



west virginia department of environmental protection

Office of Oil and Gas
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Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Thursday, November 16, 2017

UIC Permit

LEWIS CAMDEN, LLC
PO BOX 470

BRIDGEPORT, WV 26330

Re: Permit approval for Underground Injection Control (UIC) Permit # 2D04103175003
Date Issued: 11/16/2017

Enclosed you will find the above referenced Underground Injection Control Permit. This permit will expire in five (5) years from the date of issuance.

Be advised that all conditions established by this Permit either expressly or incorporated by reference, must be strictly adhered to. All monitoring forms shall be submitted to the Office of Oil and Gas in the matter and frequency prescribed. The monitoring forms will be compared with the scope of permitted activity to verify compliance.

Please review the permit carefully and be aware of all permit conditions. Compliance with all permit conditions will be strictly enforced.

The operation of this injection well facility in general, including maintenance of all related surface equipment, shall be conducted so as to preclude any unlawful discharge.

James A. Martin
Chief
Office of Oil and Gas

Enclosures as stated

Promoting a healthy environment.

UNDERGROUND INJECTION CONTROL PERMIT

For

Lewis Camden, LLC

Permit Number 2D04103175003

**AUTHORIZATION TO OPERATE AN
UNDERGROUND INJECTION CONTROL (UIC)
CLASS II UIC INJECTION WELL
PERMIT NUMBER # UIC 2D04103175003**

In compliance with provisions of the West Virginia Code, Chapter 22, Article 6, Article 11 and Article 12, as well as Legislative Rules, Title 47, Series 13 and Series 58, Title 47, Series 55, and Title 35 Series 1 and Series 4.

NAME	Lewis Camden LLC	FACILITY TYPE	Brine Disposal
ADDRESS	P.O. Box 470	WELL API#	47-041-03175
ADDRESS	Bridgeport, WV 26330	FIELD NAME:	N/A

is hereby authorized, contingent upon these Permit conditions, to inject Class II fluids that are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations, unless those waters are classified as hazardous waste at the time of injection into the **Gordon and Fifth Sand** formations. The permitted injection depth shall be between **2,326** and **2,504** feet bgs. The injection well is located in Lewis County, Freemans Creek District, Camden Quad.

UTM NAD 83 Northing 4,322,977 (meters) and UTM NAD 83 Easting 536,197 (meters).

The maximum permitted wellhead injection pressure shall at no time exceed 1,200 psi, as determined by step-rate test.


The maximum injection rate shall at no time exceed the rates on the attached Appendix A forms.

All references to West Virginia Regulations are to those that are in effect on the date that this permit becomes effective.

Any person who holds a permit shall pay an annual permit fee in accordance with the provisions of Title 47 Series 9 section 7 of the Legislative Rule. The first annual permit fee shall be remitted to the Office of Oil and Gas one (1) calendar year from the date of permit issuance; subsequent annual permit fees shall be remitted on or before the anniversary date of the permit issuance. The annual permit fee for a Class II injection well is twenty-five dollars (\$25.00). The permit becomes void if the annual permit fee has not been paid within one hundred eighty (180) days of the due date. The Chief shall not reissue a permit until all annual permit fees due during prior terms of that permit have been paid in full.

Any person who holds a permit shall also pay an annual groundwater fee of seventy-five (\$75.00) per injection well as required by W. Va. Code §§ 22-11 and/or 22-12. Failure to pay the annual groundwater fee shall be cause for revocation of the permit. The annual permit fee is due on the anniversary date of permit issuance and shall be paid on the anniversary date of issuance of this permit.

Non-compliance with the terms of this permit shall be cause for revocation of Certification under the terms of Chapter 22, Article 12, and revocation of the permit under Chapter 22, Article 11 of the West Virginia Code. This permit and its authorization to inject shall remain in effect for five (5) years from the date of issuance of the final permit provided all terms of the permit are met.


James Martin, Chief
Office of Oil and Gas

PART I

A. REAPPLICATION

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must submit an administratively complete application for a new permit at least one hundred and eighty (180) days before this permit expires.

B. IMMEDIATE REPORTING

The Permittee shall report any noncompliance which may endanger human health or the environment immediately after becoming aware of the circumstances by using the **WVDEP Emergency Spill line number, 1-800-642-3074**. Written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, Permittee shall provide the anticipated time it is expected to continue; and the steps taken or planned to be taken to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported immediately:

- i. Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water (USDWs).
- ii. Any non-compliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between the USDWs, or failure of mechanical integrity test demonstrations.

C. RIGHT OF APPEAL

Notice is hereby given of your right to appeal the terms and conditions of this permit by which you are aggrieved to the State Environmental Quality Board by filing a NOTICE OF APPEAL on the form prescribed by such Board for this purpose, with the Board, in accordance with the provisions of Chapter 22 Article 11, Section 21 of the code of West Virginia within thirty (30) days after the date of receipt of the above permit.

D. EFFECT OF PERMIT

The Permittee is allowed to engage in underground injection in accordance with the conditions of this permit based on an approved permit application. The Permittee shall not allow the underground injection activity authorized by this permit to cause or allow the movement of fluid containing any contaminant into underground sources of drinking water and may not cause a violation of any primary drinking water regulation or any health-based limit promulgated under 40 CFR Chapter 1, Part 142, of the Code of Federal Regulations, or of any water quality standard promulgated by the West Virginia Department of Environmental Protection/Division of Water and Waste Management. Any underground injection activity not authorized in this permit is prohibited. Compliance with the terms of this permit does not constitute a defense to any action brought under Part C and the imminent and substantial endangerment provisions in Part D of the Safe Drinking Water Act (SDWA) or any other common or statutory law for any breach of any other applicable legal duty.

E. PERMIT ACTIONS

1. This permit can be modified, revoked and reissued or terminated for cause specified in Chapter 22, Article 11 (hereafter W. Va. Code §22-11), and Chapter 22, Article 12 (hereafter W. Va. Code §22-12) of the West Virginia Code, and Title 47, Series 13 (hereafter Legislative Rule 47 CSR 13) of the Legislative Rules. The filing of a request by the Permittee for a permit modification, revocation and reissuance, suspension or revocation, or notification of planned changes or anticipated noncompliance, does not stay any permit condition.
2. Transfer of Permits. This permit is not transferable to any person unless notice is first provided to the Office of Oil and Gas and the Permittee complies with requirements of Legislative Rule 47 CSR 13-13.17. The Office of Oil and Gas 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 (SDWA).

F. SEVERABILITY

The provisions of this permit are severable, and if any condition of this permit or the Permittee's application of any provision of this permit to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of other provisions of the permit and the remainder of this permit shall not be affected.

G. DURATION OF PERMIT

This permit and the authorization to inject are issued for a period of five (5) years unless terminated under Part I Section H paragraph 11 of this permit. However, when through no fault of the Permittee the West Virginia Department of Environmental Protection does not issue a new permit with an effective date on or before the expiration date of the previous permit and the Permittee has submitted a timely administratively complete application as required in Part I section A of this permit, which is a complete application for a new permit, the expired permit shall continue to remain fully effective and enforceable.

H. GENERAL REQUIREMENTS

1. **Duty to Comply.** The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the SDWA and the State Act and is grounds for enforcement action; for permit suspension or revocation, revocation and reissuance, or modification; or for denial of a permit renewal application. (Legislative Rule 47 CSR 13-13.12.a) Copies of UIC Program regulations (W. Va. Code §22-11) may be obtained from the West Virginia Legislature's Website <http://www.legis.state.wv.us/WVCODE/Code.cfm>, and (Legislative Rule 47 CSR 13) may be obtained from the West Virginia Secretary of State's Web Site at <http://www.sos.wv.gov/>.
2. **Duty to Reapply.** If the Permittee wishes to continue activity regulated by this permit after the expiration date of this permit, the Permittee must apply for a new permit as required in Part I section A of this permit as well as obtain a new permit.
3. **Duty to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. **Duty to Mitigate.** The Permittee shall take all reasonable steps to minimize or correct any adverse impact on health of persons or the environment resulting from noncompliance with this permit.
5. **Proper Operation and Maintenance.** The Permittee shall at all times properly operate and maintain all facilities, systems of treatment and control, and related equipment 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, 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.
6. **Duty to Provide Information.** The Permittee shall furnish to the Chief within a reasonable time, any information which the Chief may request to determine whether cause exists for modifying, revoking and reissuing, or revoking this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Chief, 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 report(s), the Permittee shall promptly submit information addressing these deficiencies to the Chief.
7. **Inspection and Entry.** The Permittee shall allow the Chief, 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 purposes of assuring permit compliance for any substances or parameters at any location.
8. Penalties. Any person who violates a permit requirement is subject to civil penalties, criminal penalties, fines and other enforcement actions under W. Va. Code §22-11 and W. Va. Code §22-12.
9. Signatory Requirements. Only a duly authorized person may sign documents and reports associated with this permit.
- a. All reports required by this permit and other information requested by the Chief shall be signed as follows:
 - (1) For a corporation, by a responsible corporate officer of at least the level of vice-president;
 - (2) For a partnership or sole proprietorship, by a general partner or proprietor, respectively; or
 - (3) For a Municipality, State, Federal, or other public agency by either a principal executive or a ranking elected official.
 - b. A duly authorized representative of the official designated in paragraph a. above may also sign only if:
 - (1) The authorization is made in writing by a person described in paragraph a. above;
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, and;
 - (3) The written authorization is submitted to, and approved by, the Chief.
 - c. If an authorization under paragraph (b) of this section is no longer accurate because a different individual has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Chief 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 (b) of this section shall make the following certification: (Legislative Rule 47 CSR 13-13.11.d). "I certify under 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."
10. Property Rights. 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, any infringement of State or local law or regulations, or any exclusive privilege.

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

12. Confidentiality of Information.

In accordance with Legislative Rule 47 CSR 13-13.21, any information submitted to the State pursuant to this rule may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or in the case of other submissions, by stamping the words "CONFIDENTIAL BUSINESS INFORMATION" on each page containing such information. An affidavit or written request stating the need for requested confidential documents to remain confidential must also be submitted with the documents.

- a. If no claim is made at the time of submission, the State may make the information available to the public without further notice.
- b. Claims of confidentiality for the following information will be denied:
 - i. The name and address of any permit applicant or Permittee.
 - ii. Information which deals with the existence, absence, or level of contaminants in drinking water.

13. Monitoring Reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

14. 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 thirty (30) days following each schedule date.

15. Other information. Where a Permittee becomes aware that he/she failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Chief, he/she shall promptly submit such facts or information.

16. It shall be unlawful for any person, unless an authorization has been issued by a groundwater regulatory agency, to allow crude oil, or any petroleum product derived from crude oil, or seepage, or natural gas, or condensate, or salt water, or any chemical mixture which may impact groundwater quality to escape from any well, pipeline, impoundment, storage tank, treatment unit, or storage container, or be deliberately allowed to flow onto or under the land surface in such a manner that could impact groundwater quality.

17. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution on any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any State or Federal law or regulation.

PART II

A. RECORD RETENTION

1. Required Records. The Permittee shall retain all records concerning the permitted underground injection well until three (3) years after completion of any plugging and abandonment. The Director may require the owner or operator to deliver the records to the Director at the conclusion of the retention period.

B. 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 Federal Code 40 CFR 136.3, unless otherwise approved by the Chief. The Permittee shall identify the types of tests and methods used to generate the monitoring data.
2. Monitoring Devices The Permittee shall install and maintain in good operating condition:
 - a. A tap on the discharge line between the injection pump and the wellhead for the purpose of obtaining representative samples of injection fluids; and
 - b. Devices to continuously measure and record injection pressure, flow rates, injection and production volumes, subject to the following:
 - i. Pressure gauges shall be of a design to provide:
 1. A full pressure range of at least fifty (50) percent (%) greater than the anticipated operating pressure; and
 2. A certified deviation accuracy of five (5) percent (%) or less throughout the operating pressure range.
 - ii. Flow meters shall measure cumulative volumes and be certified for a deviation accuracy of five (5) percent or less throughout the range of rates allowed by the permit.
3. All environmental measurements required by the permit, including but not limited to, measurements of pressure, temperature, mechanical, and chemical analyses shall be done in accordance with state guidance on quality assurance. All analysis must be performed by a West Virginia certified laboratory. Certified laboratories can be found on the WVDEP webpage at:
<http://www.dep.wv.gov/WVE/Programs/lab/Pages/default.aspx>.
4. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. Individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
5. The Permittee shall monitor on a daily basis all the casing annuli with pressure sensitive devices or with such a method as approved or required by the Office of Oil and Gas to allow early detection of any leaks from the injection zone or casing. The Permittee shall also monitor injection pressure, volume, and rate. This information should be reported using Form WR-40.
6. Any analysis of injectate with a specific gravity result greater than 1.2 shall be reported to the Chief within twenty-four (24) hours of the results.
7. Within thirty (30) days of the permit issuance date, the Permittee shall designate stream monitoring points adjacent to the injection well facility. These monitoring points, one upstream and one downstream of the injection wells' location shall be sampled for the parameters listed in Table 1 on a nine (9) month schedule and reported to the WVDEP Office of Oil and Gas, accompanied by a map identifying the sampling points and corresponding coordinates.

8. Injection fluids from sources will be analyzed at least once every five (5) years, or upon request of the Chief, to yield representative data on their physical, chemical, or other relevant characteristics. The Permittee shall take samples at or before the wellhead for analysis. Samples and measurements shall be representative of the monitored activity. The Permittee shall utilize applicable analytical methods. The Permittee shall sample, analyze and record the nature of all the injected fluid for the parameters listed in TABLE 1 below at the initiation of the injection operation, on an annual basis, and upon request by the Chief or whenever the operator observes or anticipates a change in the injection fluid. Test results shall be submitted to the Office of Oil and Gas with laboratory analysis data sheets (report).

TABLE 1

pH	Manganese
Specific Gravity	Total Dissolved Solids
Barium	Hydrogen Sulfide
Specific Conductance	Alkalinity
Iron	Dissolved Oxygen
Magnesium	Total Organic Carbon (TOC)
Chloride	Hardness
Sodium	

9. A wellhead pressure gauge shall be maintained on the injection tubing to facilitate inspection and ensure compliance of maximum injection pressures as approved on Oil and Gas Form WR-37. A daily reading of the injection pressure shall be taken and reported on Form WR-40.
10. The Permittee shall maintain a record (manifest) of every load of fluid received. The record shall include the hauler's name and signature, the Operator's name and signature, API number for the well the fluid was collected, the location from where the load was obtained and the volume of the load and whether the load of fluid delivered was a split load. If the load was a split load, each Operator's name and location shall be listed and, if possible, the volumes of fluid received from each Operator documented. This information shall be maintained on the Class II disposal manifest attached to this permit and maintained at the facility.
11. All pipelines shall be tested for integrity at least once every five (5) years, or upon request by the Chief, or following a failure and repair with the results reported on WR-37 Form along with any and all pressure test recording graph and then submitted to the Office of Oil and Gas within five (5) days. The pipeline integrity test shall pressurize the injection pipeline(s) to one hundred (100) psi greater than the maximum permitted wellhead injection pressure for a minimum of twenty (20) minutes, allowing for no more than five (5%) percent loss after the test completion. The Permittee shall notify the Chief (County Inspector) of his or her intent to conduct an integrity test of the pipeline(s) no less than twenty-four (24) hours prior to such test. Upon failure of a mechanical integrity test or expiration of the five (5) year mechanical integrity test regulatory period, the Permittee shall cease injection operations and shut-in the well immediately until successfully tested with written approval on the WR-37 Form "Pre-Authorization Certification Form". Repairs shall be completed by the Permittee and approved by the Office of Oil and Gas. All repairs shall be completed within ninety (90) days of the failure date. If repaired, the well must be re-tested and an updated WR-37 Form must be submitted to the Office of Oil and Gas for approval. Any change made to the pipeline fittings or piping will require integrity testing.
12. The Permittee shall conduct a mechanical integrity test (see Attachment 3) of the injection well at a minimum frequency of once every five (5) years per Legislative Rule 35 CSR 4-7.7.b or upon request by the Chief. The Permittee shall notify the Chief (County Inspector) of his or her intent to conduct a mechanical integrity test no less than twenty-four (24) hours prior to such demonstration. The Permittee must submit the test results on the WR-37 Form with each mechanical integrity test along with the pressure test recording graph and then submitted to the Office of Oil and Gas within thirty (30) days. Upon failure of a mechanical integrity test or expiration of the five (5) year mechanical integrity test regulatory period, the Permittee shall cease operation/injection and shut-in the well immediately until successfully repaired, tested or permanently plugged and abandoned per regulation.

Corrective action for repairs shall be completed for approval by the Office of Oil and Gas and be conducted within ninety (90) days of the failure date. If repaired, the well must be re-tested and an updated WR-37 Form must be submitted to the Office of Oil and Gas for approval.

13. In addition to the above requirement, a mechanical integrity test demonstration shall be conducted whenever protective casing or tubing is removed from the well, the packer is replaced or resealed, if well failure is likely, or as requested by the Chief. The Permittee may continue operation only if he or she has successfully demonstrated to the Chief the mechanical integrity of the permitted well. The Permittee shall cease injection operations if a loss of mechanical integrity becomes evident or if mechanical integrity cannot be demonstrated. The Permittee must send a written notification to OOG within 24 hours if mechanical integrity of the well is lost. The notification must include a plan to address the failure within 90 days. The plan must either outline a repair and retest of the well or to plug the well within 90 days.
14. The Permittee shall utilize a pressure recording device with a resolution of one tenth (0.1) psi to continuously record the annulus pressure. Prior to injection the operator shall note the daily annulus pressure (daily baseline). Any deviation plus or minus 25 psi during injection of the daily baseline annulus pressure shall be considered a MIT failure.
15. Within sixty (60) days of the issuance date of this permit, UIC 2D04103175003, the injection fluid shall be sampled for all of the following required baseline parameters: TPH GRO, TPH DRO, TPH ORO, BTEX, pH, Aluminum, Arsenic, Barium, Calcium, Chloride, Detergents (MBAS), Iron, Manganese, Sodium, Sulfate, Total Dissolved Solids, Total Suspended Solids, Total Organic Carbon, Dissolved Methane, Dissolved Ethane, Dissolved Butane, Dissolved Propane, Bacteria (Total Coliform), Specific Gravity and Radiation (NORM). Upon receipt of the laboratory analysis data, a complete copy must be submitted to the Office of Oil and Gas for review.
16. The Permittee shall, at least monthly, monitor any production wells in the Area of Review with a lack of cement across the injection zone (Gordon and Fifth Sand at the depth interval of 2,326' – 2,504'). All monitoring records must be retained and presented if request is made. Should any communication result from fluid migration then the Permittee must immediately cease operations and shut-in the injection well and contact the Office of Oil and Gas.

C. REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance. The Permittee shall give advance notice to the Chief of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
2. Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under paragraphs Part I Section B, and Part II Section C Paragraph 3 of this permit, at the time monitoring reports are submitted. The report shall contain the information listed in Part I Section B of this permit. 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 this permit.
3. Planned Changes. The Permittee shall give notice to the Chief as soon as possible of any planned significant physical alterations, additions to the permitted facility, and/or any significant changes planned in the operation of the facility.
4. The Permittee shall provide written notification to the Chief prior to conversion or abandonment of the well or in the case of area permits before closure of the project, per Legislative Rule 47 CSR 13-13.6.e. Notice should be given at least thirty (30) days prior to any conversion, abandonment or alteration. Notice should also be given prior to the addition or reduction of wells within an area permit.
5. Cessation of Injection Activity. Any well which is not in use for a period of twelve (12) consecutive months shall be presumed to have been abandoned and shall promptly be plugged by the operator in accordance with the provisions in Chapter 22, Article 6 Section 24 of the West Virginia Code, unless the operator furnishes satisfactory proof to the Chief that there is a bona fide future use for such well. All lines shall be completely

drained of all fluids and the wellhead shut-in anytime injection operations cease for a period of greater than ninety (90) days. The Office of Oil and Gas must be contacted at least twenty-four (24) hours prior to the cessation shut-in process.

6. Report on Permit Review. Within thirty (30) days of receipt of this permit, the Permittee shall report to the Chief that he or she has read and understands and accepts all terms and conditions of the permit.
7. The owner or operator or person in charge of a facility subject to this rule from which a reportable discharge as described in subsection 3.3 of Legislative Rule 35 CSR 1 occurs shall notify the **Office of Oil and Gas by calling 1-800-642-3074** immediately; but in no case, later than twenty-four (24) hours after becoming aware of the discharge.

PART III

A. OPERATING REQUIREMENTS

1. The UIC Permit and all attachments must be kept on location at all times.
2. Injection Fluid. The Permittee shall not inject any hazardous substances, as defined by Code of Federal Regulations 40 CFR 261, or any other fluid, other than the Class II fluids produced solely in association with oil and gas production operations. This permit is for authorization of injection of only fluids as defined for Class II wells in Legislative Rule 47 CSR 13-4.2. The fluids to be injected shall only be from those sources listed in the permit application. Additional sources of fluids may be approved upon written request by the Permittee. However, Permittee's acceptance of additional sources of fluid(s) shall be deemed approved provided that such fluid(s) meet all Class II injection standards and the Permittee reports within five (5) business days the source, API number and formation(s) for the sources added during the previous week. Accepting any fluid that does not meet Class II injection standards is grounds for enforcement action and/or revocation of this permit.
3. The Permittee shall install and maintain a barrel counter, or other means of flow volume metering, on the injection line at the well head. These results are to be recorded and reported on the Form WR-40.
4. Injection between the outermost casing protecting underground sources of drinking water and the wellbore is prohibited, as is injection into any USDW.
5. Corrective Action. The applicant must satisfy the requirement of the Office of Oil and Gas regarding any Corrective Action needed on all known wells penetrating the confining layer(s) and/or the injection zone(s) within the area of review. This must be done in a manner which satisfies the requirements of Legislative Rule 47 CSR 13-13.9.
6. Cement Evaluation Analysis. After conducting a cement squeeze job in an open hole, or after any well cement repair for the well-constructed under this permit, the Permittee shall submit cementing records and cement evaluation logs that demonstrate the isolation of the injection interval(s). The analysis shall include a spherically-focused tool, run after the long-string casing is set and cemented, which enables the evaluation of the bond between cement and casing as well as of the bond between cement and formation. The Permittee may not commence or recommence injection until it has received written notice from the Office of Oil and Gas that such a demonstration is satisfactory.
7. Loading and unloading stations shall have spill prevention and control facilities and procedures as well as secondary containment. Spill containment and cleanup equipment shall be readily accessible.
8. The Permittee shall ensure that secondary containment for existing above ground storage tank(s) shall be adequately designed and constructed to be sufficiently impervious to prevent the released substance from penetrating the containment structure until the release can be detected and recovered, but in no case will that time be less than seventy-two (72) hours.

9. The aboveground storage tank(s) associated with this underground injection facility shall be in compliance with the requirements of W. Va. Code § 22-30 (The Aboveground Storage Tank Act) and WV Legislative Rules 47 CSR 63, 47 CSR 64 and 47 CSR 65.
10. Above ground tanks connected in series by manifold shall utilize a system where valves are closed and locked to isolate tanks when their combined volume exceeds the secondary containment capacity. At no point in time shall the combined volume be accessible through the manifold system exceed the capacity of the secondary containment without someone being on site to monitor.
11. Pumps and ancillary equipment (e.g. valves, flanges, filters, condensate lines and instrumentation) handling materials that have the potential to contaminate groundwater shall be selected and installed to prevent or contain any spills or leaks.
12. Sumps containing materials which have the potential to contaminate groundwater shall be designed, constructed, and operated utilizing leak detection or secondary containment, or other appropriate controls that are capable of preventing groundwater contamination.
13. Facility Security. The gate on the access road to the site shall be closed and locked at all times when there is not a company representative at the facility. All valves, water drains, containment areas storage areas shall be secured and locked utilizing locking devices and/or plugs. During the life of this permit all gates and access points shall be secured and locked while no representative is at the facility. All visitors must check in upon arriving at the facility.
14. All lines shall be completely drained of all fluids and the wellhead shut-in anytime injection operations cease for a period of greater than ninety (90) days. The Office of Oil and Gas must be contacted at least twenty-four (24) hours prior to the cessation shut-in process.

B. PLUGGING AND ABANDONMENT

1. Any well which is not in use for a period of twelve (12) consecutive months shall be presumed to have been abandoned and shall promptly be plugged by the operator in accordance with the provisions of Chapter 22, Article 6, of the West Virginia Code, unless the operator furnishes satisfactory proof to the Chief that there is a bona fide future use for such well.
2. Plugging and abandonment shall be conducted in a manner to prevent movement of fluids into or between USDWs (underground sources of drinking water).
3. Pursuant to Legislative Rule 47 CSR 13-13.7.f, the Permittee's plugging and abandonment plan shall be incorporated into the UIC permit. See Attachment 1.
4. Prior to well plugging, the Permittee shall apply for and receive a plugging permit from the Office of Oil and Gas to plug and abandon the well in accordance with an approved plugging and abandonment plan.

PART IV

A. SITE SPECIFIC CONDITIONS

1. Appendix A: Specific operational conditions
2. Appendix H: Groundwater Protection Plan (GPP) The GPP shall be maintained and updated as necessary to protect groundwater quality.

3. Appendix I: Requirement for Financial Responsibility to plug/abandoned an injection well
4. Attachment 1: Plugging and Abandonment Plan
5. Attachment 2: Site/Facility Diagram
6. Attachment 3: Mechanical Integrity Test procedure
7. Attachment 4: Manifest document

APPENDIX A Injection Well Form

1) GEOLOGIC TARGET FORMATION <u>Gordon and Fifth Sand</u>			
Depth	<u>2,326</u>	Feet (top)	<u>2,504</u> Feet (bottom)
2) Estimated Depth of Completed Well, (or actual depth of existing well): <u>2,633</u> Feet			
3) Approximate water strata depths: Fresh <u>less than 100'</u> Feet Salt <u>N/A</u> Feet			
4) Approximate coal seam depths: <u>32'-35', 105'-200'</u>			
5) Is coal being mined in the area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
6) Virgin reservoir pressure in target formation <u>1,100</u> psig Source <u>Field Estimates</u>			
7) Estimated reservoir fracture pressure <u>3,100 psi</u> psig (BHFP)			
8) MAXIMUM PROPOSED INJECTION OPERATIONS:			
Injection rate (bbl/hour)	<u>30</u>		
Injection volume (bbl/day)	<u>720</u>		
Injection pressure (psig)	<u>1200 psi per step rate test</u>		
Bottom hole pressure (psig)	<u>1861 psi</u>		
9) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES			
<u>Production water and/or brine</u>			
Temperature of injected fluid: (°F) <u>Ambient temperature</u>			
10) FILTERS (IF ANY) <u>50 micron sock, 25 micron and 10 micron cartridge</u>			
11) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL <u>None</u>			

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APPENDIX A (cont.)

12. Casing and Tubing Program

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
Conductor	11-3/4"	Used	LS	42	29'	29'	None
Fresh Water	8-5/8"	New	J-55	23	833'	833'	CTS
Coal							
Intermediate 1							
Intermediate 2							
Production	4-1/2"	New	J-55	10.5	2633'	2633'	To 1350'
Tubing	2-3/8"	New	J-55	6.4	2230'	2230'	N/A
Liners	sealtite						

TYPE	Wellbore Diameter	Casing Size	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./sk)	Cement to Surface ? (Y or N)
Conductor	15"	11-3/4"	0.333	1980 PSI			
Fresh Water	12 1/4"	8-5/8"	0.312	2270 PSI			Y
Coal							
Intermediate 1							
Intermediate 2							
Production	6 1/4"	4 1/2"	0.224	4790 PSI			
Tubing	N/A	2 3/8"	0.190	7700 PSI	N/A	N/A	N/A
Liners							

PACKERS	Packer #1	Packer #2	Packer #3	Packer #4
Kind:	Haliburton BAKER R-3			
Sizes:	2-3/8" x 4-1/2"			
Depths Set:	2406 2230'			

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APPENDIX H

GROUNDWATER PROTECTION PLAN

Facility Name: Law SWS SWD 1

County: Lewis

Facility Location:

Postal Service Address:		
Latitude and Longitude:	4,322,755	536,172

Contact Information:

Person:	Jamie Andrews
Phone Number:	304-203-7555
E-mail Address:	jandrews@mountainvoilandgas.com

Date: August 15, 2016

1. A list of all operations that may contaminate the groundwater.

1. Storage of produced formation brine.
2. Injection of produced formation brine.

2. A description of procedures and facilities used to protect groundwater quality from the list of potential contaminant sources above.

1. All storage facilities have secondary containment.
2. Injected fluids are confined to the tubing in the injection well by utilizing an isolation packer. The annulus pressure is continuously monitored to check for leaks.

3. List procedures to be used when designing and adding new equipment or operations.

No new equipment or operations will be added to this facility.

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4. Summarize all activities at your facility that are already regulated for groundwater protection.

None

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

See attached map and water analysis results. Section 7.4.

6. Provide a statement that no waste material will be used for deicing or fill material on the property unless allowed by another rule.

No waste material will be used for deicing or fill material at the facility, unless allowed by some other regulation or permit.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

1. Employees are trained in secondary containment construction, maintenance, and monitoring.
2. Employees are trained in leak detection.
3. Employees are trained in spill prevention and counter measure procedures.

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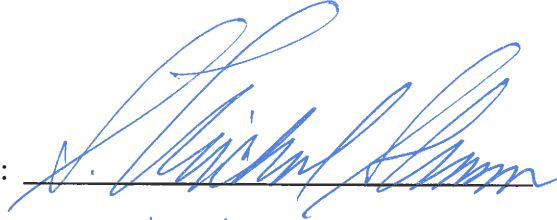
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8. Include provisions for inspections of all GPP elements and equipment. Inspections must be made quarterly at a minimum.

1. Secondary containment is inspected monthly.
2. Tubing / casing annulus pressure is monitored continuously.
3. Piping and fitting are inspected monthly for leaks.

Signature: _____



Date: _____

3/22/17

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APPENDIX I

Requirement for Financial Responsibility to Plug/Abandon an Injection Well

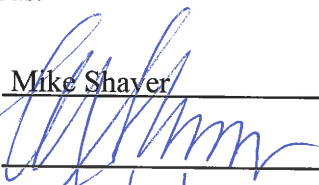
To: WV Department of Environmental Protection
Office of Oil and Gas
601 57th Street, SE
Charleston, West Virginia 25304-2345
ATTN: Underground Injection Control Program

From: Lewis Camden, LLC
PO Box 470
Bridgeport, WV 26330

Date: 9/28/16

Subject: Underground Injection Control (UIC) Permit Application
2D0413175
Requirement for Financial Responsibility

I, Mike Shaver, verify in accordance with 47CSR13-13.7.g., that I will maintain financial responsibility and resources to close, plug, and abandon underground injection wells(s) in a manner prescribed by the Chief of the Office of Oil and Gas.

Name: Mike Shaver
Signature: 
Date: 9/28/16

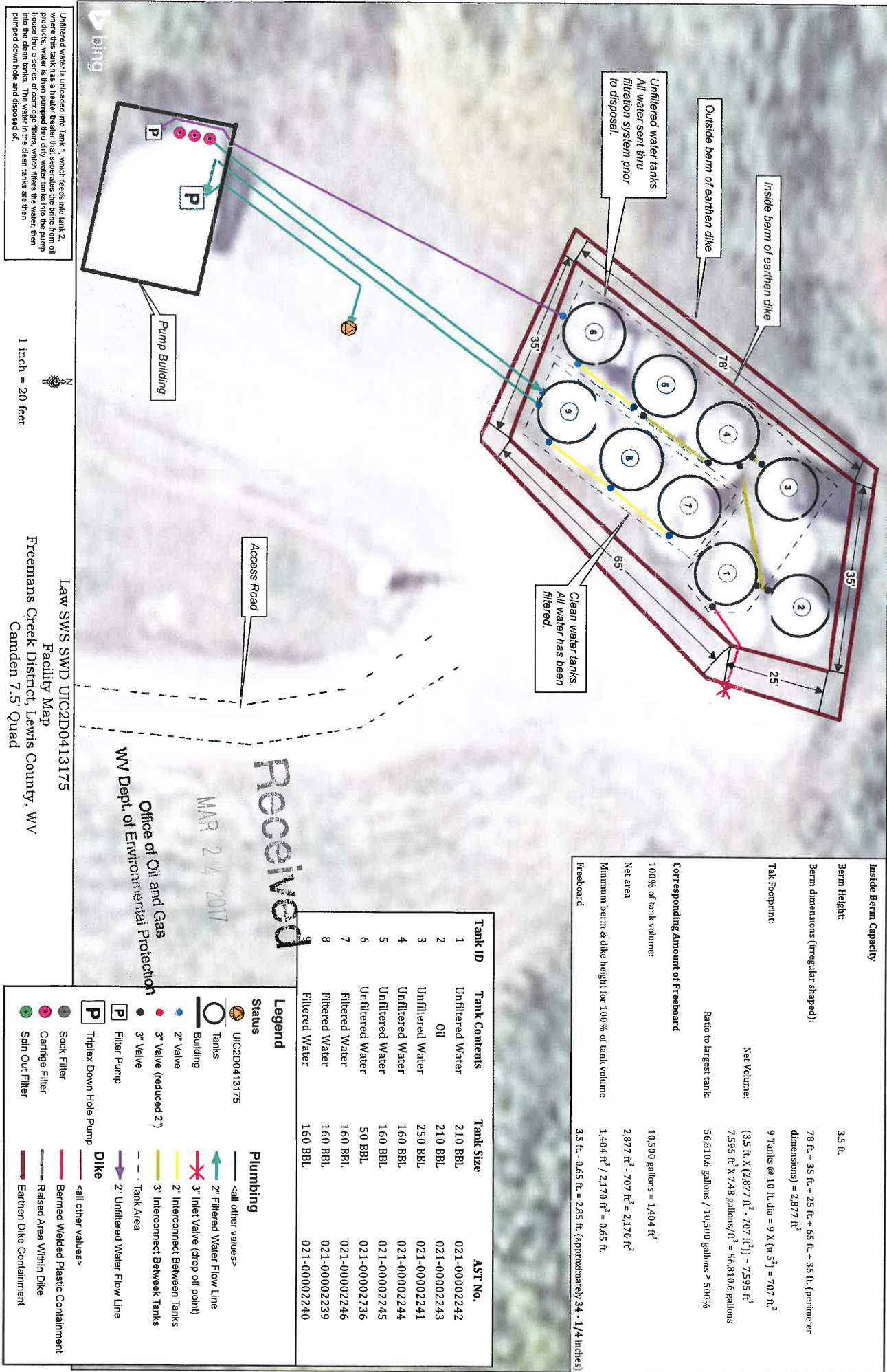
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Section 12 – Plugging and Abandonment:

1. A workover rig will pull the tubing and packer, then run tubing to PBTD and circulate 6% gel to surface.
2. As the tubing is pulled from the well, Class A cement plugs will be spotted at the following depths: 2560' to 2270', and 1900' to 1700'.
3. The 4-1/2" casing will be cut at approximately 1,325' and a 200' Class A cement plug will be spotted from 1,325' to 1,125' after the hole is circulated with 6% gel.
4. A portion of the casing will be pulled and a 200' Class A cement plug will be spotted from 933' to 733'.
5. Casing will be pulled up and a final Class A cement plug will be spotted from 400' to surface.
6. All 8-5/8" casing will remain in the well and a plugging monument will be installed.

Attachment 2



Attachment 3

Mechanical Integrity Test (MIT) Procedure

The Permittee shall utilize a pressure recording device to continuously record the injection pressure.

The 2 3/8" X 4 1/2" annulus currently maintains a constant pressure greater than two hundred (200) psi. The Permittee shall utilize a pressure recording device with an accuracy of +/- 1% of span, to continuously record the annulus pressure during the MIT.

Upon connection of the recording devices, the Permittee shall establish a baseline of five (5) minutes to establish an annulus stability pressure. Once stabilized, the Permittee shall commence injection at a pressure not to exceed one thousand four hundred sixty five (1465) psi for a period of twenty (20) minutes. However, the mechanical integrity injection pressure shall be executed at a minimum 200 psi greater than the established annulus daily baseline pressure.

$$*(\text{annulus stability pressure} + 200 \text{ psi}) \leq \text{mechanical integrity injection pressure} < \text{maximum permitted injection pressure 1465 psi}^*$$

A deviation ± 25 psi of the annulus pressure shall constitute a MIT failure.

Step 1: Connect the pressure recording devices. (Accuracy of +/- 1% of span.)

Step 2: Document shut in pressure of both the injection pressure and annulus pressures. (5 minute stability)

Step 3: Commence injection at maximum permitted injection pressure (one thousand four hundred sixty five (1465) psi)

Step 4: Maintain maximum achievable injection pressure for a period of twenty (20) minutes.

Step 5: Shut in the injection tubing for at least fifteen (15) minutes. (Continue to record the pressure fall off)

Class II Manifest

VIC #

***I hereby certify that the contents of this shipment are Class II fluids that were brought to the surface in connection with oil or natural gas production.**

[illegible]

Make as many copies of the document as necessary to comply with the UIC permit. Page numbers should be maintained sequentially to provide an adequate record.

RIGHT OF APPEAL

Notice is hereby given of your right to appeal the terms and conditions of this permit of which you are aggrieved to the Environmental Quality Board by filing a NOTICE OF APPEAL, on the form prescribed by such Board for this purpose, in accordance with the provisions of Section 21, Article 11, Chapter 22 of the Code of West Virginia within thirty (30) days after the date of receipt of this permit.

Underground Injection Control Permit

CERTIFICATION DOCUMENT

West Virginia Department of Environmental Protection Office of Oil and Gas

Permit Id: 2D04103175003

Permit Name: Lewis Camden, LLC

In accordance with Part II, Reporting and Notification Requirements, I hereby certify that I have read and am personally familiar with all the terms and conditions of this permit.

I understand that the underground injection of any waste streams other than those provided for in this permit is strictly prohibited. I understand that failure to pay the Annual Permit Fee or any other associated fees required by West Virginia Code, Chapter 22, Articles 11 and 12 shall be cause for revocation of this Permit. I further understand that reporting is required, and noncompliance with the terms of this permit will be cause for revocation of the permit and subject me to significant penalties including the possibility of fines and imprisonment.

Signature

Name and Title (Type or Print)

Date