Wyoming Department of Environmental Quality
Water Quality Division
WYPDES Program

STATEMENT OF BASIS

MAJOR MODIFICATION

APPLICANT NAME: Williams Production RMT Company

MAILING ADDRESS: 300 North Works Avenue
Gillette, WY 82716

FACILITY LOCATION: Watsabaugh State Section, which is located in the SESE of Section 35 and the SWNW, NESE, SESE, NENE, SWNE, and SWSW of Section 36, all in Township 50 North, Range 75 West in Campbell County. The produced water will be discharged to 7 on-channel reservoirs (class 3B) located on various ephemeral tributaries (class 3B) to Kingsbury Creek (class 3B), which is tributary to Wild Horse Creek (class 3B) which is tributary to the Powder River (class 2ABWW). The established irrigation compliance point (ICP) is located in the SESE of Section 30 in Township 50 North, Range 74 West, prior to the first downstream point of irrigation diversion/use on Wild Horse Creek. The daily maximum permitted flow rate for this facility is 1.09 million gallons per day (MGD). The wells at this facility will discharge effluent originating from the Wall, Werner, Wyodak and Big George coal seams.

NUMBER: WY0050555

Upon approval of this major modification, the terms of permit WY050555 are hereby modified as follows:

1. ***Change the permit name to Watsabaugh State Section.***
2. ***Correct outfall locations.***
3. ***Remove the 25-year containment requirement.***
4. ***Move one irrigation compliance point (ICP1).***
5. ***Remove one irrigation compliance point (ICP2).***
6. ***Correct the WQMS sampling points to the standard locations.***
7. ***Add three (3) coal seams (Werner, Wyodak, and Big George).***
8. ***Change the well names of ten (10) wells***
9. ***Add twenty seven (26) wells.***
10. ***The dissolved iron effluent limit is updated to 1000 µg/l for outfalls greater than one mile from the confluence with a class 2 water.***
11. ***The radium^{226} effluent limit is updated to reflect current WDEQ permitting approaches.***
12. ***The dissolved manganese effluent limits are updated to current drainage limits.***
13. ***In accordance with current WDEQ policy, the effluent limit and monitoring requirements for total petroleum hydrocarbons (TPH) are removed.***
14. ***pH values are updated.***
15. ***The initial monitoring list is updated to 24 constituents.***

With the exception of items explicitly delineated in the major modification, all terms and conditions of permit WY0050555, including Parts II and III of the original permit, shall remain unchanged and in full force and effect.

This facility is a typical coal bed methane production facility in which groundwater is pumped from a coal bearing formation resulting in the release of methane from the coal bed. The permit authorizes the discharge to the surface of groundwater produced in this way provided the effluent quality is in compliance with effluent limits that are established by this permit. In developing effluent limits, all federal and state regulations and standards have been considered and the most stringent requirements incorporated into the permit. The EPA Effluent Guidelines and Standards for Oil and Gas Extraction Point Source Category (Part 435, Subpart E) predate the development of coal bed methane extraction technology; however the technology is similar enough to conventional gas extraction that, in the professional judgment of the WDEQ, this effluent limit guideline is appropriately applied to coal bed methane gas production. The guideline limits oil and grease effluent concentrations to less than 35 mg/l and requires that discharges of produced water be used to enhance agricultural production and/or wildlife propagation. This permit does not cover activities associated with discharges of drilling fluids, acids, stimulation waters or other fluids derived from the drilling or completion of the wells.

The permittee has chosen option 2 of the coal bed methane permitting options. Under this permitting option, the produced water is immediately discharged to a class 2 or 3 receiving stream which is eventually tributary to a class 2AB perennial water of the state. The permit establishes effluent limits for the end of pipe, which are protective of all the designated uses defined in Chapter 1 of Wyoming Water Quality Rules and Regulations. This may include drinking water, game and non-game fish, fish consumption, aquatic life other than fish, recreation, agriculture, wildlife, industry and scenic value. 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 Wild Horse Creek from the permitted facility. Effluent limits associated with the irrigation compliance points (SAR = 6 and 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 beneficial use and is unlikely to reach the Powder River or the downstream irrigated lands on Wild Horse Creek. The permittee has submitted certified statements that demonstrate discharged effluent will be put to beneficial use for wildlife watering. The permittee has also submitted a water budget that demonstrates produced effluent from the wells associated with this permit will be contained in a series of on-channel reservoirs located on ephemeral tributaries to Kingsbury Creek, which is tributary to Wild Horse Creek. 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 this facility is located approximately 65 miles from the confluence with the Powder River. Maximum total effluent flow rate from this facility is estimated at 1.69 cfs.

Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. The daily maximum effluent flow rate for this facility is 1.09 million gallons per day (MGD). 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), specific conductance (7,500 micromhos/cm), and sulfates (3,000 mg/l) are included to protect for stock and wildlife watering. These limits are based upon Wyoming Water Quality Rules and Regulations, Chapter 2 and apply to discharge from any permitted outfall. In addition, the permit establishes a dissolved manganese limit of 630 µg/l, a total barium limit of 1800 µg/l, a total arsenic limit of 7 µg/l, and a chlorides limit of 46 mg/l. 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.

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

The dissolved iron limit is modified to 1000 µg/l for those outfalls greater than 1 mile from the confluence with a class 2 water. The dissolved iron limit of 1000 µg/l is based upon chronic aquatic life standards for class 3B waters greater than one mile from the confluence of a class 2 water, and reflects the application of standards required under Chapter 1 of the Wyoming Water Quality Rules and Regulations.

Results are to be reported twice-yearly and if no discharge occurs at a given discharge point for an entire monitoring period, then "no discharge" is to be reported for that discharge point during that monitoring period. The permit also requires that an initial monitoring of the effluent at the outfalls 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.

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 6 and specific conductance of 2,000 micromhos/cm is intended to be protective of agriculture use in the Wild Horse Creek drainage. The default 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). Data to characterize the salt tolerance of alfalfa specific to the Wild Horse Creek drainage is currently unavailable. The SAR limit of 6 was determined to not reduce the rate of infiltration of irrigated soils in the Wild 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, water with an SAR at or below 6 is typically considered usable for irrigation as determined by Applied Hydrology Associates, Inc. in their technical document "Certification of Compliance with Chapter 1, Section 20 of the Wyoming Water Quality Rules and Regulations for Devon Energy Production Company, LP CBM Discharge Permits within Wild Horse Creek Watershed" (see permit WY0047759). An SAR limit of 6 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 6 was also derived from the mean ambient SAR value of the Powder River at Arvada, WY. Monitoring will be required for flow volume, calcium, magnesium, sodium, bicarbonate, sodium adsorption ratio and specific conductance when effluent from this facility is present at the irrigation compliance point(s).

The permit requires daily monitoring on the receiving unnamed ephemeral tributaries to Kingsbury Creek to determine whether effluent discharged from the outfalls reaches either of the established irrigation compliance points. Daily monitoring is necessary because the permit establishes different sampling and analysis requirements based on whether the effluent from the outfalls reaches the irrigation compliance point. Once effluent flow at the irrigation compliance point has been documented within a sampling month, then weekly monitoring of flow is required for the remainder of that calendar month. At the beginning of each calendar month, the frequency will revert to daily until such time as effluent flow occurs at the irrigation compliance point and a sample is collected to

represent effluent quality for irrigation compliance point constituents for that month. Results are to be reported twice-yearly and if no effluent from this facility intercepts the ICP during a given sampling month, then "no discharge" is to be reported for the ICP that month.

As the downstream irrigator(s) are not able to divert stream flows in Wild Horse Creek away from the fields undergoing irrigation, and the permittee proposes year-round discharges to Wild Horse Creek, effluent limits protective of irrigation are in effect year-round.

The effluent limits at the ICP are intended to demonstrate compliance with *Chapter 2, Section 20 (Protection of Agricultural Water Supply) of the Wyoming Water Quality Rules and Regulations.* If produced water from this facility reaches the ICP and results in a violation of the ICP effluent limits, this action will constitute a violation of this permit, regardless of the cause of the violation (i.e., natural conditions of the stream channel or other operators in the drainage.) If this facility's effluent does not reach an irrigation compliance point, then monitoring and compliance with the ICP effluent limits are not required.

Violation of the ICP effluent limits may result in enforcement action from the Water Quality Division, termination of the discharge until an acceptable plan to mitigate the violation has been developed and/or other appropriate enforcement action.

The permit also requires sampling at designated water quality monitoring stations located on the receiving stream (Wild Horse Creek) and at locations on the Powder River (class 2ABWW water) that Wild Horse Creek confluences. Water quality monitoring stations on the Powder River will be located upstream and downstream of the confluence of Wild 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 effluent from this facility intercepts the tributary monitoring station on Wild Horse Creek during an entire sampling month, then "no discharge" is to be reported for all three water quality monitoring stations that month 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 on the tributary in the SESE of Section 16, Township 54 North, Range 77 West and on the mainstem in the SWSE of Section 16 in Township 54 North, Range 77 West and the NWSE of Section 34 in Township 55 North, Range 77 West. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone of the tributary with 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 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 August 31, 2008.

Jason Thomas

Water Quality Division
Department of Environmental Quality
Drafted: July 21, 2003
Major Modification – Bob Alexander – January 18, 2006

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL 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,

Williams Production RMT Company

is authorized to discharge from the wastewater treatment facilities serving the

Watsabaugh State Section

located in

the SESE of Section 35 and the SWNW, NESE, SESE, NENE, SWNE, and SWSW of Section 36, all in Township 50 North, Range 75 West in Campbell County

to receiving waters named

7 on-channel reservoirs (class 3B) located on various ephemeral tributaries (class 3B) to Kingsbury Creek (class 3B), which is tributary to Wild 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 October 18, 2003. 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 WY0050555, 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 August 31, 2008.

_____ _____

John Wagner
Administrator - Water Quality Division

Date

_____ _____

John V. Corra
Director - Department of Environmental Quality

Date

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through August 31, 2008, 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 001-007.

1. Such discharges shall be limited as specified below:

Effluent Limits

Effluent Characteristic	Daily Maximum Outfall	Daily Maximum Irrigation Compliance Point
Chlorides, mg/l	46	
Dissolved Iron, µg/l	1000	
Dissolved Manganese, µg/l	630	
pH, standard units	6.5 – 9.0	
Specific Conductance,	7500	2000
Sulfates, mg/l	3000	
Total Arsenic, µg/l	7	
Total Barium, µg/l	1800	
Total Dissolved Solids, mg/l	5000	
Sodium Adsorption Ratio, calculated		6
Total Flow, MGD*	1.09	

*This shall be the combined maximum flow from outfalls 001-007.

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.

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

The daily maximum discharge flow rate for this facility is 1.09 million gallons per day (MGD). The effluent discharged at this facility will originate from the Wall, Werner, Wyodak and Big George coal seams.

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.

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.

The permittee has committed to; and will be required to contain all effluent during "dry" operating conditions within a series of on-channel reservoirs. The permittee has also submitted documentation in their permit application indicating that such containment is feasible. Discharges from the reservoirs being utilized to contain CBM produced water at this facility are not allowed except in the event precipitation causes the reservoirs to fill and overtop. Under such circumstances, discharges are limited to natural overtopping only. Intentional discharges from the reservoirs are not allowed under any circumstances, and will be considered a violation of this permit.

2. 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 or permit renewal, 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 or permit renewal, 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. ***If Initial Monitor Reports have already been submitted for an outfall, resubmission is not required unless a new coal seam has been added to that outfall.*** 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.

Parameter* (See notes following the table on chemical states)	**Required Detection Limits and Required Units**
Alkalinity, Total	1 mg/l as $CaCO_3$
Aluminum, Total Recoverable	50 µg/l
Arsenic, Total	1 µg/l
Barium, Total	100 µg/l
Bicarbonate	10 mg/l
Cadmium, Dissolved	5 µg/l
Calcium, 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

Parameter* (See notes following the table on chemical states)	Required Detection Limits and Required Units
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
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 um 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 (001-007)

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	Grab
Dissolved Calcium	Monthly	Grab
Chloride	Monthly	Grab
Dissolved Iron	Annually	Grab
Dissolved Manganese	Annually	Grab
Dissolved Fluoride	Monthly	Grab
Dissolved Magnesium	Monthly	Grab
pH	Monthly	Grab
Dissolved Potassium	Monthly	Grab
Dissolved Sodium	Monthly	Grab
Sodium Adsorption Ratio	Monthly	Calculated
Specific Conductance	Monthly	Grab
Sulfate	Monthly	Grab
Total Alkalinity	Monthly	Grab
Total Arsenic	Annually	Grab
Total Barium	Annually	Grab
Total Flow - (MGD)	Monthly	Continuous

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

c. Irrigation Compliance Point(s) (ICP1)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies when effluent discharged from the outfalls reaches the irrigation compliance point. Monitoring will be based on monthly time frames and reported semi-annually.

Parameter	Measurement Frequency	Sample Type
Bicarbonate	Monthly	Grab
Dissolved Calcium	Monthly	Grab
Dissolved Magnesium	Monthly	Grab
Dissolved Sodium	Monthly	Grab
Sodium Adsorption Ratio	Monthly	Calculated
Specific Conductance	Monthly	Grab
Total Flow - (MGD)	Monthly	Instantaneous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the irrigation compliance point which is located in the SESE of Section 30 in Township 50 North, Range 74 West.

The permit requires daily monitoring on the receiving unnamed ephemeral tributaries of Kingsbury Creek to determine whether effluent discharged from the outfalls reaches either of the established irrigation compliance points. Daily monitoring is necessary because the permit establishes different sampling and analysis requirements based on whether the effluent reaches the irrigation compliance points. Once effluent flow at the irrigation compliance point has been documented within a sampling month, then weekly monitoring of effluent flow is required for the remainder of that calendar month. At the

beginning of each calendar month, the frequency will revert to daily until such time as effluent flow occurs at the irrigation compliance point and a sample is collected to represent effluent quality for irrigation compliance point constituents for that month. Results are to be reported twice-yearly and if no effluent from this facility intercepts the ICP during a given sampling month, then "no discharge" is to be reported for the ICP that month.

Effluent limits protective of irrigation are in effect year-round, as some of the irrigators on Wild Horse Creek have limited to no ability to divert streamflows away from the fields undergoing irrigation.

The effluent limits at the ICP are intended to demonstrate compliance with *Chapter 1, Section 20 (protection of agricultural water supply) of the Wyoming Water Quality Rules and Regulations.* If produced water from this facility reaches the ICP and results in a violation of the ICP effluent limits, this action will constitute a violation of this permit, regardless of the cause of the violation (i.e., natural conditions of the stream channel or other operators in the drainage.) If this facility's effluent does not reach an irrigation compliance point, then monitoring and compliance with the ICP effluent limits are not required.

Violation of the ICP effluent limits may result in enforcement action from the Water Quality Division, termination of the discharge until an acceptable plan to mitigate the violation has been developed and/or other appropriate enforcement action.

d. 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 Wild 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 on the tributary in the SESE of Section 16, Township 54 North, Range 77 West and on the mainstem in the SWSE of Section 16 in Township 54 North, Range 77 West and the NWSE of Section 34, Township 55 North, Range 77 West. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone with the tributary and the mainstem. Results are to be reported semiannually and if no effluent from this facility intercepts the tributary monitoring station on Wild Horse Creek during an entire sampling month, then "no discharge" is to be reported for all three water quality monitoring stations that month and samples need not be collected at the three 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. If whole effluent toxicity testing (biomonitoring) is required, 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 second the month following the completed reporting period. The first report is due on August 15, 2006.

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

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

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

3. Definitions

a. The "monthly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during a calendar month.

b. The "weekly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during any week.

c. The "daily maximum" shall be determined by the analysis of a single grab or composite sample.

d. "MGD", for monitoring requirements, is defined as million gallons per day.

e. "Net" value, if noted under Effluent Characteristics, is calculated on the basis of the net increase of the individual parameter over the quantity of that same parameter present in the intake water measured prior to any contamination or use in the process of this facility. Any contaminants contained in any intake water obtained from underground wells shall not be adjusted for as described above and, therefore, shall be considered as process input to the final effluent. Limitations in which "net" is not noted are calculated on the basis of gross measurements of each parameter in the discharge, irrespective of the quantity of those parameters in the intake waters.

f. A "composite" sample, for monitoring requirements, is defined as a minimum of four grab samples collected at equally spaced two hour intervals and proportioned according to flow.

g. An "instantaneous" measurement for monitoring requirements is defined as a single reading, measurement, or observation.

h. A "pollutant" is any substance or substances which, if allowed to enter surface waters of the state, causes or threatens to cause pollution as defined in the Wyoming Environmental Quality Act, Section 35-11-103.

i. "Total Flow" is the total volume of water discharged, measured on a continuous basis and reported as a total volume for each month during a reporting period. The accuracy of flow measurement must comply with Part III.A.1.

4. Test Procedures

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

5. Recording of Results

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

a. The exact place, date and time of sampling;

b. The dates and times the analyses were performed;

c. The person(s) who performed the analyses and collected the samples;

d. The analytical techniques or methods used; and

e. The results of all required analyses including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine the results.

6. Additional Monitoring by Permittee

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

7. Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the administrator at any time. Data collected on site, copies of Discharge Monitoring Reports and a copy of this NPDES permit must be maintained on site during the duration of activity at the permitted location.

8. Penalties for Tampering

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

9. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

10. Facility Identification

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

a. The name of the company, corporation, person(s) who holds the discharge permit, and the NPDES permit number;

b. The contact name and phone number of the person responsible for the records associated with the permit;

c. The name of the facility (lease, well number, etc.) and the outfall number as identified by the discharge permit.

11. Identification and Establishment of Discharge Points

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

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 LOCATIONS OF OUTFALLS AND IRRIGATION COMPLIANCE POINTS. Note: all CBM wells permitted to discharge to all 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 STATIONS

TABLE 1: LIST OF OUTFALLS AS MODIFIED FOR WY0050555

Discharge Point # (Outfall)	Immediate Receiving Stream	Mainstem	Distance To Class 2 Water (miles)	Qtr/ Qtr	Sec	Twn	Rng	Latitude	Longitude	County	Reservoir Permit App. to SEO	SEO Permit # or date Submitted	Reservoir Name	SEO Res. Req's	G/W Req's
001	Kingsbury Creek	Powder River	67.12	SESE	35	50	75	44.26010	105.83450	Campbell	Yes	P2127S	Christensen	N/A	None
002	Tributary to Kingsbury Creek	Powder River	66.80	SWNW	36	50	75	44.26580	105.83080	Campbell	In Process	In Process	36-1	N/A	None
003	Kingsbury Creek	Powder River	65.86	NESE	36	50	75	44.26190	105.81550	Campbell	Yes	P5289S	Boyken	N/A	None
004	Tributary to Kingsbury Creek	Powder River	65.40	NENE	36	50	75	44.27070	105.81800	Campbell	In Process	In Process	P36-1	N/A	None
005	Tributary to Kingsbury Creek	Powder River	66.45	SWNE	36	50	75	44.26730	105.52310	Campbell	In Process	In Process	P36-2	N/A	None
006	Tributary to Kingsbury Creek	Powder River	66.73	SWSW	36	50	75	44.26000	105.82910	Campbell	In Process	In Process	P36-3	N/A	None
007	Tributary to Kingsbury Creek	Powder River	66.37	SESE	36	50	75	44.25840	105.81780	Campbell	In Process	In Process	P36-4	N/A	None
ICP1	Kingsbury Creek	Powder River	44.94	NWSE	19	51	74	44.38186	105.79800	Campbell	N/A	N/A	N/A	N/A	N/A
DPR	Powder River	Powder River	N/A	NWSE	34	55	77	44.69696	106.11236	Johnson	N/A	N/A	N/A	N/A	N/A
TRIB1	Wild Horse Creek	Powder River	0.31	SESE	16	54	77	44.65046	106.12156	Johnson	N/A	N/A	N/A	N/A	N/A
UPR	Powder River	Powder River	N/A	SWSE	16	54	77	44.65038	106.12778	Johnson	N/A	N/A	N/A	N/A	N/A

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 National Pollutant Discharge Elimination System Permit Modification Application For Coal Bed Methane. Incomplete application forms will be returned to the applicant.