

STATE OF ARIZONA
AQUIFER PROTECTION PERMIT NO. P-511946
PLACE ID 149002, LTF 63329

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, the Arizona Department of Environmental Quality (ADEQ) hereby authorizes the City of Surprise to operate the SPA-1 Bell Road Lake/Surprise Center Recharge Facility, located at 15105 West Bell Road, in Surprise, Arizona (Maricopa County), over groundwater of the Salt River Valley Groundwater Basin, in the Phoenix Active Management Area (AMA), in Township 03N, Range 01W, east half of Section 05, 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: City of Surprise - SPA-1 Bell Road Lake/Surprise Center Recharge Facility
Facility Address: 15105 West Bell Road
Surprise, Arizona 85374
County: Maricopa
Permittee: City of Surprise
Permittee Address: 16000 North Civic Center Plaza
Surprise, Arizona 85374
Permitted Flow Rate: 8,930,000 gallons per day (gpd)
Facility Contact: Environmental Manager
Emergency Phone No.: (623) 222-7035
Latitude/Longitude: 33° 37' 48.3" N / 112° 22' 57.11" W
Legal Description: Township 03N, Range 01W, east half of Section 05, of the Gila and Salt River Baseline and Meridian

1.2 AUTHORIZING SIGNATURE

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

Signed this _____ day of _____, 2019

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 permittee is authorized to operate the Bell Road Lake/Surprise Center (BRL-SC) Recharge Facility, an underground storage and recovery project for the recharge of up to 9.830 million gallons per day (mgd) of effluent. The BRL-SC shall receive Class A+ Reclaimed water conveyed via an underground pipeline from the City of Surprise - SPA-1 Water Reclamation Facility (WRF) permitted under APP P-102478. The City of Surprise - SPA-1 WRF produces effluent that is denitrified, filtered, and disinfected to meet Best Available Demonstrated Control Technology (BADCT) standards for new facilities, as per A.A.C. R18-9-B204. The permittee has an underground Storage Facility and Water Storage Permits issued by Arizona Department of Water Resources (ADWR) for this facility.

The BRL-SC will consist of twenty-five (25) Vadose Zone (VZ) (injection) and ten (10) Contingency VZ wells to be located 3-miles north-northwest of the SPA-1- WRF.

The depth to groundwater is approximately 380.5 feet below the recharge facility and the direction of groundwater flow is to the southeast.

Bell Road Lake/Surprise Center (BRL-SC)			
Facility	Latitude	Longitude	Screen Intervals (ft, bls)
Bell Road Lake (BRL)			
BRL-VZ-1	33° 38' 17.45690" N	112° 23' 06.73126" W	40-150
BRL-VZ-2	33° 38' 17.46138" N	112° 23' 05.54844" W	40-150
BRL-VZ-3	33° 38' 18.45073" N	112° 23' 05.55380" W	40-150
BRL-VZ-4	33° 38' 18.45521" N	112° 23' 04.37097" W	40-150
BRL-VZ-5	33° 38' 18.45969" N	112° 23' 03.18815" W	40-150
BRL-VZ-6	33° 38' 18.46416" N	112° 23' 02.00533" W	40-150
BRL-VZ-7	33° 38' 17.47480" N	112° 23' 01.99999" W	40-150
BRL-VZ-8	33° 38' 16.48544" N	112° 23' 01.99464" W	40-150
BRL-VZ-9	33° 38' 15.49608" N	112° 23' 01.98930" W	40-150
BRL-VZ-10	33° 38' 15.49161" N	112° 23' 03.17211" W	40-150
BRL-VZ-11	33° 38' 15.48714" N	112° 23' 04.35492" W	40-150
BRL-VZ-12	33° 38' 15.48266" N	112° 23' 05.53773" W	40-150
BRL-VZ-13	33° 38' 15.47818" N	112° 23' 06.72054" W	40-150
BRL-VZ-14	33° 38' 16.46754" N	112° 23' 06.72590" W	40-150
Surprise Center (SC)			
SC-VZ-1	33° 37' 55.72675" N	112° 22' 57.15151" W	40-150
SC-VZ-2	33° 37' 54.24271" N	112° 22' 57.14352" W	40-150
SC-VZ-3	33° 37' 52.75867" N	112° 22' 57.13553" W	40-150
SC-VZ-4	33° 37' 51.27464" N	112° 22' 57.12754" W	40-150
SC-VZ-5	33° 37' 49.79060" N	112° 22' 57.11955" W	40-150
SC-VZ-6	33° 37' 48.30656" N	112° 22' 57.11156" W	40-150
SC-VZ-7	33° 37' 46.82252" N	112° 22' 57.10358" W	40-150
SC-VZ-8	33° 37' 45.33848" N	112° 22' 57.09559" W	40-150
SC-VZ-9	33° 37' 43.85444" N	112° 22' 57.08760" W	40-150
SC-VZ-10	33° 37' 42.37040" N	112° 22' 57.07961" W	40-150
SC-VZ-11	33° 37' 40.88649" N	112° 22' 57.03614" W	40-150
Contingency Wells			
Contingency VZ-1	33° 37' 55.73343" N	112° 22' 55.37741" W	40-150

Contingency VZ-2	33° 37' 55.74011" N	112° 22' 53.60330" W	40-150
Contingency VZ-3	33° 37' 55.74677" N	112° 22' 51.82920" W	40-150
Contingency VZ-4	33° 37' 55.75343" N	112° 22' 50.05509" W	40-150
Contingency VZ-5	33° 37' 55.76008" N	112° 22' 48.28099" W	40-150
Contingency VZ-6	33° 37' 55.76673" N	112° 22' 46.50688" W	40-150
Contingency VZ-7	33° 37' 46.82920" N	112° 22' 55.32952" W	40-150
Contingency VZ-8	33° 37' 46.83587" N	112° 22' 53.55547" W	40-150
Contingency VZ-9	33° 37' 46.84253" N	112° 22' 51.78141" W	40-150
Contingency VZ-10	33° 37' 46.84919" N	112° 22' 50.00736" W	40-150

The preliminary design plan well construction specifications indicate a screened interval from 40 feet to 150 feet below ground surface for the injection wells. Depth to groundwater at the recharge site is approximately 380.5 feet bgs and the direction of groundwater flow is to the southeast.

Annual Registration Fee [A.R.S. § 49-242 and A.A.C. R18-14-104]

The annual registration fee for this permit is payable to ADEQ each year. The permitted flow for fee calculation is 8,930,000 gallons per day (gpd). The Permittee shall notify ADEQ of any change in facility contact information according to Section 2.7.7.

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 (B)(1) and (2). The estimated dollar amount for the closure/post closure cost of the Injection Wells is \$911,000.00 and post-closure cost is \$60,000.00 for a total closure and post-closure cost of \$971, 000.00.

2.2 Best Available Demonstrated Control Technology (BADCT)

[A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]

Underground storage and recovery projects are exempt from BADCT as per A.A.C. R18-9-A201(C). The Class A+ reclaimed water being injected and recharged at the BRL-SC is conveyed from the SPA-1 WRF. The SPA-1 WRF was designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204 per APP P-102478.

2.2.1 Engineering Design

The Aquifer Storage and Recovery (ASR) Vadose Injection wellheads were designed as per the design prepared and stamped, dated, and signed (sealed) by Steven Corell, R.G. (Registered Geologist) Clear Creek Associates, dated March 31, 2018.

2.2.2 Site-specific Characteristics

The size, number, and proposed operation of the recharge wells used site-specific data for soil type and infiltration rates. Thirty-five (35) aquifer storage and recovery (ASR) wells operating at an estimated recharge rate between 250 gallons per minute (gpm) is estimated to be sufficient to recharge 8.93 million gallons of effluent per day (mgd).

2.2.3 Pre-operational Requirements

Prior to initiating operation of the new Recharge Facility the permittee shall submit:

- A signed, dated, and sealed Engineer’s Certificate of Completion for the POC Well #1 and #2 in a format approved by the Department per the Section 3.0 (Compliance Schedule) Items 3.1 and 3.2 and Section 2.7.4.1.
- A signed, dated, and sealed Engineer’s Certificate of Completion for the vadose zone wells (25) in a format approved by the Department per the Section 3.0 (Compliance Schedule) Items 3.3 and 3.4 and Section 2.7.4.1.

- A signed, dated, and sealed Engineer’s Certificate of Completion for the Contingency Vadose Zone Wells (10) in a format approved by the Department per the Section 3.0 (Compliance Schedule) Item 3.5 and Section 2.7.4.1.
- Ambient groundwater monitoring shall be conducted at POC Wells #1 and #2 to establish background water quality in the aquifer per Sections 2.5.5.2, 2.5.5.3, and 2.5.5.4. An Ambient Groundwater Monitoring Report shall be submitted to ADEQ in accordance with Section 3.0 (Compliance Schedule), items #3.6 and #3.7 of this permit. The permitted shall submit the laboratory report within 30 days of the date of sample collection to the ADEQ, Groundwater Protection Value Stream per Section 2.7.4.2.

2.2.4 Operational Requirements

1. The permittee shall maintain a copy of the up-to-date operations and maintenance manual at the treatment facility site at all times; the manual 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 (Operational Monitoring).
3. 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 in the facility log book as per Section 2.7.2 and reported to ADEQ in the event of a violation or exceedance as per Section 2.7.3.

2.2.5 Reclaimed Water Classification

[A.A.C. R18-9-703(C)(2)(a), A.A.C. R18-11-303 through 307]

Not applicable.

2.2.6 Certified Area-wide Water Quality Management Plan Conformance

[A.A.C. R18-9-A201(B)(6)(a)]

Facility operations must conform to the approved Certified Area-wide Water Quality Management Plan according to the 208 consistency determination in place at the time of permit issuance.

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 facility (injection wells) with a maximum average annual flow of 8.93 mgd. The facility is limited to 10,000 AFY total and a maximum of 35 wells.
2. 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 applicable BADCT.
3. Specific discharge limitations are listed in Section 4.2, Table IA.

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

The Points of Compliance (POCs) have been established at the following locations:

POC #	POC Location	Latitude	Longitude	ADWR #
1	BRL-POC Approximately 185 feet southwest of Well BRL-VZ-12	33° 38' 13.79" N	112° 23' 07.12" W	TBD
2	SC-POC Approximately 400 feet southeast of Well SC-VZ-11	33° 37' 37.77" N	112° 22' 54.68" W	TBD

Routine groundwater monitoring is required at POCs 1 and 2 per Section 4.2, Table IIB. POC wells will be 5-inch PVC-cased well completed to a depth of 425 feet and screened from 280-425 feet (about 100 feet above the

static water level). The monitor wells are designed to monitor the aquifer within the zone of aquifer injection by the VR wells.

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)]

Unless otherwise specified in this permit, all monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. Unless otherwise provided, monitoring shall commence the first full monitoring period following permit issuance. 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. 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 required under the terms of this permit.

2.5.2 Routine Discharge Monitoring

The permittee shall monitor the effluent flow to the recharge facility on a routine basis according to Section 4.2, Table I. The flow is monitored at the flow meters located at each Vadose well prior to recharge or recovery. Effluent quality monitoring is conducted under the Aquifer Protection Permit for SPA-1 WRF, APP P-102478 which provides the effluent (as indicated in Section 2.1).

2.5.3 Reclaimed Water Monitoring

Not applicable.

2.5.4 Facility / Operational Monitoring

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

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 in the facility log book as per Section 2.7.2 and reported to ADEQ in case of a violation or exceedance as per Section 2.7.3.

2.5.5 Groundwater Monitoring and Sampling Protocols

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

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, 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 percent 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 SMRF.

The permittee may conduct the sampling using the low-flow purging method as described in the Arizona Water Resources Research Center, March 1995 *Field Manual for Water Quality Sampling*. The well must be purged until indicator parameters stabilize. Indicator parameters shall include dissolved oxygen, turbidity, pH, temperature, and conductivity.

2.5.5.1 POC Well Replacement

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, exceedance of an alert level (AL) for water level as required by Section 2.6.2.3.4 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/or aquifer quality limits (AQLs) calculated for the designated POC well shall apply to the replacement well.

2.5.5.2 Ambient Groundwater Monitoring

Ambient groundwater monitoring shall be conducted at POC #1 and #2 in accordance with this permit. Ambient groundwater monitoring shall be performed to establish background water quality in the aquifer. Monthly ambient groundwater sampling shall be conducted with samples collected from POC wells #1 and #2 for a total of 8 months within the timeframe required in APP in accordance with Table IIA in Section 4.2 of the permit. The Ambient Groundwater Monitoring Report shall be submitted to ADEQ in accordance with Sections 2.5.5.3, 2.7.4.1 and 3.0 (Compliance Schedule), Items 3.3 and 3.4 of this permit. Upon completion of the ambient monitoring, routine groundwater monitoring shall commence in accordance with Section 4.2, Table IIB.

2.5.5.3 Alert Levels for POC Wells

AQLs and ALs for POC wells will be calculated for all parameters listed as “reserved” in Section 4.2, Table IIB with an established numeric AWQS, based on the eight (8) monthly groundwater samples as required in the compliance schedule. Within 90 days of receipt of the laboratory analyses for the final month of the ambient groundwater monitoring period for POC-2, the permittee shall submit the ambient groundwater monitoring data in tabulated form to the ADEQ Groundwater Protection Value Stream for review. Copies of all laboratory analytical reports, field notes, and the Quality Assurance/Quality Control (QA/QC) procedures used in the collection and analyses of the samples for all parameters listed as “reserved” in Section 4, Table IIB shall be submitted to the ADEQ Groundwater Protection Value Stream. The permittee may submit a report with the calculations for each AQL and AL included in the permit for review and approval by ADEQ, or the permittee may defer calculation of the AQLs and ALs to the Groundwater Protection Value Stream. The AQLs and ALs shall be established and calculated by the following formula or another valid statistical method submitted to the Groundwater Protection Value Stream in writing and approved for this permit by the Groundwater Protection Value Stream:

$$AL = M + KS$$

Where M = mean, S= standard deviation, and K = one-sided normal tolerance interval with a 95% confidence level (Lieberman, G.J. (1958) Tables for One-sided Statistical Tolerance Limits: Industrial Quality Control, Vol. XIV, No. 10). Obvious outliers should be excluded from the data used in the AL calculation.

The following criteria shall be met in establishing ALs in the permit:

The following criteria shall be met in establishing ALs for POC Wells in the permit:

1. The AL will be calculated for a parameter using the analysis from a maximum of 8 consecutive quarterly sample rounds. Under certain circumstances, additional rounds of sampling may be requested by the Permittee.
2. Any data where the Practical Quantification Limit (PQL) exceeds 80 percent of the AWQS shall not be included in the AL calculation.
3. If a parameter is below the detection limit, the permittee shall report the value as “less than” the numeric value for the PQL or detection limit for the parameter, not just as “non-

detect". For those parameters, the permittee shall use a value of one-half the reported detection limit for the AL calculation.

4. If the analytical results from more than 50 percent of the samples for a specific parameter are non-detect, then the AL shall be set at 80 percent of the AWQS and the AQL shall be set equal to the AWQS.
5. If the calculated AL for a specific constituent and well is less than 80 percent of the AWQS, then the AL shall be set at 80 percent of the AWQS and the AQL shall be set equal to the AWQS for that constituent in that well.

2.5.5.4 Aquifer Quality Limits for POC Wells

For each of the monitored analytes for which a numeric AWQS has been adopted, the AQL shall be established as follows:

1. If the calculated AL is less than the AWQS, then the AQL shall be set equal to the AWQS.
2. If the calculated AL is greater than the AWQS, then the AQL shall be set equal to the calculated AL value, and no AL shall be set for that constituent at that monitoring point.

2.5.6 Surface Water Monitoring and Sampling Protocols

Routine surface water monitoring is not required under the terms of 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 state-certified laboratories in Arizona can be obtained at the address below:

Arizona Department of Health Services
Office of Laboratory Licensure and Certification
250 North 17th Avenue
Phoenix, Arizona 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 Groundwater Protection Value Stream for approval prior to installation and the permit shall be amended to include any new monitoring points.

2.5.9 Earth Fissure Photograph Survey Monitoring

Every five-years photograph survey monitoring for earth fissure development shall be performed according to Section 3.0 (Compliance Schedule), Item #3.9, and reported per Section 2.7.4.3 if discovered per Section 2.6.2.1.1. Copies of the photograph survey(s) shall be maintained at all times per Section 2.7.2.

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 this permit and the approved contingency and emergency response plan 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 AL exceedance, or violation of an AQL, 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 had 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 and Performance Levels

2.6.2.1 Exceeding of Performance Levels Set for Operational Conditions

1. If an operational performance level set in Section 4.2, Table IIIA has been exceeded the permittee shall:
 - a. Notify the Groundwater Protection Value Stream (see Section 2.7.5) within five (5) days of becoming aware of the exceedance.
 - b. Submit a written report to the Groundwater Protection Value Stream within 30 days after becoming aware of the exceedance. The report shall document all of the following:
 - (1) A description of the exceedance and the cause of the exceedance;
 - (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 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 performance level is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

2.6.2.1.1 Earth Fissure is detected

If an earth fissure is detected during the five-year photograph survey specified in Section 2.5.9, and Section 3.0 (Compliance Schedule) item 3.9, the permittee shall:

1. Thoroughly investigate and characterize the earth fissure to provide an assessment of any threat posed to existing facilities on site.
 - a. If the results of the investigation and characterization indicates no threat is posed to the existing facilities at the site, the permittee shall submit a report per Section 2.7.4.3 to ADEQ and no further action is required unless otherwise instructed by ADEQ. The permittee shall resume routine earth fissure

monitoring as specified in Section 2.5.9 and Section 3.0 (Compliance Schedule) item 3.9.

- b. If an earth fissure detection investigation and characterization indicates there is a threat posed to the existing facilities at the site, within 72 hours or receipt of verification results, the permittee shall initiate an investigation to determine the extent of the earth fissure or earth fissure enlargement/movement and the potential impact/threat to existing facilities and submit a report to the Groundwater Protection Value Stream.

Upon review of the submitted report, ADEQ may require increased fissure monitoring frequency, installation of additional shallow aquifer and/or regional aquifer monitoring wells, amendments to permit conditions or other actions (including BADCT upgrades) to protect and preserve current and future drinking water use of the aquifer. The Director may designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

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

Not applicable.

2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring

2.6.2.3.1 Alert Levels for Indicator Parameters

No ALs have been established for indicator parameters. Monitoring is for informational purposes only.

2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards

- 1. In the case of an exceedance of an AL for a pollutant set in Section 4.2, Table IIB, 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 IIB as follows:

Specified Monitoring Frequency (Section 4.2, Table IIB)	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 Protection Value Stream, 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 Protection Value Stream.

4. Within 30 days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Groundwater Protection Value Stream 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 IIB 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 (6) 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.

2.6.2.3.4 Alert Level for Groundwater Level

Not applicable.

2.6.3 Discharge Limit Violation

1. If a DL set in Section 4.2, Table IA has been violated, the permittee shall immediately investigate to determine the cause. 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, as necessary to identify the cause of the violation.

The permittee shall submit a report to the Groundwater Protection Value Stream 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, notification of downstream or downgradient users who may be directly affected by the discharge, 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. 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.

2.6.4 Aquifer Quality Limit Violation

1. If an AQL set in Section 4.2, Table IIB 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 the verification sample does not confirm an AQL violation, no further action is needed under this Section.
3. 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 IIB)	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.

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.

2.6.5 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 Groundwater Protection Value Stream 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 Groundwater Protection Value Stream within 24 hours of discovering the discharge of non-hazardous material which has the potential to cause an AQL exceedance, or 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 Groundwater Protection Value Stream within 30 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 Protection Value Stream prior to implementing a corrective action to accomplish any of the following goals in response to exceedance of an AL 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 Groundwater Protection Value Stream, 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

1. The permittee shall complete the Self-Monitoring Reporting Forms (SMRFs) provided by ADEQ, and submit the completed report through the myDEQ online reporting system or to the Groundwater Protection Value Stream.

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 reporting period, the permittee shall enter “not required” on the form, include an explanation, and submit the form to the Groundwater Protection Value Stream.
3. The tables contained in Section 4.2 list the monitoring parameters and the frequencies for reporting results on the SMRF:
 - Table IA, Discharge Monitoring
 - Table IIB, Groundwater Monitoring - POC Wells #1 and #2

The parameters listed in the above-identified tables from Section 4.2 are the only parameters for which SMRF reporting is required.

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 time 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; and
6. Any other information required by this permit to be entered in the log book.
7. Monitoring records for each measurement shall comply with A.A.C. R18-9-A206(B)

2.7.3 Permit Violation and Alert Level Status Reporting

1. The permittee shall notify the Groundwater Protection Value Stream in writing within five days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition, discharge limitation, or of an AL exceedance.
2. The permittee shall submit a written report to the Groundwater Protection Value Stream 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 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 record the information as required in Section 4.2, Table III in the facility log book as per Section 2.7.2, and report to the Groundwater Protection Value Stream any violations or exceedances as per Section 2.7.3.

2.7.4.1 Well Installation Report

A well installation report shall be submitted to the Groundwater Protection Value Stream within sixty (60) days after the completion of a replacement monitoring well, Groundwater Monitoring or Vadose Well installation in accordance with Sections 2.5.5.1 and Section 3.0,(Compliance Schedule) Items 3.1, 3.2, 3.3, 3.4, and 3.5. Each well installation report shall be completed in accordance with A.A.C. R12-15-801 et seq. and consist of the following

- Copies of Arizona Dept. of Water Resources (ADWR) Notice of Intent and all related submittals to ADWR;
- Boring log and well as-built diagram;
- Total depth of well measured after installation;
- Top of well casing or sounding tube (whichever is used as the fixed reference measuring point) and ground surface elevation;
- Depth to groundwater;
- Geophysical logging reports and subsurface sampling results, if any;
- Description of well drilling method;
- Description of well development method;
- If dedicated sampling equipment installed, details on the equipment and at what depth the equipment was installed;
- Summary of analytical results for initial groundwater sample collected after installation;
- Corresponding analytical data sheets; and
- GPS coordinates for each new well.

2.7.4.2 Ambient Groundwater Quality Report

The permittee shall submit an ambient groundwater quality report of the data and calculations required in Sections 2.5.3.2, 2.5.3.3, 2.5.3.4, Item 3.6 and 3.7 in Section 3.0 (Compliance Schedule), and Section 4.2, Table IIA.

The report shall include copies of all laboratory analytical reports, field notes, the QA/QC limits used in collection and analysis of the samples and the statistical calculations of ALs and AQLs for POC Wells #1 and #2 under the ambient water quality monitoring requirements listed in Section 5.

2.7.4.3 Reporting for the detection of an earth fissure

The permittee shall submit an earth fissure report, in accordance with Section 2.6.2.1.1, if an earth fissure is detected during the every five-year photograph survey to inspect for fissure development. The report shall indicated the extent of the earth fissure or earth fissure enlargement/movement and the potential impact/threat facilities and submit a report to the Groundwater Protection Value Stream.

2.7.5 Reporting Location

All Self-Monitoring Report Forms (SMRFs) shall be submitted to:

Arizona Department of Environmental Quality
Groundwater Protection Value Stream
Mail Code 5415B-3
1110 West Washington Street
Phoenix, Arizona 85007

Phone (602) 771-4681

Or

Through the myDEQ portal accessible on the ADEQ website at:

<http://www.azdeq.gov/welcome-mydeq>

All other documents required by this permit to be submitted to the Groundwater Protection Value Stream shall be directed to:

Arizona Department of Environmental Quality
Groundwater Protection Value Stream
Mail Code 5415B-3
1110 West Washington Street
Phoenix, Arizona 85007
Phone (602) 771-4999

2.7.6 Reporting Deadline

The following table lists the quarterly report due dates:

Monitoring conducted during quarter:	Quarterly Report due by:
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:

Monitoring conducted:	Report due by:
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 Protection Value Stream shall be notified within ten 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 Groundwater Protection Value Stream before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

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; and
3. Notify the Groundwater Protection Value Stream with a monthly facility status report describing the activities conducted on the treatment facility to correct the problem.
4. Submittal of Self-Monitoring Report Forms (SMRFs) is still required; report “temporary cessation” in the comment section.

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 Groundwater Protection Value Stream of the operational status of the facility every three 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 Groundwater Protection Value Stream of the intent to cease operation without resuming activity for which the facility was designed or operated. Submittal of SMRFs is still required; report “closure in process” in the comment section.

2.9.1 Closure Plan

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Protection Value Stream, 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 Protection Value Stream 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 AWQS at the applicable POC;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remediation or mitigation measures are necessary to achieve compliance with Title 49, Ch. 2; and
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 Protection Value Stream.

In the event clean-closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Protection Value Stream 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]

Unless otherwise indicated, for each compliance schedule item listed below, the permittee shall submit the required information to the Groundwater Protection Value Stream.

No.	Description	Due by:	Permit Amendment Required?
3.1	The permittee shall submit a signed, dated, and sealed Engineer’s Certificate of Completion and Installation Report in a format approved by the Department that confirms that the POC Well #1 (BRL-POC) is constructed according to the Department-approved design report or plans and specifications, as applicable and in accordance with Section 2.7.4.1.	Prior to use and within 90 days of completion of construction.	No
3.2	The permittee shall submit a signed, dated, and sealed Engineer’s Certificate of Completion and Installation Report in a format approved by the Department that confirms that the POC Well #2 (SC-POC) is constructed according to the Department-approved design report or plans and specifications, as and in accordance with Section 2.7.4.1.	Prior to use and within 90 days of completion of construction.	No
3.3	Submit a well installation report for the 14 BRL - Vadose Zone wells showing that they were installed in accordance with Section 2.7.4.1	Within 90 days of completion of construction of the final well..	No
3.4	Submit a well installation report for the 11 SC- Vadose Zone wells showing that they were installed in accordance with Section 2.7.4.1	Within 90 days of completion of construction of the final well.	No
3.5	Submit a well installation report for the 10 Contingency Vadose Zone wells showing that they were installed in accordance with Section 2.7.4.1	Within 90 days of completion of construction of the final well.	No
3.6	Ambient Groundwater Monitoring in POC Well #1 (BRL-POC): The POC well shall be sampled for ambient water quality for each constituent listed as “reserved” each month after well installation until eight (8) months of ambient sampling data is available. Sampling shall include all constituents in Section 4.2, Table IIA and per Section 2.7.4.2.	Complete the ambient monitoring in the POC well within 36 months of permit issuance.	No
3.7	Ambient Groundwater Monitoring in POC Well #2 (SC-POC) : The POC well shall be sampled for ambient water quality for each constituent listed as “reserved” each month after well installation until eight (8) months of ambient sampling data is available. Sampling shall include all constituents in Section 4.2, Table IIA and per Section 2.7.4.2.	Complete the ambient monitoring in the POC well within 36 months of permit issuance.	No
3.8	Ambient Report and Amendment to insert ALs and AQLs: Submit an amendment application, along with copies of all laboratory analytical reports, including chain of custody and QA/QC. Submit with the lab report	Submit within 30 days of receipt of laboratory report for the final ambient sample.	Yes

	<p>and field sampling report describing the sampling procedures and sample collection QA/QC. The permittee may calculate the alert levels and aquifer quality limits for those constituents listed as “reserved” in Section 4.2, Table IIA, or may request GWS to perform the calculations. The alert level for the groundwater level measurement in Table IIA shall be based on the screened interval of the POC wells #1 and #2 (BRL-POC and SC-POC).</p>		
<p>3.9</p>	<p>Every five-years photograph survey monitoring shall be performed for earth fissure development per Section 2.5.9. If an earth fissure is discovered per Section 2.6.2.1.1, it shall be reported per Section 2.7.4.3.</p>	<p>Every five-years</p>	<p>No</p>

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4.0 TABLES OF MONITORING REQUIREMENTS

4.1 PRE-OPERATIONAL MONITORING (OR CONSTRUCTION REQUIREMENTS)

Not applicable at permit issuance

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4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA
ROUTINE DISCHARGE MONITORING

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
1	Effluent flow to recharge facility		33° 16' 18" N		111° 49' 58" W
Parameter	AL ¹	DL ²	Units	Sampling Frequency	Reporting Frequency
Total Flow: Daily	Not Established ³	Not Established	mgd ⁴	Daily	Quarterly
Total Flow: Average Monthly ⁵	Not Established	8.93	mgd	Monthly	Quarterly

¹ AL = Alert Level

² DL = Discharge Limit

³ Not Established = Monitoring required but no limits have been specified at time of permit issuance.

⁴ mgd = million gallons per day

⁵ Calculated number, using average of daily flows in a month.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA
AMBIENT GROUNDWATER MONITORING⁶**

Sampling Point Number	Sampling Point Identification	Latitude	Longitude
2	POC Well #1: BRL-POC Approx. 500 ft. S of Bell Rd. and 400 ft. East of 51 st Lane	33° 38' 13.79" N	112° 23' 07.12" W
3	POC Well #2: SC-POC Approx. 1000 ft. N of Greenway Rd. and 100 ft. E of N. Parkway Pl.	33° 37' 37.77" N	112° 22' 54.68" W
Parameter	Units	Sampling Frequency	Reporting Frequency
Depth to Groundwater ⁷	Feet	Monthly	IGMR ⁸
Total Nitrogen ⁹ :	mg/l	Monthly	IGMR
Nitrate-Nitrite as N	mg/l	Monthly	IGMR
Nitrate as N	mg/l	Monthly	IGMR
Nitrite as N	mg/l	Monthly	IGMR
Total Kjeldahl Nitrogen (TKN)	mg/l	Monthly	IGMR
Total Coliform	P/A ¹⁰	Monthly	IGMR

⁶ Monitoring may be discontinued after initial groundwater monitoring has been completed as per Section 3.0, items 3.1 and 3.2 - begin monitoring under Table IIB.

⁷ Depth to groundwater is at 308.5 feet below ground surface at the POC wells.

⁸IGMR= Initial Groundwater Monitoring Report

⁹Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

¹⁰ P/A = Presence or absence of total coliforms in a 100-milliliter sample.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIA
AMBIENT GROUNDWATER MONITORING (Continued)

Parameter	Unit	Sampling Frequency	Reporting Frequency
Metals (Total):			
Antimony	mg/l	Monthly	IGMR ¹¹
Arsenic	mg/l	Monthly	IGMR
Barium	mg/l	Monthly	IGMR
Beryllium	mg/l	Monthly	IGMR
Cadmium	mg/l	Monthly	IGMR
Chromium	mg/l	Monthly	IGMR
Cyanide (as free cyanide)	mg/l	Monthly	IGMR
Fluoride	mg/l	Monthly	IGMR
Lead	mg/l	Monthly	IGMR
Mercury	mg/l	Monthly	IGMR
Nickel	mg/l	Monthly	IGMR
Selenium	mg/l	Monthly	IGMR
Thallium	mg/l	Monthly	IGMR

¹¹IGMR= Initial Groundwater Monitoring Report

4.0 TABLES OF MONITORING REQUIREMENT

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIA
GROUNDWATER MONITORING (continued)

Parameter	Units	Sampling Frequency	Reporting Frequency
Volatile Organic Compounds (VOCs):			
Benzene	mg/l	Monthly	IGMR ¹²
Carbon tetrachloride	mg/l	Monthly	IGMR
o-Dichlorobenzene	mg/l	Monthly	IGMR
para-Dichlorobenzene	mg/l	Monthly	IGMR
1,2-Dichloroethane	mg/l	Monthly	IGMR
1,1-Dichloroethylene	mg/l	Monthly	IGMR
cis-1,2-Dichloroethylene	mg/l	Monthly	IGMR
trans-1,2-Dichloroethylene	mg/l	Monthly	IGMR
Dichloromethane	mg/l	Monthly	IGMR
1,2-Dichloropropane	mg/l	Monthly	IGMR
Ethylbenzene	mg/l	Monthly	IGMR
Monochlorobenzene	mg/l	Monthly	IGMR
Styrene	mg/l	Monthly	IGMR
Tetrachloroethylene	mg/l	Monthly	IGMR
Toluene	mg/l	Monthly	IGMR
Trihalomethanes (total) ¹³	mg/l	Monthly	IGMR
1,1,1-Trichloroethane	mg/l	Monthly	IGMR
1,2,4 - Trichlorobenzene	mg/l	Monthly	IGMR
1,1,2 - Trichloroethane	mg/l	Monthly	IGMR
Trichloroethylene	mg/l	Monthly	IGMR
Vinyl Chloride	mg/l	Monthly	IGMR
Xylenes (Total)	mg/l	Monthly	IGMR

¹²IGMR= Initial Groundwater Monitoring Report

¹³Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIB
ROUTINE GROUNDWATER MONITORING¹⁴

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
2	POC Well #1: BRL-POC Approx. 500 ft. S of Bell Rd. and 400 ft. East of 51 st Lane			33° 38' 13.79" N	112° 23' 07.12" W
3	POC Well #2: SC-POC Approx. 1000 ft. N of Greenway Rd. and 100 ft. E of N. Parkway Pl.			33° 37' 37.77" N	112° 22' 54.68" W
Parameter	AL ¹⁵	AQL ¹⁶	Units	Sampling Frequency	Reporting Frequency
Depth to Water	280-425	Reserved	feet bgs ¹⁷	Monthly	Quarterly
Total Nitrogen ¹⁸ :	Reserved ¹⁹	Reserved	mg/l ²⁰	Monthly Calculation	Quarterly
Nitrate-Nitrite as N	Reserved	Reserved	mg/l	Monthly Calculation	Quarterly
Nitrate as N	Reserved	Reserved	mg/l	Monthly	Quarterly
Nitrite as N	Reserved	Reserved	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Reserved	Reserved	mg/l	Monthly	Quarterly
Total Coliform ²¹	Absence	Absence	P/A ²²	Monthly	Quarterly
Metals (total):					
Antimony	Reserved	Reserved	mg/l	Quarterly	Quarterly
Arsenic	Reserved	Reserved	mg/l	Quarterly	Quarterly
Barium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Beryllium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Cadmium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Chromium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	Reserved	Reserved	mg/l	Quarterly	Quarterly
Fluoride	Reserved	Reserved	mg/l	Quarterly	Quarterly
Lead	Reserved	Reserved	mg/l	Quarterly	Quarterly
Mercury	Reserved	Reserved	mg/l	Quarterly	Quarterly
Nickel	Reserved	Reserved	mg/l	Quarterly	Quarterly
Selenium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Thallium	Reserved	Reserved	mg/l	Quarterly	Quarterly

¹⁴Monitoring under this Table shall commence after the completion of Ambient Groundwater Monitoring. Until that time indicate "No Flow" on SMRF's.

¹⁵ AL = Alert Level

¹⁶ AQL = Aquifer Quality Limit

¹⁷ bgs = below ground surface

¹⁸ Total Nitrogen is equal to Nitrate as N plus Nitrite as N plus TKN.

¹⁹ Reserved = Monitoring is required but no limits have been established. ALs and AQLs shall remain reserved until the submission of the ambient groundwater quality report.

²⁰ mg/l = milligrams per liter

²¹ A positive result for total coliform may be verified with an analysis for fecal coliform. A positive result for fecal coliform shall be considered an exceedance of the AQL for total coliform.

²² P/A = Presence or absence of total coliform in a 100-milliliter sample.

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIB
ROUTINE GROUNDWATER MONITORING (Continued)

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
Volatil Organic Compounds (VOCs):					
Benzene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Styrene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Toluene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) ²³	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually

²³ Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE III
 FACILITY INSPECTION (OPERATIONAL MONITORING) - LOG BOOK²⁴**

Pollution Control Structure/Parameter	Performance Level	Inspection Frequency
Pump integrity	Good working condition	Weekly
Vadose-zone Wells	Good working condition No biofouling No clogging	Weekly
Facility Piping	Good working condition	Weekly
Flowmeter	Good working condition	Monthly

²⁴ The permittee shall record the inspection performance levels in a log book as per Section 2.7.2, and report any violations or exceedances as per Section 2.7.3. In the case of an exceedance, identify which structure exceeds the performance level in the log book.

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: September 17, 2018
2. Administratively Complete October 9, 2018
2. Contingency Plan, dated: September 17, 2018
3. Final Engineering Memo dated: December 3, 2018
4. Final Hydrologist Memo dated: January 22, 2019
5. Public Notice date: TBD

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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 on the amount of daily influent or discharge of pollutants in gallons per day (gpd) as established by A.R.S. § 49-242.

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 (AWQS) at the applicable point of compliance (POC) for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an AWQS 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(C), 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; or
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 Protection Value Stream 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).