

STATE OF ARIZONA  
AQUIFER PROTECTION PERMIT NO. P-513196  
PLACE ID 194123, LTF 79111

## 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 Prize Energy Resources, Inc. to operate the Prize Energy Resources facility located in Central Apache County, along Interstate 40 in the Chambers/Sanders areas, extending south beyond the junction with Arizona Highway 61 at Witch Well, over the Little Colorado River Plateau Basin, in the Township, Range and Sections indicated in permit Section 2.1, Table 2.

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:** Prize Energy Resources  
**Facility Address:** Chambers, Arizona

**County:** Apache

**Permitted Flow Rate:** Less than 3000 gallons per day

**Permittee:** Prize Energy Resources, Inc.  
**Permittee Address:** 1700 Lincoln Street, Suite 3700  
Denver, Colorado 80203

**Facility Contact:** Chris Robinson  
**Emergency Phone No.:** 303 285- 2311 (landline), 720 317-9533 (mobile phone)

**Latitude/Longitude:** In the vicinity of 35° 06' 18" N/ 109° 19' 41" W  
**Legal Description:** Within the Township, Range and Sections indicated in Table 2

### 1.2. AUTHORIZING SIGNATURE

\_\_\_\_\_  
**Trevor Baggione, Director**  
Water Quality Division  
Arizona Department of Environmental Quality  
Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

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**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 conduct well stimulation on the fifteen (15) helium extraction wells listed in Table 1: DISCHARGING FACILITIES and to conduct well stimulation on additional wells to be located in the area designated in Table 2: AREA OF DEVELOPMENT. The permittee plans to operate more than eighty (80) wells during the life of the project; each well that will be stimulated will be considered a discharging facility for the purposes of the permit. Acid stimulations will be performed without the use of a proppant stimulation component. Prior to stimulating any well not specifically listed in Table 1, the permittee shall comply with the requirement to amend the permit to add the new well, per Section 3.0, Compliance Schedule.

The site includes the following permitted discharging facilities (wells):

| Table 1: DISCHARGING FACILITIES |                       |            |              |
|---------------------------------|-----------------------|------------|--------------|
| Facility (Well ID)              | Location              | Latitude   | Longitude    |
| Prize 20-28-25 #1               | T20N-R28E, Section 25 | 35.1048930 | -109.3280443 |
| Prize 20-28-24 #1               | T20N-R28E, Section 24 | TBD        | TBD          |
| Prize 20-28-23 #1               | T20N-R28E, Section 23 | 35.1123187 | -109.3409168 |
| Prize 20-28-22 #1               | T20N-R28E, Section 22 | 35.1165913 | -109.3639230 |
| Prize 20-28-21 #1               | T20N-R28E, Section 21 | TBD        | TBD          |
| Prize 20-28-20 #1               | T20N-R28E, Section 20 | TBD        | TBD          |
| Prize 20-28-19 #1               | T20N-R28E, Section 19 | TBD        | TBD          |
| Prize 20-28-18 #1               | T20N-R28E, Section 18 | TBD        | TBD          |
| Prize 20-28-17 #1               | T20N-R28E, Section 17 | 35.1381641 | -109.3851924 |
| Prize 20-28-15 #1               | T20N-R28E, Section 15 | 35.1280170 | -109.3622629 |
| Prize 20-28-14 #1               | T20N-R28E, Section 14 | TBD        | TBD          |
| Prize 20-28-10 #1               | T20N-R28E, Section 10 | TBD        | TBD          |
| Prize 20-28-9 #1                | T20N-R28E, Section 9  | TBD        | TBD          |
| Prize 20-28-8 #1                | T20N-R28E, Section 8  | TBD        | TBD          |
| Prize 20-28-25 #2               | T20N-R28E, Section 25 | TBD        | TBD          |

*The Township (T), Range (R) and Sections are within the Gila and Salt River Baseline and Meridian*

| Table 2: AREA OF DEVELOPMENT |       |         |   |
|------------------------------|-------|---------|---|
| Township                     | Range | Section | State, Principal Meridian Name, Township, Range, & Section    |
| T16N                         | R27E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T16N                         | R28E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T16N                         | R29E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T16N                         | R30E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T16N                         | R31E  | 7-8     | Arizona, Gila & Salt River Meridian T16N, R27E Sections 7-8   |
|                              |       | 17-20   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 17-20 |
|                              |       | 29-32   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 29-32 |
| T17N                         | R27E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T17N                         | R28E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T17N                         | R29E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T17N                         | R30E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T17N                         | R31E  | 5-8     | Arizona, Gila & Salt River Meridian T16N, R27E Sections 5-8   |
|                              |       | 17-20   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 17-20 |
|                              |       | 29-32   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 29-32 |
| T18N                         | R27E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T18N                         | R28E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T18N                         | R29E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
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|                              |       | 29-32   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 29-32 |
| T19N                         | R27E  | 7-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 7-36  |
| T19N                         | R28E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T19N                         | R29E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T19N                         | R30E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T19N                         | R31E  | 5-8     | Arizona, Gila & Salt River Meridian T16N, R27E Sections 5-8   |
| T19N                         | R31E  | 17-20   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 17-20 |
| T19N                         | R31E  | 29-32   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 29-32 |
| T20N                         | R26E  | 1-3     | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-3   |
|                              |       | 10-15   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 10-15 |
|                              |       | 22-24   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 22-24 |
| T20N                         | R27E  | 1-24    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-24  |
| T20N                         | R28E  | 1-29    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-29  |
|                              |       | 32-36   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 32-36 |
| T20N                         | R29E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T20N                         | R30E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T21N                         | R26E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T21N                         | R27E  | 1-36    | Arizona, Gila & Salt River Meridian T16N, R27E Sections 1-36  |
| T21N                         | R28E  | 13-36   | Arizona, Gila & Salt River Meridian T16N, R27E Sections 13-36 |

|      |      |       |   |
|------|------|-------|---|
| T21N | R29E | 13-36 | Arizona, Gila & Salt River Meridian T16N, R27E Sections 13-36 |
|------|------|-------|---|

**2.1.1. 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 annual registration fee flow rate is established in permit Section 1.1. If the facility is not constructed or is incapable of discharge, the permittee may be eligible for reduced fees under the rule. Send all correspondence requesting reduced fees to the Groundwater Protection Value Stream. Please reference the permit number, LTF number, and the reason for requesting reduced fees under the rule.

**2.1.2. 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 estimated dollar amount for facility closure is \$237,135.00, based on the initial 15 wells listed in Table 1. If the number of wells to be stimulated exceeds 15, the cost estimate and financial capability demonstration shall be updated in accordance with permit Section 3.0. Per A.A.C. R12-7-103.A.2b. Prize Energy Resources must maintain bonds with the Arizona Oil and Gas Conservation Commission (Arizona OGCC) in the amount of \$50,000.00 upon filing applications to drill the wells listed in Table 1; therefore, the financial assurance mechanism for this permit is demonstrated through a bond held by ADEQ in the amount of \$187,135 (A.A.C. R18-9-A203 (C)(2)), and through the Arizona OGCC bonds in the amount of \$50,000.00 (A.A.C. R18-9-A203(G)).

**2.2. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)**

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

**2.2.1. Engineering Design**

The design, construction, testing, and operation of the helium extraction wells shall follow the Arizona Oil and Gas Conservation Commission rule requirements (A.A.C. Title 12, Chapter 7, Article 1). Wells shall be constructed with surface and production casing, and the outside of each casing shall be cemented from the full depth of the casing to the ground surface. All depths are approximations and will be modified in the field based on site-specific data. Wells to be stimulated shall only be screened within the Shinarump Member of the Chinle Formation and shall be located 300 feet or greater from the closest water well.

**2.2.2. Site-Specific Characteristics**

Well stimulation shall be conducted only within wells screened in the Shinarump Member of the Chinle Formation. The Shinarump Member of the Chinle Formation consists mostly of coarse sands and conglomerates. The Member of the Chinle Formation above the Shinarump and the Moenkopi Formation (below) consist mostly of shales, silts, and tight sands. Based on typical permeability coefficients for these types of materials, shales and silts are 100 to 10,000 times less permeable than sands. Therefore, stimulation in the wells within the Shinarump Member of the Chinle Formation is unlikely to cause stimulation fluids to travel into Members above the Shinarump or below into the Moenkopi Formation.

The Moenkopi Formation will serve as a buffer between the Shinarump Member of the Chinle Formation and the Coconino Formation and is approximately 100 ft. thick in the Prize Energy Resources Area of Development. Therefore, the stimulation campaign is expected to maintain an approximate 100 ft. buffer between the Shinarump Member of the Chinle Formation and the Coconino Formation.

Based on these considerations, the stimulation campaign is expected to be protective of the Members above the Shinarump Member of the Chinle, Moenkopi and Coconino groundwater in the Prize Energy Resources Area of Development.

**2.2.3. Pre-Operational Requirements**

Wells shall be logged as described in the permit application Section 14.1. Logging shall include cement bond logs in the upper and lower cased intervals. Prior to well stimulation, the cement bond logs shall be reviewed by the permittee to assure that the quality of the cement bond is adequate to prevent migration of gas or fluid along the outside annulus of the well.

**2.2.4. Operational Requirements**

Well stimulation shall be conducted only within wells screened within the Shinarump Member of the Chinle Formation. Well stimulations shall be designed and conducted in such a manner as to minimize the amount of stimulation materials that travel outside of the Shinarump Member of the Chinle Formation and to maximize the recovery of stimulation materials.

**2.3. DISCHARGE LIMITATIONS (DLs)**

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

1. This permit does not authorize disposal of water, wastewater, other fluids or materials in the wells listed in Section 2.1.
2. This permit does not authorize stimulation of wells screened in geologic formations other than the Shinarump Member of the Chinle Formation

**2.4. POINT OF COMPLIANCE (POC)**

[A.R.S. § 49-244]

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

*Table 3: POINT(S) OF COMPLIANCE*

| <b>Facility (Well ID)</b> | <b>Location</b>       | <b>POC Latitude</b> | <b>POC Longitude</b> |
|---------------------------|-----------------------|---------------------|----------------------|
| Prize 20-28-25 #1         | T20N-R28E, Section 25 | TBD                 | TBD                  |
| Prize 20-28-24 #1         | T20N-R28E, Section 24 | TBD                 | TBD                  |
| Prize 20-28-23 #1         | T20N-R28E, Section 23 | TBD                 | TBD                  |
| Prize 20-28-22 #1         | T20N-R28E, Section 22 | TBD                 | TBD                  |
| Prize 20-28-21 #1         | T20N-R28E, Section 21 | TBD                 | TBD                  |
| Prize 20-28-20 #1         | T20N-R28E, Section 20 | TBD                 | TBD                  |
| Prize 20-28-19 #1         | T20N-R28E, Section 19 | TBD                 | TBD                  |
| Prize 20-28-18 #1         | T20N-R28E, Section 18 | TBD                 | TBD                  |
| Prize 20-28-17 #1         | T20N-R28E, Section 17 | TBD                 | TBD                  |
| Prize 20-28-15 #1         | T20N-R28E, Section 15 | TBD                 | TBD                  |
| Prize 20-28-14 #1         | T20N-R28E, Section 14 | TBD                 | TBD                  |
| Prize 20-28-10 #1         | T20N-R28E, Section 10 | TBD                 | TBD                  |
| Prize 20-28-9 #1          | T20N-R28E, Section 9  | TBD                 | TBD                  |
| Prize 20-28-8 #1          | T20N-R28E, Section 8  | TBD                 | TBD                  |
| Prize 20-28-25 #2         | T20N-R28E, Section 25 | TBD                 | TBD                  |

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)]

Monitoring is not required by this permit.

**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 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 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, unless more specific reporting requirements are set forth in Section 2.6.2 through 2.6.5.

**2.6.2. Exceeding Of Alert Levels And Performance Levels**

**2.6.3. Discharge Limit Violation**

1. If a discharge limitation (DL) established in Section 2.3 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 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;
2. 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.
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.

**2.6.4. Aquifer Quality Limit Violation**

Aquifer quality limits are not established by this permit

**2.6.5. Emergency Response And Contingency Requirements For Unauthorized Discharges**

[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 and actions identified in the approved contingency plan referenced in Section 5.0 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**

Self-monitoring Report Forms are not required by this permit

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

Operational Inspections and a Log Book are not required by this permit

**2.7.3. Permit Violation Reporting**

1. The permittee shall notify the Groundwater Protection Value Stream in writing (see Section 2.7.5) within five (5) days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition or DL for which notification requirements are not specified in Sections 2.6.2 through 2.6.5.
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 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 submit an annual report according to the schedule in Section 2.7.6, to include the following information for all wells listed in Section 2.1.

1. the operational status of each well (installed, operational, temporary cessation, closed);
2. the date(s) each well was installed and stimulated, or state that the well was not installed and/or not stimulated; and
3. a certification statement that each well stimulation was conducted in accordance with the BADCT requirements of Section 2.2 and operated in compliance with the Discharge Limitations of Section 2.3.

**2.7.5. Reporting Location**

All 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 annual report due date:

*Table 4: ANNUAL REPORTING DEADLINES*

| <b>Monitoring conducted:</b> | <b>Report due by:</b> |
|------------------------------|-----------------------|
| 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 any well listed in Table 1 for a period of 60 days or greater.

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 well(s) every three years. If the permittee intends to permanently cease operation of any well(s), 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 any well listed in Table 1, except if a stimulation campaign has not been performed, 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 well 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 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 (1) 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 or, for any pollutant for which the AWQS was exceeded at the time this permit was issued, further action is necessary to prevent the facility from further degrading the aquifer at the applicable POC with respect to that pollutant;
3. Remedial, mitigative or corrective actions or controls are necessary to comply with A.R.S. § 49-201(30) and Title 49, Chapter 2, Article 3;
4. 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.

**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.

Table 5: COMPLIANCE SCHEDULE ITEMS

| <b>Table 7<br/>Compliance Schedule Items</b> |   |  |                                   |
|--|---|--|-----------------------------------|
| <b>No.</b>                                   | <b>Description</b>  | <b>Due By:</b>   | <b>Permit Amendment Required?</b> |
| 2  | <p>The permittee shall submit an amendment application to include updated closure cost estimates and an updated financial assurance mechanism to cover the closure costs of any well(s) not listed in Table 1 of this permit, including wells previously drilled and wells to be drilled, that the permittee seeks authorization for stimulation. The application shall include the location information (Township, Range and Section; Latitude and Longitude) of the well(s) to be stimulated and the corresponding point(s) of compliance.</p> <p>The application shall also include a request to remove wells that have achieved closure completion per the requirements of Section 2.9.2, and wells that have not been stimulated and for which authorization to stimulate is no longer requested by the permittee.</p> | Ninety (90) days prior to stimulation of any well(s) not listed in Table 1 of this permit. | Yes                               |
| 3  | <p>The permittee shall submit an amendment application to include updated cost estimates for well closure and post-closure, as per A.A.C. R18-9-A201(B)(5) and A.R.S. 49-243.N.2.a, and an updated financial assurance demonstration per A.R.S. 49-243.N.4 and A.A.C. R18-9-A203(H) for updated costs. The demonstration shall include a statement that the closure and post-closure strategy has not changed, the wells listed Table 1 have not been altered in a manner that would affect the closure and post-closure costs or if they have the updated costs reflects the change, and only the wells listed in Table 1 have been stimulated.</p>  | May 15, 2026, and every 6 years thereafter.  | Yes                               |

**4.0 TABLES OF MONITORING REQUIREMENTS**

No monitoring required by this permit.

**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:

|                                  |              |
|----------------------------------|--------------|
| APP Application, dated:          | January 2020 |
| Contingency Plan, dated:         | January 2020 |
| Final Hydrologist Report, dated: | 3/9/2020     |
| Final Engineering Report, dated: | NA           |
| Public Notice, dated:            | TBD          |
| Public Hearing, dated:           | TBD          |
| Responsiveness Summary, dated:   | TBD          |

**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).