

**Wyoming Department of Environmental Quality
Water Quality Division
WYPDES Program**

Statement of Basis

MAJOR MODIFICATION

APPLICANT NAME: Petro-Canada Resources (USA), Inc.

MAILING ADDRESS: 999 18th Street, Suite 600
Denver, CO 80202-1904

FACILITY LOCATION: Red Draw Treated Water Discharge Project, which is located in the SWSE of Section 25, Township 47 North, Range 78 West; the SWSE of Section 21, Township 49 North, Range 77 West; and SESE of Section 32, the NWNW of Section 33, the SWNW of Section 28, and the NWSW and NWNE of Section 21, all in Johnson County. Following treatment, the produced water will be discharged directly to the Powder River (class 2ABWW). Because all effluent from this facility will be treated prior to discharge, this permit does not limit which coal seams may contribute to the discharge.

NUMBER: WY0056669

This permit is modified at the request of the permittee as follows:

1) Add 6 outfalls (003 – 008). These outfalls were previously covered under WYPDES permit WY0054780. Upon issuance of this modification, permit WY0054780 will be terminated.

2) Increase monthly load limits at this facility for total dissolved solids (TDS) and dissolved sodium, using available permittee credits under the Powder River Assimilative Capacity Allocation and Control Process.

All other conditions of this permit shall remain unchanged and in full force and effect.

General Description

This facility is a typical coal bed methane production facility in which groundwater is pumped from a coal bearing formation resulting in the release of methane from the coal bed. The permit authorizes the discharge to the surface of groundwater produced in this way provided the effluent quality is in compliance with effluent limits that are established by this permit. In developing effluent limits, all federal and state regulations and standards have been considered and the most stringent requirements incorporated into the permit. The effluent limits established in this permit are based upon Chapters 1 and 2 of the Wyoming Water Quality Rules and Regulations and other evaluations conducted by WDEQ related to this industry. 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

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. Based on a review of this permit application it has been determined that no active irrigation uses of surface water occur between the outfalls authorized on this permit and the Powder River.

Water discharged from this facility is expected to reach the Powder River on a frequent and/or continual basis. The outfalls at this facility employ effluent treatment and will discharge directly to the Powder River. In order to meet the required effluent and load limits for discharges to the Powder River, the permittee plans to treat all effluent. Any concentrated waste generated in the operation of this treatment unit will be contained in lined pits, outside of any natural stream channels or water bodies. These lined pits will not constitute waters of the state and will therefore not require WYPDES permit coverage for discharge into them. However, the pits will require permitting through the Wyoming Oil and Gas Conservation Commission. In addition, the entire treatment facility will require a Chapter 3 permit-to-construct from the WDEQ Water and Wastewater Program.

Whole Effluent Toxicity (WET) Testing

WDEQ has determined that discharges from this facility have a reasonable potential to exert a toxic effect on aquatic life in the receiving stream(s). Therefore, in accordance with *40 CFR 122.44(d)(1)*, the permit contains a requirement to conduct annual static replacement toxicity tests on a grab sample of the discharge from the end of pipe. Each year during the life of this permit, a minimum of 20% of the discharging outfalls are to be sampled and tested for toxicity as described in Part I of the permit below. Since the discharge from this facility is expected to reach a perennial water body (Powder River) on a regular basis, WDEQ has determined that both acute and chronic toxicity testing are appropriate at these outfalls to characterize the impact that this discharge may have on aquatic life in the receiving waters.

Acute WET Testing: The permittee will conduct acute 48-hour static tests using *Daphnia magna* (water flea) and acute 96-hour static tests using *Pimephales promelas* (fathead minnow) at all outfalls permitted for discharge. The acute whole effluent toxicity tests will be conducted in accordance with the latest procedures set forth in *40 CFR 136.3* and the “*Region VIII EPA NPDES Acute Test Conditions – Static Renewal Whole Effluent Toxicity Tests*”. In the case of conflicts in method, *40 CFR 136.3* will prevail. If the results of two consecutive annual reports indicate no acute toxicity (as defined in part I of the permit below), the permittee may reduce the monitoring to annual acute toxicity testing on only one species on an alternating basis. The test procedures for alternating species shall be the same as specified above.

Chronic WET Testing: The permittee will also conduct chronic short-term tests using *Pimephales promelas* (fathead minnow). The chronic whole effluent toxicity tests will be conducted in accordance with the latest procedures set forth in *40 CFR 136.3* and the “*Region VIII EPA NPDES Chronic Test Conditions – Static Renewal Whole Effluent Toxicity Tests*”. In the case of conflicts in method, *40 CFR 136.3* will prevail.

Effluent Limits

Technology Limits:

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. In addition to the federal effluent limitation guideline, Chapter 2, Appendix H of the Wyoming Water Quality Rules and Regulations contains the following limits applicable to coal bed methane discharges:

Chlorides	2,000 mg/l
Sulfates	3,000 mg/l
Total Dissolved Solids	5,000 mg/l
Specific Conductance	7,500 micromhos/cm
pH	6.5 – 9.0 standard units

The applicant has proposed that mechanical treatment consisting of reverse osmosis and/or cross-current ion exchange will be required to meet the effluent limitations in this proposed discharge permit. The applicant determined that treatment is cost effective and WDEQ agrees. Wyoming statutes and regulations require that the plans and specifications for the proposed treatment system must be prepared by a registered professional engineer and submitted to the Water Quality Division’s Water / Wastewater section prior to construction for engineering evaluation. This evaluation assures that the treatment system will not be built until the Water / Wastewater section has reviewed and evaluated the plans and specifications including treatment performance and determined that the proposed system is / has the technical capability of treating pollutants identified in the permit application.

WDEQ has determined that the proposed treatment facility, operational modes and performance capabilities assures any applicable site specific water quality standards will be met. Therefore, DEQ will propose site specific water quality limits, which are within the range of performance for the technology.

Water Quality Based Effluent Limits:

Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. We have evaluated potential technology and water quality based effluent limits for this facility. Where the calculated water quality based effluent limit is more stringent than the applicable technology limit, the water quality based effluent limit is applied. The pH must remain within 6.5 and 9.0 standard units and a sulfate limit of 3000 mg/l is also established. These limits are based upon *Wyoming Water Quality Rules and Regulations*, Chapter 2 for protection of stock and wildlife consumption, and apply to all permitted outfalls. The permit also establishes a total recoverable barium limit of 1800 µg/l and a total arsenic limit of 8.4 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. In addition, the permit establishes a dissolved iron limit of 300 µg/l and a chloride limit of 150 mg/l, which are based on Water Quality Criteria as established in the *Wyoming Water Quality Rules and Regulations*, Chapter 1, for chronic aquatic life protection values. The limits established in this permit for metals and chlorides reflect the application of the antidegradation provisions required under the *Wyoming Water Quality Rules and Regulations*, Chapter 1. Finally, this permit establishes a radium 226 + radium 228 effluent limit of 1 pCi/l. This limit is also established in accordance with tier 2 anti-degradation protection requirements for

the Powder River and water quality standards established in 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.

Powder River Assimilative Capacity for Total Dissolved Solids and Dissolved Sodium

In order to control total dissolved solids (TDS) and dissolved sodium loads into the Powder River in accordance with the Powder River Assimilative Capacity Policy, this permit establishes actual monthly load limits for TDS and dissolved sodium for the direct discharging outfall at this facility (001). These effluent limits are listed in Part I.A.1.b of the following permit. The actual monthly load limits vary by month according to background water quality concentrations within the Powder River as well as the Powder River assimilative capacity that has been allocated to the permittee. The total assimilative capacity allocated to the permittee is based on Powder River Basin lease holding information provided to the WDEQ by the permittee. The lease holding information is used to calculate the permittee’s net working interest. The net working interest calculated for the permittee is a function of total Powder River Basin coal leased by the permittee, as determined by the Wyoming Geological Survey, and ambient Powder River water quality concentrations determined by the WDEQ. The ambient Powder River water quality concentrations were calculated using United States Geological Survey (USGS) water quality data from USGS station number 06324500, Powder River at Moorhead, for the years 1990-2003.

The total Powder River assimilative capacity load allocation held by Petro-Canada for operations in the Powder River basin is shown in the table below:

Month	Petro-Canada TDS Total Allocation lbs/month	Petro-Canada Sodium Total allocation lbs/month
January	3,809,809	244,846
February	4,155,312	279,072
March	1,455,635	273,994
April	2,226,060	186,173
May	19,049,045	641,264
June	17,217,183	829,317
July	1,365,781	460,544
August	0	102,019
September	0	64,879
October	2,102,583	443,055
November	4,104,298	299,006
December	2,390,116	215,698

A portion of the above total allocations have been assigned for use under this permit and are expressed as “actual monthly load limits” for this facility in Part I.A.1.b. The load limits in this permit may be modified administratively by the WDEQ to the extent that the cumulative loads discharged by the permittee, from all of their permits, do not exceed the company’s total Powder River allocation for any month.

The total actual monthly load limits do not represent the total loads of TDS and dissolved sodium that may be contributed by the direct discharging outfalls each month; rather, the actual monthly load limits represent the portion of the total TDS and dissolved sodium loads contributed by the direct discharging outfalls that the permittee will be charged assimilative capacity for. The permittee is not charged assimilative capacity for the total monthly TDS and dissolved sodium loads produced by the direct discharging outfalls; the permittee is only charged assimilative capacity for the portions of the total loads that are above what the loads would be should all effluent discharged from the direct discharging outfalls be treated to ambient Powder River concentrations for TDS and dissolved sodium. This approach is in accordance with the Powder River Assimilative Capacity Policy.

The permittee will be required to calculate the actual monthly load for the direct discharging outfalls for each month. The actual monthly load from the direct discharging outfalls, for each month, must be less than or equal to the actual monthly load limits established in Part I.A.1.b of the permit. The permittee may adjust outfall flow as desired from the direct discharging outfalls, as long as the actual monthly load limits can be met, and provided the permittee can meet all other effluent limits and requirements for these outfalls established in Part I of the permit. The permittee must monitor the direct discharging outfalls continuously for flow and monthly for TDS and dissolved sodium, and must show that, for each month, at such flow rates and water quality, that they are achieving compliance with the total actual monthly load limits for these outfalls.

Calculation of Actual Monthly Loads From the Outfalls: The dissolved sodium and TDS actual monthly loads for the direct discharging outfalls will be calculated using the equation below (see also Figure 1 for further explanation of equation):

Equation 1: $[(V \times C_{di}) - (V \times C_{pr})] \times 8.34 \text{ (lb/MG)/mg/l} = \text{Actual Monthly Load}$

where:

V = total volume, in **million gallons (MG)** discharged from the outfall(s) for the given month. This permit requires that flow be monitored continuously at each outfall. The daily flow volumes (as represented from the average daily flow rates in MGD) from the outfall will be summed to determine the total monthly flow volume for the outfall.

C_{di} = concentration, in **mg/l**, of TDS or dissolved sodium in the discharge. The permittee will be required to monitor once monthly at the outfall for both TDS and dissolved sodium. **C_{di}** will represent the monthly sampled concentration of the appropriate constituent (TDS or dissolved sodium).

C_{pr} = ambient concentration of TDS or dissolved sodium of Powder River, in **mg/l**. Ambient concentration values have been pre-determined by the WDEQ using USGS data. For the months of August and September, when sufficient assimilative capacity does not exist within the Powder River to allow discharges from this facility at concentrations above ambient, the TDS ambient concentration is set at Montana standards (TDS = 1,524 mg/l, which is equivalent to EC 2,000 micromhos/cm). The permittee will choose the appropriate value for **C_{pr}** from the following table, also listed in Part I.A.1.b of the following permit:

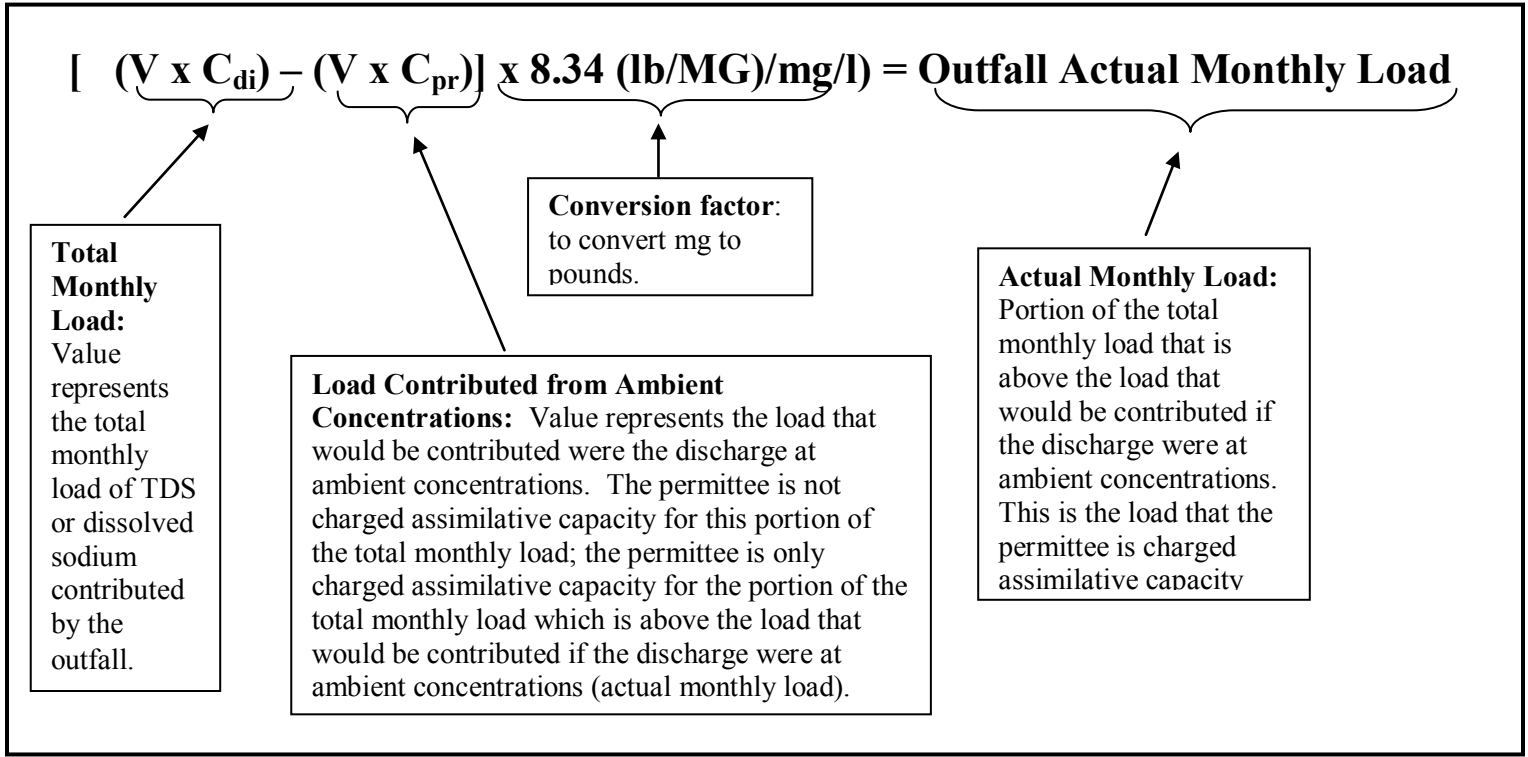
Month	C _{pr} Values	
	Total Dissolved Solids (mg/l)	Dissolved Sodium (mg/l)
January	1,345	212
February	1,444	194
March	1,359	186
April	1,161	166
May	956	202
June	860	160
July	1,369	180
August	1,524	250
September	1,524	237
October	1,388	224
November	1,446	213
December	1,482	211

8.34 (lb/MG)/(mg/l) is a conversion factor to convert mg to pounds in the equation.

Actual Monthly Load = the actual monthly load of TDS or dissolved sodium, in pounds, contributed by the outfall for a given month.

The permittee will be required to calculate and report the actual monthly loads of sodium and TDS contributed by the direct discharging outfalls for each month. The actual monthly loads from the direct discharging outfalls for each month must be less than or equal to the actual monthly load limits established in Part I.A.1.b of the following permit.

Figure 1. Diagram of Actual Monthly Load Equation



Monitoring and Reporting

Results are to be reported at the frequencies indicated in Part I.A.6.b and Part I.A.6.c of the following permit. If no discharge occurs at a given 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 following issuance of this renewal, and the results submitted to WDEQ and the U.S. Environmental Protection Agency within 120 days of the commencement of discharge.

The permit requires sampling at designated water quality monitoring stations located on the Powder River, identified as UPR and DPR in Table 1 of the following permit. Water quality monitoring stations on the Powder River will be located in the main channel of the Powder River outside of the mixing zone of the outfalls and the Powder River. If no flow occurs at any of the permitted outfalls, then "no discharge" is to be reported and samples need not be collected at the water quality monitoring stations for that monthly sampling period. 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 permittee is required to monitor for temperature, dissolved sodium, dissolved magnesium, dissolved calcium, specific conductance, TDS, and sodium adsorption ratio at the water quality monitoring stations. The designated water quality monitoring stations are located as described in Table 1, Part I.B.13 of the following permit, upstream and downstream (respectively) of the outfall locations on the Powder River, in the main channel of the Powder River.

Additional Permit Requirements

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

The 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 and reporting of effluent quality and quantity is required on a regular basis. The permit is scheduled to expire on July 31, 2013.

Jennifer Zygmunt—NEW
Water Quality Division
Department of Environmental Quality
Drafted: June 10, 2008

Jason Thomas – Major Modification
Water Quality Division
Department of Environmental Quality
Drafted: May 11, 2009

MODIFICATION OF 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,

Petro-Canada Resources (USA), Inc.,

is authorized to discharge from the wastewater treatment facilities serving the

Red Draw Treated Water Discharge Project,

located in

the SWSE of Section 25, Township 47 North, Range 78 West; the SWSE of Section 21, Township 49 North, Range 77 West; and SESE of Section 32, the NWNW of Section 33, the SWNW of Section 28, and the NWSW and NWNE of Section 21, all in Johnson County,


to receiving waters named

following treatment, the produced water will be discharged directly 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.

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

This permit and the authorization to discharge shall expire at midnight, July 31, 2013.



John F. Wagner
Administrator - Water Quality Division

7/29/09
Date



John V. Corra
Director - Department of Environmental Quality

7/30/09
Date

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through July 31, 2013, 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): 001-008.

- 1a. **Effluent Limitations:** Such discharges shall be limited as specified below for all permitted outfalls (001-008):

Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum, Outfall</u>
Chloride, mg/l	150
pH, standard units	6.5 – 9.0
Specific Conductance, micromhos/cm	7500
Total Arsenic, µg/l	8.4
Total Barium, µg/l	1800
Dissolved Iron, µg/l	300
Sulfate, mg/l	3000
Total Recoverable Radium 226 + 228, pCi/l	1

- 1b. **Total Actual Monthly Load Limits:** The permittee must discharge effluent from this facility at concentrations for total dissolved solids and dissolved sodium and at such flow rates so as not to exceed the total actual monthly load limits established below:

Total Actual Monthly Load Limits

<u>Effluent Characteristic</u>	<u>Total Actual Monthly Load (lb), sum of all outfall actual loads (001-008)</u>
Dissolved Sodium, lb/mo. (January)	84,962
Dissolved Sodium, lb/mo. (February)	100,466
Dissolved Sodium, lb/mo. (March)	90,418
Dissolved Sodium, lb/mo. (April)	15,453
Dissolved Sodium, lb/mo. (May)	187,248
Dissolved Sodium, lb/mo. (June)	278,649
Dissolved Sodium, lb/mo. (July)	270,338
Dissolved Sodium, lb/mo. (August)	16,629

<u>Effluent Characteristic</u>	<u>Total Actual Monthly Load</u>
	<u>(lb), sum of all outfall actual loads (001-008)</u>
Dissolved Sodium, lb/mo. (September)	0
Dissolved Sodium, lb/mo. (October)	202,475
Dissolved Sodium, lb/mo. (November)	156,977
Dissolved Sodium, lb/mo. (December)	73,769
Total Dissolved Solids, lb/mo. (January)	1,321,995
Total Dissolved Solids, lb/mo. (February)	1,495,903
Total Dissolved Solids, lb/mo. (March)	480,356
Total Dissolved Solids, lb/mo. (April)	184,762
Total Dissolved Solids, lb/mo. (May)	5,562,283
Total Dissolved Solids, lb/mo. (June)	5,784,934
Total Dissolved Solids, lb/mo. (July)	801,708
Total Dissolved Solids, lb/mo. (August)	0
Total Dissolved Solids, lb/mo. (September)	0
Total Dissolved Solids, lb/mo. (October)	960,874
Total Dissolved Solids, lb/mo. (November)	2,154,742
Total Dissolved Solids, lb/mo. (December)	817,415

1c. Additional Permit Requirements Applicable to All Outfalls (001-008):

In order to meet the total actual monthly load limits for TDS and dissolved sodium established above, the effluent must be treated prior to discharge. Any storage of concentrated waste generated from the treatment unit(s) must occur outside of any waters of the state. In addition, the construction and operation of a treatment unit at this facility will require acquisition of a permit to construct in accordance with Chapter 3 of the Wyoming Water Quality Rules and Regulations. Prior to addition of any chemicals to the treatment, pre-treatment, or post-treatment processes (flocculants, surfactants, anti-scalants, sterilants, etc.), written authorization must be obtained from the WYPDES Program. Addition of chemicals to the treatment process without prior written authorization from the WYPDES program will constitute a violation of this permit.

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

Information gathered from the water quality monitoring stations may result in modification of the permit, in accordance with Part III.A.3 of the permit below, to protect existing uses on the tributaries and the mainstem.

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

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

2. Effluent Limitations (Toxic Pollutants)

Effective immediately upon issuance of this permit modification, there shall be no acute or chronic toxicity occurring in the effluent from this facility.

3. Whole Effluent Testing (Acute)

Upon issuance of this permit, the permittee shall, at least once annually, conduct acute static replacement toxicity tests on a grab sample of the discharge. If initial monitoring of the effluent is required for this permit (within 60 days of commencement of discharge), then the first annual acute toxicity test is to be conducted at that time. At a minimum, 20 percent of all discharging outfalls that immediately flow to Class 3 waters and 20 percent of all discharging outfalls that immediately flow to Class 2 waters are to be sampled and tested annually for acute whole effluent toxicity (WET). Each year, a different 20 percent minimum portion of the discharging outfalls is to be sampled and tested for acute whole effluent toxicity. Consecutive yearly samples may not be collected from an identical outfall unless the outfall is the only discharging outfall that complies with the criteria listed above. The permittee may select the outfall(s) that will be sampled each year unless the permit issuing authority specifically identifies which outfalls must be sampled. The permittee must also provide written notification to the permit issuing authority at least two weeks prior to WET-related sampling. The written notification will specify which outfall(s) are discharging and which outfalls will be selected and sampled for the WET test.

The replacement static toxicity tests shall be conducted in accordance with the procedures set forth in 40 CFR 136.3 and the “*Region VIII EPA NPDES Acute Test Conditions – Static Renewal Whole Effluent Toxicity Tests*”. In the case of conflicts in method, 40 CFR 136.3 will prevail. The permittee shall conduct an acute 48-hour static toxicity test using *Daphnia magna* and an acute 96-hour static toxicity test using *Pimephales promelas*. All tests will be conducted utilizing a multi-dilution series consisting of at least five (5) concentrations and a control as defined below:

- 100% effluent
- 85% effluent
- 67% effluent
- 50% effluent
- 25% effluent
- control (or 0% effluent)

All tests will be conducted utilizing a minimum of 5 replicates for each test. In the event of inconclusive test results, the WDEQ reserves the right to require the permittee to perform additional tests at alternate dilutions and/or replicates. The WDEQ also reserves the right to require the submission of all information regarding all initiated tests, regardless of whether the tests were carried to completion or not.

Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration at any outfall. If acute toxicity occurs at any outfall during a sampling period, then WDEQ will assume that all outfalls, which have not yet been sampled, exhibit similar acute toxicity characteristics as well.

If more than 10 percent control mortality occurs, the test is not valid. The test shall be repeated until satisfactory control survival is achieved.

If acute toxicity occurs, an additional test on the failing outfall(s) shall be initiated within two (2) weeks of the date of when the permittee learned of the test failure. If only one species fails, retesting may be limited to this species. Should acute toxicity occur in the second test, the Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) process described below shall be implemented on a schedule established by the DEQ.

Annual test results shall be reported on a Discharge Monitoring Report (DMR) that must be submitted by February 15th of each year. The format for the report shall be consistent with the latest revision of the "Region VIII Guidance for Acute Whole Effluent Reporting", and shall include all chemical and physical data as specified.

If the results of two consecutive annual reports indicate no acute toxicity for all sampled outfalls, the permittee may reduce the monitoring to annual acute toxicity testing on only one species on an alternating basis. The test procedures for alternating species shall be the same as specified above.

4. Whole Effluent Testing (Chronic)

Upon issuance of this permit, the permittee shall, at least once annually, conduct chronic static replacement toxicity tests on a grab sample of the discharge. If initial monitoring of the effluent is required for this permit (within 60 days of commencement of discharge), then the first annual chronic toxicity test is to be conducted at that time. At a minimum, 20 percent of all discharging outfalls that immediately flow to Class 3 waters and 20 percent of all discharging outfalls that immediately flow to Class 2 waters are to be sampled and tested annually for chronic whole effluent toxicity (WET). Each year, a different 20 percent minimum portion of the discharging outfalls is to be sampled and tested for chronic whole effluent toxicity. Consecutive yearly samples may not be collected from an identical outfall unless the outfall is the only discharging outfall that complies with the criteria listed above. The permittee may select the outfall(s) that will be sampled each year unless the permit issuing authority specifically identifies which outfalls must be sampled. The permittee must also provide

written notification to the permit issuing authority at least two weeks prior to WET-related sampling. The written notification will specify which outfall(s) are discharging and which outfalls will be selected and sampled for the WET test.

The chronic toxicity tests shall be conducted in accordance with the procedures set forth in *40 CFR 136.3* and the "*Region VIII EPA NPDES Acute Test Conditions – Static Renewal Whole Effluent Toxicity Tests*". In the case of conflicts in method, *40 CFR 136.3* will prevail. Test species shall consist of *Pimephales promelas*. All tests will be conducted utilizing a multi-dilution series consisting of at least five (5) concentrations and a control as defined below:

- 100% effluent
- 85% effluent
- 67% effluent
- 50% effluent
- 25% effluent
- control (or 0% effluent)

All tests will be conducted utilizing a minimum of 5 replicates for each test. In the event of inconclusive test results, the WDEQ reserves the right to require the permittee to perform additional tests at alternate dilutions and/or replicates. The WDEQ also reserves the right to require the submission of all information regarding all initiated tests, regardless of whether the tests were carried to completion or not.

Chronic toxicity occurs when, during a chronic toxicity test, 25 percent or more inhibition (calculated on the basis of test organism survival and growth or survival and reproduction) is observed in either species at any effluent concentration at any outfall. If chronic toxicity occurs at any outfall during a sampling period, then WDEQ will assume that all outfalls, which have not yet been sampled, exhibit similar chronic toxicity characteristics as well.

If a test acceptability criterion is not met for control survival, growth, or reproduction, the test shall be considered invalid. In such cases, the test shall be repeated until all test acceptability criteria are met and valid results are obtained.

If chronic toxicity occurs, an additional test of the failing outfall(s) shall be initiated within two (2) weeks of the date of when the permittee learned of the test failure. Should chronic toxicity occur in the second test, the Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) process described below shall be implemented on a schedule established by WDEQ.

Annual test results shall be reported on a Discharge Monitoring Report (DMR) that must be submitted by February 15th of each year. The format for the report shall be consistent with the latest revision of the "Region VIII Guidance for Chronic Whole Effluent Reporting", and shall include all chemical and physical data as specified.

5. Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE)

Should toxicity be detected in the permittee’s discharge, a TIE-TRE shall be undertaken by the permittee to establish the cause of the toxicity, locate the source(s) of the toxicity, and develop control of, or treatment for the toxicity. Failure to initiate, or conduct an adequate TIE-TRE, or delays in the conduct of such test, shall not be considered a justification for noncompliance with the whole effluent toxicity limits contained in this permit. A TRE plan needs to be submitted to the permitting authority within 45 days after confirmation of the continuance of effluent toxicity.

If acceptable to the permit issuing authority, and if in conformance with current regulations, this permit may be reopened and modified to incorporate TRE conclusions relating to additional numerical limitations, a modified compliance schedule, and/or modified whole effluent protocol.

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

a. Monitoring of the initial discharge

Within 60 days of commencement of discharge following issuance of this permit modification, 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 permit modification, 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 routine monitoring requirements described in Parts I.A.7.b. and I.A.7.c. 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, Dissolved	50 µg/l
Arsenic, Total Recoverable	1 µg/l
Barium, Total Recoverable	100 µg/l

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

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
1595 Wynkoop Street
Denver, CO 80202-1129

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—Effluent Limits (001-008)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected and reported 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 for constituents with a “once every six month” reporting frequency 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>	<u>Report Frequency</u>
Bicarbonate (mg/l)	Annually	Grab	Annually
Dissolved Calcium (mg/l)	Monthly	Grab	Semi-annually
Chloride (mg/l)	Annually	Grab	Annually
Dissolved Iron (µg/l)	Once Every Six Months	Grab	Semi-annually
Dissolved Magnesium (mg/l)	Monthly	Grab	Semi-annually
pH (standard units)	Once Every Six Months	Grab	Semi-annually
Dissolved Sodium (mg/l)	Monthly	Grab	Monthly
Sodium Adsorption Ratio (unadjusted)	Monthly	Calculated	Semi-annually
Specific Conductance (micromhos/cm)	Monthly	Grab	Semi-annually
Total Alkalinity (mgl)	Annually	Grab	Annually
Total Recoverable Arsenic (µg/l)	Annually	Grab	Annually
Total Recoverable Barium (µg/l)	Once Every Six Months	Grab	Semi-annually
Total Flow – (MGD)*	Monthly	Continuous	Monthly
Total Dissolved Solids (mg/l)	Monthly	Grab	Monthly
Sulfate (mg/l)	Monthly	Grab	Semi-annually
Total Recoverable Radium 226 + 228 (pCi/l)	Annually	Grab	Annually
Temperature (degrees F)**	Monthly	Continuous	Semi-annually

*Total flow at the outfall will be measured continuously and the data will be compiled by the permittee in order to report the following values on a monthly basis:

1. a **monthly average value** (average of all flow readings for a given month),
2. a **daily maximum value** (highest single flow reading for that month).
3. the **total monthly flow volume**, in million gallons (MG) for the outfall, calculated using the following method:
 - a. The permittee will determine the daily flow volume, in million gallons (MG), by calculating the average daily flow rate in MGD. This value will be used to represent the volume of effluent discharged from each outfall for that day.
 - b. The average daily flow volume for each day of the month will be summed for each outfall, to calculate the total monthly flow volume for each outfall.

**Temperature at the end of pipe will be measured continuously and the data will be compiled by the permittee in order to report the following values in the semi-annually submitted DMR's:

1. **monthly average value** (average of all temperature readings for a given month)
2. **daily maximum value** (highest single temperature reading for that month)
3. **daily minimum value** (lowest single temperature reading for that month)

c. Additional Routine Monitoring End of Pipe; All Outfalls

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected and reported at the indicated frequencies.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Report Frequency</u>
Total Dissolved Solids actual load (lb/mo.)	Monthly	Calculated	Monthly
Dissolved Sodium actual load (lb/mo.)	Monthly	Calculated	Monthly
Dissolved Sodium (monthly flow-weighted average concentration (mg/L)	Monthly	Calculated	Monthly
Total Dissolved Solids (monthly flow-weighted average concentration (mg/L)	Monthly	Calculated	Monthly

*The permittee will calculate the actual monthly loads from the direct discharging outfalls for TDS and dissolved sodium using the following formula:

$$[(V \times C_{di}) - (V \times C_{pr})] \times 8.34 \text{ (lb/MG)/mg/l} = \text{Outfall Actual Monthly Load (lb)}$$

where:

V = total volume, in million gallons (MG) discharged from the outfall for the given month. This permit requires that flow be monitored continuously at the outfall. The daily flow volumes (as represented from the average daily flow rates in MGD) from the outfall will be summed to determine the total monthly flow volume for the outfall.

C_{di} = concentration, in mg/l, of TDS or dissolved sodium in the discharge. The permittee is required to monitor once monthly at each outfall for the given parameter. C_{di} will represent this monthly sampled concentration.

C_{pr} = ambient concentration of TDS or dissolved sodium of Powder River, in **mg/l**. The permittee will choose the appropriate value, based on the month and constituent, for C_{pr} from the following table:

Month	C_{pr} Values	
	Total Dissolved Solids (mg/l)	Dissolved Sodium (mg/l)
January	1,345	212
February	1,444	194
March	1,359	186
April	1,161	166
May	956	202
June	860	160
July	1,369	180
August	1,524	250
September	1,524	237
October	1,388	224
November	1,446	213
December	1,482	211

Actual monthly loads from the direct discharging outfalls must be equal to or less than the actual monthly load limits established in Part I.A.1.b of the permit; actual monthly loads from the direct discharging outfalls that are greater than the actual monthly load limits established in Part I.A.1.b of the permit will constitute a violation of this permit.

d. Water Quality Monitoring Stations (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 semi-annually.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Report Frequency</u>
Dissolved Calcium (mg/l)	Monthly	Grab	Semi-annually
Dissolved Magnesium (mg/l)	Monthly	Grab	Semi-annually
Dissolved Sodium (mg/l)	Monthly	Grab	Semi-annually
Sodium Adsorption Ratio (unadjusted)	Monthly	Calculated	Semi-annually
Specific Conductance (micromhos/cm)	Monthly	Grab	Semi-annually
Temperature (degrees F)*	Monthly	Continuous	Semi-annually

*Temperature at stations UPR and DPR will be measured continuously and the data will be compiled by the permittee in order to report the following values in the semi-annually submitted DMR's:

- 1) **monthly average value** (average of all temperature readings for a given month)
- 2) **daily maximum value** (highest single temperature reading for that month)
- 3) **daily minimum value** (lowest single temperature reading for that month)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): designated water quality monitoring stations located in the main channel of the Powder River, upstream and downstream of the confluence of the outfalls or receiving streams and the Powder River. The designated water quality monitoring stations are located as described in Table 1, Part I.B.13 of the permit. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone of the outfalls with the mainstem.

In the event that no discharge occurs from this facility for an entire calendar month, the permittee may report "no discharge" on the discharge monitoring reports for that month, and is not required to collect samples at the water quality monitoring station(s) during that month.

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 shall be summarized and reported on a Discharge Monitoring Report Form (DMR) at the required frequencies. If the discharge is intermittent, the date the discharge began and ended must be included. The information submitted on the first 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 testing (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 permit modification is due on September 15th, 2009.

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.
- j. "Powder River Assimilative Capacity Allocation" means the total load of sodium and dissolved solids allocated to a company for discharges of CBM produced water within the mainstem Powder River drainage. The assimilative capacity allocation is measured in lbs/month.
- k. "Total Monthly Load" means the total load of sodium or dissolved solids contained in a discharge of CBM produced water.

- I. "Actual Load" means that portion of a company's Powder River Assimilative Capacity Allocation that has been applied to a particular permit. Actual monthly loads represent the total monthly load of sodium and dissolved solids minus the amount that would be contributed if the discharges were at ambient Powder River concentrations.

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 at the outlet of each receiving reservoir listed in Table 1 below. This sign shall, at 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 (as identified in this WYPDES permit). In addition, all outfall signs will include the outfall number. Reservoir signs are separate from the outfall signs, and are to be located at the outlet of the reservoir. Reservoir signs must include the information listed in items a and b above, in addition to the reservoir name, as identified in Table 1 below.

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. The permittee shall provide written notification of the establishment of each discharge point in accordance with Part I.A.7.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 A LIST OF OUTFALLS

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 MONITORING STATIONS

Table 1: WY0056669 Red Draw								
Out-fall	Previous ID	Qtr/Qtr	SEC-TION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description
001	WY0050270-001	SWSE	25	47	78	44.01250	-106.17780	Powder River (2ABWW) via direct discharge from treatment unit
002	WY0050270-002	SWSE	21	49	77	44.19916	-106.12722	Powder River (2ABWW) via direct discharge from treatment unit
003	WY0054780-022	SESE	32	52	77	44.43457	-106.14281	Powder River (2ABWW) via direct discharge from treatment unit
004	WY0054780-011	NWNW	33	52	77	44.44293	-106.13947	Powder River (2ABWW) via direct discharge from treatment unit
005	WY0054780-012	SWNW	28	52	77	44.45320	-106.13693	Powder River (2ABWW) via direct discharge from treatment unit
006	WY0054780-013	SWNW	28	52	77	44.45617	-106.13772	Powder River (2ABWW) via direct discharge from treatment unit
007	WY0054780-014	NWSW	21	52	77	44.46569	-106.14083	Powder River (2ABWW) via direct discharge from treatment unit
008	WY0054780-017	NWNE	21	52	77	44.47294	-106.12773	Powder River (2ABWW) via direct discharge from treatment unit
UPR	N/A	SESW	25	47	78	44.01084	-106.17392	Upstream Powder River monitoring station (above project)
DPR	N/A	NWSE	16	52	77	44.47886	-106.12813	Downstream Powder River monitoring station (below project)

Note: All CBM wells at this facility are permitted to discharge to any of the above listed outfalls.

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 WDQ.

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.

PART II

A. MANAGEMENT REQUIREMENTS

1. Changes

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

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

2. Noncompliance Notification

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

The written submission shall contain:

- (1) A description of the noncompliance and its cause;
 - (2) The period of noncompliance, including exact dates and times;
 - (3) The estimated time noncompliance is expected to continue if it has not been corrected; and
 - (4) Steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance.
- d. The following occurrences of unanticipated noncompliance shall be reported by telephone to the Water Quality Division, Watershed Management Section, NPDES Program (307) 777-7781 as soon as

possible, but no later than 24 hours from the time the permittee first became aware of the circumstances.

- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
 - (2) Any upset which exceeds any effluent limitation in the permit; or
 - (3) Violation of a maximum daily discharge limitation for any toxic pollutants or hazardous substances, or any pollutants specifically identified as the method to control a toxic pollutant or hazardous substance listed in the permit.
- e. The administrator of the Water Quality Division may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Quality Division, NPDES Program (307) 777-7781.
- f. Reports shall be submitted to the Wyoming Department of Environmental Quality at the address in Part I under Reporting and to the Planning and Targeting Program, 8ENF-PT, Office of Enforcement, Compliance, and Environmental Justice, U.S. EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129.
- g. The permittee shall report all instances of noncompliance that have not been specifically addressed in any part of this permit at the time the monitoring reports are due.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, as a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

4. Adverse Impact

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

5. Bypass of Treatment Facilities

- a. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
 - b. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs c. and d. of this section. Return of removed substances to the discharge stream shall not be considered a bypass under the provisions of this paragraph.
 - c. Notice:
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice at least 60 days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.A.2.
 - d. Prohibition of bypass.
 - (1) Bypass is prohibited and the administrator of the Water Quality Division may take enforcement action against a permittee for a bypass, unless:
 - (a) The bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (c) The permittee submitted notices as required under paragraph c. of this section.
 - e. The administrator of the Water Quality Division may approve an anticipated bypass, after considering its adverse effects, if the administrator determines that it will meet the three conditions listed above in paragraph d. (1) of this section.
6. Upset Conditions
- a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused

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

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

7. Removed Substances

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

8. Power Failures

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

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

9. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal act and the Wyoming Environmental Quality Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give the administrator of the Water Quality Division advance notice of any planned changes at the permitted facility or of any activity which may result in permit noncompliance.

10. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

11. Signatory Requirements

All applications, reports or information submitted to the administrator of the Water Quality Division shall be signed and certified.

- a. All permit applications shall be signed as follows:
 - (1) For a corporation: by a responsible corporate officer;
 - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
 - (3) For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected official.
- b. All reports required by the permit and other information requested by the administrator of the Water Quality Division shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - (1) The authorization is made in writing by a person described above and submitted to the administrator of the Water Quality Division; and
 - (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
- c. If an authorization under paragraph II.A.11.b. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph II.A.11.b must be submitted to the

administrator of the Water Quality Division prior to or together with any reports, information or applications to be signed by an authorized representative.

- d. Any person signing a document under this section shall make the following certification:

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

B. RESPONSIBILITIES

1. Inspection and Entry

If requested, the permittee shall provide written certification from the surface landowner(s), if different than the permittee, that the administrator or the administrator's authorized agent has access to all physical locations associated with this permit including well heads, discharge points, reservoirs, monitoring locations, and any waters of the state.

The permittee shall allow the administrator of the Water Quality Division or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and
- d. Sample or monitor, at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the federal act, any substances or parameters at any location.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be

forwarded to the regional administrator of the Environmental Protection Agency and the administrator of the Water Quality Division. The administrator of the Water Quality Division shall then provide written notification to the new owner or controller of the date in which they assume legal responsibility of the permit. The permit may be modified or revoked and reissued to change the name of the permittee and incorporate such other requirements as described in the federal act.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the federal act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Wyoming Department of Environmental Quality and the regional administrator of the Environmental Protection Agency. As required by the federal act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the federal act.

4. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the federal act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Changes in Discharge of Toxic Substances

Notification shall be provided to the administrator of the Water Quality Division as soon as the permittee knows of, or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/l);
 - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or
 - (4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which

is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- (1) Five hundred micrograms per liter (500 µg/l);
- (2) One milligram per liter (1 mg/l) for antimony;
- (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or
- (4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).

6. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. As long as the conditions related to the provisions of "Bypass of Treatment Facilities" (Part II.A.5), "Upset Conditions" (Part II.A.6), and "Power Failures" (Part II.A.8) are satisfied then they shall not be considered as noncompliance.

7. Need to Halt or Reduce Activity not a Defense

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

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the federal act.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable state or federal law or regulation. In addition, issuance of this permit does not substitute for any other permits required under the Clean Water Act or any other federal, state, or local law.

10. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights nor any infringement of federal, state or local laws or regulations.

11. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit.

12. Duty to Provide Information

The permittee shall furnish to the administrator of the Water Quality Division, within a reasonable time, any information which the administrator may request to determine whether cause exists for modifying, revoking and reissuing or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the administrator, upon request, copies of records required by this permit to be kept.

13. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to the administrator of the Water Quality Division, it shall promptly submit such facts or information.

14. Permit Action

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

15. Permit Fees

Once this permit has been issued, the permittee will be assessed a \$100.00 per-year permit fee by the Water Quality Division. The fee year runs from January 1st through December 31st. This permit fee will continue to be assessed for as long as the permit is active, regardless of whether discharge actually occurs. This fee is not pro-rated. If the permit is active during any portion of the fee year, the full fee will be billed to the permittee for that fee year. In the event that this permit is transferred from one permittee to another, each party will be billed the full permit fee for the fee year in which the permit transfer was finalized.

PART IIIA. OTHER REQUIREMENTS1. Flow Measurement

At the request of the administrator of the Water Quality Division, the permittee must be able to show proof of the accuracy of any flow measuring device used in obtaining data submitted in the monitoring report. The flow measuring device must indicate values of within plus or minus ten (10) percent of the actual flow being measured.

2. 208(b) Plans

This permit may be modified, suspended or revoked to comply with the provisions of any 208(b) plan certified by the Governor of the State of Wyoming.

3. Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary) or other appropriate requirements if one or more of the following events occurs:

- a. The state water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit;
- b. A total maximum daily load (TMDL) and/or watershed management plan is developed and approved by the state and/or the Environmental Protection Agency which specifies a wasteload allocation for incorporation in this permit;
- c. A revision to the current water quality management plan is approved and adopted which calls for different effluent limitations than contained in this permit;
- d. Downstream impairment is observed and the permitted facility is contributing to the impairment;
- e. The limits established by the permit no longer attain and/or maintain applicable water quality standards;
- f. The permit does not control or limit a pollutant that has the potential to cause or contribute to a violation of a state water quality standard.
- g. If new applicable effluent guidelines and/or standards have been promulgated and the standards are more stringent than the effluent limits established by the permit.

- h. In order to protect water quality standards in neighboring states, effluent limits may be incorporated into this permit or existing limits may be modified to ensure that the appropriate criteria, water quality standards and assimilative capacity are attained.
- i. If new, additional or more stringent permit conditions are necessary for control of erosion downstream of the discharges to ensure protection of water quality standards.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- d. If necessary to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b) (2) (C) and (D), 304 (b) (2) and 307 (a) (2) of the federal act, if the effluent standard or limitation so issued or approved:
 - (1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) Controls any pollutant not limited in the permit.

5. Toxicity Limitation - Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include a new compliance date, additional or modified numerical limitations, a new or different compliance schedule, a change in the whole effluent protocol or any other conditions related to the control of toxicants if one or more of the following events occur:

- a. Toxicity was detected late in the life of the permit near or past the deadline for compliance;
- b. The TRE results indicate that compliance with the toxic limits will require an implementation schedule past the date for compliance and the permit issuing authority agrees with the conclusion;

- c. The TRE results indicate that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits and the permit issuing authority agrees that numerical controls are the most appropriate course of action;
- d. Following the implementation of numerical controls on toxicants, the permit issuing authority agrees that a modified whole effluent protocol is necessary to compensate for those toxicants that are controlled numerically;
- e. The TRE reveals other unique conditions or characteristics which, in the opinion of the permit issuing authority, justify the incorporation of unanticipated special conditions in the permit.

6. Severability

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit, shall not be affected thereby.

7. Penalties for Falsification of Reports

The federal act provides that any person who knowingly makes any false statement, representation or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance 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.