ISSUANCE DATE AND SIGNATURE PAGE

U.S. ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL PERMIT: CLASS I
Permit Number AK-1I010-A

In compliance with provisions of the Safe Drinking Water Act (SDWA), as amended, (42 U.S.C. 300f-300j-9), and attendant regulations incorporated by the U.S. Environmental Protection Agency (EPA) under Title 40 of the Code of Federal Regulations, ConocoPhillips Alaska, Inc. (CPAI) (permittee) is authorized to inject non-hazardous industrial waste utilizing up to one (1) Class I injection well through one current, sidetrack or new/replacement Class I injection well associated with the Colville River Unit (CRU) Project, North Slope, Alaska, into the Ivishak and Sag River Formations, in accordance with Title 40 CFR § 144.33 and the conditions set forth herein. Injection of hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA), as amended, (42 USC 6901) or radioactive wastes are not authorized under this permit. Injection shall not commence under this permit until the operator has received written authorization to inject from EPA Region 10's Director of the Office of Compliance and Enforcement (Director).

All references to Title 40 of the Code of Federal Regulations are to regulations that are in effect on the date that this permit is issued. Figures and appendices are referenced to CPAI's Alpine Development Project, Underground Injection Control Class I Permit Application dated October 1, 2007.

This permit shall become effective **December 1, 2007**, in accordance with 40 CFR § 124.15.

This permit and the authorization to inject shall expire at midnight, **November 30, 2017**, unless terminated.

Signed this **19th** day of **November** 2007.

_____/s/_____
Michael A. Bussell, Director
Office of Compliance and Enforcement
U.S. Environmental Protection Agency
Region 10 (OCE-164)
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

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PART I

GENERAL PERMIT CONDITIONS

A. EFFECT OF PERMIT

The permittee is allowed to engage in underground injection in accordance with Title 40 CFR § 144.33 and with the conditions of this permit. The underground injection activity, otherwise authorized by this permit, shall not allow 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 or the environment. Compliance with this permit during its term constitutes compliance for purposes of enforcement with Part C of the Safe Drinking Water Act (SDWA). Such compliance, however, does not constitute a defense to any action brought under Section 1431 of the SDWA, or any other law governing protection of public health or the environment from imminent and substantial endangerment to human health or the environment.

This permit may be modified, revoked and reissued, or terminated during its term for cause. Issuance of this permit does not convey property rights or mineral 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 state or local law or regulations. This permit does not authorize any above ground generating, handling, storage, or treatment facilities.

This permit is based on CPAI's permit application submitted on October 1, 2007, and earlier material dated July 23, 2007 and August 2007, including a draft permit application and the "No USDW" ruling granted by EPA dated August 2, 2007.

B. PERMIT ACTIONS

1. Modification, Reissuance or Termination

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §§ 144.39 and 144.40. Also, the permit can undergo minor modifications for cause as specified in 40 CFR § 144.41. The filing of a request for a permit modification, revocation and reissuance, or 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 permit condition.

2. Transfer of Permits

This permit is not transferable to any person except after notice to the Director on APPLICATION TO TRANSFER PERMIT (EPA Form 7520-7) and in accordance with 40 CFR § 144.38. 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 SDWA.

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.

D. CONFIDENTIALITY

In accordance with 40 CFR Part 2, any 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 in the manner prescribed in 40 CFR § 2.203 and on the application form or instructions, or in the case of other submissions, by stamping the words "confidential" or "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 information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

Claims of confidentiality for the following information will be denied:

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

E. GENERAL DUTIES AND REQUIREMENTS

1. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the SDWA and is grounds for enforcement action, permit termination, revocation and reissuance, 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.

2. Penalties for Violations of Permit Conditions

Any person who violates a permit condition is subject to a civil penalty not to exceed $32,500 per day of such violation. Any person who willfully or negligently violates permit conditions is subject to a fine of not more than $32,500 per day of violation and/or being imprisoned for not more than 3 years.

3. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. To be timely, a complete application for a new permit must be received at least 180 days before this permit expires.

4. 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.

5. 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.

6. 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) that 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.

7. Duty to Provide Information

The permittee shall provide to the Director, within a reasonable time, any information 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 provide to the Director, upon request, copies of records required to be kept by this permit.

8. 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 are kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by SDWA, any contaminants or parameters at any location.

9. Records

a. The permittee shall retain records and all monitoring information, including all calibration and maintenance records and all applicable recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete this permit application for a period of at least three years from the date of the sample, measurement, report or application. The record retention period may be extended by request of the Director at any time.

b. The permittee shall retain records concerning the nature and composition of all injected fluids until three years after the completion of plugging and abandonment. At the conclusion of the retention period, if the Director so requests, the permittee shall deliver the records to the Director. The permittee shall continue to retain the records after the three-year retention period unless he delivers the records to the Director or obtains written approval from the Director to discard the records.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The name(s) of the individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The name(s) of the individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

d. Monitoring of the nature of injected wastes shall comply with applicable analytical methods cited and described in Table I of 40 CFR § 136.3 or in appendix III of 40 CFR Part 261 or in certain circumstances by other methods that have been approved by the Regional Administrator.

e. All environmental measurements required by the permit, including, but not limited to measurements of pressure, temperature, mechanical integrity, and chemical analyses shall be done in accordance with EPA's Quality Assurance Project Plan.

f. As part of the COMPLETION REPORT, the operator must submit a PLAN that describes the procedures to be carried out to obtain detailed chemical and physical analysis of representative samples of the waste including the quality assurance procedures used including the following:

(1) The parameters for which the waste will be analyzed and the rationale for the selection of these parameters;

(2) The test methods that will be used to test for these parameters; and

(3) The sampling method that will be used to obtain a representative sample of the waste to be analyzed.

Where applicable, the Waste Analysis Plan (WAP) submitted in association with the permit application may be incorporated by reference.

g. The permittee shall require written manifests documenting all wastes received. The manifest shall contain a description of the nature and composition of all injected wastes, date of receipt, source of material received for disposal, name and address of the waste generator, a description of the monitoring performed and the results, if applicable, a statement stating if the waste is exempt from regulation as hazardous waste as defined by 40 CFR § 261.4, and any information on extraordinary occurrences.

h. Dates of most recent calibration or maintenance of gauges and meters used for monitoring required by this permit shall be noted on the gauge or meter where applicable. Earlier records shall be available through a computerized maintenance history database.

10. Reporting Requirements

The permittee shall give notice to the Director, as soon as possible, of any planned physical alterations or additions to the permitted facility or changes in type of injected waste.

11. 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.

12. Twenty-Four Hour Reporting

a. The permittee shall report to the Director or an authorized representative any noncompliance that may endanger health or the environment. Any information shall be provided orally or by email within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information that must be reported orally or by email within 24 hours:

(1) Any monitoring or other information indicating that any contaminant may cause an endangerment to an underground source of drinking water; and/or

(2) Any noncompliance with a permit condition or malfunction of the injection system.

b. A written submission to the Director shall also be provided within 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 date and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

13. Other Noncompliance

The permittee shall report all other instances of noncompliance not otherwise reported at the time monitoring reports are submitted. The reports shall contain the information listed in Permit Condition E-12.b.

14. Reporting Corrections

When the permittee becomes aware that he/she/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.

15. Signatory Requirements

a. All permit applications, reports required by this permit and other information requested by the Director shall be signed by a principal executive officer of at least the level of vice-president, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a principal executive of at least the level of vice-president.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

(3) The written authorization is submitted to the Director.

b. If an authorization under Paragraph E.15.a above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Paragraph E.15.a must be submitted to the Director prior to or together with any reports, information or applications to be signed by an authorized representative.

c. Any person signing a document under Paragraph E.15.a above shall make the following certification:

d. "I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

F. PLUGGING AND ABANDONMENT

1. Notice of Plugging and Abandonment

The permittee shall notify the Director no later than 45 days before conversion or abandonment of the well.

2. Plugging and Abandonment Report

The permittee shall plug and abandon each well as provided in the Well Abandonment portion of the permit application (Section 7.3), which is hereby incorporated as a part of this permit. Within 60 days after plugging any well the permittee shall submit a report to the Director in accordance with 40 CFR § 144.51(p). EPA reserves the right to change the manner in which the well will be plugged if the well is not proven to be consistent with EPA requirements for construction and mechanical integrity. The Director may ask the permittee to update the estimated plugging cost periodically.

3. Cessation Limitation

After cessation of operations for two years, the permittee shall plug and abandon the well in accordance with the plan unless he/she:

a. Provides notice to the Director; and

b. Demonstrates that the well will be used in the future; or

c. Describes actions or procedures, satisfactory to the Director that the permittee will take to ensure that the well will not endanger underground sources of drinking water during the period of temporary abandonment. These actions and procedures shall include compliance with the technical requirements applicable to active injection wells unless waived by the Director.

4. Cost Estimate for Plugging and Abandonment

a. The permittee estimates the 2007 cost of plugging and abandonment of the permitted well(s) as $350,000 per well (see Exhibit 7-4 in the permit application).

b. The permittee must submit financial assurance and a revised estimate in April of each year. The estimate shall be made in accord with 40 CFR § 144.62.

c. The permittee must keep at the facility or in the permittee central files in Anchorage, during the operating life of the facility, the latest plugging and abandonment cost estimate.

d. When the cost estimate changes, the documentation submitted under 40 CFR § 144.63(f) shall be amended as well to ensure that appropriate financial assurance for plugging and abandonment is maintained continuously.

e. The permittee must notify the Director by registered mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 business days after the commencement of the proceeding.

G. 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. If the financial test and corporate guarantee provided under 40 CFR § 144.63(f) should change, the permittee shall immediately notify the Director. The permittee shall not substitute an alternative demonstration of financial responsibility for that which the Director has approved, unless it has previously submitted evidence of that alternative demonstration to the Director and the Director notifies him that the alternative demonstration of financial responsibility is acceptable.

PART II

WELL SPECIFIC CONDITIONS

A. CONSTRUCTION

1. Casing and Cementing of New, Sidetrack and/or Replacement Wells

UIC regulations require the permittee to case and cement the well(s) to prevent the movement of fluids into strata other than the authorized injection interval (see II.C.3, below). Casing and cement shall be installed in accordance with a casing and cement program approved by the Director, and in accordance with Class I well construction practices and the State of Alaska Regulations.

The permittee shall provide not less than 10 days advance notice to the Director of all cementing operations. If primary cement returns to surface are not observed for the surface casing cementing procedure, the Director or an authorized representative is to be notified as to the nature of the augmented testing proposed to ensure the integrity of the cement bond and adequacy of any Top Job procedure. The top of the intermediate casing cement shall be at least 100 feet measured depth above the top of the injection zone and no more than 500 feet measured depth below the surface casing shoe.

NOTE: Since this is an existing Class II well – CD 1-19A drilled, cemented and completed as per State of Alaska (AOGCC) regulations, EPA is accepting the current well casing and cementing configuration as meeting the requirements of this section.

2. Tubing and Packer Specifications

The wells shall inject fluids through tubing with a packer. At the present time, Well CD 1-19A has the 3 1/2" tubing (with wireline entry guide – WEG) at 10,792' MD and the 3 ½" x 7" packer is set at 8,671' MD (6,634'TVDss). The base of the upper confining zone (Lower Kingak/Sag River Marker) is at approximately 10,823' MD (8,500'TVDss) as shown in Well CD1-19A Type Log in Exhibit 3-1 of the permit application. The current tubing and packer locations in Well CD 1-19A are approved. In future sidetracks, replacement wells and workovers to install new tubing, the tubing and packer shall be installed with the packer set not more than 100 feet measured depth (MD) up the casing from the top of the permitted injection interval at the Lower Kingak/Sag River Marker (10,823' MD/8,500' TVDss) (see II.C.4., below).

3. New Wells in the Area of Review

New wells within the area of review shall be constructed in accordance with the Alaska Oil and Gas Conservation Commission Regulations Title 20 - Chapter 25. Furthermore, all wells in the area of review shall have casing cemented to the formation throughout the entire section from the base of the lower confining zone [at the base of the Kavik Formation Marker or from ~ 12,000' MD (~ 9,600' TVDss)] to at least 100 feet MD above the top of the permitted secondary Sag River injection zone [at 10,823' MD (~ 8,500' TVDss)].

B. CORRECTIVE ACTION

The permittee has identified no wells within the ¼ mile Area of Review (AOR) that require corrective action in order to prevent fluids from moving above the confining zone. The closest existing well to the CD 1-19A disposal well location is about 1 mile away. If the permittee later discovers that a well or wells within the AOR require(s) corrective action to prevent fluid movement, then the permittee shall inform EPA upon such discovery and provide a corrective action plan for EPA review and approval. If EPA or the permittee discovers that fluids have moved above the confining zone along a wellbore within the AOR, then injection shall cease until the fluid movement problem can be diagnosed and corrected.

C. WELL OPERATION

1. Prior to Commencing Injection Under This Permit in Existing, Sidetrack or Replacement Wells

   Injection operations pursuant to this permit shall not commence until:

   a. Construction is complete and the permittee has submitted two copies of COMPLETION FORM FOR INJECTION WELLS (EPA Form 7520-9), see APPENDIX; and

      (1) The Director or authorized representative has inspected or otherwise reviewed the existing or sidetrack or replacement injection well(s) and finds it is in compliance with the conditions of the permit; or

      (2) The permittee has not received notice from the Director or an authorized representative of intent to inspect or otherwise review the existing, sidetrack or replacement injection well(s) within 13 days of receiving the COMPLETION REPORT in which case prior inspection or review is waived and the permittee may commence injection.

   b. The operator demonstrates that the well has mechanical integrity as described in Part II.C.3 below, and the permittee has received notice from the Director that such a demonstration is satisfactory. The permittee shall notify EPA at least two weeks prior to conducting this initial test so that an EPA representative may be present.

   c. The operator has conducted a step-rate test (SRT), and submitted a preliminary report to EPA which summarizes the results. A SRT was conducted in September 2000, and the results submitted to EPA in the permit application (Exhibit 5-1). The results show that the Ivishak has a fracture gradient of 0.63 pounds per square inch (psi) per foot (ft), which is in good agreement with Ivishak fracturing data in the Prudhoe Bay Field and with a FG value of 0.66 psi/ft obtained at the offset Class I well WD-02. Therefore, the permittee is not required to conduct another SRT, prior to initiation of Class I injection activities.

   d. For existing wells, the information that has not already been submitted in the permit application to satisfy section Part II, C 1 (a), (b) and (c) shall be submitted within six months of the date of this permit. Data acquired within 18 months prior to the effective date of this permit will be accepted to satisfy the requirements of Part II, C 1 (b) and (c).

2. During Injection

   The injection facility plant shall be manned by trained and qualified operators during injection.

3. Mechanical Integrity

   a. Standards

      The injection wells must have and maintain mechanical integrity in accordance with 40 CFR § 146.8.

b. Prohibition without Demonstration of Mechanical Integrity

Injection operations are prohibited after the effective date of this permit unless the permittee has conducted the following tests and submitted the results to the Director:

(1) In order to demonstrate there is no significant leak in the casing, tubing or packer, the tubing/casing annulus must be pressure tested to at least 2,100 pounds per square inch gauge (psig) for not less than thirty minutes. Pressure shall show a stabilizing tendency. That is, the pressure may not decline more than 10 % during the test period and shall experience less than one-third of its total loss in the last half of the test period. If the total loss exceeds 10% or if the loss during the second 15-minute period is equal to or greater than one-half the loss during the first 15 minutes, the permittee may extend the test period for an additional 30 minutes to demonstrate stabilization. This pressure test is required annually (not exceed 13 months between tests), or at the discretion of the Director or authorized representative. This internal mechanical integrity test can be coordinated with the testing of the other Alpine Class I Well – WD-02. For existing wells, tests performed and witnessed by the AOGCC within 18 months prior to the effective date of this permit will be accepted as meeting the requirements of this section. An initial pressure test (standard annulus pressure test – SAPT) will be required upon the completion of any sidetrack or replacement well(s), and prior to the well(s) being placed on injection. At the discretion of the Director, and depending on the results of the baseline data, the frequency for demonstrating internal mechanical integrity (no leaks in the tubing-casing annulus or in the tubing-packer assembly) may be revised (either increase or decrease in frequency) as specified and approved by the Director or authorized representative.

(2) To detect movement of fluids in vertical channels adjacent to the well bore and to determine that the confining zone is not fractured, approved fluid movement tests shall be conducted at an injection pressure at least equal to the average continuous injection pressure observed in the previous six months. Approved fluid movement tests include, but are not limited to tracer surveys, temperature logs, noise logs, oxygen activation/water flow logs (WFL), borax pulse neutron logs (PNL), or other logs. Fluid movement tests not previously used to satisfy this requirement are subject to prior approval by the Director or an authorized representative. Fluid movement tests (and fill depth tags) are required each calendar year, or at the Director's discretion or authorized representative. Tests (and fill depth tags) performed within one year prior to the effective date of this permit will be accepted as meeting the requirements of this section. For sidetracks and replacement wells, the fluid movement/confinement diagnostic logs will be run initially upon completion of the well and prior to initiation of continuous injection. The frequency for demonstrating external mechanical integrity (no flow behind pipe and isolation above the injection interval), utilizing alternative diagnostic techniques (and fill depth tags), may be revised (either increase or decrease in frequency) as specified and approved by the Director or authorized representative.

(3) Tubing inspection logs (pipe analysis logs (PAL), multi-finger caliper logs, or other equivalent tests) shall be run annually, or at the Director's discretion or authorized representative, to monitor condition, thickness and integrity of the down hole tubing and, if necessary, the exposed section of the casing between the packer and the top of the injection interval. Copies of the logs shall be accompanied by a descriptive and interpretive report.

c. Terms and Reporting

(1) 2 copies of the log(s) and 2 copies of a descriptive and interpretive report of the mechanical integrity tests identified in Paragraph C.3.b.2 above shall be submitted within 45 days of completion of the logging.

(2) Mechanical integrity shall also be demonstrated by the pressure test in Paragraph C.3.b.1 any time the tubing is removed from the well or if a loss of mechanical integrity becomes evident during operation. The permittee shall report the results of such tests within 45 days of completion of the tests.

(3) After the initial Class I mechanical integrity demonstration, the permittee shall notify the Director of intent to demonstrate mechanical integrity at least 30 days prior to subsequent demonstrations.

(4) The Director or authorized representative will notify the permittee of the acceptability of the mechanical integrity demonstration within 13 days of receipt of the results of the mechanical integrity tests. Injection operations may continue during this 13-day review period. If the Director does not respond within 13 days, injection may continue.

(5) In the event that the well fails to demonstrate mechanical integrity during a test or a loss of mechanical integrity occurs during operation, the permittee shall halt operation immediately and shall not resume operation until the Director or an authorized representative gives approval to resume injection.

(6) The Director may, by written notice, require the permittee to demonstrate mechanical integrity at any time.

(7) An annual performance report covering the period October 1 of the previous year through September 30 of the report year shall be submitted on or before November 30. The report shall include rate and pressure performance, surveillance logging, fill depth, survey results, volumetric analysis of the disposal storage volume and an estimate of the fracture growth. The annual performance report currently submitted for Well WD-02 can also include Well CD 1-19A so that the entire Alpine project can be viewed in its entirety.

4. Injection Zone

Injection shall be limited to the Ivishak (current primary injection interval) and Sag River (future secondary injection interval for use if needed) Formations, below the top of the Sag River Marker at ~ 10,823' MD (~ 8,500 TVDss) on the CD1-19A type log, Exhibit 3-1 of the permit application. The requirements of 40 CFR § 146.12(e) to sample and characterize formation fluids and rock matrix are waived.

5. Injection Pressure Limitation

In the absence of an Underground Source of Drinking Water, the requirements of 40 CFR § 146.13 prohibiting fracturing of the injection zone are waived. Injection pressures shall not initiate new fractures or propagate existing fractures in the upper confining zone as that stratigraphic interval is described in the CD1-19A type log, Exhibit 3-1 of the permit application. The maximum permitted surface injection pressure will be 4200 psi, with temporary surges exceeding this limit for stimulation purposes up to the working pressure of the wellhead which is 5000 psi.

6. Annulus Pressure

The annulus between the tubing and the long string casing shall be filled with a corrosion inhibited solution. The annulus shall be filled with a non-freezing solution from the base of the permafrost to the surface. The annulus pressure of up to 2000 psi is authorized, or an alternative maximum annulus pressure approved by the Director or authorized representative.

D. MONITORING

1. Monitoring Requirements

Samples and measurements collected for the purpose of monitoring shall be representative of the monitored activity.

2. Continuous Monitoring Devices

Continuous monitoring devices shall be installed, maintained, and used to monitor injection pressure and rate, and to monitor the pressure of non-freezing solution in the annulus between the tubing and the long string casing. Calculated flow data are not acceptable except as a back-up system if the primary continuous injection rate device malfunctions.

3. Monitoring Direct Waste Injection

Direct waste injection pumping operations at the well site shall be continuously manned and visually monitored. During these pumping operations, a chronological record of the time of day, a description of the waste pumped, injection rate and pressure, and well annulus pressure observations shall be maintained. The pumping record must be signed by the person in charge.

4. Alarms and Operational Modifications

a. The permittee shall install, continuously operate, and maintain alarms to detect excess injection pressures and significant changes in the inner annulus pressure. These alarms must be of sufficient placement and urgency to alert operators in the control room.

b. The location and specifications for the alarms shall be submitted to the Director within 3 months of the effective date of this permit.

E. REPORTING REQUIREMENTS

1. Semi-annual Reports

The permittee shall submit Semi-annual reports to the Director containing the following information:

a. Monthly average, maximum and minimum values for injection pressure, rate, and volume injected shall be reported on INJECTION WELL MONITORING REPORT (EPA Form 7520-8);

b. Graphical plots of daily injection pressure and rate and copies of pumping records for all injection pumping operations at the well site;

c. Daily monitoring data in an electronic format;

d. Physical, chemical, and other relevant characteristics of the injected waste;

e. Any well workover or other significant maintenance of downhole or near wellhead injection-related surface components;

f. Results of all mechanical integrity tests performed since the previous report including any maintenance-related tests and any “practice” tests; and

g. Any other tests required by the Director or authorized representative.

2. Report Certification

All reporting and notification required by this permit shall be signed and certified in accordance with Part I.E.15., and submitted to the following address:

UIC Manager, Ground Water Protection Unit
U.S. Environmental Protection Agency (OCE-127)
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

APPENDIX A: REPORTING FORMS

PDF copies of following forms are available on the EPA's web site

7520-7 APPLICATION TO TRANSFER PERMIT
https://www.epa.gov/sites/production/files/2016-01/documents/7520-7_508c_0.pdf

7520-8 INJECTION WELL MONITORING REPORT
https://www.epa.gov/sites/production/files/2016-01/documents/7520-8_508c_0.pdf

7520-9 COMPLETION FORM FOR INJECTION WELLS
https://www.epa.gov/sites/production/files/2016-01/documents/7520-9_508c_0.pdf