

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

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

Suncor Energy (USA) Inc.

is authorized to discharge from the Commerce City Refinery located at **in the SW ¼ of Sect. 12, T3S, R68W, 6th P.M., at 5801 Brighton Blvd., Commerce City, CO, Latitude: 39° 48' 18" N, Longitude: 104° 56' 35 " W**

to **Sand Creek**

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.

The applicant may demand an adjudicatory hearing within thirty (30) calendar days of the date of issuance of the final permit determination, per the Colorado Discharge Permit System Regulations, 61.7(1). Should the applicant choose to contest any of the effluent limitations, monitoring requirements or other conditions contained herein, the applicant must comply with Section 24-4-104 CRS and the Colorado Discharge Permit System Regulations. Failure to contest any such effluent limitation, monitoring requirement, or other condition, constitutes consent to the condition by the Applicant.

This permit and the authorization to discharge shall expire at midnight October 31, 2017

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Erin Scott, Acting Permits Section Manager
Water Quality Control Division

Modification #3-Minor Amendment – Issued January 25, 2017, Effective March 1, 2017 (Parts I.A.2 and II.B.2)
Modification #2– Minor Amendment–Issued February 25, 2015, Effective April 1, 2015 (Part I.A.2 and Part II.B.2)
Modification #1 – Minor Amendment – Issued May 28, 2013, Effective June 1, 2013 (Part II.B.5)
Originally Issued September 27, 2012 and Effective November 1, 2012

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PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Permitted Feature(s)

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):

002A (prior to physical combination) / 002B (after physical combination)/, facility process water discharge. 39° 48' 51" N, 104° 56' 85"W. Due to configuration of the Outfall structure, monitoring for all parameters except pH and flow will be via samples taken inside the aeration basin immediately upstream of the basin outlet to Sand Creek; flow and pH are measured at the Parshall flume.

003A (prior to physical combination) / 003B (after physical combination)/, from the groundwater remediation project, to Sand Creek . 39° 48' 51" N, 104° 56' 85" W. Due to configuration of the Outfall structure, monitoring for all parameters will be via samples taken at the Parshall flume discharging to the outlet piping to Sand Creek.

010A, calculated compliance point based on flow weighted composited samples for Outfalls 002 and 003 combined, to Sand Creek.

020A, physical combination of Outfalls 002A and 003A, sampling will be conducted downstream from the confluence of outfalls 002A and 003A, 39° 48' 15" N, 104° 56' 85"W. This must be completed by December 31, 2017 to allow monitoring to commence on January 1, 2018.

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

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, the permitted discharge shall not contain effluent parameter concentrations which exceed the limitations specified below or exceed the specified flow limitation.

2. Limitations, Monitoring Frequencies and Sample Types

In order to obtain an indication of the probable compliance or noncompliance with the effluent limitations specified in Part I.A, 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.D.)

Self-monitoring sampling by the permittee for compliance with the monitoring requirements specified above shall be performed at the location(s) noted in Part I.A.1 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.

Oil and Grease Monitoring: For every permitted feature with oil and grease monitoring, 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.

Outfall 002A (prior to physical combination)

<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>Frequency</u>	<u>Sample Type</u>
50050	Effluent Flow (MGD)	1.5		Report	Continuous	Recorder
00010	Temp Daily Max (°C) March-Nov beginning July 1, 2013			Report	Continuous	Recorder
00010	Temp Daily Max (°C) Dec-Feb beginning July 1, 2013			Report	Continuous	Recorder
00010	Temp MWAT (°C) March-Nov beginning July 1, 2013		Report		Continuous	Recorder
00010	Temp MWAT (°C) Dec-Feb beginning July 1, 2013		Report		Continuous	Recorder
00300	DO (mg/l)			5(min)	Daily	Grab
00400	pH (su)			6.5-9.0	Daily	Grab
00610	Total Ammonia as N (mg/l)					
	January	10.5		27	Monthly	Composite
	February	12.5		23	Monthly	Composite
	March	10.8		20	Monthly	Composite
	April	7		16	Monthly	Composite
	May	8.3		24	Monthly	Composite
	June	5.9		16	Monthly	Composite
	July	6.7		45	Monthly	Composite
	August	5.2		37	Monthly	Composite
	September	8.3		35	Monthly	Composite
	October	10		41	Monthly	Composite
	November	8.5		31	Monthly	Composite
	December	8.9		32	Monthly	Composite
00310	BOD5, effluent (lbs/day)	875		1575	Weekly	Calculated
00530	TSS, effluent (lbs/day)	700		1098	Weekly	Calculated
80130	COD (lbs/day)	6108		11770	Weekly	Calculated
00152	Oil and Grease (lbs/day)	254		477	Weekly	Grab
34043	Total Phenolics (lbs/day)	5.68		12	Weekly	Composite
70028	Total Chromium (lbs/day)	6.7		19.2	Quarterly	Composite
01255	Hexavalent Chromium (lbs/day)	0.5464		1.2294	Quarterly	Composite
00745	Total Sulfide (lbs/day)	4.6		10	Monthly	Composite
00978	As, TR (µg/l)	Report		Report	Monthly	Composite
01306	Cu, PD (µg/l)	Report		Report	Monthly	Composite
00980	Fe, TR (µg/l)	Report		Report	Monthly	Composite
01318	Pb, PD (µg/l)	Report		Report	Monthly	Composite
01319	Mn, PD (µg/l)	Report		Report	Monthly	Composite
71900	Hg, Tot (µg/l)	Report		Report	Quarterly	Grab
01322	Ni, PD (µg/l)	Report		Report	Quarterly	Composite
01323	Se, PD (µg/l)	Report		Report	Monthly	Composite
01304	Ag, PD (µg/l)	Report		Report	Monthly	Composite
01326	U, PD (µg/l)	Report		Report	Quarterly	Composite
01303	Zn, PD (µg/l)	Report		Report	Monthly	Composite
51202	Sulfide as H2S (mg/l)	Report		Report	Monthly	Composite

Outfall 002A (prior to physical combination), continued

<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>Frequency</u>	<u>Sample Type</u>
34030	Benzene (µg/l)			5	Weekly	Grab
49491	BTEX(µg/l)	Report		100	Weekly	Grab
22417	MTBE (µg/l)	Report		Report	Weekly	Grab
00918	Calcium (mg/l)	Report		Report	Quarterly	Grab
00921	Magnesium (mg/l)	Report		Report	Quarterly	Grab
00923	Sodium (mg/l)	Report		Report	Quarterly	Grab
00440	Bicarbonate as HCO ₃ (mg/l)	Report		Report	Quarterly	Grab
00931	SAR calculated limit	Report		Report	Quarterly	Calculated
00931	Adjusted SAR effluent	Report		Report	Quarterly	Calculated
00094	EC (dS/m)	Report		Report	Quarterly	Grab

There shall be no discharge of floating solids.

Outfall 003A (prior to physical combination)

<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>Frequency</u>	<u>Sample Type</u>
50050	Effluent Flow (MGD)	2.16		Report	Continuous	Recorder
00010	Temp Daily Max (°C) March-Nov beginning July 1, 2013			Report	Continuous	Recorder
00010	Temp Daily Max (°C) Dec-Feb beginning July 1, 2013			Report	Continuous	Recorder
00010	Temp MWAT (°C) March-Nov beginning July 1, 2013		Report		Continuous	Recorder
00010	Temp MWAT (°C) Dec-Feb beginning July 1, 2013		Report		Continuous	Recorder
80103	Chemical Oxygen Demand (mg/l)			Report	Weekly	Composite
00400	pH (su)			6.5-9.0	Daily	Grab
00530	TSS, effluent (mg/l)	30	45		2 Days/Week	Composite
03582	Oil and Grease (mg/l)			10	Daily	Grab
00978	As, TR (µg/l)	Report		Report	Monthly	Composite
01306	Cu, PD (µg/l)	Report		Report	Monthly	Composite
00980	Fe, TR (µg/l)	Report		Report	Monthly	Composite
01318	Pb, PD (µg/l)	Report		Report	Monthly	Composite
01319	Mn, PD (µg/l)	Report		Report	Monthly	Composite
71900	Hg, Tot (µg/l)	Report		Report	Quarterly	Grab
01322	Ni, PD (µg/l)	Report		Report	Quarterly	Composite
01323	Se, PD (µg/l)	Report		Report	Monthly	Composite
01304	Ag, PD (µg/l)	Report		Report	Monthly	Composite
01326	U, PD (µg/l)	Report		Report	Quarterly	Composite
01303	Zn, PD (µg/l)	Report		Report	Monthly	Composite
51202	Sulfide as H ₂ S (mg/l)	Report		Report	Monthly	Composite
34030	Benzene (µg/l)			5	Weekly	Grab
49491	BTEX (µg/l)			100	Weekly	Grab
22417	MTBE (µg/l)	Report		Report	Weekly	Grab
00918	Calcium (mg/l)	Report		Report	Quarterly	Grab
00921	Magnesium (mg/l)	Report		Report	Quarterly	Grab
00923	Sodium (mg/l)	Report		Report	Quarterly	Grab
00440	Bicarbonate as HCO ₃ (mg/l)	Report		Report	Quarterly	Grab
00931	SAR calculated limit	Report		Report	Quarterly	Calculated
00931	Adjusted SAR effluent	Report		Report	Quarterly	Calculated
00094	EC (dS/m)	Report		Report	Quarterly	Grab

Outfall 010A (prior to physical combination)

<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>Frequency</u>	<u>Sample Type</u>
50050	Effluent Flow (MGD)	3.66		Report	Continuous	Calculated
00978	As, Tot (µg/l) Until December 31, 2017 Beginning January 1, 2018	116 10			Monthly Monthly	Calculated Calculated
01306	Cu, PD (µg/l)	Report		Report	Monthly	Calculated
00718	CN, WAD (µg/l)			Report	Monthly	Calculated
00980	Fe, TR (µg/l) Until December 31, 2017 Beginning January 1, 2018	1100 917			Monthly Monthly	Calculated Calculated
01318	Pb, PD (µg/l)	Report		Report	Monthly	Calculated
01319	Mn, PD (µg/l) Until December 31, 2017 Beginning January 1, 2018	2900 1294		5000 5063	Monthly Monthly	Calculated Composite
71900	Hg, Tot (µg/l) Until December 31, 2017 Beginning January 1, 2018	Report Report 0.026			Quarterly Quarterly	Calculated Calculated Calculated
01322	Ni, PD (µg/l)	Report		Report	Quarterly	Calculated
01323	Se, PD (µg/l) Until September 30, 2020 Beginning October 1, 2020	60 24		Report Report	Monthly Monthly	Calculated Calculated
01304	Ag, PD (µg/l) Until December 31, 2017 Beginning January 1, 2018	3.9 3.25		Report Report	Monthly Monthly	Calculated Calculated
01326	U, PD (µg/l)	Report		Report	Quarterly	Calculated
01303	Zn, PD (µg/l) Until December 31, 2017 Beginning January 1, 2018	Report 298		Report Report	Monthly Monthly	Calculated Calculated
51202	Sulfide as H ₂ S (mg/l)	Report			Monthly	Calculated
34030	Benzene (µg/l)	Report		5	Weekly	Calculated
49491	BTEX (µg/l)			100	Weekly	Calculated
22417	MTBE (µg/l)	384			Weekly	Calculated
00918	Calcium (mg/l)	Report		Report	Quarterly	Calculated
00921	Magnesium (mg/l)	Report		Report	Quarterly	Calculated
00923	Sodium (mg/l)	Report		Report	Quarterly	Calculated
00440	Bicarbonate as HCO ₃ (mg/l)	Report		Report	Quarterly	Calculated
00931	SAR calculated limit*	Report		Report	Quarterly	Calculated
00931	Adjusted SAR effluent**	Report		Report	Quarterly	Calculated
00094	EC (dS/m)	Report		Report	Quarterly	Calculated
TKP6C	Static Renewal 7 Day Chronic*** <i>Pimephales promelas</i>			Report	Quarterly	3 Composites / Test
TKP3B	Static Renewal 7 Day Chronic <i>Ceriodaphnia dubia</i>			Report	Quarterly	3 Composites / Test

* This SAR limit is to be calculated using the actual measured EC value (30-day average) of the effluent and substituting this value in to the following equation to solve for SAR. The equation for determining the SAR limit is: SAR = (7.1 * EC) - 2.48.

** The SAR value of the effluent is to be reported as the adjusted SAR. See the definitions section in Part I.C.17 for information on calculating the adjusted SAR value.

***The facility will collect samples from both outfalls and create a flow weighted sample to run WET testing on.

Outfall 002B(after physical combination), samples will be collected before the connection with outfall 003A

<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>Frequency</u>	<u>Sample Type</u>
50050	Effluent Flow (MGD)	Report		Report	Continuous	Recorder
00400	pH (su)	6.0-9.0			Daily	Grab
00310	BOD5, effluent (lbs/day)	875		1575	2 Days/Week	Calculated
00530	TSS, effluent (lbs/day)	700		1098	2 Days/Week	Calculated
80130	COD (lbs/day)	6108		11770	2 Days/Week	Calculated
00152	Oil and Grease (lbs/day)	254		477	Monthly	Grab
34043	Total Phenolics (lbs/day)	5.68		12	Monthly	Composite
70028	Total Chromium (lbs/day)	6.7		19.2	Monthly	Composite
01255	Hexavalent Chromium (lbs/day)	0.5464		1.2294	Quarterly	Composite
00745	Total Sulfide (lbs/day)	4.6		10	Monthly	Composite
00610	Total Ammonia as N (mg/l)					
	January	10.5		27	Monthly	Composite
	February	12.5		23	Monthly	Composite
	March	10.8		20	Monthly	Composite
	April	7		16	Monthly	Composite
	May	8.3		24	Monthly	Composite
	June	5.9		16	Monthly	Composite
	July	6.7		45	Monthly	Composite
	August	5.2		37	Monthly	Composite
	September	8.3		35	Monthly	Composite
	October	10		41	Monthly	Composite
	November	8.5		31	Monthly	Composite
	December	8.9		32	Monthly	Composite
34030	Benzene (µg/l)	Report		5	Weekly	Grab
49491	BTEX (µg/l)			100	Weekly	Grab

Outfall 003B (after physical combination), samples will be collected before the connection with outfall 002A

<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>Frequency</u>	<u>Sample Type</u>
50050	Effluent Flow (MGD)	Report		Report	Continuous	Recorder
00400	pH (su)	6.0-9.0			Daily	Grab
00530	TSS, effluent (mg/l)	30	45		2 Days/Week	Composite
03582	Oil and Grease (mg/l)			10	Daily	Grab
34030	Benzene (µg/l)			5	Weekly	Grab
49491	BTEX (µg/l)			100	Weekly	Grab

Outfall 020A(after physical combination)

<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>Frequency</u>	<u>Sample Type</u>
50050	Effluent Flow (MGD)	3.66		Report	Continuous	Recorder
00010	Temp Daily Max (°C) March-Nov			Report	Continuous	Recorder
00010	Temp Daily Max (°C) Dec-Feb			Report	Continuous	Recorder
00010	Temp MWAT (°C) March-Nov		Report		Continuous	Recorder
00010	Temp MWAT (°C) Dec-Feb		Report		Continuous	Recorder
00300	DO (mg/l)			5(min)	Daily	Grab
00400	pH (su)			6.5-9.0	Daily	Grab
50050	Effluent Flow (MGD)	3.66		Report	Continuous	Recorder
00978	As, Tot (µg/l)				Monthly	Composite
	Until December 31, 2017	116			Monthly	Composite
	Beginning January 1, 2018	10			Monthly	Composite
01306	Cu, PD (µg/l)			Report	Monthly	Composite
00718	CN, WAD (µg/l)			Report	Monthly	Composite
00980	Fe, TR (µg/l)				Monthly	Composite
	Until December 31, 2017	1100			Monthly	Composite
	Beginning January 1, 2018	917			Monthly	Composite
01318	Pb, PD (µg/l)			Report	Monthly	Composite
01319	Mn, PD (µg/l)				Monthly	Composite
	Until December 31, 2017	2900		5000	Monthly	Composite
	Beginning January 1, 2018	1294		5063	Monthly	Composite
71900	Hg, Tot (µg/l)				Quarterly	Grab
	Until December 31, 2017	Report			Quarterly	Composite
	Beginning January 1, 2018	0.026			Quarterly	Composite
01322	Ni, PD (µg/l)			Report	Quarterly	Composite
01323	Se, PD (µg/l)				Monthly	Composite
	Until September 30, 2020	60		Report	Monthly	Composite
	Beginning October 1, 2020	24		Report	Monthly	Composite
01304	Ag, PD (µg/l)				Monthly	Composite
	Until December 31, 2017	3.9		Report	Monthly	Composite
	Beginning January 1, 2018	3.25		Report	Monthly	Composite
01326	U, PD (µg/l)			Report	Quarterly	Composite
01303	Zn, PD (µg/l)				Monthly	Composite
	Until December 31, 2017	Report		Report	Monthly	Composite
	Beginning January 1, 2018	298		Report	Monthly	Composite
51202	Sulfide as H2S (mg/l)			Report	Monthly	Composite

Outfall 020A(after physical combination), continued

<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>Frequency</u>	<u>Sample Type</u>
34030	Benzene (µg/l)	Report		5	Weekly	Composite
49491	BTEX (µg/l)			100	Weekly	Composite
22417	MTBE (µg/l)	384			Weekly	Grab
00918	Calcium (mg/l)	Report		Report	Quarterly	Grab
00921	Magnesium (mg/l)	Report		Report	Quarterly	Grab
00923	Sodium (mg/l)	Report		Report	Quarterly	Grab
00440	Bicarbonate as HCO ₃ (mg/l)	Report		Report	Quarterly	Grab
00931	SAR calculated limit*	Report		Report	Quarterly	Calculated
00931	Adjusted SAR effluent**	Report		Report	Quarterly	Calculated
00094	EC (dS/m)	Report		Report	Quarterly	Grab
TKP6C	Static Renewal 7 Day Chronic <i>Pimephales promelas</i>			Report	Quarterly	3 Composites / Test
TKP3B	Static Renewal 7 Day Chronic <i>Ceriodaphnia dubia</i>			Report	Quarterly	3 Composites / Test

* This SAR limit is to be calculated using the actual measured EC value (30-day average) of the effluent and substituting this value in to the following equation to solve for SAR. The equation for determining the SAR limit is: SAR = (7.1 * EC) – 2.48.

** The SAR value of the effluent is to be reported as the adjusted SAR. See the definitions section in Part I.C.17 for information on calculating the adjusted SAR value.

B. TERMS AND CONDITIONS

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 adequate laboratory controls and 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. However, the permittee shall operate, at a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance. Any sludge produced at the wastewater treatment facility shall be disposed of in accordance with State and Federal guidelines and regulations.

2. Compliance Schedule

All information and written reports required by the following compliance schedules should be directed to the Industrial Unit of the Permits Section for final review unless otherwise stated.

a. Installation of Temperature Monitoring Equipment - The following compliance schedule is included to give the facility time to install temperature monitoring equipment for the effluent.

<u>Code</u>	<u>Event</u>	<u>Description</u>	<u>Due Date</u>
04301	Install Temperature Meters	The permittee is to submit a document certifying that continuous temperature monitoring equipment has been installed and is operational.	June 30, 2013

b. Mixing Zone Analyses – Conduct remaining threshold tests for exclusion from further analysis under Mixing Zone Regulations. The second threshold test is the Application of the Mixing Zone Exclusion Tables (p. 20, Colorado Mixing

Zone Implementation Guidance, February 2002). Under this compliance action, the permittee will collect the necessary site-specific data, perform the required analysis, and provide a report to the Division. The report will indicate the findings of this threshold test and, if not excluded, provide the workplan for the next threshold test (i.e., determining of the size of the physical and regulatory mixing zones). This analysis will be conducted for either Outfall 002A and 003A or outfall 020A (if outfall 020 becomes operational before the mixing zone study is started), see delayed due dates.

Code	Event	Description	Due Date
50008	Submit Study Results	Collect site-specific data, perform threshold tests based on Mixing Zone Exclusion Tables, and submit study results.	January 1, 2016
50008	Submit Study Results	If a low flow condition is not reached on the receiving water during the first year, the permittee shall collect the site-specific data, perform threshold tests based on Mixing Zone Exclusion Tables, and submit study results.	January 1, 2017

c. Activities to Meet Total Recoverable Arsenic, Total Recoverable Iron, Potentially Dissolved Silver and Potentially Dissolved Zinc Final Limits – In order to meet Total Recoverable Arsenic, Total Recoverable Iron, Potentially Dissolved Silver, Potentially Dissolved Zinc and Sulfide limitations, the following schedule will be included in the permit.

Code	Event	Description	Due Date
43699	Facility Evaluation Plan	Submit a report that identifies sources of arsenic, iron, silver and zinc to the wastewater treatment facility and identifies strategies to control these sources or treatment alternatives such that compliance with the final limitations may be attained.	December 31, 2013
00899	Implementation Schedule	Submit a progress report summarizing the progress in implementing the strategies to control sources such that compliance with the final <u>Total Recoverable Arsenic, Total Recoverable Iron, Potentially Dissolved Silver and Potentially Dissolved Zinc</u> limitations may be attained.	December 31, 2014
00899	Implementation Schedule	Submit a progress report summarizing the progress in implementing the strategies to control sources such that compliance with the final <u>Total Recoverable Arsenic, Total Recoverable Iron, Potentially Dissolved Silver and Potentially Dissolved Zinc</u> limitations may be attained.	December 31, 2015
00899	Implementation Schedule	Submit a progress report summarizing the progress in implementing the strategies to control sources such that compliance with the final <u>Total Recoverable Arsenic, Total Recoverable Iron, Potentially Dissolved Silver and Potentially Dissolved Zinc</u> limitations may be attained.	December 31, 2016
CS017	Achieve Final Compliance with Emissions or Discharge Limits	Submit study results that show compliance has been attained with the final <u>Total Recoverable Arsenic, Total Recoverable Iron, Potentially Dissolved Silver and Potentially Dissolved Zinc</u> limitations.	December 31, 2017

d. Activities to Meet Total Mercury Final Limits – In order to meet WET Testing, Mercury limitations, the following schedule will be included in the permit.

Code	Event	Description	Due Date
00899	Implementation Schedule	Submit a progress report summarizing the progress in implementing the strategies based on pilot study to control sources such that compliance with the final <u>Total Mercury</u> limitations may be attained.	6/30/2016

00899	Implementation Schedule	Submit a progress report summarizing the progress in implementing the strategies to control sources such that compliance with the final <u>Total Mercury</u> limitations may be attained.	6/30/2017
CS017	Achieve Final Compliance with Emissions or Discharge Limits	Submit study results that show compliance has been attained with the final <u>Total Mercury</u> limitations.	12/31/2017

e. Activities to combine the outfalls 002A and 003A to create single outfall of outfall 020A – In order to meet this requirement, the following schedule will be included in the permit.

Code	Event	Description	Due Date
43699	Facility Evaluation Plan	Submit a report that shows plans and identifies the implementation process for combining the outfalls.	December 31, 2015
00899	Implementation Schedule	Submit a progress report summarizing the progress in implementing the plan and any changes to the plan for combination of the outfalls.	December 31, 2016
CS017	Achieve Final Compliance with Emissions or Discharge Limits	Submit a report showing combination of outfalls 002A and 003A has been completed and outfall 020A if operational.	December 31, 2017

f. Activities to Meet Potentially Dissolved Selenium Final Limits – In order to meet potentially dissolved selenium limitations, the following schedule will be included in the permit.

Code	Event	Description	Due Date
73905	Engineering Plan	Submit report documenting that engineering plans have been completed for the addition of DAF treatment.	October 31, 2017
CS016	Complete Required Work or On-Site Construction	Complete Construction of DAF.	October 31, 2018
CS010	Status/Progress Report	Complete cleaning of Lagoon #4.	April 30, 2019
CS010	Status/Progress Report	Submit a summary of data collected to date and efforts at fine tuning the system operations	April 30, 2020
CS017	Achieve Final Compliance with Emissions or Discharge Limits	Submit study results that show compliance has been attained with the final Dissolved Selenium limitations.	September 30, 2020
CS010	Status/Progress Report	Submit a plan for investigation or pilot testing for additional reduction in selenium concentrations.	April 30, 2021
CS010	Status/Progress Report	Submit a report documenting the investigations or pilot testing of additional technologies for further reduction in selenium concentrations.	April 30, 2022
CS010	Status/Progress Report	Submit a report documenting the investigations or pilot testing of additional technologies for further reduction in selenium concentrations.	April 30, 2023

No later than 14 calendar days following each date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

3. Chronic WET Testing –Outfalls:010A (Flow Weighted Composite of 002A and 003A) and 020A

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 composite 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), 13%, 26%, 51%, 76%, 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.A.1. 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 are at any effluent concentration less than the IWC. The IWC for this permit has been determined to be **51%** 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. The IWC for this permit has been determined to be **51%** effluent.

In the event of a permit violation, 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)
- two consecutive monitoring periods have resulted in failure of one of the two statistical endpoints (either the IC₂₅ or the NOEC)
- 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 in Part I.A.3.b.

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.

C. DEFINITIONS OF TERMS

1. "Antidegradation limits" – See "Two (2) - Year Rolling Average".
2. "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.
3. "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).
4. "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.
5. "Daily Maximum limitation" for all parameters except temperature, means the limitation for this parameter shall be applied as an instantaneous maximum (or, for pH or DO, instantaneous minimum) value. The instantaneous value is defined as the analytical result of any individual sample. DMRs shall include the maximum (and/or minimum) of all instantaneous values within the calendar month. Any instantaneous value beyond the noted daily maximum limitation for the indicated parameter shall be considered a violation of this permit.
6. "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.

For example data points collected at:

08:15, 08:30, 08:45, 09:00, 09:15, 09:30, 09:45, 10:00, would be averaged for a single 2 hour average data point

08:30, 08:45, 09:00, 09:15, 09:30, 09:45, 10:00, 10:15, would be averaged for a single 2 hour average data point

08:45, 09:00, 09:15, 09:30, 09:45, 10:00, 10:15, 10:30, would be averaged for a single 2 hour average data point

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.

Data from 11 pm to 12:59 am, would fall in the previous day. Data collected from 11:01 pm to 1:00 am would fall in the new month.

7. "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.
8. "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.

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.

9. "Grab" sample, is a single "dip and take" sample so as to be representative of the parameter being monitored.
10. "In-situ" measurement is defined as a single reading, observation or measurement taken in the field at the point of discharge.
11. "Instantaneous" measurement is a single reading, observation, or measurement performed on site using existing monitoring facilities.
12. "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

13. "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.
14. "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.
15. "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.
16. "Recorder" requires the continuous operation of a chart and/or totalizer (or drinking water rotor meters or pump hour meters where previously approved.)
17. 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:

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

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

		HCO₃/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 HCO₃/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 (CaCO₃) or silicates; no precipitation of magnesium, and partial pressure of CO₂ near the soil surface (P_{CO2}) is 0.0007 atmospheres.

³ Ca_x, HCO₃, 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 HCO₃⁻/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 HCO₃⁻/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 HCO₃⁻/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.

18. "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).**
19. "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).**
20. Toxicity Identification Evaluation (TIE) is a set of site-specific procedures used to identify the specific chemical(s) causing effluent toxicity.
21. "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).**
22. "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.
23. "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.
24. 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.
25. "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.
26. "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.
27. "Two (2) -Year Rolling Average" - Antidegradation limits apply as the average of all data collected in a two (2) year (24-month) period. These limits become effective upon the effective date of the permit, but are not reportable on a DMR until two years (typically 24 months) of data have been collected. After data has been collected for 24 months, the 30-day

averages for each month are then averaged together to determine the two-year rolling average (using data from month 1 to month 24, then month 2 to month 25, month 3 to month 26, etc).

For ammonia, two-year rolling averages may be set up for individual months, or may be grouped together for several months. For individual months (every month has a different two-year rolling average limit) the two-year average is reportable after two months of data are collected.

Example: Permit is effective Jan 2010 and there is a two-year rolling average limit specific to the month of January.

Jan 2010 DMR – Nothing to Report
Jan 2011 DMR – 2-Year Average of Jan 2010 and Jan 2011
Jan 2012 DMR – 2-Year Average of Jan 2011 and Jan 2012, etc.

Where several months have the same two-year average limit, it is reportable on the DMR after two months of data have been collected for every month in the group.

Example: Permit is effective Jan 2010 and there is a two-year rolling average limit specific to the months of Jan, Feb, June.

1st Reportable DMR – June 2011 - 2-Year Average Jan 2010 Feb 2010 June 2010 Jan 2011 Feb 2011 June 2011
2nd Reportable DMR – Jan 2012 - 2-Year Average Feb 2010 June 2010 Jan 2011 Feb 2011 June 2011 Jan 2012
3rd Reportable DMR – Feb 2012 - 2-Year Average June 2010 Jan 2011 Feb 2011 June 2011 Jan 2012 Feb 2012, etc.

(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).

28. "Visual" observation is observing the discharge to check for the presence of a visible sheen or floating oil.
29. "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.

D. GENERAL MONITORING, SAMPLING AND REPORTING REQUIREMENTS

1. Routine Reporting of Data

Reporting of the data gathered in compliance with Part I.A shall be on a **monthly** basis. Reporting of all data gathered shall comply with the requirements of Part I.D. (General Requirements). Monitoring results shall be summarized for each calendar month and reported on Division approved discharge monitoring report (DMR) forms (EPA form 3320-1).

The permittee must submit these forms either by mail, or by using the Division's Net-DMR service (when available). If mailed, one form shall be mailed to the Division, as indicated below, so that the DMR is received no later than the 28th day of the following month (for example, the DMR for the first calendar quarter must be received by the Division by April 28th). If no discharge occurs during the reporting period, "No Discharge" shall be reported.

The original signed copy of each discharge monitoring report (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 forms shall be filled out accurately and completely in accordance with requirements of this permit and the instructions on the forms. They shall be signed by an authorized person as identified in Part I.D.6.

2. Representative Sampling

Samples and measurements taken 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.

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 (see text below for specifics on nonylphenol monitoring).

If the permit contains a numeric effluent limit for a parameter, the analytical method and PQL selected for all monitoring conducted in accordance with this permit for that parameter shall be the one that can measure at or below the numeric effluent limit. If all specified analytical methods and corresponding PQLs are greater than the numeric effluent limit, then the analytical method with the lowest PQL shall be used.

If the permit contains a report only requirement for a parameter, the analytical method and PQL chosen shall be one that can measure at or below the potential numeric effluent limit(s) (maximum allowable pollutant concentration as shown in the WQA or fact sheet). If all analytical methods and corresponding PQLs are greater than the potential numeric effluent limit (s), then the analytical method with the lowest PQL shall be used.

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 analytical method and PQL chosen for all monitoring conducted in accordance with this permit for the parameter shall be one that can measure to the final numeric effluent limit. If all analytical methods and corresponding PQLs are greater than the final numeric effluent limit (s), then the analytical method with the lowest PQL shall be used.

For parameters such as TIN, the analytical methods chosen shall be those that can measure to the potential or final numeric effluent limit, based on the sum of the PQLs for nitrate, nitrite and ammonia.

When the analytical method which complies with the above requirements has a PQL greater than the permit limit, and the permittee's analytical result is less than the PQL, the permittee shall report "BDL" on the DMR. Such reports will not be considered as violations of the permit limit, as long as the lowest available PQL is used for the analysis. When the analytical method which complies with the above requirements has a PQL that is equal to or less than the permit limitation, and the permittee's analytical result is less than the PQL, "< X" (where X = the actual PQL achieved by the laboratory) shall be reported on the DMR. For parameters that have a report only limitation, and the permittee's analytical result is less than the PQL, "< X" (where X = the actual PQL achieved by the laboratory) shall be reported on the DMR.

In the calculation of average concentrations (i.e. 7- day average, 30-day average, 2-year rolling average) any individual analytical result that is less than the PQL shall be considered to be zero for the calculation purposes. When reporting:

If all individual analytical results are less than the PQL, the permittee shall report either "BDL" or "<X" (where X = the actual PQL achieved by the laboratory), following the guidance above.

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

Note that when calculating T.I.N. for a single sampling event, any value less than the PQL (for total ammonia, total nitrite, or total nitrate) shall be treated as zero. The T.I.N. concentration for a single sampling event shall then be determined as the sum of the analytical results (zeros if applicable) of same day sampling for total ammonia and total nitrite and total nitrate. From these calculated T.I.N. concentrations, the daily maximum and thirty day average concentrations shall be calculated and must be reported as a value.

The present lowest PQLs for specific parameters, as determined by the State Laboratory (November 2008) are provided below. If the analytical method cannot achieve a PQL that is less than or equal to the permit limit, then the method, or a

more precise method, must achieve a PQL that is less than or equal to the PQL in the table below. A listing of the PQLs for organic parameters that must meet the above requirement can be found in the Division's Practical Quantitation Limitation Guidance Document, July 2008.

For nonylphenol, until such time as there is an EPA 40 CFR Part 136 method, the State is approving use of ASTM Methods D7065 and D7485. Until a statewide PQL has been developed, the permittee shall use either the default PQLs listed in the table below, or develop their own site-specific PQL in accordance with the Practical Quantitation Limitation Guidance Document (July 2008) for Organic Parameters. This document is available on the Division's website at www.coloradowaterpermits.com . The delayed effective date for the monitoring requirement allows time for the permittee to develop a site-specific PQL.

These limits apply to the total recoverable or the potentially dissolved fraction of metals.

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

Parameter	Practical Quantitation Limits,	Parameter	Practical Quantitation Limits, µg/l
Aluminum	50 µg/l	Mercury	0.1 µg/l
Ammonia	1 mg/l	Mercury (low-level)	0.003 µg/l
Arsenic	1 µg/l	Nickel	50 µg/l
Barium	5 µg/l	N-Ammonia	50 µg/l
Beryllium	1 µg/l	N Nitrate/Nitrite	0.5 mg/l
BOD / CBOD	1 mg/l	N-Nitrate	50 µg/l
Boron	50 µg/l	N-Nitrite	10 µg/l
Cadmium	1 µg/l	Total Nitrogen	0.5 mg/l
Calcium	20 µg/l	Phenols	100 µg/l
Chloride	2 mg/l	Phosphorus	10 µg/l
Chlorine	0.1 mg/l	Radium 226	1 pCi/l
Total Residual Chlorine		Radium 228	1 pCi/l
DPD colorimetric	0.10 mg/l	Selenium	1 µg/l
Amperometric titration	0.05 mg/l	Silver	0.5 µg/l
Chromium	20 µg/l	Sodium	0.2 mg/l
Chromium, Hexavalent	20 µg/l	Sulfate	5 mg/l
Copper	5 µg/l	Sulfide	0.2 mg/l
Cyanide (Direct / Distilled)	10 µg/l	Total Dissolved Solids	10 mg/l
Cyanide, WAD+A47	5 µg/l	Total Suspended Solids	10 mg/l
Fluoride	0.1 mg/l	Thallium	1 µg/l
Iron	10 µg/l	Uranium	1 µg/l
Lead	1 µg/l	Zinc	10 µg/l
Magnesium	20 µg/l	Nonylphenol D7065	10 µg/l
Manganese	2 µg/l	Nonylphenol D7485	0.33 µg/l

4. **Records**

The permittee shall establish and maintain records. Those records shall include the following:

- a. The date, type, exact location, and time of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) the analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used;
- f. The results of such analyses; and
- g. Any other observations which may result in an impact on the quality or quantity of the discharge as indicated in 40 CFR 122.44 (i)(1)(iii).

The permittee shall retain for a minimum of three (3) years records of all monitoring information, including all original strip chart recordings for continuous monitoring instrumentation, all calibration and maintenance records, copies of all reports required by this permit and records of all data used to complete the application for this permit. 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 EPA.

5. 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 Part I.A of this permit, 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 discharged from the facility.

6. Signatory and Certification Requirements

- a. All reports and other information required by the Division, shall be signed and certified for accuracy by the permittee in accord with the following criteria:
 - i) In the case of corporations, by a responsible corporate officer. For purposes of this section, the responsible corporate officer is responsible for the overall operation of the facility from which the discharge described in the form originates;
 - ii) In the case of a partnership, by a general partner;
 - iii) In the case of a sole proprietorship, by the proprietor;
 - iv) In the case of a municipal, state, or other public facility, by either a principal executive officer, or ranking elected official. For purposes of this section, a principal executive officer has responsibility for the overall operation of the facility from which the discharge originates;
 - v) By a duly authorized representative of a person described above, only if:
 - 1) The authorization is made in writing by a person described in i, ii, iii, or iv above;
 - 2) 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,
 - 3) The written authorization is submitted to the Division.
- b. If an authorization as described in this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of this section must be submitted to the Division prior to or together with any reports, information, or applications to be signed by an authorized representative.

The permittee, or the duly authorized representative shall make and sign the following certification on all such documents:

"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."

PART II

A. NOTIFICATION REQUIREMENTS

1. Notification to Parties

All notification requirements under this section shall be directed as follows:

- a. Oral Notifications, during normal business hours shall be to:

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

- b. Written notification shall be to:

Water Quality Protection Section - Industrial 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

2. Change in Discharge

The permittee shall notify the Division, in writing, of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- a. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged, or;
- b. 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 pursuant to an approved land application plan.

The permittee shall give advance notice to the Division of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

Whenever notification of any planned physical alterations or additions to the permitted facility is required pursuant to this section, the permittee shall furnish the Division such plans and specifications which the Division deems reasonably necessary to evaluate the effect on the discharge, the stream, or ground water. If the Division finds that such new or altered discharge might be inconsistent with the conditions of the permit, the Division shall require a new or revised permit application and shall follow the procedures specified in Sections 61.5 through 61.6, and 61.15 of the Colorado Discharge Permit System Regulations.

3. Special Notifications - Definitions

- a. **Bypass:** The intentional diversion of waste streams from any portion of a treatment facility.
- b. **Severe Property Damage:** Substantial physical damage to property at 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. It does not mean economic loss caused by delays in production.
- c. **Upset:** An exceptional incident in which there is unintentional and temporary noncompliance with 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.

4. Noncompliance Notification

- a. If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitations or standards specified in this permit, the permittee shall, at a minimum, provide the Division and EPA with the following information:
 - i) A description of the discharge and cause of noncompliance;
 - ii) The period of noncompliance, including exact dates and times and/or the anticipated time when the discharge will return to compliance; and
 - iii) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.
- b. 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 in Part II.A.4 (a) **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;
 - iv) Daily maximum violations for any of the pollutants limited by Part I.A of this permit and specified as requiring 24-hour notification. This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance.
- c. Unless otherwise indicated in this permit, the permittee shall report instances of non-compliance which are not required to be reported within 24-hours at the time Discharge Monitoring Reports are submitted. The reports shall contain the information listed in sub-paragraph (a) of this section.

5. Other Notification Requirements

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 no later than fourteen (14) calendar days following each scheduled date, unless otherwise provided by the Division.

The permittee shall notify the Division, in writing, thirty (30) calendar days in advance of a proposed transfer of permit as provided in Part II.B.3.

The permittee's notification of all anticipated noncompliance does not stay any permit condition.

All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Division as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - i) One hundred micrograms per liter (100 µg/l);
 - ii) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1.0 mg/l) for antimony;
 - iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Section 61.4(2)(g).
 - iv) The level established by the Division in accordance with 40 C.F.R. § 122.44(f).

- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- i) Five hundred micrograms per liter (500 µg/l);
 - ii) One milligram per liter (1 mg/l) for antimony; and
 - iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application.
 - iv) The level established by the Division in accordance with 40 C.F.R. § 122.44(f).

6. Bypass Notification

If the permittee knows in advance of the need for a bypass, a notice shall be submitted, at least ten (10) calendar days before the date of the bypass, to the Division. The bypass shall be subject to Division approval and limitations imposed by the Division. Violations of requirements imposed by the Division will constitute a violation of this permit.

7. Upsets

a. Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with permit effluent limitations if the requirements of paragraph (b) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

b. Conditions Necessary for a Demonstration of 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:

- i) An upset occurred and that the permittee can identify the specific cause(s) of the upset; and
- ii) The permitted facility was at the time being properly operated and maintained; and
- iii) The permittee submitted proper notice of the upset as required in Part II.A.4. of this permit (24-hour notice); and
- iv) 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.

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.

c. Burden of Proof

In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

8. Discharge Point

Any discharge to the waters of the State from a point source other than specifically authorized by this permit is prohibited.

9. Proper 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 includes effective performance and adequate laboratory and process controls, including appropriate quality assurance procedures (40 CFR 122.41(e)). This provision requires the operation of back-up or

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

10. Minimization of Adverse Impact

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.

11. Removed Substances

Solids, sludges, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed in accordance with applicable state and federal regulations.

For all domestic wastewater treatment works, at industrial facilities, the permittee shall dispose of sludge in accordance with all State and Federal regulations.

12. Submission of Incorrect or Incomplete Information

Where the permittee failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or report to the Division, the permittee shall promptly submit the relevant information which was not submitted or any additional information needed to correct any erroneous information previously submitted.

13. Bypass

- a. Bypasses are prohibited and the Division may take enforcement action against the permittee for bypass, unless:
 - i) The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii) There were no feasible alternatives to 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 back-up 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
 - iii) Proper notices were submitted in compliance with Part II.A.4.
- b. "Severe property damage" as used in this Subsection means substantial physical 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.
- c. The permittee may allow a bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance or to assure optimal operation. These bypasses are not subject to the provisions of paragraph (a) above.
- d. The Division may approve an anticipated bypass, after considering adverse effects, if the Division determines that the bypass will meet the conditions specified in paragraph (a) above.

14. 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. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production, control sources of wastewater, or all discharges, until the facility is restored or an alternative method of treatment is provided. This provision also applies to power failures, unless an alternative power source sufficient to operate the wastewater control facilities is provided.

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.

B. RESPONSIBILITIES

1. Inspections and Right to Entry

The permittee shall allow the Division and/or the authorized representative, upon the presentation of credentials:

- a. To enter upon the permittee's premises where a regulated facility or activity is located or in which any records are required to be kept under the terms and conditions of this permit;
- b. 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 monitoring equipment or monitoring method required in the permit; and
- c. To enter upon the permittee's premises in a reasonable manner and at a reasonable time to inspect and/or investigate, any actual, suspected, or potential source of water pollution, or to ascertain compliance or non compliance with the Colorado Water Quality Control Act or any other applicable state or federal statute or regulation or any order promulgated by the Division. The investigation may include, but is not limited to, the following: sampling of any discharge and/or process waters, the taking of photographs, interviewing of any person having knowledge related to the discharge permit or alleged violation, access to any and all facilities or areas within the permittee's premises that may have any affect on the discharge, permit, or alleged violation. Such entry is also authorized for the purpose of inspecting and copying records required to be kept concerning any effluent source.
- d. The permittee shall provide access to the Division to sample the discharge at a point after the final treatment process but prior to the discharge mixing with state waters upon presentation of proper credentials.

In the making of such inspections, investigations, and determinations, the Division, insofar as practicable, may designate as its authorized representatives any qualified personnel of the Department of Agriculture. The Division may also request assistance from any other state or local agency or institution.

2. 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.

3. Transfer of Ownership or Control

- a. Except as provided in paragraph b. of this section, a permit may be transferred by a permittee only if the permit has been modified or revoked and reissued as provided in Section 61.8(8) of the Colorado Discharge Permit System Regulations, to identify the new permittee and to incorporate such other requirements as may be necessary under the Federal Act.
- b. A permit may be automatically transferred to a new permittee if:
 - i) The current permittee notifies the Division in writing 30 calendar days in advance of the proposed transfer date; and
 - ii) The notice includes a written agreement between the existing and new permittee(s) containing a specific date for transfer of permit responsibility, coverage and liability between them; and
 - iii) The Division does not notify the existing permittee and the proposed new permittee of its intent to modify, or revoke and reissue the permit.
 - iv) Fee requirements of the Colorado Discharge Permit System Regulations, Section 61.15, have been met.

4. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Clean Water Act and the Colorado Discharge Permit System Regulations 5 CCR 1002-61, Section 61.5(4), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division and the Environmental Protection Agency.

The name and address of the permit applicant(s) and permittee(s), permit applications, permits and effluent data shall not be considered confidential. Knowingly making false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Clean Water Act, and Section 25-8-610 C.R.S.

5. Modification, Suspension, Revocation, or Termination of Permits By the Division

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

- a. A permit may be modified, suspended, or terminated in whole or in part during its term for reasons determined by the Division including, but not limited to, the following:
 - i) Violation of any terms or conditions of the permit;
 - ii) Obtaining a permit by misrepresentation or failing to disclose any fact which is material to the granting or denial of a permit or to the establishment of terms or conditions of the permit; or
 - iii) Materially false or inaccurate statements or information in the permit application or the permit.
 - iv) A determination that the permitted activity endangers human health or the classified or existing uses of state waters and can only be regulated to acceptable levels by permit modifications or termination.
- b. A permit may be modified in whole or in part for the following causes, provided that such modification complies with the provisions of Section 61.10 of the Colorado Discharge Permit System Regulations:
 - i) There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit. This includes additional remediation of the seep emanating from the permitted facility which would contribute to the availability of assimilative capacity in the South Platte River and a WQBEL calculated with the available dilution.
 - ii) The Division has received new information which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of different permit conditions at the time of issuance. For permits issued to new sources or new dischargers, this cause includes information derived from effluent testing required under Section 61.4(7)(e) of the Colorado Discharge Permit System Regulations. This provision allows a modification of the permit to include conditions that are less stringent than the existing permit only to the extent allowed under Section 61.10 of the Colorado Discharge Permit System Regulations.
 - iii) The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause only as follows:
 - (A) The permit condition requested to be modified was based on a promulgated effluent limitation guideline, EPA approved water quality standard, or an effluent limitation set forth in 5 CCR 1002-62, § 62 et seq.; and
 - (B) EPA has revised, withdrawn, or modified that portion of the regulation or effluent limitation guideline on which the permit condition was based, or has approved a Commission action with respect to the water quality standard or effluent limitation on which the permit condition was based; and
 - (C) The permittee requests modification after the notice of final action by which the EPA effluent limitation guideline, water quality standard, or effluent limitation is revised, withdrawn, or modified; or
 - (D) For judicial decisions, a court of competent jurisdiction has remanded and stayed EPA promulgated regulations or effluent limitation guidelines, if the remand and stay concern that portion of the regulations or guidelines on which the permit condition was based and a request is filed by the permittee in accordance with this Regulation, within ninety (90) days of judicial remand.
 - iv) The Division determines that good cause exists to modify a permit condition because of events over which the permittee has no control and for which there is no reasonable available remedy.

- v) The permittee has received a variance.
 - vi) When required to incorporate applicable toxic effluent limitation or standards adopted pursuant to § 307(a) of the Federal act.
 - vii) When required by the reopener conditions in the permit.
 - viii) As necessary under 40 C.F.R. 403.8(e), to include a compliance schedule for the development of a pretreatment program.
 - ix) When the level of discharge of any pollutant which is not limited in the permit exceeds the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under Section 61.8(2) of the Colorado Discharge Permit System Regulations.
 - x) To establish a pollutant notification level required in Section 61.8(5) of the Colorado Discharge Permit System Regulations.
 - xi) To correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions, to the extent allowed in Section 61.10 of the Colorado State Discharge Permit System Regulations.
 - xii) When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
 - xiii) For any other cause provided in Section 61.10 of the Colorado Discharge Permit System Regulations.
- c. At the request of a permittee, the Division may modify or terminate a permit and issue a new permit if the following conditions are met:
- i) The Regional Administrator has been notified of the proposed modification or termination and does not object in writing within thirty (30) calendar days of receipt of notification,
 - ii) The Division finds that the permittee has shown reasonable grounds consistent with the Federal and State statutes and regulations for such modifications or termination;
 - iii) Requirements of Section 61.15 of the Colorado Discharge Permit System Regulations have been met, and
 - iv) Requirements of public notice have been met.
- d. Permit modification (except for minor modifications), termination or revocation and reissuance actions shall be subject to the requirements of Sections 61.5(2), 61.5(3), 61.6, 61.7 and 61.15 of the Colorado Discharge Permit System Regulations. The Division shall act on a permit modification request, other than minor modification requests, within 180 calendar days of receipt thereof. Except for minor modifications, the terms of the existing permit govern and are enforceable until the newly issued permit is formally modified or revoked and reissued following public notice.
- e. Upon consent by the permittee, the Division may make minor permit modifications without following the requirements of Sections 61.5(2), 61.5(3), 61.7, and 61.15 of the Colorado Discharge Permit System Regulations. Minor modifications to permits are limited to:
- i) Correcting typographical errors; or
 - ii) Increasing the frequency of monitoring or reporting by the permittee; or
 - iii) Changing an interim date in a schedule of compliance, provided the new date of compliance is not more than 120 calendar days after the date specific in the existing permit and does not interfere with attainment of the final compliance date requirement; or
 - iv) Allowing for a transfer in ownership or operational control of a facility where the Division determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees has been submitted to the Division; or

- v) Changing the construction schedule for a discharger which is a new source, but no such change shall affect a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge; or
- vi) Deleting a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits.
- f. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term.
- g. The filing of a request by the permittee for a permit modification, revocation and reissuance or termination does not stay any permit condition.
- h. All permit modifications and reissuances are subject to the antibacksliding provisions set forth in 61.10(e) through (g).

6. Oil and Hazardous Substance 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.

7. State Laws

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.

8. Permit Violations

Failure to comply with any terms and/or conditions of this permit shall be a violation of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Except as provided in Part I.D and Part II.A or B, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance (40 CFR 122.41(a)(1)).

9. Property Rights

The issuance of this permit does not convey any property or water rights in either real or personal property, or stream flows, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Severability

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

11. Renewal Application

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. 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 Part II.B.5.

12. 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, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Commission or the Division, but shall be kept confidential. Any person seeking to invoke the protection of this

Subsection (12) shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

13. Fees

The permittee is required to submit payment of an annual fee as set forth in the 2005 amendments to the Water Quality Control Act. Section 25-8-502 (1) (b), and the Colorado Discharge Permit System Regulations 5 CCR 1002-61, Section 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.

14. Duration of Permit

The duration of a permit shall be for a fixed term and shall not exceed five (5) years. 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.

15. 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 Federal 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.

16. Effect of Permit Issuance

- a. The issuance of a permit does not convey any property rights or any exclusive privilege.
- b. 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.
- c. Except for any toxic effluent standard or prohibition imposed under Section 307 of the Federal 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 Federal 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.
- d. Compliance with a permit condition which implements a particular standard for sewage sludge use or disposal shall be an affirmative defense in any enforcement action brought for a violation of that standard for sewage sludge use or disposal.