



# DRAFT PERMIT

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Inventory No. 502621  
LTF No. 67728

Permit No. AZ0024848  
Place ID No. 16444

## AUTHORIZATION TO DISCHARGE UNDER THE ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Article 3.1; the Federal Water Pollution Control Act, (33 USC §1251 et. seq., as amended), and Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 9 and 10, and amendments thereto,

Arizona Department of Environmental Quality – Waste Program Division  
**Central & Camelback WQARF Site Groundwater Treatment System**  
1110 West Washington Street  
Phoenix, Arizona 85007

is authorized to discharge treated groundwater from the treatment facility located at 21 West Camelback Road in Phoenix, Maricopa County, Arizona to Salt River Project Lateral 1 11.4.27 which discharges to the Grand Canal, a Phoenix Area Canal, in the Middle Gila River at:

Outfall No.	Latitude	Longitude	Legal
001	33° 30' 32.36" N	112° 04' 26.03" W	Township 1 N, Range 3 E, Section 20

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein, and in the attached "Standard AZPDES Permit Conditions."

This permit is considered a minor industrial permit and there are no fees because it is being issued to a State Agency.

This permit shall become effective on \_\_\_\_\_, 2017.

This permit and the authorization to discharge shall expire at midnight, \_\_\_\_\_, 2022.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2017.

\_\_\_\_\_  
Trevor Baggio, Director  
Water Quality Division  
Arizona Department of Environmental Quality

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**PART I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

**A. Effluent Limitations and Monitoring Requirements**

The permittee shall limit and monitor discharges from Outfall 001 as specified in Table 1 which follows.

**TABLE 1: Effluent Limitations and Monitoring Requirements**

Parameter	Maximum Allowable Discharge Limitations		Monitoring Requirement	
	Concentration Limits			
	Monthly Average	Daily Maximum	Monitoring Frequency	Sample Type
Discharge flow (MGD)	REPORT (1)	REPORT	Continuous	Metered
Boron – Mixing Zone (2)(3)	1,000 µg/L	1,400 µg/L	1x / month	Discrete
Boron – Effluent (2)	REPORT	REPORT	1x / month	Discrete
Chloroform	REPORT	80 µg/L	1x / 3 months	Discrete
1,1-Dichloroethylene (1,1,-DCE)	REPORT	7 µg/L	1x / 3 months	Discrete
1,2-cis-Dichloroethylene (1,2-cis-DCE)	REPORT	70 µg/L	1x / 3 months	Discrete
1,2-trans-Dichloroethylene (1,2-trans-DCE)	REPORT	100 µg/L	1x / 3 months	Discrete
Tetrachloroethylene (PCE)	REPORT	5 µg/L	1x / 3 months	Discrete
1,1,1-Trichloroethane (1,1,1-TCA)	REPORT	200 µg/L	1x / 3 months	Discrete
Trichloroethylene (TCE)	REPORT	5 µg/L	1x / 3 months	Discrete
Vinyl chloride	REPORT	2 µg/L	1x / 3 months	Discrete

**Footnotes:**

- (1) Monitoring and reporting required. No limit set at this time.
- (2) A mixing zone for boron is established. See Part V (Special Conditions), Section A of the permit.
- (3) Permittee shall report the SRP mixing zone model results when the concentrations of boron are above the mixing zone permit limits. When the effluent concentrations are below the limit, permittee shall enter NODI Code 9 (Conditional Monitoring) on the Discharge Monitoring Report (DMR) for the corresponding monitoring period.

**B. The discharge shall be free from pollutants in amounts or combinations that:**

1. Settle to form bottom deposits that inhibit or prohibit the habitation, growth or propagation of aquatic life;
2. Cause objectionable odor in the area in which the surface water is located;
3. Cause off-taste or odor in drinking water;
4. Cause off-flavor in aquatic organisms;

5. Are toxic to humans, animals, plants or other organisms;
  6. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth or propagation of other aquatic life or that impair recreational uses;
  7. Change the color of the surface water from natural background levels of color.
- C. The discharge shall be free from oil, grease and other pollutants that float as debris, foam, or scum; or that cause a film or iridescent appearance on the surface of the water; or that cause a deposit on a shoreline, bank or aquatic vegetation.
- D. Samples taken for the monitoring requirements specified in Part I shall be collected downstream from the last treatment process and prior to mixing with the receiving waters.

## **PART II. MONITORING AND REPORTING**

### **A. Sample Collection and Analysis**

1. The permittee is responsible for the quality and accuracy of all data required under this permit.
2. Quality Assurance (QA) Manual

The permittee shall keep a QA Manual on site that describes the sample collection and analyses processes. If the permittee collects samples or conducts sample analyses in house, the permittee shall develop a QA Manual that addresses these activities. If a third party collects and/or analyzes samples on behalf of the permittee, the permittee shall obtain a copy of the applicable QA procedures. The QA Manual shall be available for review by ADEQ upon request. The QA Manual shall be updated as necessary to reflect current conditions, and shall describe the following:

- a. Project Management, including:
  - Purpose of sample collection and sample frequency;
  - When and where samples will be collected;
  - How samples will be collected;
  - Who will collect samples and their qualifications;
  - Laboratory(s) that will perform analyses;
  - Any field tests to be conducted (detail methods and specify equipment, including a description of any needed calibrations); and
  - Pollutants or analytes being measured and for each, the permit-specific limits, Assessment Levels, or thresholds, (e.g. the associated detection limits needed.)
- b. Sample collection procedures including
  - Equipment to be used;
  - Type and number of samples to be collected including QA/QC samples (i.e., background samples, duplicates, and equipment or field blanks);
  - Types, sizes, and number of sample bottles needed;

- Preservatives and holding times for the samples (see methods under 40 CFR 136 or 9 A.A.C. 14, Article 6 or any condition within this permit that specifies a particular test method); and
  - Chain of custody procedures.
- c. Specify approved analytical method(s) to be used and include;
- Limits of Detection (LOD) and Limits of Quantitation (LOQs);
  - Required quality control (QC) results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike recoveries, etc.) and acceptance criteria; and
  - Corrective actions to be taken by the permittee or the laboratory as a result of problems identified during QC checks.
- d. How the permittee will perform data review; complete DMRs and records used to report results to ADEQ; resolve data quality issues; and identify limitations on the use of the data.
3. Sample collection, preservation and handling shall be performed as described in 40 CFR 136 including the referenced Edition of *Standard Methods for the Examination of Water and Wastewater*, or by procedures referenced in A.R.S Title 9, Chapter 14 of the Arizona Department of Health Services (ADHS) Laboratory Licensure rules. The permittee shall outline the proper procedures in the QA Manual, and samples taken for this permit must conform with these procedures whether collection and handling is performed directly by the permittee or contracted to a third-party.
4. Analytical requirements
- a. The permittee shall use a laboratory licensed by the ADHS Office of Laboratory Licensure and Certification that has demonstrated proficiency within the last 12 months under R9-14-609, for each parameter to be sampled under this permit. However, this requirement does not apply to parameters which require analysis at the time of sample collection as long as the testing methods used are approved by ADHS or ADEQ in accordance with A.R.S. 36-495.02(A)(3). (These parameters may include flow, dissolved oxygen, pH, temperature, and total residual chlorine.)
- b. The permittee must utilize analytical methods specified in this permit. If no test procedure is specified, the permittee shall analyze the pollutant using:
- i. A test procedure listed in 40 CFR 136 which is also approved under A.A.C. R9-14-610;
  - ii. An alternative test procedure approved by EPA as provided in 40 CFR 136 and which is also approved under A.A.C. R9-14-610;
  - iii. A test procedure listed in 40 CFR 136, with modifications allowed by EPA or approved as a method alteration by ADHS under A.A.C. R9-14-610(C); or
  - iv. If no test procedure for a pollutant is available under (3)(b)(i) through (3)(b)(iii) above, any Method approved under A.A.C. R9-14-610(B) for wastewater may be used, except the use of field kits is not allowed unless otherwise specified in this permit. If there is no approved wastewater method for a parameter, any other method identified in 9 A.A.C. 14, Article 6 that will achieve appropriate detection and reporting limits may be used for analyses.

- c. For results to be considered valid, all analytical work, including those tests conducted by the permittee at the time of sampling (see Part II.A.4.a), shall meet quality control standards specified in the approved methods.
- d. The permittee shall use analytical methods with a Limit of Quantitation (LOQ) that is lower than the effluent limitations, Assessment Levels, Action Levels, or other water quality criteria, if any, specified in this permit. If all methods have LOQs higher than the applicable water quality criteria, the Permittee shall use the approved analytical method with the lowest LOQ.
- e. The permittee shall use a standard calibration curve when applicable to the method, where the lowest standard point is equal to or less than the LOQ.
- f. If requested, the permittee shall participate in the annual NPDES DMR/QA study and submit the results of this study to ADEQ and ADHS for all laboratories used in monitoring compliance with this permit.

## **B. Reporting of Monitoring Results**

1. The permittee shall report monitoring results on Discharge Monitoring Report (DMR) forms supplied by ADEQ, to the extent that the results may be entered on the forms. The permittee shall submit results of all monitoring required by this permit in a format that will allow direct comparison with the limitations and requirements of this permit. If no discharge occurs during a reporting period, the permittee shall specify "No discharge" on the DMR. The results of all discharge analyses conducted during the monitoring period shall be included in determinations of the monthly average and daily maximums reported on the DMRs if the analyses were by methods specified in Part II.A above, as applicable.
2. DMRs and attachments are to be submitted by the 28th day of the month following the end of a monitoring period. For example, if the monitoring period ends January 31<sup>st</sup>, the permittee shall submit the DMR by February 28<sup>th</sup>. The permittee shall electronically submit all compliance monitoring data and reports using the myDEQ electronic portal provided by ADEQ. The reports required to be electronically submitted include, but are not limited to, the following:
  - Discharge Monitoring Reports
  - Original copies of laboratory results
  - AZPDES discharge flow records (if applicable)
  - Method detection limit studies (if applicable)
  - Bench sheets or similar documentation for field testing parameters (if applicable)
3. If requested to participate, the permittee shall submit the results of the annual NPDES DMR/QA Study to ADEQ and ADHS for all laboratories used in monitoring compliance with this permit by December 31<sup>st</sup> of each year. The permittee shall also conduct any proficiency testing required by the NPDES DMR-QA Study for those parameters listed in the study that the permittee analyzes in house or tests in the field at the time of sampling (these parameters may include pH and total residual chlorine). All results of the NPDES DMR-QA Study shall be submitted to the email and addresses listed below, or submit by any other alternative mode as specified by ADEQ:

Arizona Department of Environmental Quality  
 Email: AZPDES@azdeq.gov

Arizona Department of Health Services  
 Attn: Office of Laboratory Licensure and Certification  
 250 N 17th Avenue  
 Phoenix, AZ 85007

4. For the purposes of reporting, the permittee shall use the Limit of Quantitation.
5. For parameters with Daily Maximum Limits or Daily Maximum Assessment Levels in this permit, the permittee shall review the results of all samples collected during the reporting period and report as follows:

For Daily Maximum Limits/Assessment Levels	The Permittee shall Report on the DMR
When the maximum value of any analytical result is greater than or equal to the LOQ	The maximum value of all analytical results
When the maximum value detected is greater than or equal to the laboratory's LOD but less than the LOQ (1)	NODI (Q)
When the maximum value is less than the laboratory's LOD (2)	NODI (B)

Footnotes:

- (1) Not Quantifiable
- (2) Below Detection

6. For parameters with Monthly Average Limits or Monthly Average Assessment Levels in this permit, the permittee shall review the results of all samples collected during the reporting period and report:

For Monthly Average Limits/Assessment Levels	The Permittee shall Report on the DMR	
If only one sample is collected during the reporting period (monthly, quarterly, annually, etc.)  (In this case, the sample result is the monthly average.)	When the value detected is greater than or equal to the LOQ	The analytical result
	When the value detected is greater than or equal to the laboratory's LOD, but less than the LOQ	NODI (Q)
	When the value is less than the laboratory's LOD	NODI (B)
If more than one sample is collected during the reporting period	All samples collected in the same calendar month must be averaged. <ul style="list-style-type: none"> <li>• When all results are greater than or equal to the LOQ, all values are averaged</li> <li>• If some results are less than the LOQ, use the LOD value in the averaging</li> <li>• Use '0' for values less than the LOD</li> </ul>	The highest monthly average which occurred during the reporting period

7. For all field testing, or if the information below is not included on the laboratory reports required by Part II.B.2, the permittee shall attach a bench sheet or similar documentation to each DMR that includes, for all analytical results during the reporting period:

- a. the analytical result,
- b. the number or title of the approved analytical method, preparation and analytical procedure utilized by the field personnel or laboratory, and the LOD and LOQ for the analytical method for the parameter, and
- c. any applicable data qualifiers using the most current revision of the Arizona Data Qualifiers (available on line at <http://www.azdhs.gov/lab/license/resources/resources.htm>).

### **C. Twenty-four Hour Reporting of Noncompliance**

The permittee shall orally report any noncompliance which may endanger the environment or human health within 24 hours from the time the permittee becomes aware of the event to:

ADEQ 24 hour hotline at (602) 771-2330

by phone call or voice mail by 9 a.m. on the first business day following the noncompliance. The permittee shall also notify the AZPDES Individual Permits Unit in writing within 5 days of the noncompliance event to [AZPDES@azdeq.gov](mailto:AZPDES@azdeq.gov). The permittee shall include in the written notification: a description of the noncompliance and its cause; the period of noncompliance, including dates and times, and, if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

### **D. Monitoring Records**

The permittee shall retain records of the following monitoring information:

1. Date, exact location and time of sampling or measurements performed, preservatives used;
2. Individual(s) who performed the sampling or measurements;
3. Date(s) the analyses were performed;
4. Laboratory(s) which performed the analyses;
5. Analytical techniques or methods used;
6. Chain of custody forms;
7. Any comments, case narrative or summary of results produced by the laboratory. These comments should identify and discuss QA/QC analyses performed concurrently during sample analyses and should specify whether analyses met project requirements and 40 CFR 136. If results include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, sample receipt condition, or holding times and preservation, these records must also be retained.
8. Summary of data interpretation and any corrective action taken by the permittee.

## **PART III. BIOSOLIDS/ SEWAGE SLUDGE REQUIREMENTS**



Not Applicable

**PART IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS**

Not Applicable

**PART V. SPECIAL CONDITIONS**

**A. MIXING ZONE FOR BORON**

A mixing zone for boron in the Grand Canal has been granted. Compliance with the boron limit is required prior to any AgI water deliveries downstream of the discharge. This is consistent with mixing zones for other discharges that are established for the Salt River Project (SRP) Groundwater Wells. The results of the SRP mixing zone model may be used to demonstrate compliance with boron limits in Table 1 of this permit as follows.

- i. The permittee shall conduct quarterly discharge monitoring for boron at Outfall 001 as shown in Table 1 of the permit.
- ii. If effluent monitoring results for boron exceed the limits listed in Table 1, the permittee shall obtain the results of the SRP mixing zone model for boron for the days the samples were collected. The permittee shall submit the discharge data and the mixing zone model results to ADEQ as an attachment to the Discharge Monitoring Report for that reporting period.

**B. REOPENER**

This permit may be modified per the provisions of A.A.C. R18-9-B906, and R18-9-A905 which incorporates 40 CFR Part 122. This permit may be reopened 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.

## APPENDIX A PART A: ACRONYMS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ADHS	Arizona Department of Health Services
AZPDES	Arizona Pollutant Discharge Elimination System
A.R.S.	Arizona Revised Statutes
CFR	Code of Federal Regulations
Director	The Director of ADEQ or any authorized representative thereof
DMR	Discharge Monitoring Report
EPA	The U.S. Environmental Protection Agency
kg/day	kilograms per day
MGD	Million Gallons per Day
mg/L	milligrams per Liter, also equal to parts per million (ppm)
NPDES	National Pollutant Discharge Elimination System
QA	Quality Assurance
TBEL	Technology-based effluent limitation
µg/L	micrograms per Liter, also equal to parts per billion (ppb)
WQBEL	Water quality-based effluent limitation

## APPENDIX A PART B: DEFINITIONS

*DAILY MAXIMUM CONCENTRATION LIMIT* means the maximum allowable discharge of a pollutant in a calendar day as measured on any single discrete sample or composite sample.

*DAILY MAXIMUM MASS LIMIT* means the maximum allowable total mass of a pollutant discharged in a calendar day.

*DISCRETE or GRAB SAMPLE* means an individual **sample of at least 100 mL** collected from a single location, or over a period of time not exceeding 15 minutes.

*FLOW PROPORTIONAL COMPOSITE SAMPLE* means a sample that combines discrete samples collected over time, based on the flow of the discharge being sampled. There are two methods used to collect this type of sample. One collects a constant sample volume at time intervals that vary based on stream flow. The other collects discrete samples that are proportioned into aliquots of varying volumes based on stream flow, at constant time intervals (i.e. flow-weighted composite sample).

*HARDNESS* means the sum of the calcium and magnesium concentrations, expressed as calcium carbonate (CaCO<sub>3</sub>) in milligrams per liter.

*LIMIT OF QUANTITATION (LOQ)* means the minimum levels, concentrations, or quantities of a target variable such as an analyte that can be reported with a specific degree of confidence. The calibration point shall be at or below the LOQ. The LOQ is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all of the method-specified sample weights, volumes, and processing steps have been followed.

*LIMIT OF DETECTION (LOD)* means an analyte and matrix-specific estimate of the minimum amount of a substance that the analytical process can reliably detect with a 99% confidence level. This may be laboratory dependent and is developed according to R9014-615(C)(7).

*METHOD DETECTION LIMIT (MDL)* - See LOD.

*MIXING ZONE* is an area where an effluent discharge undergoes initial dilution and may be extended to cover the secondary mixing in the ambient waterbody. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented.

*MONTHLY OR WEEKLY AVERAGE CONCENTRATION LIMIT*, other than for bacteriological testing, means the highest allowable average calculated as an arithmetic mean of consecutive measurements made during calendar month or week, respectively. The "monthly or weekly average concentration limit" for *E. coli* bacteria means the highest allowable average calculated as the geometric mean of a minimum of four (4) measurements made during a calendar month or week, respectively. The geometric mean is the  $n$ th root of the product of  $n$  numbers. For either method (CFU or MPN), when data are reported as "0" or non-detect then input a "1" into the calculation for the geometric mean.

*SUBMIT*, as used in this permit, means post-marked, documented by other mailing receipt, or hand-delivered to ADEQ.