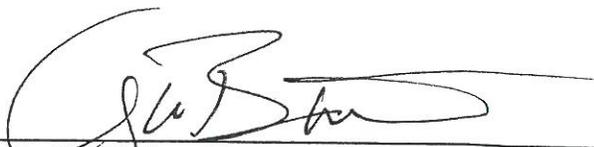


Federal laws and rules and regulations. This Area Permit to Drill and Area Permit to Operate are issued subject to the attached conditions which are hereby incorporated and made a part hereof.

This permit shall expire at midnight on the expiration date indicated above, unless terminated or modified under Chapter 3745-34 of the Ohio Administrative Code.

A handwritten signature in black ink, appearing to read 'Craig W. Butler', is written over a horizontal line.

Craig W. Butler, Director
OHIO ENVIRONMENTAL PROTECTION AGENCY

PART I
GENERAL PERMIT COMPLIANCE

A. EFFECT OF PERMIT

The permittee is authorized to engage in the operation of a Class V underground injection wells in accordance with Chapter 3745-34 of the Ohio Administrative Code (OAC), as described in the permit application, and the conditions of this permit. Notwithstanding any other provisions of these permits, the permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of injection or formation fluids into underground sources of drinking water (USDWs) if the presence of that material may cause an exceedance in the USDW of any primary drinking water regulation under OAC Chapter 3745-81 or may otherwise adversely affect the health of persons. Any underground injection activity not specifically authorized in this permit is prohibited. Compliance with this permit during its term constitutes compliance for purposes of enforcement, exclusively with Sections 6111.043 and 6111.044 of the Ohio Revised Code (ORC). Such compliance does not constitute a defense to any action brought under ORC Sections 6109.31, 6109.32 or 6109.33 or any other common or statutory law other than ORC Sections 6111.043 and 6111.044. 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 state or local law. Nothing in this permit shall be construed to relieve the permittee of any duties under applicable state and federal law or regulations.

B. PERMIT ACTIONS

1. Modification, Revocation, Reissuance and Termination. The Director may, for cause or upon request from the permittee, modify, revoke and reissue, or terminate this permit in accordance with OAC Rules 3745-34-07, 3745-34-23, and 3745-34-24. Also, the permit is subject to minor modifications for cause as specified in OAC Rule 3745-34-25. 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 may be transferred to a new owner or operator pursuant to OAC Rule 3745-34-22(A), 3745-34-23, 3745-34-25(D) or 3745-34-26(L)(3), as may become applicable.

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 any other circumstances and the remainder of this permit shall not be affected thereby.

D. CONFIDENTIALITY

In accordance with OAC Rule 3745-34-03 any information submitted to the Ohio 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 words "confidential business information" on each page containing such information. If no claim is made at the time of submission, the Ohio EPA may make the information available to the public without further notice. If a claim is asserted, documentation for the claim must be tendered and the validity of the claim will be assessed in accordance with the procedures in OAC Rule 3745-34-03. If the documentation for the claim of confidentiality is not received, the Ohio EPA may deny the claim without further inquiry. 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 receiving water and amounts or contents of fluids injected.

E. DUTIES AND REQUIREMENTS (OAC RULE 3745-34-26)

1. Duty to Comply. The permittee shall comply with all applicable UIC regulations and conditions of this permit. Any permit noncompliance constitutes a violation of ORC Chapter 6111. and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application. Such noncompliance also may be grounds for enforcement action under other applicable state and federal law.
2. Penalties for Violations of Permit Conditions. Any person who violates a requirement of this permit is subject to injunctive relief, civil penalties, fines and/or other enforcement action under ORC Chapter 6111. Any person who knowingly or recklessly violates permit conditions may be subject to criminal prosecution.
3. Continuation of Expiring Permits.
 - a. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall submit a complete application for a new permit at least 180 days before this permit expires.
 - b. Permit Extensions. The conditions of an expired permit may continue in force in accordance with Section 119.06 of the Revised Code until the effective date of a new permit, if:
 1. The permittee has submitted a timely application which is a complete application for a new permit; and

2. The Director, through no fault of the permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit; and
 3. The new permit has not been denied, and if a denial has been appealed, the denial has not been upheld.
- c. Effect. Permits continued under Section 119.06 of the Revised Code remain fully effective and enforceable.
- d. Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit the Director may choose to do any or all of the following:
1. Initiate enforcement action based upon the permit which has been continued;
 2. Issue a notice of intent to deny the new permit. If the permit is denied, the owner or operator is required to cease the activities authorized by the continued permit or be subject to enforcement action for operation without a permit;
 3. Issue a new permit under Section 6111.044 of the Revised Code with appropriate conditions; or
 4. Take other actions as set forth in Chapter 3745-34 of the OAC.
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) 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.

7. Duty to Provide Information. The permittee shall furnish to the Director, within a time specified, any information which the Director may request in order to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall furnish to the Director, upon request, copies of all records required to be kept by the permittee.
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 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 required to 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 purposes of assuring permit compliance or as otherwise authorized by ORC Chapter 6111. and OAC Chapter 3745-34, any substances or parameters at any location.
9. Records.
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. The permittee shall maintain records of all data used to complete the permit application forms and any supplemental information submitted under OAC Rule 3745-34-16 and retain records of all monitoring information, including all calibration and maintenance records and all reports required by this permit for a period of at least three (3) years after completion of plugging and abandonment of the wells. This period may be extended by request of the Director at any time.
 - c. The permittee shall retain copies of records concerning the nature and composition of all injected fluids until three (3) years after completion of plugging and abandonment of the wells.
 - d. The permittee shall deliver the records to the Director after the retention periods specified by paragraphs (b) and (c) above unless the permittee obtains written approval from the Director to discard the records.

- e. Records of monitoring information shall include the following as applicable pursuant to OAC Rule 3745-34-26(J)(3):
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The name(s) of the individual(s) who performed the sampling or measurements;
 - iii. A detailed description of sampling methodology;
 - iv. The date(s) analyses or measurements were performed;
 - v. The name(s) of the individual(s) who performed the analyses or measurements and the laboratory that performed the analyses or measurements;
 - vi. The analytical techniques or methods used; and
 - vii. All results of such analyses.
- 10. Signatory Requirements. All reports or other information, required to be submitted by these permits or requested by the Director, shall be signed and certified in accordance with OAC Rule 3745-34-17. Within thirty (30) days of the effective date of this permit, the permittee shall designate the duly authorized representative for all submissions required under this permit, in written form to the Director, in compliance with OAC Rule 3745-34-17(B)(1)-(3).
- 11. Reporting Requirements.
 - a. Planned Changes. The permittee shall give written notice to the Director, as soon as possible, of any planned physical alterations or additions to the permitted facility. Such notice shall be given at least ten (10) days prior to the commencement of construction or implementation of any planned change. The permittee shall include as part of such written notice to the Director justification of any planned physical alterations to the permitted well.
 - 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. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of these permits shall be submitted no later than thirty (30) days following each schedule date.

d. Twenty-four (24) Hour Reporting.

1. The permittee shall report to the Director any noncompliance which may endanger health or the environment. Appropriate information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which must be reported orally within 24 hours:
 - i. Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water.
 - ii. Any noncompliance with a permit condition, or malfunction of the injection system, which may cause unpermitted fluid migration into or between underground sources of drinking water.
 2. A written submission also shall be provided within five (5) business days of the time the permittee becomes aware of the circumstances of such noncompliance. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, the anticipated time it is expected to continue; and if the noncompliance has or has not been corrected, and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance.
- e. Other Noncompliance. The permittee shall report all other instances of noncompliance not otherwise reported under paragraph (E)(11)(d) above at the time monitoring reports are submitted. The reports shall contain the information listed in permit condition 11(d)(2) above.
- f. Other Information. When the permittee becomes aware of failure to submit any relevant facts in the permit applications or that incorrect information was submitted in a permit application or in any report to the Director, the permittee shall submit such facts and corrected information within ten (10) days.
- g. If the authorization under Part I (E)(10) of this permit is no longer valid, a new authorization satisfying the requirements of OAC Rule 3745-34-17(B) and (C) shall be submitted in written form prior to or together with any reports, information or applications requiring the signature and certification of the authorized signatory.

F. CORRECTIVE ACTION

1. The permittee shall develop a corrective action plan in the event that routine monitoring or any other information indicates that primary drinking water standards as defined in Chapter 3745-81 of the OAC, are or may be exceeded in any USDW as a result of injection activities.

Such plan shall include a determination of the nature, rate, and extent of the degradation. The Director may also require the plan to include appropriate remedial actions including, but not limited to discontinuance of injection operations.

2. The plan for corrective action shall be submitted to the Director within thirty (30) days of the date the permittee discovers evidence, or is notified by the Director, that an exceedance of one or more primary drinking water standards as defined in Chapter 3745-81 is resulting or may be resulting in a USDW from the injection well operation. The corrective action plan shall be subject to review and approval by Ohio EPA prior to implementation.

PART II
SPECIAL PERMIT CONDITIONS

A. WELL CONSTRUCTION AND COMPLETION

All well construction and operations shall be conducted in accordance with the project plans submitted with the application for this permit. Activities conducted under this permit include, but are not limited to, the following:

1. Injection Borehole Drilling

- a. The injection boreholes shall be drilled to a minimum depth of approximately 2 feet below the bottom of the void (the Upper Freeport No. 7 Coal mine workings of the Allegheny Group). The injection hole depths will vary from approximately 20 to 60 feet depending upon the vertical distance between the ground surface and the mined interval.
- b. The 6-inch diameter boreholes shall be drilled through overlying soil and rock and any mine debris to a level two (2) feet below the void bottom. A minimum 4-inch diameter casing of either steel or PVC will be installed through the soil overburden to maintain the opening until grouting is complete. It is anticipated that drilling will be conducted employing truck-mounted sonic, auger or rotary drills.
- c. A tremie pipe/tube shall be inserted through the casing and bedrock stratigraphy to the elevation of the mine and a concrete pump will be used to place the grout, aggregate and/or concrete into the mine workings. If grout settles after withdrawal of the tremie pipe, additional grout will be placed with the end of the tremie pipe set immediately above the surface of the existing grout.
- d. The maximum grout injection rate will be 10 cubic yards per minute (CY/min.) or 40 gallons per minute (gpm). The average grout injection rate will be less than 10 gpm. The grout is to be placed via gravity feed.

2. Injectate/Grout Mixes

- a. ODOT will specify strength requirements for each barrier grout, production grout and overburden grout mix. ODOT will require testing of the actual grout mix to determine that leaching results conform to ASTM D 3987.
- b. The materials used to develop barrier, production and overburden grout mixes may contain the following constituents:
 - i. Type I or II cement ASTM C 150
 - ii. Fine aggregate (limestone or natural sand)

- iii. Course aggregate (limestone or gravel)
- iv. Fly ash (ASTM C 618) type C or F
- v. Ground granulated Slag (ASTM C 989)
- vi. Water

3. Grout Placement

Barrier grout, production grout and overburden grout shall be emplaced as described in: *Appendix F Abandoned Mine Grouting Plan General Notes, Section 7.0 Construction* of the Permit to Operate Application.

B. DATA TO BE COLLECTED DURING DRILLING/INSTALLATION

1. Results of Toxicity Characteristic Leaching Procedure (TCLP) analyses of composite samples of flyash shall be submitted to Ohio EPA for approval prior to the drilling and grouting of the mine voids. Composite samples of flyash shall be analyzed for arsenic; barium; cadmium; chromium; lead; mercury and selenium.

Flyash with a TCLP result exceeding any of the following threshold concentrations shall be considered unacceptable and prohibited from use on the project:

- Arsenic - 0.3 parts per million (ppm)
 - Barium – 60.0 ppm
 - Cadmium – 0.15 ppm
 - Chromium – 3.0 ppm
 - Lead – 0.45 ppm
 - Mercury – 0.06 ppm
 - Selenium – 1.5 ppm
2. Monthly operating reports concerning the completion data shall be submitted during the work period. Each monthly report shall include at a minimum:
 - Number of holes drilled;
 - Completion depth of each hole;
 - Total volume of grout injected;
 - Quantity and type of grout placed in each borehole;
 - Depth to bedrock; and
 - Depth to void (if any).
 3. The permittee shall notify the Director of completion of activities conducted under this permit. Notification shall be:
 - a. Provided orally within 48 hours of completion; and
 - b. Provided in writing with 10 days of completion.

4. A drilling and completion report shall be submitted to:

Ohio EPA - Division of Drinking and Ground Waters
Underground Injection Control Section
50 West Town Street, P.O. Box 1049
Columbus, Ohio 43216-1049

within 60 days of the completion of this grouting project. The following information shall be included in the report:

- a. The composition of each grout mix used including the quantities of cement, flyash, fine aggregate, coarse aggregate and water per cubic yard for each of the following:
 - i. Barrier grout; and
 - ii. Production grout
- b. The report shall summarize all work completed for the drilling and grouting project and shall include a table organized by borehole designation which includes, at a minimum, the following information for each borehole:
 - i. The date drilling was completed.
 - ii. The depth to bedrock surface.
 - iii. The depth to the mined interval.
 - iv. The volume and type of grout emplaced.
- c. A diagram identifying the general locations of the injection wells by grout type.

C. GENERAL

The wells shall be constructed in such a manner that prevents the movement of fluid into any underground source of drinking water if that fluid may cause a violation of any primary drinking water rule under Chapter 3745-81 of the Ohio Administrative Code or may otherwise adversely affect the health of persons.