

UTAH DIVISION OF WATER QUALITY

CLASS V INDIVIDUAL PERMIT

FOR AQUIFER STORAGE AND RECOVERY
CATEGORY UIC WELL 5F

UNDERGROUND INJECTION CONTROL (UIC) PROGRAM

UIC Permit Number: UTU-27-IP-4EDB3CD

Millard County, Utah

Permit Issued to:

Oak City
30 West Center
PO Box 217
Oak City, Utah 84649

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[Attachment A](#) - General Location Map of the Oak City Town ASR Project, Millard County.

[Attachment B](#) - Map of the UIC Area of Review including the Class V ASR Well

- [Attachment C](#) - Corrective Action Plan for Artificial Penetrations into Injection Zone within Area of Review
- [Attachment D](#) - Driller's Log for Oak City Community Water Well
- [Attachment E](#) - Injection Well Operating Plan and Procedures
- [Attachment F](#) - Monitoring, Recording, and Reporting Plan
- [Attachment G](#) - Monitoring Parameters and Schedule

PART I. AUTHORIZATION TO INJECT

Pursuant to the Utah Underground Injection Control (UIC) Program Regulations codified in the Utah Administrative Code (UAC) R317-7,

Oak City
PO Box 38101
Oak City, Utah 84649

is hereby authorized to operate Oak City Culinary Water Well as a Class V Aquifer Storage and Recovery (ASR) wells in Millard County, Utah. A general location map is included as Attachment A.

Oak City intends to inject the excess water in its water storage tanks originating from the Cold Water and Dry Creek springs located to the east and south of Oak City. The spring water is treated by gas chlorination several miles above the point where it enters the storage tanks.

The Oak City Culinary Water Well is located in the NW 1/4 of the SE 1/4 of Section 31, T 16 S, R 4W, SLB&M. A map showing the area of review including the proposed Class V ASR well is included as Attachment B.

All references to UAC R315-2-3, 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 date this permit becomes effective. The following are incorporated as enforceable attachments to this permit:

- Attachment A - General Location Map of the Oak City ASR Project, Millard County
- Attachment B - Map of the UIC Area of Review including the Class V ASR Well
- Attachment C - Corrective Action Plan for Artificial Penetrations into Injection Zone within Area of Review
- Attachment D - Driller's Log for Oak City Water Well
- Attachment E - Injection Well Operating Plan and Procedures
- Attachment F - Monitoring, Recording, and Reporting Plan
- Attachment G - Monitoring Parameters and Schedule

This renewal of the original 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.**

Any person who violates the Utah Water Quality Act (UWQA), or any permit, rule, or order adopted under it, is subject to the provisions of section UCA 19-5-115 of the UWQA governing violations.

This permit shall become effective April 26th, 2022

This permit and the authorization to inject shall be issued for 5 years, unless terminated, and will expire on April 25th, 2027.



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

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 other private 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 under applicable 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), 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, the 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 (FOIA). 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.
2. Information that deals with the existence, absence or level of contaminants in drinking water.

D. CONDITIONS APPLICABLE TO ALL UIC PERMITS (40CFR144.51)¹

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

1. Duty to Comply (40CFR144.51(a))

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act 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 (USHWA), Title 19, Chapter 6, Utah Code Annotated 1979.

2. Duty to Reapply (40CFR144.51(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 this permit expires.

3. Need to Halt or Reduce Activity Not a Defense (40CFR144.51(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 (40CFR144.51(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 (40CFR144.51(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 includes effective performance, adequate 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.

¹ 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 the permit.

6. Permit Actions

(40CFR144.51(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 or 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) Modify or Revoke and Re-Issue Permits

When the Director of the Utah Division of Water Quality (hereafter referred to as 'the Director') receives any information (for example, 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 as well as modification if the permittee requests or agrees.
 - i. Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justifies the application of permit conditions that are different or absent in the existing permit.
 - ii. Information. The Director has received information. 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 promulgated part 146 regulation; and
 - (B) 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 § 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 § 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 paragraph (3) under section c) – Minor Modification of Permit).
- (2) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and re-issue a permit:
- i. Cause exists for termination under section b), 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 paragraph (4) under section c) – Minor Modification of Permit) of a proposed transfer of the permit. A permit also may be modified to reflect a transfer after the effective date of an automatic transfer (see paragraph (2) of section d) – Transfer of Permit) but will not be revoked and re-issued 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, 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.

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 paragraph (2)(ii) under section a)), or a minor modification made (under paragraph (4) of section c)) to identify the new permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act.
- (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 following financial responsibility requirements of 40 CFR 144.52(a)(7) will be met by the new permittee:

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:

- (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.

- iii. 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 (40CFR144.51(g))

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

8. Duty to Provide Information (40CFR144.51(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 (40CFR144.51(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 and / or UWQA any substances or parameters at any location.

10. Monitoring and Records (40CFR144.51(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, 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 years after the completion of any plugging and abandonment 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 (40CFR144.51(k))

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.

- (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 paragraph 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) 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) 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.”

12. Reporting Requirements (40CFR144.51(l))

Specific requirements for reporting the following items are included in Part III of the 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 d) of Permit Actions – 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 Safe Drinking Water Act and / or the UWQA.

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) Endangering Noncompliance

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

(1) Twenty-four Hour Reporting

Endangering noncompliance information shall be provided orally 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 that 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 be provided within five days of the time the permittee becomes aware of the circumstances of the endangering 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.

g) Other Noncompliance

The permittee shall report all instances of noncompliance not reported under 12d) (Monitoring Reports), 12e) (Compliance Schedule Reports), or 12f) (Endangering Noncompliance Monitoring) of this section in the next Monitoring Report. 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

When the permittee becomes aware of a failure 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 (40CFR144.51(m))

a) For new injection well authorized by individual 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), 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 shall be specified in Part III of the permit.

14. Notification Prior to Conversion or Abandonment. (40CFR144.51(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 projects.

15. Plugging and Abandonment Requirements. (40CFR144.51(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 applicant 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. (40CFR144.51(p))

If a plugging and abandonment plan is required, requirements for submitting a plugging and abandonment report are specified in Part III of this permit.

PART III. SPECIFIC PERMIT CONDITIONS

A. DURATION OF PERMIT
(R317-7-9.5 and 40CFR144.36)

This UIC Class V ASR individual well permit (Category UIC Well 5F) shall be issued for 5 years.

B. COMPLIANCE SCHEDULE
(40CFR144.53)

There are no compliance schedule items.

C. CONSTRUCTION REQUIREMENTS

This permit does not authorize the construction of new ASR wells. If Oak City wishes to construct a new ASR well, an application for a major permit modification will be required.

D. REQUIREMENTS PRIOR TO INJECTION

1. Demonstration of Adequate Monitoring Equipment

Prior to commencing injection, Oak City must demonstrate to the Director that adequate instrumentation and methods have been put in place to acquire the monitoring data of Part III (F) of this permit.

2. Director's Approval to Commence Injection

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

E. OPERATING REQUIREMENTS

1. Class V ASR Injection Well Operation Standards

Class V ASR wells shall be operated to meet the performance standard (R317-7-5.3 and 40 CFR 144.12(a)) for the UIC Program which states that:

No owner or operator of an injection well shall 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, if the presence of that contaminant may cause a violation of any primary drinking water regulation or may otherwise adversely affect the health of persons.

2. Operating Plan

The approved and enforceable Operating Plan that meets all the operating requirements of this section is included as Attachment E of this permit.

3. Injection Zone

Injection is explicitly limited to the Quaternary sediment aquifer, which Oak City Well No. 1 pumps water from via the Oak City Well No. 1 municipal well.

4. Injection Pressure and Rate Limitation

Injection pressure and injection rate shall be limited to prevent flowing artesian conditions in any well within the 2-mile radius of review around the Oak City Town Culinary Water Well.

5. Injection Volume Limitation

Injection volume is limited by the Ground Water Recharge Permit issued by the Utah Division of Water Rights for Cold Water Spring Water Right Nos. 68-2446, and 68-3062 and Dry Creek Springs Water Right Nos. 68-2446, 68-2673, and 68-2674. No additional restrictions on the injection volume are imposed by this permit.

6. Injection Fluid Limitations

- a) Fluid injected is limited to water originating from Cold Water Spring, Upper and springs in Dry Creek (Utah Division of Drinking Water source identification numbers WS001 and WS002) which is treated by gas chlorination and stored in the water storage tanks near the well site.
- b) Prior to injection the water shall be treated by the gas chlorinator located near the water storage tanks.
- c) Injected water shall meet all Federal and State Maximum Contaminate Levels for Drinking Water (MCLs), and State Ground Water Quality Standards. The maximum total dissolved solids (TDS) of the injected water shall not exceed 500 milligrams per liter (mg/l).

- d) The permittee shall not inject any hazardous waste as defined by UAC R315-2-3 or 40 CFR 261 at any time during the operation of the facility.
- e) All additives introduced into the injection stream must meet all Utah Rules for Public Drinking Water Systems in UAC R309-525-11.
- f) The permittee shall notify the Director in writing within 10 days of any changes in the injection fluid or process additives that may alter the quality or chemical composition of the injection fluid.
- g) Upon notification of a spill or dumping incident which may adversely affect the quality of the injectate or any finding by the permittee or the Director that the injection fluid has exceeded Federal or State MCLs, State Ground Water Quality Standards, TDS of 500 mg/l, or may otherwise affect the health of persons, the permittee shall stop injection immediately. Injection shall not recommence until approval has been received by the Director.

7. Security

- a) The gas chlorinator facility shall be secured at all times.
- b) The water storage tanks shall be secured at all times
- c) The well head of the Oak City Well No. 1 shall be secured at all times.

F. MONITORING AND RECORDING REQUIREMENTS
(40CFR144.54)

1. Class V ASR Injection Well Monitoring and Recording Standards

Monitoring and recording requirements for UIC permits are set forth in 40CFR144.54 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 which 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 which 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 and Recovered Fluid Characterization

Oak City shall monitor the nature of injected and recovered fluids according to the monitoring parameter list and schedule in Attachment G of this permit. The monitoring parameter list and schedule is meant to coincide with those required for the Utah Division of Drinking Water with more frequent, yearly rather than 3-year, monitoring of the well water for TTHMs and HAA5s.

Field parameters shall be determined immediately prior to collection of all water quality samples and shall include: pH, temperature, and specific conductivity.

5. Injection Pressure, Injection Rate, and Injection Volume

Oak City shall monitor the injection pressure and either the injection rate or injection volume semi-monthly, or metering and daily recording of injected and produced fluid volumes during periods of injection.

6. Injection Zone Fluid Level

Oak City shall monitor the fluid level in the injection zone semi-monthly.

G. REPORTING REQUIREMENTS
(40 CFR 144.54)

1. Quarterly Monitoring Reports

a) Schedule for Submitting Quarterly Monitoring Report

<u>Quarter</u>		<u>Report Due On:</u>
1 st Quarter	Jan 1 – Mar 31	Apr 15
2 nd Quarter	Apr 1 – Jun 30	July 15
3 rd Quarter	Jul 1 – Sep 30	Oct 15
4 th 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 / Recovered Fluid Characterization
- (2) Injection Pressure, Rate, Volume
- (3) Injection Zone Fluid Level
- (4) Noncompliance Not Previously Reported – 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.
- (5) Other Required Monitoring

2. Endangering Noncompliance Reporting

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

a) Twenty-four Hour Reporting

Endangering noncompliance information shall be provided orally 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:

- (1) Any monitoring or other information that 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 within five days of the time the permittee becomes aware of the circumstances of the endangering 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.

3. Planned Changes

Oak City 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.

4. Anticipated Noncompliance

Oak City 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.

5. Permit Transfers

This permit is not transferable to any person except in accordance with Part II (D)(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(D)(6)(d) of this permit.

6. Compliance Schedule Reporting

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. Permit Review Report

Within 30 days after receipt of this permit, Oak City shall report 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.

8. Electronic Reporting

In addition to submittal of the hard copy data, Oak City shall submit the required monitoring data in the electronic format specified by the Director.

H. PLUGGING AND ABANDONMENT REQUIREMENTS

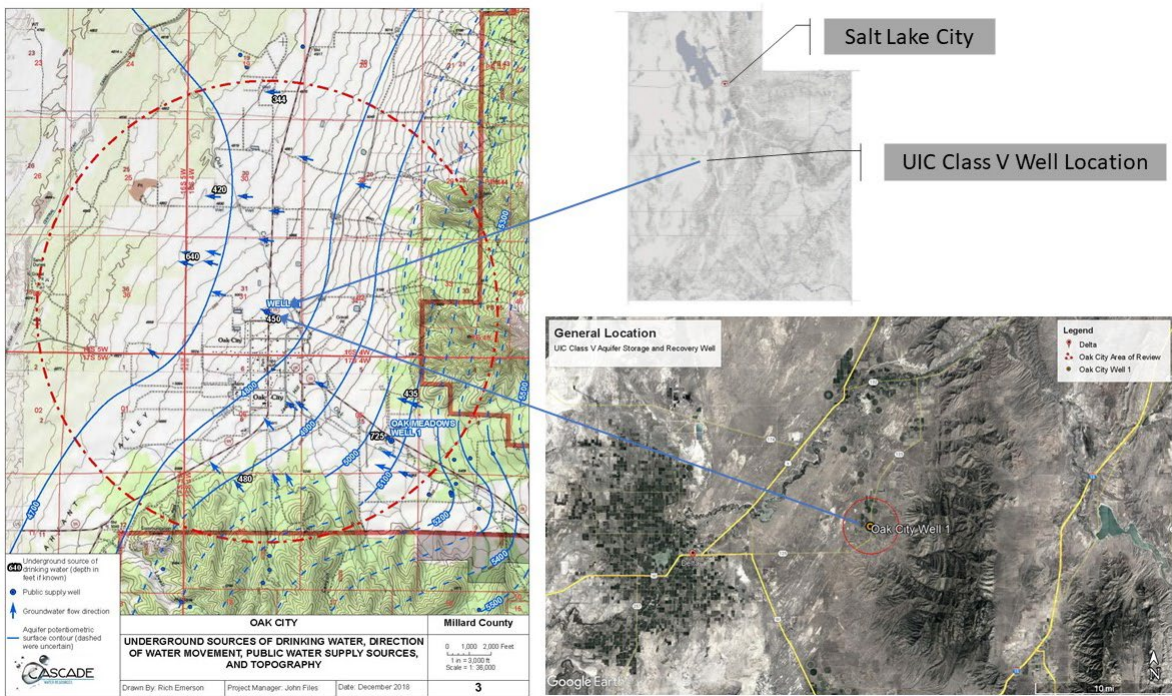
In the event the Oak City Culinary Water Well is required to be plugged and abandoned, it shall be done so in such a manner as to be protective of any USDW and according to the requirements of the Utah Divisions of Water Rights and Utah Division of Drinking Water.

I. FINANCIAL RESPONSIBILITY

Oak City is not required to maintain financial responsibility and resources to plug and abandon the permitted injection well facilities beyond that which is required by the Utah Divisions of Water Rights and Drinking Water.

DWQ-2022-005101

Attachment A
General Location Map of the Oak City ASR Project,
Millard County

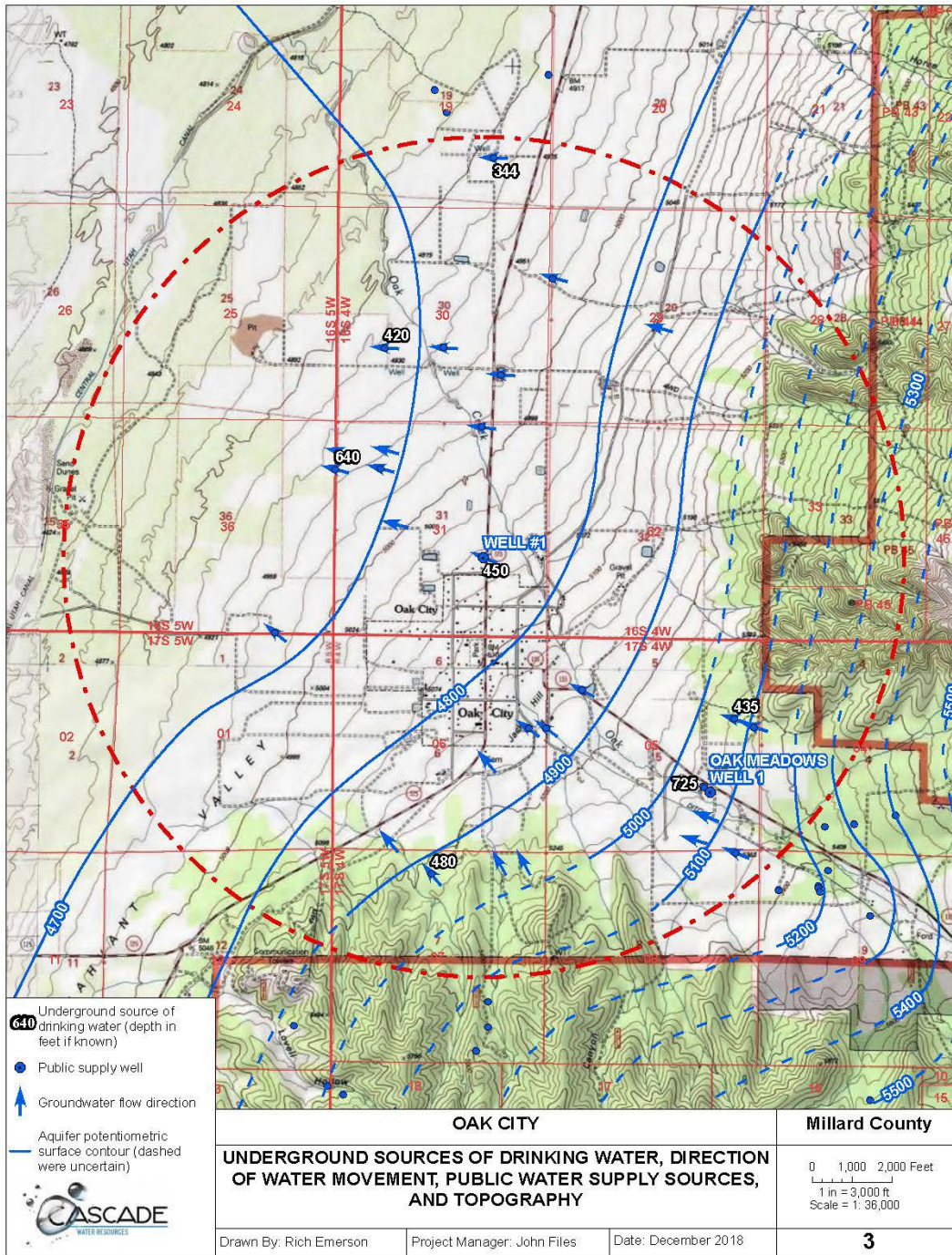


The Oak City Aquifer Storage and Recovery (ASR) project is located within the town boundary of Oak City, Utah in Millard County.

Section 31 of T. 16 S., R. 4 W.; SLB&M

Attachment B

Map of the UIC Area of Review



Map showing the 2-mile radius area of review (dashed red circle) around the Oak City Well No. 1.

Attachment C

Corrective Action Plan for Artificial Penetrations into Injection Zone within Area of
Review

(At the time of the effective date of this permit no corrective action was required.)

Attachment D
Driller's Log for Oak City
Community Water Well



WELLPRT Well Log Information Listing

Version: 2003.09.18.00 Runcdate: 10/09/2003 02:28 PM

Utah Division of Water Rights

Water Well Log

LOCATION:

N 1995 ft W 1592 ft from SE CORNER of SECTION 31 T 16S R 4W BASE SL Elevation: feet

DRILLER ACTIVITIES:

```

ACTIVITY # 1 NEW WELL
DRILLER: Lee Drilling Inc.                                              LICENSE #: 12
START DATE: 10/10/1980    COMPLETION DATE: 10/31/1980
ACTIVITY # 2 WELL REPAIR
DRILLER: ZIMMERMAN, MIKE (WELL SERVICE)                      LICENSE #: 527
START DATE: 02/18/2003    COMPLETION DATE: 03/27/2003
    
```

BOREHOLE INFORMATION:

Depth(ft)		Diameter(in)	Drilling Method	Drilling Fluid
From	To			
0	425	10	CABLE	

LITHOLOGY:

Depth(ft)		Lithologic Description	Color	Rock Type
From	To			
0	57	CLAY		
57	82	CLAY,SAND,GRAVEL		
82	85	WATER-BEARING,SAND,GRAVEL		
85	90	CLAY		
90	106	CLAY,GRAVEL WITH STREAKS OF SAND		
106	160	CLAY GUMBO		
160	185	CLAY SANDY		
185	225	CLAY SANDY		
225	227	WATER-BEARING,GRAVEL PEA		
227	307	CLAY GUMBO		
307	364	CLAY STICKY		
364	368	WATER-BEARING,OTHER CONGLOMERATE		
368	376	CLAY STICKY		
376	387	WATER-BEARING,OTHER CONGLOMERATE		
387	390	CLAY STICKY		
390	394	WATER-BEARING,OTHER CONGLOMERATE		
394	425	CLAY STICKY		

WATER LEVEL DATA:

Date	Time	Water Level (feet)	Status
10/24/1980		(-)above ground 28.00	STATIC

CONSTRUCTION - CASING:

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 80		.250	16
0 425		.365	10

CONSTRUCTION - SCREENS/PERFORATIONS:

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)	Screen Type/# Perf.
From To					
224 228	PERFORATION	.25	1.50		48
364 394	PERFORATION	.25	1.50		480

CONSTRUCTION - FILTER PACK/ANNULAR SEALS

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 80	CEMENT GROUT		

WELL TESTS:

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/31/1980	PUMP	.733	90	25

GENERAL COMMENTS:

*DEEPEEN JOB FROM 2-18-2003 TO 3-27-2003
 DRILLERS ACTIVITY
 Borehole:
 Depth: 336-450' Diameter: 8" Drilling Method: air rotary
 Drilling Fluid: air, water, foam
 WELL LOG INFORMATION
 336'-347' sand, grave, cobbles, boulders quartzite, purple
 347'-355' water, clay, sand, gravel brown
 355'-360' water, clay, sand, gravel brown, very little clay
 360'-375' water, sand, gravel red, sandy gravel
 375'-391' water, sand, gravel red, not as sandy
 391'-396' water, sand, gravel red, sandy gravel
 396'-406' water, sand, gravel, cobbles red
 406'-408' water, clay, sand, gravel red, some clay
 408'-438' clay, sand red, some sand
 438'-444' sand, gravel red
 444'-450' siltstone red
 WATER LEVEL MEASUREMENT
 Date: 3-27-2003 Water Level: 308.3' Flowing: no
 Method of Measurement: e-tape
 Point of Measurement: ground level
 Height Above Surface: 0'
 Temperature: no data
 CASING SCHEDULE
 1'-450' Casing Type: a53b steel Wall Thick.: .322" Diam.: 8 5/8"
 PERFORATIONS
 330'-430' Perf. Size: 1/4" Perf. Length: 1"
 Number of Perfs.: 5 rows, 5 per foot
 CONSTRUCTION INFORMATION
 Well Head Configuration: temp cap
 Access Port Provided: no
 Casing Joint Type: welded
 Perforator Used: holte
 Drive Shoe: yes
 WELL DEVELOPMENT and WELL YIELD TEST INFORMATION
 Date: 3-26-2003 Method: air lift and surge, unable to blow water from well
 Yield: 7 gpm Time Pumped: 2 hours
 Well Disinfected: yes
 COMMENTS: This well had many problems. 2 broken welds and a bent or broken drive shoe. Casing was installed and pulled 5 separate times before we were able to drill well. Rhode Bros. did test on well, pumped 400 gpm.
 Additional Data Not Available

Attachment E

Injection Well Operating Plan and Procedures

10. PART I – INJECTION WELL OPERATION PLAN AND PROCEDURES

10.1. OPERATING PLAN

The Oak City Water system includes two above ground steel water storage tanks and one concrete water tank that provide the total storage capacity for the water system of 1.05 million gallons see Figure 10-1.



Figure 10-1 Oak City Water Storage Tanks

The collected spring water flows from the collection areas to a chlorination building and then is stored in the three tanks. When the system water demands are met, and the tanks are full, excess spring water is then allowed to flow down the well to recharge the aquifer. A water level sensor located in the storage tank will control the well pump and valve to allow water to be either pumped out of the aquifer or injected into the aquifer through a Supervisory Control and Data Acquisition (SCADA) System.

10.1.1.WELL PUMPING PROCEDURES

1. Spring water continually fills the Oak City storage Tanks.
2. When the volume of spring water is insufficient for the system demands and the water level in the storage tanks drops to 10 feet below the overflow elevation, the well pump turns on.
3. The well pump remains on until the combined inflow from the springs and the well fills the tanks to 2 feet below the overflow elevation, at which point the well shuts off.
4. Water to and from the distribution system and water storage tanks is fed through the main outlet pipe.
5. The flow into the system is recorded by flow meters at the well and at the chlorination building.
6. While the well pump is operating, the control valve for the injection pipeline is closed allowing water to flow only into the distribution system.

10.1.2.INJECTION PROCEDURES (WELL PUMP OFF)

1. Spring water continually fills the Oak City storage Tanks.
2. When the spring water exceeds the demands of the water system and the storage are within 0.5 feet of the water tanks overflow elevation, as indicated by the water level sensor, the control valve on the injection line opens and water is conveyed into the well through the injection line.
 - a. An orifice plate in the injection line limits the flow to approximately 120 gpm.
3. When the water surface drops to 1 foot below the storage tank overflow elevation the control valve closes.
4. The flow rate and total gallons through the injection line is recorded by the flow meter.

Attachment F

Monitoring, Recording, and Reporting Plan

11. PART J – MONITORING, RECORDING, AND REPORTING PLAN

The following sections outline a preliminary monitoring, recording, and reporting plan. After the permit has been issued additional requirements will be added by the DWQ.

11.1. MONITORING PLAN

11.1.1. SAMPLE SITE

Oak City has three groundwater sources, Cold Water and Dry Creek Springs and the well, that supply the Oak City distribution system. Samples will be collected from a sample tap located on the new injection piping system side of the well house.

11.1.2. SAMPLE FREQUENCY

The Monitoring Schedule in Appendix E outlines the monitoring schedule for each analyte on a yearly, 3-year, and 6-year basis. Since radionuclides don't typically change in a short time period, these sample will still be collected on the 6-year cycle as specified in the monitoring schedule.

Annual sample collections will be representative of the water injected during that season. Data submitted to satisfy compliance with the Utah DWQ regulations will serve to meet the groundwater monitoring requirements.

11.1.3. RECORDING

Data associated with the laboratory analysis will be recorded, kept, and reported. This data shall include: the date, time, and location of each sample; the name of the sampler; the date, time, and analyst of each analysis; the analysis method and reporting limit for each analysis; and the sample result. Electronic copies of official lab reports and field data logs will be kept on a secured computer, used by the City. Electronical data will be kept indefinitely.

In addition to the laboratory data, Oak City will record the injectate pressure, injectate rate for the well during and static ground water level before and after each injection event. The total volume of injectate into the well will also be recorded.

11.1.4. REPORTING

All of the above data will be reported to the DWQ on a quarterly basis. Due to the long turnaround time of some of the laboratory analysis, the quarterly reports will be submitted approximately 75 days after the end of each calendar quarter if injection occurred during that quarter. If no injection occurred during the reporting period a brief letter stating such will be submitted in lieu of the report. This report will include: a characterization of the injectate; injection pressure, rate, and volume; injection zone water level, all associated sample collection data; and all applicable sample results.

11.1.4.1. QUARTERLY MONITORING REPORTS

Quarterly Monitoring reports will be submitted to the State and contain the following information:

1. Injectate / Recovered Fluid Characterization – This is to be accomplished with water quality testing. The report compared to the monitoring parameters and schedule in Appendix E which shows the maximum levels of contaminant.
2. Injection Pressure, Rate, Volume – The worksheet included in Appendix F which this will be regularly recorded on will be scanned and submitted.
3. Injection Zone Fluid Level – The worksheet which this will be regularly recorded on will be scanned and submitted.
4. Noncompliance Not Previously Reported – An Oak City representative will report any noncompliance as specified in the permit.

11.1.4.2. OTHER REPORTING ITEMS

Other than the quarterly report, other items will need to be reported to the State such as the following:

1. Endangering Noncompliance Reporting

Oak City will report to the DWQ any noncompliance that may endanger health or the environment as follows:

- a. **Twenty-four Hour Report**
Endangering noncompliance information as outlined in the permit will be provided orally within 24 hours from the time an Oak City representative becomes aware of such circumstances.
 - b. **Five-day Reporting**
An Oak City representative will provide a written submission with the content outlined in this permit within five days of the time they become aware of the circumstances of the endangering noncompliance.
2. **Planned Changes**
An Oak City representative will give written notice to the DWQ, as soon as possible, of any planned physical alternations or additions to the UIC-permitted facility.
 3. **Anticipated Noncompliance**
An Oak City representative will give advance notice to the DWQ of any planning changes in the permitted facility or activity that may result in noncompliance with the permit.
 4. **Permit Transfers**
An Oak City representative will notify the DWQ at least 30 days in advance of the proposed transfer date of this permit as outlined in the permit.
 5. **Compliance Schedule Reporting**
An Oak City representative will submit reports of compliance or noncompliance with, or any progress reports on, interim and final requirements.
 6. **Permit Review Report**
Within 30 days after receipt of this permit, an Oak City Representative will report to the DWQ that the person(s) reasonable for implementing his permit has read and is personally familiar with all terms and conditions of this permit.
 7. **Electronic Reporting**
In addition to submittal of the hard copy data, Oak City will submit the required monitoring data in the electronic format specified by the DWQ.

Attachment G

Monitoring Parameters and Schedule

Underground Injection Control (UIC) Monitoring Parameters and Monitoring Schedule for Oak City ASR Project (13)

Analyte	CAS Number	Units	Maximum Contaminant Level (MCL)	Secondary Drinking Water Regulations	New Injectate Characterization (1)	Yearly Injectate	3-Year Injectate	6-Year Injectate	Baseline Well GW Characterization	Yearly Well GW	3-Year Well GW
Inorganics and Metals:											
Aluminum	7429-90-5	mg/L		0.05 to 0.2	X		X		X		X
Antimony	7440-36-0	mg/L	0.006		X		X		X		X
Arsenic	7440-38-2	mg/L	0.01		X		X		X		X
Barium	7440-39-3	mg/L	2		X		X		X		X
Beryllium	7440-41-7	mg/L	0.004		X		X		X		X
Cadmium	7440-43-9	mg/L	0.005		X		X		X		X
Chloride	7647-14-5	mg/L		250	X		X		X		X
Chromium (Total)	7440-47-3	mg/L	0.1		X		X		X		X
Copper	7440-50-8	mg/L		1	X		X		X		X
Cyanide (as free Cyanide)	143-33-9	mg/L	0.2		X		X		X		X
Fluoride	7681-49-4	mg/L	4	2	X		X		X		X
Iron	7439-89-6	mg/L		0.3	X		X		X		X
Manganese	7439-96-5	mg/L		0.05	X		X		X		X
Mercury (inorganic)	7487-94-7	mg/L	0.002		X		X		X		X
Nickel	7440-02-0	mg/L			X		X		X		X
Selenium	7782-49-2	mg/L	0.05		X		X		X		X
Silver	7440-22-4	mg/L		0.1	X		X		X		X
Sodium		mg/L			X		X		X		X
Sulfate (2)	7757-82-6	mg/L	1,000	250	X		X		X		X
Thallium	7440-28-0	mg/L	0.002		X		X		X		X
Total Dissolved Solids (3)		mg/L	2000	500	X		X		X		X
Zinc	7440-66-6	mg/L		5	X		X		X		X
Nitrate/Nitrite:											
Nitrate (as Nitrogen)	14797-55-8	mg/L	10		X	X			X	X	
Nitrite (as Nitrogen)	14797-65-0	mg/L	1		X	X			X	X	
Total Nitrate and Nitrite (as N)		mg/L	10		X	X			X	X	
Asbestos:											
Asbestos (4)	1332-21-4	million fibers/L longer than 10 microns	7		X				X		

Underground Injection Control (UIC) Monitoring Parameters and Monitoring Schedule for Oak City ASR Project (13)

Analyte	CAS Number	Units	Maximum Contaminant Level (MCL)	Secondary Drinking Water Regulations	New Injectate Characterization (1)	Yearly Injectate	3-Year Injectate	6-Year Injectate	Baseline Well GW Characterization	Yearly Well GW	3-Year Well GW
Volatile Organic Contaminants (VOC):											
Benzene	71-43-2	mg/L	0.005		X		X		X		X
Carbon tetrachloride	56-23-5	mg/L	0.005		X		X		X		X
Dichlorobenzene o-	95-50-1	mg/L	0.6		X		X		X		X
Dichlorobenzene p-	106-46-7	mg/L	0.075		X		X		X		X
Dichloroethane (1,2-)	107-06-2	mg/L	0.005		X		X		X		X
Dichloroethylene (1,1-)	75-35-4	mg/L	0.007		X		X		X		X
Dichloroethylene (cis-1,2-)	156-59-2	mg/L	0.07		X		X		X		X
Dichloroethylene (trans-1,2-)	156-60-5	mg/L	0.1		X		X		X		X
Dichloromethane	75-09-2	mg/L	0.005		X		X		X		X
Dichloropropane (1,2-)	78-87-5	mg/L	0.005		X		X		X		X
Ethylbenzene	100-41-4	mg/L	0.7		X		X		X		X
Monochlorobenzene	108-90-7	mg/L	0.1		X		X		X		X
Styrene	100-42-5	mg/L	0.1		X		X		X		X
Tetrachloroethylene	127-18-4	mg/L	0.005		X		X		X		X
Toluene	108-88-3	mg/L	1		X		X		X		X
Trichlorobenzene (1,2,4-)	120-82-1	mg/L	0.07		X		X		X		X
Trichloroethane (1,1,1-)	71-55-6	mg/L	0.2		X		X		X		X
Trichloroethane (1,1,2-)	79-00-5	mg/L	0.005		X		X		X		X
Trichloroethylene	79-01-6	mg/L	0.005		X		X		X		X
Vinyl chloride	75-01-4	mg/L	0.002		X		X		X		X
Xylenes	1330-20-7	mg/L	10		X		X		X		X
Pesticides:											
2,4 - D (2,4 - dichlorophenoxyacetic acid)	94-75-7	mg/L	0.07		X				X		X
2,4,5-TP (Silvex)	93-72-1	mg/L	0.05		X				X		X
Alachlor	15972-60-8	mg/L	0.002		X				X		X
Aldicarb	116-06-3	mg/L	0.003		X				X		X
Aldicarb sulfone	1646-88-4	mg/L	0.003		X				X		X
Aldicarb sulfoxide	1646-87-3	mg/L	0.004		X				X		X
Atrazine	1912-24-9	mg/L	0.003		X				X		X
Benzo(a)pyrene (PAH)	50-32-8	mg/L	0.0002		X				X		X
Carbofuran	1563-66-2	mg/L	0.04		X				X		X
Chlordane	57-74-9	mg/L	0.002		X				X		X

Underground Injection Control (UIC) Monitoring Parameters and Monitoring Schedule for Oak City ASR Project (13)

Analyte	CAS Number	Units	Maximum Contaminant Level (MCL)	Secondary Drinking Water Regulations	New Injectate Characterization (1)	Yearly Injectate	3-Year Injectate	6-Year Injectate	Baseline Well GW Characterization	Yearly Well GW	3-Year Well GW
Dalapon (sodium salt)	75-99-0	mg/L	0.2		X				X		X
Di(2-ethylhexyl) adipate	103-23-1	mg/L	0.4		X				X		X
Di(2-ethylhexyl) phthalate	117-81-7	mg/L	0.006		X				X		X
Dinoseb	88-85-7	mg/L	0.007		X				X		X
Endrin	72-20-8	mg/L	0.002		X				X		X
Heptachlor	76-44-8	mg/L	0.0004		X				X		X
Heptachlor epoxide	1024-57-3	mg/L	0.0002		X				X		X
Hexachlorobenzene	118-74-1	mg/L	0.001		X				X		X
Hexachlorocyclopentadiene	77-47-4	mg/L	0.05		X				X		X
Lindane	58-89-9	mg/L	0.0002		X				X		X
Methoxychlor	72-43-5	mg/L	0.04		X				X		X
Oxamyl (Vydate)	23135-22-0	mg/L	0.2		X				X		X
Pentachlorophenol	87-86-5	mg/L	0.001		X				X		X
Picloram	2/1/1918	mg/L	0.5		X				X		X
Polychlorinated biphenyls (PCBs)	1336-36-3	mg/L	0.0005		X				X		X
Simazine	122-34-9	mg/L	0.004		X				X		X
Toxaphene	8001-35-2	mg/L	0.003		X				X		X
Radionuclides:											
Gross alpha particle activity (including Radium 226 but excluding Radon and Uranium)		pCi/L	15		X			X	X		X
Radium-226 (only required if gross alpha is >= 5pCi/L)	7440-14-4	pCi/L	5					X	X		X
Radium-228	7440-14-4	pCi/L	5					X	X		X
Uranium (only if gross alpha MCL is exceeded)	7440-61-1	mg/L	0.03		X			X	X		X
Gross beta particle and photon emitters (5)		mrem/yr	4		X			X	X		X
Tritium (only if gross beta exceeds 50 pCi/L)		pCi/L	20,000		X			X	X		X
Strontium-90 (only if gross beta exceeds 50 pCi/L)		pCi/L	8		X			X	X		X
Radon	10043-92-2	pCi/L			X			X	X		X

Underground Injection Control (UIC) Monitoring Parameters and Monitoring Schedule for Oak City ASR Project (13)

Analyte	CAS Number	Units	Maximum Contaminant Level (MCL)	Secondary Drinking Water Regulations	New Injectate Characterization (1)	Yearly Injectate	3-Year Injectate	6-Year Injectate	Baseline Well GW Characterization	Yearly Well GW	3-Year Well GW
Total Trihalomethanes (TTHMs): (required only if Chlorine is used as disinfectant) (6)											
		mg/L	0.08		X	X			X	X	
Chloroform	67-66-3	mg/L			X	X			X	X	
Bromodichloromethane	75-27-4	mg/L			X	X			X	X	
Dibromochloromethane	124-48-1	mg/L			X	X			X	X	
Bromoform	75-25-2	mg/L			X	X			X	X	
Haloacetic acids (HAA5): (required only if Chlorine is used as disinfectant) (7)											
		mg/L	0.06		X	X			X	X	
Trihaloacetic acids (THAAs)											
Trichloroacetic acid (TCAA)	76-03-9	mg/L			X	X			X	X	
Dihaloacetic acids (DHAAs)											
Dichloroacetic acid (DCAA)	76-43-6	mg/L			X	X			X	X	
Dibromoacetic acid (DBAA)	631-64-1	mg/L			X	X			X	X	
Monohaloacetic acids (MHAAs)											
Monochloroacetic acid (MCAA)	79-11-8	mg/L			X	X			X	X	
Monobromoacetic acid (MBAA)	79-08-3	mg/L			X	X			X	X	
Disinfectants and Their By-Products: (8)											
Chloramine (only if used as a disinfectant)	10599-90-3	mg/L	4		X	X			X	X	
Chlorine	7782-50-5	mg/L	4		X	X			X	X	
Chlorine Dioxide (only if used as a disinfectant)	10049-04-4	mg/L	0.8		X	X			X	X	
Chlorite (only if Chlorine Dioxide is used as a disinfectant)	7758-19-2	mg/L	1		X	X			X	X	
Bromide / Bromate (only if Ozone is used as a disinfectant) (9)	24959-67-9	mg/L			X	X			X	X	
Turbidity:		NTU	(10)		X	X			X	X	
Total Coliform:			(11)		X	X			X	monthly	

Underground Injection Control (UIC) Monitoring Parameters and Monitoring Schedule for Oak City ASR Project (13)

Analyte	CAS Number	Units	Maximum Contaminant Level (MCL)	Secondary Drinking Water Regulations	New Injectate Characterization (1)	Yearly Injectate	3-Year Injectate	6-Year Injectate	Baseline Well GW Characterization	Yearly Well GW	3-Year Well GW
Additional Parameters for New Source Monitoring to Comply with DDW Requirements:											
Color		Color Units		15	X				X		
Corrosivity				Non-Corrosive	X				X		
Foaming Agents		mg/L		0.5	X				X		
Odor		Threshold Odor Number		3	X				X		
pH		pH units		6.5 – 8.5	X	X			X	X	X
Ammonia, as N		mg/L			X				X		
Boron		mg/L			X				X		
Calcium		mg/L			X				X		
Lead		mg/L			X				X		
Magnesium		mg/L			X				X		
Potassium		mg/L			X				X		
Specific Conductivity at 25° C		µmhos/cm			X	X			X	X	X
Bicarbonate		mg/L			X				X		
Carbon Dioxide		mg/L			X				X		
Carbonate		mg/L			X				X		
Hydroxide		mg/L			X				X		
Phosphorous, Ortho as P		mg/L			X				X		
Silica, dissolved as SiO ₂		mg/L			X				X		
Surfactant as MBAS		mg/L			X				X		
Total Hardness as CaCO ₃		mg/L			X				X		
Alkalinity as CaCO ₃		mg/L			X				X		
Temperature		degrees C or F				X			X	X	X
Total Organic Carbon (TOC) (12)		mg/L			X				X		

Oak City
 30 West Center
 PO Box 217
 Oak City, UT 84649
 Phone (435) 846-2707



ASR QUARTERLY REPORT

QUARTER (CIRCLE ONE):

1ST (JAN 1 – MAR 31) 2ND (APR 1 – JUN 30) 3RD (JUL 1 – SEP 30) 4TH (OCT 1 – DEC 31)

WATER QUALITY TESTING (CIRCLE ONE):

INCLUDED (SEE ATTACHED REPORT) NOT INCLUDED

INJECTION REPORT

AVERAGE INJECTION FLUID PRESSURE (PSI)	AVERAGE INJECTION FLUID RATE (GPM)	INJECTION FLUID VOLUME (GALLONS)	AVERAGE INJECTION ZONE WATER LEVEL (FT)

See attached history log of injection pressure and rate and water level.

NONCOMPLIANCE NOT PREVIOUSLY REPORTED

ITEM	DATE PERIOD	REASON FOR NONCOMPLIANCE	ACTION TO REMEDY NONCOMPLIANCE ITEM	DATE OF ANTICIPATED COMPLIANCE

Submitted By: _____

Date: _____

Job Title: _____

Oak City ASR - Semi-Monthly Monitoring During Periods of Injection

Year: _____

Month	Semi-Monthly Date	Injection Pressure	Injection Rate	Injection Volume	Depth to Fluid Level	Comments
January						
January						
February						
February						
March						
March						
April						
April						
May						
May						
June						
June						
July						
July						
August						
August						
September						
September						
October						
October						
November						
November						
December						
December						