

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL & GAS**

GENERAL WATER POLLUTION CONTROL PERMIT

Permit Number: GP-WV-1-07

Subject: Permit for the Land Application of Water Produced from Coalbed Methane Wells

Issue Date: April 17, 2007

Effective Date: April 17, 2007

Expiration Date: April 16, 2009

To Whom It May Concern:

This is to certify that any oil and/or gas entity or other person agreeing to be regulated under the terms of this general permit ("the permittee") is hereby granted a Water Pollution Control Permit to acquire, construct, install, modify and operate a system or parts thereof for the discharge to land of treated or untreated water produced by coalbed methane wells.

This permit is subject to the following terms and conditions: (1) The information submitted on and with the site registration/application form and all plans, specifications and procedures submitted by or on behalf of the permittee, as if all such information were set forth herein; (2) the approval of such form, plans, specifications and procedures by the Office of Oil and Gas ("OOG"); and, (3) all requirements set forth in Sections A, B, C, D, E, F, and G of this permit.

Operators may apply for coverage under this general permit by submitting to the OOG a site registration application to the OOG containing the information required by the OOG. Upon approval of such registration by the OOG, the operator may begin discharging in accordance with this permit. The operator shall file any revised site registration/application form with the OOG and serve a copy of that revised form on the surface owner of record at least 15 days prior to actual discharge.

This permit shall be subject to renewal by the OOG, subsequent to public notice and comment. Such public notice and comment opportunity shall be announced at least three months prior to planned renewal.

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the term of this permit the permittee is authorized to discharge water produced from coalbed methane wells. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitation (Maximum Daily)	Measurement Frequency	Sample Type
Volume, gallons	Maximum Daily Site Specific As Approved	Daily	Calculated** or Measured
Iron (Dissolved) (mg/l)	1.5* (maximum 5)	Monthly	Grab
Chloride (mg/l)	250* (maximum 1000)	Monthly	Grab
pH, S U.	6 to 10	Monthly	Grab
Total Dissolved Solids (mg/l)	500* (monitor only)	Monthly	Grab
Aluminum (Dissolved) (mg/l)	0.75* (maximum 2.5)	Monthly	Grab
Sulfates (mg/l)	250*** (maximum 1000)	Monthly	Grab
Manganese (Dissolved) (mg/l)	1.0* (maximum 3.3)	Monthly	Grab
Mercury (Dissolved) (ug/l)	2.0	Monthly	Grab
Selenium (Dissolved) (mg/l)	0.05	Monthly	Grab
Total Petroleum Hydrocarbons (mg/l)	(monitor only)	Quarterly	Grab

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* This discharge limit may be exceeded up to the maximum concentration if the conditions relating to groundwater monitoring, found in, G.11. are met.

** Based on duration of pump operation and maximum pump capacity

*** See Condition G.6. Samples taken in compliance with the discharge monitoring requirements specified above shall be taken at the location specific in the site registration/application.

B. SCHEDULE OF COMPLIANCE

The permittee shall comply with all provisions for waste treatment and the predischage and discharge limitations and monitoring requirements specified in this permit from the effective date of the site registration approval.

C. MANAGEMENT CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Noncompliance constitutes a violation of West Virginia Code, Chapter, 22, Article 6, Section 7.

2. Duty to mitigate

The permittee shall take all reasonable steps to prevent any discharge in violation of this permit.

3. Permit Actions

Authority to operate under this permit may be modified, suspended, or revoked for cause. The filing of a request by the permittee for a change in its authorization, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

5. Signatory Requirements

All site registration applications, reports or information submitted to the Chief shall be signed and certified as follows:

(a) All permit applications shall be signed as follows:

- (1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

- (b) All reports required by permits, and all other information requested by the Chief, shall be signed by a person described in paragraph (a), or by a duly authorized representative of that person. A person is a duly authorized person only if:
 - (1) The authorization, in writing by a person described in paragraph (a) of this section, is submitted to the Chief.
 - (2) The authorization specifies either an individual or a position having responsibility for the over-all operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, a position of equivalent responsibility, or an individual or position having over-all responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).
- (c) If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (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 (a), (b) or (c) of this section shall make the following certification:

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

6. Transfers

This permit is not transferable, except upon approval by the Chief. The Chief may require modification or revocation and re-issuance of the permit to change the name of the permittee and may incorporate such other requirements as the Chief may deem necessary.

7. Duty to Provide Information

The permittee shall furnish to the Chief, within a specified time, any information which the Chief may request to determine whether cause exists for modifying, revoking and reissuing, suspending, or revoking this permit, or to determine compliance with this permit. The permittee shall also furnish to the Chief, upon

request, and within a specified time, copies of records required to be kept by this permit.

8. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a site registration/application form, or submitted incorrect information in a site registration/application form or in any report to the Chief, it shall promptly submit a revised site registration form or modified report, with an explanation of all revisions and modifications.

9. Inspection and Entry

The permittee shall allow the Chief, or an authorized representative, to:

- (a) Enter upon or through any premises in which an effluent source or activity is located, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy any records that must be kept under the conditions of this permit;
- (c) Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (d) Sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by West Virginia Code Chapter 22, Article 6, any streams in the area and ground water as well as any effluent which the permittee is required to sample.

10. Water Quality

No activities covered under this permit may cause a violation of surface or ground water quality standards.

11. Approval Identification

The site registration approval number shall be prominently displayed at the discharge location.

D. OPERATION AND MAINTENANCE

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. All sample analyses shall be performed by a State of West Virginia certified lab.

2. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass

- (a) (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility; and
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources, which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- (b) If required for essential maintenance to assure efficient operation, the permittee may allow a bypass which does not cause effluent limitations to be exceeded. Such bypass is not subject to the provisions of D.3.c. and D.3.d., below.
- (c) (1) If the permittee knows in advance of the need for a bypass, notice shall be submitted at least five days before the date of the bypass.
- (2) If the permittee does not know in advance of the need for a bypass, notice shall be submitted as required in F.2.b. of this permit.
- (d) Except as allowed under Section D.3.b above, a bypass is permitted only under the following conditions, and the Chief may take enforcement action against a permittee for the bypass unless:
 - (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. (This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.); and
 - (3) The permittee submitted notices as required under D.3.c. of this permit.
- (e) The Chief may approve an anticipated bypass, after considering its adverse effects, if the Chief determines that it will meet the three conditions listed in D.3.d. of this permit.

4. Upset

- (a) "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- (b) An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of D.4.c. are met. Determinations made during administrative review of claims that noncompliance was caused by upset, and made before initiation of any enforcement action for noncompliance, are not final administrative actions subject to judicial review.
- (c) A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence, that:
 - (1) An upset occurred;
 - (2) The specific causes(s) of the upset;
 - (3) The permitted facility was at the time being properly operated;
 - (4) The permittee submitted notice of the upset as required in F.2 of this permit; and
 - (5) The permittee complied with any measures required under C.2 of this permit.
- (d) In any enforcement proceedings, the permittee seeking to establish the occurrence of an upset, and has complied with D.4.C. above, has the burden of proof.

5. Removed Substances

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewater shall be disposed of in such a manner as to prevent any pollutant from such materials from violating water quality standards and in accordance with all other rules of the Department of Environmental Protection and the laws of the State of West Virginia. The applicant shall track all waste streams and keep records as to the disposition of all wastes generated as a result of any activity covered under this general permit. Such records shall be made available to the OOG upon request.

E. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All samples required to be analyzed under this permit, unless otherwise noted, shall be analyzed by a West Virginia Certified Laboratory.

2. Protection of standards

The permittee shall conduct surface and ground water sampling as directed by the OOG to assure discharges are not causing a violation of water quality standards.

3. Reporting

- (a) The permittee shall submit in electronic format, according to the format provided to the permittee following site registration, a fully completed Discharge Monitoring Reports (DMR) monthly.
- (b) The required discharge reports shall be postmarked no later than 30 days following the discharge sampling date and be addressed to:

Chief, Office of Oil and Gas
Attention: Discharge Monitoring Reports-CBM
West Virginia Division of Environmental Protection
601 57th Street
Charleston, West Virginia 25304

4. Test Procedures

Final samples shall be taken, preserved and analyzed in accordance with 40 C.F.R. Part 136 (as in effect at the time the samples are taken, preserved and analyzed as appropriate) unless other test procedures have been specified elsewhere in this permit. However, final samples may be analyzed for pH using field test kits. Analytical variability and inherent deficiencies in approved test methods and procedures may be raised by the permittee as a defense in an enforcement action, provided that the requirements of D.1 are met.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- (a) The date, exact place, and time of sampling or measurement;
- (b) The date(s) analyses were performed;
- (c) The individual(s) who performed the sampling or measurement;
- (d) The individual(s) who performed the analyses; if a commercial laboratory is used, the name and address of the laboratory;

- (e) The analytical techniques or methods used; and
- (f) The results of such analyses.

This information is not to be submitted to this agency unless requested, but is to be retained as required in D.6.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at any monitoring point specified in this permit more frequently than required by this permit, using approved test procedures or others as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated. Calculating for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

7. Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by the Chief at any time. Such records shall be made readily available for inspection by DEP upon request. Copies shall be provided to DEP upon request.

8. Definitions

- (a) "Daily discharge" means the discharge of a pollutant measured during a calendar day or within any specified period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.
- (b) "Maximum daily discharge limitation" means the highest allowable daily discharge.
- (c) "Grab Sample" is an individual sample collected in less than 15 minutes.
- (d) "Estimate" means to be based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters and batch discharge volumes.
- (e) "Land Application" means a discharge of effluent directly to the soil.

- (f) "TPH" means total petroleum hydrocarbons. For the purposes of this permit, the TPH analysis will be conducted in accordance with EPA Method 8015B (Oil-Range Organics, Diesel-Range Organics, and Gasoline-Range Organics).

F. OTHER REPORTING

1. Reporting Spills and Accidental Discharge

- (a) Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to Title 35, Series 1, Section 3, of the West Virginia Legislative Rules [C.S.R. 35-1-3].
- (b) The permittee should refer to the West Virginia DEP Emergency Response Spill Alert System for complying with Series 1, Section 3 of the rules as they pertain to the reporting of spills and accidental discharges.

2. Reporting Deadlines

- (a) The permittee shall orally report all upsets to the OOG at (304) – 926-0450 within one business day.
- (b) The permittee shall orally report any noncompliance that may endanger health or the environment immediately after becoming aware of the circumstances by using the DEP's designated spill alert telephone number (1-800-642-3074). The permittee shall also notify the OOG by telephone by the next business day.
- (c) A written submission shall be provided within five days of the time the permittee becomes aware of the noncompliance. The written submission shall contain a description of the noncompliance and its causes; the location and any affected water bodies; the period of noncompliance, including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- (d) The Chief may waive the written report on a case-by-case basis if the oral report has been received in accordance with the above.

3. Noncompliance

All instances of noncompliance which are not reported under the above paragraphs shall be reported at the time monitoring reports are submitted.


G. OTHER REQUIREMENTS

- 1. The discharge of treated or untreated wastewater into waters of the state is prohibited, except as allowed by this permit. No discharge shall flow or be allowed to flow directly to a surface water body that is not part of the treatment process itself.

2. Discharge shall not be conducted within 1000 feet of a domestic water supply.
3. The permittee shall comply with the plan submitted with the site registration/application and approved by the OOG for monitoring contaminant concentrations in soils. Should the permittee determine in the course of such monitoring that contamination of groundwater attributable to activities under this permit is occurring or is threatened to occur, the permittee shall immediately notify the OOG and cease all discharges pursuant to this permit. Should the permittee wish to resume discharge operations, the permittee shall submit a revised permit registration which modifies its land application methods to assure that the threatened contamination does not occur. Land application of produced water is defined as a discharge of effluent directly to the soil.
4. Each coalbed methane well covered by this permit shall be graphically displayed on the map accompanying the application for this permit.
5. No land application shall be made to cultivated garden plots regardless of season.
6. There shall be no discharge of floating solids, visible foam or free oil in other than trace amounts.
7. The discharged water shall be applied at a rate that, given the characteristics of the land, shall not cause ponding or erosion.
8. The discharged water shall be applied at a rate that does not cause an adverse impact on surface water quality.
9. No discharge of produced waters may occur within 25 feet of the down-gradient outer most boundary for the land application area described in the registration/application. No specific method must be followed for land application produced water under this permit so long as the method in the approved registration/application is followed and all other substantive requirements of this permit are satisfied.
10. No substances other than water removed from the wells and water treatment chemicals may be discharged. In addition, all storage facilities must meet the requirements of 35CSR1.7.
11. Each site registration form shall include a soil monitoring plan, and a vegetation study plan, which must be approved by the OOG. In the event an applicant wishes to exceed the discharge limitations identified in Section A., the applicant must provide for each site, a subsurface water monitoring plan. The subsurface water monitoring plan must be designed in a manner that shows that each discharge is protective of groundwater and that the discharge is not adversely affecting the groundwater. The maximum limits for those parameters listed in Section A can be found in section 8 of the Fact Sheet and Rationale Document. Following the commencement of land application of produced water, the permittee shall provide an updated status report, including monitoring results, of all such studies to the OOG every six months.

12. Nothing in this general permit shall be deemed in any way to create new, or enlarge existing rights of riparian owners or others. The issuance of this general permit does not convey any property rights of any sort, nor shall the issuance of this general permit give any presumptions of law or findings of fact inuring to or for the benefits of persons other than the State of West Virginia.
13. To be covered by this general permit, the operator of a facility or discharge site shall file a site registration/application form, with surface owner approval, along with a \$1500.00 filing fee with the Office of Oil and Gas. The operator shall be responsible for completing the site registration/application form and serving it on the surface owner of record for approval.
14. Conditions imposed by this permit should be protective of the environment. However, it is recognized that certain site specific circumstances may be such that the permit conditions will not be adequate. In such cases, the Chief may temporarily suspend the coverage of the general permit to said site and may require site-specific changes in the permit conditions to address such circumstances.
15. The activity authorized by this permit is to be constructed, installed, operated, used and maintained strictly in accordance with the terms and conditions of this permit, with any plans, specifications, and information submitted with the individual site registration/application form, with any plan of maintenance and method of operation submitted, and with any applicable rules and regulations promulgated by WVDEP. At any permitted facility only produced water from wells operated by the permittee shall be discharged.
16. The permittee must obtain prior approval from the Chief to perform any physical alterations or additions to the permitted facility, or to make any changes in the method of operating the facility and may be required to submit a revised site registration application and obtain surface owner consent.
17. Failure to comply with the terms and conditions of this permit and all relevant plans, specifications and information submitted shall constitute grounds for revocation or suspension of the registration and may result in the initiation of enforcement procedures set forth in Article 6, Chapter 22 of the Code of West Virginia.

This permit is issued in accordance with the provisions of Article 6, Chapter 22 of the Code of West Virginia and may be modified, suspended, or revoked in accordance with said Article 6.



James Martin, Chief
Office of Oil and Gas