



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region08

Ref: 8P-W-UIC

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

DEC 21 2015

J.D. Horrocks, Water Superintendent
Newfield Production Company
10530 South County Road 33
Myton, Utah 84052

Re: Draft Permit UT20676-02569 for the Pariette Bench No. 4 Salt Water Disposal Well,
API No. 43-013-15681, Monument Butte Field, Duchesne County, Utah

Dear Mr. Horrocks:

Please find enclosed a copy of the U.S. Environmental Protection Agency's (EPA) Draft Underground Injection Control (UIC) Program permit for the Pariette Bench No. 4 salt water disposal well. Also enclosed are a copy of the Statement of Basis for the proposed action and the Public Notice appearing on the EPA's website at <https://www.epa.gov/uic/underground-injection-control-epa-region-8-co-mt-nd-sd-ut-and-wy>.

The U.S. Environmental Protection Agency Region 8 regulations and procedures for issuing UIC Permit decisions are found in Title 40 of the Code of Federal Regulations Part 124 (40 CFR §124). These regulations and procedures require a Public Notice and the opportunity for the public to comment on this proposed UIC Permit decision. The public comment period will run for at least thirty (30) days on the EPA's website and a courtesy announcement will be published in the following newspapers:

The Vernal Express, Vernal
The Uinta Basin Standard, Roosevelt

A Final decision will not be made until after the close of the comment period. All relevant comments will be taken into consideration. If any substantial comments are received the Effective Date of the Final Permit will be delayed for an additional thirty (30) days, as required by 40 CFR §124.15(b), to allow for any potential appeal of the Final Permit decision.

If you have any questions or comments about the proposed permit, please contact Emmett Schmitz at the letterhead address citing "Mail Code 8P-W-UIC." You may also telephone Mr. Schmitz at (800) 227-8917, extension 312-6174.

Sincerely,



Douglas Minter
Chief, Underground Injection Control Unit
Office of Partnerships and Regulatory Assistance

Enclosures: Draft UIC Permit UT20676-02569
Statement of Basis
Copy of Public Notice

cc: Uintah & Ouray Business Committee:
Shaun Chapoose, Chairman
Edred Secakuku, Vice-Chairman
Reannin Tapoof, Executive Assistant

Antonio Pingree
Acting Superintendent
Bureau of Indian Affairs, Uintah & Ouray Indian Agency

Bart Powaukee
Environmental Director
Ute Indian Tribe

Robin Hansen
Petroleum Geologist
Bureau of Land Management, Vernal Field Office

Brad Hill
Oil and Gas Permitting Manager
Utah Division of Oil, Gas, and Mining

Reed Durfey
District Manager
Newfield Production Company
Myton, Utah

UNDERGROUND INJECTION CONTROL PROGRAM PERMIT

PREPARED: December, 2015

Permit No. UT20676-02569
Pariette Bench No. 4 SWD
Duchesne County, UT

Class II Salt Water Disposal Well

Issued To

Newfield Production Company
10530 South County Road 33
Myton, Utah 84052

DRAFT

Part I. AUTHORIZATION TO CONSTRUCT AND OPERATE

Under the authority of the Safe Drinking Water Act and Underground Injection Control (UIC) Program regulations of the U. S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (40 CFR) Parts 2, 124, 144, 146, and 147, and according to the terms of this Permit,

Newfield Production Company
10530 South County Road 33
Myton, Utah 84052,

is authorized to construct and to operate the following Class II injection well or wells:

Pariette Bench No. 4 SWD
600' FSL and 1,960' FEL, SWSE S7, T9S, R19E
Duchesne County, UT

EPA regulates the injection of fluids into injection wells so that injection does not endanger underground sources of drinking water (USDWs). EPA UIC Permit conditions are based on authorities set forth at 40 CFR Parts 144 and 146, and address potential impacts to USDWs.

Under 40 CFR Part 144, Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General permit conditions for which the content is mandatory and not subject to site-specific differences are not discussed in this document. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege, nor does it authorize injury to persons or property or invasion of other private rights, or any infringement of other Federal, State or local laws or regulations (40 CFR §144.35). An EPA UIC Permit may be issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR §144.39, 144.40 and 144.41, and may be reviewed at least once every five (5) years to determine if action is required under 40 CFR §144.36(a).

This Permit is issued for the life of the well(s) unless modified, revoked and reissued, or terminated under 40 CFR §144.39 or 144.40. This EPA Permit may be adopted, modified, revoked and reissued, or terminated if primary enforcement authority for a UIC Program is delegated to an Indian Tribe or State. Upon the effective date of delegation, reports, notifications, questions and other correspondence should be directed to the Indian Tribe or State

Issue Date: **Draft**

Effective Date: **Draft**

Draft

Darcy O'Connor
Acting Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

*NOTE: The person holding this title is referred to as the "Director" throughout this Permit.

PART II. SPECIFIC PERMIT CONDITIONS

Section A. WELL CONSTRUCTION REQUIREMENTS

These requirements represent the approved minimum construction standards for well casing and cement, injection tubing, and packer.

Details of the approved well construction plan are incorporated into this Permit as APPENDIX A. Changes to the approved plan that may occur during construction must be approved by the Director prior to being physically incorporated.

1. *Casing and Cement.*

The well or wells shall be cased and cemented to prevent the movement of fluids into or between underground sources of drinking water. The well casing and cement shall be designed for the life expectancy of the well and of the grade and size shown in APPENDIX A. Remedial cementing may be required if shown to be inadequate by cement bond log or other attempted demonstration of Part II (External) mechanical integrity.

2. *Injection Tubing and Packer.*

Injection tubing is required, and shall be run and set with a packer at or below the depth indicated in APPENDIX A. The packer setting depth may be changed provided it remains below the depth indicated in APPENDIX A and the Permittee provides notice and obtains the Director's approval for the change.

3. *Sampling and Monitoring Devices.*

The Permittee shall install and maintain in good operating condition:

- (a) a "tap" at a conveniently accessible location on the injection flow line between the pumphouse or storage tanks and the injection well, isolated by shut-off valves, for collection of representative samples of the injected fluid; and
- (b) one-half (1/2) inch female iron pipe fitting, isolated by shut-off valves and located at the wellhead at a conveniently accessible location, for the attachment of a pressure gauge capable of monitoring pressures ranging from normal operating pressures up to the Maximum Allowable Injection Pressure specified in APPENDIX C:
 - (i) on the injection tubing; and
 - (ii) on the tubing-casing annulus (TCA); and
- (c) a pressure actuated shut-off device attached to the injection flow line set to shut-off the injection pump when or before the Maximum Allowable Injection Pressure (MAIP) specified in APPENDIX C is reached at the wellhead; and
- (d) a non-resettable cumulative volume recorder attached to the injection line.

4. *Well Logging and Testing*

Well logging and testing requirements are found in APPENDIX B. The Permittee shall ensure the log and test requirements are performed within the time frames specified in APPENDIX B. Well logs and tests shall be performed according to current EPA-approved procedures. Well log and test results shall be submitted to the Director within sixty (60) days of completion of the logging or testing activity, and shall include a report describing the methods used during logging or testing and

an interpretation of the test or log results.

5. Postponement of Construction or Conversion

At the time of issuance of this Permit, the Pariette Bench No. 4 injection well has been previously constructed as a rule authorized well and is operational.

6. Workovers and Alterations

Workovers and alterations to the injection well shall meet all conditions of this Permit. Workovers include well stimulation such as hydraulic fracturing, polymer gel injection and the delivery of acid to the injection zone formation and do not include the temporary filling of the wellbore with acid to descale tubing and casing. Prior to beginning any addition, physical alteration or workover activity that may affect the tubing, packer or casing, the Permittee shall give advance notice to the Director. Such notice may be given via email correspondence, faxed letter or post.

The Permittee shall record all workovers and changes to well construction on a Well Rework Record (EPA Form 7520-12) and when appropriate, provide an updated well bore diagram, and shall provide this and any other record of well workover, including monitoring, logging or test data to the Director within 30 calendar days of completion of the activity. A successful demonstration of Part I (internal) mechanical integrity is required following the completion of any well workover or alteration which affects the casing, tubing, or packer.

Injection operations shall not be resumed until the well has successfully demonstrated Part I mechanical integrity, and if the well lost mechanical integrity, the Director has provided written notice.

Section B. MECHANICAL INTEGRITY

The Permittee is required to ensure each injection well maintains mechanical integrity at all times. The Director, by written notice, may require the Permittee to comply with a schedule describing when mechanical integrity demonstrations shall be made.

An injection well has mechanical integrity if:

- (a) There is no significant leak in the casing, tubing, or packer (Part I); and
- (b) There is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore (Part II).

1. Demonstration of Mechanical Integrity (MI).

The operator shall demonstrate MI prior to commencing injection and periodically thereafter. Well-specific conditions dictate the methods and the frequency for demonstrating MI and are discussed in the Statement of Basis. The logs and tests are designed to demonstrate both internal (Part I) and external (Part II) MI as described above. The conditions present at this well site warrant the methods and frequency required in Appendix B of this Permit.

In addition to these regularly scheduled demonstrations of MI, the operator shall demonstrate internal (Part I) MI after any workover which affects the tubing, packer or casing.

The Director may require additional or alternative tests if the results presented by the operator are not satisfactory to the Director to demonstrate there is no movement of fluid into or between USDWs resulting from injection activity. Results of MI tests shall be submitted to the Director as soon as possible but no later than sixty (60) days after the test.

2. Mechanical Integrity Test Methods and Criteria

EPA-approved methods shall be used to demonstrate mechanical integrity. Ground Water Section Guidance No. 34 "Cement Bond Logging Techniques and Interpretation", Ground Water Section Guidance No. 37, "Demonstrating Part II (External) Mechanical Integrity for a Class II injection well permit", and Ground Water Section Guidance No. 39, "Pressure Testing Injection Wells for Part I (Internal) Mechanical Integrity" are available from EPA and will be provided upon request.

The Director may stipulate specific test methods and criteria best suited for a specific well construction and injection operation.

3. Notification Prior to Testing.

The Permittee shall notify the Director at least seven calendar days prior to any mechanical integrity test unless the mechanical integrity test is conducted after a well construction, well conversion, or a well rework, in which case any prior notice is sufficient. The Director may allow a shorter notification period if it would be sufficient to enable EPA to witness the mechanical integrity test. Notification may be in the form of a yearly or quarterly schedule of planned mechanical integrity tests, or it may be on an individual basis.

4. Loss of Mechanical Integrity.

If the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity becomes evident during operation (such as presence of pressure in the TCA, water flowing at the surface, etc.), the Permittee shall notify the Director within 24 hours (see Part III Section E Paragraph 11(e) of this Permit) and the well shall be shut-in within 48 hours unless the Director requires immediate shut-in. Within five days, the Permittee shall submit a follow-up written report that documents test results, repairs undertaken or a proposed remedial action plan. Injection operations shall not be resumed until after the well has successfully been repaired and demonstrated mechanical integrity, and the Director has provided approval to resume injection.

A demonstration of mechanical integrity shall be re-established within 90 days of any loss of mechanical integrity unless written approval of an alternate time period has been given by the Director.

Section C. WELL OPERATION

Injection between the outermost casing string protecting USDWs and the wellbore is prohibited.

1. Requirements Prior to Commencing Injection.

There are no prior to commencing injection requirements. At the time of Permit issuance, the Pariette Bench No. 4 well is an active injection well.

2. Injection Interval.

Injection is permitted only within the approved injection interval, listed in APPENDIX C. Additional individual injection perforations may be added provided that they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6.

3. Injection Pressure Limitation

- (a) The permitted Maximum Allowable Injection Pressure (MAIP), measured at the wellhead, is found in APPENDIX C. Injection pressure shall not exceed the amount the Director determines is appropriate to ensure that injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into a USDW.

- (b) The Permittee may request a change of the MAIP, or the MAIP may be increased or decreased by the Director in order to ensure that the requirements in Paragraph (a) above are fulfilled. The Permittee may be required to conduct a step rate injection test or other suitable test to provide information for determining the fracture pressure of the injection zone. Change of the permitted MAIP by the Director shall be by modification of this Permit and APPENDIX C.

4. Injection Volume Limitation.

Injection volume is limited to the total volume specified in APPENDIX C.

5. Injection Fluid Limitation.

Injected fluids are limited to those which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as a hazardous waste at the time of injection, pursuant to 40 CFR 144.6(b). The well also may be used to inject approved Class II wastes brought to the surface such as drilling fluids and spent well completion, treatment and stimulation fluids. Non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes, are NOT approved. This well is NOT approved for commercial brine or other fluid disposal operation.

6. Tubing-Casing Annulus (TCA)

The tubing-casing annulus (TCA) shall be filled with water treated with a corrosion inhibitor, or other fluid approved by the Director. The TCA valve shall remain closed during normal operating conditions and the TCA pressure shall be maintained at zero (0) psi.

If TCA pressure cannot be maintained at zero (0) psi, the Permittee shall follow the procedures in Ground Water Section Guidance No. 35 "Procedures to follow when excessive annular pressure is observed on a well."

Section D. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS

1. Monitoring Parameters, Frequency, Records and Reports.

Monitoring parameters are specified in APPENDIX D. Pressure monitoring recordings shall be taken at the wellhead. The listed parameters are to be monitored, recorded and reported at the frequency indicated in APPENDIX D even during periods when the well is not operating.

Monitoring records must include:

- (a) the date, time, exact place and the results of the observation, sampling, measurement, or analysis; and
- (b) the name of the individual(s) who performed the observation, sampling, measurement, or analysis; and
- (c) the analytical techniques or methods used for analysis.

2. Monitoring Methods.

- (a) Monitoring observations, measurements, samples, etc. taken for the purpose of complying with these requirements shall be representative of the activity or condition being monitored.
- (b) Methods used to monitor the nature of the injected fluids must comply with analytical methods cited and described in Table 1 of 40 CFR 136.3 or Appendix III of 40 CFR 261, or by other methods that have been approved in writing by the Director.

- (c) Injection pressure, annulus pressure, injection rate, and cumulative injected volumes shall be observed and recorded at the wellhead under normal operating conditions, and all parameters shall be observed simultaneously to provide a clear depiction of well operation.
- (d) Pressures are to be measured in pounds per square inch (psi).
- (e) Fluid volumes are to be measured in standard oil field barrels (bbl).
- (f) Fluid rates are to be measured in barrels per day (bbl/day).

3. Records Retention.

- (a) Records of calibration and maintenance, 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 shall be retained for a period of AT LEAST THREE (3) YEARS from the date of the sample, measurement, report, or application. This period may be extended any time prior to its expiration by request of the Director.
- (b) Records of the nature and composition of all injected fluids must be retained until three (3) years after the completion of any plugging and abandonment (P&A) procedures specified under 40 CFR 144.52(a)(6) or under Part 146 Subpart G, as appropriate. The Director may require the Permittee to deliver the records to the Director at the conclusion of the retention period. The Permittee shall continue to retain the records after the three (3) year retention period unless the Permittee delivers the records to the Director or obtains written approval from the Director to discard the records.

4. Annual Reports.

Whether the well is operating or not, the Permittee shall submit an Annual Report to the Director that summarizes the results of the monitoring required by Part II Section D and APPENDIX D. The report of fluids injected during the year must identify each new fluid source by well name and location, and the field name or facility name.

The first Annual Report shall cover the period from the effective date of the Permit through December 31 of that year. Subsequent Annual Reports shall cover the period from January 1 through December 31 of the reporting year. Annual Reports shall be submitted by February 15 of the year following data collection. EPA Form 7520-11 may be copied and shall be used to submit the Annual Report, however, the monitoring requirements specified in this Permit are mandatory even if EPA Form 7520-11 indicates otherwise.

Section E. PLUGGING AND ABANDONMENT

1. Notification of Well Abandonment, Conversion or Closure.

The Permittee shall notify the Director in writing at least forty-five (45) days prior to: 1) plugging and abandoning an injection well, 2) converting to a non-injection well, and 3) in the case of an Area Permit, before closure of the project.

2. Well Plugging Requirements

Prior to abandonment, the injection well shall be plugged with cement in a manner which isolates the injection zone and prevents the movement of fluids into or between underground sources of drinking water, and in accordance with 40 CFR 146.10 and other applicable Federal, State or local law or regulations. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be

used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. Prior to placement of the cement plug(s) the well shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Director.

3. *Approved Plugging and Abandonment Plan.*

The approved plugging and abandonment plan is incorporated into this Permit as APPENDIX E. Changes to the approved plugging and abandonment plan must be approved by the Director prior to beginning plugging operations. The Director also may require revision of the approved plugging and abandonment plan at any time prior to plugging and abandonment.

4. *Forty Five (45) Day Notice of Plugging and Abandonment.*

The Permittee shall notify the Director at least forty-five (45) days prior to plugging and abandoning a well and provide notice of any anticipated change to the approved plugging and abandonment plan.

5. *Plugging and Abandonment Report.*

Within sixty (60) days after plugging a well, the Permittee shall submit a report (EPA Form 7520-13) to the Director. The plugging report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:

- (a) A statement that the well was plugged in accordance with the approved plugging and abandonment plan; or
- (b) Where actual plugging differed from the approved plugging and abandonment plan, an updated version of the plan, on the form supplied by the Director, specifying the differences.

6. *Inactive Wells.*

After any period of two years during which there is no injection the Permittee shall plug and abandon the well in accordance with Part II Section E Paragraph 2 of this Permit unless the Permittee:

- a) Provides written notice to the Director;
- (b) Describes the actions or procedures the Permittee will take to ensure that the well will not endanger USDWs during the period of inactivity. These actions and procedures shall include compliance with mechanical integrity demonstration, Financial Responsibility and all other permit requirements designed to protect USDWs; and
- (c) Receives written notice by the Director temporarily waiving plugging and abandonment requirements.

PART III. CONDITIONS APPLICABLE TO ALL PERMITS

Section A. EFFECT OF PERMIT

The Permittee is allowed to engage in underground injection in accordance with the conditions of this

Permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any other 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 under 40 CFR 142 or may otherwise adversely affect the health of persons. Any underground injection activity not authorized by this Permit or by rule is prohibited. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of any other Federal, State or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any enforcement action brought under the provisions of Section 1431 of the Safe Drinking Water Act (SDWA) or any other law governing protection of public health or the environment, for any imminent and substantial endangerment to human health or the environment, nor does it serve as a shield to the Permittee's independent obligation to comply with all UIC regulations. Nothing in this Permit relieves the Permittee of any duties under applicable regulations.

Section B. CHANGES TO PERMIT CONDITIONS

1. *Modification, Reissuance, or Termination.*

The Director may, for cause or upon a request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 40 CFR 124.5, 144.12, 144.39, and 144.40. Also, this Permit is subject to minor modification for causes as specified in 40 CFR 144.41. The filing of a request for modification, revocation and reissuance, termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit.

2. *Conversions.*

The Director may, for cause or upon a written request from the Permittee, allow conversion of the well from a Class II injection well to a non-Class II well. Conversion may not proceed until the Permittee receives written approval from the Director. Conditions of such conversion may include but are not limited to, approval of the proposed well rework, follow up demonstration of mechanical integrity, well-specific monitoring and reporting following the conversion, and demonstration of practical use of the converted configuration.

3. *Transfer of Permit.*

Under 40 CFR 144.38, this Permit is transferable provided the current Permittee notifies the Director at least thirty (30) days in advance of the proposed transfer date (EPA Form 7520-7) and provides a written agreement between the existing and new Permittees containing a specific date for transfer of Permit responsibility, coverage and liability between them. The notice shall adequately demonstrate that the financial responsibility requirements of 40 CFR 144.52(a)(7) will be met by the new Permittee. The Director may require modification or revocation and reissuance 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; in some cases, modification or revocation and reissuance is mandatory.

4. *Permittee Change of Address.*

Upon the Permittee's change of address, or whenever the operator changes the address where monitoring records are kept, the Permittee must provide written notice to the Director within 30 days.

5. *Construction Changes, Workovers, Logging and Testing Data*

The Permittee shall give advance notice to the Director prior to any physical alterations or additions to the permitted facility. Alterations or workovers shall meet all conditions as set forth in this permit. The Permittee shall record any changes to the well construction on a Well Rework Record (EPA

Form 7520-12), and shall provide this and any other record of well workovers, logging , or test data to EPA within sixty (60) days of completion of the activity.

Following the completion of any well workovers or alterations which affect the casing, tubing, or packer, a successful demonstration of mechanical integrity (Part III, Section F of this Permit) shall be made prior to resuming injection activities.

Section C. SEVERABILITY

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

Section D. CONFIDENTIALITY

In accordance with 40 CFR Part 2 and 40 CFR 144.5, information submitted to EPA 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, EPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

- The name and address of the Permittee, and
- information which deals with the existence, absence or level of contaminants in drinking water.

Section E. GENERAL PERMIT REQUIREMENTS

1. Duty to Comply.

The Permittee must comply with all conditions of this Permit. Any noncompliance constitutes a violation of the Safe Drinking Water Act (SDWA) and is grounds for enforcement action; for Permit termination, revocation and reissuance, or 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 under 40 CFR 144.34. All violations of the SDWA may subject the Permittee to penalties and/or criminal prosecution as specified in Section 1423 of the SDWA.

2. Duty to Reapply.

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, under 40 CFR 144.37 the Permittee must apply for a new permit prior to the expiration date.

3. Need to Halt or Reduce Activity Not a Defense.

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.

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.

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.

6. *Permit Actions.*

This Permit may be modified, revoked and reissued or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

7. *Property Rights.*

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

8. *Duty to Provide Information.*

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 reissuing, 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. The Permittee is required to submit any information required by this Permit or by the Director to the mailing address designated in writing by the Director.

9. *Inspection and Entry.*

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

- (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 must be 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 purpose of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

10. *Signatory Requirements.*

All applications, reports or other information submitted to the Director shall be signed and certified according to 40 CFR 144.32. This section explains the requirements for persons duly authorized to sign documents, and provides wording for required certification.

11. *Reporting Requirements.*

- (a) **Planned changes.** The Permittee shall give notice to the Director as soon as possible of any planned changes, physical alterations or additions to the permitted facility, and prior to commencing such changes.
- (b) **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.

- (c) Monitoring Reports. Monitoring results shall be reported at the intervals specified in this Permit.
- (d) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than 30 days following each schedule date.
- (e) Twenty-four hour reporting. The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including:
 - (i) Any monitoring or other information which indicates that any contaminant may cause 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 Underground Sources of Drinking Water.

Information shall be provided, either directly or by leaving a message, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances by telephoning (800) 227-8917 and requesting EPA Region VIII UIC Program Compliance and Technical Enforcement Director, or by contacting the EPA Region VIII Emergency Operations Center at (303) 293-1788.

In addition, a follow up written report shall be provided to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. 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 the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- (f) Oil Spill and Chemical Release Reporting: The Permittee shall comply with all reporting requirements related to the occurrence of oil spills and chemical releases by contacting the National Response Center (NRC) at (800) 424-8802, (202) 267-2675, or through the NRC website
- (g) Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.
- (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 promptly submit such facts or information to the Director.

Section F. FINANCIAL RESPONSIBILITY

1. Method of Providing Financial Responsibility.

The Permittee shall maintain continuous compliance with the requirement to maintain financial responsibility and resources to close, plug, and abandon the underground injection well(s). No substitution of a demonstration of financial responsibility shall become effective until the Permittee receives written notification from the Director that the alternative demonstration of financial responsibility is acceptable. The Director may, on a periodic basis, require the holder of a permit to revise the estimate of the resources needed to plug and abandon the well to reflect changes in such costs and may require the Permittee to provide a revised demonstration of financial responsibility.

2. Insolvency.

In the event of:

- (a) the bankruptcy of the trustee or issuing institution of the financial mechanism; or
- (b) suspension or revocation of the authority of the trustee institution to act as trustee; or
- (c) the institution issuing the financial mechanism losing its authority to issue such an instrument the Permittee must notify the Director in writing, within ten (10) business days, and the Permittee must establish other financial assurance or liability coverage acceptable to the Director within sixty (60) days after any event specified in (a), (b), or (c) above.

The Permittee must notify the Director in writing, within 10 business days, and the Permittee must establish other financial assurance or liability coverage acceptable to the Director within 60 days after any event specified in (a), (b), or (c) above. The Permittee must also notify the Director by certified mail of the commencement of voluntary or involuntary proceedings under Title 11 (Bankruptcy), U.S. Code naming the owner or operator as debtor, within 10 business days after the commencement of the proceeding. A guarantor, if named as debtor of a corporate guarantee, must make such a notification as required under the terms of the guarantee.

DRAFT

APPENDIX A

WELL CONSTRUCTION REQUIREMENTS

The Pariette Bench No. 4 well has been previously constructed and has been operating as a Rule Authorized well. The injection well was drilled and completed in April, 1963. Construction was subsequently modified in October, 1977, as described below:

SURFACE CASING: 8-5/8 inch casing set at 404 feet in a 12-1/4 inch hole with 250 sacks of cement which was circulated to the surface. Base of USDW at approximately 258 feet.

PRODUCTION CASING: 5-1/2 inch casing set at 5,119 feet in a 7-7/8 inch hole with 150 sacks of cement. Top of cement at 3,350 feet. Total depth is 5,150 feet. Plug back total depth at 5,046 feet.

TUBING: 2-7/8 inch tubing set at 3,847 feet. Packer at 3,838 feet.

Well initially placed on production April 1963 through perforations 3,916 to 3,938 feet, 4,474 to 4,475 feet, 4,851 to 4,864 feet and 4,916 to 4,920 feet.

WELL REWORK in October, 1977: Cement squeeze perforations 4,474 feet to 4,475 feet with 75 sacks. Cement squeeze perforations 4,851 feet to 4,864 feet and 4,916 feet to 4,920 feet with 200 sacks of cement.

CASING LEAK REPAIRED in December, 1995: Squeeze hole in casing with 200 sacks cement. Cement extends from 730 feet to 2,210 feet.

CASING LEAK REPAIRED in June, 2012: Hole in casing between 3,313 feet to 3,329 feet. Three squeeze attempts with total 391 sacks of cement. Cement extends from 2,061 feet to 3,355 feet. Bridge plug set at 4,230 feet.

As of November, 2015, injection is occurring into perforations from 3,061 to 3,938 feet.

Spud Date: 3/3/63
 Completed: 4/11/63
 GL: 4758' KB: 4769'

Pariette Bench 4 (SWD)

4-7-9-19

SURFACE CASING

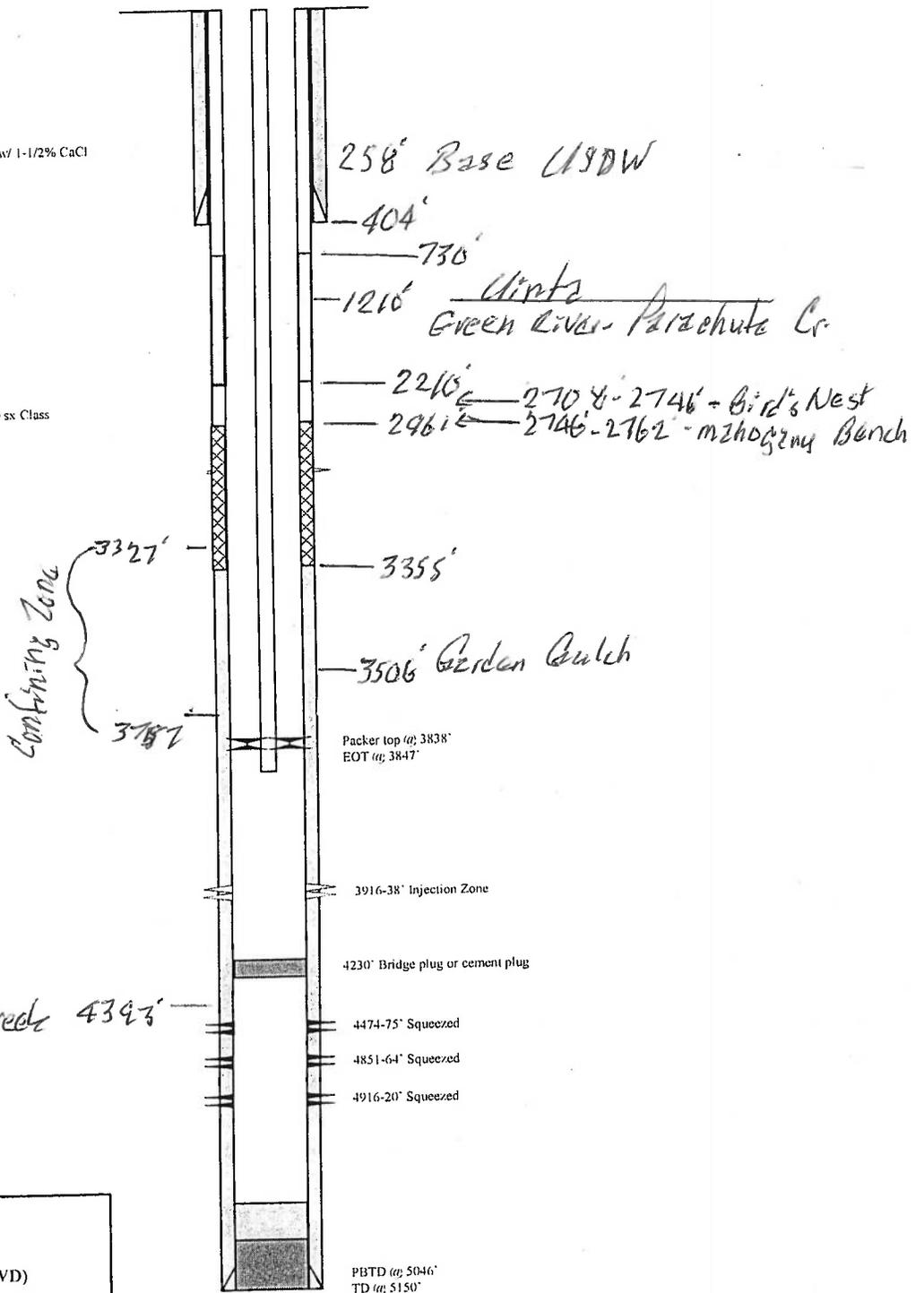
CSG SIZE: 8-5/8"
 GRADE: H-40
 WEIGHT: 24#
 DEPTH LANDED: 404' KB
 HOLE SIZE: 12-1/4"
 CEMENT DATA: Cement to surface w/ 250 sxs w/ 1-1/2% CaCl

PRODUCTION CASING

CSG SIZE: 5-1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 DEPTH LANDED: 5119' KB
 HOLE SIZE: 7-7/8"
 CEMENT DATA: 150 sxs 50/50 POZ.
 (10/77 Squeezed perforations and annulus w/ 200 sx Class "G")
 CEMENT TOP @: 3350 per CBL 10/29/77

TUBING

SIZE/GRADE/AWT: 2-7/8" / J-55 / 6.5#
 TUBING SUB: 1 jt 2-7/8" (2.0)
 NO. OF JOINTS: 121 jts (3816.9')
 SEATING NIPPLE: 2-7/8" (1.1')
 SN LANDED AT: 3829.9' KB
 RETRIEVING HEAD: (1.5') AT: 3831.0'
 PACKER: 3838.5'
 XO 1 jt / 2-3/8" (0.5)
 TUBING PUP: 2-3/8" / J-55 @: 3840'
 XN NIPPLE: (1.1')
 TOTAL STRING LENGTH: EOT @: 3847'



NEWFIELD

Pariette Bench 4-7-9-19 (SWD)
 660' FSL & 1960' FEL
 SWSE Section 7-T9S-R19E
 Uintah Co, Utah
 API# 43-047-15681 Lease #UTU-017992

A-2

APPENDIX B

LOGGING AND TESTING REQUIREMENTS

NO LOGGING REQUIREMENTS

Testing Requirements

Tests will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well test required as a condition of this permit.

WELL NAME: Pariette Bench No. 4 SWD

TYPE OF TEST	DATE DUE
Standard Annulus Pressure	Due by November 14, 2017

APPENDIX C
OPERATING REQUIREMENTS

MAXIMUM ALLOWABLE INJECTION PRESSURE:

Maximum Allowable Injection Pressure (MAIP) as measured at the surface shall not exceed the pressure listed below.

WELL NAME	MAIP (surface)
Pariette Bench 4 SWD	1,620 psig

INJECTION INTERVAL(S):

Injection is permitted only within the approved injection interval listed below. Injection perforations may be altered provided they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6. Specific injection perforations can be found in Appendix A.

FORMATION NAME	APPROVED INJECTION INTERVAL (GL, ft)		FRACTURE GRADIENT
	TOP	BOTTOM	(psi/ft)
Green River Formation	3,757	5,150	0.854

ANNULUS PRESSURE:

The annulus pressure shall be maintained at zero (0) psi as measured at the wellhead. If this pressure cannot be maintained, the Permittee shall follow the procedures listed under Part II, Section C. 6. of this permit.

MAXIMUM INJECTION VOLUME:

There is no limitation on the number of barrels per day (bbls/day) of water that shall be injected into this well, provided further that in no case shall injection pressure exceed that limit shown in Appendix C.

APPENDIX D

MONITORING AND REPORTING PARAMETERS

This is a listing of the parameters required to be observed, recorded, and reported. Refer to the permit Part II, Section D, for detailed requirements for observing, recording, and reporting these parameters.

OBSERVE WEEKLY AND RECORD AT LEAST ONCE EVERY THIRTY DAYS

OBSERVE AND RECORD	Injection pressure (psig)
	Annulus pressure(s) (psig)
	Injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbls)
ANALYZE ANNUALLY	Injected fluid total dissolved solids (mg/l)
	Injected fluid specific gravity
	Injected fluid specific conductivity
	Injected fluid pH
REPORT ANNUALLY	Each month's maximum and averaged injection pressures (psig)
	Each month's maximum and minimum annulus pressure(s) (psig)
	Each month's injected volume (bbl)
	Fluid volume injected since the well began injecting (bbl)
	Written results of annual injected fluid analysis
	Sources of all fluids injected during the year

In addition to these items, additional Logging and Testing results may be required periodically. For a list of those items and their due dates, please refer to APPENDIX B - LOGGING AND TESTING REQUIREMENTS.

APPENDIX E

PLUGGING AND ABANDONMENT REQUIREMENTS

ISOLATE THE INJECTION ZONE: Remove down hole apparatus from the well and perform necessary clean out; displace well fluid with pugging gel. Set a cast iron bridge plug (CIBP) within the innermost casing no more than 50 feet above the top perforations with a minimum 20-foot cement plug on the top of the CIBP.

ISOLATE TRONA-BIRD'S NEST AND MAHOGANY OIL SHALE: Isolate the Trona-Bird's Nest water zone and Mahogany Oil Shale: Perforate and squeeze cement up the backside of the outermost casing string across the Trona-Bird's Nest and Mahogany Oil Shale from at least 50 feet above the top of the Trona-Bird's Nest to at least 50 feet below the base of the Mahogany Oil Shale. Set a minimum cement plug in the innermost casing across the same interval.

ISOLATE THE UINTA FORMATION FROM THE GREEN RIVER FORMATION: Set a minimum 100-foot cement plug in the innermost casing string centered on the contact between the Green River Formation and the Uinta Formation at 1,210 feet.

ISOLATE SURFACE FLUID MIGRATION PATHS: Set a cement plug inside the innermost casing string from 450 feet to the surface.

APPENDIX F

CORRECTIVE ACTION REQUIREMENTS

No corrective action required.

**STATEMENT OF BASIS FOR
DRAFT EPA PERMIT No. UT20676-02569**

NEWFIELD PRODUCTION COMPANY

**PARIETTE BENCH No. 4 SWD
API No. 43-013-15681
DUCHESNE COUNTY, UT**

CONTACT: Emmett Schmitz
U. S. Environmental Protection Agency
Underground Injection Control Unit, 8P-W-UIC
1595 Wynkoop Street
Denver, Colorado 80202-1129
Telephone: 1-800-227-8917 ext. 312-6174

This STATEMENT OF BASIS gives the derivation of site-specific UIC Permit conditions and reasons for them. Referenced sections and conditions correspond to sections and conditions in the Permit.

EPA UIC permits regulate the injection of fluids into underground injection wells so that the injection does not endanger underground sources of drinking water. EPA UIC permit conditions are based upon the authorities set forth in regulatory provisions at 40 CFR Parts 144 and 146, and address potential impacts to underground sources of drinking water. Under 40 CFR 144.35 Issuance of this permit does not convey any property rights of any sort or any exclusive privilege, nor authorize injury to persons or property of invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. Under 40 CFR 144 Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General Permit conditions for which the content is mandatory and not subject to site-specific differences (40 CFR Parts 144, 146 and 147) are not discussed in this document.

Upon the Effective Date when issued, the Permit authorizes the operation of an "existing" injection well or wells governed by the conditions specified in the Permit. The Permit is issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR 144.39, 144.40 and 144.41. The Permit is subject to EPA review at least once every five (5) years to determine if action is required under 40 CFR 144.36(a).

PART I. General Information and Description of Facility

The Pariette Bench No. 4 was completed as a Green River Formation oil well on March 29, 1963, and converted to a Class II "rule authorized" Garden Gulch Member salt water disposal well on November 2, 1977. In 2015, the EPA required Newfield Production to submit information for permitting as a non-commercial Class II salt water disposal well. The facility is described as follows:

**Pariette Bench No. 4 SWD
API No. 43-013-15681
600' FSL and 1,960' FEL, SWSE S7, T9S, R19E
Duchesne County, UT**

Regulations specific to Uintah-Ouray Indian Reservation injection wells are found at 40 CFR 147 Subpart TT. The application, including the required information and data necessary to issue or modify a UIC Permit in accordance with 40 CFR Parts 144, 146 and 147, was reviewed and determined by EPA to be complete.

An "existing" well is an injection well which began injection operation prior to the November 25, 1988 effective date for the UIC Program on all Indian lands in Utah.

The Permit will expire upon delegation of primary enforcement responsibility (primacy) for applicable portions of the UIC Program to the Ute Indian Tribe or the State of Utah unless the delegated agency has the authority and chooses to adopt and enforce this Permit as a Tribal or State Permit.

TABLE 1.1 shows the status of the well or wells as "New", "Existing", or "Conversion" and for Existing shows the original date of injection operation. Well authorization "by rule" under 40 CFR Part 144 Subpart C expires automatically on the Effective Date of an issued UIC Permit.

**TABLE 1.1
WELL STATUS / DATE OF OPERATION**

EXISTING WELLS

Well Name	Well Status	Date of Operation
Pariette Bench No. 4 SWD	Existing	3/29/1963

PART II. Permit Considerations (40 CFR 146.24)

Hydrogeologic Setting

The Uinta-Animas aquifer in the Uinta Basin is present in water-yielding beds of sandstone, conglomerate, and siltstone of the Duchesne River and Uinta Formations, the Douglas Creek Member of the Green River Formation and the Renegade Tongue Member of the Wasatch Formation. Portions of these aquifers also meet the definition of Underground Sources of Drinking Water (USDW) as discussed below. The Douglas Creek and Renegade Tongue Members of the Green River and Wasatch Formations, respectively, contain an aquifer along the southern and eastern margins of the basin where the rocks primarily consist of fluvial, massive, irregularly bedded sandstone and siltstone. Water yielding units in the Uinta-Animas aquifer in the Uinta Basin are commonly separated from each other, and from the underlying Mesaverde aquifer by low permeability units composed of claystone, shale, marlstone and limestone.

The aquifer in the Duchesne River and Uinta Formations ranges in thickness from 0 at the southern margin to 9,000 feet in the north-central part of the basin. Groundwater recharge to the Uinta-Animas generally occurs in the areas of higher altitude along the southern margins of the basin and discharge occurs near the White and Green Rivers. Groundwater is discharged primarily to streams, springs and by transpiration of vegetation growing along stream valleys. The rate of groundwater withdrawal in the basin is small and natural recharge is approximately equal to discharge (USGS publication HA 730-C).

Geologic Setting (TABLE 2.1)

The Uinta Basin is a topographic and structural trough encompassing an area of more than 9,300 square miles in northeastern Utah. The Uinta Basin is sharply asymmetrical with a steep north flank bounded by the east-west trending Uinta Mountains and a gently dipping south flank that extends to the Book Cliffs. Rocks in the Uinta Basin were deposited in Paleocene and Eocene time by a large internal drainage area which was filled by the ancestral Lake Uinta. The lacustrine sediments of Lake Uinta make up the Uintah and Green River Formations. The southern shore of Lake Uinta was very flat, resulting large cyclic shifts of the location of the shoreline during many transgressive and regressive cycles caused by the climatic and tectonic induced rise and fall of water levels in the lake. Figure 4 is a map of the regional structure as exhibited by the Lower Green River Formation's depth in relation to mean sea level. Figure 5 is a generalized cross section from north to south.

The Green River injection formation is mostly interbedded lacustrine shale, sandstone, and carbonate with some fluvial sand deposits. The Green River is transitional to both the overlying Uinta Formation and the underlying Wasatch Formation. The Green River Formation is characterized as having low permeability, except where fractured. In most of the basin this formation is also characterized by water with total dissolved solids(TDS) greater than 10,000 ppm, except in areas of major enhanced recovery injection where injectate less than 10,000 ppm TDS has "freshened" the sand.

**TABLE 2.1
GEOLOGIC SETTING**

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Lithology
Uinta	0	1,210		Sand, shale, carbonates
Green River - Parachute Mem.	1,210	2,708	> 10,000	Sand, shale, carbonates
Green River - Bird's Nest Mem.	2,708	2,746		Shale
Green River - Mahogany Bench Mem.	2,746	2,762		Shale
Green River - Garden Gulch Mem.	3,506	4,393		Sand, shale, carbonates
Green River - Douglas Creek Mem.	4,393	5,150	> 10,000	Sand, shale, carbonates

Proposed Injection Zone(s) (TABLE 2.2)

An injection zone is a geological formation, group of formations, or part of a formation that receives fluids through a well. The injection zones are listed in TABLE 2.2.

Injection will occur into an injection zone that is separated from USDWs by a confining zone which is free of known open faults or fractures within the Area of Review. The Injection Zone consists of the lower part of the Garden Gulch #2 sand and includes the Douglas Creek and Basal Carbonate Members. The only active perforations are from 3,916 feet to 3,938 feet and Newfield has installed a bridge plug at 4,230 feet. Therefore, the EPA does not expect fluids to migrate into the lower Green River Formation even though this part of the formation is included in the Injection Zone.

The permittee is injecting company produced Garden Gulch and Douglas Creek Members water from 149 oil wells. Newfield reports average daily disposal volume as 245 barrels. The single perforation set in the Garden Gulch Member is 3,916 feet to 3,938 feet.

**TABLE 2.2
INJECTION ZONES**

Formation Name Exempted?*	Top (ft)	Base (ft)	TDS (mg/l)	Fracture Gradient (psi/ft)	Porosity
Green River	3,757	5,150	> 10,000	0.854	N/A

Confining Zone(s) (TABLE 2.3)

A confining zone is a geological formation, part of a formation, or a group of formations that limits fluid movement above the injection zone. The confining zone or zones are listed in TABLE 2.3. The designated Confining Zone consists of interbedded thick shales, marlstones and siltstones. The Confining Zone extends from approximately 200 feet above the top of the Garden Gulch Marker to the top of the Garden Gulch No. 2 sand within the Garden Gulch Member of the Green River Formation. This interval is found between the depths of 3,970 feet and 4,466 feet in the Federal 1-26-8-17 type Gamma Log for the Monument Butte Field.

**TABLE 2.3
CONFINING ZONE**

Formation Name	Formation Lithology	Top (ft)	Base (ft)
Green River	Sand and shale	3,327	3,757

Underground Sources of Drinking Water (USDWs) (TABLE 2.4)

Aquifers or the portions thereof which contain less than 10,000 mg/l total dissolved solids (TDS) and are being or could in the future be used as a source of drinking water are considered to be USDWs. The USDWs in the area of this facility are identified in TABLE 2.4.

The State of Utah "Water Wells and Springs" cites no public water supply facilities within one-quarter (1/4) mile of Pariette Bench No. 4 SWD.

Water analysis (November 11, 2013) of the Pariette Bench 4 SWD injection interval cites total dissolved solids (TDS) as 27,056 mg/l. The base of the USDW (258 feet) is behind surface pipe that has been cemented to the surface.

**TABLE 2.4
UNDERGROUND SOURCES OF DRINKING WATER (USDW)**

Formation Name	Formation Lithology	Top (ft)	Base (ft)	TDS (mg/l)
Uintah	Sand, shale, carbonates	0	258	< 10,000

PART III. Well Construction (40 CFR 146.22)

The Pariette Bench No. 4 well has been previously constructed and has been operating as a Rule Authorized well. The injection well was drilled and completed in April 1963. Construction was subsequently modified in October 1977, as described below:

SURFACE CASING: 8-5/8 inch casing set at 404 feet in a 12-1/4 inch hole with 250 sacks of cement which was circulated to the surface. Base of USDW at approximately 258 feet.

PRODUCTION CASING: 5-1/2 inch casing set at 5,119 feet in a 7-7/8 inch hole with 150 sacks of cement. Top of cement at 3,350 feet. Total depth is 5,150 feet. Plug back total depth at 5,046 feet.

TUBING: 2-7/8 inch tubing set at 3,847 feet. Packer at 3,838 feet.

Well initially placed on production April 1963 through perforations 3,916 to 3,938 feet, 4,474 to 4,475 feet, 4,851 to 4,864 feet and 4,916 to 4,920 feet.

WELL REWORK in October 1977: Cement squeeze perforations 4,474 feet to 4,475 feet with 75 sacks. Cement squeeze perforations 4,851 feet to 4,864 feet and 4,916 feet to 4,920 feet with 200 sacks of cement.

CASING LEAK REPAIRED in December 1995: Squeeze hole in casing with 200 sacks cement. Cement extends from 730 feet to 2,210 feet.

CASING LEAK REPAIRED in June 2012: Hole in casing between 3,313 feet to 3,329 feet. Three squeeze attempts with total 391 sacks of cement. Cement extends from 2,061 feet to 3,355 feet. Bridge plug set at 4,230 feet.

As of November 2015, injection is occurring into perforations from 3,061 to 3,938 feet.

The approved well completion plan will be incorporated into the Permit as APPENDIX A and will be binding on the Permittee. Modification of the approved plan is allowed under 40 CFR 144.52(a)(1)

provided written approval is obtained from the Director prior to actual modification.

Casing and Cementing (TABLE 3.1)

The construction of this "existing" injection well was evaluated and determined to be in conformance with standard practices and guidelines that ensure well injection does not result in the movement of fluids into USDWs. Well construction details for "existing" injection well or wells are shown in TABLE 3.1. EPA analysis of the Pariette Bench 4 SWD Percentage Cement Bond Log (CBL) identified 80% bond index cement as 3,350 feet which occurs within the Confining Zone (3,327 feet - 3,757 feet), thus demonstrating Part II mechanical integrity for the Bench No. 4.

**TABLE 3.1
WELL CONSTRUCTION REQUIREMENTS**

Casing Type	Hole Size (in)	Casing Size (in)	Cased Interval (ft)	Cemented Interval (ft)
Surface	12.25	8.63	0 - 404	0 - 404
Longstring	7.88	5.50	0 - 5,150	3,350 - 5,150

Tubing and Packer

Injection tubing is required to be installed from a packer up to the surface inside the well casing. The packer will be set above the uppermost perforation. The tubing and packer are designed to prevent injection fluid from coming into contact with the outermost casing.

Tubing-Casing Annulus (TCA)

The TCA allows the casing, tubing and packer to be pressure-tested periodically for mechanical integrity, and will allow for detection of leaks. The TCA will be filled with fresh water treated with a corrosion inhibitor or other fluid approved by the Director. The tubing/casing annulus will be kept closed at all times so that it can be monitored as required under conditions of the Permit.

Monitoring Devices

The Permittee will be required to install and maintain wellhead equipment that allows for monitoring pressures and providing access for sampling the injected fluid. Required equipment may include but is not limited to: 1) shut-off valves located at the wellhead on the injection tubing and on the TCA; 2) a flow meter that measures the cumulative volume of injected fluid; 3) fittings or pressure gauges attached to the injection tubing and the TCA for monitoring the injection and TCA pressure; and 4) a tap on the injection line, isolated by shut-off valves, for sampling the injected fluid.

All sampling and measurement taken for monitoring must be representative of the monitored activity.

PART IV. Area of Review, Corrective Action Plan (40 CFR 144.55)

There are no wells within the EPA's Area of Review. Under 40 CFR 144.55, "existing" wells are exempt from corrective action requirements.

PART V. Well Operation Requirements (40 CFR 146.23)

**TABLE 5.1
INJECTION ZONE PRESSURES**

Formation Name	Depth Used to Calculate MAIP (ft)	Fracture Gradient (psi/ft)	Initial MAIP (psi)
Green River	3,916	0.854	1,620

Approved Injection Fluid

The approved injection fluid is limited to Class II injection well fluids pursuant to 40 CFR § 144.6(b). For disposal wells injecting water brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production, the fluid may be commingled and the well used to inject other Class II wastes such as drilling fluids and spent well completion, treatment and stimulation fluid. Injection of non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes, and vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste, is prohibited.

Injection Pressure Limitation

Injection pressure, measured at the wellhead, shall not exceed a maximum calculated to assure that the pressure used during injection does not initiate new fractures or propagate existing fractures in the confining zones adjacent to the USDWs.

The applicant submitted injection fluid density and injection zone data which was used to calculate a formation fracture pressure and to determine the maximum allowable injection pressure (MAIP), as measured at the surface, for this Permit.

TABLE 5.1 lists the fracture gradient for the injection zone and the approved MAIP, determined according to the following formula:

$$FP = [fg - (0.433 * sg)] * d, \text{ where}$$

FP = formation fracture pressure (measured at surface)
fg = fracture gradient (from submitted data or tests)
sg = specific gravity (of injected fluid)
d = depth to top of injection zone (or top perforation)

Injection Volume Limitation

Cumulative injected fluid volume limits are set to assure that injected fluids remain within the boundary of the exempted area. Cumulative injected fluid volume is limited when injection occurs into an aquifer that has been exempted from protection as a USDW.

Mechanical Integrity (40 CFR 146.8)

An injection well has mechanical integrity if:

1. there is no significant leak in the casing, tubing, or packer (Part I); and
2. there is no significant fluid movement into a USDW through vertical channels adjacent to the injection well bore (Part II).

The Permit prohibits injection into a well which lacks mechanical integrity and requires that the well demonstrate mechanical integrity prior to injection and periodically thereafter. A demonstration of mechanical integrity includes both internal (Part I) and external (Part II). The methods and frequency for demonstrating Part I and Part II mechanical integrity are dependent upon well-specific conditions as explained below.

Part I internal mechanical integrity has been demonstrated several times per five (5) year requirements. The next Part I MIT is due November 14, 2017.

PART VI. Monitoring, Recordkeeping and Reporting Requirements

Injection Well Monitoring Program

At least once a year the permittee must analyze a sample of the injected fluid for total dissolved solids (TDS), specific conductivity, pH, and specific gravity. This analysis shall be reported to EPA annually as part of the Annual Report to the Director. Any time a new source of injected fluid is added, a fluid analysis shall be made of the new source.

Instantaneous injection pressure, injection flow rate, cumulative fluid volume and TCA pressures must be observed on a weekly basis. A recording, at least once every thirty (30) days, must be made of the injection pressure, annulus pressure, monthly injection flow rate and cumulative fluid volume. This information is required to be reported annually as part of the Annual Report to the Director.

PART VII. Plugging and Abandonment Requirements (40 CFR 146.10)

Plugging and Abandonment Plan

Prior to abandonment, the well shall be plugged in a manner that isolates the injection zone and prevents movement of fluid into or between USDWs, and in accordance with any applicable Federal, State or local law or regulation. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. Within sixty (60) days after plugging the owner or operator shall submit Plugging Record (EPA Form 7520 13) to the Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. The plugging and abandonment plan is described in Appendix E of the Permit.

PART VIII. Financial Responsibility (40 CFR 144.52)

Demonstration of Financial Responsibility

The permittee is required to maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director. 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 statements or other materials acceptable to the Director. The Regional Administrator may, on a periodic basis, require the holder of a lifetime permit to submit a revised estimate of the resources needed to plug and abandon the well to reflect inflation of such costs, and a revised demonstration of financial responsibility if necessary. Initially, the operator has chosen to demonstrate financial responsibility with a Surety Bond approved by the EPA in 2014.

Evidence of continuing financial responsibility is required to be submitted to the Director annually.

PART IV. Federal Law Compliance (40 CFR 144.4)

The EPA has determined this action to be in compliance with all applicable Federal laws including the Endangered Species Act and National Historic Preservation Act. Because the Pariette Bench No. 4 well has been previously constructed and because no ground disturbance or construction activity is authorized or necessary for injection to continue, the EPA has determined that this action would have no effect on any species of concern and no potential to cause effects on any properties of historic significance.

Public Notice Announcement for immediate publication in:

The Vernal Express, Vernal
The Uinta Basin Standard, Roosevelt

The U.S. Environmental Protection Agency Region 8 (EPA) intends to issue an Underground Injection Control (UIC) permit-related action, under the authority of the Safe Drinking Water Act and UIC Program regulations, for the Pariette Bench No. 4 well, EPA Permit No. UT20676-02569, operated by Newfield Production Company. This action would authorize the continued injection of fluids into the subsurface for the purpose of salt water disposal. The EPA will be issuing a public notice of this proposed action and requesting comment on its website at <https://www2.epa.gov/uic/underground-injection-control-epa-region-8-co-mt-nd-sd-ut-and-wy>, for a minimum of 30 days. Notification of any extension of the public comment period will appear at the web address only and will not appear in this newspaper. Alternatively, the public may contact or call Emmett Schmitz at schmitz.emmett@epa.gov, 1-800-227-8917 extension 312-6174 or (303) 312-6174, to obtain information about the proposed permit action, including copies of associated documentation, or to be added to the notification list for any extension of the public comment period and any final EPA decision.

Public Notice to <https://www2.epa.gov/uic/underground-injection-control-epa-region-8-co-mt-nd-sd-ut-and-wy> upon signature of draft Decision

Web-Link/Title: Newfield Production Company's DRAFT Class II Underground Injection Control Permit for Pariette Bench No. 4 Salt Water Disposal Well – Duchesne County, Utah

The U.S. Environmental Protection Agency Region 8 (EPA) intends to issue an Underground Injection Control (UIC) Permit under the authority of the Safe Drinking Water Act and UIC Program regulations, for the Pariette Bench No. 4 well, operated by Newfield Production Company. This permit would authorize underground injection into the Green River Formation for the purpose of disposal of water brought to the surface in conjunction with oil and/or gas production. Courtesy announcements of this public notice will be published in *The Vernal Express* and *The Uinta Basin Standard* newspapers in Vernal and Roosevelt, Utah, respectively. Notification and details of any additional public comment period extension will be posted to this web page address only and will not be published in these newspapers. Interested parties on our email list will also be notified of any extension of the public comment period by email. If you wish to be added to our email notification list for the proposed action, or for additional information, contact Emmett Schmitz of the EPA Region 8 UIC Program by email at schmitz.emmett@epa.gov or by phone at 800-227-8917 extension 312-6174, or 303-312-6174.