



**COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
FACT SHEET FOR PERMIT NUMBER CO0031399
POWDER MONARCH LLC, MONARCH SKI AREA
CHAFFEE COUNTY**

Colorado Department
of Public Health
and Environment

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I. TYPE OF PERMIT

A. Permit Type: Domestic - Minor Municipal, Mechanical Plant, Fifth Renewal

B. Discharge To: Surface Water

II. FACILITY INFORMATION

A. SIC Code: 4952 Sewerage Systems

B. Facility Location: Latitude: 38.513611° N, Longitude: 106.337222° W

C. Permitted Feature: 001A, following disinfection and prior to mixing with the receiving stream. 38.513611° N, 106.337222° W

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.

D. Facility Flows: 0.023 MGD

E. Major Changes From Last Renewal:

Sulfate and chloride limits have been added to the permit. Sulfide requirement has been removed from the permit.

III. RECEIVING STREAM

A. Waterbody Identification: *COARUA12b, an unnamed tributary to South Fork of the Arkansas River*

B. Water Quality Assessment:

An assessment of the stream standards, low flow data, and ambient stream data has been performed to determine the assimilative capacities for *an unnamed tributary to South Fork of Arkansas River* for potential pollutants of concern. This information, which is contained in the Water Quality Assessment (WQA) for this receiving stream(s), also includes an antidegradation review, where appropriate. The Division’s Permits Section has reviewed the assimilative capacities to determine the appropriate water quality-based effluent limitations as well as potential limits based on the antidegradation evaluation, where applicable. The limitations based on the assessment and other evaluations conducted as part of this fact sheet can be found in Part I.A of the permit.

Permitted Feature *001A* will be the authorized discharge point to the receiving stream.

IV. FACILITY DESCRIPTION

A. Infiltration/Inflow (I/I)

No infiltration/inflow problems have been documented in the service area.

B. Lift Stations

There are no lift stations in the service area.

C. Chemical Usage

The permittee stated in the application that they utilize thirteen chemicals in their treatment process. The MSDS sheets have been reviewed and the following chemicals have been approved for use and are summarized in the following table.

Table IV-2 – Chemical Additives

Chemical Name	Purpose	Constituents of Concern
<i>pH Storage Solution</i>	<i>pH Probe Storage</i>	<i>Potassium chloride</i>
<i>Omni pH Decreaser</i>	<i>Lowers pH</i>	<i>Sodium bisulfate; Sodium sulfate</i>
<i>Cat Flocc 8108</i>	<i>Settles the Wastewater</i>	<i>None</i>
<i>Soda Ash</i>	<i>Raises pH</i>	<i>Sodium carbonate</i>
<i>Free Cl₂ Reagent</i>	<i>Indicates chlorine</i>	<i>Salt of N,N-Diethyl-p-Phenylenediamine; Carboxylate Salt; Sodium Phosphate Dibasic, Heptahydrate; Ethylenediaminetetraacetic Acid, disodium</i>

		<i>salt</i>
<i>Hydrated Lime</i>	<i>Carbon Source</i>	<i>Calcium Hydroxide; Magnesium Hydroxide; Magnesium oxide; Calcium Carbonate; Crystalline Silica</i>
<i>Alconox Detergent</i>	<i>Surfactant/cleaner</i>	<i>Sodium Pyrophosphate; Sodium Carbonate; Sodium Tripolyphosphate; Sodium Dodecylbenzenesulfonate</i>
<i>ABCFire extinguisher</i>	<i>Firefighting</i>	<i>Ammonia</i>
<i>pH buffer solutions</i>	<i>Calibrating pH meters</i>	<i>Acetic Acid</i>
<i>Indicating Dessicant</i>	<i>Moisture Control</i>	<i>Calcium Sulfate; Cobalt Chloride</i>
<i>Antifoam Concentrate</i>	<i>Foam Control</i>	<i>None</i>
<i>45F</i>	<i>Bio Augmentation</i>	<i>Viable bacterial culture</i>
<i>N-10</i>	<i>Bio Nutrients</i>	<i>Natural inorganic vitamins and nutrients</i>

Chemicals deemed acceptable for use in waters that will or may be discharged to waters of the State are acceptable only when used in accordance with all state and federal regulations, and in strict accordance with the manufacturer’s site-specific instructions.

D. Treatment Facility, Facility Modifications and Capacities

The facility consists of headworks, which has a fine screen/compactor unit plus a hand-cleaned bar screen bypass, and an existing 3-inch Parshall flume with a bubbler-type flow meter. From the headworks, the flow goes to a 26,500 gallon influent holding tank; a single tank (40,000 gallons) Sequence Batch Reactor (SBR); ultraviolet disinfection system, and a 25,300 gallon aerobic digester tank. The sludge digestion time and sludge holding time meet Class B pathogen reduction requirements. The treatment facility has been approved for the average daily flow capacity of 23,000 gallons per day with a peak flow capacity of 40,000 gallons per day. The organic loading capacity is 115 pounds of BOD₅ per day.

The permittee has not performed any construction at this facility that would change the hydraulic capacity of 0.023 MGD or the organic capacity of 115 lbs BOD₅/day, which were specified in Site Approval 4333. That document should be referred to for any additional information.

Pursuant to Section 100.5.2 of the Water and Wastewater Facility Operator Certification Requirements, this facility will require a certified operator. If the facility has a question on the level of the certified operator it needs then the facility will need to contact the Engineering Section of the Division.

E. Biosolids Treatment and Disposal

Biosolids are treated in an aerobic digester to Class B level biosolids. Biosolids are taken to the Salida WWTF for final disposal from the facility.

1. EPA General Permit

EPA Region 8 issued a General Permit (effective October 19, 2007) for Colorado facilities whose operations generate, treat, and/or use/dispose of sewage sludge by means of land application, landfill, and surface disposal under the National Pollutant Discharge Elimination System. All Colorado facilities are required to apply for and to obtain coverage under the EPA General Permit.

2. Biosolids Regulation (Regulation No. 64, Colorado Water Quality Control Commission)

While the EPA is now the issuing agency for biosolids permits, Colorado facilities that land apply biosolids must comply with requirements of Regulation No. 64, such as the submission of annual reports as discussed later in this rationale.

V. PERFORMANCE HISTORY

A. Monitoring Data

1. Discharge Monitoring Reports – The following tables summarize the effluent data reported on the Discharge Monitoring Reports (DMRs) for the previous permit term, from April 1, 2011 to June 30, 2014.

Table V-1 – Summary of DMR Data for Permitted Feature 001A

Parameter	# Samples or Reporting Periods	Reported Average Concentrations Avg/Min/Max	Reported Maximum Concentrations Avg/Min/Max	Previous Avg/Max/AD Permit Limit	Number of Limit Excursions	
Effluent Flow (MGD)	29	0.0038/0.00009/0.011	0.0092/0.0004/0.022	0.023/Report	1	
pH (su)	24	7.1/6.5/7.8	7.6/6.8/8	6.5 - 9		
E. coli (#/100 ml)	11	3.5/2/12	4.9/2/22	126/252		
TRC (mg/l)	0	NA/NA/NA	NA/NA/NA	0.011/0.019		
Total Inorganic Nitrogen (mg/l)	24	NA/NA/NA	5.8/0.7/16	NA/10		
NH3 as N, Tot (mg/l) Jan	3	0.1/<1/0.3	0.1/<1/0.3	3.4/13.6		
NH3 as N, Tot (mg/l) Feb	3	0.037/<1/0.1	0.037/<1/0.1	3.5/13.1		
NH3 as N, Tot (mg/l) Mar	3	1.2/<1/3.4	1.2/<1/3.4	3.5/13.5		
NH3 as N, Tot (mg/l) Apr	4	0.05/<1/0.1	0.05/<1/0.1	2.8/13		
NH3 as N, Tot (mg/l) May	3	0/<1/0	0/<1/0	1.8/9.6		
NH3 as N, Tot (mg/l) Jun	0	NA/NA/NA	NA/NA/NA	1.5/8.4		
NH3 as N, Tot (mg/l) Jul	1	0.4/0.4/0.4	0.4/0.4/0.4	1.8/12.1		
NH3 as N, Tot (mg/l) Aug	0	NA/NA/NA	NA/NA/NA	2.3/15.7		
NH3 as N, Tot (mg/l) Sep	1	0/0/0	0/0/0	1.5/6.7		
NH3 as N, Tot (mg/l) Oct	1	0.5/0.5/0.5	0.5/0.5/0.5	2.9/12.1		
NH3 as N, Tot (mg/l) Nov	2	0.1/0/0.2	0.1/0/0.2	2.3/12.3		
NH3 as N, Tot (mg/l) Dec	3	0.24/0/0.7	0.24/0/0.7	2.8/12.4		
BOD5, effluent (mg/l)	10	6.5/3/13	8.8/3/20	30/45/		2
BOD5 (% removal)	10	99/97/99	NA/NA/NA	85/NA/		
TSS, effluent (mg/l)	10	85/2/797	188/2/1810	30/45/		
TSS (% removal)	10	99/98/99	NA/NA/NA	85/NA/		
Oil and Grease (mg/l)	11	NA/NA/NA	0/0/0	NA/10/		
Chloride (mg/l)	24	71/25/100	NA/NA/NA	Report/NA		
Sulfate (mg/l)	24	34/0/100	NA/NA/NA	Report/NA		
Sulfide as H2S (mg/l)	24	0.013/0.002/0.055	NA/NA/NA	Report/NA		

*The pH data shows the minimum reported values in the "average" column, and the maximum reported values in the "maximum column"

B. Compliance With Terms and Conditions of Previous Permit

1. Effluent Limitations –The data shown in the preceding table(s) indicate apparent violations of the permit.

Total Inorganic Nitrogen (T.I.N.): There was 1 incident in which the T.I.N. limit was exceeded. This incident occurred three years ago and shows no indication that the limit will be exceeded in the future.

Total Suspended Solids (TSS): There were 2 incidents in which the TSS limit was exceeded. These seemed to be isolated events that show no trend that the limit will be exceeded in the future.

In accordance with 40 CFR Part 122.41(a), any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

VI. DISCUSSION OF EFFLUENT LIMITATIONS

A. Regulatory Basis for Limitations

1. Technology Based Limitations

- a. Federal Effluent Limitation Guidelines – The Federal Effluent Limitation Guidelines for domestic wastewater treatment facilities are the secondary treatment standards. These standards have been adopted into, and are applied out of, Regulation 62, the Regulations for Effluent Limitations.
- b. Regulation 62: Regulations for Effluent Limitations – These Regulations include effluent limitations that apply to all discharges of wastewater to State waters and are shown in Section VIII of the WQA. These regulations are applicable to the discharge from the Powder Monarch LLC WWTF.

2. Numeric Water Quality Standards - The WQA contains the evaluation of pollutants limited by water quality standards. The mass balance equation shown in Section VI of the WQA was used for most pollutants to calculate the potential water quality based effluent limitations (WQBELs), M_2 , that could be discharged without causing the water quality standard to be violated. For ammonia, the AMMTOX Model was used to determine the maximum assimilative capacity of the receiving stream. A detailed discussion of the calculations for the maximum allowable concentrations for the relevant parameters of concern is provided in Section VI of the Water Quality Assessment developed for this permitting action.

The maximum allowable pollutant concentrations determined as part of these calculations represent the calculated effluent limits that would be protective of water quality. These are also known as the water quality-based effluent limits (WQBELs). Both acute and chronic WQBELs may be calculated based on acute and chronic standards, and these may be applied as daily maximum (acute) or 30-day average (chronic) limits.

3. Narrative Water Quality Standards - Section 31.11(1)(a)(iv) of The Basic Standards and Methodologies for Surface Waters (Regulation No. 31) includes the narrative standard that State surface waters shall be free of substances that are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.
 - a. Whole Effluent Toxicity - The Water Quality Control Division has established the use of WET testing as a method for identifying and controlling toxic discharges from wastewater treatment facilities. WET testing is being utilized as a means to ensure that there are no discharges of pollutants "in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life" as required by Section 31.11 (1) of the Basic Standards and Methodologies for Surface Waters. The requirements for WET testing are being implemented in accordance with Division policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010). Note that this policy has recently been updated and the permittee should refer to this document for additional information regarding WET.

4. Water Quality Regulations, Policies, and Guidance Documents

- a. Antidegradation - Since the receiving water is Undesignated, an antidegradation review is required pursuant to Section 31.8 of The Basic Standards and Methodologies for Surface Water. As set forth in Section VII of the WQA, an antidegradation evaluation was conducted for pollutants when water quality impacts occurred and when the impacts were significant. Based on the antidegradation requirements and the reasonable potential analysis discussed below, antidegradation-based average concentrations (ADBACs) may be applied.

According to Division procedures, the facility has three options related to antidegradation-based effluent limits: (1) the facility may accept ADBACs as permit limits (see Section VII of the WQA); (2) the facility may select permit limits based on their non-impact limit (NIL), which would result in the facility not being subject to an antidegradation review and thus the antidegradation-based average concentrations would not apply (the NILs are also contained in Section VII of the WQA); or (3) the facility may complete an alternatives analysis as set forth in Section 31.8(3)(d) of the regulations which would result in alternative antidegradation-based effluent limitations.

The effluent must not cause or contribute to an exceedance of a water quality standard and therefore the WQBEL must be selected if it is lower than the NIL. Where the WQBEL is not the most restrictive, the discharger may choose between the NIL or the ADBAC: the NIL results in no increased water quality impact; the ADBAC results in an “insignificant” increase in water quality impact. The ADBAC limits are imposed as two-year average limits.

- b. Antibacksliding – As the receiving water is designated Reviewable or Outstanding, and the Division has performed an antidegradation evaluation, in accordance with the Antidegradation Guidance, the antibacksliding requirements in Regulation 61.10 have been met.
- c. Determination of Total Maximum Daily Loads (TMDLs) – This stream segment is not on the State’s 303(d) list, and therefore TMDLs do not apply.
- d. Colorado Mixing Zone Regulations – Pursuant to section 31.10 of The Basic Standards and Methodologies for Surface Water, a mixing zone determination is required for this permitting action. The Colorado Mixing Zone Implementation Guidance, dated April 2002, identifies the process for determining the meaningful limit on the area impacted by a discharge to surface water where standards may be exceeded (i.e., regulatory mixing zone). This guidance document provides for certain exclusions from further analysis under the regulation, based on site-specific conditions.

The guidance document provides a mandatory, stepwise decision-making process for determining if the permit limits will not be affected by this regulation. Exclusion, based on Extreme Mixing Ratios, may be granted if the ratio of the facility design flow to the chronic low flow (30E3) is greater than 2:1 or if the ratio of the chronic low flow to the design flow is greater than 20:1. Since the ratio of the chronic low flow to the design flow is 0:1 the permittee is eligible for an exclusion from further analysis under the regulation.

- e. Reasonable Potential Analysis – Using the assimilative capacities contained in the WQA, an analysis must be performed to determine whether to include the calculated assimilative capacities as WQBELs in the permit. This reasonable potential (RP) analysis is based on the Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on

Reasonable Potential, dated December, 2002. This guidance document utilizes both quantitative and qualitative approaches to establish RP depending on the amount of available data.

A qualitative determination of RP may be made where ancillary and/or additional treatment technologies are employed to reduce the concentrations of certain pollutants. Because it may be anticipated that the limits for a parameter could not be met without treatment, and the treatment is not coincidental to the movement of water through the facility, limits may be included to assure that treatment is maintained.

A qualitative RP determination may also be made where a federal ELG exists for a parameter, and where the results of a quantitative analysis results in no RP. As the federal ELG is typically less stringent than a limitation based on the WQBELs, if the discharge was to contain concentrations at the ELG (above the WQBEL), the discharge may cause or contribute to an exceedance of a water quality standard.

To conduct a quantitative RP analysis, a minimum of 10 effluent data points from the previous 5 years, should be used. The equations set out in the guidance for normal and lognormal distribution, where applicable, are used to calculate the maximum estimated pollutant concentration (MEPC). For data sets with non-detect values, and where at least 30% of the data set was greater than the detection level, MDLWIN software is used consistent with Division guidance to generate the mean and standard deviation, which are then used to establish the multipliers used to calculate the MEPC. If the MDLWIN program cannot be used the Division's guidance prescribes the use of best professional judgment.

For some parameters, recent effluent data or an appropriate number of data points may not be available, or collected data may be in the wrong form (dissolved vs total) and therefore may not be available for use in conducting an RP analysis. Thus, consistent with Division procedures, monitoring will be required to collect samples to support a RP analysis and subsequent decisions for a numeric limit. A compliance schedule may be added to the permit to require the request of an RP analysis once the appropriate data have been collected.

For other parameters, effluent data may be available to conduct a quantitative analysis, and therefore an RP analysis will be conducted to determine if there is RP for the effluent discharge to cause or contribute to exceedances of ambient water quality standards. The guidance specifies that if the MEPC exceeds the maximum allowable pollutant concentration (MAPC), limits must be established and where the MEPC is greater than half the MAPC (but less than the MAPC), monitoring must be established. Table VI-1 contains the calculated MEPC compared to the corresponding MAPC, and the results of the reasonable potential evaluation, for those parameters that met the data requirements. The RP determination is discussed for each parameter in the text below.

Table VI-1 – Quantitative Reasonable Potential Analysis

Parameter	30-Day Average			7-Day Ave or Daily Max		
	MEPC	WQBEL (MAPC)	Reasonable Potential	MEPC	WQBEL (MAPC)	Reasonable Potential
E. coli (#/100 ml)	23	126	Yes (Qual)	62	252	Yes (Qual)
TRC (mg/l)	NA	0.011	Yes (Qual)	NA	0.019	Yes (Qual)
Nitrate as N (mg/l)	NA			13	10	Yes (Qual)
NH3 as N, Tot (mg/l) Jan	0.3	5.4	Yes (Qual)	0.3	20	Yes (Qual)
NH3 as N, Tot (mg/l) Feb	0.1	5.4	Yes (Qual)	0.1	20	Yes (Qual)
NH3 as N, Tot (mg/l) Mar	3.4	4.6	Yes (Qual)	3.4	20	Yes (Qual)
NH3 as N, Tot (mg/l) Apr	0.1	2.8	Yes (Qual)	0.1	17	Yes (Qual)
NH3 as N, Tot (mg/l) May	0	3	Yes (Qual)	0	9.7	Yes (Qual)
NH3 as N, Tot (mg/l) Jun	NA	3	Yes (Qual)	NA	7.5	Yes (Qual)
NH3 as N, Tot (mg/l) Jul	0.4	2.7	Yes (Qual)	0.4	8.7	Yes (Qual)
NH3 as N, Tot (mg/l) Aug	NA	3.9	Yes (Qual)	NA	16	Yes (Qual)
NH3 as N, Tot (mg/l) Sep	0	3.3	Yes (Qual)	0	11	Yes (Qual)
NH3 as N, Tot (mg/l) Oct	0.5	3.9	Yes (Qual)	0.5	11	Yes (Qual)
NH3 as N, Tot (mg/l) Nov	0.2	2.4	Yes (Qual)	0.2	14	Yes (Qual)
NH3 as N, Tot (mg/l) Dec	0.7	3.4	Yes (Qual)	0.7	16	Yes (Qual)
Chloride (mg/l)	110	100	Yes	NA	NA	NA
Sulfate (mg/l)	130	100	Yes	NA	NA	NA
Sulfide as H2S (mg/l)	0.083	0.002	No (Qual)	NA	NA	NA

B. Parameter Evaluation

BOD₅ - The BOD₅ concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. The removal percentages for BOD₅ also apply based on the Regulations for Effluent Limitations. These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

Total Suspended Solids - The TSS concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. The removal percentages for TSS also apply based on the Regulations for Effluent Limitations. These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

Oil and Grease –The oil and grease limitations from the Regulations for Effluent Limitations are applied as they are the most stringent limitations. This limitation is the same as those contained in the previous permit and is imposed upon the effective date of this permit.

pH - This parameter is limited by the water quality standards of 6.5-9.0 s.u., as this range is more stringent than other applicable standards. This limitation is the same as that contained in the previous permit and is imposed upon the effective date of this permit.

E. Coli – The limitation for *E. Coli* is based upon the WQBEL as described in the WQA. Previous monitoring as shown in Table V-1 indicates that this limitation can be met and is therefore imposed upon the effective date of the permit.

Total Residual Chlorine (TRC) - The limitation for TRC is based upon the WQBEL as described in the

WQA. Although the facility uses UV for disinfection, a qualitative determination of RP has been made as chlorine may be used as a backup treatment process. The facility is expected to meet this limitation and therefore the limit is imposed upon the effective date of the permit.

Nitrate/Total Inorganic Nitrogen – The calculated WQBEL for nitrate as set out in the WQA is imposed to protect downstream water supplies. The RP analysis for nitrate was based upon the WQBEL as described in the WQA. The MEPC was greater than the MAPC and therefore limitations are required. Therefore, a daily maximum requirement has been added to the permit. Previous monitoring as shown in Table V-1 indicate that this limitation can be met and is therefore imposed upon the effective date of the permit.

Ammonia - The limitation for ammonia is based upon the WQBEL (NIL for April and November) as described in the WQA. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter. Previous monitoring as shown in Table V-1 indicate that this limitation can be met and is therefore effective immediately.

Chloride – The RP analysis for chloride was based upon the NIL as described in the WQA. With the available data, the normal model was used to determine the appropriate statistics to determine the MEPC. The MEPC was greater than the MAPC and therefore limitations are required. Therefore, a 30-day average requirement has been added to the permit. Previous monitoring as shown in Table V-1 indicates that this limitation can be met and is therefore imposed upon the effective date of the permit.

Sulfate - The RP analysis for sulfate was based upon the NIL as described in the WQA. With the available data the normal model was used to determine the appropriate statistics to determine the MEPC. The MEPC was greater than the MAPC and therefore limitations are required. Therefore, a 30-day average requirement has been added to the permit. Previous monitoring as shown in Table V-1 indicates that this limitation can be met and is therefore imposed upon the effective date of the permit

Sulfide as H₂S – The RP analysis for sulfide was based upon the WQBEL as described in the WQA. The monitoring for this parameter was conducted using Method 8131 (an EPA approved method) which measures total sulfides, H₂S, HS⁻, and certain metal sulfides in wastewater. Considering the requirement for this parameter is undissociated sulfide, measurements were needed to be manipulated to determine the undissociated form. Based on EPA permit PR0025984 stating “The permittee shall use the approved EPA analytical method with the lowest possible detection limit, currently, EPA Method 376.2, Standard Methods 4500-S2- D (18th Edition), or HACH Company Method 8131 for the determination of the dissolved Sulfide (as S) concentration in the sample. Using the dissolved Sulfide concentration, the permittee shall calculate the Undissociated Hydrogen Sulfide concentration using Standard Methods Method 4500-S2- F (18th Edition). ***If the sample result for dissolved Sulfide is below the detection limit of EPA Method 376.2 or Standard Methods 4500-S2- D (18th Edition), i.e., < 100 µg/l, then the permittee has demonstrated that the sample result for Undissociated Hydrogen Sulfide is below that same detection limit, and that compliance with the permit limit of 2 µg/l for Undissociated Hydrogen Sulfide was achieved.***” (emphasis added), the Division will assume that the compliance with the potential limit would be achieved. Considering that the maximum reported number was 0.05 mg/l, the Division made a qualitative no RP at this time and no requirement will be added to the permit.

Temperature- Based on the information presented in the WQA, this facility is exempt from the temperature requirements based on the 0:1 7E3 Chronic to Design flow.

Organics – The effluent is not expected or known to contain organic chemicals, and therefore,

limitations for organic chemicals are not needed in this permit.

VII. ADDITIONAL TERMS AND CONDITIONS

A. Monitoring

Effluent Monitoring – Effluent monitoring will be required as shown in the permit document. Refer to the permit for locations of monitoring points. Monitoring requirements have been established in accordance with the frequencies and sample types set forth in the Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Industrial and Domestic Wastewater Treatment Facilities. This policy includes the methods for reduced monitoring frequencies based upon facility compliance as well as for considerations given in exchange for instream monitoring programs initiated by the permittee. Table VI-2 shows the results of the reduced monitoring frequency analysis for Permitted Feature 001A, Limit Set Powder Monarch LLC, based upon compliance with the previous permit.

Based upon the reduced monitoring frequency analysis for Permitted Feature 001A, shown in Table VI-2, the permittee is not eligible for reduced monitoring for total ammonia (NH₃), TSS and Chloride. However, the permittee is eligible for reduced monitoring for pH, *E. coli*, Total Inorganic Nitrogen, BOD₅, Oil and Grease and Sulfate.

Table VII-2 – Monitoring Reduction Evaluation

<i>Parameter</i>	<i>Proposed Permit Limit</i>	<i>Average of 30-Day (or Daily Max) Average Conc.</i>	<i>Standard Deviation</i>	<i>Long Term Characterization (LTC)</i>	<i>Reduction Potential</i>
<i>pH (su) Minimum</i>	<i>min 6.5</i>	<i>7.1</i>	<i>0.22</i>	<i>6.66</i>	<i>1 Step</i>
<i>pH (su) Maximum</i>	<i>max 9.0</i>	<i>7.6</i>	<i>0.22</i>	<i>8.04</i>	
<i>E. coli (#/100 ml)</i>	<i>126</i>	<i>3.7</i>	<i>3.6</i>	<i>10.9</i>	<i>3 Levels</i>
<i>Total Inorganic Nitrogen (mg/l)</i>	<i>10</i>	<i>5.6</i>	<i>1.9</i>	<i>9.4</i>	<i>1 Level</i>
<i>NH₃ as N, Tot (mg/l)</i>	<i>1.4</i>	<i>0.57</i>	<i>0.88</i>	<i>2.33</i>	<i>None</i>
<i>BOD₅, effluent (mg/l)</i>	<i>30</i>	<i>6.9</i>	<i>4</i>	<i>14.9</i>	<i>3 Levels</i>
<i>TSS, effluent (mg/l)</i>	<i>30</i>	<i>94</i>	<i>264</i>	<i>622</i>	<i>None</i>
<i>Oil and Grease (mg/l)</i>	<i>10</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>3 Levels</i>
<i>Chloride (mg/l)</i>	<i>100</i>	<i>71</i>	<i>22</i>	<i>115</i>	<i>None</i>
<i>Sulfate (mg/l)</i>	<i>100</i>	<i>37</i>	<i>23</i>	<i>83</i>	<i>1 Level</i>

B. Reporting

1. **Discharge Monitoring Report** – The Powder Monarch LLC facility must submit Discharge Monitoring Reports (DMRs) on a monthly basis to the Division. These reports should contain the required summarization of the test results for all parameters and monitoring frequencies shown in Part I.A.2 of the permit. See the permit, Part I.D for details on such submission.
2. **Special Reports** – Special reports are required in the event of an upset, bypass, or other noncompliance. Please refer to Part II.A. of the permit for reporting requirements. As above, submittal of these reports to the US Environmental Protection Agency Region VIII is no longer required.

C. Signatory and Certification Requirements

Signatory and certification requirements for reports and submittals are discussed in Part I.D.8. of the permit.

E. Economic Reasonableness Evaluation

Section 25-8-503(8) of the revised (June 1985) Colorado Water Quality Control Act required the Division to "determine whether or not any or all of the water quality standard based effluent limitations are reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons, and are in furtherance of the policies set forth in sections 25-8-192 and 25-8-104."

The Colorado Discharge Permit System Regulations, Regulation No. 61, further define this requirement under 61.11 and state: "Where economic, environmental, public health and energy impacts to the public and affected persons have been considered in the classifications and standards setting process, permits written to meet the standards may be presumed to have taken into consideration economic factors unless:

- a. A new permit is issued where the discharge was not in existence at the time of the classification and standards rulemaking, or
- b. In the case of a continuing discharge, additional information or factors have emerged that were not anticipated or considered at the time of the classification and standards rulemaking."

The evaluation for this permit shows that the Water Quality Control Commission, during their proceedings to adopt the Classifications and Numeric Standards for Arkansas River Basin, considered economic reasonableness.

Furthermore, this is not a new discharger and no new information has been presented regarding the classifications and standards. Therefore, the water quality standard-based effluent limitations of this permit are determined to be reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons and are in furtherance of the policies set forth in Sections 25-8-102 and 104. If the permittee disagrees with this finding, pursuant to 61.11(b)(ii) of the Colorado Discharge Permit System Regulations, the permittee should submit all pertinent information to the Division during the public notice period.

Tristan Acob
July 28, 2014

VIII. REFERENCES

- A. Colorado Department of Public Health and Environment, Water Quality Control Division Files, for Permit Number CO0031399.
- B. "Design Criteria Considered in the Review of Wastewater Treatment Facilities", Policy 96-1, Colorado Department of Public Health and Environment, Water Quality Control Commission, April 2007.
- C. Basic Standards and Methodologies for Surface Water, Regulation No. 31, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective January 31, 2013.

- D. Classifications and Numeric Standards for Arkansas River Basin, Regulation No. 32, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 30, 2014.
- E. Colorado Discharge Permit System Regulations, Regulation No. 61, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective January 30, 2012.
- F. Regulations for Effluent Limitations, Regulation No. 62, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective July 30, 2012.
- G. Pretreatment Regulations, Regulation No. 63, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 01, 2007.
- H. Biosolids Regulation, Regulation No. 64, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective June 30, 2014.
- I. Colorado River Salinity Standards, Regulation No. 39, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective August 30, 1997.
- J. Section 303(d) List of Water Quality Limited Segments Requiring TMDLs, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2012.
- K. Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2012.
- L. Antidegradation Significance Determination for New or Increased Water Quality Impacts, Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2001.
- M. Memorandum Re: First Update to (Antidegradation) Guidance Version 1.0, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 23, 2002.
- N. Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, Policy Number CW-1, Colorado Department of Public Health and Environment, Water Quality Control Division, effective November 18, 2013.
- O. The Colorado Mixing Zone Implementation Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 2002.
- P. Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities, Water Quality Control Division Policy WQP-20, May 1, 2007.
- Q. Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops, Water Quality Control Division Policy WQP-24, March 10, 2008.

- R. Implementing Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (WET) Testing, Colorado Department of Public Health and Environment, Water Quality Control Division Policy Permits-1, September 30, 2010.
- S. Policy for Conducting Assessments for Implementation of Temperature Standards in Discharge Permits, Colorado Department of Public Health and Environment, Water Quality Control Division, Policy Number WQP-23, effective July 3, 2008.
- T. Permit Compliance Schedules, Colorado Department Public Health and Environment, Water Quality Control Division Policy Number CW-3, effective March 4, 2014.
- U. Procedural Regulations for Site Applications for Domestic Wastewater Treatment Works, Regulation No. 22, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2009.
- V. Regulation Controlling discharges to Storm Sewers, Regulation No. 65, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective May 30, 2008.
- W. Water and Wastewater Facility Operator Certification Requirements, Regulation No. 100, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective June 30, 2012.

Tristan Acob
July 28, 2014

IX. PUBLIC NOTICE COMMENTS

The public notice period was from September 12, 2014 to October 14, 2014. No comments were received during the public notice period.

Tristan Acob
October 16, 2014