

DRAFT PERMIT 11-7-2023

UTAH DIVISION OF WATER QUALITY

CLASS V AREA PERMIT

FOR AQUIFER STORAGE AND RECOVERY

UNDERGROUND INJECTION CONTROL  
(UIC) PROGRAM

UIC Permit Number: UTU-19-F4-8F9143D

Emery and Grand County, Utah

Permit Issued to:

Blackstone Minerals NV LLC

712 Proud Eagle Lane

Las Vegas, Nevada 89114

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**TABLE OF CONTENTS**

PART I. AUTHORIZATION TO CONSTRUCT AND INJECT ..... 1

PART II. GENERAL PERMIT CONDITIONS ..... 4

A. EFFECT OF PERMIT ..... 4

B. SEVERABILITY ..... 4

C. CONFIDENTIALITY..... 4

D. CONFLICT OF TERMS..... 5

E. CONDITIONS APPLICABLE TO ALL UIC PERMITS (40 CFR § 144.51)..... 5

    1. Duty to Comply (40 CFR § 144.51(a))..... 5

    2. Duty to Reapply (40 CFR § 144.51(b)) ..... 5

    3. Need to Halt or Reduce Activity Not a Defense (40 CFR § 144.51(c)) ..... 5

    4. Duty to Mitigate (40 CFR § 144.51(d))..... 5

    5. Proper Operation and Maintenance (40 CFR § 144.51(e))..... 5

    6. Permit Actions ..... 6

    7. Property Rights (40 CFR § 144.51(g)) ..... 10

    8. Duty to Provide Information (40 CFR § 144.51(h))..... 10

    9. Inspection and Entry (40 CFR § 144.51(i)) ..... 10

    10. Monitoring and Records (40 CFR § 144.51(j)) ..... 10

    11. Signatory Requirements (40 CFR § 144.51(k), 40 CFR § 144.32) ..... 11

    12. Reporting Requirements (40 CFR § 144.51(l)) ..... 13

    13. Requirements Prior to Commencing Injection (40 CFR § 144.51(m)) ..... 14

    14. Notification Prior to Conversion or Abandonment (40 CFR § 144.51(n))..... 14

    15. Plugging and Abandonment Requirements (40 CFR § 144.51(o))..... 15

    16. Plugging and Abandonment Report (40 CFR § 144.51(p))..... 15

    17. Financial Responsibility (40 CFR § 144.52(a)(7) & UAC R317-7-9.1.D.24) ..... 15

    18. Additional Conditions (40 CFR § 144.52(a)(9))..... 15

PART III. SPECIFIC PERMIT CONDITIONS ..... 16

A. DURATION OF PERMIT ..... 16

B. COMPLIANCE SCHEDULE..... 16

C. CONSTRUCTION REQUIREMENTS..... 16

    1. Construction Plan..... 16

    2. Changes to the Construction Plan..... 16

    3. Well Stimulation Program ..... 16

---

4. Additional Construction Requirements.....	16
D. REQUIREMENTS PRIOR TO COMMENCING INJECTION .....	17
1. Well Completion Report.....	17
2. Director’s Approval to Commence Injection.....	17
E. OPERATING REQUIREMENTS .....	17
1. Class V SBR Injection Well Operation Standards.....	17
2. Operating Plan .....	18
3. Maximum Allowable Surface Injection Pressure (MASIP) .....	18
4. Borehole – Casing Annulus Injection Prohibited .....	18
5. Injection Zone .....	18
6. Approved Injectate.....	18
7. Injection Flow Rate and Injection Pressure Limitations.....	18
8. Security .....	18
F. MONITORING AND RECORDING REQUIREMENTS.....	19
1. Class V SBR Injection Well Monitoring and Recording Standards.....	19
2. Monitoring, Recording, and Reporting Plan.....	19
3. Monitoring Equipment and Methods.....	19
4. Injectate Characterization .....	19
5. Injection Pressure, Injection Flow Rate, and Injection Volume .....	19
G. REPORTING REQUIREMENTS .....	19
1. Class V SBR Injection Well Reporting Requirements .....	19
2. Quarterly Monitoring Reports.....	20
3. Noncompliance Reporting .....	20
4. Planned Changes.....	21
5. Anticipated Noncompliance.....	21
6. Permit Transfers.....	21
6. Compliance Schedules .....	21
7. Mechanical Integrity Reporting .....	21
8. Plugging and Abandonment (“As-Plugged”) Report.....	22
9. Permit Review Report.....	22
10. Method of Reporting.....	22
H. MECHANICAL INTEGRITY.....	22
1. Class V Injection Well Mechanical Integrity Standards.....	22

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I. PLUGGING AND ABANDONMENT REQUIREMENTS .....	24
J. CONTINGENCY PLAN .....	24
K. CORRECTIVE ACTION .....	24
L. FINANCIAL RESPONSIBILITY .....	24
Attachment A – Area of review .....	27
Attachment B – Corrective Action Plan .....	29
Attachment C - Construction Plan .....	31
Attachment D - Injection Well Operating Plan and Procedures .....	33
Attachment E – Well Stimulation Program .....	35
Attachment F – Monitoring, Recording, and Reporting Plan.....	37
Attachment G - Contingency Plan .....	39
Attachment H – Plugging and Abandonment Plan .....	41
Attachment I – Financial Responsibility and Well Closure Estimate.....	43

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## **PART I. AUTHORIZATION TO CONSTRUCT AND INJECT**

Pursuant to the Utah Underground Injection Control (UIC) Program Regulations codified in the Utah Administrative Code (UAC) R317-7, the Utah Division of Water Quality (DWQ), through this permit, hereby authorizes:

Blackstone Minerals NV LLC  
712 Proud Eagle Lane  
Las Vegas, Nevada 89114

to construct and operate Class V Spent Brine Return (SBR) wells in Emery and Grand County, Utah. A general location map of its Class V SBR wells is included as Attachment A.

Blackstone Minerals (Blackstone or Permittee) will be installing six (6) SBR wells to inject spent brine from lithium extraction plants into the Paradox Formation. This project will take place Southeast of Green River, Utah. Attachment A includes: a map showing the Area of Review (AOR), permit boundary, and location of the proposed wells; and a table containing the location of the six (6) proposed Class V SBR wells.

The area to be included in this UIC area permit lies within the following bounds:

Township 21 South, Range 16 East, SLBM

Section 14: W 1/4 of S 1/4

Section 15: E 1/8 of S 1/4, E 1/4 of the SE 1/4 of SW 1/4, NW 1/4 of the SW 1/4 of the SE 1/4

Section 22: E 2/3 of the N 2/3 of the NW 1/4, N 1/2 of the NE 1/4

Whereas Underground Sources of Drinking Water (USDW) have not been identified in the area of the facility at the time this permit became effective, the conditions in this permit are designed to ensure protection of the Green River and any USDWs that may be identified in the future.

Injection is explicitly limited to the top of clastic zone 7 of the Paradox Formation and below, down to and including clastic zone 19, upon the express conditions that the Permittee meets the conditions set forth herein. Injection into new wells shall not commence until the Permittee has fulfilled all applicable conditions of this

permit and has received written authorization from the Director of the DWQ (hereafter referred to as “Director”) to inject.

All references to UAC R317-2-3, UAC R317-7, and to Title 40 of the Code of Federal Regulations (40 CFR) are to all regulations that are in effect on the effective date of this permit. The following attachments and their associated figures are incorporated herein by reference and constitute integral, enforceable parts of this permit:

Attachment A - Area of Review

Attachment B - Corrective Action Plan

Attachment C - Construction Plan

Attachment D - Injection Well Operating Plan and Procedures

Attachment E - Well Simulation Program

Attachment F - Monitoring, Recording, and Reporting Plan

Attachment G - Contingency Plan

Attachment H - Plugging and Abandonment Plan

Attachment I - Financial Responsibility and Well Closure Cost Estimate

This permit is based upon representations made by the Permittee and other information contained in the administrative record. **It is the responsibility of the Permittee to read and understand all provisions of this permit.**

Pursuant to Utah Code § 19-5-115, any person who violates the Utah Water Quality Act (UWQA), or any permit, rule, or order adopted under the UWQA, may be subject to civil or criminal penalties.

This permit shall become effective on **Month Day, Year** (effective date).

This permit and the authorization to inject shall be effective for 5 years, unless terminated, and will expire on **Month Day, Year** (expiration date).

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John K. Mackey, P.E.  
Director  
Utah Division of Water Quality



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## **PART II. GENERAL PERMIT CONDITIONS**

### **A. EFFECT OF PERMIT**

The Permittee is allowed to engage in underground injection in accordance with the conditions of this permit. The Permittee, authorized by this permit, shall not construct, operate, maintain, convert, plug, abandon or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water (USDW), if the presence of that contaminant may cause a violation of any primary drinking water standard under the Utah Public Drinking Water Administrative Rules, UAC R309-200 and 40 CFR Part 141, or may otherwise adversely affect the health of persons. Any underground injection activity not specifically authorized in this permit is prohibited unless otherwise authorized-by-rule or by another UIC permit. Compliance with this permit does not constitute a defense to any action brought under the Utah Water Quality Act (UWQA) Title 19, Chapter 5, Utah Code Annotated 1953, or any other common or statutory law or regulation. Issuance of this permit does not authorize any injury to persons or property, any invasion of personal or real property rights, or any infringement of State or local law or regulations. Nothing in this permit shall be construed to relieve the Permittee of any duties nor provide the Permittee a defense for noncompliance under applicable state or federal laws or regulations.

### **B. SEVERABILITY**

The provisions of this permit are severable. If any provision of this permit or the application of any provision of this permit to any circumstance is held to be invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

### **C. CONFIDENTIALITY**

In accordance with Utah Code § 19-1-306 (Records of the Department of Environmental Quality (DEQ)), Utah Code § 63G-2-309 (Confidentiality Claims), and Utah Code § 19-5-113 DWQ Records and Reports Required by Owners/Operators) any information deemed by the Permittee to be entitled to trade secret protection submitted to the DWQ pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "Confidential Business Information" on each page containing such information. If no claim is made at the time of submission, DWQ may make the information available to the public without further notice. Claims of confidentiality may be denied by the DWQ according to the procedures detailed in Utah Code § 63G-2 and the federal Freedom of Information Act. Claims of confidentiality for the following information will be denied as per UAC R317-7-9.7:

1. The name and address of the Permittee; and
2. Information which deals with the existence, absence, or level of contaminants in drinking water.

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D. CONFLICT OF TERMS

In the event of a conflict or inconsistency between any Part of or Attachment to this permit, the more stringent standard, provision, or condition shall control.

E. CONDITIONS APPLICABLE TO ALL UIC PERMITS (40 CFR § 144.51)<sup>1</sup>

The following conditions are required for and applicable to all UIC permits. Specific requirements for implementing these conditions are included in Part III of this permit, as necessary.

1. Duty to Comply (40 CFR § 144.51(a))

The Permittee is required to comply with the terms of this permit and all attachments hereto. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act (SDWA) and the UWQA and is grounds for enforcement action; permit termination, revocation and re-issuance, modification; or for denial of a permit renewal application; except that the Permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit issued in accordance with UAC R317-7-8 (40 CFR § 144.34). Such noncompliance may also be grounds for enforcement action under the Utah Solid and Hazardous Waste Act, Title 19, Chapter 6, Utah Code Annotated 1979.

2. Duty to Reapply (40 CFR § 144.51(b))

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The Permittee shall submit a complete permit renewal application at least 180 days before the expiration date of this permit.

3. Need to Halt or Reduce Activity Not a Defense (40 CFR § 144.51(c))

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to Mitigate (40 CFR § 144.51(d))

The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

5. Proper Operation and Maintenance (40 CFR § 144.51(e))

The Permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance include effective performance, adequate

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<sup>1</sup> Parenthetical references to the Code of Federal Regulations (CFR) and / or the Utah Administrative Code (UAC) for the UIC Program indicate the requirement for inclusion in this permit.

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funding, adequate Operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

6. Permit Actions

(40 CFR § 144.51(f), 40 CFR § 124.5, 40 CFR § 144.38, 40 CFR § 144.39, 40 CFR § 144.40, 40 CFR § 144.41)

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon the Director's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in sections a) and b) below. All requests shall be in writing and shall contain facts and reasons supporting the request. The filing of a request for a permit modification, revocation and re-issuance, or termination on the part of the Permittee, does not stay any permit condition. This permit may be transferred according to the procedures given in section d).

a) Modification or Revocation and Reissuance of Permit

When the Director receives any information (e.g., inspects the facility, receives information submitted by the Permittee as required in the permit, receives a request for modification or revocation and reissuance, or conducts a review of the permit file), the Director may determine whether or not one or more of the causes listed in paragraphs (1) and (2) of this section for modification or revocation and reissuance or both exist. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (3) of this section and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. If cause does not exist under this section a) or under section c) for minor modifications, the Director shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria for minor modifications in section c) the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in 40 CFR § 124, incorporated by reference into the Utah UIC Program rules (hereafter referred to as "40 CFR § 124"), must be followed.

- (1) Causes for modification. For Class V wells the following may be causes for revocation and reissuance, or, if the Permittee requests or agrees, modification:
  - i. Alterations. There are material and substantial alterations or additions to the permitted facility or activity that occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

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- ii. Information. The Director has received information. Permits other than for Class II and Class III wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance. For UIC area permits, this cause shall include any information indicating that cumulative effects on the environment are unacceptable.
  - iii. New regulations. The standards or regulations on which the permit was based have been changed by promulgation of new or amended standards or regulations or by judicial decision after the permit was issued. Permits for Class V wells may be modified during their permit terms for this cause only as follows:
    - (i) For promulgation of amended standards or regulations, when:
      - (A) The permit condition requested to be modified was based on a regulation in 40 CFR § 146;
      - (B) Environmental Protection Agency (EPA) has revised, withdrawn, or modified that portion of the regulation on which the permit condition was based; and
      - (C) A Permittee requests modification in accordance with 40 CFR § 124.5 within ninety (90) days after Federal Register notice of the action on which the request is based.
    - (ii) For judicial decisions, a court of competent jurisdiction has remanded and stayed EPA promulgated regulations if the remand and stay concern that portion of the regulations on which the permit condition was based, and a request is filed by the Permittee in accordance with 40 CFR § 124.5 within ninety (90) days of judicial remand.
  - iv. Compliance schedules. The Director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the Permittee has little or no control and for which there is no reasonably available remedy. *See also* 40 CFR § 144.41(c).
- (2) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:
- i. Cause exists for termination under 40 CFR § 144.40, and the Director determines that modification or revocation and re-issuance is appropriate.
  - ii. The Director has received notification (as required in the permit, *see* 40 CFR § 144.41(d)) of a proposed transfer of the permit. A permit also
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may be modified to reflect a transfer after the effective date of an automatic transfer (40 CFR § 144.38(b)) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

iii. A determination that the waste being injected is a hazardous waste as defined in 40 CFR § 261.3 either because the definition has been revised, or because a previous determination has been changed.

(3) Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

b) Termination of Permit

(1) The Director may terminate a permit during its term, or deny a permit renewal application for the following causes:

i. Noncompliance by the Permittee with any condition of the permit;

ii. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time; or

iii. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

(2) The Director shall follow the applicable procedures in 40 CFR § 124 in terminating any permit under this section.

c) Minor Modification of Permit

Upon the consent of the Permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR § 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR § 124 draft permit and public notice as required in section a). Minor modifications may only:

(1) Correct typographical errors;

(2) Require more frequent monitoring or reporting by the Permittee;

(3) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or

(4) Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary,

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provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Director.

- (5) Change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the Director, would not interfere with the operation of the facility or its ability to meet conditions described in the permit and would not change its classification.
- (6) Change construction requirements approved by the Director pursuant to 40 CFR § 144.52(a)(1) (establishing UIC permit conditions), provided that any such alteration shall comply with the requirements of 40 CFR § 144 and 40 CFR § 146.
- (7) Amend a plugging and abandonment plan which has been updated under 40 CFR § 144.52(a)(6).

d) Transfer of Permit

- (1) Transfers by Modification. Except as provided in paragraph (2) of this section, a permit may be transferred by the Permittee to a new Owner or Operator only if the permit has been modified or revoked and reissued under Part II.E.6.a.2.ii, or a minor modification made under Part II.E.6.c.4, to identify the new Permittee and incorporate such other requirements as may be necessary under the SDWA.
- (2) Automatic Transfers. As an alternative to transfers under paragraph (1) of this section, any UIC permit for a well not injecting hazardous waste or injecting carbon dioxide for geologic sequestration may be automatically transferred to a new Permittee if:
  - i. The current Permittee notifies the Director at least 30 days in advance of the proposed transfer date referred to in paragraph (2)(ii) of this section;
  - ii. The notice includes a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them, and the notice demonstrates that the financial responsibility requirements of 40 CFR § 144.52(a)(7) will be met by the new Permittee; and
- (3) Financial Responsibility. The Permittee, including the transferor of a permit, is required to demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director until the transferor of a permit has received notice from the Director that the Owner or Operator receiving transfer of the permit, the new Permittee, has demonstrated financial responsibility for the well.

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The Director does not notify the existing Permittee and the proposed new Permittee of intent to modify or revoke and re-issue the permit. A modification under this paragraph may also be a minor modification under section c) – Minor Modification of Permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (2)(ii) of this section.

7. Property Rights (40 CFR § 144.51(g))

This permit does not convey any property rights of any sort, or any exclusive privilege.

8. Duty to Provide Information (40 CFR § 144.51(h))

The Permittee shall furnish to the Director within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and re-issuing, 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.

9. Inspection and Entry (40 CFR § 144.51(i))

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by the law, to:

- a) Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b) Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
- c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, UWQA, or both any substances or parameters at any location.

10. Monitoring and Records (40 CFR § 144.51(j))

- a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b) The Permittee shall retain records of all monitoring information, including the following:
  - (1) Calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample,

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measurement, report, or application. This period may be extended by request of the Director at any time; and

- (2) The nature and composition of all injected fluids until three (3) years after the completion of any plugging and abandonment procedures specified under 40 CFR § 144.52(a)(6) or under 40 CFR § 146 as appropriate. The Director may require the Owner or Operator to deliver the records to the Director at the conclusion of the retention period.

c) Records of monitoring information shall include:

- (1) The date, exact place, and time of sampling or measurements;
- (2) The individual(s) who performed the sampling or measurements;
- (3) The date(s) analyses were performed;
- (4) The names of individual(s) who performed the analyses;
- (5) The analytical techniques or methods used; and
- (6) The results of such analyses.

11. Signatory Requirements (40 CFR § 144.51(k), 40 CFR § 144.32)

All reports or other information, submitted as required by this permit or requested by the Director, shall be signed and certified as follows:

a) Applications. All permit applications shall be signed as follows:

- (1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
  - i. A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
  - ii. The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note:

DEQ does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR § 144.32(a)(1)(i). DEQ will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under 40 CFR § 144.32(a)(1)(ii) rather than to specific individuals.



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- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
  - (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
- b) Reports. All reports required by permits and other information requested by the Director shall be signed by a person described in section a), or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described in section a) of this section;
  - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
  - (3) The written authorization is submitted to the Director.
- c) Changes to authorization. If an authorization under section b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of section b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
- d) Certification. Any person signing a document under section a) or b) shall make the following certification:
- “I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OF THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.”

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12. Reporting Requirements (40 CFR § 144.51(l))

Specific requirements for reporting the following items are included in Part III of this permit.

- a) **Planned Changes.** The Permittee shall give written notice to the Director, as soon as possible, of any planned physical alterations or additions to the UIC-permitted facility. Notification of planned changes on the part of the Permittee, does not stay any permit condition.
- b) **Anticipated Noncompliance.** The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. Notification of anticipated noncompliance on the part of the Permittee, does not stay any permit condition.
- c) **Permit Transfers.** This permit is not transferable to any person except in accordance with section 6.d) – Transfer of Permit. The Director may require modification or revocation and re-issuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the SDWA, UWQA, or both.
- d) **Monitoring Reports.** Monitoring results shall be reported at the intervals specified in Part III of this permit.
- e) **Compliance Schedule.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule specified in Part III.B of this permit shall be submitted no later than 30 days following each schedule date.
- f) **Noncompliance.** The Permittee shall report to the Director any noncompliance which may endanger health or the environment, as follows:
  - (1) **Twenty-four Hour Reporting.**

Any noncompliance information shall be provided orally to DWQ within 24 hours from the time the Permittee becomes aware of the circumstances. Such reports shall include, but not be limited to, the following information:

    - i. Any monitoring or other information which indicates any contaminant may cause an endangerment to a USDW; or
    - ii. Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.
  - (2) **Five-day Reporting.**

A written submission shall also be provided to DWQ via email or online submission within 5 days of the time the Permittee becomes aware of the circumstances of the noncompliance. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and

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steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- g) Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under 12.d) (Monitoring Reports), 12.e) (Compliance Schedule), or 12.f) (Noncompliance) of this section in the next Monitoring Report via email or online submission to DWQ. The reports shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
  - h) Other Information. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall submit such facts or information within 10 days after becoming aware of the failure to submit relevant facts.
13. Requirements Prior to Commencing Injection (40 CFR § 144.51(m))
- a) For a new injection well authorized by area permit, a new injection well may not commence injection until construction is complete, and
    - (1) The Permittee has submitted notice of completion of construction to the Director; and
    - (2) Either of the following:
      - i. The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; or
      - ii. The Permittee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in section a)(1) of this section, in which case prior inspection or review is waived and the Permittee may commence injection. The Director shall include in his notice a reasonable time period in which he shall inspect the well.
  - b) For new injection wells authorized by an area permit under UAC R317-7-7 (40 CFR § 144.33), requirements prior to commencing injection are specified in Part III of this permit.
14. Notification Prior to Conversion or Abandonment (40 CFR § 144.51(n))
- The Permittee shall notify the Director at such times as the permit requires before conversion or abandonment of the well or in the case of area permits before closure of the project.

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15. Plugging and Abandonment Requirements (40 CFR § 144.51(o))

A Class V permit may include conditions for developing a plugging and abandonment plan that meets the applicable requirements of UAC R317-7 to ensure that plugging and abandonment of the well will not allow the movement of fluids into or between USDWs. If the plan meets the plugging and abandonment requirements of UAC R317-7, the Director shall incorporate it into the permit as a permit condition. Where the review of the plan submitted in the permit application indicates the plan is inadequate, the Director may require the Permittee to revise the plan, prescribe conditions meeting the requirements of this paragraph, or deny the permit. For purposes of this paragraph, temporary or intermittent cessation of injection operations is not abandonment. Requirements for implementing the approved plugging and abandonment plan are specified in Part III of this permit.

16. Plugging and Abandonment Report (40 CFR § 144.51(p))

Requirements for submitting a plugging and abandonment report are specified in Part III of this permit.

17. Financial Responsibility (40 CFR § 144.52(a)(7) & UAC R317-7-9.1.D.24)

The Permittee is required to demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director until:

- a) The well has been plugged and abandoned in accordance with an approved plugging and abandonment plan and submitted a plugging and abandonment report; or
- b) The well has been converted; or
- c) The transferor of a permit has received notice from the Director that the Owner or Operator receiving transfer of the permit, the new Permittee, has demonstrated financial responsibility for the well.

The Permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance, such as a financial statement or other materials acceptable to the Director.

18. Additional Conditions (40 CFR § 144.52(a)(9))

The Director shall impose on a case-by-case basis such additional conditions as are necessary to prevent the migration of fluids into USDWs.

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### **PART III. SPECIFIC PERMIT CONDITIONS**

#### **A. DURATION OF PERMIT**

This UIC Class V Spent Brine Return (SBR) well area permit (Category UIC Well 5C1) shall be effective for 5 years.

#### **B. COMPLIANCE SCHEDULE**

There are no compliance schedule items.

#### **C. CONSTRUCTION REQUIREMENTS**

##### **1. Construction Plan**

An approvable construction plan is forthcoming. Once approved, the Construction Plan will be included in Attachment C of this permit.

##### **2. Changes to the Construction Plan**

Changes to the Construction Plan must be approved by the Director as a minor modification of the permit according to Part II.E.6.c.6. of this permit. No such changes may be physically incorporated into construction prior to approval of the minor modification by the Director. All changes must comply with UAC R317-7 and those sections of 40 CFR § 144 and 40 CFR § 146 incorporated by reference in UAC R317-7.

##### **3. Well Stimulation Program**

If the Permittee intends to stimulate the well beyond routine maintenance, such as enlarging channels and increasing pore space in the interval to be injected thereby enhancing the injectivity of the well, a Well Stimulation Plan must be submitted to the Director and approved prior to stimulating the well. The process prior to well stimulation is further outlined in Attachment E.

##### **4. Additional Construction Requirements**

- a. Well Construction Plan – No less than 30 days prior to the planned construction of a well, the Permittee shall submit, for the Director's review and approval, Individual Construction Plans that meet the requirements of this permit, for each well to be constructed.
- b. Well construction shall only begin after receipt of written approval from the Director.
- c. The Permittee will notify DWQ of the construction schedule as it is finalized and provide two weeks' notice prior to any actual construction activity so a representative or representatives of the Director can witness and supervise the well construction activity.

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D. REQUIREMENTS PRIOR TO COMMENCING INJECTION

In addition to the requirements under Part II.E.13 of this permit, the following requirements must be met prior to commencing injection:

1. Well Completion Report

The Permittee shall submit, for the Director's review and approval, an injection well completion report consisting of:

- a. All available logging and testing data on the well that is relevant to mechanical integrity of the well;
- b. Results of mechanical integrity testing for each new well;
- c. Actual maximum injection pressure and injection flow rate;
- d. Results of the formation testing program;
- e. Status of all wells requiring corrective action within the Area of Review (AOR), if applicable;
- f. Specific measurements of the injection depths, in feet and to the nearest foot, for each constructed well;
- g. Detailed 'As-Built' Well Schematic, including:
  - i. Casing details, including size, weight, grade, and setting depths,
  - ii. Cement details, including type, special formulations, calculated volumes, actual pumped volumes, and yield (Cubic feet/ sack),
  - iii. Formation horizons, and
  - iv. Groundwater horizons
- h. Explanations and justifications for any deviations from the approved Construction Plan.

2. Director's Approval to Commence Injection

Prior to commencing injection, the Permittee must receive written notice from the Director granting approval to commence injection.

E. OPERATING REQUIREMENTS

1. Class V SBR Injection Well Operation Standards

Class V SBR wells shall be operated to meet the performance standards for the UIC Program, in accordance with UAC R317-7-5.3 and 40 CFR § 144.12(a).

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2. Operating Plan

The approved and enforceable Operating Plan is included as Attachment D of this permit.

3. Maximum Allowable Surface Injection Pressure (MASIP)

Except during well stimulation, the MASIP at the wellhead shall be calculated to assure that pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case shall the injection pressure initiate fractures in the confining zone or cause the migration of injection or formation fluids into any USDW.

4. Borehole – Casing Annulus Injection Prohibited

Injection between the outermost casing protecting USDWs and the well bore is prohibited.

5. Injection Zone

- a. Permittee's injection is limited to the injection zone. The injection zone is the Paradox Formation, specifically from the top of clastic zone 7 at 6,040 feet below ground surface to the bottom clastic zone 19 at 6,445 feet below ground surface.
- b. Permittee's injection outside the limits of the injection zone is prohibited.

6. Approved Injectate

- a. Injection fluid is limited to waste fluids from the Direct Lithium Extraction (DLE) process generated by the Blackstone Minerals Project. These waste fluids include concentrated brine generated from DLE treatment of groundwater produced from the Paradox Formation, specifically clastic zone 31, and waste fluid from the well stimulation described in Attachment E.
- b. Permittee shall monitor, record, and report the injection fluid characteristics in accordance with Part III.F and Part III.G of this permit. Permittee's injection of fluids that exceed the constituent concentrations listed in Table D-1 of Attachment D is prohibited.

7. Injection Flow Rate and Injection Pressure Limitations

Injection flow rates shall not exceed 2,000 gallons per minute and the injection pressures shall not exceed the fracture gradient of 0.75 psi per foot of well depth, in accordance with Attachment D.

8. Security

The Permittee shall take reasonable steps to keep the permit area secure and prevent unauthorized persons from entering or accessing the permitted area or tampering

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with, disabling, or destroying the well, wellhead, or any other equipment within the Permittee's care, custody, or control.

F. MONITORING AND RECORDING REQUIREMENTS

1. Class V SBR Injection Well Monitoring and Recording Standards

Monitoring and recording requirements for drilling each well are set forth in 40 CFR § 144.54, the details of which are included in the following permit conditions.

2. Monitoring, Recording, and Reporting Plan

The approved and enforceable Monitoring, Recording, and Reporting Plan that meets all the monitoring and recording requirements of this section is included as Attachment F of this permit.

3. Monitoring Equipment and Methods

All monitoring equipment shall be properly selected, installed, used, and maintained according to the manufacturer's specifications so as to yield data that are representative of the monitored activity. All monitoring methods shall be properly selected and implemented at appropriate intervals and frequency so as to yield data that are representative of the monitored activity. Documentation verifying, if applicable, the proper selection, installation, use, and maintenance of monitoring equipment and the proper implementation of monitoring methods shall be made available to the Director upon request.

4. Injectate Characterization

The Permittee shall monitor the nature of injected fluids with sufficient frequency to yield data representative of its characteristics. The Permittee shall provide qualitative analysis and ranges in concentrations of all constituents of injected fluids as indicated in Table D-1 of Attachment D. Whenever the injection fluid is modified to the extent that this analysis is incorrect or incomplete, a new analysis shall be provided to the Director. The Permittee may request confidentiality in accordance with Part II.C of this permit. If the information is proprietary a Permittee may, in lieu of the ranges in concentrations, choose to submit maximum concentrations that shall not be exceeded. In such a case, the Permittee shall retain records of the undisclosed concentrations and provide them to the Director upon request.

5. Injection Pressure, Injection Flow Rate, and Injection Volume

The Permittee shall monitor the injection pressure, injection flow rate, injection volume, and temperature daily.

G. REPORTING REQUIREMENTS

1. Class V SBR Injection Well Reporting Requirements

The Permittee shall comply with the reporting requirements as set forth in 40 CFR Part 144, UAC R317-7, the following permit conditions, and Attachment F.



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## 2. Quarterly Monitoring Reports

### a) Schedule for Submitting Quarterly Monitoring Reports

<u>Quarter</u>		<u>Report Due On:</u>
1 <sup>st</sup> Quarter	Jan 1 – Mar 31	Apr 15
2 <sup>nd</sup> Quarter	Apr 1 – Jun 30	July 15
3 <sup>rd</sup> Quarter	Jul 1 – Sep 30	Oct 15
4 <sup>th</sup> Quarter	Oct 1 – Dec 31	Jan 15

### b) Content of Quarterly Monitoring Reports

Monitoring data for the following shall be included in the quarterly monitoring reports:

- (1) Injectate characterization;
- (2) Daily average of injection pressure, injection rate, injection volume, and temperature for each injection well;
- (3) Total volume of injected brine;
- (4) Injection zone fluid level;
- (5) Total dissolved solids (TDS);
- (6) Monitoring wells, if applicable;
- (7) Noncompliance not previously reported;
  - i. Such reports shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- (8) If no injection has occurred during the specified quarter, a letter documenting the lack of injection is sufficient.

## 3. Noncompliance Reporting

The Permittee shall report to the Director any noncompliance that may endanger health or the environment, as follows:

### a) Twenty-four Hour Reporting

The Permittee shall orally report any noncompliance information to DWQ within 24 hours from the time the Permittee becomes aware of the circumstances. Such reports shall include the following information:

- (1) Any monitoring or other information which indicates any contaminant may cause an endangerment to a USDW; or
- (2) Any noncompliance with a permit condition, or malfunction of the injection system which may cause fluid migration into or between USDWs.

b) Five-day Reporting

A written submission shall be provided by online submission or email within five days of the time the Permittee becomes aware of the circumstances of noncompliance. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

4. Planned Changes

The Permittee shall give written notice to the Director, as soon as possible, of any planned physical alterations or additions to the UIC-permitted facility. Notification of planned changes on the part of the Permittee does not stay any permit condition.

5. Anticipated Noncompliance

The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Notification of anticipated noncompliance on the part of the Permittee does not stay any permit condition.

6. Permit Transfers

This permit is not transferable to any person, as defined under UAC R317-1-1, except in accordance with Part II.E.6.d. of this permit. The current Permittee shall notify the Director at least 30 days in advance of the proposed transfer date. Notification shall comply with the requirements in Part II.E.6.d. of this permit.

6. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule specified in Part III.B of this permit shall be submitted no later than 30 days following each schedule date.

7. Mechanical Integrity Reporting

a) Mechanical Integrity Demonstration - The Permittee shall submit the results of any Mechanical Integrity (MI) demonstration within 60 days after completion of the test. The Permittee shall include in the report, a detailed description of the tests and the methods used to demonstrate MI. In the case of MI failure, the Permittee shall also describe in detail what and when steps were taken to reestablish MI.

b) Loss of Mechanical Integrity

(1) In the event of a MI failure which may potentially endanger an USDW, report to the Director verbally within 24 hours followed by submission of a written report within 5 days in accordance with the provisions of Part III.G.3 of this permit.

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- (2) Within 15 days after loss of MI, submit to the Director a schedule indicating what will be done to restore MI to the well, or if it will be plugged.

8. Plugging and Abandonment (“As-Plugged”) Report

Within 60 days after permanently or temporarily plugging and abandoning a well, the Permittee shall submit a Plugging and Abandonment Report to the Director. The report shall be certified as accurate by the person who performed the plugging operation, and shall consist of either:

- a) A statement that the well was plugged in accordance with the Plugging and Abandonment Plan(s) (P&A Plans) previously submitted to, and all conditions of approval provided by, the Director; or
- b) If the actual plugging deviated from the approved P&A Plans, a statement and diagrams defining the actual plugging and why the Director should approve such deviation. Any deviation from the previously approved individual P&A Plans required by this permit that may endanger waters of the State of Utah, including USDWs, is cause for the Director to require the Permittee to re-plug the well.

9. Permit Review Report

Within 30 days after receipt of this permit, the Permittee shall report by email to the Director that the person(s) responsible for implementing this permit has read and is personally familiar with all terms and conditions of this permit.

10. Method of Reporting

In addition to submission of the hard copy data, the Permittee shall submit all written reports by online submission to the DWQ website or email to the Director. The Permittee shall sign and certify reports required by this permit in accordance with 40 § CFR 144.32.

H. MECHANICAL INTEGRITY

1. Class V Injection Well Mechanical Integrity Standards

a) Mechanical Integrity Requirements

The Permittee shall comply with mechanical integrity (MI) requirements as set forth in 40 CFR § 146.8, UAC R317-7-10.3(b), the following permit conditions, and Attachment F.

b) Presence of Mechanical Integrity

Mechanical integrity (MI) exists if:

- i. There is no significant leak in the casing, tubing, or packer; and
- ii. There is no significant fluid movement into USDW through vertical channels adjacent to the injection wellbore.

c) Mechanical Integrity Testing (MIT) Methods

The Permittee shall employ one or more of the approved testing methods set forth in 40 CFR § 146.8 to demonstrate MI of the well/cavern system during cavern operations.

d) Injection Prohibited Without Mechanical Integrity Demonstration

The Permittee shall not commence injection operation of any new well without:

- i. Prior demonstration of MI; and
- ii. Receipt from Director of written approval of the MI demonstration.

e) Loss of Mechanical Integrity

If the Permittee or the Director determines that a well fails to demonstrate MI, the Permittee shall:

- i. Cease operation of the well immediately; and
- ii. Take steps to prevent losses of brine into USDWs; and
- iii. Within 90 days after loss of MI, restore MI or plug and abandon the well in accordance with a Plugging and Abandonment Plan approved by the Director.

The Permittee may resume operation of the well after demonstration of MI and receiving written approval from the Director.

f) Mechanical Integrity Demonstration Requests

The Director may at any time require, by written notice, the Permittee to demonstrate MI of a well.

g) Mechanical Integrity Demonstration Inspections

The Permittee shall allow the Director, or his representative, to observe any and all MI demonstrations. The Permittee shall notify the Director, in writing, of its final intent to demonstrate MI, no less than 14 days prior to the intended demonstration.

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I. PLUGGING AND ABANDONMENT REQUIREMENTS

1. The Permittee shall undertake plugging and abandonment in accordance with the requirements in 40 § CFR 146.10, UAC R317-7-10.5, this permit, and Attachment H.
2. In the event the Blackstone SBR wells are required to be plugged and abandoned, plugging and abandonment shall be done in such a manner as to be protective of any USDW and according to the Plugging and Abandonment Plan approved by DWQ.

J. CONTINGENCY PLAN

1. The Permittee has developed a Contingency Plan that addresses conditions requiring temporary or permanent shut-in of its wells.
2. The Permittee's Contingency Plan is included as Attachment G.

K. CORRECTIVE ACTION

1. As of the effective date of this permit, there are no wells within the AOR that require corrective action nor the development of a corrective action plan.
2. Upon the occurrence of an event that requires corrective action, a corrective action plan shall be developed in accordance with this permit and its attachments, including Attachment B.
3. The Permittee will notify DWQ within 24 hours of discovering a well or wells within the AOR may need corrective action. At a minimum, the notice must include:
  - a. Nature of the incident;
  - b. Nature of injected fluid;
  - c. Nature of native fluids or by-products of injection;
  - d. Potentially affected population; and
  - e. Potentially affected USDWs
4. The Permittee shall develop and submit a modified corrective action plan to DWQ within 30 days of determining that a well or wells need to be corrected.
5. In determining the adequacy of the Permittee's proposed corrective action, the Director shall consider the criteria and factors under 40 CFR § 146.7.

L. FINANCIAL RESPONSIBILITY

1. The Permittee, including a transferor of this permit, shall provide a certificate that assures, through a performance bond or other appropriate means, the resources necessary to close, plug, or abandon the underground injection operation in a manner prescribed by the Director until:

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- a. The well has been plugged and abandoned in accordance with an approved plugging and abandonment plan, and the Permittee has submitted a Plugging and Abandonment Report; or
  - b. The well has been converted in compliance with the requirements of 40 CFR § 144.51(n); or
  - c. The transferor of a permit has received notice from the Director that the Owner or Operator receiving transfer of the permit, the new Permittee, has demonstrated financial responsibility for the well.
2. The Permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance, such as financial statement or other materials acceptable to the Director.
    - a. Well construction shall only begin after the Permittee shows evidence of financial responsibility for the proposed well to the Director, in accordance with 40 CFR § 144.52, UAC R317-7-9.1.D.24, and the terms of this permit.
    - b. A copy of the pro forma bond agreement and an estimate of UIC well closure and plugging and abandonment costs per injection well are included in Attachment I.
    - c. The Permittee shall adjust the plugging and abandonment bond held by the State Treasurer for inflation, less any interest that has accrued in the cash account, at least once every five years from the effective date of this permit.
  3. The Permittee shall remain in compliance with all financial obligations required by the DWQ.

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# Attachment A

Area of Review



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# Attachment B

## Corrective Action Plan

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# Attachment C

## Construction Plan

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# Attachment D

## Injection Well Operating Plan and Procedures

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# Attachment E

## Well Simulation Program



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# Attachment F

## Monitoring, Recording, and Reporting Plan

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# Attachment G

## Contingency Plan

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# Attachment H

## Plugging and Abandonment Plan

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# Attachment I

Financial Assurance and Well Closure Cost Estimate



