UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region08

MAY 16 2016

Ref: 8P-W-UIC

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

Re: Reissuance of Draft Area Underground Injection Control Permit UT22197-00000 Version 5 for the Portion of the Monument Butte Field Located within the Exterior Boundary of the Uinta and Ouray Indian Reservation, Uintah and Duchesne Counties, Utah

Dear Mr. Horrocks:

Please find enclosed a copy of the U.S. Environmental Protection Agency's (EPA) Reissued Draft Area Underground Injection Control (UIC) Permit UT22197-00000 Version 5 for Class II enhanced recovery injection wells located in the Monument Butte Field in Uintah and Duchesne Counties, Utah. Also enclosed are copies of the Statement of Basis for the proposed action and the Public Notice given 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 EPA is reissuing a previous (March 22, 2016) draft decision for Permit Version 5 in order to incorporate a public comment received following the close of the 30-day comment period. The EPA is also taking the opportunity to correct a typo and clarify proposed permit language based on comments received during the first 30-day public comment period.

The EPA 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 30 days and a courtesy announcement of the comment period, also enclosed, 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 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 Jason Deardorff of my staff at the letterhead address citing "Mail Code 8P-W-UIC." You may also contact Mr. Deardorff by email at deardorff.jason@epa.gov or by telephone at (800) 227-8917, extension 312-6583.

Sincerely,

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

Enclosures (4)

cc:

Ute Tribal Business Committee
Chairman Shaun Chapoose
Vice-Chairman Edred Secakuku
Reannin Tapoof, Executive Assistant

Bartholomew Stevens, Superintendent
BIA, Uintah & Ouray Agency

Antonio Pingree, Deputy Superintendent
BIA, Uintah & Ouray Agency

Bart Powaukee, Environmental Director
Ute Indian Tribe

Bruce Pargeets, Assistant Director
Ute Indian Tribe Energy & Minerals Dept.

Brad Hill, Acting Director
Utah Division of Oil, Gas, and Mining

Jerry Kenczka, Assistant Field Office Manager
BLM Vernal Field Office

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL

DRAFT Area UIC Permit No. UT22197-00000 Version 5
(Permit Modification No. 4)

Class II-R (enhanced recovery) Area Injection Well Permit for the Portion of the Greater Monument Butte Oil Field Located on the Uintah and Ouray Indian Reservation, Utah

Issued To

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

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PART 1. AUTHORIZATION TO CONSTRUCT AND OPERATE

Under the authority of the Safe Drinking Water Act (SDWA) 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, Newfield Production Company (hereafter "Permittee") is authorized to construct and operate Class II-R (enhanced recovery) injection wells according to the terms and conditions of this Permit in the portion of the Greater Monument Butte Field within the Uintah and Ouray Indian Reservation further described as and henceforth referred to as the Authorized Permit Area:

T8S, R17E; T8S, R18E; T8S, R19E; T9S, R17E Except Sections 31 - 36; T9S, R18E Except Sections 25, 26, 27 and Section 31 - 36; Sections 4, 5, 6, 7, 8, 9, N2 17 & N2 18 T9S, R19E S.L.B. & M., Uintah & Duchesne Counties, Utah, except that any well in this area for which the Endangered Species Act section 7(a)(2) or National Historic Preservation Act section 106 compliance process has not been completed by a federal agency is excluded from coverage under this permit.

Where a state or tribe is not authorized to administer the UIC program under the SDWA, the EPA regulates underground injection of fluids into wells so that injection does not endanger Underground Sources of Drinking Water (USDWs). The 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. 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 Class II UIC Permit may be issued for the operating life of the injection well or project. However, it will be reviewed at least once every five 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 pursuant to 40 CFR §144.33(d) or 144.40. This EPA Permit may be adopted, modified, revoked and reissued or terminated if primary enforcement authority for a UIC Program is transferred to an Indian tribe or state. Upon the effective date of program authorization, reports, notifications, questions and other correspondence should be directed to the primacy agency.

Issue Date: Draft Effective Date: Draft

Draft

Darcy O'Connor
Acting Assistant Regional Administrator*
Office of Partnerships and Regulatory Assistance (OPRA)

*NOTE: Throughout this Permit the term "Director" refers to either the Assistant Regional Administrator for the Office of Partnerships and Regulatory Assistance (OPRA) or the Assistant Regional Administrator of Environmental Compliance, Enforcement and Justice (ECEJ).

PART 2. TRANSFER OF EXISTING CLASS II-R UIC PERMITS

Upon issuance of Final Area UIC Permit No. UT22197-00000 (Area UIC Permit UT22197-00000), all existing Class II-R UIC permits issued to the Permittee for wells within the Authorized Permit Area are revoked and authorization for those wells will be reissued under UIC Permit UT22197-00000. The first five numeric characters of each previously issued permit number will change to "22197" denoting authorization under Area UIC Permit UT22197-00000. The last five digits of previously issued permit numbers, referred to as the "well ID," will remain the same.

PART 3. QUARTERLY REPORTING REQUIREMENTS

1. **New Wells in Area of Review**: The Permittee shall notify the Director quarterly of all newly drilled oil-gas wells within the Authorized Permit Area and within a ¼-mile of the Authorized Permit Area, including wells with surface location beyond ¼-mile that penetrate the Confining Zone within the ¼-mile radius of the Authorized Permit Area. Such notice should be mailed to:

   UIC Permit Coordinator (8P-W-UIC)
   1595 Wynkoop Street
   Denver, Colorado 80202

   The quarterly due dates for this information shall be the first weekday (Monday-Friday) that is not a federal holiday of the following months: January, April, July and October. Such notification shall include:

   a. a list of all newly drilled wells including their names, API numbers, location, ownership, purpose (for example, oil production, gas production, etc.) and the Permittee's determination of whether that well is located within the Authorized Permit Area or within ¼-mile of the Authorized Permit Area;
   b. a well bore schematic diagram for each newly drilled production well; and
   c. a cement bond log for each newly drilled production well showing the presence or absence of cement behind the outermost casing string across the designated Confining Zone for Area UIC Permit UT22197-00000; and
   d. an updated map of the Authorized Permit Area showing the surface location and down hole location of all wells.

2. **Financial Responsibility**: The Permittee shall submit a quarterly update of its financial responsibility demonstration to:

   UIC Financial Responsibility Coordinator (8ENF-UFO)
   1595 Wynkoop Street
   Denver, CO 80202

   Quarters shall be defined as follows: January 1- March 31 (Q1), April 1 – June 30 (Q2), July 1 – September 30 (Q3), and October 1 – December 31 (Q4). Due dates for this information shall be the first weekday (Monday - Friday) of each quarterly period that is not a Federal holiday. The quarterly update shall include:

a. the total number, names and API numbers of injection wells authorized for construction by the Director during the previous quarter;
b. the total number, names and API numbers of injection wells to be requested for construction authorization by the Director during the current quarter; and
c. an approved instrument revising the amount of the financial responsibility demonstration and a revised Schedule A if any wells to be requested for construction authorization by the Director in the current quarter are not currently covered.

PART 4. REQUIREMENTS FOR ADDING INJECTION WELLS TO AREA UIC PERMIT UT22197-00000

The Permittee shall not convert production wells to injection wells or commence injection into wells until Permittee has been approved to do so in accordance with the following procedures:

1. **Authorization to Construct**: Prior to converting an existing production well to an injection well, the Permittee shall submit the following materials to the UIC Permit Coordinator:

   a. a cover letter requesting authorization to convert the well referencing Area UIC Permit UT22197-00000 and the name and API number of the well;
   b. a completed EPA 7520-6 injection well application form;
   c. a wellbore diagram of the proposed injection well;
   d. evidence and/or a written statement that water feed lines have been installed to the requested well or are approved for installation by the Bureau of Land Management (BLM) and that the Permittee has the ability and intention to convert the production well to an injection well within 90 calendar days of receiving EPA authorization;
   e. a laboratory analysis of formation fluid produced from the subject well(s) or a statement that the water sample will be obtained during well construction and submitted under Part 4, paragraph 2(f) of this Permit;
   f. a topographic map extending to at least ¼-mile radius Area of Review (AOR) for the well;
   g. a listing of all wells penetrating the Confining Zone within the ¼-mile AOR and cementing records, including Cement Bond Logs, for any new wells within the ¼-mile AOR not previously evaluated by the EPA; and
   h. a well location plat map for the requested injection well.

   Once EPA has confirmed that the proposed injection well meets the Permit conditions, EPA Region 8 will authorize construction by email or other written communication to the Permittee. In addition, the construction authorization date for each well will be recorded in a List of Wells (LW), which is described below in Part 5.

2. **Injection Well Construction**: Area UIC Permit UT22197-00000 authorizes the Permittee to construct and test wells only in accordance with the terms and conditions of this Permit. The Permittee shall construct a requested injection well within 90 calendar days of the EPA construction authorization date, and shall notify the Director of the completed construction of an injection well as soon as possible but no later than 30 calendar days after the date that tubing and packer are set. Notification of well construction shall include:

a. a cover letter referencing Area UIC Permit UT22197-00000 and the name and API number of the constructed injection well;
b. an updated well bore schematic diagram;
c. the results of a standard annulus pressure test and a statement of how mechanical integrity has been demonstrated according to Part 8 of this permit;
d. an estimate of the pore pressure of the Garden Gulch Number 2 Sand incorporating best available analog well data or other available information, and including a short narrative description and calculations used to determine the estimate;
e. the Maximum Allowable Injection Pressure (MAIP) calculated for the well including the calculation used to determine the MAIP according to Part 11 of this Permit; and
f. if not already submitted under Part 4, paragraph 1(e) of this Permit, a laboratory analysis of formation fluid produced from the subject well(s).

EPA will review these materials to ensure that Permit conditions were complied with during well construction and that planned operating parameters are in full compliance with Area UIC Permit UT22197-00000. EPA Region 8 will authorize injection by email or other written correspondence when: 1) it is satisfied that all permit conditions have been met and 2) it has determined that the formation water quality at the subject well is not a USDW. If EPA finds, based on the formation water quality, that the receiving aquifer is a USDW, the Permittee, prior to receiving authorization to inject, will need to request and receive an aquifer exemption pursuant to 40 CFR section 146.4. Following EPA authorization to inject, the injection authorization date will be recorded in the LW, which is described below in Part 5.

3. **Commencement of Injection**: Initial injection shall commence no later than 30 calendar days following the EPA injection authorization. The Permittee shall notify the Director as soon as possible but no more than 30 calendar days after placing the well on injection. Such notification shall include:

a. a statement of the date the well was put on injection;
b. a statement of the MAIP for the well; and
c. a statement of any required injection logs or tests that will be conducted, as required by EPA (for example, radioactive tracer survey or temperature log).

All injection logs or tests required by Part 8, 3(b) of this permit and referenced above in Part 4, 3(c), shall be completed within 180 calendar days of commencement of injection unless the Permittee requests and EPA provides written notification of an extension approval. Once EPA has reviewed and approved the log or test, and is satisfied that all permit conditions have been met, EPA Region 8 will provide written notification of approval to the Permittee by email or other written correspondence.

PART 5. LIST OF WELLS (LW) FOR AREA UIC PERMIT UT22197-00000

Due to the large scope of Area UIC Permit UT22197, EPA intends to record information related to this permit in a database called the List of Wells for Area UIC Permit UT22197-00000 (LW). The LW is solely intended to serve as an administrative tool to organize and communicate oil-gas well data and other information related to Area UIC Permit UT22197-00000. It is maintained by EPA Region 8 and

Table 1: Monitoring and reporting requirements for injection wells

Observe monthly and record at least once every 30 days	
Observe and Record	Injection pressure (psig)
	Annulus pressure(s) (psig)
	Injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbls)
Annually	
Analyze	Injected fluid total dissolved solids (mg/l)
	Injected fluid specific gravity
	Injected fluid specific conductivity
	Injected fluid pH
Annually	
Report	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 (bbls)
	Written results of annual injected fluid analysis
	Sources of all fluid injected during the year

Monitoring records shall include:

a. the date, time, exact place and the results of the observation, sampling, measurement, or analysis;
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**: Monitoring observations, measurements, samples, etc. taken for the purpose of complying with these requirements shall be representative of the activity or condition being monitored. 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 part 261, or by other methods that have been approved in writing by the Director.

   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. Pressures are to be measured in pounds per square inch (psi). Fluid volumes are to be measured in standard oil field barrels (bbl). Fluid rates are to be measured in barrels per day (bbl/day).

3. **Records Retention**: 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 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. Records of the nature and composition of all injected fluids must be retained until three years after the completion of any plugging and abandonment procedures specified under 40 CFR section 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 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**: Regardless of whether the well is operating or not, the Permittee shall submit an Annual Report to the UIC Enforcement Coordinator in Part 9, 4(b) of this Permit that summarizes the results of the monitoring required by Part 14, Paragraph 1 and Table 2 of this Permit. The report of all sources of the fluids injected during the year must identify each source by the generator's name and the 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.

PART 15. INACTIVE INJECTION WELLS AND CONVERTING INJECTION WELLS TO NON-INJECTION WELLS

1. **Inactive Injection 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 16 of this Permit unless:

   a. The Permittee provides written notice to the Director; and
   b. describes the actions or procedures that will be taken to ensure the well will not endanger USDWs during the period of inactivity, including compliance with mechanical integrity demonstration, financial responsibility and all other permit requirements; and
   c. receives written notice by the Director temporarily waiving plugging and abandonment requirements.

2. **Conversions to Non-Injection Wells**: 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.

PART 16. PLUGGING AND ABANDONMENT REQUIREMENTS

1. **Notification of Well Abandonment and Project Closure**: The Permittee shall notify the Director in writing at least forty five calendar days prior to plugging and abandoning an injection well and the closure of the Monument Butte Field enhanced oil recovery project.

2. **Well Plugging Requirements**: Injection wells 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. Tubing, packer and other down hole

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. If cement retainers or bridge plugs are not used then plug placement shall be verified by tagging. Plugging gel of at least 9.0 lb/gal shall be placed between all plugs. A minimum 50 ft. surface plug shall be set inside the long string 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.

3. **Approved Plugging and Abandonment Plan**

In addition to the requirements in Part 16, paragraph two, the Permittee shall:

a. **Isolate the injection zone**: Remove down hole apparatus from the well and perform necessary clean out; displace well fluid with plugging gel. Set a cast iron bridge plug (CIBP) within the innermost casing string no more than 50 ft. above the top perforation with a minimum of 20 ft. cement plug on top of the CIBP.
b. **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 Mahogany Oil Shale and Trona-Bird's Nest water zone, from at least 55 ft. above the top of the Trona-Bird's Nest to at least 55 ft. below the base of Mahogany Oil Shale, unless there is existing cement across this interval.
c. **Isolate the Uinta Formation from the Green River Formation**: Perforate and squeeze a minimum of 110 ft. cement up the backside of the outermost casing string to isolate the contact between the Uinta Formation and the Green River Formation, unless there is existing cement across this interval. Set a minimum 110 ft. cement plug in the innermost casing string, centered on the contact between the Green River Formation and Uinta Formation.
d. **Isolate Surface Fluid Migration Paths**:

(1) If the depth of the lowermost USDW is above the base of surface casing, perforate the outermost casing string 50 ft. below the base of surface casing and circulate cement to the surface, unless there is existing cement across this interval; or

(2) If the depth of the lowermost USDW is below the base of surface casing, perforate the outermost casing string 50 ft. below the base of the lowermost USDW and circulate cement to surface; and

(3) Set a cement plug inside the innermost casing string from 50 ft. below the base of the surface casing to surface.

Plugging and Abandonment Report: Within sixty calendar days after plugging a well, the Permittee shall submit a report (EPA Form 7520-13) and a well bore diagram of the plugged well to the Director. The plugging report shall be certified as accurate by the person who performed the plugging operation. The report shall consist of either:

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.

PART 17. CONDITIONS APPLICABLE TO ALL PERMITS

1. **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 part 141 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.

2. **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.

3. **Transfer of Permit**: Under 40 CFR 144.38, this Permit is transferable provided the current Permittee notifies the Director at least 30 calendar 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 calendar days.

5. **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.

6. **Confidentiality**: In accordance with 40 CFR Part 2 and 40 CFR §144.5, information submitted to the 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, the 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.

7. **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.

8. **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.

9. **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.

10. **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.

11. **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.

12. **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.

13. **Property Rights**: This Permit does not convey any property rights of any sort, or any exclusive privilege.

14. **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.

15. **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.

16. **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.

17. **Reporting Requirements**:

    a. The Permittee shall give prior notice to the Director as soon as possible of any planned changes, physical alterations or additions to the permitted facility.
    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 calendar 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:

        (1) Any monitoring or other information which indicates that any contaminant may cause 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.

        Information shall be provided, either directly or by leaving a message, within 24 hours from the time the permittee becomes aware of the circumstances by telephoning (800) 227-8917 and requesting the EPA Region 8 UIC Program Compliance and Technical Enforcement Director, or by contacting the EPA Region 8 Emergency Operations Center at (303) 293-1788.

In addition, a follow up written report shall be provided to the Director within five calendar 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 http://www.nrc.uscg.mil/index.htm.
g. Other Noncompliance: The Permittee shall report all instances of noncompliance not reported under paragraphs Part 17, Paragraph 17(b) or Paragraph 17(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 17(e) of Part 17.
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.

PART 18. FINANCIAL RESPONSIBILITY

1. **Method of Providing Financial Responsibility**: The Permittee shall demonstrate and maintain continuous compliance with the requirement to maintain financial responsibility and resources to close, plug and abandon the underground injection well(s) covered by this permit. 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(s) to reflect changes in such costs and may require the Permittee to provide a revised demonstration of financial responsibility. 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.

2. **Types of Adequate Financial Responsibility**: Adequate financial responsibility to properly plug and abandon injection wells under the federal UIC requirements must include completed original versions of one of the following:

   a. a surety bond with a standby trust agreement;
   b. a letter of credit with a standby trust agreement;
   c. a fully funded trust agreement; or
   d. an independently audited financial statement with a Chief Financial Officer's letter.

   A surety bond acceptable to the Director shall contain wording identical to EPA's model language and shall be issued by a surety bonding company found to be acceptable to the U.S. Department of Treasury, which can be determined by review of that department's Circular #570, currently available on the internet at http://fms.treas.gov/c570/c570.html.

A letter of credit acceptable to the Director shall contain wording identical to EPA's model language and be issued by a bank or other institution whose operations are regulated and examined by a State or federal agency.

A fully funded trust agreement acceptable to the Director shall contain wording identical to EPA's model language. Annual reports from the financial institution managing the trust account shall be submitted to the Director showing the available account balance.

An independently audited financial statement with Chief Financial Officer's letter acceptable to the Director shall contain wording identical to EPA's model language and shall demonstrate the Permittee meets or exceeds certain financial ratios. If this financial instrument is used, it must be resubmitted annually, within 90 days after the close of the Permittee's fiscal year, using the financial data available from the most recent fiscal year.

A standby trust agreement acceptable to the Director shall contain wording identical to EPA's model language. Annual reports from the financial institution managing the standby trust account shall be submitted to the Director showing the available account balance.

3. **Determining How Much Coverage is Needed**: The Permittee when periodically requested to revise the plugging and abandonment cost estimate discussed above must submit 3 current independent plugging and abandonment cost estimates for EPA to accurately determine the likely cost to plug the well(s).

4. **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 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.

PART 19. TABLE OF VALUES FOR CALCULATING MAXIMUM ALLOWABLE INJECTION PRESSURE (MAIP)

Fracture Gradient Area Number	Geographic Description	SG (Specific Gravity)	FG (Fracture Gradient)
1	Sections 6, 7, 8, 17, 18 and the NW, SW and SE quarters of section 5, T9S-R17E	1.015	0.872
2	E2 of section 23, T8S-R17E	1.015	0.737
3	Sections 32 & 33, T8S-R17E	1.015	0.795
4	Sections 19, 20 and the NW and W2NE quarters of section 30, T8S-R17E	1.015	0.778
5	Section 31 and the W2 and the W2E2 of section 29, S2 and the E2NE of section 30, T8S-R17E	1.015	0.744
6	Sections 21, 28 and the E2E2 of section 29, T8S-R17E	1.015	0.767
7	Section 27, T8S-R17E	1.015	0.739
8	S2 and NE quarter of section 22, NW quarter of Section 23, T8S-R17E	1.015	0.761
9	NW quarter of section 22, T8S R17E	1.015	0.755
10	Section 3, and the S2S2, E2NE, N2SW of section 4, and N2N2 of section 9, T9S-R17E	1.015	0.802
11	NW quarter and W2NE and N2SW of section 4 and NE quarter of section 5, T9S-R17E	1.015	0.820
12	Section 34, T8S-R17E	1.015	0.740
13	Section 35, T8S-R17E	1.015	0.796
14	W2 section 36, T8S-R17E	1.015	0.750
15	E2 of section 36, T8S-R17E	1.015	0.727
16	N2 of Section 31, T8S-R18E	1.015	0.741
17	S2 of section 31, T8S-R18E	1.015	0.748
18	W2 and W2E2 of section 2, T9S-R17E	1.015	0.852
19	Section 1 and E2E2 of section 2 of T9S-R17E and section 6 of T9S-R18E	1.015	0.764
20	Section 5, T9S-R18E	1.015	0.760
21	Section 33, T8S-R18E	1.015	0.736
22	Section 4, T9S-R18E	1.015	0.758
23	Section 8, T9S-R18E	1.015	0.758
24	S2 and S2N2 of section 9, T9S-R17E	1.015	0.825

25	W2 and W2E2 of section 10, T9S-R17E	1.015	0.760
26	Section 11, 12 and the E2E2 of section 10, T9S-R17E	1.015	0.750
27	Section 16, and S2 of section 15 of T9S-R17E	1.015	0.791
28	N2 of section 15, T9S-R17E	1.015	0.804
29	Section 14, T9S-R17E	1.015	0.764
30	N2 Section 13, T9S-R17E	1.015	0.754
31	S2 Section 13, T9S-R17E	1.015	0.867
32	Section 7, T9S-R18E	1.015	0.737
33	Section 9, T9S-R18E	1.015	0.739
34	Section 18, T9S-R18E	1.015	0.700
35	Section 17, T9S-R18E	1.015	0.655
36	Section 32, T8S-R18E	1.015	0.808
37	Sections 19 and 30 of T8S-R18E	1.015	0.722
38	Section 34 of T8S-R18E	1.015	0.655
39	Section 35 of T8S-R18E	1.015	0.655
40	Sections 21 and 28 of T9S-R17E	1.015	0.856
41	Sections 22 and 27 of T9S-R17E	1.015	0.773
42	Sections 19 and 30 of T9S-R17E	1.015	0.708
43	Sections 20 and 29 of T9S-R17E	1.015	0.723
44	Section 29 of T8S-18E	1.015	0.738
45	SW quarter of section 23, T8S-R17E	1.015	0.728
46	W2 of section 24, T8S-R17E	1.015	0.664
47	E2 of section 24, E2, E2E2W2, and E2W2E2W2 of section 25, T8S-R17E.	1.015	0.723
48	Section 26 of T8S-R17E	1.015	0.787
49	W2W2 and E2W2W2W2 of section 25, T8S-R17E	1.015	0.751
50	Sections 20, 21, and 28 of T8S-R18E	1.015	0.699
51	Sections 25, 26 and 27 of T8S-R18E	1.015	0.739
52	Section 36 of T8S-R18E and section 31 of T8S-R19E	1.015	0.655
53	Sections 23, 24, 25 and 26 of T9S-R17E	1.015	0.690
54	Sections 19, 20, 29 and 30 of T9S-R18E	1.015	0.655
55	Sections 21, 22 and 28 of T9S-R18E	1.015	0.655
56	Sections 15 and 16 of T9S-R18E	1.015	0.655
57	Sections 23 and 24 of T9S-R18E	1.015	0.655
58	Sections 13 and 14 of T9S-R18E	1.015	0.655
59	Sections 2 and 3 of T9S-R18E	1.015	0.655

60	Sections 10 and 11 of T9S-R18E	1.015	0.655
61	Section 1 of T9S-R18E and Section 6 of T9S-R19E	1.015	0.655
62	Section 12 of T9S-R18E and section 7 of T9S-R19E	1.015	0.655
63	N2 of Section 17 and N2 of Section 18, T9S-R19E	1.015	0.655
64	Sections 4 and 5 of T9S-R19E	1.015	0.655
65	Sections 8 and 9 of T9S-R19E	1.015	0.655

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

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

Re: Reissuance of Draft Area Underground Injection Control Permit UT22197-00000 Version 5 for the Portion of the Monument Butte Field Located within the Exterior Boundary of the Uinta and Ouray Indian Reservation, Uintah and Duchesne Counties, Utah

Dear Mr. Horrocks:

Please find enclosed a copy of the U.S. Environmental Protection Agency's (EPA) Reissued Draft Area Underground Injection Control (UIC) Permit UT22197-00000 Version 5 for Class II Enhanced Recovery injection wells located in the Monument Butte Field in Uintah and Duchesne Counties, Utah. Also enclosed are copies of the Statement of Basis for the proposed action and the Public Notice given 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 EPA is reissuing a previous (March 22, 2016) draft decision for Permit Version 5 in order to incorporate a public comment received following the close of the 30-day comment period. The EPA is also taking the opportunity to correct a typo and clarify proposed permit language based on comments received during the first 30-day public comment period.

The EPA 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 30 days and a courtesy announcement of the comment period, also enclosed, 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 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 Jason Deardorff of my staff at the letterhead address citing "Mail Code 8P-W-UIC." You may also contact Mr. Deardorff by email at deardorff.jason@epa.gov or by telephone at (800) 227-8917, extension 312-6583.

Sincerely,

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

Enclosures (4)

cc:

Ute Tribal Business Committee
Shaun Chapoose, Chairman
Edred Secakuku, Vice-Chairman
Reannin Tapoof, Executive Assistant

Bartholomew Stevens, Superintendent
BIA, Uintah & Ouray Indian Agency

Bart Powaukee, Environmental Director
Ute Indian Tribe

Bruce Pargeets, Assistant Director
Ute Indian Tribe Energy & Minerals Dept.

Brad Hill, Acting Director
Utah Division of Oil, Gas, and Mining

Robin Hansen, Petroleum Engineer
BLM Vernal Field Office

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL

STATEMENT OF BASIS

for

DRAFT Area UIC Permit UT22197-00000 Version 5
(Permit Modification No. 4)

Newfield Production Company's Class II-R (Enhanced Recovery) Area Injection Well Permit for the Portion of the Monument Butte Oil Field Located within the Uintah and Ouray Indian Reservation, Utah

Contact: Jason Deardorff
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. 312-6583
Email: deardorff.jason@epa.gov

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General Information and Description of Permit

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

Facility:
Portion of the Monument Butte Field located within the
Uintah and Ouray Indian Reservation, Utah

EPA Underground Injection Control (UIC) permits regulate the construction and operation of underground injection wells so that injection does not endanger underground sources of drinking water. UIC permit conditions are based on the authorities at 40 C.F.R. parts 144 and 146, and address potential impacts to underground sources of drinking water.

The area covered by this UIC permit is referred to as the Authorized Permit Area and is described in the Permit as: T8S, R17E; T8S, R18E; T8S, R19E; T9S, R17E Except Sections 31 - 36; T9S, R18E Except Sections 25, 26, 27 and Section 31 - 36; Sections 4, 5, 6, 7, 8, 9, N2 17 & N2 18 T9S, R19E S.L.B. & M., Uintah & Duchesne Counties, Utah, except that any well in this area for which the Endangered Species Act section 7(a)(2) or National Historic Preservation Act section 106 compliance process has not been completed by a federal agency is excluded from coverage under this permit.

The Authorized Permit Area covers approximately 95 square miles and includes over 1,600 oil-gas wells of which 668 have been converted to injection wells regulated by the EPA as of February 2016. For additional information regarding the hydrogeologic and geologic settings, injection and confining zones, USDWs, considerations under Federal law and cumulative effects to the environment previously considered by the EPA, the reader is referred to the Final Statement of Basis for Area UIC Permit UT22197-00000 issued December 13, 2012. Copies of this document and subsequently issued permit versions and Statements of Basis are available upon request.

Administrative History for Area UIC Permit UT22197-00000

Initial Permit Issuance:

Draft Area UIC Permit UT22197-00000 and Statement of Basis	August 6, 2012
Final Area UIC Permit UT22197-00000 and Statement of Basis	December 13, 2012

In October 2010, the EPA Region 8 UIC Program began a comprehensive review process to consolidate some 470 injection wells operating under 11 previously issued EPA area permits and many individual permits, into a single Area UIC Permit for Newfield Production Company's (Newfield or Permittee) Monument Butte Field. This effort was seen as necessary following a 2008-2009 backlog of over 100 injection well applications and the unwieldiness of regulation of some 500 disparate sets of rules for protecting groundwater. This large area UIC permit was precedent setting in the following ways:

- It implemented an area approach for calculating maximum injection pressures of injection wells, dividing EPA's portion of the field into 95 Fracture Gradient Areas (FGA) within which step rate test data would be averaged to determine the fracture gradient to be used in wells in each of the 95 areas. Such an approach was necessary because the EPA was unable to continue processing the volume of individual well Maximum Allowable Injection Pressure (MAIP) changes requested by the Permittee, sometimes between 10 and 15 per week.
- It contained the first EPA permit language addressing well stimulation and specifically the hydraulic fracturing of injection wells.
- It pioneered the use of electronic notification emails to and from the Permittee en lieu of many formally signed letters, saving the agency admin review time and reducing paper/postage cost. Email notification, paired with the use of a publicly available Director-signed decision document to the permit file, enabled the communication of approvals for many wells at a time, dramatically improving EPA's processing efficiency.
- It deployed the use of a database with the location, status and well construction data for more than 1,600 oil-gas wells in the Monument Butte Field (the "List of Wells" database) improving EPA's oversight and regulation of injection wells and significantly reducing EPA processing times.
- It implemented quarterly reporting to EPA of newly drilled oil-gas wells in the AoR to keep EPA's database records current and it implemented quarterly financial responsibility reporting to the Technical Enforcement Program, seen as critically important following a two-year lapse in the Permittee's Financial Responsibility demonstration to the EPA.
- The UIC Program also deployed a new approach for compliance with the National Historic Preservation Act, establishing a Programmatic Agreement between the EPA, the BLM, the Uinta and Ouray Tribe and the Utah State Historic Preservation Office.

This permit updated and standardized groundwater protection across a 100-square mile area and improved EPA's oversight capability in one of the largest oil fields in the nation, while at the same time accommodating injection well conversion rates of more than 100 per year during a time of significant budget constraint and staffing reduction across the Federal government.

Permit Modification No. 1:

Draft Area UIC Permit UT22197-00000 Version 2 and Statement of Basis	September 13, 2013
Final Area UIC Permit UT22197-00000 Version 2 and Statement of Basis	November 5, 2013

Permit Modification No. 1 provided clarification regarding quarterly reporting, streamlined Part 13 (Well Stimulation) protocols and consolidated 95 Fracture Gradient Areas into 65. This modification also removed the requirement for the Permittee to obtain the Director's permission to conduct a well rework, replacing this requirement with a requirement to provide prior notice only. The rationale for this change was that written EPA approval to conduct a rework is unnecessary so long as the rework activity is in compliance with permit conditions. The EPA also reasoned that if the Permittee were to notify of a well rework activity requiring a permit modification, the EPA would be able to advise the Permittee prior to the activity beginning.

Permit Modification No. 2

Draft Area UIC Permit UT22197-00000 Version 3 and Statement of Basis	July 11, 2014
Final Area UIC Permit UT22197-00000 Version 3 and Statement of Basis	August 25, 2014

Permit Modification No. 2 incorporated 50 new step rate tests into the suite of fracture gradient data and had the result of raising or lowering the average fracture gradient for 36 of the 65 Fracture Gradient Areas, thereby changing the MAIP of many wells operating under the permit. Newfield used an "interpolated grid methodology" to establish the 65 areas and this methodology, including the EPA's rationale for approving it, has been included in the Statements of Basis for Permit Modifications No. 2 and Modification No. 3 discussed below. For the sake of brevity, the EPA has elected to not include this information in the Statement of Basis for Permit Modification No. 4 (this document). Copies of previously issued Permit versions or Statements of Basis that describe the interpolated grid methodology are available upon request.

Permit Modification No. 3

Draft Area UIC Permit UT22197-00000 Version 4 and Statement of Basis	October 10, 2014
Final Area UIC Permit UT22197-00000 Version 4 and Statement of Basis	December 12, 2014

Permit Modification No. 3 incorporated 25 new step rate tests into the suite of fracture gradient data and had the result of raising or lowering the average fracture gradient for 18 of the 65 Fracture Gradient Areas, thereby changing the MAIP of many wells operating under the permit. The EPA also corrected omissions and typos to the table of values for calculating the MAIP.

Permit Modification No. 4

Draft Area UIC Permit UT22197-00000 Version 5 and Statement of Basis	March 22, 2016
Revised Draft UIC Permit UT22197-00000 Version 5 and Statement of Basis	May 16, 2016
Final Area UIC Permit UT22197-00000 Version 5 and Statement of Basis	Proposed/Pending

This Statement of Basis gives the derivation of proposed modifications to Final Area UIC Permit UT22197-00000 Version 4 issued December 12, 2014, and the reasons for them. If the EPA approves the proposed modifications as final they would be included in Final Area UIC Permit UT22197-00000 Version 5 shown above. The EPA is soliciting comment on this proposed modification a second time to incorporate comments received during and after the first public comment period. The revised draft clarifies a new mechanical integrity test notification requirement (Item 7 below), corrects a typo (Item 14 below) and retracts a previously proposed (March 22, 2016) change to the plugging and abandonment plan.

Proposed Modifications to Area UIC Permit UT22197-00000 Version 4

(Currently Proposed Changes to the Area Permit)

On November 17, 2015, the Permittee requested that Part 24 of Area UIC Permit UT22197-00000 Version 4 (issued December 12, 2014) be updated to reflect 33 additional step rate tests provided for injection wells within the EPA's permit area. In addition to making the requested changes to the table in Part 24, the EPA intends to update the Permit's formatting and language to current standards, practices and UIC Program policies.

1. **General Formatting and Updating to Current Agency Standards**: These updates include 0.75 inch margins, the addition of the Agency's logo on the title page of the permit and reformatting of

- It implemented an area approach for calculating maximum injection pressures of injection wells, dividing EPA's portion of the field into 95 Fracture Gradient Areas (FGA) within which step rate test data would be averaged to determine the fracture gradient to be used in wells in each of the 95 areas. Such an approach was necessary because the EPA was unable to continue processing the volume of individual well Maximum Allowable Injection Pressure (MAIP) changes requested by the Permittee, sometimes between 10 and 15 per week.
- It contained the first EPA permit language addressing well stimulation and specifically the hydraulic fracturing of injection wells.
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- It deployed the use of a database with the location, status and well construction data for more than 1,600 oil-gas wells in the Monument Butte Field (the "List of Wells" database) improving EPA's oversight and regulation of injection wells and significantly reducing EPA processing times.
- It implemented quarterly reporting to EPA of newly drilled oil-gas wells in the AoR to keep EPA's database records current and it implemented quarterly financial responsibility reporting to the Technical Enforcement Program, seen as critically important following a two-year lapse in the Permittee's Financial Responsibility demonstration to the EPA.
- The UIC Program also deployed a new approach for compliance with the National Historic Preservation Act, establishing a Programmatic Agreement between the EPA, the BLM, the Uinta and Ouray Tribe and the Utah State Historic Preservation Office.

This permit updated and standardized groundwater protection across a 100-square mile area and improved EPA's oversight capability in one of the largest oil fields in the nation, while at the same time accommodating injection well conversion rates of more than 100 per year during a time of significant budget constraint and staffing reduction across the Federal government.

Permit Modification No. 1:

Draft Area UIC Permit UT22197-00000 Version 2 and Statement of Basis	September 13, 2013
Final Area UIC Permit UT22197-00000 Version 2 and Statement of Basis	November 5, 2013

Permit Modification No. 1 provided clarification regarding quarterly reporting, streamlined Part 13 (Well Stimulation) protocols and consolidated 95 Fracture Gradient Areas into 65. This modification also removed the requirement for the Permittee to obtain the Director's permission to conduct a well rework, replacing this requirement with a requirement to provide prior notice only. The rationale for this change was that written EPA approval to conduct a rework is unnecessary so long as the rework activity is in compliance with permit conditions. The EPA also reasoned that if the Permittee were to notify of a well rework activity requiring a permit modification, the EPA would be able to advise the Permittee prior to the activity beginning.

Permit Modification No. 2

Draft Area UIC Permit UT22197-00000 Version 3 and Statement of Basis	July 11, 2014
Final Area UIC Permit UT22197-00000 Version 3 and Statement of Basis	August 25, 2014

database called the List of Wells for Area UIC Permit UT22197-00000 (LW). The LW is solely intended to serve as an administrative tool to organize and communicate oil-gas well data and other information related to Area UIC Permit UT22197-00000. It is maintained by EPA Region 8 and available to the Permittee and the public upon request. Injection wells regulated by EPA and subject to the terms and conditions of this Permit are listed in the LW with EPA Permit number UT22197 and are assigned a unique well identification number by EPA.

6. **Part 8 Mechanical Integrity**: The EPA Region 8 website address for well testing Guidance and Guidelines has been updated and a 90-day limit to re-establish Mechanical Integrity (MI) after MI loss has been added. Ninety days is the time limit referenced by the Region 8 UIC Technical Enforcement Program in letters to oil-gas operators when they report Loss of MI events, as required by permit. The proposed language does allow for an alternate time frame (longer or shorter) as determined to be appropriate by the Director based on well-specific circumstances and on a case-by-case basis. The purpose of this change is to better-align permit language with current EPA practice and policy regarding MI Loss.

   The EPA has added the following statement under Part 8 Mechanical Integrity:

   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.

7. **Prior Notification of Mechanical Integrity Testing**: Prior notification of MI testing is required by permit as a matter of general policy in EPA Region 8 to enable Region 8 UIC staff to witness these tests, where possible. This requirement was waived in Newfield's original area permit (described in Permit Modification No. 1 above) due to the high frequency of MI testing in the Monument Butte Field and based on the fact that EPA Region 8 staff are rarely able to witness these tests even when prior notice is provided. EPA Region 8 has recently shifted its focus to witnessing MI testing to the extent possible and at the time and place of its choosing. To enable this to occur, the EPA has eliminated the following sentence in Permit Version 4:

   Prior notification of mechanical integrity testing is not required under Area UIC Permit UT22197-00000.

   and replaced this sentence with the following statement in Permit Version 5:

   At least once each calendar year, the Permittee shall report to the UIC Enforcement Coordinator a list of planned mechanical integrity tests during each of the next 52 week-long periods; this annual notification shall delineate 52 Monday through Friday periods and list the well names and EPA well IDs the Permittee anticipates testing for mechanical integrity each week.

   This language is intended to enable the UIC Technical Enforcement Program to better coordinate its inspection schedule with the planned MI testing dates for injection wells so as to be able to witness mechanical integrity tests.

8. **Part 9 Testing and Logging Requirements**: The EPA has clarified that the title for testing and logging section should be "procedures" because testing and logging "requirements" are covered elsewhere in the permit. The web address for EPA Guidance and Guidelines was updated and EPA mailing addresses were also reformatted.

9. **Removal of Part 13 Well Stimulation**: As described above, the 2012 Final Area UIC Permit for the Monument Butte Field deployed new language specifically to address well stimulation such as

hydraulic fracturing, polymer gel treatment and "acid jobs." This language was developed because Newfield was found to be modifying the construction (opening new injection perforations) and stimulating the injection zone in roughly 10 percent of EPA approved well conversions without giving prior notice or obtaining EPA approval. Newfield had also previously requested EPA permission to conduct a polymer gel injection in several wells and it was seen that these requirements could facilitate well stimulation activities without the need for issuance of well-by-well approvals with written instructions as had been done in the past by EPA Region 8.

Since this language was deployed in 2012 and subsequently refined in Permit Modification No. 1, the EPA has found little value added in terms of USDW protection, given the additional paperwork required by both Newfield and the EPA. As such, and to better reflect current oil-gas industry practice and terminology, the EPA is now proposing to include well stimulation as a Well Rework activity, requiring prior notification and follow up reporting to the EPA under Part 14 of the Area Permit. The EPA has already incorporated this approach into a Class II area UIC permit on the Blackfeet Indian Reservation and is currently including it in the development of Class II individual well permit template language for EPA Region 8.

Under the proposed change, the Permittee would give prior notice to the EPA as required for all well reworks, but EPA would not need to grant permission for well stimulation to begin. The MAIP would be waived during well stimulation activities and re-establishing MI and follow up reporting would occur under Well Reworks instead of a dedicated section for Well Stimulation. Any loss of MI that occurred during the well stimulation activity would continue to be reported as such under Part 8 (Mechanical Integrity) of the permit.

This change would eliminate Part 13 Well Stimulation from the permit entirely and would include the following language under Part 14 Well Reworks, clarifying that well stimulation is now covered by Well Rework protocols:

> Workovers include well stimulation activities such as hydraulic fracturing, polymer gel injection and the delivery of acid to the injection zone formation. EPA Region 8 does not consider the temporary filling of the wellbore with acid to descale tubulars, or the use of biocides to prevent algal growth, to constitute a well rework.

The EPA has also added "exceeds the MAIP of the well" as cause for requiring a Part I Mechanical Integrity Test (MIT) following a well rework under Part 14. Even if tubing-packer assembly is not removed for well stimulation and it is not accidentally unseated during well stimulation, the EPA believes a new MIT is necessary if the MAIP for the injection well is exceeded. This phrase has been incorporated under Part 14 Well Reworks as indicated below:

> A successful demonstration of Part I (internal) mechanical integrity is required following the completion of any well workover, well stimulation or alteration which affects the casing, tubing, or packer, *or exceeds the MAIP for the well.* 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.

10. **Part 11 Maximum Allowable Injection Pressure (MAIP)**: To accommodate the inclusion of well stimulation as a Well Rework activity not requiring Director approval, the following statement has been added under Part 11 of the Permit:

> Except during well stimulation, the injection pressure as measured at the surface, shall not exceed the MAIP.

11. **Part 14 Well Reworks**: To accommodate the elimination of Part 13 Well Stimulation, Part 14 Well Reworks has now become the Part 13 of the permit document. In addition to this administrative change, Well Reworks has been reformatted and labeled for clarification as follows:

    1. **Definition**: Any addition, physical alteration or activity that may affect tubing, packer or casing is a well rework activity covered under Part 13 of this Permit. Workovers include well stimulation activities such as hydraulic fracturing, polymer gel injection and the delivery of acid to the injection zone formation. EPA Region 8 does not consider the temporary filling of the wellbore with acid to descale tubulars, or the use of biocides to prevent algal growth, to constitute a well rework.

    2. **Procedures**: Workovers and alterations to the injection well shall meet all conditions of Area UIC Permit UT22197-00000. Prior to beginning any well rework activity, 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.

    3. **Re-establishing Mechanical Integrity**: A successful demonstration of Part I (internal) mechanical integrity is required following the completion of any well workover, well stimulation or alteration which affects the casing, tubing, or packer, or exceeds the MAIP for the well. 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.

    Except as described in item 9 above and relating to well stimulation, language regarding Well Reworks has not changed and the reformatting is for the purpose of clarification only.

12. **Organizational Changes in Parts 17-22**: Language in Parts 17-22 has been merged into a single section titled "Part 16 Conditions Applicable to All Permits." While no permit language has been changed, the numbering and references in Parts 17-22 have been updated to incorporate this new organization and formatting, and the removal of Part 13 Well Stimulation. The intent of this change is to simplify the permit document for the user.

13. **Changes to the Fracture Gradient Areas in Part 24**: To accommodate the removal of Part 13 Well Stimulation and the consolidation of Parts 17-22, Part 24 has been administratively changed to Part 19 in Permit Version 5.

    As discussed in the Statement of Basis for Final Area UIC Permit UT22197-00000 issued December 13, 2012, the EPA anticipated future permit modifications to Part 24 to increase or decrease the fracture gradients used for Fracture Gradient Areas and stated this would be handled according to requirements at 40 CFR §144.39 (via a Major Permit Modification process requiring public notice and comment). The EPA stated that such modification would be based on the Permittee's request and submission of updated step rate test data to replace existing data points in the EPA's data set or new step rate tests conducted on more recently constructed injection wells that would supplement the EPA's existing data.

    On November 17, 2015, Newfield submitted 33 step rate tests to the EPA and requested modification of the table in Part 24 of the Permit. The EPA independently evaluated each of the submitted step rate tests and where the EPA's analysis agreed with the Permittee's analysis, the

fracture gradient for that well in the EPA's data set was either updated with a revised fracture gradient or added anew if that well was not previously included in the data set. Where the EPA calculated a slightly higher or lower fracture gradient than the Permittee using the same data, the EPA approved whichever fracture gradient was lower, or more conservative from a USDW protection standpoint. The EPA then recalculated averages for each Fracture Gradient Area to determine necessary updates to the table in Part 24. Proposed modifications to the table in Part 24 (to become Part 19 in Version 5 of the permit) are shown in Table 1.

14. **Corrected Typos**: In addition to the updates shown in Table 1, the EPA is correcting the values for Fracture Gradient Areas 42 and 43 as typos from Final Permit Version 4, which incorrectly listed these to be 0.655. Permit Version 4 should have updated the values for Fracture Gradient Areas 42 and 43 to 0.708 and 0.723, respectively, based on data submitted by the Permittee in its request for Permit Modification No. 3. The EPA is correcting these as typos in Permit Version 5.

Table 1: Proposed changes to the table in Part 24 (Proposed Part 19) of the Permit.

Fracture Gradient Area Number	Geographic Description	Fracture Gradient in Permit Version 4	Proposed Fracture Gradient for Permit Version 5
1	Sections 6, 7, 8, 17, 18 and the NW, SW and SE quarters of section 5, T9S-R17E	0.87	0.872
3	Sections 32 & 33, T8S-R17E	0.789	0.795
4	Sections 19, 20 and the NW and W2NE quarters of section 30, T8S-R17E	0.743	0.778
5	Section 31 and the W2 and the W2E2 of section 29, S2 and the E2NE of section 30, T8S-R17E	0.748	0.744
7	Section 27, T8S-R17E	0.73	0.739
10	Section 3, and the S2S2, E2NE, N2SW of section 4, and N2N2 of section 9, T9S-R17E	0.797	0.802
12	Section 34, T8S-R17E	0.732	0.740
22	Section 4, T9S-R18E	0.724	0.758
23	Section 8, T9S-R18E	0.736	0.758
29	Section 14, T9S-R17E	0.724	0.764
32	Section 7, T9S-R18E	0.729	0.737
36	Section 32, T8S-R18E	0.718	0.808
37	Sections 19 and 30 of T8S-R18E	0.698	0.722
46	W2 of section 24, T8S-R17E	0.659	0.664
47	E2 of section 24, E2, E2E2W2, and E2W2E2W2 of section 25, T8S-R17E.	0.719	0.723
50	Sections 20, 21, and 28 of T8S-R18E	0.695	0.699
51	Sections 25, 26 and 27 of T8S-R18E	0.655	0.739
53	Sections 23, 24, 25 and 26 of T9S-R17E	0.655	0.690

The UIC Program is soliciting public comment only regarding the changes described in this Statement of Basis for Draft Area UIC Permit UT22197-00000 Version 5, and as the proposed changes relate to the protection of groundwater resources. Comments regarding previously issued final permits or previously issued modifications, and comments not related to the protection of groundwater may not be considered substantive comments by the EPA. If substantive comments are received during the public comment period for this proposed modification, the EPA will provide a written response to the commenter(s) and the effective date of any final EPA decision will be thirty days after the Director's signature date to allow for an appeal of the final decision.

For additional information about these proposed revisions to Area UIC Permit UT22197-00000 Version 4, including copies of documents, maps of the permit area, step rate test data or the methodology used, please contact Jason Deardorff by email at deardorff.jason@epa.gov or phone at 303-312-6583.

U.S. ENVIRONMENTAL PROTECTION AGENCY ANNOUNCEMENT OF PROPOSED GROUNDWATER PERMIT ACTION

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, that would modify an existing UIC permit authorizing Newfield Production Company to inject fluids for the purpose of enhanced oil recovery in the Monument Butte Oil Field, located in Uintah and Duchesne Counties, Utah. The EPA will be issuing a public notice of this proposed action and requesting comment on its website at http://www.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 Jason Deardorff by email at deardorff.jason@epa.gov, or by phone at 1-800-227-8917 extension 312-6583 or (303) 312-6583, to obtain information about the proposed 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

Title: Public Notice of Draft Class II Area UIC Permit UT22197-00000 Version 5 for Injection Wells in the Monument Butte Oil Field, Uintah and Duchesne Counties, Utah

Summary: Area UIC Permit UT22197-00000 currently regulates 668 Class II enhanced recovery injection wells in the portion of the Monument Butte Field located within the exterior boundary of the Uintah and Ouray Indian Reservation. The EPA is proposing issuance of Version No. 5 of this permit to update the permit's formatting and language to current EPA standards and policies, modify fracture gradient values used to calculate maximum injection pressures (MAIP) and to include well stimulation as a well rework activity.

The EPA previously issued a draft decision for Permit Version 5 on March 22, 2016, and is reissuing that decision to incorporate a comment received after the first 30-day public comment period. The EPA has also incorporated comments received during the first 30-day public comment period.

Program/Statute: Safe Drinking Water Act (SDWA); Underground Injection Control (UIC)

Applicant/Respondent(s): Newfield Production Company, 10530 South County Road 33, Myton, Utah, 84052

Proposed action: Major Permit Modification of existing Area UIC Permit UT22197-00000 Version 4; if issued final, the proposed changes would be included in Area UIC Permit UT22197-00000 Version 5.

Permit or application number: UT22197-00000 V5