

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

Statement of Basis

RENEWAL

APPLICANT NAME: Yates Petroleum

MAILING ADDRESS: 105 South 4th Street
Artesia, NM 88210

FACILITY NAME

LOCATION: Stripe LX Bar Creek POD CBM Facility, which is located in the SESE of Section 6, Township 56 North, Range 75 West; in Campbell County. The produced water will be discharged to an on-channel reservoir (class 3B) located on an ephemeral tributary (class 3B) to LX Bar Creek (class 3B), which is tributary to the Powder River (2ABWW). This facility is authorized to discharge produced water originating from the Anderson, Cook, Canyon and Wall coal seams.

NUMBER: **WY0054631**

At the request of the permittee, this permit is modified upon renewal as follows:

- 1) Remove 13 outfalls (001-009, 011-014) and associated reservoirs from the permit.*

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.

The permittee is required to contain all produced water within the on-channel reservoir during “dry” operating conditions. This permit prohibits discharge of effluent from the reservoir except during periods of time in which natural precipitation causes the reservoir to overtop and spill. Intentional or draw-down type releases from the reservoir will constitute a violation of this permit. Discharge from the reservoir is limited by the permit to natural overtopping and shall not extend beyond a 48 hour period following commencement of natural overtopping. It is the responsibility of the permittee to adequately demonstrate the circumstances in which reservoir discharges occurred, if requested to do so by the WYPDES Program.

Irrigation Protection

WDEQ has concluded through a reasonable potential review that the existing downstream irrigation use on LX Bar Creek is protected. This discharge facility does not have a reasonable potential to cause or contribute to an exceedence of Wyoming’s narrative water quality standard for irrigation protection (Chapter 1, Section 20 of the Wyoming Water Quality Rules and Regulations). The existing irrigation use at the mouth of LX Bar Creek is currently protected by a pipeline, which can divert any continuous flows up to 14 cubic feet per second (cfs) in LX Bar Creek, away from the fields, directly to the Powder River.

Based on mixing calculations for a critical overflow event at the pipeline inlet (14 cfs total flow or greater), WDEQ estimates that the resultant specific conductance of the mixed effluent will be approximately 1,273 micromhos/cm or lower during such an event. The resultant SAR during such an overflow event is estimated at 5 or less. These levels for EC and SAR do not exceed the instream standards for this irrigation use. For flow events less than a total of 14 cfs at the pipeline inlet, the irrigator controls flows to the field according to agronomic need and hydrologic conditions within the channel. The general management of these fields includes annual deep leaching with snowmelt and runoff water early in the growing season. This irrigation management practice is intended to prevent buildup of salts and sodium within the root zone of the irrigated soils over time. Based on its cumulative reasonable potential review for LX Bar Creek, WDEQ has determined that the bypass pipeline itself (as constructed and operated) constitutes an adequate control measure, and that no additional effluent limits are necessary at this time.

Reasonable Potential Calculations: LX Bar Creek Pipeline Inlet

CBM Discharge¹						+	LX Bar Creek² (@ critical flow)						=	Mixed Overflow Event: LX Bar Creek Pipeline Inlet	
Flow (cfs)	EC (µmhos/cm)	Na (mg/l)	Ca (mg/l)	Mg (mg/l)	SAR		Flow (cfs)	EC (µmhos/cm)	Na (mg/l)	Ca (mg/l)	Mg (mg/l)	SAR		Mixed EC (µmhos/cm)	Mixed SAR
2	2029	510	14	8	27	12	1147	143	70	27	3.7	1273	5		

Irrigation
Protection
Targets:

EC*	SAR**
3000	5

*EC target based on default protection of smooth brome grass, the most salt-sensitive crop identified within the irrigated acreage. (see USDA Salt Tolerance Database)

**SAR target calculated by Hanson 2006 Formula: SAR < 6.67 EC (dS/m) - 3.33, using calculated mixed EC value.

Reasonable Potential to Exceed EC Target? **No**

Reasonable Potential to Exceed SAR Target? **No**

¹CBM Discharge flow is maximum permitted cumulative discharge rate for all CBM facilities on LX Bar Creek. CBM discharge chemistry is based on average of all LX Bar CBM facilities for full period of record (2000 - Present)

²LX Bar Creek critical flow (12 cfs) is the calculated minimum flow rate for LX Bar Creek that will cause an overflow event at the pipeline inlet during maximum CBM discharge. Total pipe capacity is calculated at 14 cfs, using Hazen-Williams gravity flow equation. Calculation inputs = 18" internal pipe diameter; cement pipe; length of pipe = 4028 ft.; pipe elevation drop = 40 ft; Gravity flow. LX Bar Creek water chemistry estimated using "Evaluation of Surface Water Quality in the Pumpkin Creek Drainage..." (Golder Associates, 2007)

The above calculations are intended to be conservative and represent a worst-case scenario, in which cumulative CBM discharge is at its maximum flow in the creek channel above the pipeline inlet, while dilution from LX Bar Creek is at the minimum necessary to cause overflow.

Effluent Limits

Technology –Based Effluent 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:

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

Water Quality-Based Effluent Limits:

Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. Potential technology and water quality based effluent limits for this facility have been evaluated; 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. This limit is based upon *Wyoming Water Quality Rules and Regulations*, Chapter 2. 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 1000 µg/l and a chloride limit of 150 mg/l, which is intended for protection of the class 3B receiving stream. The limits established in this permit for metals and chloride reflect the application of the anti-degradation provisions required under *the Wyoming Water Quality Rules and Regulations, Chapter 1*. Effluent limits for sulfate are not typically included in permits for CBM discharge located within the Powder River drainage, because CBM discharges within the Powder River drainage have sulfate concentrations well below the technology-based effluent limit of 3,000 mg/l.

Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. This facility's flow rate must be monitored monthly. 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.

Monitoring and Reporting

Results are to be reported twice-yearly for option 2 outfalls and once yearly for option 1A outfalls. 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 permit, 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 two mainstem water quality monitoring locations on the Powder River upstream and downstream of the confluence of the discharge points on the Powder River, and a tributary

water quality monitoring station located on LX Bar Creek just prior to confluence with the Powder River. Water quality monitoring stations on the Powder River must be located in the main channel of the Powder River. Effluent samples at the designated water quality monitoring stations must be collected on a monthly basis and are to be reported semiannually. If flow occurs at the water quality monitoring station during a given monthly monitoring period, but this CBM facility did not contribute to that flow, the permittee will report "did not contribute" in the discharge monitoring reports for that monthly monitoring period. Under such circumstances, sampling is not required at the associated mainstem water quality monitoring stations, and it will be the responsibility of the permittee to demonstrate that the effluent from this facility did not contribute to the flow occurring at the water quality monitoring station. If no flow at all occurs at the water quality monitoring stations for an entire monthly monitoring period, then "no flow" is to be reported and samples need not be collected at the associated mainstem water quality monitoring stations for that monthly monitoring period.

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 anti-degradation 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 anti-degradation 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 February 28, 2020.

Jason Thomas
Water Quality Division
Department of Environmental Quality
Drafted: October 8, 2014

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,

Yates Petroleum

is authorized to discharge from the wastewater treatment facilities serving the

Stripe LX Bar Creek POD CBM Facility

located in the

SESE of Section 6, Township 56 North, Range 75 West; in Campbell County

to receiving waters named

on-channel reservoir (class 3B) located on an ephemeral tributary (class 3B) to LX Bar Creek (class 3B), which is tributary to the Powder River (2ABWW).

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

This permit Renewal shall become effective on March 1, 2015. This renewed permit and the authorization to discharge shall expire on February 28, 2020, at midnight.

Kevin Frederick
Administrator - Water Quality

Todd Parfitt
Director – Department of Environmental Quality

Date of Issuance

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective March 1, 2015 and lasting through February 28, 2020, 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): 010.

Such discharges shall be limited as specified below:

Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum, Outfall</u>
Chloride, mg/l	150
pH, standard units	6.5 – 9.0
Total Recoverable Arsenic, µg/l	8.4
Total Recoverable Barium, µg/l	1800
Dissolved Iron, µg/l	1000
Specific Conductance, µmhos/cm	7500

The produced water being discharged at this facility must originate from one or more of the following coal seams: Anderson, Cook, Canyon and Wall coal seams.

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

The permittee is required to contain all produced water within the on-channel reservoir during “dry” operating conditions. This permit prohibits discharge of effluent from the reservoir except during periods of time in which natural precipitation causes the reservoir to overtop and spill. Intentional or draw-down type releases from the reservoir will constitute a violation of this permit. Discharge from the reservoir is limited by the permit to natural overtopping and shall not extend beyond a 48 hour period following commencement of natural overtopping. It is the responsibility of the permittee to adequately demonstrate the circumstances in which reservoir discharges occurred, if requested to do so by the WYPDES Program.

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 mainstem. In addition, WQD may re-open and modify this permit, in accordance with Part III.A.3, in the event that additional or more stringent conditions are determined by WQD to be necessary for control of erosion downstream of the discharges within the tributary drainage.

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

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

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

a. Monitoring of the initial discharge

If outfalls have already been sampled and analyzed for all initial monitoring constituents, the permittee is not required to re-sample and re-analyze the outfalls if results have been obtained for all the constituents listed below and reported to the WDEQ, unless additional wells and/or coal seams have been included at this facility since the time the initial monitoring samples were collected and analyzed.

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
Bicarbonate	10 mg/l
Cadmium, Dissolved	5 µg/l
Calcium, Dissolved	50 µg/l, report as mg/l
Chloride	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 228, Total Recoverable	0.2 pCi/l
Selenium, Total Recoverable	5 µg/l

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

*Dissolved means the amount that will pass through a 0.45 µm membrane filter prior to acidification to pH 1.5 - 2.0 with nitric acid. Total is expressed in terms of total recoverable metal in the water column.

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

**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 (Outfall 010)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. Monitoring and reporting for all constituents except total dissolved solids, flow, specific conductance, sodium adsorption ratio, and dissolved sodium will be based on semi-annual time frames, from January through June, and from July through December. Monitoring and reporting for total dissolved solids, specific conductance, sodium adsorption ratio, flow, and dissolved sodium will be based on a monthly time frame.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Reporting Frequency</u>	<u>Sample Type</u>
Bicarbonate (mg/l)	Annually	Annually	Grab
Dissolved Calcium (mg/l)	Monthly	Once Every Six Months	Grab
Chloride (mg/l)	Annually	Annually	Grab
Dissolved Iron (µg/l)	Annually	Annually	Grab
Dissolved Magnesium (mg/l)	Monthly	Once Every Six Months	Grab
pH (standard units)	Once Every Six Months	Once Every Six Months	Grab
Dissolved Sodium (mg/l)	Monthly	Once Every Six Months	Grab

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Reporting Frequency</u>	<u>Sample Type</u>
Sodium Adsorption Ratio (unadjusted)	Monthly	Once Every Six Months	Calculated
Specific Conductance (micromhos/cm)	Monthly	Once Every Six Months	Grab
Total Alkalinity (mg/l)	Annually	Annually	Grab
Total Recoverable Arsenic (µg/l)	Annually	Annually	Grab
Total Recoverable Barium (µg/l)	Annually	Annually	Grab
Total Flow* – (MGD)	Monthly	Once Every Six Months	Continuous
Total Dissolved Solids (mg/l)	Monthly	Once Every Six Months	Grab
Sulfate (mg/l)	Annually	Annually	Grab

*Total Flow at the outfall will be measured continuously and the data will be compiled by the permittee in order to report a monthly average value (average of all flow readings for a given month) as well as a daily maximum value (highest single flow reading for that month).

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

d. Water Quality Monitoring Stations (TRIB, UPR and 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.

<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 (calculated as unadjusted ratio)	Monthly	Calculated	Semi-annually
Specific Conductance (micromhos/cm)	Monthly	Grab	Semi-annually
Flow (MGD)*	Monthly	Instantaneous	Semi-annually

*The permittee is only required to monitor and report flow at the tributary monitoring station (TRIB). The permittee is not required to monitor or report flow data at the mainstem water quality monitoring

stations (UPR and DPR), see Table 1, Part I.B.13 of the permit below for water quality monitoring station location descriptions.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: TRIB, UPR and DPR listed in Table 1, Part I.B. 13 of the permit below. Effluent samples at the designated water quality monitoring stations must be collected on a monthly basis and are to be reported semiannually. If flow occurs at the water quality monitoring stations during a given monthly monitoring period, but this CBM facility did not contribute to that flow, the permittee will report “did not contribute” in the discharge monitoring reports for that monthly monitoring period. Under such circumstances, sampling is not required at the associated mainstem water quality monitoring stations, and it will be the responsibility of the permittee to demonstrate that the effluent from this facility did not contribute to the flow occurring at the water quality monitoring station. If no flow at all occurs at the water quality monitoring stations for an entire monthly monitoring period, then “no flow” is to be reported and samples need not be collected at the associated mainstem water quality monitoring stations for that monthly monitoring period.

At the designated water quality monitoring stations, monitoring will be required for calcium, 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 mainstem.

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 and received no later than 120 days after the commencement of discharge.

Results of routine end of pipe and water quality station monitoring for all constituents except total dissolved solids, specific conductance, flow, sodium adsorption ratio, and dissolved sodium during the previous six (6) months shall be summarized and reported semiannually on a Discharge Monitoring Report Form (DMR). Results of routine end of pipe water quality monitoring for total dissolved solids, specific conductance, flow, sodium adsorption ratio, and dissolved sodium shall be summarized and reported monthly on a Discharge Monitoring Report Form. If the discharge is intermittent, the date the discharge began and ended must be included. The information submitted on the first semi-annual 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 (bio-monitoring) results must be reported on the most recent version of EPA Region VIII's Guidance for Whole Effluent Reporting. Semi-annual monitoring reports must be submitted to the state water pollution control agency at the following address and received no later than the 15th day of the second month following the completed reporting period. The first report following issuance of this permit is due on August 15th, 2015.

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 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.

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.

12. Location of Discharge Points and water quality monitoring stations

As of the date of permit issuance, authorized points of discharge and water quality monitoring stations were as follows:

Table 1: WY0048275--Kline Draw A

Out-fall	Qtr/Qtr	SEC-TION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description	Groundwater Approval Required Prior to Discharge?	Reservoir Bonding to WDEQ required prior to discharge?
010	SESE	6	56	75	44.85375	-105.92705	Powder River (2ABWW) via LX Bar Creek (3B) via Kline Draw (3B) via reservoir "Caesar" (3B)	YES	NO
UPR	SENW	16	57	76	44.92682	-106.01107	Upstream Powder River water quality monitoring station	N/A	N/A
DPR	SWNE	12	57	76	44.93853	-105.94616	Downstream Powder River water quality monitoring station	N/A	N/A
TRIB	NWSE	14	57	76	44.92221	-105.96555	Tributary water quality monitoring station on LX Bar Creek	N/A	N/A

Note: All CBM wells at this facility are permitted to discharge to any of the outfalls listed in Table 1.

The outfalls listed in Table 1 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 reoccurrence of the noncompliance.
- d. The following occurrences of unanticipated noncompliance shall be reported by telephone to the Water Quality Division, Watershed Management Section, WYPDES 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, WYPDES 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.
- 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 non-complying 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.

PART III

A. OTHER REQUIREMENTS

1. 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.