

**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: Kline Draw B which is located in the SENE of Section 24, Township 56 North, Range 76 West, the NWNW and NESW of Section 19, Township 56 North, Range 75 West, and the NESW of Section 21 and NESW of Section 16, Township 54 North, Range 75 West, all in Campbell County. The produced water will be discharged to reservoirs located on unnamed ephemeral draws (class 3B) tributary to Spotted Horse Creek (class 3B) which is tributary to the Powder River (class 2ABww). For outfalls 001-003, this permit establishes irrigation compliance points which are located in the SENE of Section 22 and NENE of Section 36 both in Township 56 North, Range 76 West, prior to the first downstream points of irrigation diversion/use on Spotted Horse Creek. The on-channel reservoirs associated with outfalls 004-005 must contain effluent plus storm-runoff up to the 50 year, 24-hour storm event. In the permittee's original submitted application for coal bed methane water discharge, a total flow rate of 0.12 MGD has been estimated from this facility.

NUMBER: WY0048283

This major modification has been revised from the draft originally advertised in the August 15, 2006 public notice. Language has been included in Table 1 and Part I.C. to describe requirements for bonding of on-channel reservoirs.

Upon approval of this major modification, the terms of permit WY048283 are hereby modified as follows:

- 1. Two outfalls, 004 and 005 are added to this permit. The on-channel reservoirs associated with these outfalls must contain all effluent plus storm run-off from up to the 50 year, 24-hour storm event.***
- 2. Forty (40) wells are added to this permit. These 40 wells may only discharge to outfalls 004 and 005 on this permit.***
- 3. Language requiring groundwater compliance approval is added to this permit as Part I.C.***

4. *Effluent limits and routine monitoring requirements for sulfates and manganese are removed from this permit in accordance with current WDEQ policy.*
5. *The chlorides effluent limit is updated to 150 mg/l for outfalls 001-003.*
6. *Routine end of pipe monitoring requirements are removed for fluoride, potassium, and dissolved lead for outfalls 001-003.*
7. *The locations of the water quality monitoring stations (UPR, DPR, TRIB1) are updated.*

With the exception of items explicitly delineated in the major modification, all terms and conditions of permit WY0048283, 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 for 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.

Facility Description (Outfalls 001-003)

The permittee has chosen option 2 of the coal bed methane permitting options for outfalls 001-003. 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. In addition, the permit establishes two irrigation compliance points. The irrigation compliance points are designated monitoring locations prior to the first downstream point of irrigation diversion/use in Spotted Horse Creek from the permitted facility. Effluent limits associated with the irrigation compliance points (i.e. SAR = 7, EC = 2000 micromhos/cm) were determined from a combination of one or more of the following: technical information submitted by the applicant, published scientific literature, credible water quality data that has been through formally adopted quality control/quality assurance review, and best professional judgment. These limits satisfy provisions under Chapter 1, Section 20 (protection of agricultural water supply) of the Wyoming Water Quality Rules and Regulations.

The Wyoming DEQ has determined through review of the permit application and available scientific information that effluent discharged from this facility will be put to agricultural and/or

wildlife use and is unlikely to reach the Powder River. The original permittee submitted certified statements that demonstrate discharged effluent will be put to use for livestock and wildlife watering. Although most of the discharge will be used by wildlife and livestock, a portion of the flow may also be lost due to stream channel infiltration. Information gathered from Western Land Services, Sheridan Wyoming (April 19, 2001) and Hydrologic Consultants, Inc. (2001) indicate a mean channel infiltration loss rate for ephemeral drainages in the Powder River at 0.1 cfs per mile of stream channel. Review of the permit application reveals that outfalls 001-003 are located approximately 12 to 30 miles from the confluence with the Powder River. Secondly, these outfalls are located roughly 2 miles from the established irrigation compliance points. Maximum total effluent flow rate from this facility is estimated at 0.18 cfs. The permittee anticipates that effluent will not likely reach the established irrigation compliance points nor the Powder River. However, in the event that such a situation occurs, this permit establishes a monitoring station on the receiving stream prior to the confluence with the Powder River. This station will function to monitor any effluent flows to the Powder River.

Facility Description (Outfalls 004-005)

The permittee has chosen option 2 of the coal bed methane permitting options for discharges from outfalls 004-005. 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. While some option 2 CBM discharge permits establish limits that are protective of the downstream class 2 water(s), this permit prohibits discharge to the nearest class 2 water (Powder River) from outfalls 004-005. This permit authorizes discharge of CBM effluent into headwater on-channel reservoirs from outfalls 004-005. Flow monitoring stations, located below each of the on-channel headwater reservoirs proposed for containment of CBM produced waters (FM001-FM002) have been established to ensure that effluent from the reservoirs does not reach the Powder River except in the event of a 50-year/24-hour storm event or greater. The permit establishes effluent limits for the end of pipe, which are protective of all designated uses of the class 3B receiving waters defined 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.

This permit authorizes discharge of CBM produced water under option 2 of the WYPDES Program's CBM permitting options from outfalls 004-005. These outfalls will discharge into headwater on-channel reservoirs as described in Table 1 (Part I.B.12) of the permit. Neither the reservoirs nor their spillways will constitute regulated discharge points under this permit.

Effluent Limits and Monitoring Requirements (Outfalls 001-003)

Effluent Limits: For outfalls 001-003, this permit establishes the following effluent limits. Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. The permit establishes that the pH limit must remain between 6.5 and 9.0 standard units. Effluent limits for total dissolved solids (5,000 mg/l) and specific conductance (7,500 micromhos/cm) 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 total barium limit of 1800 µg/l, a total arsenic limit of 7 µg/l, a dissolved copper limit of 9.24 µg/l, and

a chlorides limit of 150 mg/l. Review of the representative water quality data submitted with the application revealed that effluent from this facility may have the potential to exceed chronic aquatic life water quality standards for dissolved copper for class 2AB waters. Based on this information, the permit establishes additional effluent limits for dissolved copper that are protective of aquatic life uses for class 2AB waters. 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.

This permit originally established a total radium²²⁶ limit of 1 pCi/l, a sulfate limit of 3000 mg/l, a total petroleum hydrocarbons (TPH) limit of 10 mg/l and a dissolved manganese limit of 629 µg/l at the end of pipe for outfalls 001-003. 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 radium²²⁶ limit is based on this permitting approach. In addition, 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), dissolved manganese and sulfate in the discharge were well below the water quality standards of 10 mg/l for TPH and 3000 mg/l for sulfates established in *Chapter 1 of the Wyoming Water Quality Rules and Regulations*, and well below the originally established effluent limit of 629 µg/l for dissolved manganese. Therefore, WDEQ has removed the effluent limits and monitoring requirements for TPH, dissolved manganese and sulfate in this permit. Based on evaluation of the available data, it is WDEQ's determination that removing the total radium²²⁶, sulfate, dissolved manganese and total petroleum hydrocarbons limits from this permit conforms to the anti-backsliding requirements established in *Section 402(o).2.B.i of the Clean Water Act*.

Irrigation Protection: Discharged effluent from outfalls 001-003 is not authorized to reach the established irrigation compliance points unless resulting from a 25-year / 24-hour storm event or greater. Effluent from 001-003 is only authorized to reach the established irrigation compliance points if: 1) the effluent is reaching the ICP(s) due to a 25-yr/24-hr storm event or greater, and 2) the ICP effluent limits (SAR=7, EC=2000 µmhos/cm from April 1 through September 30) are not exceeded. The established irrigation compliance points for this permit are located on ephemeral draws tributary to Spotted Horse Creek in the SENE of Section 22 and NENE of Section 36 both in Township 56 North, Range 76 West.

In order to monitor and regulate coal bed methane discharge for compliance with Chapter 1, Section 20 (protection of agricultural water supply), effluent limits for sodium adsorption ratio (SAR) and specific conductance are included in this permit. The Wyoming DEQ has determined that a SAR of 7 and specific conductance of 2,000 micromhos/cm is intended to be protective of agriculture use in the Spotted Horse Creek drainage. The specific conductance limit of 2,000 micromhos/cm is based on the threshold value for alfalfa which is considered to be the most salt sensitive plant irrigated in northeastern Wyoming (USDA George E. Brown Jr. Salinity Laboratory, Salt Tolerance Database, Grasses and Forage Crops) in addition to unavailable data to characterize EC tolerance of alfalfa specific to the Spotted Horse Creek drainage.. The SAR

limit of 7 was determined to not reduce the rate of infiltration of irrigated soils in the Spotted Horse Creek drainage, given the specific conductance threshold referenced above as ascertained from Figure 3 (page 44) of Agricultural Salinity and Drainage, Hanson et al., 1999 revision. In addition, information obtained from Golder Associates, Inc. evaluation of "Water Quality for Agriculture, Ayers et al. 1985" and their technical report "Management of Coal Bed Methane Discharge Water from the Proposed Incline Project, October 2001" (see permit WY0046043) indicated that water with an SAR of 7 may be deemed usable for irrigation in the Spotted Horse Creek drainage. In addition, information from the "Section 20 Tributary Evaluation Spotted Horse Creek, North of Highway 14/16, Campbell County, Wyoming" developed by Applied Hydrology Associates, Inc., September 7, 2000, provided information used in establishment of the SAR limit of 7 and is intended to be protective of irrigation uses in the Spotted Horse Creek drainage. An SAR limit of 7 and specific conductance limit of 2,000 micromhos/cm will also maintain the baseline C3-S2 irrigation suitability category for the Powder River drainage (see Figure 25, of Diagnosis and Improvement of Saline and Alkali Soils, US Dept. of Agricultural Handbook No. 60, 1954). The SAR of 7 is also based on the mean ambient SAR of water quality data collected on the Powder River at Arvada, WY. Monitoring will be required for flow volume, calcium, magnesium, sodium, bicarbonate, sodium adsorption ratio and specific conductance when flow is present at the irrigation compliance point(s) during the irrigation season April 1 thru September 30.

Monitoring Requirements: The permit requires daily monitoring on ephemeral draws to Spotted Horse Creek to determine whether water discharged from outfalls 001-003 reaches the established irrigation compliance points from April 1 thru September 30. Daily monitoring is necessary during this period because the permit establishes different sampling and analysis requirements based on whether the effluent reaches the irrigation compliance points. Once flow at the irrigation compliance points has been documented within a sampling month, then weekly monitoring of flow is required for the month. At the beginning of each calendar month from April 1 thru September 30, the frequency will revert to daily until such time as flow occurs at the irrigation compliance point and a sample is collected to represent effluent quality for irrigation compliance point constituents for that month. Effluent samples must be collected for a weekly sampling period if flow persists at the irrigation compliance point for 24 hours or more. Results are to be reported twice-yearly and if no discharge occurs then "no discharge" is to be reported.

The permit also requires sampling at designated water quality monitoring stations located on the receiving stream Spotted Horse Creek and at locations on the Powder River (class 2AB water) that Spotted Horse Creek confluences. Water quality monitoring stations on the Powder River will be located upstream and downstream of the confluence of Spotted Horse Creek with the Powder River. Effluent samples at the designated water quality monitoring stations must be collected on a monthly sampling period and are to be reported semiannually. If no flow occurs at the tributary monitoring station on Spotted Horse Creek then "no discharge" is to be reported and samples need not be collected at the three water quality monitoring stations for that monthly sampling period. At the designated water quality monitoring stations, monitoring will be required for calcium, chlorides, magnesium, sodium, sodium adsorption ratio and specific conductance. Information gathered from the water quality monitoring stations may result in modification of the permit to protect existing uses on the tributary and mainstem.

The designated water quality monitoring stations are located in the tributary in the SWNE of

Section 7, Township 56 North, Range 76 West and on the mainstem in the NWSW of Section 7, Township 56 North, Range 76 West, and the SENW of Section 31, Township 57 North, Range 76 West. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone of the tributary with the mainstem.

Effluent Limits and Monitoring Requirements (Outfalls 004-005)

Effluent Limits: For outfalls 004-005, the permit establishes the following 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 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 dissolved fluoride (2000 µg/l) are included to protect for stock and wildlife watering. These limits are based upon Wyoming Water Quality Rules and Regulations, Chapter 1 and apply at the monitoring location designated in Part I of the permit a total recoverable arsenic limit of 150 µg/l, a dissolved iron effluent limit of 1000 µg/l, a total recoverable barium effluent limit of 1800 µg/l, a total recoverable aluminum effluent limit of 750 µg/l, and a chlorides limit of 230 mg/l. These limits are based on standards for class 3B waters which are intended to protect for the above listed designated uses and reflect the application of "tier 1" antidegradation protection. Tier 1 antidegradation protection is the level of protection which applies to all waters of the state, as described in the *Wyoming Surface Water Quality Standards "Implementation Policies for Antidegradation."* Based upon the results of the initial monitoring, this permit may be reopened and more stringent limits and/or monitoring and reporting required.

The reservoirs being utilized for containment of the CBM produced water at 004-005 were described by the permittee in their application materials as being able to effectively contain all estimated produced water, in addition to the stormwater runoff from a 50 year/24 hour precipitation event. Should the volume of water within either reservoir associated with outfalls 004-005 exceed the freeboard needed to contain runoff from a 50 year/24 hour precipitation event under normal operating conditions, the permittee is required to cease discharge into these reservoirs until the volume of water within the reservoirs drops back below the 50 year/24 hour freeboard reserve. The estimated discharge water quality was based upon representative water quality from the following formations in the immediate geographic area of the proposed facility: the Anderson, Canyon, and Smith coal seams. Therefore, the permit requires that the produced water being discharged at outfalls 004-005 of this facility originate in one or more of the following formations: the Anderson, Canyon, and/or Smith coal seams.

Monitoring Requirements: In order to monitor potential accumulation of pollutants within the receiving reservoirs, this permit (Part I.A.2.c) requires routine sampling, analysis, and reporting for the following constituents within the reservoirs at 004 and 005: total dissolved solids, specific conductance, total radium 226, dissolved manganese, total recoverable arsenic, chlorides, total recoverable barium, sulfates, and total recoverable selenium. Sampling for these constituents within the reservoir (containment unit) 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, Part I.B.13 of the permit below as "R001-R002". 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 monitoring of the effluent within the reservoirs at outfalls 004 and 005 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 permittee has submitted information to demonstrate that all produced effluent from outfalls 004-005 will be contained within the on-channel reservoirs. The water budget for this facility confirms that the reservoirs will have sufficient capacity to contain all of the estimated effluent proposed for containment in the reservoirs from outfalls 004-005 at this facility as well as stormwater runoff from up to a 50-year/24-hour precipitation event. This permit requires daily monitoring year-round at the flow monitoring stations located immediately downstream of the reservoirs containing discharges from outfalls 004-005 in order to determine if any effluent from this facility is reaching an established flow monitoring station (FM001-FM002). The established flow monitoring stations are located on an unnamed, ephemeral tributary of Spotted Horse Creek, which is tributary to the Powder River (see locations as described in Part I.B.12 (Table 1) of the permit below). This permit prohibits discharge of effluent from the reservoirs except in the event of a 50-year/24-hour storm event or greater. If a reservoir overtopping event occurs, verification of storm magnitude will be the responsibility of the permittee. Discharge from the reservoir(s) resulting from a 50-year/24-hour precipitation event or greater is limited by the permit to natural overtopping and shall not extend beyond a 48 hour period following commencement of natural overtopping. Additional release from the reservoir(s) is not authorized. If any effluent discharged from this facility does reach a flow monitoring station (FM001-FM002), this permit requires the permittee to cease all discharge of effluent from the contributing wells until the effluent is no longer reaching the flow monitoring station(s). Any effluent from this facility that reaches the established flow monitoring station, except as the direct result of reservoir(s) overtopping during a 50-year / 24-hour storm event or greater, will be considered a violation of this permit and must be corrected by the permittee immediately.

Requirements applicable at all outfalls (001-005)

Results are to be reported twice-yearly and if no discharge occurs at a particular outfall for an entire sampling period, then "no discharge" is to be reported for that outfall during that period. 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.

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 June 30, 2007.

Eric Hargett
Water Quality Division
Department of Environmental Quality
May 1, 2002
Amended - Jason Thomas- August 27, 2002
Major Modification – Bob Alexander – November 8, 2005
Major Modification—Jennifer Zygmunt—July 17, 2006

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

is authorized to discharge from the wastewater treatment facilities serving the

Kline Draw B

located in

the SENE of Section 24, Township 56 North, Range 76 West, the NWNW and NESW of Section 19, Township 56 North, Range 75 West, and the NESW of Section 21 and NESW of Section 16, Township 54 North, Range 75 West, all in Campbell County


to receiving waters named

reservoirs located on unnamed ephemeral draws (class 3B) tributary to Spotted Horse Creek (class 3B) which is tributary to the Powder River (class 2ABww)

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

The original permit became effective on August 30, 2002. 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 WY0048283 including Parts II and III of the original permit, shall remain unchanged and in full force and effect.**

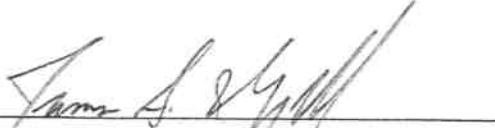
This permit and the authorization to discharge shall expire at midnight June 30, 2007.



John F. Wagner
Administrator of the Water Quality Division

2/8/07

Date



John V. Corra
Director - Department of Environmental Quality

2/8/07

Date

PART IA. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through June 30, 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 outfall(s) serial numbers 001-005. **All outfalls are greater than ten miles from the nearest class 2ABWW receiving stream.**

1. a. **Such discharges shall be limited as specified below for outfalls 001-003:**Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum Outfall</u>	<u>Daily Maximum Irrigation Compliance Point</u>
Chlorides, mg/l	150	
Dissolved Iron, µg/l	1000	
Dissolved Copper, µg/l	9.24	
pH, standard units	6.5 – 9.0	
Specific Conductance, micromhos/cm	7500	2000
Total Arsenic, µg/l	7	
Total Barium, µg/l	1800	
Total Dissolved Solids, mg/l	5000	
Sodium Adsorption Ratio, calculated		7

Note: 1) 'Dissolved' value for metals refers to the amount that will pass through a 0.45 µm membrane filter prior to acidification to 1.5-2.0 with Nitric Acid.

2) 'Total' value for metals refers to the total recoverable amount of that metal in the water column.

Information gathered from the water quality monitoring stations may result in modification of the permit to protect existing uses on the tributary and the mainstem.

Discharged effluent is not authorized to reach the established irrigation compliance points unless resulting from a 25-year / 24-hour storm event or greater. Effluent from this facility is only authorized to reach the established irrigation compliance points if: 1) the effluent is reaching the ICP(s) due to a 25-yr/24-hr storm event or greater, and 2) the ICP effluent limits (SAR=7, EC=2000 µmhos/cm from April 1 through September 30) are not exceeded. The established irrigation compliance points for this permit are located on ephemeral draws tributary to Spotted Horse Creek in the SENE of Section 22 and NENE of Section 36 both in Township 56 North, Range 76 West.

Effluent limits at each irrigation compliance point (SAR=7, EC=2000 µmhos/cm) are effective only from April 1 through September 30 of each calendar year.

1. b. Such discharges shall be limited as specified below for outfalls 004-005:

Effluent Limits

<u>Effluent Constituent</u>	<u>Daily Maximum, Each Outfall</u>
Chlorides, mg/l	230
Dissolved Iron, µg/l	1000
pH, standard units	6.5 – 9.0
Specific Conductance, micromohs/cm	7500
Total Recoverable Barium, µg/l	1800
Total Dissolved Solids, mg/l	5000
Total Recoverable Aluminum, µg/l	750
Dissolved Fluoride, µg/l	4000
Total Recoverable Arsenic, µg/l	150

Note: 1) 'Dissolved' value for metals refers to the amount that will pass through a 0.45 µm membrane filter prior to acidification to 1.5-2.0 with Nitric Acid.

The produced water from 004-005 will originate from the Anderson, Canyon, and/or Smith coal seams.

This permit prohibits discharge of effluent from the reservoirs associated with outfalls 004-005 except in the event of a 50-year / 24-hour storm event or greater. If a reservoir overtopping event occurs, verification of storm magnitude will be the responsibility of the permittee. Discharge from reservoir(s) resulting from a 50-year/24 hour storm event or greater is limited by the permit to natural overtopping and shall not extend beyond a 48 hour period following commencement of natural overtopping. Additional release

from reservoir(s) is not authorized. If any effluent discharged from this facility does reach a downstream flow monitoring point (FM001 – FM002), this permit requires the permittee to cease all discharge of effluent from the contributing wells until the effluent is no longer reaching the flow monitoring point(s). Any effluent from this facility that reaches a flow monitoring point, as described in Table 1, Part I.B.12 of the permit below, except as the direct result of reservoir(s) overtopping during a 50-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 designated uses associated with the Powder River (class 2AB waters). The permittee is required to maintain freeboard within the reservoirs equivalent to that necessary to contain a 50 year/24 hour storm event. Should the volume of water within the reservoir(s) exceed the 50 year/24 hour freeboard reserve under normal operating conditions, the permittee is required to cease discharge to the reservoir(s) until the volume of water within the reservoirs falls below the 50 year/24 hour freeboard reserve.

1. c. Such discharges shall be limited as specified below for all permitted outfalls (001-005):

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 submitted application for coal bed methane water discharge estimates a total flow rate of 0.12 MGD from 77 wells for this facility. The permittee is not authorized to discharge from all wells to all permitted outfalls. Outfalls 001-003 are authorized to discharge effluent produced from the Canyon, Cook, and/or Wall coal seams. Outfalls 004-005 are authorized to discharge effluent produced from the Anderson, Canyon, and/or Smith coal seams.

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

Initial monitoring reports will be required for outfalls 004-005. If outfalls 001-003 have already been sampled and analyzed for initial monitoring constituents, the permittee is not required to re-sample and re-analyze the outfalls if results have been obtained for all the constituents listed below and reported to the

WDEQ.

Within **60** days of commencement of discharge following issuance of this individual permit, a sample shall be collected from each outfall and analyzed for the constituents specified below, at the required detection limits. Within **120** days of commencement of discharge following issuance of this individual permit, 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. 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 routine monitoring requirements described in Part I.A.2.b. may be modified to require more stringent monitoring.

<u>Parameter*</u> (See notes following the table on chemical states)	<u>Required Detection Limits and Required Units</u>
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, Dissolved	50 µg/l, report as meq/l
Calcium, Dissolved	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, Dissolved	100 µg/l, report as meq/l
Magnesium, Dissolved	100 µg/l, report as mg/l
Manganese, Dissolved	50 µg/l
Mercury, Dissolved	1 µg/l
pH	to 0.1 pH unit

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

*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 – 005)

1. **For outfalls 001-003:** 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 through September	Grab
Dissolved Calcium	Monthly for April through September	Grab
Chloride	Monthly for April through September	Grab
Dissolved Iron	Annually	Grab
Dissolved Copper	Annually	Grab
Magnesium	Monthly for April through September	Grab
pH	Once Every Six Months	Grab
Dissolved Sodium	Monthly for April through September	Grab
Sodium Adsorption Ratio	Monthly for April through September	Calculated
Specific Conductance	Monthly for April through September	Grab
Total Alkalinity	Monthly for April through September	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.

2. **For outfalls 004-005:** 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>
Total Recoverable Aluminum (µg/l)	Annually	Grab
Dissolved Calcium (mg/l)	Annually	Grab
Dissolved Calcium (me/l)	Annually	Grab

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Total Flow (MGD)	Monthly	Continuous
Dissolved Fluoride ($\mu\text{g/l}$)	Annually	Grab
Dissolved Iron ($\mu\text{g/l}$)	Annually	Grab
Dissolved Magnesium (mg/l)	Annually	Grab
Dissolved Magnesium (me/l)	Annually	Grab
pH (standard units)	Annually	Grab
Total Dissolved Solids (mg/l)	Annually	Grab
Dissolved Sodium (mg/l)	Annually	Grab
Dissolved Sodium (me/l)	Annually	Grab
Sodium Adsorption Ratio (unadjusted)	Annually	Calculated
Specific Conductance (micromohs/cm)	Annually	Grab
Total Recoverable Barium ($\mu\text{g/l}$)	Annually	Grab
Chlorides (mg/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.

c. Routine Monitoring Within Reservoirs (R001 – R002)

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 (mg/l)	Annually	Grab
Specific Conductance ($\mu\text{mohs/cm}$)	Annually	Grab
Dissolved Manganese ($\mu\text{g/l}$)	Annually	Grab

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Total Radium 226 (pCi/l)	Annually	Grab
Dissolved Iron (µg/l)	Annually	Grab
Total Arsenic (µg/l)	Annually	Grab
Chlorides (mg/l)	Annually	Grab
Total Selenium (µg/l)	Annually	Grab
Sulfate (mg/l)	Annually	Grab
Total Selenium (µg/l)	Annually	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): designated reservoir monitoring stations are located within each receiving reservoir as described in Table 1, Part I.B.12 of the permit below (R001 –R002). In each reservoir, monitoring locations are to be located a minimum of 50 feet away from the point where CBM effluent enters the reservoir. Reservoir sampling will only apply to reservoirs that are receiving CBM effluent or have received CBM effluent in the past. Results are to be reported annually and if a particular reservoir has not yet received any CBM effluent from this facility, then “no discharge” is to be reported for that reservoir monitoring station in the discharge monitoring report.

d. Routine Monitoring of the Flow Monitoring Stations (FM001 – FM002)

For the duration of the permit, at a minimum, the permittee is required to monitor for flow at the flow monitoring station location as described in Table 1 (Part I.B.12) of the permit on a weekly basis. Should flow be detected at the flow monitoring station during periods of “dry” operating conditions that is the result of seepage or alluvial subsurface flow from the reservoirs, the permittee is required to cease discharge into the reservoirs immediately. Discharge from the reservoirs that is not in response to reservoir filling and overtopping during a 50 year, 24 hour event is a violation of this permit.

e. Irrigation Compliance Points (ICP1, ICP2)

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 irrigation compliance point. Monitoring will be based on monthly time frames, from April 1 thru September 30 and reported semi-annually.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Bicarbonate	Monthly for April thru September	Grab
Dissolved Calcium	Monthly for April thru September	Grab
Dissolved Magnesium	Monthly for April thru September	Grab
Dissolved Sodium	Monthly for April thru September	Grab
Sodium Adsorption Ratio	Monthly for April thru September	Calculated
Specific Conductance	Monthly for April thru September	Grab
Total Flow - (MGD)	Monthly for April thru September	Instantaneous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the irrigation compliance point(s) which are located in the SENE of Section 22 and NENE of Section 36 both in Township 56 North, Range 76 West on unnamed ephemeral draws tributary to Spotted Horse Creek.

The permit requires daily monitoring on ephemeral draws to Spotted Horse Creek to determine whether water discharged from the outfalls reaches the established irrigation compliance points from April 1 thru September 30. Daily monitoring is necessary during this period because the permit establishes different sampling and analysis requirements based on whether the effluent reaches the irrigation compliance points. Once flow at the irrigation compliance points has been documented within a sampling month, then weekly monitoring of flow is required for the month. At the beginning of each calendar month from April 1 thru September 30, the frequency will revert to daily until such time as flow occurs at the irrigation compliance point and a sample is collected to represent effluent quality for irrigation compliance point constituents for that month. Effluent samples must be collected for a weekly sampling period if flow persists at the irrigation compliance point for 24 hours or more. Results are to be reported twice-yearly and if no discharge occurs then "no discharge" is to be reported.

f. Water Quality Monitoring Stations (TRIB1, UPR, DPR)

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

reported semiannually.

Parameter	Measurement Frequency	Sample Type
Dissolved Calcium	Monthly	Grab
Chloride	Monthly	Grab
Dissolved Magnesium	Monthly	Grab
Dissolved Sodium	Monthly	Grab
Sodium Adsorption Ratio	Monthly	Calculated
Specific Conductance	Monthly	Grab
Flow	Monthly	Instantaneous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): designated water quality monitoring stations located on Spotted Horse Creek and in the main channel of the Powder River, upstream and downstream of the confluence with the Powder River. The designated water quality monitoring stations are located in the tributary in the SWNE of Section 7, Township 56 North, Range 76 West and on the mainstem in the NWSW of Section 7, Township 56 North, Range 76 West, and the SENW of Section 31, Township 57 North, Range 76 West. Established water quality monitoring stations on the mainstem are located outside the mixing zone with the tributary and the mainstem. Results are to be reported semiannually and if no flow occurs at the designated tributary monitoring station on Spotted Horse Creek, then "no flow" is to be reported and samples need not be collected at the water quality monitoring stations for that monthly sampling period.

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. 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 issuance of this modification is due on August 15, 2007.

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.

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 and Irrigation Compliance Points

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

SEE TABLE 1 FOR A LIST OF WELLS, OUTFALLS, AND
IRRIGATION COMPLIANCE POINTS

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

TABLE 1. OUTFALL AND WQMS LOCATION INFORMATION

Discharge Point # (Outfall)	Immediate Receiving Stream or Station Location Description	Quarter / Quarter	Section	Township	Range	Latitude	Longitude	Reservoir Name	Groundwater Approval Required for Discharge?	Reservoir Bonding to WDEQ Required Prior to Discharge?
001	Unnamed Tributary to Spotted Horse Creek	SE / NE	24	56	76	44.819120	-105.946540	NA	No	No
002	Unnamed Tributary to Spotted Horse Creek	NW / NW	19	56	75	44.820120	-105.941250	NA	No	No
003	Unnamed Tributary to Spotted Horse Creek	NE / SW	19	56	75	44.813720	-105.933650	NA	No	No
004	Unnamed Tributary to Spotted Horse Creek	NE / NW	21	54	75	44.650163	-105.889909	Rose	Yes	No
005	Unnamed Tributary to Spotted Horse Creek	SW / SE	16	54	75	44.653604	-105.884745	Knuckles	Yes	Yes
ICP-1	Unnamed Tributary to Spotted Horse Creek	SE / NE	22	56	76	44.813600	-105.990400	NA	NA	NA
ICP-2	Unnamed Tributary to Spotted Horse Creek	NE / NE	36	56	76	44.792866	-105.946319	NA	NA	NA
TRIB1	Spotted Horse Creek	SW / NE	7	56	76	44.846544	-106.049018	NA	NA	NA
UPR	Powder River	NW / SW	7	56	76	44.839528	-106.061311	NA	NA	NA
DPR	Powder River	SE / NW	31	57	76	44.879660	-106.059260	NA	NA	NA
FM001	Flow Monitoring Station, Outfall 004	NE / NW	21	54	75	44.651957	-105.891241	NA	NA	NA
FM002	Flow Monitoring Station, Outfall 005	SW / SE	16	54	75	44.655260	-105.885617	NA	NA	NA
R001	Rose Reservoir	NE / NW	21	54	75	44.651249	-105.890585	NA	NA	NA
R002	Knuckles Reservoir	SW / SE	16	54	75	44.654758	-105.885310	NA	NA	NA

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 2,640 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.

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.

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.

2. Reclamation Performance Bonds for On-Channel Reservoirs:

Table 1 of the permit above also identifies which outfalls (if any) are designed to discharge into impoundments that are subject to WDEQ bonding requirements, as set forth in the latest version of the Water Quality Division guideline *“Implementation Guidance for Reclamation and Bonding of On-Channel Reservoirs That Store Coalbed Natural Gas Produced Water.”* These specified outfalls are not authorized to discharge until the associated reservoir reclamation bond is approved by WDEQ. Once the reservoir reclamation bond is approved by WDEQ, the contributing outfall(s) to that reservoir may commence discharge.

Any discharge into an above-listed impoundment which has not been secured by the required WDEQ-approved bond, or 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.