

**STATE OF ARIZONA**  
**AQUIFER PROTECTION PERMIT NO. P-100642**  
**PLACE ID 1010, LTF 45664**  
**SIGNIFICANT AMENDMENT**

**1.0 AUTHORIZATION**

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A.A.C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, Pima County Regional Wastewater Reclamation Department is hereby authorized to operate the Avra Valley Water Reclamation Facility (WRF), located at 10,000 West Snyder Road in Pima County, Arizona, over groundwater of the Tucson Active Management Area (AMA) and the Avra Valley groundwater sub-basin in Township 14 S, Range 11 E, Section 36, of the Gila and Salt River Baseline and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below; and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant and as determined at the applicable POC occurs as a result of the discharge from the facility.

**1.1 PERMITTEE INFORMATION**

**Facility Name:** Pima County Avra Valley Wastewater Reclamation Facility  
**Facility Address:** 10,000 West Snyder Hill Road  
Avra Valley, Arizona 85735

**Permittee:** Pima County Regional Wastewater Reclamation Department (PCRWRD)  
**Permittee Address:** 7101 N. Casa Grande Highway  
Tucson, Arizona 85743

**Facility Contact:** Jackson Jenkins, Deputy Director, Treatment  
**Emergency Phone No.:** (520) 443-6100

**Latitude/Longitude:** 32° 09' 51" N/ 111° 49' 08" W  
**Legal Description:** Township 14S, Range 11E, Section 36, SW¼ of the Gila and Salt River Baseline and Meridian

**1.2 AUTHORIZING SIGNATURE**

\_\_\_\_\_  
**Joan Card, Director**  
Water Quality Division  
Arizona Department of Environmental Quality

Signed this \_\_\_\_ day of \_\_\_\_\_, 2009

**THIS AMENDED PERMIT SUPERCEDES ALL PREVIOUS PERMITS**

**2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]**

**2.1 Facility / Site Description [A.R.S. § 49-243(K)(8)]**

The Pima County Regional Wastewater Reclamation Department is authorized to operate the Pima County Avra Valley WRF, 4.0 million gallons per day (mgd) facility. The facility shall produce Class B+ reclaimed water. The treatment process consists of a lift station with submersible pumps with metering, headworks, fine screening and grit removal, two 2.0 mgd oxidation ditches with six surface aerators and four submerged aeration basin mixers in each basin, four secondary clarifiers, sand filtration, chemical feed, and UV disinfection. Chlorination/dechlorination may be used as backup disinfection.

The 4.0 million gallons per day (mgd) facility replaces the current 2.2 mgd facility. Until the new 4.0 mgd plant is built and operational, the facility shall monitor the effluent from the existing plant in accordance with Section 4.2, Table IA and IB. Upon commencement of the operations from the new WWTP, the existing 2.2 mgd plant will be put in temporary cessation.

The effluent is disposed to six percolation ponds, discharged to the Blackwash through the AZPDES permit #AZ0024121, discharged to the Blackwash spray field, stored in an emergency storage basin after the lining of this pond has been certified as per compliance schedule 3.7 or reused under a valid reclaimed water permit. Percolation basins 1 through 5 have been constructed. Percolation basins 6A-6D shall be constructed when effluent flow reaches 2.9 mgd. Percolation basins 6E-6G are not included in this permit and therefore no disposal is authorized to them. The flow to the Blackwash spray field comes from the effluent line that also feeds outfalls # 6 and # 7, and the percolation basins.

The lined emergency influent storage basin and the unlined backup emergency overflow basin have been combined to produce a single lined emergency overflow basin. The lined emergency overflow basin may be used to store either influent or effluent. All liquid placed in this basin, whether influent or effluent shall go through the plant for treatment before disposal.

Waste activated sludge (WAS) is thickened and placed into a sludge holding tank and then hauled off-site to the Ina Road WRF or Roger Road WWTF for inclusion in their wastewater streams. One (1) lined sludge drying bed is included in the permit and is also available for emergency use. The existing 2.0 mgd plant shall remain non-operational. The permittee may close the plant at a future date or leave it for future use. In case the permittee plans to re-start the existing plant, an amendment will be required to operate the facility according to new facility BADCT A.A.C.R18-9-B204.

Depth to groundwater at the site is 415 feet below ground surface (bgs) and the direction of groundwater flow is to the north-northwest. All industrial hookups and other non-residential hookups to the treatment system shall be authorized according to the applicable federal, state or local regulations.

The site includes the following permitted discharging facilities:

Facility	Latitude	Longitude
WRF	32° 09' 53" N	111° 10' 31"W
Lined Emergency Influent Basin	32° 09' 51" N	111° 10' 34"W
Lined Reclaimed Water Reservoir	32° 09' 57" N	111° 10' 36"W
Discharge to Blackwash AZPDES Outfall # 6	32° 09' 54"N	111° 10' 56"W
Discharge to Blackwash AZPDES Outfall # 7	32° 10' 06"N	111° 11' 11"W
Discharge to Blackwash Spray Field AZPDES permit #AZ0024121	32° 09' 50.45N	111° 10' 49.85"W

Percolation Basin #1	32° 09' 53"N	111° 10' 31"W
Percolation Basin #2	32° 09' 53"N	111° 10' 31"W
Percolation Basin #3	32° 09' 53"N	111° 10' 31"W
Percolation Basin #4	32° 09' 53"N	111° 10' 31"W
Percolation Basin #5	32° 09' 51"N	111° 49' 08"W
Percolation Basin #6	32° 09' 53"N	111° 11' 02"W
Sludge Drying Bed	32° 09' 53"N	111° 10' 30"W

**Annual Registration Fee [A.R.S. § 49-242]**

The Annual Registration Fee for this permit is established by A.R.S. § 49-242(E) and is payable to ADEQ each year. The design flow is 4.0 million gallons per day.

**Financial Capability [A.R.S. § 49-243(N) and A.A.C. R18-9-A203]**

The permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee shall maintain financial capability throughout the life of the facility. The dollar amount demonstrated for closure and post closure cost estimates is \$20,480,000.00. The financial capability was demonstrated through A.A.C. R18-9-A203 (B)(2).

**2.2 Best Available Demonstrated Control Technology [A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]**

The WRF shall be designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204. The permittee requested reduction in pathogen removal monitoring from daily to weekly. According to A.A.C. R18-9-B204 (B)(4)(iii), ADEQ has approved the reduction in monitoring of *E. coli* from daily to weekly. The permittee has provided the UV disinfection unit which will have continuous monitoring for UV transmittance and UV dose. The UV system is designed to deliver a UV dose of 100 mJ/cm<sup>2</sup>. The manufacturer of UV system has performed tests which show that the non-detect limits for *E. coli* can be achieved with the UV dose lower than 90 mJ/cm<sup>2</sup> and with UV transmittance of 65%. The permittee will be monitoring continuously for UV transmittance and UV dose. The alert level for UV transmittance will be 65% and alert level for UV dose will be 90 mJ/cm<sup>2</sup>. If the UV dose or transmittance falls below alert levels, the permittee shall conduct verification sampling according to contingency plan described in Section 2.6.2.2.2.

**2.2.1 Engineering Design**

The WRF was designed as per the design report prepared, stamped, and signed July 24, 2007 by James W. Dettmer, Arizona Registered Professional Engineer No. 27864.

**2.2.2 Site-specific Characteristics**

The permittee is allowed to use Soil Aquifer Treatment (SAT) [A.A.C. R18-9-B204 (B) (4) (d)] to meet the pathogen removal criteria (*E. coli*) for the unlimited discharge to the percolation ponds. The use of SAT to meet pathogen removal requirements will no longer be required after the new reclamation facility construction is completed and the reclamation facility has completed start-up (See compliance section 3.0). Depth to groundwater is 415 feet below ground surface.

**2.2.3 Pre-Operational Requirements**

The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department per the compliance schedule in Section 3.0.

The permittee shall submit a start-up notification letter to ADEQ five business days prior to start-up date as per the compliance schedule in Section 3.0.

**2.2.4 Operational Requirements**

1. The permittee shall maintain a copy of the up-to-date O & M manual at the WRF site at all times and shall be available upon request during inspections by ADEQ personnel.
2. The pollution control structures shall be inspected for the items listed in Section 4.2, Table III - FACILITY INSPECTION.
3. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and material(s) used shall be documented on the Self-Monitoring Report Form submitted quarterly to the ADEQ Water Quality Compliance Section.

**2.2.5 Reclaimed Water Classification [A.A.C. R18-9-703(C)(2)(a), A.A.C. R18-11-303 through 307]**

The WRF will produce reclaimed water meeting Class B+ reclaimed water quality standards and may be used for any allowable Class B or C use under a valid reclaimed water permit (A.A.C. R18-9, Article 7).

**2.3 Discharge Limitations [A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]**

1. The permittee is authorized to operate the WRF with a maximum average monthly flow of 4.0 mgd daily flow capacity.
2. The permittee shall notify all users that the materials authorized to be disposed of through the WRF are typical household sewage and shall not include motor oil, gasoline, paints, varnishes, hazardous wastes, solvents, pesticides, fertilizers or other materials not generally associated with toilet flushing, food preparation, laundry facilities and personal hygiene.
3. The permittee shall operate and maintain all permitted facilities to prevent unauthorized discharges pursuant to A.R.S. § 49-201(12) resulting from failure or bypassing of BADCT pollutant control technologies including liner failure<sup>1</sup>, uncontrollable leakage, overtopping (e.g., exceeding the maximum storage capacity, defined as a fluid level exceeding the crest elevation of a permitted impoundment), of basins, lagoons, impoundments or sludge drying beds, berm breaches, accidental spills, or other unauthorized discharges.
4. Specific discharge limitations are listed in Section 4.0, Tables I, IA, and IB.
5. If discharge to the Blackwash through AZPDES outfall # 7 exceeds an average of 250,000 gpd over a 90 day period. (See section 2.7.6), the permittee shall follow the requirements in Section 2.6.2.2.1.

**2.4 Point of Compliance (POC) [A.R.S. § 49-244]**

The three hazardous points of compliance (POCs) are designated at the following locations

<b>POC Well #</b>	<b>POC Identification</b>	<b>Latitude</b>	<b>Longitude</b>
1	POC -1 Well # 24 (AV-03): AD WR Well # 55-520125. POC established near the northeast corner of percolation basin #3. Downgradient [See Table IIA]	32° 10' 07" N	111° 10' 59" W
2	POC 2 - Well #21 -Cowboy Haven Well is approximately 1260' west/northwest of AZPDES Outfall 7, one mile Northwest of the WRF on the edge of PMA. The distance from the edge of the PMA to the Cowboy Well is approximately 700' west/northwest. ( also known as ADWR Well #55-632420)	32° 09' 50.45" N	111° 11' 38.5" W
3	POC-3 Well #22 will be installed at the northwest corner of basin # 6d to provide a POC upon completion	32° 10' 05" N	111° 11' 05" W

<sup>1</sup>Liner failure in a single-lined impoundment is any condition that would result in leakage exceeding 550 gallons per day per acre.

	of percolation basins # 6a – 6d.		
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The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

**2.5 Monitoring Requirements [A.R.S. § 49-243(K) (1), A.A.C. R18-9-A206 (A)]**

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and chain of custody procedures shall be followed, in accordance with currently accepted standards of professional practice. The permittee shall consult the most recent version of the ADEQ Quality Assurance Project Plan (QAPP) and EPA 40 CFR PART 136 for guidance in this regard. Copies of laboratory analyses and chain of custody forms shall be maintained at the permitted facility. Upon request these documents shall be made immediately available for review by ADEQ personnel.

**2.5.1 Pre-Operational Monitoring**

Not applicable

**2.5.1.1 Start-up Discharge Monitoring**

During the 30 day start-up period of the new Avra Valley Biological Nutrient Removal Oxidation Ditches (BNROD’s), discharge limits for nutrients, Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), and E. Coli shall be as specified in Initial Start-up Plan, Section 4.1 - Table I. Monitoring under this table shall not extend longer than 30 days and at the completion of the start up period the applicant submit a report as per Section 3.0, Item 3.

**2.5.2 Discharge Monitoring**

The permittee shall conduct routine discharge according to Section 4.2, Table IA, and IB. The permittee shall conduct start-up monitoring as per Section 4.1, table I for a 30 day period. In addition the permittee shall also conduct monitoring under Section 4.2, Table IC for a period of 60 days to determine the UV transmittance and UV dosage that will reduce *E coli* levels to non-detect levels. A representative sample of the wastewater shall be collected at sampling point #1, the point of discharge from the water reclamation facility. Section 4.1, Table I is for start-up monitoring. Section 4.2, Table IA is for routine discharge monitoring. Section 4.2, Table IB is for reclaimed water monitoring.

**2.5.3 Reclaimed Water Monitoring**

The permittee shall monitor the parameters listed under Table IB in addition to the routine discharge monitoring parameters listed in Table IA. Representative samples of the reclaimed water shall be collected at sampling point #1.

**2.5.4 Groundwater Monitoring and Sampling Protocols**

The permittee shall monitor the groundwater according to Section 4.2, Table IIA, IIB and IIC.

Groundwater monitoring under (Table IIA) POC#1 will continue only until POC #3 (Table IIC) has been commenced. Groundwater monitoring under Table IIB is required as a contingency when the discharge from outfall #7 exceeds 250,000 gpd averaged over a 90 day period. Ground water monitoring under Table IIC (POC #3) is required within 6 months of the permit issuance date or within 90 days of exceedance of the 250,000 gpd limit from outfall #6, averaged over a 90 day period.

Static water levels shall be measured and recorded prior to sampling. Wells shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, and conductivity) are stable, whichever represents the greater volume. If evacuation results

in the well going dry, the well shall be allowed to recover to 80% of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as “dry” for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the Self-Monitoring Report Form (SMRF).

#### **2.5.4.1 POC Well Replacement**

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, insufficient water in the well(s) for more than two (2) routine sampling events, or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is fifty feet or less from the original well, the ALs and AQLs established for the previously designated POC well shall apply to the replacement well.

#### **2.5.5 Surface Water Monitoring and Sampling Protocols**

Routine surface water monitoring is not required under the terms of this permit.

#### **2.5.6 Facility / Operational Monitoring**

Operational monitoring inspections shall be conducted according to Section 4.2, Table III.

- a. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented on the Self-Monitoring Report Form (SMRF) submitted quarterly to the ADEQ Water Quality Compliance Section, Data Unit (see Section 2.7.5). If none of the conditions occur, the report shall say “no event” for a particular reporting period. If the facility is not in operation, the permittee shall indicate this on the SMRF.
- b. The permittee shall submit data required in Section 4.2, Table III regardless of the operating status of the facility unless otherwise approved by the Department or allowed in this permit.

#### **2.5.7 Analytical Methodology**

All samples collected for compliance monitoring shall be analyzed using Arizona state approved methods. If no state approved method exists, then any appropriate EPA approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state certified laboratories can be obtained at the address below:

Arizona Department of Health Services  
Office of Laboratory Licensure and Certification  
250 North 17<sup>th</sup> Ave.  
Phoenix, AZ 85007  
Phone: (602) 364-0720

#### **2.5.8 Installation and Maintenance of Monitoring Equipment**

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Groundwater Section (see Section 2.7.5) for approval prior to installation and the permit shall be amended to include any new monitoring points.

## 2.6 Contingency Plan Requirements

[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

### 2.6.1 General Contingency Plan Requirements

At least one copy of the approved contingency and emergency response plan(s) submitted in the application shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plans.

Any alert level (AL) exceedance, or violation of an aquifer quality limit (AQL), discharge limits (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL or DL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

### 2.6.2 Exceeding of Alert Levels/Performance Levels

#### 2.6.2.1 Exceeding of Performance Levels (PL) Set for Operational Conditions

1. If the operational PL set in Section 4.2, Table III has been exceeded the permittee shall:
  - a. Notify the ADEQ Water Quality Compliance Section (by phone or fax, see Section 2.7.5) within five (5) days of becoming aware of an exceedance of any permit condition in Section 4.2, Table III.
  - b. Submit a written report to the ADEQ Water Quality Compliance Section (see Section 2.7.5) within thirty (30) days after becoming aware of an exceedance of a permit condition. The report shall document all of the following:
    - (1) A description of the exceedance and its cause;
    - (2) The period of the exceedance, including exact date(s) and time(s), if known, and the anticipated time period during which the exceedance is expected to continue;
    - (3) Any action taken or planned to mitigate the effects of the exceedance or spill, or to eliminate or prevent recurrence of the exceedance or spill;
    - (4) Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard (AWQS); and
    - (5) Any malfunction or failure of pollution control devices or other equipment or process.
2. The facility is no longer on alert status once the operational indicator no longer indicates that a PL is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

#### 2.6.2.2 Exceeding of Alert Levels (ALs) Set for Discharge Monitoring

1. If an AL set in Section 4.2, Table IA has been exceeded, the permittee shall immediately investigate to determine the cause of the exceedance. The investigation shall include the following:
  - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the exceedance.
  - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
  - c. Pretreatment source control for industrial pollutants.
2. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to the AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.
3. Within thirty (30) days of an AL exceedance, the permittee shall submit the laboratory results to the ADEQ Water Quality Compliance Section, Enforcement Unit, along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
4. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

#### **2.6.2.2.1. Exceeding Permit Flow Limit**

1. If the AL for average monthly flow in Section 4.2, Table IA is exceeded, the permittee shall submit an application for an APP amendment to expand the WRP or submit a report detailing the reasons that an expansion is not necessary.
2. Acceptance of the report instead of an application for expansion requires ADEQ approval.

#### **2.6.2.2.2. Contingency Sampling Plan for *E Coli* UV transmittance and UV dosage**

1. If the AL for UV transmittance and/or UV dosage for *E Coli* is exceeded, notify ADEQ within 5 days of any of above event being occurred. The permittee shall conduct verification sampling for *E Coli* until the sample results meet discharge limit of non-detect for *E Coli* for four consecutive days
2. The permittee shall submit a report including the laboratory results to ADEQ documenting that the effluent has met standards for *E Coli* within 10 days after completing the above sampling. Upon meeting the requirements in item #1, the facility shall commence routine discharge monitoring for *E coli* in Section 4.2, Table IA.

#### **2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring**

##### **2.6.2.3.1 Alert Levels for Indicator Parameters**

Alert levels have not been established for indicator parameters. Monitoring is for informational purposes only. Not required at time of permit issuance.

**2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards**

1. If an AL for a pollutant set in Section 4.2, Table IIA, IIB or IIC has been exceeded, the permittee may conduct verification sampling within five (5) days of becoming aware of the exceedance. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms the AL exceedance or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring for the pollutants set in Section 4.2, Table II as follows:

Specified Monitoring Frequency (Section 4.2, Table II)	Monitoring Frequency for AL Exceedance
Daily	Daily
Weekly	Daily
Monthly	Weekly
Quarterly	Monthly
Semi-annually	Quarterly
Annually	Quarterly

In addition, the permittee shall immediately initiate an investigation of the cause of the AL exceedance, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.

3. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Groundwater Section, that although an AL has been exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency for approval in writing by the Groundwater Section.
4. Within thirty (30) days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Water Quality Compliance Section (see Section 2.7.5) along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
5. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.
6. The increased monitoring required as a result of an AL exceedance may be reduced to the monitoring frequency in Section 4.2, Table II if the results of four sequential sampling events demonstrate that no parameters exceed the AL.

7. If the increased monitoring required as a result of an AL exceedance continues for more than six sequential sampling events, the permittee shall submit a second report documenting an investigation of the continued AL exceedance within 30 days of the receipt of laboratory results of the sixth sampling event.

**2.6.2.3.3 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards**

Not required at time of issuance.

**2.6.3 Discharge Limit (DL) Violations**

1. If a DL set in Section 4.2, Tables IA, IB, or IC has been violated, the permittee shall immediately investigate to determine the cause of the violation. The investigation shall include the following:
  - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the violation;
  - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
  - c. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the violation, the permittee shall sample individual waste streams composing the wastewater for the parameters in violation, if necessary to identify the cause of the violation.

The permittee shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. The permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

2. The permittee shall comply with the freeboard requirements as specified in Section 4.2, Table III (Facility Inspections) to prevent the overtopping of an impoundment or sludge drying bed. If an impoundment or sludge drying bed is overtopped, the permittee shall follow the requirements in Section 2.6.5.3 and the reporting requirements of Section 2.7.3.
3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

**2.6.3.1 Impoundment Overtopping**

If overtopping of an impoundment/pond occurs, the permittee shall:

1. Immediately cease all discharges to the impoundment to prevent any further releases to the environment.
2. Within five days of discovery, notify ADEQ as specified in Section 2.7.3 (Permit Violation and AL Status Reporting) of this permit.
3. Within five days, collect representative samples of the water contained in the pond.
4. Within five days of discovery, initiate removal and disposal of the excess water in the impoundment until the water level is restored at or below the two-foot freeboard level. Record the amount of wastewater removed, a description of the removal method, and

the disposal arrangements in the facility log/recordkeeping file. The facility log/recordkeeping file shall be maintained according to Section 2.7.2 of this permit.

5. Within five days of discovery, initiate an evaluation to determine the cause of the overtopping and identify the circumstances that resulted in the incident. Based on the evaluation of the incident, adjust operational practices and/or repair any systems or equipment as necessary to prevent future occurrences of overtopping. Within 30 days of discovery, implement these corrective actions as necessary to resolve the problems identified in the evaluation. Record the incident and any repairs to the facility in the facility log/recordkeeping file according to Section 2.7.2 of this permit.
  
6. Within 30 days of discovery of overtopping, submit a report to ADEQ as specified in Section 2.7.3 (Permit Violation and AL Status Reporting) of this permit. Include a description of the actions performed in 1 through 5 listed above and a copy of the analytical results, or if the investigation is incomplete, a plan of action to return the facility to compliance. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
  
7. Within 60 days of discovery, conduct an assessment of the impacts to the subsoil and/or groundwater resulting from the incident. If soil or groundwater is impacted, submit to ADEQ, for approval, a corrective action plan to address problems

**2.6.4 Aquifer Quality Limit (AQL) Violation**

1. If an AQL set in Section 4.2, Table IIA, IIB or IIC has been exceeded, the permittee may conduct verification sampling within five (5) days of becoming aware of the exceedance. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
  
2. If verification sampling confirms that an AQL was violated for any parameter or if the permittee opts not to perform verification sampling, then, the permittee shall increase the frequency of monitoring as follows:

Specified Monitoring Frequency (Section 4.2, Table II)	Monitoring Frequency for AQL Exceedance
Daily	Daily
Weekly	Daily
Monthly	Weekly
Quarterly	Monthly
Semi-annually	Quarterly
Annually	Quarterly

In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the permittee demonstrates within 30 days that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water, or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

## **2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. § 49-201(12) and pursuant to A.R.S. § 49-241**

### **2.6.5.1 Duty to Respond**

The permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. § 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

### **2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants**

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(19)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Southern Regional Office at (520) 628-6724, and the ADEQ Water Quality Compliance Section at (602) 771-4497 within 24 hours of discovering the discharge of hazardous material which: a) has the potential to cause an AWQS or AQL exceedance; or b) could pose an endangerment to public health or the environment.

### **2.6.5.3 Discharge of Non-hazardous Materials**

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the ADEQ Southern Regional Office at (520) 628-6724, and the ADEQ Water Quality Compliance Section at (602) 771-4497, within 24 hours of discovering the discharge of non-hazardous material which: a) has the potential to cause an AQL exceedance; or b) could pose an endangerment to public health or the environment.

### **2.6.5.4 Reporting Requirements**

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the ADEQ Southern Regional Office at 400 W. Congress, Suite 455, Tucson, Arizona 85701 and the ADEQ Water Quality Compliance Section (see Section 2.7.5), within thirty days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in the notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

## **2.6.6 Corrective Actions**

Specific contingency measures identified in Section 2.6 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the Groundwater Section prior to implementing a corrective action to accomplish any of the following goals in response to an AL exceedance, or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;

2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer;
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the operator shall submit to the ADEQ Water Quality Compliance Section (see Section 2.7.5), a written report describing the causes, impacts, and actions taken to resolve the problem.

## **2.7 Reporting and Recordkeeping Requirements**

[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

### **2.7.1 Self Monitoring Report Form (SMRF)**

1. The permittee shall complete the SMRF provided by ADEQ. The completed SMRF shall be submitted to the Water Quality Compliance Section, Data Unit.
2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the permittee shall enter "not required" on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.
3. The tables contained in Section 4.0 list the parameters to be monitored and the frequency for reporting results for compliance monitoring. Monitoring and analytical methods shall be recorded on the SMRF. The permittee reserves the right to request a relaxation of the monitoring frequency for metals and volatile organic compounds through a permit amendment if the data indicate that water quality standards are being achieved consistently.
4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) shall be included for an AL exceedance, or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

### **2.7.2 Operation Inspection / Log Book Recordkeeping**

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms, or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector
2. Date and shift inspection was conducted
3. Condition of applicable facility components
4. Any damage or malfunction, and the date and time any repairs were performed
5. Documentation of sampling date and time
6. Any other information required by this permit to be entered in the log book

Monitoring records for each measurement shall comply with R18-9-A206 (B) (2).

### **2.7.3 Permit Violation and Alert Level Status Reporting**

1. The permittee shall notify the Water Quality Compliance Section (see Section 2.7.5) in writing within five (5) days (except as provided in Section 2.6.5) of becoming aware of a an AL exceedance, or violation of any permit condition, AQL, or DL.

2. The permittee shall submit a written report to the Water Quality Compliance Section within 30 days of becoming aware of the violation of any permit condition, AQL, or DL. The report shall document all of the following:
  - a. Identification and description of the permit condition for which there has been a violation and a description of the cause;
  - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
  - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation;
  - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard (AWQS);
  - e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring; and
  - f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

#### **2.7.4 Operational, Other or Miscellaneous Reporting**

The permittee shall complete the Self-Monitoring Report Form (SMRF) provided by the Department to reflect facility inspection requirements designated in Section 4.2, Table III and submit to the ADEQ Water Quality Compliance Section, Data Unit (see Section 2.7.5) quarterly along with other reports required by this permit. Facility inspection reports shall be submitted no less frequently than quarterly, regardless of operational status.

If the treatment facility is classified for reclaimed water under this permit, the permittee shall submit the reclaimed water monitoring results and flow volumes to any of the following in accordance with A.A.C. R18-9-703(C)(2)(c):

1. Any reclaimed water agent who has contracted for delivery of reclaimed water from the permittee;
2. Any end user who has not waived interest in receiving this information.

#### **2.7.5 Reporting Location**

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality  
Water Quality Compliance Section, Data Unit  
Mail Code: 5415B-1  
1110 West Washington Street  
Phoenix, Arizona 85007  
Phone (602) 771-4681

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to the following address:

Arizona Department of Environmental Quality  
Water Quality Compliance Section  
Mail Code: 5415B-1  
1110 West Washington Street  
Phoenix, Arizona 85007

Phone (602) 771-4497  
 Fax (602) 771-4505

All documents required by this permit to be submitted to the Groundwater Section shall be directed to:

Arizona Department of Environmental Quality  
 Groundwater Section  
 Mail Code: 5415B-3  
 1110 West Washington Street  
 Phoenix, Arizona 85007  
 Phone (602) 771-4428

Arizona Department of Environmental Quality  
 Southern Regional Office  
 Suite 455  
 400 W. Congress  
 Tucson, Arizona 85701  
 Phone (520) 628-6724

**2.7.6 Reporting Deadline**

The following table lists the quarterly report due dates:

<b>Monitoring conducted during quarter:</b>	<b>Quarterly Report due by:<sup>2</sup></b>
January-March	April 30
April-June	July 30
July-September	October 30
October-December	January 30

The following table lists the semi-annual and annual report due dates:

<b>Monitoring conducted:</b>	<b>Report due by:</b>
Semi-annual: January-June	July 30
Semi-annual: July-December	January 30
Annual: January-December	January 30

**2.7.7 Changes to Facility Information in Section 1.0**

The Groundwater Section and Water Quality Compliance Section shall be notified (see Section 2.7.5) within ten (10) days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person, or Emergency Telephone Number.

**2.8 Temporary Cessation [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]**

The permittee shall give written notice to the Water Quality Compliance Section and the Southern Regional Office 400 West Congress Street Suite 433 Tucson, AZ 85701 before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

<sup>2</sup> A postmark date no later than the due date is considered meeting the due date requirements under this Section.

1. If applicable, direct the wastewater flows from the facility to another state-approved wastewater treatment facility.
2. Correct the problem that caused the temporary cessation of the facility.
3. Notify ADEQ with a monthly facility status report describing the activities conducted on the treatment facility to correct the problem.

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the Water Quality Compliance Section and the ADEQ Southern Regional Office of the operational status of the facility every three (3) years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

**2.9 Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(B)]**

For a facility addressed under this permit, the permittee shall give written notice of closure to the Water Quality Compliance Section (see Section 2.7.5) of the intent to cease operation without resuming activity for which the facility was designed or operated.

**2.9.1 Closure Plan**

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Section, a closure plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(3).

If the closure plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the permittee. If the closure plan contains a schedule for bringing the facility to a clean-closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

**2.9.2 Closure Completion**

Upon completion of closure activities, the permittee shall give written notice to the Groundwater Section indicating that the approved closure plan has been implemented fully and providing supporting documentation to demonstrate that clean-closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean-closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of post-closure stated in this permit:

1. Clean-closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with the Aquifer Water Quality Standards at the applicable point of compliance;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
5. Further action is necessary to meet property use restrictions.

**2.10 Post-closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]**

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Groundwater Section.

In the event clean closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Section a post-closure plan that addresses post-closure maintenance and monitoring actions at the facility. The post-closure plan shall meet all requirements of A.R.S. §§ 49-201(30) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the post-closure plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the post-closure plan.

**2.10.1 Post-Closure Plan**

A specific post-closure plan may be required upon the review of the closure plan.

**2.10.2 Post-Closure Completion**

Not required at the time of permit issuance.

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**3.0 COMPLIANCE SCHEDULE [A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]**

For each compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Groundwater Section. A copy of the cover letter must also be submitted to the ADEQ Water Quality Compliance Section.

<b>Description</b>	<b>Due by:</b>
1. The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion (ECOC) pursuant to A.A.C. R18-9-B203(E), in a format approved by the Department that confirms that the new wastewater reclamation facilities were constructed according to the Department-approved design report or plans and specifications, as applicable for this permit.	Prior to initiation of discharge from the new wastewater reclamation facilities.
2. The permittee shall submit the required back-up documentation for the Engineers Certificate of Completion (ECOC) pursuant to A.A.C. R18-9-B203(E), signed, dated, and sealed by an Arizona registered professional engineer.	No later than 90 days from new facility start-up.
3. Notify ADEQ of the date of the new WWTP start-up	Within 5 days prior to the start-up of the new WWTP.
4. Submit a 30 day start-up operational report. Explain all AL exceedances. See Section 4.1, Table I.	Within 30 days of discontinuing start-up monitoring.
5. Begin Routine Discharge monitoring. See Section 4, Table IA.	No later than the 31 <sup>st</sup> day from the commencement of the WWTP operation.
6. The Permittee shall install a new POC well (POC # 3) located at the northwest corner of future Basin 6d (Lat 32° 10' 05" N, Long 111° 11' 05" W). A well installation report should be submitted to the ADEQ Groundwater Section.	Within 6 months of permit issuance or 90 days of exceeding a discharge of 250, 000gpd over a 90 day period.
7. Notify ADEQ when flow reaches 2.9 mgd monthly average.	Within 30 days of flow reaching 2.9 mgd limit.
8. Begin construction of Basins 6A – 6D.	Within 30 days of flow reaching 2.9 mgd monthly average limit.
9. The Permittee shall submit a signed, dated, and sealed ECOC that confirms that percolation basins 6A- 6D were constructed according to the Department approved design report, or plans and specifications, as applicable for this permit.	Prior to initiation of discharge into the percolation basins.
10. The Permittee shall submit a signed, dated, and sealed ECOC pursuant to A.A.C.R18-9-B203 (E), in a format approved by the Department that confirms that the new lined emergency overflow basin was constructed according to the Department approved design report, or plans and specifications, as applicable for this permit.	Prior to initiation of discharge into the new emergency overflow basin.

<p>11. Notify ADEQ when monitoring under Section 4.2, Table I-C commences. Monitoring under Table 4.2, Table I-C shall commence no later than 31 days from the signature date of the permit.</p>	<p>Within 10 days of commencing monitoring.</p>
<p>12. Notify ADEQ when the 60 day test has been completed. (Section 2.5.1.1)</p>	<p>Within 10 days of the last sample.</p>
<p>13. Submit a 60 day report that demonstrates that the alternative indicator parameters for UV disinfection will produce the effluent quality required for Table IA, <i>E coli</i> monitoring.</p>	<p>Within 30 days of completing the 60 day test.</p>
<p>14. Discontinuing monitoring under Section 4.2, Table IC.</p>	<p>Upon receiving written approval from ADEQ.</p>

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**4.0 TABLES OF MONITORING REQUIREMENTS**

**4.1 PRE-OPERATIONAL MONITORING (OR CONSTRUCTION REQUIREMENTS)**

**TABLE I  
INITIAL START-UP MONITORING**

Sampling Point Number	Sampling Point Identification		Latitude	Longitude
1	Discharge from the UV disinfection.		32° 10' 0" N	111° 10' 33" W
Parameter	AL <sup>3</sup> (1 - 30 days after initial start-up)	Units	Sampling Frequency	Reporting Frequency
BOD (30-day average)	30	mg/l	Weekly	Quarterly
BOD (7-day average)	45	mg/l	Weekly	Quarterly
TSS (30-day average)	30	mg/l	Weekly	Quarterly
TSS (7-day average)	45	mg/l	Weekly	Quarterly
E. Coli (single sample max)	504	CFU or MPN	Daily	Quarterly
E. Coli (monthly) average)	126	CFU or MPN	Daily	Quarterly
Total Nitrogen <sup>4</sup>	10.0	mg/l	Weekly	Quarterly
Nitrate-Nitrite as N	Monitor	mg/l	Weekly	Quarterly
Kjeldahl Nitrogen	Monitor	mg/l	Weekly	Quarterly

**4.0 TABLES OF MONITORING REQUIREMENTS**

<sup>3</sup> AL= Alert Level. The permittee shall explain all measures to improve facility performance in the report to be submitted after the end of the test start-up period.

<sup>4</sup> Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA

ROUTINE DISCHARGE MONITORING FOR 4.0 mgd  
(New and Existing WWTP)<sup>5</sup>

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
1	Discharge from the UV disinfection. (New Plant)			32° 10' 0" N	111° 10' 33" W
1A	Discharge from secondary clarifiers (Existing WWTP)			32° 09' 53" N	111° 10' 31" W
Parameter	AL <sup>6</sup>	DL <sup>7</sup>	Units	Sampling Frequency	Reporting Frequency
Total Flow <sup>8</sup> : Daily <sup>9</sup>	Monitor	Monitor	mgd	Daily <sup>10</sup>	Quarterly
Total Flow: Average Monthly <sup>11</sup> (New 4.0 mgd Plant)	3.8	4.0	mgd	Monthly Calculation	Quarterly
Total Flow: Average Monthly (Existing 2.2 mgd Plant)	2.09	2.2	mgd	Monthly Calculation	Quarterly
Flow Percolation Ponds: Daily	Monitor	Monitor	mgd	Daily	Quarterly
Flow Percolation Ponds: Average Monthly	Monitor	Monitor	mgd	Monthly	Quarterly
Flow AZPDES: daily	Monitor	Monitor	mgd	Daily	Quarterly
Flow AZPDES: Average Monthly, Outfall # 6.	250,000 <sup>12</sup>	Monitor	gpd	Monthly	Quarterly
Flow AZPDES: Average Monthly, Outfall # 7 <sup>13</sup>	250,000 <sup>14</sup>	Monitor	gpd	Monthly	Quarterly
Total Flow: AZPDES Average Monthly	Monitor	Monitor	mgd	Monthly	Quarterly
Total Flow Reclaimed Water : Daily	Monitor	Monitor	mgd	Daily	Quarterly
Total Flow Reclaimed Water : Average Monthly <sup>15</sup>	Monitor	Monitor	mgd	Monthly Calculation	Quarterly
Total Nitrogen <sup>16</sup> : 5-sampling rolling geometric mean	8.0	10.0	mg/l	Monthly <sup>17</sup>	Quarterly
Nitrate-Nitrite as N	8.0	10.0	mg/l	Monthly	Quarterly

<sup>5</sup> This table monitors the effluent for the WWTP's new sampling point I and the existing sampling point IA.

<sup>6</sup>AL = Alert Level

<sup>7</sup>DL=Discharge Limit

<sup>8</sup>Total flows are the sum of flows to percolation basins, Blackwash spray fields, outfall 6, outfall 7 and reclaimed water.

<sup>9</sup>Total flow is measured in million gallons per day (mgd).

<sup>10</sup>Flow shall be measured using a continuous recording flow meter which totals the flow daily.

<sup>11</sup>Monthly = Calculated value = Average of daily flows in a month (Percolation Ponds + AZPDES + Reclaimed Water)

<sup>12</sup> Average flow over a 90 day period

<sup>13</sup> Permittee shall commence monitoring under table IIB upon exceeding this limit.

<sup>14</sup> Average flow over a 90 day period.

<sup>15</sup> Monthly average of daily flow values.

<sup>16</sup>Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen.

<sup>17</sup>A five-Month Geometric Mean of the results of the five (5) most recent samples

BOD (30-day average)	Not established	30	mg/l	Monthly	Quarterly
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4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
ROUTINE DISCHARGE MONITORING (continued)

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
1	Discharge from the UV disinfection. <sup>18</sup>			32° 10' 0" N	111° 10' 33" W
Parameter	AL <sup>19</sup>	DL <sup>20</sup>	Units	Sampling Frequency	Reporting Frequency
BOD (7-day average)	Not established	45	mg/l	Monthly	Quarterly
TSS (30-day average)	Not established	30	mg/l	Monthly	Quarterly
TSS (7-day average)	Not established	45	mg/l	Monthly	Quarterly
pH	Not established	6 - 9	Standard Units	Monthly	Quarterly
<i>E. coli</i> (New 4.0 mgd Plant)	Not established	Non detectable <sup>21</sup>	CFU or MPN	Weekly	Quarterly
<i>E. coli</i> (Existing 2.2 mgd Plant)	Not established	Not established	CFU or MPN	Monthly	Quarterly
UV Transmittance <sup>22</sup>	65	Not established	% Transmittance	Continuous <sup>23</sup>	Quarterly
UV Dose <sup>24</sup>	90	Not established	mJ/cm <sup>2</sup>	Continuous	Quarterly

<sup>18</sup> This table monitors the effluent discharged to percolation basins and the Blackwash.

<sup>19</sup> AL = Alert Level

<sup>20</sup> DL=Discharge Limit

<sup>21</sup> Absence (or non-detect) is equivalent to less than 2.2 MPN (most probable number) per 100/ml, or 1.0 CFU/100 ml.

<sup>22</sup> In the event UV transmittance falls below alerts levels, daily *E Coli* monitoring will be used to demonstrate compliance with disinfection standards. An exceedance must be explained and submitted to the department with the corresponding quarterly SMRF

<sup>23</sup> Continuous = Continuous monitoring shall be reported as the minimum reading during a 24 hour period.

<sup>24</sup> In the event UV Dosage falls below alerts levels, daily *E Coli* monitoring will be used to demonstrate compliance with disinfection standards. An exceedance must be explained and submitted to the department with the corresponding quarterly SMRF.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
DISCHARGE MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Metals (Total):</b>					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

## 4.0 TABLES OF MONITORING REQUIREMENTS

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE 1A**  
**DISCHARGE MONITORING** (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs):</b>					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) <sup>25</sup>	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

<sup>25</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
ROUTINE DISCHARGE MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>26</sup>	Monitor	S.U.	Quarterly	Quarterly
Iron	Monitor	Monitor	mg/l	Quarterly	Quarterly
Manganese	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Organic Carbon	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Dissolved Solids	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sodium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Potassium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Calcium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Magnesium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Chloride	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sulfate	Monitor	Monitor	mg/l	Quarterly	Quarterly
Alkalinity	Monitor	Monitor	mg/l	Quarterly	Quarterly
Specific Conductivity (field)	Monitor	Monitor	µmhos/cm	Quarterly	Quarterly

<sup>26</sup> Monitoring required, but no limits established. Monitoring is for informational purposes only.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IB  
RECLAIMED WATER MONITORING - CLASS B+<sup>27</sup>

Sampling Point Number	Sampling Point Identification		Latitude	Longitude
1	Discharge from the UV disinfection.		32° 10' 0" N	111° 10' 33" W
Parameter	DL	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>28</sup> : Five-sample rolling geometric	10.0	mg/l	Monthly <sup>29</sup>	Quarterly
<i>E. coli</i> <sup>30</sup> : Single-sample maximum	504	CFU or MPN <sup>31</sup>	Daily <sup>32</sup>	Quarterly
<i>E. coli</i> : Four of last seven samples	126	CFU or MPN	Daily	Quarterly

<sup>27</sup> Reclaimed water monitoring is in addition to routine discharge monitoring. Table IB monitoring shall be performed anytime effluent is discharged to any reuse site.

<sup>28</sup> Nitrate N, plus Nitrite N, plus Total Kjeldahl Nitrogen (TKN)

<sup>29</sup> A five-month geometric mean of the results of the five most recent samples.

<sup>30</sup> *E. coli* monitoring results that meet the specified discharge limits are considered to demonstrate compliance with A.A.C. R18-11-305.

<sup>31</sup> CFU = Colony Forming Units per 100 ml; MPN = Most Probable Number per 100 ml

<sup>32</sup> For *E. coli*, "daily" sampling means every day in which a sample can practicably be obtained and delivered in sufficient time for proper analysis, provided that no less than four samples in each seven-day period are obtained and analyzed.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IC  
60 DAY TEST FOR ALTERNATIVE INDICATOR PARAMETER<sup>33</sup>

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
1	Discharge from the UV disinfection.			32° 10' 0" N	111° 10' 33" W
Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<i>E.coli</i> : Single sample maximum	Not established	15	CFU or MPN <sup>34</sup>	Daily <sup>35</sup>	Quarterly
<i>E.coli</i> : four (4) of seven (7) samples in a week <sup>36</sup>	Not Established	Non detectable <sup>37</sup>	CFU or MPN	Daily	Quarterly
UV Transmittance <sup>38</sup>	65	Not established	% Transmittance	Continuous <sup>39</sup>	Quarterly
UV Dose <sup>40</sup>	90	Not established	mJ/cm <sup>2</sup>	Continuous	Quarterly

<sup>33</sup> Monitoring under this table maybe be discontinued after ADEQ approves the results of the 60 day test.

<sup>34</sup>CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample. For CFU, a value of <1 shall be considered to be non-detect. For MPN, a value of <2.2 shall be considered to be non-detect.

<sup>35</sup>“Daily” means seven samples in a week

<sup>36</sup>“Week” means a seven (7) calendar days from Sunday through Saturday.

<sup>37</sup> Absence (or non-detect) is equivalent to less than 2.2 MPN (most probable number) per 100/ml, or 1.0 CFU/100 ml.

<sup>38</sup> In the event UV transmittance falls below alerts levels, daily *E Coli* monitoring will be used to demonstrate compliance with disinfection standards. An exceedance must be explained and submitted to the department with the corresponding quarterly SMRF.

<sup>39</sup> Continuous = Continuous monitoring shall be reported as the minimum reading during a 24 hour period.

<sup>40</sup> In the event UV Dosage falls below alerts levels, daily *E Coli* monitoring will be used to demonstrate compliance with disinfection standards. An exceedance must be explained and submitted to the department with the corresponding quarterly SMRF.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIA  
GROUNDWATER MONITORING

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
2	POC #1 <sup>41</sup> (well # 24 )			32° 10' 07" N	111° 10' 59" W
Parameter	AL <sup>42</sup>	AQL <sup>43</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>44</sup>	8.0	10.0	mg/l	Monthly	Quarterly
Nitrate-Nitrite as N	8.0	10.0	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Not Established <sup>45</sup>	Not Established	mg/l	Monthly	Quarterly
Total Coliform	Absence	Absence <sup>46</sup>	CFU or MPN <sup>47</sup>	Monthly	Quarterly

<sup>41</sup> Monitoring POC #1 will continue only until POC #3 (Table IIC) has commenced.

<sup>42</sup> AL = Alert Level

<sup>43</sup> AQL = Aquifer Quality Limit

<sup>44</sup> Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

<sup>45</sup> Not Established = Monitoring required, but no limits have been established at this time.

<sup>46</sup> Absence (or non-detect) is equivalent to less than 2.2 MPN (most probable number) per 100/ml, or 1.0 CFU/100 ml. A positive result for total coliform may be verified with an analysis for *E. coli*. A positive result for *E. coli* shall be considered an exceedance of the AQL for total coliform.

<sup>47</sup> CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

## 4.0 TABLES OF MONITORING REQUIREMENTS

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA**  
**GROUNDWATER MONITORING** (continued)

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Metals (Total):</b>					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

## 4.0 TABLES OF MONITORING REQUIREMENTS

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA**  
**GROUNDWATER MONITORING (continued)**

Parameter	AL	AQ	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs):</b>					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) <sup>48</sup>	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

<sup>48</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

## 4.0 TABLES OF MONITORING REQUIREMENTS

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA**  
**GROUNDWATER MONITORING (continued)**

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>49</sup>	Monitor	S.U.	Quarterly	Quarterly
Iron	Monitor	Monitor	mg/l	Quarterly	Quarterly
Manganese	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Organic Carbon	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Dissolved Solids	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sodium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Potassium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Calcium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Magnesium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Chloride	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sulfate	Monitor	Monitor	mg/l	Quarterly	Quarterly
Alkalinity	Monitor	Monitor	mg/l	Quarterly	Quarterly
Specific Conductivity (field)	Monitor	Monitor	µmhos/cm	Quarterly	Quarterly

<sup>49</sup> Monitoring required, but no limits established. Monitoring is for informational purposes only.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIB  
GROUNDWATER MONITORING

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
3	POC #2 <sup>50</sup> (well # 21 )			32°09' 50" N	111° 11' 38" W
Parameter	AL <sup>51</sup>	AQL <sup>52</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>53</sup>	8.0	10.0	mg/l	Monthly	Quarterly
Nitrate-Nitrite as N	8.0	10.0	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Not Established <sup>54</sup>	Not Established	mg/l	Monthly	Quarterly
Total Coliform	Absence	Absence <sup>55</sup>	CFU or MPN <sup>56</sup>	Monthly	Quarterly

<sup>50</sup>Monitoring POC #2 is required as a contingency and shall continue indefinitely once the discharge from outfall #7 exceeds 250,000 gpd averaged over a 90 day period.

<sup>51</sup> AL = Alert Level

<sup>52</sup> AQL = Aquifer Quality Limit

<sup>53</sup> Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

<sup>54</sup> Not Established = Monitoring required, but no limits have been established at this time.

<sup>55</sup> Absence (or non-detect) is equivalent to less than 2.2 MPN (most probable number) per 100/ml, or 1.0 CFU/100 ml. A positive result for total coliform may be verified with an analysis for *E. coli*. A positive result for *E. coli* shall be considered an exceedance of the AQL for total coliform.

<sup>56</sup> CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIB  
GROUNDWATER MONITORING (continued)

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Metals (Total):</b>					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

## 4.0 TABLES OF MONITORING REQUIREMENTS

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIB**  
**GROUNDWATER MONITORING** (continued)

Parameter	AL	AQ	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs):</b>					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) <sup>57</sup>	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

<sup>57</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIB  
GROUNDWATER MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>58</sup>	Monitor	S.U.	Quarterly	Quarterly
Iron	Monitor	Monitor	mg/l	Quarterly	Quarterly
Manganese	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Organic Carbon	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Dissolved Solids	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sodium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Potassium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Calcium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Magnesium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Chloride	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sulfate	Monitor	Monitor	mg/l	Quarterly	Quarterly
Alkalinity	Monitor	Monitor	mg/l	Quarterly	Quarterly
Specific Conductivity (field)	Monitor	Monitor	µmhos/cm	Quarterly	Quarterly

<sup>58</sup> Monitoring required, but no limits established. Monitoring is for informational purposes only.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIC  
GROUNDWATER MONITORING

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
4	Hazardous POC #3 <sup>59</sup> (well # 22 )			32°10' 05" N	111° 11' 05" W
Parameter	AL <sup>60</sup>	AQL <sup>61</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>62</sup>	8.0	10.0	mg/l	Monthly	Quarterly
Nitrate-Nitrite as N	8.0	10.0	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Not Established <sup>63</sup>	Not Established	mg/l	Monthly	Quarterly
Total Coliform	Absence	Absence <sup>64</sup>	CFU or MPN <sup>65</sup>	Monthly	Quarterly

<sup>59</sup> Monitoring POC #3 is required within 6 months of the permit issuance date or within 90 days of exceedance of the 250,000 gpd limit, averaged over a 90 day period.

<sup>60</sup> AL = Alert Level

<sup>61</sup> AQL = Aquifer Quality Limit

<sup>62</sup> Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

<sup>63</sup> Not Established = Monitoring required, but no limits have been established at this time.

<sup>64</sup> Absence (or non-detect) is equivalent to less than 2.2 MPN (most probable number) per 100/ml, or 1.0 CFU/100 ml. A positive result for total coliform may be verified with an analysis for *E. coli*. A positive result for *E. coli* shall be considered an exceedance of the AQL for total coliform.

<sup>65</sup> CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

## 4.0 TABLES OF MONITORING REQUIREMENTS

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIC**  
**GROUNDWATER MONITORING** (continued)

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Metals (Total):</b>					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

## 4.0 TABLES OF MONITORING REQUIREMENTS

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIC**  
**GROUNDWATER MONITORING (continued)**

Parameter	AL	AQ	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs):</b>					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) <sup>66</sup>	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

<sup>66</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIC  
GROUNDWATER MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>67</sup>	Monitor	S.U.	Quarterly	Quarterly
Iron	Monitor	Monitor	mg/l	Quarterly	Quarterly
Manganese	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Organic Carbon	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Dissolved Solids	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sodium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Potassium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Calcium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Magnesium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Chloride	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sulfate	Monitor	Monitor	mg/l	Quarterly	Quarterly
Alkalinity	Monitor	Monitor	mg/l	Quarterly	Quarterly
Specific Conductivity (field)	Monitor	Monitor	µmhos/cm	Quarterly	Quarterly

<sup>67</sup> Monitoring required, but no limits established. Monitoring is for informational purposes only.

**4.0 TABLES OF MONITORING REQUIREMENTS**

**4.2 COMPLIANCE (or OPERATIONAL) MONITORING**

**TABLE III  
FACILITY INSPECTION (Operational Monitoring)**

Pollution Control Structure	Performance Levels	Inspection Frequency
Treatment Plant Components	Good working condition <sup>68</sup>	Weekly
Pump Integrity	Good working condition <sup>69</sup>	Weekly
Lined Emergency Overflow Basin	No visible deterioration, structural damage, breach, holes, cracks, or leakage greater than 550 gpd/acre.	Weekly
Lined Effluent Water Reservoir	No visible deterioration, structural damage, breach, holes, cracks, or leakage greater than 550 gpd/acre.	Weekly
Percolation Basins <sup>70</sup>	Maintain a freeboard of 2 feet	Weekly
Sludge Drying Bed Freeboard	One (1) Linear Foot	Weekly
Sludge Drying Bed Liner Integrity	No cracks or leaks that would exceed a leakage rate of 550 gpd/acre	Weekly

<sup>68</sup> The WRF components are operating appropriately and the wastewater is being discharged to its intended location.

<sup>69</sup> The pump or pumping equipment is operating appropriately and the wastewater is being discharged to its intended location.

<sup>70</sup> In the case of an exceedance, identify which percolation basin(s) exceed the performance level on the SMRF.

**5.0 REFERENCES AND PERTINENT INFORMATION**

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

1. APP Application dated: April 5, 1999 (APP, signed on 6/10/00)  
 March 7, 2003 (Significant Amendment)  
 July 27, 2005 (Other Amendment)  
 October 10, 2008 (Significant Amendment)  
 December 18, 2007 (Significant Amendment)
2. Contingency Plan, dated: April 5, 1999 (original Permit)  
 March 7, 2003 (Significant Amendment)  
 July 27, 2005 (Other Amendment)  
 October 10, 2008 (Significant Amendment)  
 December 18, 2007 (Significant Amendment)
3. Final Hydrologist Report dated: June 17, 2004 (Significant Amendment)  
 August 14, 2006 (Other Amendment)  
 April 15, 2008 (Significant Amendment)
4. Final Engineering Report dated: October 28, 2003 (Significant Amendment)  
 December 12, 2005 (Other Amendment)  
 May 14, 2008 (Significant Amendment)
5. Public Notice dated: April 6, 2000 (APP)  
 June 22, 2004 (Significant Amendment)  
 August 22, 2006 (Significant Amendment)  
 February 9, 2009 (Significant Amendment)  
 March ?, 2009 (Significant Amendment)
6. Public Hearing, dated: Not applicable
7. Responsiveness Summary, dated: Not applicable

## 6.0 NOTIFICATION PROVISIONS

### 6.1 Annual Registration Fees

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by A.R.S. § 49-242(D).

### 6.2 Duty to Comply [A.R.S. §§ 49-221 through 263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

### 6.3 Duty to Provide Information [A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

### 6.4 Compliance with Aquifer Water Quality Standards [A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]

The permittee shall not cause or contribute to a violation of an Aquifer Water Quality Standard at the applicable point of compliance for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an Aquifer Water Quality Standard for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

### 6.5 Technical and Financial Capability

[A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

### 6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]

The permittee shall notify the Director within five days after the occurrence of any one of the following:

1. The filing of bankruptcy by the permittee;
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

### 6.7 Monitoring and Records [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A206]

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223 and §§ 49-241 through 49-252.

### 6.8 Inspection and Entry [A.R.S. §§ 49-1009, 49-203(B), and 49-243(K)(8)]

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

**6.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]**

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices authorized by this permit.

**6.10 Permit Action: Amendment, Transfer, Suspension, and Revocation  
[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]**

This permit may be amended, transferred, suspended, or revoked for cause, under the rules of the Department. The permittee shall notify the Groundwater Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

**7.0 ADDITIONAL PERMIT CONDITIONS**

**7.1 Other Information [A.R.S. § 49-243(K)(8)]**

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

**7.2 Severability  
[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

**7.3 Permit Transfer**

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).