

## ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning the issuance of the AZPDES permit listed below. This facility is an industrial wastewater treatment plant. Average discharge rates will be 1.24 million gallons per day (mgd). Based on the National Pollutant Discharge Elimination System (NPDES) Permit Rating Criteria, the facility has scored 55 points, which is below the maximum 80 points allowed for minor dischargers. As a result, this facility is classified a Minor industrial discharger. The discharge limitations contained in this permit will maintain the Water Quality Standards listed in Arizona Administrative Code (A.A.C.) R18-11-101 et. seq. This permit is proposed to be issued for a period of 5 years.

| <b>I. PERMITTEE INFORMATION</b>            |  |
|--|--|
| Permittee's Name:                          | Mark Anthony Brewing, Inc  |
| Permittee's Mailing Address:               | 300 W. Hubbard Street, Suite 301,<br>Chicago, IL 60654                   |
| Facility Name:                             | Mark Anthony Brewing Plant   |
| Facility Address or Location:              | 9601 N. Reems Road,<br>Waddell, Arizona 85355                            |
| County:                                    | Maricopa County  |
| Contact Person(s):<br>Phone/e-mail address | John Sacksteder, President<br>(603) 346-6012 / jsacksteder@mabrewing.com |
| AZPDES Permit Number:                      | AZ0026701  |
| Inventory Number:                          | 513319   |
| LTF Number:                                | 82500  |

| <b>II. STATUS OF PERMIT(S)</b>                             |              |
|--|--------------|
| AZPDES permit applied for:                                 | New          |
| Date application received:                                 | May 7, 2020  |
| Date application was determined administratively complete: | May 28, 2020 |
| Previous permit number (if different):                     | N/A          |
| Previous permit expiration date:                           | N/A          |

**208 Consistency:**

In accordance with A.A.C. R18-9-A903(6), a permit cannot be issued for any discharge inconsistent with a plan or plan amendment approved under section 208(b) of the Clean Water Act.

208 Plan consistency is not required for industrial facilities.

Mark Anthony Brewing, Inc. has the following permits issued by ADEQ applicable to the Mark Anthony Brewing Plant:

**Type of Permit**

|                                 |                     |   |
|---------------------------------|---------------------|---|
| Aquifer Protection Permit (APP) | 513319 – In process | Regulates discharges to the local aquifer |
|---------------------------------|---------------------|---|

**III. GENERAL FACILITY INFORMATION**

|                                       |  |
|---------------------------------------|--|
| Type of Facility:                     | Brewery (Industrial Facility) - Manufactures and produce Hard Seltzer Adult beverages using water pumped from an on-site water production well.  |
| Facility Location Description:        | Facility is located south from intersection of Peoria Ave. and Reems Road, and six (6) miles northwest from the outfall.   |
| Discharge Flow:                       | 1.24 million gallons per day (mgd)   |
| Applicable Treatment Processes :      | The industrial waste processing system is capable of treating 1.24 mgd of brewery wastewater. The physical treatment processes consists of screening, microstraining, mixing, moving bed filters, flocculation and flotation. The chemical and biological treatment processes consists of neutralization and anaerobic treatment respectively. The sludge treatment and disposal processes consists of flotation thickening, pressure filtration, land application and landfill. |
| Nature of facility discharge:         | Treated process wastewater from a brewery facility and brine wastewater generated by an on-site reverse osmosis (RO) system.   |
| Continuous or intermittent discharge: | Continuous discharge   |

**Facility Description:**

Mark Anthony Brewing plant is a brewery production facility located at 9601 N. Reems Road, Waddell, Arizona. The principal activity at the facility is the manufacture of Hard Seltzer Adult beverages. The facility's source water is from a new on-site production well. Wastewater generated at brew house and RO system is treated and discharged to the unnamed wash, which eventually flows into Agua Fria River.

**Description of Wastewater:**

The water pumped from an on-site production well is treated by an on-site Reverse Osmosis (RO) system. Wastewater generated in the brew house and at the Reverse Osmosis (RO) system are sent through the facilities industrial waste processing system.

Sources of industrial wastewater include:

- Wash down and cleaning of brewery tanks (Clean-in-place);
- Carbon tower Backwash
- Cooling Tower and boiler flows
- Boiler RO Reject flows

The industrial waste processing system is capable of treating 1.24 mgd of brewery wastewater and RO reject water. The treatment process contains a wastewater wet well with pumps, wastewater storage tank, pH polishing treatment tank, three Aquatex Bioreactors, dissolved air floatation (DAF) unit, tertiary disk filter, sludge storage tank, and sludge dewatering press.

Wastewater generated by industrial waste processing system contains an average Total Dissolved Solids (TDS) of 1,187 mg/L. Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) of 30 mg/L of concentrated monthly average.

Solid wastes generated by the industrial waste processing system will be hauled offsite for management or disposal to landfill.

**IV. RECEIVING WATER**

The State of Arizona has adopted water quality standards to protect the designated uses of its surface waters. Streams have been divided into segments and designated uses assigned to these segments. The water quality standards vary by designated use depending on the level of protection required to maintain that use.

|  |  |
|--|--|
| Receiving Water :  | Unnamed Wash, tributary to the Agua Fria<br>Luke River Air Force Base WWTP outfall at 33° 32' 00" N / 112° 19' 03" W to confluence with the Agua Fria River. |
| River Basin:   | Middle Gila River Basin  |
| Outfall Location(s):   | Outfall 001: Township 2 N, Range 1 W, Section 1<br>Latitude 33° 32' 36" N, Longitude 112° 19' 13" W  |
| The outfall discharges to, or the discharge may reach, a surface water listed in Appendix B of A.A.C. Title 18, Chapter 11, Article 1. |  |
| Designated uses for the receiving water listed above:  | Aquatic and Wildlife effluent dependent water (A&Wedw)<br>Partial Body Contact (PBC)   |
| Is the receiving water on the 303(d) list?   | No, and there are no TMDL issues associated.   |

Given the uses stated above, the applicable narrative water quality standards are described in A.A.C. R18-11-108, and the applicable numeric water quality standards are listed in A.A.C. R18-11-109 and in Appendix A thereof. There are two standards for the Aquatic and Wildlife uses, acute and chronic. In developing AZPDES permits, the standards for all applicable designated uses are compared and limits that will protect for all applicable designated uses are developed based on the standards.

**V. DESCRIPTION OF DISCHARGE**

Because this is a new facility and no discharges have yet occurred, discharge monitoring data are not available. The following are estimated discharge quality concentrations based on the treatment processes designed and the mass balance calculations, as outlined in the application.

| Parameters                      | Units | Maximum Daily Discharge Concentration |
|---------------------------------|-------|---------------------------------------|
| Biochemical Oxygen Demand (BOD) | mg/L  | 30                                    |
| Total Suspended Solids (TSS)    | mg/L  | 30                                    |
| Total Dissolved Solids (TDS)    | mg/L  | 1,187                                 |

The following table describes the type and volume of wastewater coming into the facilities industrial waste processing system as provided in the application.

| Type of discharge  | Design Maximum flow |
|--|---------------------|
| RO reject to WWT system  | 322,560 gpd         |
| Wash down and cleaning of brewery tanks (Clean-in-place) to WWT system | 927,631 gpd         |
| Carbon tower Backwash  | 21,843 gpd          |
| Cooling Tower and boiler flows   | 79,868 gpd          |
| Boiler RO Reject flows   | 25,920 gpd          |

**VI. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT**

This section is not applicable because this is a new permit

**VII. PROPOSED PERMIT CHANGES**

Not Applicable

**VIII. DETERMINATION OF EFFLUENT LIMITATIONS and ASSESSMENT LEVELS**

When determining what parameters need monitoring and/or limits included in the draft permit, both technology-based and water quality-based criteria were compared and the more stringent criteria applied.

**Technology-based Limitations:**

Based on the brewery industrial category identified for this facility, there are no applicable EPA-promulgated technology based effluent limitation guidelines. Where EPA-promulgated effluent limitation guidelines are not applicable to a specific industrial category or subcategory, such requirements are established on a case-by-case basis using best professional judgment (BPJ). Case-by-case technology-based effluent limitations (TBELs) are developed pursuant to CWA section 402(a)(1). In setting case-by-case limitations pursuant to 40 CFR 125.3(c), the following factors must be considered: best practicable control technology (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT). Considering the factors outlined in 40 CFR 125.3, the available treatment processes described in the application, and the estimated data submitted by the permittee,

technology-based effluent limitations (TBELs) have been established for BOD, TSS, and pH in this permit based on the secondary treatment standards for wastewater treatment plants in 40 CFR 133.102.

Additionally, oil and grease will be monitored with a TBEL based on best professional judgment (BPJ). The average monthly limit of 10 mg/L and daily maximum limit of 15 mg/L are commonly accepted values that can be achieved by properly operated wastewater facilities. This level is considered protective of the narrative standard at A.A.C. R18-11-108(B).

**Numeric Water Quality Standards:** As outlined in A.A.C. R18-11-109 and Appendix A:

Per 40 CFR 122.44(d)(1)(ii), (iii) and (iv), discharge limits must be included in the permit for parameters with “reasonable potential” (RP), that is, those known to be or expected to be present in the effluent at a level that could potentially cause any applicable numeric water quality standard to be exceeded. RP refers to the possibility, based on the statistical calculations using the data submitted, or consideration of other factors to determine whether the discharge may exceed the Water Quality Standards. The procedures used to determine RP are outlined in the *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001). In most cases, the highest reported value for a parameter is multiplied by a factor (determined from the variability of the data and number of samples) to determine a “highest estimated value”. This value is then compared to the lowest applicable Water Quality Standard for the receiving water. If the value is greater than the standard, RP exists and a water quality-based effluent limitation (WQBEL) is required in the permit for that parameter. RP may also be determined from BPJ based on knowledge of the treatment facilities and other factors. The basis for the RP determination for each parameter with a WQBEL is shown in the table below.

Ammonia water quality criteria vary based on the effluent pH and temperature at the time of discharge sampling. As a result, no single ammonia concentration can be included as a permit limit. To overcome this, an Ammonia Impact Ratio (AIR) of 1 for the monthly average and a value of 2 for the maximum daily limits has been established as the permit limits for ammonia. The AIR is calculated by dividing the ammonia concentration in the effluent by the applicable ammonia standard based on the effluent pH and temperature at the time of sampling. AIR values will be reported on DMRs and on the Ammonia Data Log which is included as Appendix B in the permit.

It is assumed that RP exists for exceedance of water quality criteria for chlorine that is used in the RO System, total residual chlorine (TRC). Therefore, the draft permit contains WQBELs for TRC. *E.coli* monitoring is not required as the discharge is from an industrial facility (Brewery) and is not expected to contain this pathogen.

Since this is a new facility and effluent data are not yet available, RP could not be calculated for most of the trace metals, and whole effluent toxicity (WET). Numeric Discharge Limits (limits) were not placed on these pollutants in the permit. However, monitoring for these pollutants is required and assessment levels (ALs) are established for Trace Substances (Table 2 in the permit). ALs serve to advise the permittee of the analytical sensitivity needed for data collection. ALs also alert the permitting authority if the discharge may have the potential to exceed water quality criteria. In such a case, the permit could be reopened and modified to include limits(s) if RP is shown. In any event, RP will be re-evaluated based on the collected data before a renewal of this permit could be issued in the future. For a number of other pollutants, Discharge characterization (DC) monitoring is required at a lesser frequency and without established ALs or numeric limits (Tables 4.a. – 4.e in the draft permit). (See discussion under “Discharge Characterization” below for further details.)

The proposed permit limits were established using a methodology developed by EPA. Long Term Averages (LTA) were calculated for each designated use and the lowest LTA was used to calculate the average monthly limit (AML) and maximum daily limit (MDL) necessary to protect all uses. This methodology takes into account criteria, effluent variability, and the number of observations taken to determine compliance with the limit and is described in Chapter 5 of the TSD. Limits based on A&W criteria were developed using the “two-value steady state wasteload allocation” described on page 99 of the TSD. When the limit is based on human health criteria, the monthly average was set at

the level of the applicable standard and a daily maximum limit was determined as specified in Section 5.4.4 of the TSD.

**Mixing Zone**

The limits and ALs in this permit were determined without the use of a mixing zone. Arizona water quality rules require that water quality standards be achieved without mixing zones unless the permittee applies and is approved for a mixing zone. Since the receiving stream for this discharge is ephemeral prior to the discharge, no water is available for a mixing zone and all water quality criteria are applied at end-of pipe. This means that the effluent concentration must meet stream standards.

**Assessment Levels (ALs)**

Assessment Levels (ALs) are established in the draft permit for: antimony, arsenic, beryllium, cadmium, chromium total, chromium VI, copper, cyanide, hydrogen sulfide, iron, lead, mercury, nickel, selenium, silver, sulfides, thallium, and zinc. The basis for establishing ALs for each of these parameters is discussed in the table in Section VIII below. ALs are listed in Part I.B of the permit. An AL differs from a discharge limit in that an exceedance of an AL is not a permit violation. Instead, ALs serve as triggers, alerting the permitting authority when there is cause for re-evaluation of RP for exceeding a water quality standard, which may result in new permit limitations. The AL numeric values also serve to advise the permittee of the analytical sensitivity needed for meaningful data collection. Trace substance monitoring is required when there is uncertain RP (based on non-detect values or limited datasets) or a need to collect additional data or monitor treatment efficacy on some minimal basis. A reopener clause is included in the draft permit should future monitoring data indicate water quality standards are being exceeded. This permit also contains a provision for potential reduction in monitoring after two (2) years of data is collected. Upon request by the permittee ADEQ will review the data and determine if the data support such a reduction. (See Permit Part I.E)

The requirement to monitor for these parameters is included in the draft permit according to A.A.C. R18-11-104(C) and Appendix A. ALs listed for each parameter were calculated in the same manner that a limit would have been calculated (see Numeric Water Quality Standards Section above).

The following trace substances were not included as limits or assessment levels in the draft permit due to a lack of RP based on best professional judgment (BPJ): boron, and manganese. The numeric standards for these pollutants are well above what would be expected from an industrial discharge.

**Hardness**

Since no actual effluent monitoring data are yet available, a protective default hardness value of 120 mg/L was used to calculate the applicable water quality standards and any assessment levels or limits for the hardness-dependent metals (cadmium, chromium III, copper, lead, nickel, silver, and zinc).

**Whole Effluent Toxicity (WET)**

WET testing is required in the draft permit (Parts I.C and IV) to evaluate the discharge according to the narrative toxic standard in A.A.C. R18-11-108(A)(5), as well as whether the discharge has RP for WET per 40 CFR 122.44(d)(iv). As this permit is for a new facility, the permittee shall collect at least a minimum of two (2) years of WET samples before submitting item V of AZPDES Application Form 2c (follow –up data) to ADEQ for parameters as listed in Table 3 of the permit.

WET testing for chronic toxicity shall be conducted using the following three surrogate species:

- *Ceriodaphnia dubia* (water flea) – for evaluating toxicity to invertebrates
- *Pimephales promelas* (fathead minnow) – for evaluating toxicity to vertebrates
- *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum* or *Raphidocelis subcapitata*) (a green alga) – for evaluating toxicity to plant life

ADEQ does not have a numeric standard for Whole Effluent Toxicity. However, ADEQ adopted the EPA recommended chronic toxicity benchmark of 1.0 TUC for a four day exposure period. Using this benchmark, the limitations and/or action levels for WET included in the draft permit were calculated in accordance with the methods specified in the TSD. The species chosen for WET testing are as recommended in the TSD and in *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*.

An exceedance of a limit or action level will trigger follow-up testing to determine if effluent toxicity is persistent. If toxicity above a limit or action level is found in a follow-up test, the permittee will be required to conduct a Toxicity Reduction Evaluation (TRE) and possibly a Toxicity Identification Evaluation (TIE) to identify the source of toxicity and reduce toxicity. These conditions are required to ensure that toxicants are not discharged in amounts that are toxic to organisms [A.A.C. R18-11-108(A)(5)]. A reopener clause is included in accordance with 40 CFR Parts 122 and 124 and AAC R18-9-B906.

The draft permit requires 24-hour composite samples be collected for WET testing. WET sampling must coincide with testing for all the parameters in Parts I.A and B of the draft permit, when testing of those parameters is required, to aid in the determination of the cause of toxicity if toxicity is detected. Additional procedural requirements for the WET test are included in the proposed permit.

The required WET monitoring frequency for this facility is consistent with the WET testing frequency required for facilities with a similar design flow. The draft permit requires WET test results to be reported on discharge monitoring reports and submittal of the full WET lab report to ADEQ.

#### **Discharge Characterization (DC)**

In addition to monitoring for parameters assigned either a permit limit or an AL, sampling is required to assess the presence of pollutants in the discharge at certain minimum frequencies for additional suites of parameters, whether the facility is discharging or not. This monitoring is specified in Tables 4.a. through 4.f., *Discharge (Effluent) Characterization Testing*, as follows:

- Table 4.a. – General Chemistry and Microbiology: ammonia, BOD-5, total residual chlorine (TRC), dissolved oxygen, total Kjeldahl nitrogen (TKN), nitrate/nitrite, oil and grease, pH, phosphorus, temperature, total dissolved solids (TDS), and total suspended solids (TSS)
- Table 4.b. – Selected Metals, Hardness, Cyanide, and WET
- Table 4.c. – Selected Volatile Organic Compounds
- Table 4.d. – Selected Acid-Extractible Compounds
- Table 4. e. – Selected Base-Neutral Compounds
- Table 4. f. – Additional Parameters Based on Designated Uses (from Arizona Surface Water Quality Standards, Appendix A, Table 1)

NOTE: Some parameters listed in Tables 4.a. and 4.b. are also listed in Tables 1 or 2. In this case, the data from monitoring under Tables 1 or 2 may be used to satisfy the requirements of Tables 4.a. and / or 4.b., provided the specified sample types are the same. In the event the facility does not discharge to a water of the U.S. during the life of the permit, DC monitoring of representative samples of the effluent is still required. The permittee shall collect at least a minimum of two (2) years of samples before re-submitting Item V of AZPDES Application Form 2C (follow-up data) to ADEQ for each of the parameters in Tables 4.a – 4.f. The permittee may submit a written request to reduce or eliminate further monitoring for some or all of these parameters.

The purpose of DC monitoring is to characterize the effluent and determine if the parameters of concern are present in the discharge and at what levels. This monitoring will be used to assess RP per 40 CFR 122.44(d)(1)(iii). DC monitoring is required in accordance with 40 CFR 122.43(a), 40 CFR 122.44(i), and 40 CFR 122.48(b) as well as A.R.S.

§49-203(A)(7). If pollutants are noted at levels of concern during the permit term, this permit may also be reopened to add related limits or conditions.

**Permit Limitations and Monitoring Requirements**

The table that follows summarizes the parameters that are limited in the permit and the rationale for that decision. Also included are the parameters that require monitoring without any limitations or that have not been included in the permit at all and the basis for those decisions. The corresponding monitoring requirements are shown for each parameter. In general, the regulatory basis for monitoring requirements is per 40 CFR §122.44(i) *Monitoring requirements*, and 40 CFR §122.48(b), *Required monitoring*; all of which have been adopted by reference in A.A.C. R18-9-A905, *AZPDES Program Standards*.

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| Parameter   | Lowest Standard / Designated Use  | Maximum Reported Daily Value | No. of Samples | Estimated Maximum Value | RP Determination   | Proposed Monitoring Requirement/ Rationale (1)   |
|---|---|------------------------------|----------------|-------------------------|--|--|
| Flow  | ---   | ---                          | ---            | ---                     | ---  | Discharge flow is to be monitored on a continual basis using a flow meter.   |
| Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) | 30 mg/L 30-day average<br>45 mg/L 7-day average/<br>Technology-based limits established under Best Professional Judgment (BPJ)                          | No Data                      | 0              | N/A                     | TBELs for BOD and TSS are set based on BPJ                                     | Monitoring for effluent BOD and TSS to be conducted using composite samples of the effluent. The sample type required was chosen to be representative of the discharge. At least one sample must coincide with WET testing to aid in the determination of the cause of toxicity, if toxicity is detected.  |
| Chlorine, Total Residual (TRC)                                  | 11 µg/L/ A&Wedw chronic   | N/A                          | 0              | N/A                     | RP expected when chlorine or bromine is used for in operation of the facility. | TRC is to be monitored as a discrete sample and a limit is set in the permit. See Part II.A.7 for specific monitoring requirements for chlorine.   |
| <i>E. coli</i>  | 30-day geometric mean:<br>126 cfu /100 mL (4 sample minimum)<br>Single sample maximum:<br>575 cfu /100 mL/ PBC  | N/A                          | 0              | N/A                     | No RP (BPJ)  | Monitoring is not required. The discharge is from an industrial facility (Brewery) and is not expected to contain pathogens.   |
| pH  | Minimum: 6.5<br>Maximum: 9.0<br>A&Wedw and PBC<br>A.A.C. R18-11-109(B)<br><br>Minimum: 6.0<br>Maximum: 9.0<br>Technology-based limits<br>40 CFR 133.102 | N/A                          | 0              | N/A                     | WQBEL or TBEL is always included   | pH is to be monitored using a discrete sample of the effluent and a WQBEL is set. 40 CFR Part 136 specifies that grab samples must be collected for pH. At least one sample must coincide with WET testing to aid in the determination of the cause of toxicity if toxicity is detected. pH sampling must also coincide with ammonia sampling when required. |
| Temperature   | R18-11-109 C the discharge shall not cause an increase in the ambient water temperature.<br><br>A&Wedw:<br>no more than 3.0°C                           | No Data                      | 0              | N/A                     | N/A  | Effluent temperature is to be monitored for effluent characterization by discrete sample. 40 CFR Part 136 specifies that discrete samples must be collected for temperature. Temperature sampling must also coincide with ammonia sampling when required.  |
| Total Dissolved Solids (TDS)                                    | No applicable standard  | No Data                      | 0              | N/A                     | N/A  | Monitoring required for discharge characterization.  |

| Parameter                                       | Lowest Standard / Designated Use  | Maximum Reported Daily Value | No. of Samples | Estimated Maximum Value | RP Determination               | Proposed Monitoring Requirement/ Rationale (1)   |
|---|---|------------------------------|----------------|-------------------------|--------------------------------|--|
| Ammonia   | Standard varies with temperature and pH   | N/A                          | 0              | N/A                     | RP Indeterminate (4) (No Data) | Ammonia is to be monitored by discrete sample and a WQBEL in the form of an ammonia impact ratio (AIR) Monthly average of 1 and daily maximum of 2 is set in the permit (4,5). An ammonia data log with concurrent pH and temperature monitoring is also required. One sample must coincide with WET sampling to aid in the determination of the cause of toxicity, if toxicity is detected. |
| Nutrients (Total Nitrogen and Total Phosphorus) | No applicable standards   | N/A                          | 0              | N/A                     | N/A                            | Monitoring required for discharge characterization.  |
| Oil & Grease                                    | BPJ Technology-Based Level of 10 mg/L monthly average and 15 mg/L daily maximum concentration limits is a commonly accepted value that can be achieved by properly operated and maintained WTPs. This level is also considered protective of the narrative standard A.A.C. R 18-11-108(B) | N/A                          | N/A            | N/A                     | TBEL is set based on BPJ       | Monitoring required and a limit is set.  |
| Antimony  | 600 µg/L / A&Wedw chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data)     | Monitoring required and an assessment level is set.  |
| Arsenic   | 150 µg/L / A&Wedw chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data)     | Monitoring required and an assessment level is set.  |
| Beryllium                                       | 5.3 µg/L / A&Wedw chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data)     | Monitoring required and an assessment level is set.  |
| Cadmium (2)                                     | 2.56 µg/L / A&Wedw chronic  | N/A                          | 0              | N/A                     | RP indeterminate (No Data)     | Monitoring required and an assessment level is set.  |
| Chromium (Total)                                | No applicable standard  | N/A                          | 0              | N/A                     | N/A                            | Monitoring required as an indicator parameter for Chromium VI.   |
| Chromium VI                                     | 11 µg/L / A&Wedw chronic  | N/A                          | 0              | N/A                     | RP indeterminate (No Data)     | Monitoring required and an assessment level is set.  |
| Copper (2)                                      | 10.5µg/L / A&Wedw chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data)     | Monitoring required and an assessment level is set.  |

| Parameter        | Lowest Standard / Designated Use   | Maximum Reported Daily Value | No. of Samples | Estimated Maximum Value | RP Determination           | Proposed Monitoring Requirement/ Rationale (1)   |
|------------------|--|------------------------------|----------------|-------------------------|----------------------------|--|
| Cyanide          | 9.7 µg/L/ A&Wedw chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring required and an assessment level is set.  |
| Hardness         | No applicable standard. Hardness is used to determine standards for specific metal parameters. | N/A                          | 0              | N/A                     | N/A                        | A&W standards for cadmium, chromium III, copper, lead, nickel, silver and zinc used for RP determinations were based on the default hardness value of 120 mg/L. Monitoring for hardness is required whenever monitoring for hardness dependent metals is required. |
| Hydrogen Sulfide | 2 µg/L / A&Wedw chronic  | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required for sulfides as an indicator parameter for hydrogen sulfide. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.  |
| Iron             | 1,000 ug/L / A&Wedw chronic  | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required and an assessment level is set.   |
| Lead (2)         | 3.07 µg/L / A&Wedw chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required and an assessment level is set.   |
| Mercury          | 0.01 µg/L / A&Wedw chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required and an assessment level is set.   |
| Nickel (2)       | 60.7 µg/L / A&Wedw chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required and an assessment level is set.   |
| Selenium         | 2 µg/L / A&Wedw chronic  | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required and an assessment level is set.   |
| Silver (2)       | 4 µg/L / A&Wedw acute  | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required and an assessment level is set.   |
| Sulfides         | No applicable standard   | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Indicator parameter for hydrogen sulfide. Monitoring required. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.   |
| Thallium         | 75 µg/L / PBC  | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required and an assessment level is set.   |
| Zinc (2)         | 136 µg/L/ A&Wedw acute and chronic   | N/A                          | 0              | N/A                     | RP indeterminate (No Data) | Monitoring is required and an assessment level is set.   |

| Parameter                     | Lowest Standard / Designated Use       |   | Maximum Reported Daily Value | No. of Samples | Estimated Maximum Value | RP Determination     | Proposed Monitoring Requirement/ Rationale (1)  |
|-------------------------------|--|---|------------------------------|----------------|-------------------------|----------------------|---|
| Whole Effluent Toxicity (WET) | No toxicity (A.A.C. R18-11-108(A)(6) ) | <i>Pseudo-kirchneriella subcapitata</i> (3) | N/A                          | 0              | N/A                     | RP Indeterminate (4) | Monitoring required and an action level is set. |
|                               |  | <i>Pimephales promelas</i>                  | N/A                          | 0              | N/A                     | RP Indeterminate (4) | Monitoring required and an action level is set. |
|                               |  | <i>Ceriodaphnia dubia</i>                   | N/A                          | 0              | N/A                     | RP Indeterminate (4) | Monitoring required and an action level is set. |

**Footnotes:**

- (1) The monitoring is required when the facility is discharging through Outfall 001. Discharge flow metering should remain operational during periods of no discharge.
- (2) Hardness-dependent metal - the standard for this parameter is based on the default hardness value of 120 mg/L.
- (3) Formerly known as *Selenastrum capricornutum* or *Raphidocelis subcapitata*.
- (4) Monitoring with ALs or Action Levels always required for major industrial facilities for these parameters unless RP exists and limits are set.
- (5) An AIR will be calculated by dividing effluent ammonia concentration by the applicable standard using the discharge water pH and temperature.

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### VIII. NARRATIVE WATER QUALITY STANDARDS

All narrative limitations in A.A.C. R18-11-108 that are applicable to the receiving water are included in Part I, Section E of the draft permit.

### IX. MONITORING AND REPORTING REQUIREMENTS (Part II of Permit)

Section 308 of the Clean Water Act and 40 CFR Part 122.44(i) require that monitoring be included in permits to determine compliance with effluent limitations. Additionally, monitoring may be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality.

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Monitoring frequencies for some parameters may be reduced in subsequent permits if all monitoring requirements have been met and the limits or ALs for those parameters have not been exceeded during the first permit term.

For the purposes of this permit, a "24-hour composite" sample has been defined as a flow-proportioned mixture of not less than three discrete samples (aliquots) obtained at equal time intervals over a 24-hour period. The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling.

These criteria for composite sampling are included in order to obtain samples that are representative of the discharge given the potential variability in the duration, frequency and magnitude of discharges from this facility.

Discrete (i.e., grab) samples are specified in the permit for all parameters. The quality of the discharge is not expected to be highly variable.

Monitoring locations are specified in the permit (Part I.A and Part II.A.1) in order to ensure that representative samples of the influent and effluent are consistently obtained.

The requirements in the permit pertaining to Part II, Monitoring and Reporting, are included to ensure that the monitoring data submitted under this permit is accurate in accordance with 40 CFR 122.41(e). The permittee has the responsibility to determine that all data collected for purposes of this permit meet the requirements specified in this permit and is collected, analyzed, and properly reported to ADEQ.

The permit (Part II.A.3) requires the permittee to keep a Quality Assurance (QA) manual at the facility, describing sample collection and analysis processes; the required elements of the QA manual are outlined.

Reporting requirements for monitoring results are detailed in Part II, Section B of the permit, including completion and submittal of Discharge Monitoring Reports (DMRs), and Ammonia Data Logs. The permittee is responsible for conducting all required monitoring and reporting the results to ADEQ on DMRs or as otherwise specified in the permit.

#### **Electronic reporting**

The US EPA has published a final regulation that requires electronic reporting and sharing of Clean Water Act National Pollutant Discharge Elimination System (NPDES) program information instead of the current paper-based reporting (Federal Register, Vol. 80, No. 204, October 22, 2015). Beginning December 21, 2016 (one year after the effective date of the regulation), the Federal rule required permittees to make electronic submittals of any monitoring reports and

forms called for in their permits. ADEQ has created an online portal called myDEQ that allows users to submit their discharge monitoring reports and other applicable reports required in the permit.

The permit also requires annual submittal of an Ammonia Data Log that records the results for temperature, pH, and ammonia samples and date of sampling (Part II.B.3). Because the ammonia standards in 18 A.A.C. 11, Article 1, Appendix A are contingent upon the pH and temperature at the time of sampling for ammonia, the permittee must determine the applicable ammonia standard using the ammonia criteria table(s) and calculate the Ammonia Impact Ratio for that ammonia sample result. The AIR is recorded on the DMR.

Requirements for retention of monitoring records are detailed in Part II.C.3 of the permit.

#### **X. BIOSOLIDS REQUIREMENTS (Part III in Permit)**

Not Applicable – This is an industrial facility

#### **XI. SPECIAL CONDITIONS (Part V in Permit)**

##### **Chemical Usage**

The permit allows use of specified chemicals (Appendix F of the permit) necessary for operation of the facility and specifies procedures for adding other chemical.

Various chemicals are used at the facility for various purposes, such as maintenance of equipment, prevention of corrosion, cleaning and degreasing, etc. The permit documents the list of specified chemicals necessary for operation of the facility. The permittee will maintain this log of chemicals throughout the permit term to ensure the list is up to date. The specified chemicals (Appendix F of the permit) used for operational purposes are not expected to be detected in the discharge.

##### **Permit Reopener**

This permit may be modified based on newly available information; to add conditions or limits to address demonstrated effluent toxicity; to implement any EPA-approved new Arizona water quality standard; or to re-evaluate reasonable potential (RP), if assessment levels in this permit are exceeded [A.A.C. R18-9-B906 and 40 CFR Part 122.62 (a) and (b)].

#### **XII. ANTIDegradation**

Antidegradation rules have been established under A.A.C. R18-11-107 to ensure that existing surface water quality is maintained and protected. The discharge from the Mark Anthony Brewing production plant will be to an effluent-dependent water. Except for flows resulting from rain events, the only water in the wash will be the effluent. Therefore, the discharge and the receiving water will normally be one and the same. Effluent quality limitations and monitoring requirements have been established under the proposed permit to ensure that the discharge will meet the applicable water quality standards. As long as the permittee maintains consistent compliance with these provisions, the designated uses of the receiving water will be presumed protected, and the facility will be deemed to meet currently applicable antidegradation requirements under A.A.C. R18-11-107.

### **XIII. STANDARD CONDITIONS**

Conditions applicable to all NPDES permits in accordance with 40 CFR, Part 122 are attached as an appendix to this permit.

### **XIV. ADMINISTRATIVE INFORMATION**

#### **Public Notice (A.A.C. R18-9-A907)**

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft AZPDES permit or other significant action with respect to an AZPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

#### **Public Comment Period (A.A.C. R18-9-A908)**

Rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

#### **Public Hearing (A.A.C. R18-9-A908(B))**

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

#### **EPA Review (A.A.C. R18-9-A908(C))**

A copy of this draft permit and any revisions made to this draft as a result of public comments received will be sent to EPA Region 9 for review. If EPA objects to a provision of the draft, ADEQ will not issue the permit until the objection is resolved.

### **XV. ADDITIONAL INFORMATION**

Additional information relating to this proposed permit may be obtained from:

Arizona Department of Environmental Quality  
Water Quality Division – Surface Water Permits Unit  
Attn: Swathi Kasanneni  
1110 West Washington Street  
Phoenix, Arizona 85007

Or by contacting Swathi Kasanneni at (602) 771 – 4577 or by e-mail at [kasanneni.swathi@azdeq.gov](mailto:kasanneni.swathi@azdeq.gov).

### **XVI. INFORMATION SOURCES**

While developing effluent limitations, monitoring requirements, and special conditions for the draft permit, the following information sources were used:

1. AZPDES Permit Application Form(s) 1 and 2D May 7, 2020, along with supporting data, facility diagram, and maps submitted by the applicant with the application forms.

2. Supplemental information to the application received by ADEQ on various timers including but not limited to May 7, 2020, May 22, 2020, May 29, 2020, and June 8 2020.
3. Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters*, adopted December 31, 2016.
4. A.A.C. Title 18, Chapter 9, Article 9. *Arizona Pollutant Discharge Elimination System* rules.
5. Code of Federal Regulations (CFR) Title 40:
  - Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System*.
  - Part 124, *Procedures for Decision Making*.
  - Part 133. *Secondary Treatment Regulation*.
  - Part 503. *Standards for the Use or Disposal of Sewage Sludge*.
6. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
7. *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*, US EPA, May 31, 1996.
8. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA /821-R-02-013).
9. U.S. EPA NPDES Permit Writers' Manual, September 2010.