

DRAFT

UNDERGROUND INJECTION CONTROL PERMIT

For

ARP Mountaineer Production, LLC

Permit Number 2D10902032002

Issued Date: DRAFT

Expiration Date:

**AUTHORIZATION TO OPERATE AN
UNDERGROUND INJECTION CONTROL
(UIC) CLASS II INJECTION WELL
PERMIT NUMBER # UIC 2D09703737002**

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, Series 55, Series 58, and Title 35 Series 1 and Series 4.

ISSUE DATE: DRAFT

EXPIRATION DATE:

PERMITTEE / OPERATOR

NAME **ARP Mountaineer Production, LLC**
ADDRESS 261 Steelsburg Highway
ADDRESS Cedarbluff, VA 24605

Non-Commercial
Facility Type Waste Disposal
WELL API # 47-109-02032
WELL NAME Gilbert-Plumley A-55

is authorized by this permit 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 a hazardous waste at the time of injection into the **Berea Sandstone** in accordance with the conditions set forth herein. The permitted injection depth shall be **4017** feet to **4079** feet. The injection well is located in **Huff Creek** District, **Wyoming** County, **Baileysville** 7.5' Quadrangle. The coordinates for this injection well are: UTM NAD 83 Northing **4151587.3** and Easting **437892.4** (meters) Latitude **37.50914**, Longitude **-81.702735**.

The maximum permitted wellhead injection pressure is established as **1100** psi.

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 disposal well is twenty-five dollars (\$25). 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 have been paid in full. Failure to pay the annual groundwater fee of seventy-five dollars (\$75) for Class IID as required by the West Virginia Code, Chapter 22, Article 11 and/or Article 12, shall be cause for revocation of this permit. The annual permit fee is due and shall be paid on the anniversary date of permit issuance.

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, along with application fee payment, 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 issuance of this 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 a breach of another applicable legal duty.

E. PERMIT ACTIONS

1. **Permit Status Change.** This permit can be modified, revoked and reissued or terminated for cause specified in Chapter 22, Article 11 (hereafter WV Code §22-11), and Chapter 22, Article 12 (hereafter WV 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 (WV 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 Website 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 and obtain a new permit as required in Part I section A of this permit at least one hundred and eighty (180) days before this permit expires.
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 operating 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 WV Code §22-11 and WV 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 the 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 Federal, 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 under Part II Section B of 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. **Prohibited Activity.** 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 allowed to flow onto or under the land surface or in such a manner that could impact surface or 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 Chief may require the Owner or Operator to deliver the records to the Chief at the conclusion of the retention period.

B. MONITORING REQUIREMENTS

1. **Sampling and Measurement.** 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 Code of Federal Regulations 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 obtaining representative samples of injection fluids; and
 - b. Devices to continuously measure and record injection pressure, flow rates, injection and production volumes.

- c. Pressure gauges shall be of a design that provides a full pressure range of at least fifty (50) percent (%) greater than the anticipated operating pressure; and a certified deviation accuracy of five (5) percent (%) or less throughout the operating pressure range.
 - d. 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. **Wellhead Pressure Gauge.** A wellhead pressure gauge shall be installed and maintained on the injection tubing to facilitate inspection and ensure compliance of the 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.
 4. **Daily Monitoring.** The Permittee shall daily monitor 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 packer, injection zone or casing. The Permittee shall also monitor the daily maximum injection pressure, volume, and rate daily. This information shall be reported monthly using the Office of Oil and Gas electronic WR-40 Form. Submittal shall be through the current WVDEP Electronic Submittal System (ESS): <https://apps.dep.wv.gov/eplogin.cfm> .
 5. **Monitoring Records.** 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) analysis(es) were performed;
 - d. Individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
 6. **Injection Well Mechanical Integrity Testing (MIT).** The Permittee shall conduct a mechanical integrity test of the injection well at a minimum frequency of once every five (5) years per Legislative Rule 35 CSR 4-7.7.b. The Permittee shall notify the Chief 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 a WR-37 Form to the Office of Oil and Gas within thirty (30) days of each mechanical integrity test conducted. When a pressure test is conducted, the Permittee must submit a pressure recording graph/chart as an attachment to the WR-37 Form. The pressure requirement of a mechanical integrity test on a well is a pressure of at least 150% or 1.5 times the maximum injection pressure. The pressure must be held for a period of at least 20 minutes with no more than 5% pressure loss to be approved for injection operations. 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. Each mechanical integrity test failure must be documented on the WR-37 Form and submitted with any pressure recording graph/chart. 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 with any pressure recording graph/chart must be submitted to the Office of Oil and Gas for approval.

7. **Pipeline Mechanical Integrity Testing (MIT).** All pipeline(s) from the injection pump to the injection well shall be tested for integrity at least once every five (5) years with the results reported on the WR-37 Form along with the pressure test recording graph/chart and then submitted to the Office of Oil and Gas within thirty (30) days. The pipeline integrity test shall pressurize the injection pipeline(s) to 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 completion. The Permittee shall notify the Chief 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 operation/injection and shut-in the well immediately until successfully repaired, replaced and then tested. Repairs shall be completed by the Permittee and approved by the Office of Oil and Gas prior to resuming operations. All repairs shall be completed within ninety (90) days of the failure date. If repaired, the line must be re-tested and an updated WR-37 Form with pressure recording graph/chart must be submitted to the Office of Oil and Gas for approval. Any change made to the pipeline fittings or piping will require integrity pressure testing. All Office of Oil and Gas forms, including the WR-37 form can be found on the Office of Oil and Gas webpage: <http://www.dep.wv.gov/oil-and-gas/GI/Forms/Pages/default.aspx> .
8. **Additional MIT Requirements.** 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 a 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 WVDEP Office of Oil and Gas 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.
9. **Environmental Measurements.** 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> .
10. **Authorized Injection Fluids.** 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.
11. **Manifest Records.** 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.

12. **Injectate Samples.** The Permittee shall sample, analyze and record the nature of all the injected fluid for the parameters listed in TABLE 1 below from sources at least twice per year, or upon request of the Chief, or whenever the operator observes or anticipates a change in the injection fluid to yield representative data on their physical, chemical, or other relevant characteristics. New facilities shall submit a representative sample prior to the initiation of injection operations. 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 and test results shall be submitted to the Office of Oil and Gas with complete laboratory analysis data sheets (report). 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.

TABLE 1

Chloride	TPH-GRO
Bromide	TPH-DRO
Strontium	TPH-ORO
Barium	Benzene (B)
Iron	Ethylbenzene (E)
Manganese	Toluene (T)
Aluminum	Total Xylenes (X)
Arsenic	Total Dissolved Solids (TDS)
Sodium	Total Organic Carbon (TOC)
Calcium	Total Suspended Solids (TSS)
Sulfate	Radium-226 and Radium 228
Specific Gravity	Gross Alpha and Gross Beta
pH	

13. **Stream Samples.** Within thirty (30) days of the permit issuance date, the Permittee shall designate stream monitoring points along Huff Creek adjacent to the facility. These monitoring points, one upstream and one downstream of the injection well location shall be sampled and analyzed for the parameters listed in TABLE 2 below within thirty (30) days of the permit issuance date. The sampling shall continue on a nine (9) month schedule. The results will be reported to the WVDEP Office of Oil and Gas, accompanied by a map identifying the sampling points and corresponding coordinates.

TABLE 2

Chloride	TPH-GRO
Bromide	TPH-DRO
Strontium	TPH-ORO
Barium	Benzene (B)
Iron	Ethylbenzene (E)
Manganese	Toluene (T)
Aluminum	Total Xylenes (X)
Arsenic	Total Dissolved Solids (TDS)
Sodium	Total Organic Carbon (TOC)
Calcium	Total Suspended Solids (TSS)
Sulfate	pH

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 physical alterations, additions to the permitted facility, and/or any changes planned in the operation of the facility.
4. **Conversion and Abandonment Notification.** The Operator shall provide written notification to the Chief prior to conversion or abandonment of the well or in the case of area/enhanced recovery 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 shall also be given prior to the addition, reduction or conversion of wells within an area/enhanced recovery 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 WVDEP-Office of Oil and Gas must be contacted at least twenty-four (24) hours prior to the cessation shut-in process.
6. **Certification of 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. The Certification Document is included as an attachment of this permit, and must be signed, dated and submitted to WVDEP-Office of Oil and Gas.
7. **Duty of Owner/Operator to Report Discharges.** 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. **Permit Documents On-Site.** The UIC Permit and all attachments must be kept on location at all times.
2. **Required Barrel Counter.** The Permittee shall install and maintain a barrel counter, or other means of flow volume metering, on the injection line. The results are to be recorded and reported on the WR-40.
3. **Annulus Injection Prohibited.** Injection between the outermost casing protecting underground sources of drinking water and the wellbore is prohibited, as is injection into any USDW.
4. **Duty to Monitor or Plug Non-Cemented Wells That Penetrates the Injection Zone Within the AOR.** Any well that penetrates the injection zone with an inactive and/or abandoned status within the permitted Area of Review (AOR), that does not have cement casing through the injection zone, shall be monitored immediately by a method approved by the WVDEP-Office of Oil and Gas, as well as properly plug and abandon such wells, as necessary.
5. **Corrective Action.** The applicant must satisfy the requirements of the Office of Oil and Gas regarding any corrective action needed on all known wells penetrating the injection zone within the permitted 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/Unloading stations.** 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. **Above Ground Storage Tanks.**
 - a. 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, shall that time be less than seventy-two (72) hours. The secondary containment structure shall have capacity to contain 110% volume of the largest tank. If tank batteries or tanks are connected in series by manifold, the combined volume of the tanks must be considered if the tanks are capable of simultaneous release. The combined capacity of the tanks connected by manifold shall be considered unless the tanks are operated in a manner that prevents fluids from flowing from one tank to another under any conditions.
 - b. Above ground tanks connected in series by a 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 time, shall the combined volume of the tanks be accessible through the manifold system exceed the capacity of the secondary containment without someone being on site to monitor.

- c. All above ground storage tanks within the floodplain, as defined by the Federal Emergency Management Agency "FEMA" 100-year floodplain map, shall be anchored significantly enough to prevent movement in the case of a high-water flood event. The Permittee should contact the contact the county floodplain manager to confirm the floodplain status of the tank(s) location(s).
9. **Wellhead Reinforcement.** All wellheads shall be reinforced or otherwise armored to protect against accidental collisions, if so positioned where collision could be possible.
10. **Pumps and Ancillary Equipment.** 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.
11. **Sumps.** Sumps containing materials which have the potential to contaminate groundwater shall be designed, constructed and operated utilizing secondary containment, or other appropriate controls that can prevent groundwater contamination.
12. **Facility Security.** All valves, water drains, containment areas, and storage areas shall be secured and locked utilizing locking devices and/or plugs. All gates and access points shall be secured and locked while no representative is at the facility.
13. **Duty to Drain Injection Pipelines.** 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 WVDEP-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 / Well Construction.
2. Appendix H: Groundwater Protection Plan (GPP).
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: Manifest Document.
7. Right of Appeal
8. UIC Certification of Review

DRAFT

 <p>WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS 601 57th Street, SE Charleston, WV 25304 (304) 926-0450 www.dep.wv.gov/oil-and-gas</p>	<p>UNDERGROUND INJECTION CONTROL <i>(UIC)</i> PERMIT APPLICATION</p>
UIC PERMIT ID # <u>UIC2D10902032</u> API # <u>47-109-02032</u> WELL # <u>Gilbert-Plumley A-55</u>	

Section 1. Facility Information

Facility Name: Gilbert-Plumley A-55 (Lasher)		
Address: 4191 Pad Fork Road		
City: Hanover	State: WV	Zip: 24839
County: Wyoming	District: Huff Creek	Quad: Baileysville
Location description: Pad Fork of Little Huff Creek, near Hanover, WV.		
Location of well(s) or approximate center of field/project in UTM NAD 83 (meters):		Lat. 37.50914
Northing: 4151587.3	Easting: 437892.4	Long. -81.702735
Environmental Contact Information:		
Name: Rocky Stilwell	Title: HSE Specialist Senior	
Phone: 276-455-1773	Email: rstilwell@atlasenergy.com	

Section 2. Operator Information

Operator Name: ARP Mountaineer Production, LLC	RECEIVED Office of Oil and Gas DEC 11 2017 WV Department of Environmental Protection
Operator ID: 494509804	
Address: 2615 Steelsburg Highway	
City: Cedar Bluff	State: VA Zip: 24609
County: Tazewell	
Contact Name: Rocky Stilwell	Contact Title: HSE Specialist Senior
Contact Phone: 276-963-2979, X 241	Contact Email: rstilwell@atlasenergy.com



Section 3. Applicant Information

Ownership Status: PRIVATE PUBLIC FEDERAL STATE
 OTHER (explain):

SIC code: 1311 (2D, 2H, 2R) 1479 (3S) OTHER (explain):

Section 4. Applicant / Activity Request and Type:

- A. Apply for a new UIC Permit: 2D 2H 2R 3S
B. Reissue existing UIC Permit: 2D 2H 2R 3S
C. Modify existing UIC Permit: 2D 2H 2R 3S
(Submit only documentation pertaining to the modification request)
2D COMMERCIAL FACILITY: YES NO

Section 5. Briefly describe the nature of business and the activities to be conducted:

ARP Mountaineer Production, LLC is an oil and natural gas facility that produces natural gas and coal bed methane from wells owned and operated by ARP Mountaineer Production, LLC in Virginia and West Virginia. The Gilbert-Plumley A-55 well been a UIC well for the injection of Class II fluids since 2003. Class II fluids are trucked to the facility in 80 bbl trucks and are unloaded into a 250 bbl AST along with 6 additional 210 bbl ASTS for settling and filtration. All ASTs are registered with the WVDEP AST Program and are located in a concrete secondary containment system capable of holding >110% of the facility capacity. After settling, the Class II liquids are filtered through cartridge and 0.50 micron bag filters prior to being injected to disposal well API 47-109-02032. The facility and injection pressures are monitored continuously through ARP Mountaineer Production, LLC security and SCADA system.

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Section 3. Applicant Information

Ownership Status: PRIVATE PUBLIC FEDERAL STATE
 OTHER (explain):

SIC code: 1311 (2D, 2H, 2R) 1479 (3S) OTHER (explain):

Section 4. Applicant / Activity Request and Type:

- A. Apply for a new UIC Permit: 2D 2H 2R 3S
B. Reissue existing UIC Permit: 2D 2H 2R 3S
C. Modify existing UIC Permit: 2D 2H 2R 3S
(Submit only documentation pertaining to the modification request)
2D COMMERCIAL FACILITY: YES NO

Section 5. Briefly describe the nature of business and the activities to be conducted:

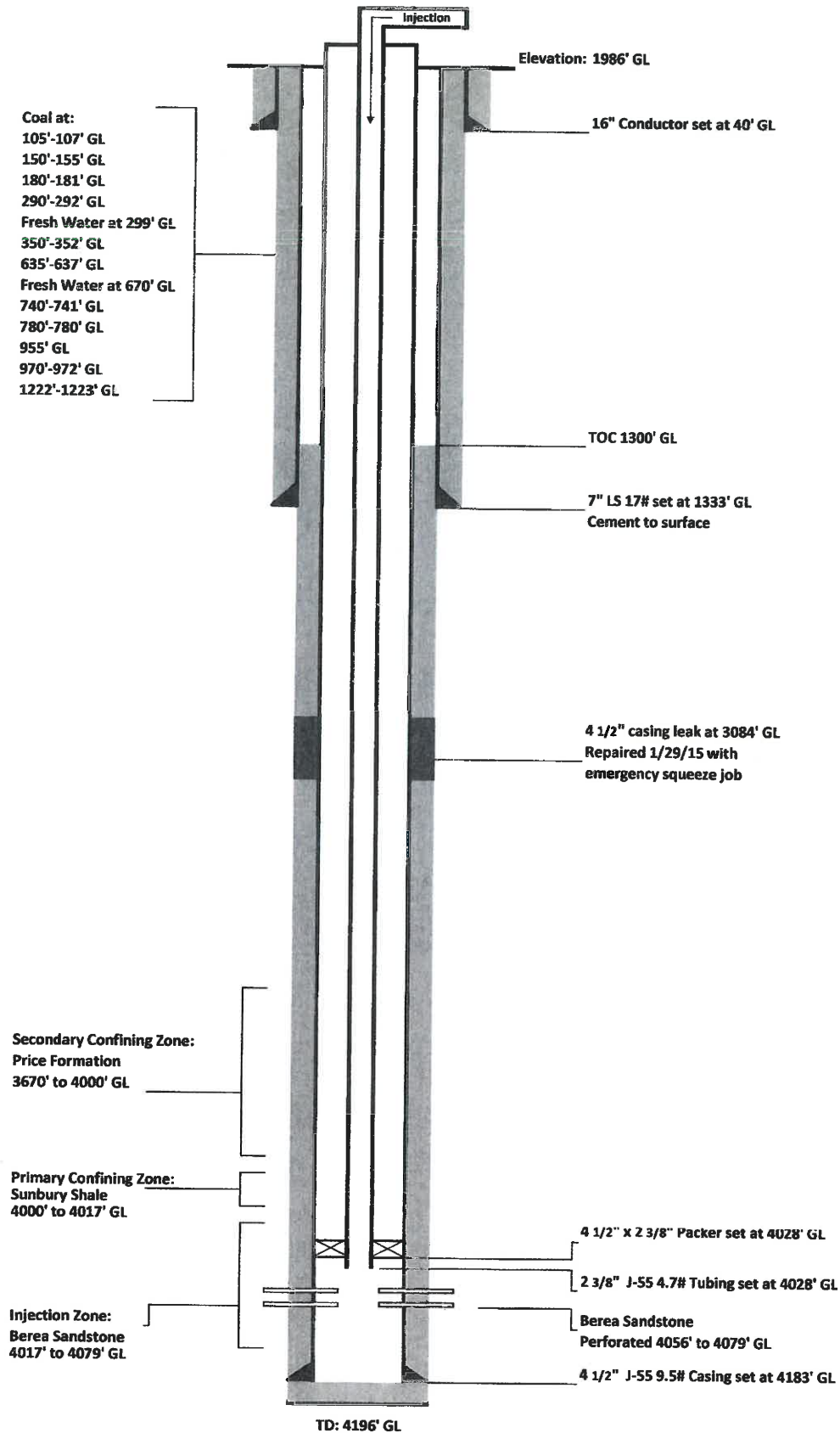
ARP Mountaineer Production, LLC is an oil and natural gas facility that produces natural gas and coal bed methane from wells owned and operated by ARP Mountaineer Production, LLC in Virginia and West Virginia. The Gilbert-Plumley A-55 well been a UIC well for the injection of Class II fluids since 2003. Class II fluids are trucked to the facility in 80 bbl trucks and are unloaded into a 250 bbl AST along with 6 additional 210 bbl ASTS for settling and filtration. All ASTs are registered with the WVDEP AST Program and are located in a concrete secondary containment system capable of holding >110% of the facility capacity. After settling, the Class II liquids are filtered through cartridge and 0.50 micron bag filters prior to being injected to disposal well API 47-109-02032. The facility and injection pressures are monitored continuously through ARP Mountaineer Production, LLC security and SCADA system.

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ARP Mountaineer Production, LLC
 Gilbert-Plumley A-55
 API 47-109-02032



APPENDIX A Injection Well Form

1) GEOLOGIC TARGET FORMATION Berea

Depth 4017 Feet (top) 4079 Feet (bottom)

2) Estimated Depth of Completed Well, (or actual depth of existing well): 4196 Feet

3) Approximate water strata depths: Fresh 299, 670 Feet Salt unk Feet

4) Approximate coal seam depths: 105-107', 150-155', 180-181', 290-292', 350-352', 635-637', 740-741', 780-781', 955-955', 970-972', 1222-1223'

5) Is coal being mined in the area? Yes No

6) Virgin reservoir pressure in target formation 900 psig Source Data from wells in the field

7) Estimated reservoir fracture pressure 3256 psig (BHFP)

8) MAXIMUM PROPOSED INJECTION OPERATIONS:

Injection rate (bbl/hour)	<u>85</u>
Injection volume (bbl/day)	<u>2040</u>
Injection pressure (psig)	<u>1100</u>
Bottom hole pressure (psig)	<u>3245</u>

9) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES:
Class II liquids.

Temperature of injected fluid: (°F) Varies with season

10) FILTERS (IF ANY)
Use combination of bag filters and cartridge filtration units in series.

11) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL
Coated Tubing Used, Nalco EC611BA (Biocide) and Clearwater international (scale inhibitor)

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State of West Virginia
Division of Environmental Protection
Section of Oil and Gas
Well Operator's Report of Well Work

Farm name: North American Timber Operator Well No.: Gilbert & Plumley A-55

LOCATION: Elevation: 1686' Quadrangle: Baileysville
District: Huff Creek County:
Latitude: 11,890 Feet South of 37 DEG. 32 MIN. 30 SEC.
Longitude: 10,520 Feet West of 81 DEG. 40 MIN. 0 SEC.

Company: Cabot Oil & Gas Corporation
900 Lee Street East, Suite 500
Charleston, WV 25301

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill up Cu. Ft.
16"		40'	
7"		1333'	260 sks

Agent: John Abshire
Inspector: Ofie Helmick
Permit Issued: 4/30/01
Well Work Commenced: 5/19/01
Well Work Completed: 5/25/01
Verbal Plugging
Permission granted on:
Rotary X Cable
Total Depth (feet) 4194'
Fresh Water Depths (ft)
Salt Water Depths (ft)
Is coal being mined in area (Y/N)? Y
Coal Depths (ft) 105'-107', 150'-151', 180'-181', 290'-292', 350'-352', 635'-637', 740'-741', 780'-781', 955'-957', 970'-972', 1222'-1223'

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OPEN FLOW DATA

Producing formation Pay zone depth (ft)
Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d
Final open flow MCF/d Final open flow Bbl/d
Time of open flow between initial and final tests Hours
Static rock pressure psig (surface pressure after Hours

Second producing formation Pay zone depth (ft)
Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d
Final open flow MCF/d Final open flow Bbl/d
Time of open flow between initial and final tests Hours
Static rock pressure psig (surface pressure after Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

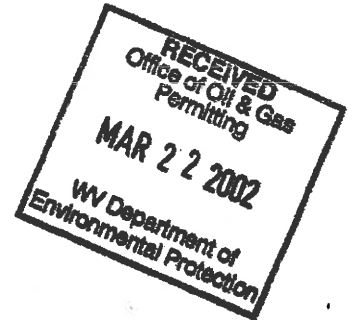
For: CABOT OIL & GAS CORPORATION MAR 22 2002

By: *Ray Rudnicki* Operations Manager
Date: 3-18-02

WYO 2032

WELL IS BEING EVALUATED FOR SALT WATER DISPOSAL.

FORMATION	TOP	BOTTOM	REMARKS
SILT/SHALE	0	1095	
SANDSTONE	1095	1700	
PRIDE SHALE	1700	1840	
SILT/SHALE	1840	1920	
RAVENCLIFF	1920	1960	
SHALE	1960	1990	
AVIS	1990	2035	
SILT/SHALE	2035	2403	
MAXTON	2403	2500	
SILT/SHALE	2500	2715	
MAXTON	2715	2758	
SHALE	2758	2815	
LITTLE LIME	2815	3020	
BIG LIME	3020	3385	
POCONO	3385	3670	
SHALE	3670	4017	
BEREA	4017	4080	
SHALE	4080	4194' TD	





1) Date: 03/29/2013
 2) Operator's Well No. Gilbert & Plumley A-55
 3) API Well No.: 47 - 189 - 02032
 State County Permit
 4) UIC Permit No. UICPD1062032

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

5) WELL TYPE: Liquid Injection / Gas Injection (not storage) / Waste Disposal
 6) LOCATION: Elevation: 1656 Watershed: Pea Fork of Little Huff Creek
 District: Huff Creek County: Wyoming Quadrangle: Raylevins
 7) WELL OPERATOR: GeoMet Operating Company, Inc 8) DESIGNATED AGENT: GT Corporation Systems
 Address: 5335 Stadium Trace Pkwy Ste. 206 Address: 797 Virginia Street East
Birmingham, Alabama 35244 Charleston, WV 25301
 9) OIL & GAS INSPECTOR TO BE NOTIFIED 10) DRILLING CONTRACTOR
 Name: Bary Steungs Name: Gasco Drilling
 Address: P.O. Box 1228 Address: Ratliff Drive
Chapmansville, WV 25508 Ph. 304-562-4194 Richlands, Va 24641

11) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate
 Plug off old formation / Perforate new formation / Convert
 Other physical change in well (specify): _____

12) GEOLOGIC TARGET FORMATION: Berea Depth: 4017 Feet (top) to 4900 Feet (bottom)

13) Estimated Depth of Completed Well, (or actual depth of existing well): 4392 Feet

14) Approximate water strata depths: Fresh 299,670 Feet Salt Unknown Feet

15) Approximate coal seam depths: 105-107, 150-155, 180-181, 290-292, 350-352, 635-637, 740-741, 780-781, 955-957, 970-972, 1222-1223

16) Is coal being mined in the area? Yes No

17) Virgin reservoir pressure in target formation 850 psig Source: Estimated from nearby wells

18) Estimated reservoir fracture pressure: 8256 psig (BHFP)

19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour _____ Bottom hole pressure 2930

20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES _____
(No change from original permit application)

21) FILTERS (IF ANY): 20 um and 10 um

22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL
No cathodic protection, coated tubing has been installed

23) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL - 1 P OR SACKS (CU FT.)	PACKERS
	Size	Grade	Weight per ft	New	Used	For Drilling	Left In Well		
Conductor	16"	L6	85.5	X					Kinds
Fresh Water									
Coal	7"	L5	37	X			1332	Surface	Sizes 2-3/8" & 4-1/2"
Intermediate									
Production	4-1/2"	J-55	9.5	X			4162.7	1304	Depths set 4916.7
Tubing	2-3/8"	J-55	4.7	X					
Liners									Perforations Top Bottom / 4058 / 4079

24) APPLICANT'S OPERATING RIGHTS were acquired from _____ Please refer to original application.
 by deed _____ / lease _____ / other contract _____ / dated _____
 _____ County Clerk's office in _____ Book _____ of record in the _____ Page _____

WR37

MECHANICAL INTEGRITY TEST

Test Method: 1/29/15 Rigged the pressure washer truck up to test the 4-1/2" casing annulus including the 2-3/8" tubing and packer. Pressured casing up to 1675 psig. The casing started losing pressure at an estimated rate of 40 psig a minute (did not communicate with tubing). Pressured the annulus back up and remained three more times. After three (3) tests about the same level of fluid (Elevated by 500 psi) but the well down and rigged up in morning and closed the bottom hole valve and disconnected the tubing from the packer and valve. Pulled the tubing out of the hole and went back in with a retrievable plug and packer combination. Moved the packer down to 3194' and set it and pressure tested from 3194' to the original (retrieval) packer at 4228'. Pressured up to 1700 psig with no leak. Set the retrievable plug at 3297' and then set the packer at 2966' and tested from 3000' to 3297'. Would not hold pressure. Tested above the packer from 3048' to 3194' and it held. Retrieved packer and spotted 207' of sand on the retrievable plug and ran the tubing down to the hole to 2985' spotted 7.8 bbl. of water into casing. 1.460 tubing and 1.1 cement and cement contained than 0.125 lb. per gal. set and the packer was subject to test. For the casing the casing pressure decreased to the nearest 100 psig. Three times with little leak off or movement and held at 1500 psig (excess pressure) in the cement set up for 3 days. Pull-out of line with tubing and anchor packer. Run with bit and scraper drilled the cement out of the casing ran tubing back in the hole and released the tubing using packer and a plug to the injection pump to 1770 psig on 1/29/15 and passed with no fluid off.

The undersigned certifies that the test was performed on 1/29/15, 2015 and demonstrated mechanical integrity of the well. The test was witnessed by Darryl Mullins representing the Office of Oil and Gas.

ARP Mountaineer Production, LLC
Well Operator

1/29/15
Date

THIS WELL IS AUTHORIZED FOR INJECTION.

Signed _____ LIC PROGRAM DIRECTOR
Date _____

[NOTE: That the mechanical integrity of this well must be demonstrated again within ninety (90) days of five years from this date in order for injection to continue. Please notify the state inspector 24 hours in advance of the test].

ARP Mountaineer Production, LLC
Well Operator
By: Rocky Sitwell
Its Regulatory Compliance Specialist

WP37

MECHANICAL INTEGRITY TEST

Test Method: 1/20/15 Ripped the pressure washer truck up to test the 4-1/2" casing strings including the 2-3/8" tubing and packer, pressured casing up to 1675 psig, the casing started leaking pressure at an estimated rate of 45 psig a minute (did not communicate with tubing), pressured the annulus back up and repeated three more times, when annulus had about the same level of rate (Emergency Control Systems) set the well down and rigged up a service rig and started the bottom hole valve and disengaged the tubing from the packer and valve, pulled the tubing out of the hole and went back in with a retrievable plug and packer combination, moved the packer down to 3198' and set it and pressured tested from 3198' to the original injection packer at 4028'; Pressured up to 1700 psig with no leak; set the retrievable plug at 3220' and then set the packer at 2983' and tested from 2983'-3220', would not hold pressure; tested above the packer from 2983'-3220' and it held; removed packer and spaced 20' of sand on the retrievable plug and ran the tubing back in the hole to 3083', pulled 1 1/2 hole and valve annulus around, pulled tubing out of annulus and retrieved the plug and the wire joints of another packer near surface to another well; removed the casing up below the packer to 1675 psig three times with little leak after movement and fell at 1675 psig (40000 pressure), set the cement block up for 3 days, pulled out of hole with tubing and another packer, RHT with bit and scraper, drilled 3/4" annulus out of the casing on tubing back in the hole and retested the tubing casing, packer and piping to the injection pump to 1710 psig on 1/29/15 and pressure with no leaked oil

The undersigned certifies that the test was performed on 1/29/15 at 20 and demonstrated mechanical integrity of the well. The test was witnessed by Danny Mullins representing the Office of Oil and Gas.

ARP Mountaineer Production, LLC. 1/29/15 Date
 Well Operator

THIS WELL IS AUTHORIZED FOR INJECTION.

APPENDIX H

GROUNDWATER PROTECTION PLAN

Facility Name: Gilbert-Plumley A-55

County: Wyoming

Facility Location:

Postal Service Address:	4191 Pad Fork Road		
Hanover, WV 24839			
Latitude :	37.704905	Longitude:	-81.421473

Contact Information:

Person:	Rocky Stilwell		
Phone Number:	276-455-1773		
E-mail Address:	rstilwell@atlasenergy.com		

Date: 11/15/2017

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

- Water trucks unloading Class II fluids
- Trucks (petroleum, glycols, road salt)

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

- Secondary containment and enclosure for all pumps and filtration units
- Secondary containment for all tanks.
- Use of concrete unloading bays with cameras.
- All bag filters located in secondary containment unit.
- Proper disposal of all solid waste (filtered/bag filters)

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

- Provide site security to prevent unauthorized entry.
- Use of real time security cameras and alarms.
- Design for secondary containment for all pipelines and storage tanks.
- Consult with WVDEP.



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

-AST Act
-This permit

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

See Section 7 of this report. Springs sampled annually, no groundwater monitoring wells within a mile of the site.

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

It is ARP Mountaineer Production, LLC operating policy that any and all wastes generated at this facility will be properly managed through applicable solid waste regulations. ARP Mountaineer Production, LLC currently maintains a 2 year blanket permit with the Raleigh County Solid Waste Authority.

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.

- ARP Mountaineer Production, LLC provides and conducts monthly environmental meetings for all employees. Contractor training is conducted at annually or more frequently as needed.
- UIC well is inspected daily while in operation. Cameras monitor the facility 24hours.
- All waste generated are placed in containers to prevent surface water or precipitation to affect surficial soils. All solid waste is stored in containers inside the building until disposed at a permitted facility
- Tank battery has overfill and spill alarms that prohibit overfills.
- All contract drivers and employees have understood and agreed to ARP Mountaineer Production, LLC's operational environmental policies.

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

- ARP Mountaineer Production, LLC employees and/or contractors are on-site daily. Any leaks are repaired immediately. Tank battery has overfill and spill alarms that prohibit unauthorized delivery.
- Injection pipeline is inspected daily and injection pressure is monitored in real time.

Signature: *Rachael*

Date: 11-29-2017

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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: APP Maintainer Production, LLC
2615 Steelsburg Highway
Cedar Bluff VA 24609

Date: 4-19-18

Subject: Underground Injection Control (UIC) Permit Application
UC2010902032
Requirement for Financial Responsibility

I, Christopher Walker, 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: Christopher Walker

Signature: 

Date: 4-19-18



Section 12 -Plugging and Abandonment (Amended 4/10/18)

After completion of injection fluids or in the event the well inspection data concludes that a well integrity issue may occur, the injection well will be plugged and abandoned in accordance with all applicable WVDEP regulations. Prior to abandonment, the small building on-top of the well head will be inspected for asbestos containing materials (ACM) and will be properly demolished per applicable regulations. The plan is to have the well in static condition, remove the 2 3/8" tubing and packer. Run a CBL to determine the top of cement and a production backoff point. Tubing will then be ran back into the hole with either a cement plug or bentonite gel balanced over all perforated intervals in the well spacing from 50 feet below the perforations to 50 feet above the perforations. If a bentonite gel is used to plug the perforated intervals, a cement plug will be used to further displace the bentonite gel. The 7" production casing shall then be backed off at free point and a 100 foot balanced cement plug shall be set at the backoff point and a 100 foot cement plug set to the surface. Upon completion of the well abandonment, the well head will be removed, cemented to surface and permanent abandonment monument will be erected. Finally, a completed WR-38 form will be submitted to the OOG within 30 days of well abandonment.



Envirocheck of Virginia, Inc.
 120 Lovejane Street
 Bluefield, VA 24605
 "Energy, Environmental Consulting"



ARP MOUNTAINEER PRODUCTIONS, LLC
 WYOMING COUNTY, WEST VIRGINIA
 WELL NO. UIC2D1092032

SITE MAP
 TANK BATTERY & CONTROL BUILDING

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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: 2D10902032002

Permit Name: ARP Mountaineer Production, 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