

Wyoming Department of Environmental Quality
Water Quality Division
WYPDES Program

STATEMENT OF BASIS

Major Modification

APPLICANT NAME: Pennaco Energy, Inc.

MAILING ADDRESS: 3601 Southern Drive
Gillette, WY 82718

FACILITY LOCATION: Cates Draw Phase II which is located in the NWNW of Section 26, the NENE, SENE, NWNW, NENW, and NESW of Section 27, the SWNE, SENW and NENE of Section 34, the SWNW of Section 35, and the NWNW of Section 26 all in Township 53 North, Range 77 West in Johnson County. The produced water will be discharged to reservoirs that are off-channel or located on unnamed ephemeral draws (class 3B) that are tributary, but do not confluence with the Powder River (class 2ABWW). The established flow monitoring stations are located in the NENE and SWSE of Section 27, and the NENE, SENE of Section 34, all in Township 53 North, Range 77 West on unnamed ephemeral draws. In the permittee's original submitted application for coal bed methane water discharge, a total flow rate of 2.01 MGD has been estimated from this facility.

NUMBER: WY0046485

Upon approval of this modification, the terms of permit WY0046485 are hereby modified as follows:

1. *One outfall (011) is added to this permit.*
2. *The legal locations for outfalls 001, 002, 006, 008, and 009 are updated.*
3. *The flow monitoring stations established in Part I.A.2.d of this permit were originally identified as TRIB1, TRIB2, and TRIB3. For clarification, the names of the flow monitoring stations have been changed to FM1, FM2, and FM3 in order to distinguish them from tributary monitoring stations which are associated with different monitoring requirements than flow monitoring stations.*
4. *One flow monitoring station (FM4) is added to this permit.*
5. *Groundwater monitoring requirements that affect the ability of the permittee to discharge from this facility are included in Part I.C.*

With the exception of items explicitly delineated in the major modification, all terms and conditions of permit WY0046485, including Parts II and III of the original permit, shall remain unchanged and in full force and effect.

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 judgment of the WDEQ, this effluent limit guideline is appropriately applied to coal bed methane gas production. The guideline limits oil and grease effluent concentrations to less than 35 mg/l and requires that discharges of produced water be used to enhance agricultural production and/or wildlife propagation. 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. The permit establishes effluent limits for the end of pipe, which are protective of all the designated uses defined in Chapter 1 of Wyoming Water Quality Rules and Regulations. This may include drinking water, game and non-game fish, fish consumption, aquatic life other than fish, recreation, agriculture, wildlife, industry and scenic value. The

permittee has demonstrated that all coal bed methane effluent and runoff from a 2 year/24 hour storm event will be contained in a series of reservoirs located on unnamed draws that are tributary but do not confluence with the Powder River. In the event that discharge reaches the flow monitoring stations, the permittee has committed and the permit requires that additional storage facilities and/or water handling methods be implemented to prevent discharge from reaching the flow monitoring locations.

Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. This permit originally established a total radium 226 limit of 60 pCi/l and total petroleum hydrocarbons (TPH) limit of 10 mg/l at the end of pipe. Based upon water quality data collected by WDEQ since the time this permit was originally issued, a permitting approach for establishing total radium limits in coal bed methane permits has been developed. This approach is based upon the distance of the outfall from a class 2 water. The removal of the originally-established total radium 226 limit is based on this permitting approach. In addition, a review of discharge monitoring report data for this facility and other CBM facilities in Northeast Wyoming indicates that the maximum reported concentrations for total petroleum hydrocarbons (TPH) in the discharge were well below the water quality standard of 10 mg/l established in Chapter 1 of the Wyoming Water Quality Rules and Regulations. Therefore, WDEQ has removed the effluent limit and monitoring requirements for TPH in this permit. Based on evaluation of the available data, it is WDEQ's determination that modifying the total radium 226 and removing total petroleum hydrocarbons limits from this permit conforms to the anti-backsliding requirements established in Section 402(o).2.B.4 of the Clean Water Act.

The pH remains within 6.5 and 9.0 standard units. Effluent limits for total dissolved solids (5,000 mg/l), specific conductance (7,500 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. The permit modifications for radium 226 are outlined in tables in Part I A. A dissolved iron limit of 300 µg/l remains in effect for those outfalls less than 1 mile from Class 2 waters but modified to 1000 µg/l for those outfalls greater than 1 mile. The dissolved iron limit of 1000 µg/l is based upon chronic aquatic life standards for class 3B waters greater than one mile from the confluence of a class 2 water, and reflects the application of standards required under Chapter 1 of the Wyoming Water Quality Rules and Regulations. The permit also establishes a dissolved manganese limit of 630 µg/l, and a chlorides limit of 46 mg/l. These limits are based on chronic aquatic life standards for class 2AB waters as established in the *Wyoming Water Quality Rules and Regulations, Chapter 1*. The permit also establishes a total barium limit of 1800 µg/l and a total arsenic limit of 7 µg/l, these limits are based on Water Quality Criteria as established in the *Wyoming Water Quality Rules and Regulations, Chapter 1*, for Human Health values. These limits are based on standards for class 2AB waters which are intended to protect for the above listed designated uses and reflect the application of the antidegradation provisions required under Chapter 1 of the Wyoming Water Quality Rules and Regulations. All limits described in this section are intended to protect for the above listed designated uses, on both the immediate receiving water and the perennial mainstem, and apply at the end of pipe.

Results are to be reported twice-yearly and if no discharge occurs then "no discharge" is to be reported. The permit also requires that an initial monitoring of the effluent be conducted within the first 60 days of discharge and the results submitted to WDEQ and the U.S. Environmental Protection Agency within 120 days of the commencement of discharge.

The permit also requires daily monitoring at designated flow monitoring stations located at the terminus of each unnamed ephemeral draw which is tributary but does not confluence with the Powder River. Daily monitoring and measurement of flow at the designated flow monitoring stations is required and is to be reported semiannually. If no discharge is observed at the flow monitoring stations then "no discharge" is to be reported and flow need not be measured at the flow monitoring stations for that monitoring period. In addition to daily monitoring and semiannual reporting, if discharge is observed at any of the flow monitoring stations, the Wyoming DEQ shall receive written notice within 24 hours of the discharge observation at the flow monitoring station. In the event that discharge reaches the flow monitoring stations, the permittee has committed and the permit requires that additional storage facilities and/or water handling methods be implemented to prevent discharge from reaching the flow monitoring locations.

The designated flow monitoring stations are located on named and unnamed ephemeral draws located in the NENE and SWSE of Section 27 and the SENE and NENE of Section 34, all in Township 53 North, Range 77 West that are tributary but do not confluence with the Powder River. Established flow monitoring stations are to be located at the terminus of each unnamed ephemeral draw.

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 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 November 27, 2006.

Eric Hargett
Water Quality Division
Department of Environmental Quality
September 20, 2001
Administrative Modification- Jason Thomas- May 31, 2002
Administrative Modification - Kathy Shreve - October 16, 2002
Major Modification – Bob Alexander – April 20, 2005
Major Modification—Jennifer Zygmunt—June 30, 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

Cates Draw Phase II

located in

the NWNW of Section 26, the NENE, SENE, NWNW, NENW, and NESW of Section 27, the SWNE, SENW and NENE of Section 34, the SWNW of Section 35, and the NWNW of Section 26 all in Township 53 North, Range 77 West in Johnson County

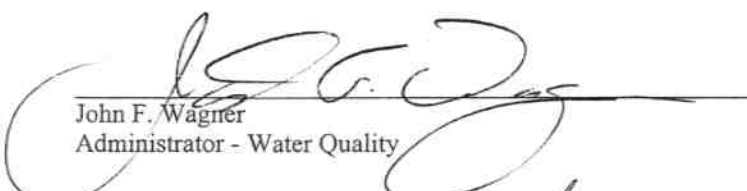
to receiving waters named

reservoirs located on unnamed ephemeral draws (class 3B) that are tributary, but do not confluence with the Powder River (class 2ABWW)

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

This permit became effective on November 28, 2001. This modification shall become effective on the date of signature by the Director of the Department of Environmental Quality. **With the exception of items explicitly delineated in the major modification, all terms and conditions of permit WY0046485, including Parts II and III of the original permit, shall remain unchanged and in full force and effect.**

This permit and the authorization to discharge shall expire at midnight November 27, 2006.



John F. Wagner
Administrator - Water Quality

8/31/05
Date



John V. Corra
Director - Department of Environmental Quality

9/01/05
Date

PART IA. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through November 27, 2006, 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 outfall(s) serial number(s) **001-011**.

1. a. Such discharges shall be limited as specified below for outfalls **006, 007, 008 and 011**. These outfalls are greater than one mile from a class **2AB** stream:

Effluent Limits

Effluent Characteristic	Daily Maximum
Chlorides, mg/l	46
Dissolved Iron, µg/l	1000
Dissolved Manganese, µg/l	630
pH, su	6.5 – 9.0
Specific Conductance, micromhos/cm	7500
Sulfates, mg/l	3000
Total Arsenic, µg/l	7
Total Barium, µg/l	1800
Total Dissolved Solids, mg/l	5000
Total Radium 226, pCi/l	3

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

The permittee's original submitted application for coal bed methane water discharge estimates a total flow rate of 2.01 MGD from 93 wells for this facility.

The permittee has demonstrated that all coal bed methane effluent and runoff from a 2 year/24 hour storm event will be contained in a series of reservoirs located on unnamed draws that are tributary but do not confluence with the Powder River. In the event that discharge reaches the flow monitoring stations, the permittee has committed and the permit requires that additional storage facilities and/or water handling methods be implemented to prevent discharge from reaching the flow monitoring locations.

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.

1. b. Such discharges shall be limited as specified below for outfalls 001, 002, 003, 004, 005, 009, and 010. These outfalls are less than one mile from a class 2AB stream:

Effluent Limits

Effluent Characteristic	Daily Maximum
Chlorides, mg/l	46
Dissolved Iron, µg/l	300
Dissolved Manganese, µg/l	630
pH, su	6.5 – 9.0
Specific Conductance, micromhos/cm	7500
Sulfates, mg/l	3000
Total Arsenic, µg/l	7
Total Barium, µg/l	1800
Total Dissolved Solids, mg/l	5000
Total Radium 226 + Radium 228, pCi/l	1

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

Samples taken for radium at outfalls 001, 002, 003, 004, 005, 009 and 010 must include the sum of radium 226 and radium 228.

The permittee's original submitted application for coal bed methane water discharge estimates a total flow rate of 2.01 MGD from 93 wells for this facility.

The permittee has demonstrated that all coal bed methane effluent and runoff from a 2 year/24 hour storm event will be contained in a series of reservoirs located on unnamed draws that are tributary but do not confluence with the Powder River. In the event that discharge reaches the flow monitoring stations, the permittee has committed and the permit requires that additional storage facilities and/or water handling methods be implemented to prevent discharge from reaching the flow monitoring locations.

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

Within 60 days of commencement of discharge, a sample shall be collected from outfalls 005 and 011 and analyzed for the constituents specified below at the required detection limits. *Outfalls 001-004, and 006-010 have already submitted initial monitoring reports since the issuance of this permit, and do not need to resubmit upon approval of this major modification.* 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.

Parameter* (See notes following the table on chemical states)	Required Detection Limits and Required Units
Alkalinity, Total	1 mg/l as CaCO ₃
Aluminum, Total Recoverable	50 µg/l
Arsenic, Total	1 µg/l
Barium, Total	100 µg/l
Bicarbonate	10 mg/l
Cadmium, Dissolved	5 µg/l
Calcium, Total	50 µg/l, report as meq/l
Calcium, Total	50 µg/l, report as mg/l
Chlorides	5 mg/l
Copper, Dissolved	10 µg/l
Dissolved Solids, Total	5 mg/l
Hardness, Total	10 mg/l as CaCO ₃
Iron, Dissolved	50 µg/l
Lead, Dissolved	2 µg/l
Magnesium, Total	100 µg/l, report as meq/l
Magnesium, Total	100 µg/l, report as mg/l

Parameter* (See notes following the table on chemical states)	Required Detection Limits and Required Units
Manganese, Dissolved	50 µg/l
Mercury, Dissolved	1 µg/l
pH	to 0.1 pH unit
Radium 226, Total	0.2 pCi/l
Radium 228, Total*	0.2 pCi/l
Selenium, Total Recoverable	5 µg/l
Sodium Adsorption Ratio	Calculated as unadjusted ratio
Sodium, Total	100 µg/l, report as meq/l
Sodium, Total	100 µg/l, report as mg/l
Specific Conductance	5 micromhos/cm
Sulfates	10 mg/l
Zinc, Dissolved	50 µg/l

Table date 12/31/03

*Initial monitoring for total radium²²⁸ is only required for those outfalls less than one mile from the confluence of a class 2 water (001-005, 009 and 010). Samples taken for radium at these outfalls must include a sum of radium 226 and radium 228.

**Dissolved is the value 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. Total is the value expressed in terms of total recoverable metal in the water column.

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 (001-011)

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.

Parameter	Measurement Frequency	Sample Type
Bicarbonate	Monthly for April, May, June, July	Grab
Calcium	Monthly for April, May, June, July	Grab
Chloride	Monthly for April, May, June, July	Grab
Dissolved Iron	Annually	Grab
Dissolved Manganese	Annually	Grab
Magnesium	Monthly for April, May, June, July	Grab
pH	Once Every Six Months	Grab
Radium 226	Annually	Grab
Sodium	Monthly for April, May, June, July	Grab
Sodium Adsorption Ratio	Monthly for April, May, June, July	Calculated
Specific Conductance	Monthly for April, May, June, July	Grab
Sulfate	Monthly for April, May, June, July	Grab
Total Alkalinity	Monthly for April, May, June, July	Grab
Total Arsenic	Annually	Grab
Total Barium	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 End of Pipe – constituents and requirements applicable only to outfalls 001-005, 009 and 010

In addition to the routine monitoring requirements and constituents as described in Part I.A.2.b of the permit above, the following constituent shall be included in the list of routine monitoring constituents for outfalls 010-012. All limitations regarding routine monitoring, sampling and reporting apply as described in Part I.A.2.b for this additional constituent.

Parameter	Measurement Frequency	Sample Type
Total Radium 228 (pCi/l)	Annually	Grab

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.

- d. Flow Monitoring Stations (FM1, FM2, FM3, FM4)

For the duration of the permit, at a minimum, samples for the constituents described

below shall be collected at the indicated frequencies when water discharged from the outfalls reaches the established flow monitoring locations. Monitoring will be based on monthly time frames and reported semiannually.

Parameter	Measurement Frequency	Sample Type
Total Flow (MGD)	Monthly	Instantaneous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): designated flow monitoring stations located at the terminus of each unnamed ephemeral draw that is tributary but does not confluence with the Powder River. The designated water quality monitoring stations are located in the NENE and SWSE of Section 27 and the SENE and NENE of Section 34, all in Township 53 North, Range 77 West. Established flow monitoring stations are to be located at the terminus of each unnamed ephemeral draw.

Once discharge at the flow monitoring station has been documented, monthly monitoring is required. At the beginning of each month, the frequency will revert to daily until such time as the effluent reaches the flow monitoring station and a measurement of flow is collected at the flow monitoring station.

Results are to be reported semiannually and if no discharge occurs at the designated flow monitoring stations, then "no flow" is to be reported and flow measurements need not be collected at the flow monitoring stations for that monthly monitoring period.

In addition to semiannual reporting, if discharge is observed at any of the flow monitoring stations, the Wyoming DEQ shall receive written notice within 24 hours of the discharge observation at the flow monitoring station.

In the event that discharge reaches the flow monitoring stations, the permittee has committed and the permit requires that additional storage facilities and/or water handling methods be implemented to prevent discharge from reaching the flow monitoring locations.

e. Special Conditions

In the event the on-channel reservoirs discharge and flow reaches the established flow monitoring stations, the permittee has committed and the permit requires, that additional storage facilities and/or water handling methods be implemented to prevent discharge from reaching the established flow monitoring locations.

This agency shall be notified of any additional methods used to handle effluent discharged under this permit.

Any additional water handling methods used to minimize effluent from reaching the established flow monitoring locations will require the permittee to submit new water balance(s) for this facility to demonstrate that all effluent and runoff from a 2 year/24 hour storm event can be contained in both on and off-channel containment units.

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 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. If 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 following the approval of this modification 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.

Flow Monitoring Stations

In addition to semiannual reporting, if discharge is observed at any of the flow monitoring stations, the Wyoming DEQ shall receive written notice within 24 hours of the discharge observation at the flow monitoring station.

In the event that discharge reaches the flow monitoring stations, the permittee has committed and the permit requires that additional storage facilities and/or water handling methods be implemented to prevent discharge from reaching the flow monitoring locations.

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 WYPDES 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 WYPDES 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 WYPDES 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.

In order for the permit not to be subjected to additional public notice, the location of the established discharge point must be 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

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

SEE TABLE 1 FOR LIST OF WELLS AND OUTFALLS

13. Location of flow monitoring stations

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

SEE TABLE 1 FOR A LIST OF FLOW MONITORING 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.

Outfall	receiving stream description	mainstem	stream miles to class 2AB	QQ	sec	twN (N)	rng (W)	lat	long	reservoir name	Groundwater Monitoring required?
001	*UET to Powder River	Powder River	0.25	SWNW	35	53	77	44.53072	106.09753	Santiago 4, 5 and 6	No
002	*UET to Powder River	Powder River	0.58	NWNW	27	53	77	44.54753	106.09939	Santiago 4, 5 and 6	No
003	*UET to Powder River	Powder River	0.78	NENE	27	53	77	44.54632	106.10133	Santiago 2	No
004	Hydrologically isolated	Powder River	<1	NWNW	26	53	77	44.54667	106.09667	Santiago 3	No
005	*UET to Powder River	Powder River	0.69	SENE	27	53	77	44.54530	106.09876	Santiago 4, 5 and 6	No

Outfall	receiving stream description	mainstem	stream miles to class 2AB	QQ	sec	twm (N)	rng (W)	lat	long	reservoir name	Groundwater Monitoring required?
006	*UET to Powder River	Powder River	1.52	NENW	27	53	77	44.54528	106.11167	Santiago 9 and 1	No
007	*UET to Cates Draw	Powder River	1.23	NESW	27	53	77	44.53901	106.10890	Candida 3	No
008	*UET to Cates Draw	Powder River	1.42	NESW	27	53	77	44.53194	106.10669	Margaret 1 and 2	No
009	*UET to Powder River	Powder River	0.81	SWNE	34	53	77	44.53105	106.10656	Candida 1	No
010	Hydrologically isolated	Powder River	<1	NENE	34	53	77	44.53161	106.10255	Candida 2	No
011	*UET to Powder River	Powder River	1.16	SENW	34	53	77	44.53032	106.11283	Dust Bowl	Yes
FM1	*UET			NENE	27	53	77	44.54624	106.09965		
FM2	*UET			SWSE	27	53	77	44.53591	106.10398		
FM3	Cates Draw			NENE	34	53	77	44.53245	106.10183		
FM4	*UET			SENE	34	53	77	44.52838	106.10216		

*UET = unnamed ephemeral tributary

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 WYPDES 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.

C. RESERVOIR / IMPOUNDMENT REQUIREMENTS

1. 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.