

Wyoming Department of Environmental Quality
Water Quality Division
WYPDES Program

STATEMENT OF BASIS
RENEWAL

APPLICANT NAME: Pennaco Energy, Inc.

MAILING ADDRESS: 3601 Southern Drive
Gillette, WY 82718

FACILITY LOCATION: Hape 14 CBM Containment Facility, which is located in the NESW, SENW, NWNW, SWSE, and NENW of Section 14, in Township 56 North, Range 83 West in Sheridan County. The produced water will be discharged into 5 on-channel reservoirs (class 3B) located in unnamed ephemeral tributaries (class 3B) to Plum Creek (class 3B), which is tributary to Dutch Creek (class 3B), which is tributary to Prairie Dog Creek (class 2AB) which is tributary to the Tongue River (class 2AB). The CBM wells at this facility will discharge effluent originating from the Dietz 1, Dietz 3, Monarch, and Carney coal seams.

NUMBER: WY0051799

General Facility Description

This facility is a typical coal bed methane production facility in which groundwater is pumped from a coal bearing formation resulting in the release of methane from the coal bed. The permit authorizes the discharge to the surface of groundwater produced in this way provided the effluent quality is in compliance with effluent limits that are established by this permit. In developing effluent limits, all federal and state regulations and standards have been considered and the most stringent requirements incorporated into the permit. The *EPA Effluent Guidelines and Standards for Oil and Gas Extraction Point Source Category (Part 435, Subpart E)* predate the development of coal bed methane extraction technology; however the technology is similar enough to conventional gas extraction that, in the professional judgement of the WDEQ, this effluent limit guideline is appropriately applied to coal bed methane gas production. This permit does not cover activities associated with discharges of drilling fluids, acids, stimulation waters or other fluids derived from the drilling or completion of the wells.

The permittee has chosen option 2 of the coal bed methane permitting options. Under this permitting option, the produced water is immediately discharged to a class 2 or 3 receiving stream which is eventually tributary to a class 2AB perennial water of the state. Since the applicant has demonstrated that the reservoirs at this facility are capable of containing all of the CBM effluent from this project, in addition to the equivalent of a 100-year / 24-hour storm event, the permit will not require water quality protection for Prairie Dog Creek or the Tongue River. The permit does require the operator to prevent effluent from reaching the designated flow monitoring station (TRIB1) at all times except in the event of a 100-year 24-hour storm event or greater. The permit establishes effluent limits for the end of pipe, which are protective of all designated uses defined for class 3B waters in *Chapter 1 of Wyoming Water Quality Rules and Regulations*. This may include aquatic life other than fish, recreation, agriculture (livestock watering), wildlife, industry and scenic value.

Effluent Limits

Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. The permit requires that the pH must remain within 6.5 and 9.0 standard units. Effluent limits for total dissolved solids (5,000 mg/l), specific conductance (7500 micromhos/cm), and sulfates (3,000 mg/l) are included to protect for stock and wildlife watering. These limits are based upon *Wyoming Water Quality Rules and Regulations, Chapter 2* and apply to discharge from any permitted outfall.

In addition, the permit establishes a dissolved iron limit of 1000 µg/l, a chlorides limit of 230 mg/l a total arsenic limit of 150 µg/l, and a total selenium limit of 5 µg/l, which are based upon chronic aquatic life standards for class 3B waters, and reflects application of tier 1 anti-degradation protection outlined in the *Wyoming Surface Water Quality Standards Implementation Policies*.

Other Requirements

There shall be no discharge of floating solids or visible foam in other than trace amounts, nor shall the discharge cause formation of visible deposits of iron, hydrocarbons or any other constituent on the bottom or shoreline of the receiving water. In addition, erosion control measures will be implemented to prevent significant damage to or erosion of the receiving water channel at the point of discharge.

The permittee has submitted information to demonstrate that all produced effluent from this facility will be contained in the on-channel reservoirs at this site. The water budget for this facility confirms that these reservoirs will have sufficient capacity to contain all of the effluent from this facility as well as storm run-on from up to a 100-year / 24-hour event. This permit requires daily monitoring year-round on Dutch Creek below the on-channel reservoirs in order to determine if any effluent from this facility is reaching the established flow monitoring point (TRIB1). The established flow monitoring point is located below the receiving reservoirs as listed in Table 1 of the permit below. This permit prohibits discharge of effluent to location TRIB1 except in the event of a 100-year / 24-hour storm event or greater (equivalent to 3.8 inches of precipitation or greater occurring upstream of the reservoirs within a 24-hour period). If effluent from this facility does reach the flow monitoring location, verification of storm magnitude will be the responsibility of the permittee. Any effluent from this facility that reaches the established flow monitoring point (TRIB1), except as the direct result of a 100-year / 24-hour storm event or greater, will be considered a violation of this permit and must be corrected by the permittee immediately. This permit does not establish effluent limits that are protective of the downstream designated uses associated with Prairie Dog Creek or the Tongue River.

In order to monitor potential accumulation of pollutants within the receiving on-channel reservoirs, this permit (Part I.A.2.c) requires routine sampling, analysis, and reporting for the following constituents within the reservoirs themselves: total dissolved solids, specific conductance, dissolved iron, total arsenic, chlorides, and total selenium. Sampling for these constituents within the reservoir is to occur a minimum of 100 feet from the location where the CBM effluent enters the reservoir. The reservoir monitoring locations have been identified in Table 1 as "R1" through "R5". This monitoring requirement is intended to aid in the protection of the uses associated with the class 3B on-channel reservoirs (aquatic life other than fish, recreation, livestock watering, wildlife, industry and scenic value). If this monitoring of the effluent within the reservoirs reveals an exceedence of any applicable standards for class 3B waters, then this permit may be modified in order to protect all uses of the receiving water bodies.

The discharge of wastewater and the effluent limits that are established in this permit have been reviewed to ensure that the levels of water quality necessary to protect the designated uses of the receiving waters are

maintained and protected. An antidegradation review has been conducted and verifies that the permit conditions, including the effluent limitations established, provide a level of protection to the receiving water consistent with the antidegradation provisions of Wyoming surface water quality standards.

Self monitoring of effluent quality and quantity is required on a regular basis with reporting of results semiannually. The permit is scheduled to expire on December 31, 2007. This expiration date was determined through review of the watershed permitting schedule which the WDEQ is implementing in order to synchronize the permitting and expiration of facilities within the same watershed. This holistic approach will provide for more efficient permitting of point-source discharges.

Jason Thomas
Water Quality Division
Department of Environmental Quality
Renewal Drafted: October 3, 2005

AUTHORIZATION TO DISCHARGE UNDER THE
WYOMING POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, (hereinafter referred to as "the Act"), and the Wyoming Environmental Quality Act,

Pennaco Energy, Inc.

is authorized to discharge from the wastewater treatment facilities serving the

Hape 14 CBM Containment Facility,

which is located in the

NESW, SENW, NWNW, SWSE, and NENW of Section 14, in Township 56 North, Range 83 West in Sheridan County,


to receiving waters named

5 on-channel reservoirs (class 3B) located in unnamed ephemeral tributaries (class 3B) to Plum Creek (class 3B), which is tributary to Dutch Creek (class 3B), which is tributary to Prairie Dog Creek (class 2AB) which is tributary to the Tongue River (class 2AB),

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II and III hereof.

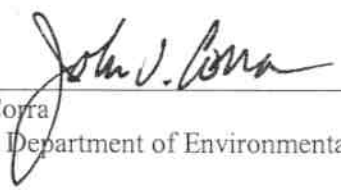
This permit renewal shall become effective on the date of signature by the Director of the Department of Environmental Quality.

This permit and the authorization to discharge shall expire December 31, 2007, at midnight.


John F. Wagner
Administrator - Water Quality

Date

11/22/05


John V. Corra
Director - Department of Environmental Quality

Date

11/29/05

PART IA. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through December 31, 2007, the quality of effluent discharged by the permittee shall, at a minimum, meet the limitations set forth below. The permittee is authorized to discharge from outfalls serial numbers 001 - 005.

1.a. Discharge from the outfall is limited as specified below:Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum Outfall</u>
Chlorides, mg/l	230
pH, standard units	6.5 – 9.0
Specific Conductance, micromohs/cm	7500
Sulfates, mg/l	3000
Total Arsenic, µg/l	150
Total Selenium, µg/l	5
Total Dissolved Solids, mg/l	5000
Dissolved Iron, µg/l	1000

The permit requires that the produced water being discharged from this facility originate in the Dietz 1, Dietz 3, Smith, Carney, and/or Monarch coal seams.

The pH shall not be less than 6.5 standard units nor greater than 9.0 standard units in any single grab sample.

This permit requires daily monitoring year-round on Dutch Creek below the on-channel reservoirs in order to determine if any effluent from this facility is reaching the established flow monitoring point (TRIB1). The established flow monitoring point is located below the receiving reservoirs as listed in Table 1 of the permit below. This permit prohibits discharge of effluent to location TRIB1 except in the event of a 100-year / 24-hour storm event or greater (equivalent to 3.8 inches of precipitation or greater occurring upstream of the reservoirs within a 24-hour period). If effluent from this facility does reach the flow monitoring location, verification of storm magnitude will be the responsibility of the permittee. Any effluent from this facility that reaches the established flow monitoring point (TRIB1), except as the direct result of a 100-year / 24-hour storm event or greater, will be considered a violation of this permit and must be corrected by the permittee immediately. This permit does not establish effluent limits that are protective of the downstream designated uses associated with Prairie Dog Creek or the Tongue River.

Information gathered from the reservoir monitoring station and/or flow monitoring station may result in modification of the permit to protect existing uses on the tributary and the mainstem.

There shall be no discharge of floating solids or visible foam in other than trace amounts, nor shall the discharge cause formation of a visible sheen or visible hydrocarbon deposits on the bottom or shoreline of the receiving water.

All waters shall be discharged in a manner to prevent erosion, scouring, or damage to stream banks, stream beds, ditches, or other waters of the state at the point of discharge. In addition, there shall be no deposition of substances in quantities which could result in significant aesthetic degradation, or degradation of habitat for aquatic life, plant life or wildlife; or which could adversely affect public water supplies or those intended for agricultural or industrial use.

2. Discharges shall be monitored by the permittee as specified below:

a. **Monitoring of the initial discharge**

Note: The initial monitoring requirements specified below will not apply to outfalls which have already been tested for these parameters under previous permit coverage.

Within 60 days of commencement of discharge, a sample shall be collected from each outfall and analyzed for all of the constituents specified below, at the required detection limits. Within 120 days of commencement of discharge, a summary report on the produced water must be submitted to the Wyoming Department of Environmental Quality and the U.S. EPA Region 8 at the addresses listed below. This summary report must include the results and detection limits for each of the constituents listed below. In addition, the report must include written notification of the established location of the discharge point (refer to Part I.B.11). This notification must include a confirmation that the location of the established discharge point(s) is within 1,510 feet of the location of the identified discharge point(s), is within the same drainage, and discharges to the same landowner's property as identified on the original application form. The legal description and location in decimal degrees of the established discharge point(s) must also be provided. After receiving the monitoring results for the initial discharge, the effluent limits and monitoring requirements established in this permit may be modified.

<u>Parameter*</u> (See notes following the table on chemical states)	<u>Required Detection Limits and Required Units</u>
Alkalinity, Total (mg/l)	1 mg/l as CaCO ₃
Aluminum, Total Recoverable (µg/l)	50 µg/l
Arsenic, Total (µg/l)	1 µg/l
Barium, Total (µg/l)	100 µg/l
Bicarbonate (mg/l)	10 mg/l
Cadmium, Dissolved (µg/l)	5 µg/l
Calcium, Dissolved	50 µg/l, report as me/l
Calcium, Dissolved	50 µg/l, report as mg/l
Chlorides (mg/l)	5 mg/l
Copper, Dissolved (µg/l)	10 µg/l
Dissolved Solids, Total (mg/l)	5 mg/l
Hardness, Total (mg/l)	10 mg/l as CaCO ₃

<u>Parameter*</u> (See notes following the table on chemical states)	<u>Required Detection Limits and Required Units</u>
Iron, Dissolved ($\mu\text{g/l}$)	50 $\mu\text{g/l}$
Lead, Dissolved ($\mu\text{g/l}$)	2 $\mu\text{g/l}$
Magnesium, Dissolved	100 $\mu\text{g/l}$, report as me/l
Magnesium, Dissolved	100 $\mu\text{g/l}$, report as mg/l
Manganese, Dissolved ($\mu\text{g/l}$)	50 $\mu\text{g/l}$
Mercury, Dissolved ($\mu\text{g/l}$)	1 $\mu\text{g/l}$
pH (s. u.)	to 0.1 pH unit
Radium 226, Total (pCi/l)	0.2 pCi/l
Selenium, Total Recoverable ($\mu\text{g/l}$)	5 $\mu\text{g/l}$
Sodium Adsorption Ratio (calculated as unadjusted ratio)	Calculated as unadjusted ratio
Sodium, Dissolved	100 $\mu\text{g/l}$, report as me/l
Sodium, Dissolved	100 $\mu\text{g/l}$, report as mg/l
Specific Conductance (micromhos/cm)	5 micromhos/cm
Sulfates (mg/l)	10 mg/l
Zinc, Dissolved ($\mu\text{g/l}$)	50 $\mu\text{g/l}$

TOTAL: Value is expressed in terms of total recoverable metal in the water column.

NOTE: Except for aquatic life values for metals and where otherwise indicated, the values given refer to the total recoverable (dissolved plus suspended) amount for each substance. For the aquatic life values for metals, the values refer to the dissolved amount.

DISSOLVED: Volume is based on the dissolved amount which is the amount that will pass through a 0.45 μm membrane filter prior to acidification to pH 1.5 - 2.0 with nitric acid.

Initial monitoring reports are to be sent to the following addresses:

Planning and Targeting Program, 8ENF-PT
Office of Enforcement, Compliance, and Environmental Justice
U.S. EPA Region 8
999 18th St., Suite 300
Denver, CO 80202-2466

and

Wyoming Department of Environmental Quality
Water Quality Division
Herschler Building, 4 West
122 West 25th Street
Cheyenne, WY 82002

b. Routine monitoring End of Pipe – (001 - 005)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. The first routine monitoring for the time frame during which

the monitoring of initial discharge occurs will, at a minimum, consist of flow measurements for the duration of the six-month monitoring time frame. Monitoring will be based on semi-annual time frames, from January through June, and from July through December.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Chloride (mg/l)	Annually	Grab
Dissolved Iron ($\mu\text{g/l}$)	Once Every Six Months	Grab
pH (standard units)	Once Every Six Months	Grab
Specific Conductance (micromohs/cm)	Once Every Six Months	Grab
Total Dissolved Solids	Once Every Six Months	Grab
Sulfate (mg/l)	Annually	Grab
Total Arsenic ($\mu\text{g/l}$)	Annually	Grab
Total Selenium ($\mu\text{g/l}$)	Annually	Grab
Total Flow – (MGD)	Monthly	Continuous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At the outfall of the final treatment unit which is located out of the natural drainage and prior to admixture with diluent waters.

c. Routine Monitoring Within Reservoirs (R1 – R5)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. Monitoring and reporting will be based on an annual time frame.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Total Dissolved Solids	Annually	Grab
Specific Conductance	Annually	Grab
Dissolved Iron	Annually	Grab
Dissolved Manganese	Annually	Grab
Total Arsenic	Annually	Grab
Chlorides	Annually	Grab
Total Selenium	Annually	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): designated reservoir monitoring stations located within the receiving reservoirs as described in Table 1 (R1 – R5). Reservoir monitoring locations are to be located a minimum of 100 feet away from the point where CBM effluent enters the reservoir. Reservoir sampling will only apply if the reservoir contains CBM effluent or has received CBM effluent in the past. Results are to be reported annually and if the reservoir has not yet received any CBM effluent from this facility, then “no discharge” is to be reported for the reservoir monitoring station in the discharge monitoring report.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and approval by, the permit issuing authority.

2. Reporting

Results of initial monitoring, including the date the discharge began, shall be summarized on a Monitoring Report Form for Monitoring of Initial Discharge and submitted to the state water pollution control agency at the address below postmarked no later than 120 days after the commencement of discharge.

Results of routine end of pipe, irrigation compliance point, and water quality station monitoring during the previous six (6) months shall be summarized and reported semiannually on a Discharge Monitoring Report Form (DMR). If the discharge is intermittent, the date the discharge began and ended must be included. The information submitted on the first semiannual DMR shall contain a summary of flow measurements and any additional monitoring conducted subsequent to the submittal of the initial monitoring report. When required, whole effluent toxicity (biomonitoring) results must be reported on the most recent version of *EPA Region VIII's Guidance for Whole Effluent Reporting*. Monitoring reports must be submitted to the state water pollution control agency at the following address postmarked no later than the 15th day of the second month following the completed reporting period. The first report is due on February 15, 2006.

Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements contained in Part II.A.11.

Wyoming Department of Environmental Quality
 Water Quality Division
 Herschler Building, 4 West
 122 West 25th Street
 Cheyenne, WY 82002
 Telephone: (307) 777-7781

If no discharge occurs during the reporting period, "no discharge" shall be reported. If discharge is intermittent during the reporting period, sampling shall be done while the facility is discharging.

3. Definitions

- a. The "monthly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during a calendar month.
- b. The "weekly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during any week.
- c. The "daily maximum" shall be determined by the analysis of a single grab or composite sample.
- d. "MGD", for monitoring requirements, is defined as million gallons per day.
- e. "Net" value, if noted under Effluent Characteristics, is calculated on the basis of the net increase of the individual parameter over the quantity of that same parameter present in the intake water measured prior to any contamination or use in the process of this facility. Any contaminants contained in any intake water obtained from underground wells shall not be adjusted for as described above and, therefore, shall be considered as process input to the final effluent. Limitations in which "net" is not noted are calculated on the basis of gross measurements of each parameter in the discharge, irrespective of the quantity of those parameters in the intake waters.
- f. A "composite" sample, for monitoring requirements, is defined as a minimum of four grab samples collected at equally spaced two hour intervals and proportioned according to flow.
- g. An "instantaneous" measurement for monitoring requirements is defined as a single reading, measurement, or observation.
- h. A "pollutant" is any substance or substances which, if allowed to enter surface waters of the state, causes or threatens to cause pollution as defined in the Wyoming Environmental Quality Act, Section 35-11-103.
- i. "Total Flow" is the total volume of water discharged, measured on a continuous basis and reported as a total volume for each month during a reporting period. The accuracy of flow measurement must comply with Part III.A.1.

4. Test Procedures

Test procedures for the analysis of pollutants, collection of samples, sample containers, sample preservation, and holding times, shall conform to regulations published pursuant to 40 CFR, Part 136, unless other test procedures have been specified in this permit.

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 exact place, date and time of sampling;
- b. The dates and times the analyses were performed;
- c. The person(s) who performed the analyses and collected the samples;
- d. The analytical techniques or methods used; and
- e. The results of all required analyses including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine the results.

6. **Additional Monitoring by Permittee**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated.

7. **Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip 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 request of the administrator at any time. Data collected on site, copies of Discharge Monitoring Reports and a copy of this NPDES permit must be maintained on site during the duration of activity at the permitted location.

8. **Penalties for Tampering**

The Act provides that any person who falsifies, tampers with or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or both.

9. **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 14 days following each schedule date.

10. **Facility Identification**

All facilities discharging produced water shall be clearly identified with an all-weather sign posted at each outfall and flow monitoring locations (points of compliance). This sign shall, as a minimum, convey the following information:

- a. The name of the company, corporation, person(s) who holds the discharge permit, and the NPDES permit number;
- b. The contact name and phone number of the person responsible for the records associated with the permit;
- c. The name of the facility (lease, well number, etc.) and the outfall number as identified by the discharge permit.

11. Identification and Establishment of Discharge Points

According to 40 CFR 122.21(k)(1), the permittee shall identify the expected location of each discharge point on the appropriate NPDES permit application form. The location of the discharge point must be identified to within an accuracy of 15 seconds. This equates to a distance of 1,510 feet.

Public notice is not required if the location of the established discharge point is within 1,510 feet of the location of the discharge point originally identified on the permit application. In addition, the discharge must be within the same drainage and must discharge to the same landowner's property as identified on the original application form. If the three previously stated requirements are not satisfied, modification of the discharge point location(s) constitutes a major modification of the permit as defined in Part I.B.12. The permittee shall provide written notification of the establishment of each discharge point in accordance with Part I.A.2.a above.

12. Location of Discharge Points and Flow monitoring point Locations

As of the date of permit issuance, authorized points of discharge were as follows:

SEE TABLE 1 FOR A LIST OF OUTFALLS AND FLOW MONITORING POINT LOCATIONS

13. Location of water quality monitoring stations

As of the date of issuance, authorized water quality monitoring stations were as follows:

SEE TABLE 1 FOR A LIST OF WATER QUALITY STATIONS

Requests for modification of the above list will be processed as follows. If the requested modification satisfies the definition of a minor permit modification as defined in 40 CFR 122.63 modifications will not be required to be advertised in a public notice. A minor modification constitutes a correction of a typographical error, increase in monitoring and/or reporting, revision to an interim compliance schedule date, change in ownership, revision of a construction schedule for a new source discharger, deletion of permitted outfalls, and/or the incorporation of an approved local pretreatment program.

A request for a minor modification must be initiated by the permittee by completing the form titled Wyoming Pollutant Discharge Elimination System Permit Modification Application For Coal Bed Methane. Incomplete application forms will be returned to the applicant.

The outfalls listed in the above table may be moved from the established location without submittal of a permit modification application provided all of the following conditions are satisfied:

1. The new outfall location is within 2640 feet of the established outfall location.
2. The new outfall location is within the same drainage or immediate permitted receiving waterbody.
3. There is no change in the affected landowners.
4. Notification of the change in outfall location must be provided to the NPDES Permits Section on a form provided by the WQD Administrator within 10 days of the outfall location change. The form must be provided in duplicate and legible maps showing the previous and new outfall location must be attached to the form.

Moving an outfall location without satisfying the four above listed conditions will be considered a violation of this permit and subject to full enforcement authority of the WQD.

An outfall relocation as described above will not be allowed if the new outfall location is less than one mile from the confluence of a Class 2 waterbody and the dissolved iron limits established in the permit for the outfall are based upon Class 3 standards.

Table 1: WY0051799 - Hape 14 CBM Containment Facility

Discharge Point	Qtr/Qtr	SECTION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description	Groundwater Approval Required Prior to Discharge?
001	NESW	14	56	83	44.825484	-106.823048	Discharges to on-channel "Otis Reservoir" in unnamed ephemeral tributary to Plum Creek, tributary to Dutch Creek, tributary to Prairie Dog Creek	No
002	SESW	14	56	83	44.827999	-106.823377	Discharges to on-channel "BFR Reservoir" in unnamed ephemeral tributary to Plum Creek, tributary to Dutch Creek, tributary to Prairie Dog Creek	No
003	NWNW	14	56	83	44.832358	-106.824811	Discharges to on-channel "Railroad Lady Reservoir" in unnamed ephemeral tributary to Plum Creek, tributary to Dutch Creek, tributary to Prairie Dog Creek	No
004	SWSE	14	56	83	44.821172	-106.814013	Discharges to on-channel "Kemo Reservoir" in unnamed ephemeral tributary to Plum Creek, tributary to Dutch Creek, tributary to Prairie Dog Creek	No
005	NENW	14	56	83	44.832798	-106.822300	Discharges to on-channel "April Showers Reservoir" in unnamed ephemeral tributary to Plum Creek, tributary to Dutch Creek, tributary to Prairie Dog Creek	No
R1	NESW	14	56	83	44.825484	-106.823048	Reservoir monitoring location below outfall 001 in "Otis Reservoir"	
R2	SESW	14	56	83	44.827999	-106.823377	Reservoir monitoring location below outfall 002 in "BFR Reservoir"	
R3	NWNW	14	56	83	44.832358	-106.824811	Reservoir monitoring location below outfall 003 in "Railroad Lady Reservoir"	
R4	SWSE	14	56	83	44.821172	-106.814013	Reservoir monitoring location below outfall 004 in "Kemo Reservoir"	
R5	NENW	14	56	83	44.832798	-106.822300	Reservoir monitoring location below outfall 005 in "April Showers Reservoir"	
TRIB1	SESE	34	57	83	44.868200	-105.844700	Tributary monitoring station on Dutch Creek, downstream of all reservoirs	

C. RESERVOIR / IMPOUNDMENT REQUIREMENTS

I. Groundwater Monitoring Beneath Impoundments

Table 1 of the permit above identifies which outfalls (if any) are designed to discharge into impoundments that are subject to groundwater monitoring requirements established in the latest version of the Water Quality Division guideline "*Compliance Monitoring for Groundwater Protection Beneath Unlined Coalbed Methane Produced Water Impoundments*." These specified outfalls are not authorized to discharge until a written groundwater compliance approval has been granted by the Groundwater Pollution Control Program of the Water Quality Division. A groundwater compliance approval will consist of either a final approved groundwater compliance monitoring plan, or written authorization for an exemption thereof. Once an impoundment has been granted a written groundwater compliance approval, the contributing outfall(s) to that reservoir may commence discharge.

Any discharge into an impoundment which has not been granted the required groundwater compliance approval will constitute a violation of this permit, and may result in enforcement action from the Water Quality Division to include a notice of violation, revocation of the discharge permit, or other appropriate enforcement action.

PART II

A. MANAGEMENT REQUIREMENTS

1. Changes

The permittee shall give notice to the administrator of the Water Quality Division as soon as possible of any physical alterations or additions to the permitted facility. Notice is required when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29 (b); or
- b. The alteration or addition could change the nature or increase the quantity of pollutants discharged.

2. Noncompliance Notification

- a. The permittee shall give advance notice of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- b. The permittee shall report any noncompliance which may endanger health or the environment as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Quality Division, Wyoming Department of Environmental Quality at (307) 777-7781.
- c. For any incidence of noncompliance, including noncompliance related to non-toxic pollutants or non-hazardous substances, a written submission shall be provided within five (5) days of the time that the permittee becomes aware of the noncompliance circumstance.

The written submission shall contain:

- (1) A description of the noncompliance and its cause;
 - (2) The period of noncompliance, including exact dates and times;
 - (3) The estimated time noncompliance is expected to continue if it has not been corrected; and
 - (4) Steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance.
- d. The following occurrences of unanticipated noncompliance shall be reported by telephone to the Water Quality Division, Watershed Management Section,

NPDES Program (307) 777-7781 as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances.

- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
 - (2) Any upset which exceeds any effluent limitation in the permit; or
 - (3) Violation of a maximum daily discharge limitation for any toxic pollutants or hazardous substances, or any pollutants specifically identified as the method to control a toxic pollutant or hazardous substance listed in the permit.
- e. The administrator of the Water Quality Division may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Quality Division, Watershed Management Section, NPDES Program (307) 777-7781.
- f. Reports shall be submitted to the Wyoming Department of Environmental Quality at the address in Part I under Reporting and to the Planning and Targeting Program, 8ENF-PT, Office of Enforcement, Compliance, and Environmental Justice, U.S. EPA Region 8, 999 18th St., Suite 300, Denver, CO 80202-2466.
- g. The permittee shall report all instances of noncompliance that have not been specifically addressed in any part of this permit at the time the monitoring reports are due.

3. Facilities Operation

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. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, as a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. Bypass of Treatment Facilities

- a. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
- b. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs c. and d. of this section. Return of removed substances to the discharge stream shall not be considered a bypass under the provisions of this paragraph.
- c. Notice:
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice at least 60 days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.A.2.
- d. Prohibition of bypass.
 - (1) Bypass is prohibited and the administrator of the Water Quality Division may take enforcement action against a permittee for a bypass, unless:
 - (a) The bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
 - (b) 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 back-up equipment should have been installed to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (c) The permittee submitted notices as required under paragraph c. of this section.
- e. The administrator of the Water Quality Division may approve an anticipated bypass, after considering its adverse effects, if the administrator determines that it will meet the three conditions listed above in paragraph d. (1) of this section.

6. Upset Conditions

- 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, improper

designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

- b. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph c. of this section are met.
- 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 and that the permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required under Part II.A.2; and
 - (4) The permittee complied with any remedial measures required under Part II.A.4.
- d. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

7. Removed Substances

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters or intake waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the state.

8. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

- a. In accordance with a schedule of compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities; or
- b. If such alternative power source as described in paragraph a. above is not in existence and no date for its implementation appears in Part I, take such precautions as are necessary to maintain and operate the facility under its control in a manner that will minimize upsets and insure stable operation until power is restored.

9. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal act and the Wyoming Environmental

