	mg/L P	0.05 ³

Parameter	Reporting Units	PQL	Parameter	Reporting Units	PQL
Chromium	µg/L	20	BOD/CBOD	mg/L	2
Chromium, Trivalent	µg/L	---	Chloride	mg/L	2
Chromium, Hexavalent	µg/L	20 ^{3, 4}	Total Residual Chlorine, DPD	mg/L	0.5
Copper	µg/L	2	Total Residual Chlorine, Amperimetric	mg/L	0.05
Iron	µg/L	20 ³	Cyanide	µg/L	10 ³
Lead	µg/L	0.5	Fluoride	mg/L	0.5
Magnesium	µg/L	35	Phenols	µg/L	30
Manganese	µg/L	2	Sulfate	mg/L	2
Mercury	µg/L	0.2 ³	Sulfide	mg/L H ₂ S	0.1
Mercury, Low Level	µg/L	0.002	Total Dissolved Solids (TDS)	mg/L	10
Molybdenum	µg/L	0.5	Total Suspended Solids (TSS)	mg/L	5
Nickel	µg/L	1	Radium-226	pCi/L	1
Selenium	µg/L	1 ³	Radium-228	pCi/L	1
Silver	µg/L	0.5	Uranium	µg/L	1
Sodium	µg/L	150	Nonylphenol, ASTM D7065	µg/L	10
Thallium	µg/L	0.5			
Zinc	µg/L	10			

¹ µg/L = micrograms per liter

² mg/L = milligrams per liter

³ PQL established based on parameter specific evaluation

⁴ For hexavalent chromium, samples must be unacidified so dissolved concentrations will be measured rather than potentially dissolved concentrations.

- f. PFAS Analysis - At the time of permit issuance, there is no EPA-approved analytical method for analyzing PFAS in wastewaters (non-potable) that are approved for Clean Water Act monitoring in accordance with 40 CFR Part 136 (Appendix B). The analytical method for the parameters in the table below shall be compliant with the requirements set forth in the Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories (DoD QSM 5.1 or later [Table B-15: Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass] Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water]).

At a minimum, the laboratory selected shall be able to analyze and quantify the PFAS listed in Table 2 at or below the associated PFAS quantification limits (PFAS QL). If the laboratory selected is capable of achieving a quantification limit for a specific PFAS that is lower than the PFAS QL listed below, analytical results should be reported to the department relative to the lower laboratory quantification limit, and not reported as “less than” the PFAS QL in the table below.

Any 40 CFR Part 136 (Appendix B) approved method for analyzing PFAS in wastewater that becomes available in the future would replace this current analytical method requirement.

Table 2. PFAS Quantification limits - Per- and Poly-fluoroalkyl substances (PFAS)

Parameter	Units ¹	PFAS QL	Parameter	Units ¹	PFAS QL
Perfluorooctanoic Acid [PFOA]	ng/L	2	2-[N-methylperfluorooctanesulfonamido] acetic acid [NMeFOSAA]	ng/L	20
Perfluorobutanoic Acid [PFBA]	ng/L	7	Perfluorobutanesulfonic acid [PFBS]	ng/L	2
Perfluorooctanesulfonamide [PFOSA (or FOSA)]	ng/L	2	Perfluorododecanesulfonic acid [PFDS]	ng/L	2

Perfluoropentanoic acid [PFPeA]	ng/L	3	Perfluoroheptanesulfonic acid [PFHpS]	ng/L	2
Perfluorohexanoic acid [PFHxA]	ng/L	10	Perfluorohexanesulfonic acid [PFHxS]	ng/L	2
Perfluoroheptanoic acid [PFHpA]	ng/L	3	Perfluorooctanesulfonic acid [PFOS]	ng/L	2
Perfluorononanoic acid [PFNA]	ng/L	2	4:2 Fluorotelomer sulfonic acid [4:2 FTS]	ng/L	20
Perfluorodecanoic acid [PFDA]	ng/L	2	6:2 Fluorotelomer sulfonic acid [6:2 FTS]	ng/L	55
Perfluoroundecanoic acid [PFUnA (or PFUdA)]	ng/L	2	8:2 Fluorotelomer sulfonic acid [8:2 FTS]	ng/L	20
Perfluorododecanoic acid [PFDoA]	ng/L	2	Perfluoropentane sulfonic acid [PFPeS]	ng/L	2
Perfluorotridecanoic acid [PFTrDA (or RFTriA)]	ng/L	2	Perfluorononane sulfonic acid [PFNS]	ng/L	2
Perfluorotetradecanoic acid [PFTeDA (or PFTA or PFTeA)]	ng/L	2	Hexafluoropropylene oxide dimer acid [Gen-X (or HFPO-DA or HPFA-DA)]	ng/L	6
2-[N-ethylperfluorooctanesulfonamido] acetic acid [NEtFOSAA]	ng/L	20			

¹ ng/L = nanograms per liter

4. Flow Measuring Device

If not already a part of the permitted facility, within ninety (90) days after the effective date of the permit, a flow measuring device shall be installed to give representative values of effluent quantities at the respective discharge points. Unless specifically exempted, or modified in the EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS section, a flow measuring device will be applicable at all designated discharge points.

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. The flow-measuring device must indicate values within ten (10) percent of the actual flow being measured.

5. Adverse Weather Conditions

When adverse weather conditions prevent sample collection according to the relevant monitoring schedule, the permittee must take a substitute sample, as possible, during the remaining monitoring period; for stormwater, the permittee must take a substitute sample during the next qualifying storm event. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, winter weather, or electrical storms.

Adverse weather does not exempt the permittee from having to file timely DMRs. The permittee must report any failure to monitor, including the basis for not sampling during the usual reporting period. Evidence to support this basis may include the dates that monitoring attempts were made; photographs; field notes and official weather data from a scientifically recognized organization, such as NOAA or the NWS, that establish site inaccessibility, etc.

H. PERMIT SPECIFIC REPORTING AND RECORDKEEPING

1. Routine Reporting of Data- Discharge Monitoring Report

The permittee shall report the data gathered in compliance with this permit on a **monthly** basis. Reporting of all data gathered shall comply with the requirements of this part and Part II of this permit.

Monitoring results shall be summarized for each calendar month via the division's NetDMR service unless a waiver is granted in compliance with 40 CFR 127. If a waiver is granted, monitoring results shall be reported on division approved discharge monitoring report (DMR) forms (EPA form 3320-1).

Reporting No Discharge:

If no discharge occurs during the reporting period, a DMR must still be submitted. However, "No Discharge" shall be reported on the DMR.

When submitting monitoring results via NetDMR, the Copy of Record shall reflect that the DMR was signed and submitted no later than the 28th day of the month following the reporting period. If submitting DMRs by mail, which is only allowed if a waiver has been granted, one copy of the DMR form shall be mailed to the division at the

address provided below, so that the DMR is received no later than the 28th day of the month following the reporting period.

If mailing, the original signed copy of each DMR shall be submitted to the division at the following address:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

The Discharge Monitoring Report paper and electronic forms shall be filled out accurately and completely in accordance with the requirements of this permit and the instructions on the forms; and signed by an authorized person as identified in Part II.K.

I. OTHER TERMS AND CONDITIONS

All dischargers must comply with the lawful requirements of counties, drainage districts and other state or local agencies regarding any discharges of stormwater to storm drain systems or other water courses under their jurisdiction.

PART II

Part II contains standard conditions required by federal regulation to be included in all NPDES permits (see 40 C.F.R. 122.41). Part I contains permit specific requirements. To the extent that Part I conflicts with the standard terms and conditions of Part II, the requirements of Part I shall control.

A. DUTY TO COMPLY

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Colorado Water Quality Control Act and is grounds for: 1) enforcement action; 2) permit termination, revocation and reissuance, or modification; or 3) denial of a permit renewal application.
2. Federal Enforcement:
 - a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal (see 40 CFR 122.2) established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 - b. The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Clean Water Act provides that any person who *negligently* violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
 - c. Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

B. DUTY TO REAPPLY

If the permittee plans to continue an activity regulated by this permit after the expiration date of this permit, the permittee must submit a permit application at least 180 days before this permit expires as required by Regulations 61.4 and 61.10.

C. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. DUTY TO MITIGATE

The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. PROPER OPERATION AND MAINTENANCE

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit. See 40 C.F.R. §122.41(e).

F. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. Any request for modification, revocation, reissuance, or termination under this permit must comply with all terms and conditions of Regulation 61.8(8). See also 40 C.F.R. § 122.41(f).

G. PROPERTY RIGHTS

In accordance with 40 CFR §122.41(g) and Regulation 61.8(9):

1. The issuance of a permit does not convey any property or water rights in either real or personal property, or stream flows or any exclusive privilege.
2. The issuance of a permit does not authorize any injury to person or property or any invasion of personal rights, nor does it authorize the infringement of federal, state, or local laws or regulations.
3. Except for any toxic effluent standard or prohibition imposed under Section 307 of the Clean Water Act or any standard for sewage sludge use or disposal under Section 405(d) of the Federal act, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Sections 301, 302, 306, 318, 403, and 405(a) and (b) of the Clean Water Act. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in Section 61.8(8) of the Colorado Discharge Permit System Regulations. See 61.8(9)(c).

H. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Division, within a reasonable time, any information which the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Division, upon request, copies of records required to be kept by this permit in accordance with 40 C.F.R. §122.41(h) and/or Regulation 61.8(3)(q).

I. INSPECTION AND ENTRY

The permittee shall allow the Division and the authorized representative, including U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials as required by law, to conduct inspections in accordance with 40 C.F.R. §122.41(i), Regulation 61.8(3), and Regulation 61.8(4):

1. To enter upon the permittee's premises where a regulated facility or activity is located or conducted in which any records are required to be kept under the terms and conditions of this permit;
2. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit and to inspect any facilities, equipment (including monitoring and control equipment), practices, operations or monitoring method regulated or required in the permit;
3. To enter upon the permittee's premises in a reasonable manner and at a reasonable time to inspect or investigate, any actual, suspected, or potential source of water pollution, or to ascertain compliance or noncompliance with the Colorado Water Quality Control Act or any other applicable state or federal statute or regulation or any order promulgated by the Division, and;

4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

J. MONITORING AND RECORDS

1. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity. See 40 C.F.R. § 122.41(j)(1).
2. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this permit for such pollutants. See 40 C.F.R. § 122.41(j)(4); 122.44(i)(1)(iv)(A).
3. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Division or Regional Administrator.
4. Records of monitoring information must include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
5. The permittee shall install, calibrate, use and maintain monitoring methods and equipment, including biological and indicated pollutant monitoring methods. See Regulation 61.8(4)(b)(iii). All sampling shall be performed by the permittee according to sufficiently sensitive test procedures required by 40 C.F.R. 122.44(i)(1)(iv) or methods approved by the Division, in the absence of a method specified in or approved pursuant to 40 C.F.R. Part 136.
6. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

K. SIGNATORY REQUIREMENTS

1. Authorization to Sign: All documents required to be submitted to the Division by the permit must be signed in accordance with 40 CFR §122.22, Regulation 61.4, and the following criteria:
 - a. For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate

information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

- b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes (i) the chief or principal executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency. (e.g., Regional Administrator of EPA). For purposes of this section, a principal executive officer has responsibility for the overall operation of the facility from which the discharge originates.
 - d. By a duly authorized representative in accordance with 40 C.F.R. 122.22(b), only if:
 - i. the authorization is made in writing by a person described in Part II.K.1.a, b, or c above;
 - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and,
 - iii. The written authorization is submitted to the Division.
2. Any person(s) signing documents required for submittal to the Division must make the following certification:
“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”
3. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. See 40 C.F.R. §122.41(k)(2).

L. REPORTING REQUIREMENTS

1. **Planned Changes:** The permittee shall give advance notice to the Division, in writing, of any planned physical alterations or additions to the permitted facility in accordance with 40 CFR §122.41(l) and Regulation 61.8(5)(a) and Part II.O. of this permit. Notice is required only when:
 - a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.41(a)(1).
 - c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. See 40 C.F.R. §122.41(l)(1)(iii).
2. **Anticipated Non-Compliance:** The permittee shall give advance notice to the Division, in writing, of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. The timing of notification requirements differs based on the type of non-compliance as described below.

3. **Transfer of Ownership or Control:** The permittee shall notify the Division, in writing, thirty (30) calendar days in advance of a proposed transfer of the permit. This permit is not transferable to any person except after notice to the Division. The Division may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. See Regulation 61.8(6); 40 C.F.R. §§ 122.41(l)(iii) and 122.61.
4. **Monitoring reports:** Monitoring results must be reported at the intervals specified in this permit.
 - a. If the permittee monitors any pollutant at the approved monitoring locations listed in Part I more frequently than that required by this permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Division. See 40 CFR 122.41(l)(4).
 - b. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Division in the permit.
5. **Submission of Discharge Monitoring Reports (DMRs):** DMRs shall be submitted electronically through NetDMR system unless the permittee requests and is granted a waiver of the electronic reporting requirement by the Division pursuant to Regulation 61.8(4)(d).
6. **Compliance Schedules:** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in the permit, shall be submitted on or before the date listed in the compliance schedule section. The fourteen (14) calendar day provision in Regulation 61.8(4)(n)(i) has been incorporated into the due date.
7. **Twenty-four hour reporting:**
 - a. In addition to the reports required elsewhere in this permit, the permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the Division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances:
 - i. Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident;
 - ii. Circumstances leading to any unanticipated bypass which exceeds any effluent limitations in the permit;
 - iii. Circumstances leading to any upset which causes an exceedance of any effluent limitation in the permit; or
 - iv. Daily maximum violations for any of the pollutants limited by Part I.A of this permit as specified in Part III of this permit. This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance.
 - b. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - c. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combine sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. See 40 CFR 122.41(l)(6)(i).
 - i. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. See 40 CFR 122.41(l)(6)(i).

8. Other non-compliance: A permittee must report all instances of noncompliance at the time monitoring reports are due. These reports may be submitted annually in accordance with Regulation 61.8(4)(p) and/or 61.8(5)(f), but may be submitted at a more frequent interval.

M. BYPASS

1. Definitions:
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility in accordance with 40 CFR §122.41(m)(1)(i) and/or Regulation 61.2(12).
 - b. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR §122.41(m)(1)(ii).
2. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 40 CFR 122.41(m)(3) and (m)(4). See 40 CFR §122.41(m)(2).
3. Notice of bypass:
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, the permittee shall submit prior notice, if possible, at least ten (10) days before the date of the bypass. See 40 CFR §122.41(m)(3)(i) and/or Regulation 61.9(5)(c).
 - b. Unanticipated bypass. You must submit notice of an unanticipated bypass as required in Part II.L.7. See also 40 CFR §122.41(m)(3)(ii).
4. Prohibition of Bypass: Bypasses are prohibited and the Division may take enforcement action against the permittee for bypass, unless:
 - a. the bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - c. Proper notices were submitted to the Division.
 - i. The Division may approve an anticipated bypass, after considering its adverse effects, if the Division determines that it will meet the three conditions listed.

N. UPSET

1. Definition: "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
See 40 CFR §122.41(n) and Regulation 61.2(113),
2. Effect of an upset: An upset constitutes an affirmative defense to an action brought for noncompliance with permit effluent limitations if the requirements of section 3 are met. A determination made during administrative review of claims that noncompliance was caused by upset is final administrative action subject to judicial review in accordance with Regulation 61.8(3)(j).

***special note:** this provision is consistent with the definition of "Upset" as codified in Regulation 61.2(113). However, the Colorado regulatory definition of upset is less stringent than the federal code of regulations, which restricts the use of an upset defense to noncompliance with technology-based permit effluent limitations only. Colorado's regulatory definition of bypass is less stringent than the requirements of the federal Clean Water Act.*

3. Conditions necessary for demonstration of an Upset: A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed contemporaneous operating logs, or other relevant evidence that:
 - a. an upset occurred and the permittee can identify the cause(s) of the upset;
 - b. the permitted facility was at the time being properly maintained; and
 - c. the permittee submitted notice of the upset as required in Part II.L.7 (24-hour notice); and
 - d. The permittee complied with any remedial measure necessary to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. See also 40 C.F.R. 122.41(n)(3)(i)-(iv).

***special note:** this provision is consistent with the definition of “Conditions necessary for demonstration of upset” as codified in Regulation 61.8(3)(j)(ii). However, the Colorado regulatory definition of upset is less stringent than the federal code of regulations, which restricts the use of an upset defense to demonstrate that a facility was properly operated and maintained. Colorado’s regulatory definition of “Conditions necessary for demonstration of upset” is less stringent than the requirements of the federal Clean Water Act.*

4. In addition to the demonstration required above, a permittee who wishes to establish the affirmative defense of upset for a violation of effluent limitations based upon water quality standards shall also demonstrate through monitoring, modeling or other methods that the relevant standards were achieved in the receiving water.
5. Burden of Proof: In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

O. REOPENER CLAUSE

Procedures for modification or revocation. Permit modification or revocation of this permit or coverage under this permit will be conducted according to Regulation 61.8(8). This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary), or other appropriate requirements if one of the following events occurs, including but not limited to:

1. Water Quality Standards: The water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
2. Wasteload Allocation: A wasteload allocation is developed and approved by the State of Colorado and/or EPA for incorporation in this permit.
3. Discharger-specific variance: A variance is adopted by the Water Quality Control Commission.

P. OTHER INFORMATION

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Division or U.S. EPA, the Discharger shall promptly submit such facts or information. See 40 C.F.R. § 122.41(l)(8).

Q. SEVERABILITY

The provisions of this permit are severable. If any provisions or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances and the application of the remainder of this permit shall not be affected.

R. NOTIFICATION REQUIREMENTS

1. Notification to Parties: All notification requirements shall be directed as follows:
 - a. Oral Notifications, during normal business hours shall be to:

CDPHE-Emergency Reporting Line: 1-877-518-5608; or

Water Quality Protection Section - Compliance Program
Water Quality Control Division
Telephone: (303) 692-3500

After hours notifications should be made to the CDPHE-Emergency Reporting Line: 1-877-518-5608.

- b. Written notification shall be to:
Water Quality Protection Section - Compliance Program
Water Quality Control Division
Colorado Department of Public Health and Environment
WQCD-WQP-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530

S. RESPONSIBILITIES

Reduction, Loss, or Failure of Treatment Facility: The permittee has the duty to halt or reduce any activity if necessary to maintain compliance with the effluent limitations of the permit. It shall not be a defense for a permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

T. OIL AND HAZARDOUS SUBSTANCES LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 (Oil and Hazardous Substance Liability) of the Clean Water Act.

U. EMERGENCY POWERS

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority granted by Section 510 of the Clean Water Act. Nothing in this permit shall be construed to prevent or limit application of any emergency power of the Division.

V. CONFIDENTIALITY

Any information relating to any secret process, method of manufacture or production, or sales or marketing data which has been declared confidential by the permittee, and which may be acquired, ascertained, or discovered, whether in any sampling investigation, emergency investigation, Colorado Open Records Act (CORA) request, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Water Quality Control Commission or the Division, but shall be kept confidential. Any person seeking to invoke the protection of this section shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

W. FEES

The permittee is required to submit payment of an annual fee as set forth in the 2016 amendments to the Water Quality Control Act. Section 25-8-502 (1.1) (b), and the Regulation 61.15 as amended. Failure to submit the required fee when due and payable is a violation of the permit and will result in enforcement action pursuant to Section 25-8-601 et. seq., C.R.S.1973 as amended.

X. DURATION OF PERMIT

The duration of a permit shall be for a fixed term and shall not exceed five (5) years. If the permittee desires to continue to discharge, a permit renewal application shall be submitted at least one hundred eighty (180) calendar days before this permit expires. Filing of a timely and complete application shall cause the expired permit to continue in force to the effective date of the new permit. The permit's duration may be extended only through administrative extensions and not through interim modifications. If the permittee anticipates there will be no discharge after the expiration date of this permit, the Division should be promptly notified so that it can terminate the permit in accordance with Regulation 61.

Y. SECTION 307 TOXICS

If a toxic effluent standard or prohibition, including any applicable schedule of compliance specified, is established by regulation pursuant to Section 307 of the Clean Water Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in the discharge permit, the Division shall institute proceedings to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition.

PART III

APPENDIX A-Categorical Industries and Pollutants

Table I—Testing Requirements for Organic Toxic Pollutants by Industrial Category for Existing Dischargers

Industry Category

Adhesives and sealants	Ore mining
Aluminum forming	Organic chemicals manufacturing
Auto and other laundries	Paint and ink formulation
Battery manufacturing	Pesticides
Coal mining	Petroleum refining
Coil coating	Pharmaceutical preparations
Copper forming	Photographic equipment and supplies
Electrical and electronic components	Plastics processing
Electroplating	Plastic and synthetic materials manufacturing
Explosives manufacturing	Porcelain enameling
Foundries	Printing and publishing
Gum and wood chemicals	Pulp and paper mills
Inorganic chemicals manufacturing	Rubber processing
Iron and steel manufacturing	Soap and detergent manufacturing
Leather tanning and finishing	Steam electric power plants
Mechanical products manufacturing	Textile mills
Nonferrous metals manufacturing	Timber products processing

Table II—Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass

Volatiles	Acid Compounds	Base/Neutral	Pesticides
1V acrolein	1A 2-chlorophenol	1B acenaphthene	1P aldrin
2V acrylonitrile	2A 2,4-dichlorophenol	2B acenaphthylene	2P alpha-BHC
3V benzene	3A 2,4-dimethylphenol	3B anthracene	3P beta-BHC
5V bromoform	4A 4,6-dinitro-o-cresol	4B benzidine	4P gamma-BHC
6V carbon tetrachloride	5A 2,4-dinitrophenol	5B benzo(a)anthracene	5P delta-BHC
7V chlorobenzene	6A 2-nitrophenol	6B benzo(a)pyrene	6P chlordane
8V chlorodibromomethane	7A 4-nitrophenol	7B 3,4-benzofluoranthene	7P 4,4'-DDT
9V chloroethane	8A p-chloro-m-cresol	8B benzo(ghi)perylene	8P 4,4'-DDE
10V 2-chloroethylvinyl ether	9A pentachlorophenol	9B benzo(k)fluoranthene	9P 4,4'-DDD
11V chloroform	10A phenol	10B bis(2-chloroethoxy)methane	10P dieldrin
12V dichlorobromomethane	11A 2,4,6-trichlorophenol	11B bis(2-chloroethyl)ether	11P alpha-endosulfan
14V 1,1-dichloroethane		12B bis(2-chloroisopropyl)ether	12P beta-endosulfan
15V 1,2-dichloroethane		13B bis(2-ethylhexyl)phthalate	13P endosulfan sulfate
16V 1,1-dichloroethylene		14B 4-bromophenyl phenyl ether	14P endrin
17V 1,2-dichloropropane		15B butylbenzyl phthalate	15P endrin aldehyde
18V 1,3-dichloropropylene		16B 2-chloronaphthalene	16P heptachlor
19V ethylbenzene		17B 4-chlorophenyl phenyl ether	17P heptachlor epoxide
20V methyl bromide		18B chrysene	18P PCB-1242
21V methyl chloride		19B dibenzo(a,h)anthracene	19P PCB-1254
22V methylene chloride		20B 1,2-dichlorobenzene	20P PCB-1221
23V 1,1,2,2-tetrachloroethane		21B 1,3-dichlorobenzene	21P PCB-1232
24V tetrachloroethylene		22B 1,4-dichlorobenzene	22P PCB-1248
25V toluene		23B 3,3'-dichlorobenzidine	23P PCB-1260
26V 1,2-trans-dichloroethylene		24B diethyl phthalate	24P PCB-1016
27V 1,1,1-trichloroethane		25B dimethyl phthalate	25P toxaphene
28V 1,1,2-trichloroethane		26B di-n-butyl phthalate	
29V trichloroethylene		27B 2,4-dinitrotoluene	
31V vinyl chloride		28B 2,6-dinitrotoluene	
		29B di-n-octyl phthalate	
		30B 1,2-diphenylhydrazine (as azobenzene)	
		31B fluroranthene	
		32B fluorene	
		33B hexachlorobenzene	
		34B hexachlorobutadiene	
		35B hexachlorocyclopentadiene	
		36B hexachloroethane	
		37B indeno(1,2,3-cd)pyrene	
		38B isophorone	
		39B naphthalene	
		40B nitrobenzene	
		41B N-nitrosodimethylamine	
		42B N-nitrosodi-n-propylamine	
		43B N-nitrosodiphenylamine	
		44B phenanthrene	
		45B pyrene	
		46B 1,2,4-trichlorobenzene	

Table III—Other Toxic Pollutants (Metals and Cyanide) and Total Phenols

Antimony, Total
Arsenic, Total
Beryllium, Total
Cadmium, Total
Chromium, Total
Copper, Total
Lead, Total
Mercury, Total
Nickel, Total
Selenium, Total
Silver, Total
Thallium, Total
Zinc, Total
Cyanide, Total
Phenols, Total

**Table IV—Conventional and Nonconventional Pollutants Required To Be Tested by Existing Dischargers
if Expected to be Present**

Bromide
Chlorine, Total Residual
Color
Fecal Coliform
Fluoride
Nitrate-Nitrite
Nitrogen, Total Organic
Oil and Grease
Phosphorus, Total
Radioactivity
Sulfate
Sulfide
Sulfite
Surfactants
Aluminum, Total
Barium, Total
Boron, Total
Cobalt, Total
Iron, Total
Magnesium, Total
Molybdenum, Total
Manganese, Total
Tin, Total
Titanium, Total

Table V—Toxic Pollutants and Hazardous Substances Required To Be Identified by Existing Dischargers if Expected To Be Present

Toxic Pollutants

Asbestos

Hazardous Substances

Allyl alcohol	Isopropanolamine Dodecylbenzenesulfonate
Allyl chloride	Kelthane
Amyl acetate	Kepone
Aniline	Malathion
Benzonitrile	Mercaptodimethur
Benzyl chloride	Methoxychlor
Butyl acetate	Methyl mercaptan
Butylamine	Methyl methacrylate
Captan	Methyl parathion
Carbaryl	Mevinphos
Carbofuran	Mexacarbate
Carbon disulfide	Monoethyl amine
Chlorpyrifos	Monomethyl amine
Coumaphos	Naled
Cresol	Napthenic acid
Crotonaldehyde	Nitrotoluene
Cyclohexane	Parathion
2,4-D (2,4-Dichlorophenoxy acetic acid)	Phenolsulfanate
Diazinon	Phosgene
Dicamba	Propargite
Dichlobenil	Propylene oxide
Dichlone	Pyrethrins
2,2-Dichloropropionic acid	Quinoline
Dichlorvos	Resorcinol
Diethyl amine	Strontium
Dimethyl amine	Strychnine
Dintrobenzene	Styrene
Diquat	2,4,5-T (2,4,5-Trichlorophenoxy acetic acid)
Disulfoton	TDE (Tetrachlorodiphenylethane)
Diuron	2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Epichlorohydrin	Trichlorofan
Ethion	Triethanolamine dodecylbenzenesulfonate
Ethylene diamine	Triethylamine
Ethylene dibromide	Trimethylamine
Formaldehyde	Uranium
Furfural	Vanadium
Guthion	Vinyl acetate
Isoprene	Xylene
	Xylenol
	Zirconium

APPENDIX B-Definitions

1. "Acute Toxicity" - The acute toxicity limitation is exceeded if the LC50 is at any effluent concentration less than or equal to the IWC indicated in this permit.
2. "Antidegradation limits" - See "Two (2) - Year Rolling Average".
3. "Applicable water quality criterion (AWQC)" is the quantitation target level or goal. The AWQC may be one of the following:

Where an effluent limit has been established,

- i. The AWQC is the effluent limit.

Where an effluent limit has not been established, the AWQC may be

- i. An applicable technology based effluent limit (TBEL);
- ii. Half of a water quality standard;
- iii. Half of a water quality standard as assessed in the receiving water, or potential WQBEL; or
- iv. Half of a potential antidegradation based effluent limitation, which can be an antidegradation based average concentration or a potential non-impact limit.

4. "Chronic toxicity", which includes lethality and growth or reproduction, occurs when the NOEC and IC25 are at an effluent concentration less than the IWC indicated in this permit.
5. "Composite" sample is a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow. For a SBR type treatment system, a composite sample is defined as sampling equal aliquots during the beginning, middle and end of a decant period, for two consecutive periods during a day (if possible).
6. "Continuous" measurement, is a measurement obtained from an automatic recording device which continually measures the effluent for the parameter in question, or that provides measurements at specified intervals.
7. "Daily Maximum limitation" for all parameters (except temperature, pH, dissolved oxygen, and WET) means the limitation for this parameter shall be applied as an average of all samples collected in one calendar day. For these parameters the DMR shall include the highest of the daily averages. For pH and dissolved oxygen, this means an instantaneous maximum (and/or instantaneous minimum) value. For WET, this means an instantaneous minimum value. The instantaneous value is defined as the analytical result of any individual sample. For pH and dissolved oxygen, DMRs shall include the maximum (and/or minimum) of all instantaneous values within the calendar month. For WET, DMRs shall include the minimum of all instantaneous values within the reporting period. For pH and dissolved oxygen, the value beyond the noted daily maximum limitation for the indicated parameter shall be considered a violation of this permit. For temperature, see Daily Maximum Temperature. For WET violation and failure descriptions, see Part I.D.
8. "Daily Maximum Temperature (DM)" is defined in the Basic Standards and Methodologies for Surface Water 1002-31, as the highest two-hour average water temperature recorded during a given 24-hour period. This will be determined using a rolling 2-hour maximum temperature. If data is collected every 15 minutes, a 2 hour maximum can be determined on every data point after the initial 2 hours of collection. Note that the time periods that overlap days (Wednesday night to Thursday morning) do not matter as the reported value on the DMR is the greatest of all the 2-hour averages.

This would continue throughout the course of a calendar day. The highest of these 2 hour averages over a month would be reported on the DMR as the daily maximum temperature. At the end/beginning of a month, the collected data should be used for the month that contains the greatest number of minutes in the 2-hour maximum.

9. "Dissolved (D) metals fraction" is defined in the Basic Standards and Methodologies for Surface Water 1002-31, as that portion of a water and suspended sediment sample which passed through a 0.40 or 0.45 UM (micron) membrane filter. Determinations of "dissolved" constituents are made using the filtrate. This may include some very small (colloidal) suspended particles which passed through the membrane filter as well as the amount of substance present in true chemical solution.
10. "Geometric mean" for *E. coli* bacteria concentrations, the thirty (30) day and seven (7) day averages shall be determined as the geometric mean of all samples collected in a thirty (30) day period and the geometric mean of

all samples taken in a seven (7) consecutive day period respectively. The geometric mean may be calculated using two different methods. For the methods shown, a, b, c, d, etc. are individual sample results, and n is the total number of samples.

Method 1:

Geometric Mean = $(a*b*c*d*...)^{(1/n)}$ - means multiply

Method 2:

Geometric Mean = antilog ($[\log(a)+\log(b)+\log(c)+\log(d)+...]/n$)

Graphical methods, even though they may also employ the use of logarithms, may introduce significant error and may not be used.

In calculating the geometric mean, for those individual sample results that are reported by the analytical laboratory to be "less than" a numeric value, a value of 1 should be used in the calculations. If all individual analytical results for the month are reported to be less than numeric values, then report "less than" the largest of those numeric values on the monthly DMR. Otherwise, report the calculated value.

For any individual analytical result of "too numerous to count" (TNTC), that analysis shall be considered to be invalid and another sample shall be promptly collected for analysis. If another sample cannot be collected within the same sampling period for which the invalid sample was collected (during the same month if monthly sampling is required, during the same week if weekly sampling is required, etc.), then the following procedures apply:

- i. A minimum of two samples shall be collected for coliform analysis within the next sampling period.
- ii. If the sampling frequency is monthly or less frequent: For the period with the invalid sample results, leave the spaces on the corresponding DMR for reporting coliform results empty and attach to the DMR a letter noting that a result of TNTC was obtained for that period, and explain why another sample for that period had not been collected.
- iii. If the sampling frequency is more frequent than monthly: Eliminate the result of TNTC from any further calculations, and use all the other results obtained within that month for reporting purposes. Attach a letter noting that a result of TNTC was obtained, and list all individual analytical results and corresponding sampling dates for that month.

11. "Grab" sample, is a single "dip and take" sample so as to be representative of the parameter being monitored.
12. "IC25" or "Inhibition Concentration" is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal biological measurement (e.g. growth or reproduction) calculated from a continuous model (i.e. interpolation method). IC25 is a point estimate of the toxic concentration that would cause a 25-percent reduction in a non-lethal biological measurement.
13. "In-situ" measurement is defined as a single reading, observation or measurement taken in the field at the point of discharge.
14. "Instantaneous" measurement is a single reading, observation, or measurement performed on site using existing monitoring facilities.
15. "LC50" or "Lethal Concentration" is the toxic or effluent concentration that would cause death in 50 percent of the test organisms over a specified period of time.
16. "Maximum Weekly Average Temperature (MWAT)" is defined in the Basic Standards and Methodologies for Surface Water 1002-31, as an implementation statistic that is calculated from field monitoring data. The MWAT is calculated as the largest mathematical mean of multiple, equally spaced, daily temperatures over a seven-day consecutive period, with a minimum of three data points spaced equally through the day. For lakes and reservoirs, the MWAT is assumed to be equivalent to the maximum WAT from at least three profiles distributed throughout the growing season (generally July-September).

The MWAT is calculated by averaging all temperature data points collected during a calendar day, and then averaging the daily average temperatures for 7 consecutive days. This 7 day averaging period is a rolling average, i.e. on the 8th day, the MWAT will be the averages of the daily averages of days 2-8. The value to be reported on the DMR is the highest of all the rolling 7-day averages throughout the month. For those days that are at the end/beginning of the month, the data shall be reported for the month that contains 4 of the 7 days.

Day 1: Average of all temperature data collected during the calendar day.

Day 2: Average of all temperature data collected during the calendar day.

Day 3: Average of all temperature data collected during the calendar day.

Day 4: Average of all temperature data collected during the calendar day.

Day 5: Average of all temperature data collected during the calendar day.

Day 6: Average of all temperature data collected during the calendar day.

Day 7: Average of all temperature data collected during the calendar day.

1st MWAT Calculation as average of previous 7 days

Day 8: Average of all temperature data collected during the calendar day.

2nd MWAT Calculation as average of previous 7 days

Day 9: Average of all temperature data collected during the calendar day.

3rd MWAT Calculation as average of previous 7 days

17. "Minimum level (ML)" means the lowest concentration of an analyte that can be accurately and precisely quantified using a given method, as determined by the laboratory.
18. "NOEC" or "No-Observed-Effect-Concentration" is the highest concentration of toxicant to which organisms are exposed in a full life cycle or partial life cycle (short term) test, that causes no observable adverse effects on the test organisms (i.e. the highest concentration of toxicant in which the values for the observed responses are not statistically different from the controls). This value is used, along with other factors, to determine toxicity limits in permits.
19. "Potentially dissolved (PD) metals fraction" is defined in the Basic Standards and Methodologies for Surface Water 1002-31, as that portion of a constituent measured from the filtrate of a water and suspended sediment sample that was first treated with nitric acid to a pH of 2 or less and let stand for 8 to 96 hours prior to sample filtration using a 0.40 or 0.45-UM (micron) membrane filter. Note the "potentially dissolved" method cannot be used where nitric acid will interfere with the analytical procedure used for the constituent measured.
20. "Practical Quantitation Limit (PQL)" means the minimum concentration of an analyte (substance) that can be measured with a high degree of confidence that the analyte is present at or above that concentration. The use of PQL in this document may refer to those PQLs shown in Part I.D of this permit or the PQLs of an individual laboratory.
21. "Quarterly measurement frequency" means samples may be collected at any time during the calendar quarter if a continual discharge occurs. If the discharge is intermittent, then samples shall be collected during the period that discharge occurs.
22. "Recorder" requires the continuous operation of an automatic data retention device for providing required records such as a data logger, a chart and/or totalizer (or drinking water rotor meters or pump hour meters where previously approved.)
23. SAR and Adjusted SAR - The equation for calculation of SAR-adj is:

$$SAR-adj = \frac{Na^+}{\sqrt{\frac{Ca_x + Mg^{++}}{2}}}$$

Where:

Na⁺ = Sodium in the effluent reported in meq/l

Mg⁺⁺ = Magnesium in the effluent reported in meq/l

Ca_x = calcium (in meq/l) in the effluent modified due to the ratio of bicarbonate to calcium

The values for sodium (Na⁺), calcium (Ca⁺⁺), bicarbonate (HCO₃⁻) and magnesium (Mg⁺⁺) in this equation are expressed in units of milliequivalents per liter (meq/l). Generally, data for these parameters are reported in terms of mg/l, which must then be converted to calculate the SAR. The conversions are:

$$\text{meq/l} = \frac{\text{Concentration in mg/l}}{\text{Equivalent weight in mg/meq}}$$

Where the equivalent weights are determined based on the atomic weight of the element divided by the ion's charge:

- Na⁺ = 23.0 mg/meq (atomic weight of 23, charge of 1)
- Ca⁺⁺ = 20.0 mg/meq (atomic weight of 40.078, charge of 2)
- Mg⁺⁺ = 12.15 mg/meq (atomic weight of 24.3, charge of 2)
- HCO₃⁻ = 61 mg/mep (atomic weight of 61, charge of 1)

The EC and the HCO₃⁻/Ca⁺⁺ ratio in the effluent (calculated by dividing the HCO₃⁻ in meq/l by the Ca⁺⁺ in meq/l) are used to determine the Ca_x using the following table.

Table - Modified Calcium Determination for Adjusted Sodium Adsorption Ratio

		HCO ₃ /Ca Ratio And EC ^{1, 2, 3}											
		Salinity of Effluent (EC)(dS/m)											
		0.1	0.2	0.3	0.5	0.7	1.0	1.5	2.0	3.0	4.0	6.0	8.0
Ratio of HCO ₃ /Ca	.05	13.20	13.61	13.92	14.40	14.79	15.26	15.91	16.43	17.28	17.97	19.07	19.94
	.10	8.31	8.57	8.77	9.07	9.31	9.62	10.02	10.35	10.89	11.32	12.01	12.56
	.15	6.34	6.54	6.69	6.92	7.11	7.34	7.65	7.90	8.31	8.64	9.17	9.58
	.20	5.24	5.40	5.52	5.71	5.87	6.06	6.31	6.52	6.86	7.13	7.57	7.91
	.25	4.51	4.65	4.76	4.92	5.06	5.22	5.44	5.62	5.91	6.15	6.52	6.82
	.30	4.00	4.12	4.21	4.36	4.48	4.62	4.82	4.98	5.24	5.44	5.77	6.04
	.35	3.61	3.72	3.80	3.94	4.04	4.17	4.35	4.49	4.72	4.91	5.21	5.45
	.40	3.30	3.40	3.48	3.60	3.70	3.82	3.98	4.11	4.32	4.49	4.77	4.98
	.45	3.05	3.14	3.22	3.33	3.42	3.53	3.68	3.80	4.00	4.15	4.41	4.61
	.50	2.84	2.93	3.00	3.10	3.19	3.29	3.43	3.54	3.72	3.87	4.11	4.30
	.75	2.17	2.24	2.29	2.37	2.43	2.51	2.62	2.70	2.84	2.95	3.14	3.28
	1.00	1.79	1.85	1.89	1.96	2.01	2.09	2.16	2.23	2.35	2.44	2.59	2.71
	1.25	1.54	1.59	1.63	1.68	1.73	1.78	1.86	1.92	2.02	2.10	2.23	2.33
	1.50	1.37	1.41	1.44	1.49	1.53	1.58	1.65	1.70	1.79	1.86	1.97	2.07
	1.75	1.23	1.27	1.30	1.35	1.38	1.43	1.49	1.54	1.62	1.68	1.78	1.86
	2.00	1.13	1.16	1.19	1.23	1.26	1.31	1.36	1.40	1.48	1.54	1.63	1.70
	2.25	1.04	1.08	1.10	1.14	1.17	1.21	1.26	1.30	1.37	1.42	1.51	1.58
	2.50	0.97	1.00	1.02	1.06	1.09	1.12	1.17	1.21	1.27	1.32	1.40	1.47
	3.00	0.85	0.89	0.91	0.94	0.96	1.00	1.04	1.07	1.13	1.17	1.24	1.30
	3.50	0.78	0.80	0.82	0.85	0.87	0.90	0.94	0.97	1.02	1.06	1.12	1.17
4.00	0.71	0.73	0.75	0.78	0.80	0.82	0.86	0.88	0.93	0.97	1.03	1.07	
4.50	0.66	0.68	0.69	0.72	0.74	0.76	0.79	0.82	0.86	0.90	0.95	0.99	
5.00	0.61	0.63	0.65	0.67	0.69	0.71	0.74	0.76	0.80	0.83	0.88	0.93	
7.00	0.49	0.50	0.52	0.53	0.55	0.57	0.59	0.61	0.64	0.67	0.71	0.74	
10.00	0.39	0.40	0.41	0.42	0.43	0.45	0.47	0.48	0.51	0.53	0.56	0.58	
20.00	0.24	0.25	0.26	0.26	0.27	0.28	0.29	0.30	0.32	0.33	0.35	0.37	
30.00	0.18	0.19	0.20	0.20	0.21	0.21	0.22	0.23	0.24	0.25	0.27	0.28	

¹ Adapted from Suarez (1981).

- 2 Assumes a soil source of calcium from lime (CaCO_3) or silicates; no precipitation of magnesium, and partial pressure of CO_2 near the soil surface (P_{CO_2}) is 0.0007 atmospheres.
- 3 Ca_x , HCO_3^- , Ca are reported in meq/l; EC is in dS/m (deciSiemens per meter).

Because values will not always be quantified at the exact EC or $\text{HCO}_3^-/\text{Ca}^{++}$ ratio in the table, the resulting Ca_x must be determined based on the closest value to the calculated value. For example, for a calculated EC of 2.45 dS/m, the column for the EC of 2.0 would be used. However, for a calculated EC of 5.1, the corresponding column for the EC of 6.0 would be used. Similarly, for a $\text{HCO}_3^-/\text{Ca}^{++}$ ratio of 25.1, the row for the 30 ratio would be used.

The Division acknowledges that some effluents may have electrical conductivity levels that fall outside of this table, and others have bicarbonate to calcium ratios that fall outside this table. For example, some data reflect $\text{HCO}_3^-/\text{Ca}^{++}$ ratios greater than 30 due to bicarbonate concentrations reported greater than 1000 mg/l versus calcium concentrations generally less than 10 mg/l (i.e., corresponding to $\text{HCO}_3^-/\text{Ca}^{++}$ ratios greater than 100). Despite these high values exceeding the chart's boundaries, it is noted that the higher the $\text{HCO}_3^-/\text{Ca}^{++}$ ratio, the greater the SAR-adj. Thus, using the Ca_x values corresponding to the final row containing bicarbonate/calcium ratios of 30, the permittee will actually calculate an SAR-adj that is less than the value calculated if additional rows reflecting $\text{HCO}_3^-/\text{Ca}^{++}$ ratios of greater than 100 were added.

24. "Seven (7) day average" means, with the exception of fecal coliform or *E. coli* bacteria (see geometric mean), the arithmetic mean of all samples collected in a seven (7) consecutive day period. Such seven (7) day averages shall be calculated for all calendar weeks, which are defined as beginning on Sunday and ending on Saturday. If the calendar week overlaps two months (i.e. the Sunday is in one month and the Saturday in the following month), the seven (7) day average calculated for that calendar week shall be associated with the month that contains the Saturday. Samples may not be used for more than one (1) reporting period. **(See the "Analytical and Sampling Methods for Monitoring and Reporting Section in Part I.D.3 for guidance on calculating averages and reporting analytical results that are less than the PQL).**
25. "Sufficiently sensitive test procedures":
 - i. An analytical method is "sufficiently sensitive" when the method detects and accurately and precisely quantifies the amount of the analyte. In other words there is a valid positive result; or
 - ii. An analytical method is "sufficiently sensitive" when the method accurately and precisely quantifies the result to the AWQC, as demonstrated by the ML is less than or equal to the AWQC. In other words, the level of precision is adequate to inform decision making; or
 - iii. An analytical method is "sufficiently sensitive" when the method achieves the required level of accuracy and precision, as demonstrated by the ML is less than or equal to the PQL. In other words, the most sensitive method is being used and properly followed.
26. "Thirty (30) day average" means, except for fecal coliform or *E. coli* bacteria (see geometric mean), the arithmetic mean of all samples collected during a thirty (30) consecutive-day period. The permittee shall report the appropriate mean of all self-monitoring sample data collected during the calendar month on the Discharge Monitoring Reports. Samples shall not be used for more than one (1) reporting period. **(See the "Analytical and Sampling Methods for Monitoring and Reporting Section in Part I.D.3 for guidance on calculating averages and reporting analytical results that are less than the PQL).**
27. Toxicity Identification Evaluation (TIE) is a set of site-specific procedures used to identify the specific chemical(s) causing effluent toxicity.
28. "Total Inorganic Nitrogen (T.I.N.)" is an aggregate parameter determined based on ammonia, nitrate and nitrite concentrations. To determine T.I.N. concentrations, the facility must monitor for total ammonia and total nitrate plus nitrite (or nitrate and nitrite individually) on the same days. The calculated T.I.N. concentrations in mg/L shall then be determined as the sum of the analytical results of same-day sampling for total ammonia (as N) in mg/L, and total nitrate plus nitrite (as N) in mg/L (or nitrate as N and nitrite as N individually). From these calculated T.I.N. concentrations, the daily maximum and thirty (30) day average concentrations for T.I.N. shall be determined in the same manner as set out in the definitions for the daily maximum and thirty (30) day average. **(See the "Analytical and Sampling Methods for Monitoring and Reporting Section in Part I.D.5 for guidance on calculating averages and reporting analytical results that are less than the PQL).**

29. "Total Metals" means the concentration of metals determined on an unfiltered sample following vigorous digestion (Section 4.1.3), or the sum of the concentrations of metals in both the dissolved and suspended fractions, as described in Manual of Methods for Chemical Analysis of Water and Wastes, U.S. Environmental Protection Agency, March 1979, or its equivalent.
30. "Total Recoverable Metals" means that portion of a water and suspended sediment sample measured by the total recoverable analytical procedure described in Methods for Chemical Analysis of Water and Wastes, U.S. Environmental Protection Agency, March 1979 or its equivalent.
31. Toxicity Reduction Evaluation (TRE) is a site-specific study conducted in a step-wise process to identify the causative agents of effluent toxicity, isolate the source of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity after the control measures are put in place.
32. "Twenty four (24) hour composite" sample is a combination of at least eight (8) sample aliquots of at least 100 milliliters, collected at equally spaced intervals during the operating hours of a facility over a twenty-four (24) hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the wastewater or effluent flow at the time of sampling or the total wastewater or effluent flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.
33. "Twice Monthly" monitoring frequency means that two samples shall be collected each calendar month on separate weeks with at least one full week between the two sample dates. Also, there shall be at least one full week between the second sample of a month and the first sample of the following month.
34. "Two (2) -Year Rolling Average" (Antidegradation limits)- the average of all monthly average data collected in a two year period. Reporting of two-year rolling average results should begin in the first DMR due once the reporting requirements has been in place for a two year period. To calculate a two-year rolling average, add the current monthly average to the previous 23 monthly averages and divide the total by 24. This methodology continues on a rolling basis as long as the two year rolling average reporting and/or effluent limit applies (i.e., in the first reporting period use data from month 1 to month 24, in the second reporting period use data from month 2 to month 25, then month 3 to month 26, etc). Ongoing reporting is required across permit terms when data is available for a two year period.
35. "Visual" observation is observing the discharge to check for the presence of a visible sheen or floating oil.
36. "Water Quality Control Division" or "Division" means the state Water Quality Control Division as established in 25-8-101 et al.)

Additional relevant definitions are found in the Colorado Water Quality Control Act, CRS §§ 25-8-101 et seq., the Colorado Discharge Permit System Regulations, Regulation 61 (5 CCR 1002-61) and other applicable regulations.