



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. Glen McClopin
Stonehaven Energy, LLC
PO Box 941811
Houston, Texas 77094

Dear Mr. McClopin:

On June 8, 2016, Stonehaven Energy Management, LLC (Stonehaven) submitted an email to this office requesting a minor permit modification for EPA Underground Injection Control (UIC) permit PAS2D2010BVEN. The request was to revise the language in Part III, B. 2., of the injection fluid operating requirements, to remove the Tippery Field operations in Venango County, PA language and to allow fluid from Stonehaven's other oil and gas production wells to be injected. Stonehaven submitted fluid analysis from these other fields and the specific gravity of this fluid is similar to the currently permitted fluid.

The permit's effective date is specified on the signatory page. All permit conditions are effective and enforceable as of that date and your compliance with the conditions is required. You should respond to the provisions of Condition D.9 in Part I of this permit and provide an appropriate demonstration of the delegation of signatory authority. In addition, please note that permit Condition D.1 in Part II of this permit, require that you report back to the EPA within thirty days of your receipt of this letter and attest to the fact that you have read and are personally familiar with all terms and conditions of this permit.

If you should have any questions regarding these minor permit modifications, please give me a call at 215-814-5469.

Sincerely,

A handwritten signature in black ink, appearing to read "James C. Bennett".

James C. Bennett
Ground Water & Enforcement Branch (3WP22)
Office of Drinking Water & Source Water Protection

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

**UNDERGROUND INJECTION CONTROL PERMIT NUMBER PAS2D010BVEN
AUTHORIZATION TO OPERATE A CLASS IID INJECTION WELL**

In compliance with provisions of the Safe Drinking Water Act, as amended, (42 U.S.C. §§ 300f-300j-11, commonly known as the SDWA), the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901-6991i, commonly known as RCRA) and attendant regulations promulgated by the U. S. Environmental Protection Agency under Title 40 of the Code of Federal Regulations;

Stonehaven Energy, LLC
PO Box 941811
Houston, Texas 77094

is authorized by this permit to inject fluids produced in association with Stonehaven Energy Management's oil and gas production in Pennsylvania, through a Class II-D injection well, the Latshaw #9, located in Cranberry Township, Venango County, into the Speechley Formation in accordance with the conditions set forth herein. The coordinates for this injection well are: Latitude 41° 23' 16.4" and Longitude -79° 37' 43.5".

All references to Title 40 of the Code of Federal Regulations are to all regulations that are in effect on the date that this permit is effective.

This permit shall become effective on June 28, 2016.

This permit and its authorization to inject shall remain in effect until midnight October 24, 2023.

Signed this 28th day of June, 2016.


Jon M. Capacasa, Director
Water Protection Division

2. 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.

3. 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.

4. 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, adequate security at the facility to prevent unauthorized access and operation of the well and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of this permit.

5. Duty to Provide Information. The permittee shall furnish to the Director of the Water Protection Division ("Director"), within a time specified by the Director, 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. If the permittee becomes aware of any incomplete or incorrect information in the Permit Application or subsequent reports, the permittee shall promptly submit information addressing these deficiencies.

6. 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 any substances or parameters at any location, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by SDWA.

the facility, a new authorization satisfying the requirements of paragraph b. of this section must be submitted to the Director prior to or together with any reports, information or applications to be signed by an authorized representative.

d. Any person signing a document under paragraph a. or b. of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

10. Confidentiality of Information.

a. In accordance with 40 CFR Part 2 (Public Information) and § 144.5, any information submitted to the Director pursuant to these permits may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2.

b. Claims of confidentiality for the following information will be denied:

- (1) The name and address of any permit applicant or permittee.
- (2) Information which deals with the existence, absence, or level of contaminants in drinking water.

11. Reapplication. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must submit a complete application for a new permit at least 100 days before this permit expires.

12. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.

- c. A precise description of both sampling methodology and the handling (custody) of samples;
- d. The date(s) analyses were performed;
- e. The individual(s) who performed the analyses;
- f. The analytical techniques or methods used; and
- g. The results of such analyses.

4. Monitoring the nature of injected fluids shall comply with applicable analytical methods cited in Part II, paragraph C.1., below.

5. All environmental measurements required by the permit, including, but not limited to, measurements of pressure, temperature, mechanical integrity (as applicable) and chemical analyses shall be done in accordance with EPA guidance on quality assurance.

C. Monitoring Requirements

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the fluid to be analyzed and the procedure for analysis of the sample shall be in accordance with test procedures approved under 40 CFR § 136.3 unless otherwise approved by the Director. The permittee shall identify the types of tests and methods used to generate the monitoring data.

2. Injection pressure, annular pressure, flow rate and cumulative volume shall be observed and recorded continuously beginning on the date on which the well commences operation and concluding when the well is plugged and abandoned. The permittee shall monitor and record, semi-annually, the fluid level from monitoring wells Latshaw #12, Latshaw # 15, Latshaw #25 and Stover #8 located within the Tippery Field injection facility property. Each of these monitoring wells shall completely isolate the Speechley formation from the rest of the wellbore by placement of a monitoring string on a packer set immediately above the Speechley formation.

3. The permittee shall sample, analyze and record the nature of the injected fluid for the parameters listed below at the initiation of the injection operation and every two years thereafter, or whenever the operator observes or anticipates a change in the injection fluid (see condition C.4. below).

- pH
- Specific Gravity
- Manganese
- Total Dissolved Solids

paragraph (a) of this permit condition, in which case, prior inspection or review is waived and the permittee may commence injection.

3. Twenty-four Hour Reporting.

a. The permittee shall report to the Director any noncompliance which may endanger health or the environment. Such report shall be provided orally (phone numbers: (215)814-5464 or (215)814-5445) 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:

(1) Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water.

(2) Any noncompliance with a permit condition, or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water, or failure of mechanical integrity test demonstrations.

b. A written submission shall also be provided within five 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 steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

4. 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.

5. Other Noncompliance. The permittee shall report all other instances of noncompliance in writing within ten (10) days of the time the permittee becomes aware of the circumstances. The reports shall contain the information listed in Permit Condition D.3., of Part II of this permit.

6. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

7. Conversion. The permittee shall notify the Director thirty days prior to the conversion of the well to an operating status other than an injection well.

8. Annual Report. The permittee shall submit an Annual Report to the Director summarizing the results of the monitoring required by Permit Condition C within Part II of this permit. This report shall include monthly monitoring records of injected fluids, fluid level

b. Describes actions or procedures, satisfactory to the Director, which the permittee will take to ensure that the well will not endanger USDWs during the period of temporary abandonment. These actions and procedures shall include compliance with the technical requirements applicable to an active injection well unless waived in writing by the Director.

E. Mechanical Integrity Standards

1. Standards. The permittee shall have and maintain the mechanical integrity of the permitted injection well pursuant to 40 CFR § 146.8.

2. Request from Director. The Director may, by written notice, require the permittee to demonstrate mechanical integrity at any time.

PART III

A. Construction Requirements

1. Notwithstanding any other provision of this permit, the injection well shall inject only into formations which are separated from any underground source of drinking water by a confining zone that is free of known open faults or fractures within the Area of Review.

2. Casing and Cementing. The permittee shall case and cement the well to prevent the movement of fluids into or between underground sources of drinking water. The casing and cement used in the construction of the well shall be designed for the life expectancy of the well. Cemented surface casing shall be installed from the surface to a depth at least fifty feet below the lowermost underground source of drinking water, a depth of approximately 410 feet, and cemented back to the surface. The injection zone shall be isolated by the placement of long string casing to total depth, approximately 1992 feet, and cemented back at least 100 feet above the injection zone. Injection shall occur through a tubing string and packer installed inside the long string casing and set above the injection zone.

3. Logs and Tests. The logs and tests listed below shall be conducted during the drilling and construction of the well or, in the event that the well is being converted to an injection well, obtain and submit the logs and tests from the well's original construction. A descriptive report interpreting the results (which specifically relate to (1) the lowermost underground source of drinking water and the confining zone adjacent to it and (2) the injection zone and adjacent formations) shall be prepared by a knowledgeable log analyst and submitted to the Director. At a minimum, such logs and or tests shall include the following:

- A cement bond log and variable density log which document the cemented portion of the long string casing.

1. The permittee shall plug and abandon the well in accordance with the approved plugging and abandonment plan, EPA Form 7520-14, provided as Attachment 1 in the permit.

2. Plugging and Abandonment shall be conducted in such a manner that movement of fluids will not be allowed into or between underground sources of drinking water.

D. Financial Responsibility

The permittee shall maintain financial responsibility and resources to close, plug and abandon the underground injection well in accordance with 40 CFR Section 144.52(a)(7) in the amount of at least \$10,000. If the circumstances regarding the acceptability of the Letter of Credit and Standby Trust Agreement submitted to EPA to demonstrate financial responsibility should change, the permittee shall provide advance notification to the Director, and the Director may seek an alternative financial demonstration from the permittee.

The permittee shall not substitute an alternative demonstration of financial responsibility for that which the Director has approved, unless he or she has previously submitted evidence of that alternative demonstration to the Director and the Director notifies him or her that the alternative demonstration of financial responsibility is acceptable. The Director may require the permittee to submit a revised demonstration of Financial Responsibility if the Director has reason to believe that the original demonstration is no longer adequate to cover the costs of plugging and abandonment.



United States Environmental Protection Agency
Washington, DC 20460

PLUGGING AND ABANDONMENT PLAN

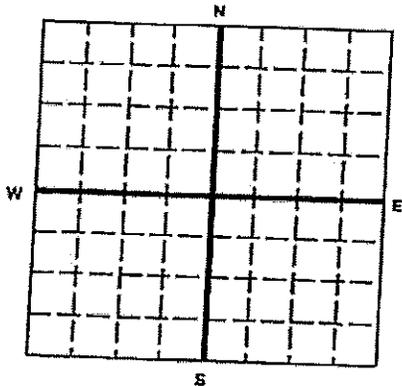
Name and Address of Facility

TIPPERY FIELD #9

Name and Address of Owner/Operator

STONEHAVEN ENERGY MANAGEMENT, LLC
1251 WATERFRONT PLACE SUITE 510
PITTSBURGH, PA 15222

Locate Well and Outline Unit on Section Plat - 840 Acres



State PENNSYLVANIA County VENANGO Permit Number 37-121-14484

Surface Location Description
___ 1/4 of ___ 1/4 of ___ 1/4 of ___ 1/4 of Section ___ Township ___ Range ___

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location ___ ft. from (NS) ___ Line of quarter section and ___ ft. from (EW) ___ Line of quarter section.

TYPE OF AUTHORIZATION

- Individual Permit
- Area Permit
- Rule

Number of Wells 1

WELL ACTIVITY

- CLASS I
- CLASS II
- Brine Disposal
- Enhanced Recovery
- Hydrocarbon Storage
- CLASS III

Lease Name M. LATSHAW

Well Number #9

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
9 7/8"	26	22'	22'	12 1/4"
7"	17	396'	396'	8 7/8"
5 1/2"	17	750'	750'	6 1/4"
3 1/2"	9.2	1928'	100'	

METHOD OF EMPLACEMENT OF CEMENT PLUGS

- The Balance Method
- The Dump Baller Method
- The Two-Plug Method
- Other

CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (Inches)	4 1/2"	6 1/4"	6 3/8"				
Depth to Bottom of Tubing or Drill Pipe (ft)	1928'	1090'	500'				
Sacks of Cement To Be Used (each plug)	8	63	18				
Slurry Volume To Be Pumped (cu. ft.)	9.44	74.34	21.24				
Calculated Top of Plug (ft.)	1828'	690'	300'				
Measured Top of Plug (if tagged ft.)	1828'	690'	300'				
Slurry WL (Lb./Gal.)	15.6	15.6	15.6				
Type Cement or Other Material (Class III)	Class A	Class A	Class A				

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To

Estimated Cost to Plug Wells
\$9483.00

Certification

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. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

David Downs Vice President

Signature

Date Signed

10/26/11