

# EXHIBIT A

**BEFORE THE  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
ENVIRONMENTAL QUALITY COUNCIL  
STATE OF WYOMING**

IN THE MATTER OF CHAPTER 1,            )  
QUALITY STANDARDS FOR                )  
WYOMING SURFACE WATERS,            )  
WATER QUALITY RULES AND            )  
REGULATIONS                            )

**STATEMENT OF PRINCIPAL REASONS**

**Background**

The Department of Environmental Quality (DEQ), Water Quality Division, pursuant to the authority vested in it by the Act, Wyoming Statutes 35-11-101 to 1507 *et seq.*, proposed to the Council to amend and revise Chapter 1 of the Wyoming Water Quality Rules and Regulations. Chapter 1 contains the quality standards for surface waters in the state including water classifications and designation of protected uses.

The department began a (*Triennial Review*) of the Chapter 1, Surface Water Quality Standards in July, 2002 with the publication of an Outreach document disclosing the agency’s intent to revise the regulations. Public comment was solicited during this informal stage in the process and draft revisions were proposed in November, 2004 after consideration of the comments received. The proposed rules and associated policies underwent an extensive review by the Water and Waste Advisory Board which included 5 public meetings and 4 solicitations of public comment over a 2-year period. On October 18, 2006, the Advisory Board made a recommendation to propose the revised rules to the Environmental Quality Council for formal adoption. The rule was then adopted on February 16, 2007 with Appendix H, Agricultural Use Protection, removed from the rule and remanded back to DEQ for revisions to the language and further definition of historic irrigation discharges.

This rule making is a substantial revision to Appendix H and associated language in Section 20 of Chapter 1. All aspects of the surface water standards have been considered. The major revisions proposed for this rulemaking include:

1. Refining the language in Appendix H from language used in the Agricultural Use Protection Policy document into rule form.

2. Greater specificity and clarification when defining historic discharges of produced water.
3. Updating electrical conductivity (EC) and sodium adsorption rate (SAR) default end-of-pipe effluent limits for discharges of produced water that reach surface water and are used to irrigate agricultural land.

### **Purpose and Intent of this Proposed Revision**

Section 303(c) of the Federal Clean Water Act provides states, tribes and territories with the primary authority and responsibility to establish water quality standards for Waters of the United States within their respective jurisdictions. The Clean Water Act also requires states to review their water quality standards at least once every three years and to make revisions where appropriate. This three-year revision cycle is commonly referred to as the "triennial review."

Chapter 1 of the Wyoming Water Quality Rules and Regulations contains the state surface water quality standards. These revised rules, once adopted, not only will become state requirements but will be submitted to the United States Environmental Protection Agency (EPA), Region VIII for approval under the Federal Clean Water Act as the applicable federal requirements in the State of Wyoming.

In this rule making, the Department of Environmental Quality proposes to update the Wyoming surface water quality standards to meet the most current national recommendations. The proposed revisions are intended to protect and maintain the designated uses of waters of the state associated with agricultural use and to achieve the goals of the federal Clean Water Act. These goals will be accomplished by designating protected uses on all waters which utilize surface water from discharges of produced water as an agricultural water supply.

All surface waters in Wyoming are protected to some extent for agricultural uses. "Agricultural uses" are described in Section 3 as being either stock watering or irrigation. The standard that applies to the protection of these uses is contained in Section 20 which states:

*Section 20. **Agricultural Water Supply.** All Wyoming surface waters which have the natural water quality potential for use as an agricultural water supply shall be maintained at a quality which allows continued use of such waters for agricultural purposes.*

*Degradation of such waters shall not be of such an extent to cause a measurable decrease in crop or livestock production.*

*Unless otherwise demonstrated, all Wyoming surface waters have the natural water quality potential for use as an agricultural water supply.*

All water quality standards are established for two reasons. The first is to provide a benchmark against which a determination can be made as to whether a waterbody is impaired and requires some kind of corrective action. The second is to provide a basis for establishing permit limits on regulated activities, in Wyoming Pollutant Discharge Elimination System (WYPDES) and Section 404 permits. The purpose of this Appendix is to provide the criteria and procedures to be used by the Water Quality Division when translating the narrative goals expressed in the Section 20 standard into appropriate WYPDES permit limits where maintaining agricultural use of the receiving waters is an issue.

Agricultural use of surface water is an opportunistic endeavor. The varying uses as well as the different qualities of the water found in the state are many and the farming and ranching industries have always had to make do with what water is available. The goal expressed in the Section 20 standard is simply to maintain surface water quality at a level that will continue to support the local agricultural uses that have developed around it.

Though the goal is simple, achieving it is not. For the most part, managing water quality for continued agricultural support requires managing the concentration and chemical makeup of dissolved solids. Because of local differences in crop types, soil types and natural water quality and availability, it isn't possible to establish simple numeric criteria for pollutants such as TDS and SAR that will allow an efficient use of surface water for irrigation purposes. The determination of what is acceptable water quality for irrigation must necessarily involve an evaluation of local agricultural practices and background water quality conditions. For livestock watering uses, it is somewhat less complicated because there are fewer variables to consider.

#### “Measurable Decrease”

The first part of translating the standard is defining what is meant by “*measurable decrease in crop or livestock production*”. The phrase implies that there is a pre-existing agricultural use of a stream or drainage prior to an application for a WYPDES discharge permit. For livestock watering purposes, a pre-existing use will always be assumed. For irrigation purposes, there needs to be either a current irrigation structure or mechanism in place for diverting water from the stream channel, or a substantial acreage of naturally sub-irrigated pasture within a stream floodplain. Where neither of these conditions exist, there can be no irrigation use, nor loss in crop production attributable to water quality.

Where there are pre-existing agricultural uses, it may often be impossible to measure a loss in crops or livestock that can be attributed to water quality because of the many other factors that will affect actual production. It is also important to be able to predict the probability of a measurable decrease in production rather than relying solely on after-the-fact measurements. Therefore, the implementation of the narrative criteria through WYPDES permits will always involve making reasonable judgments and assumptions.

Effluent limits on discharges of produced water that began prior to January 1, 1997 will not be

affected by this Appendix in relation to the protection of agricultural uses. Where discharges have been occurring for at least ten years with no prior indication or complaint of reduced agricultural production, it will be assumed that the discharge has had no adverse effect on production. Therefore, it is not necessary to modify those discharges in order to achieve the goal of “no measurable decrease” in crop or livestock production. It would only be necessary to maintain the existing quality of the discharge. It is important to note, however, that effluent limits on historic discharges may be made where the quality of the discharge is shown to constitute a hazard to humans, livestock or wildlife.

These rules are also intended to implement various provisions of the Wyoming Environmental Quality Act (WS 35-11-101 through 35-11-1507 et. seq.) including 1999 amendments addressing the level of data necessary to make various water quality program decisions.

Specifically, these rules are being revised to:

1. Meet the triennial review requirements of the federal Clean Water Act;
2. Provide an improved procedure for implementing the narrative standard found in Section 20 when setting effluent limits on discharges used for agricultural purposes;
3. Implement the applicable provisions of the Wyoming Environmental Quality Act; and
4. Maintain Wyoming’s primacy for delegated programs of the federal Clean Water Act.

**Compliance with Federal Regulations (WS 16-3-103(a)(i)(F))**

These rule revisions are proposed to comply with the federal regulations regarding the adoption of state water quality standards, specifically those contained in 40 CFR Part 131, which require the designation of water uses, the establishment of numeric and narrative water quality criteria sufficient to protect the water's designated uses and the implementation of antidegradation procedures. These rule changes are designed to meet the minimum requirements of the federal law and regulations.

## **Proposed Revisions to Chapter 1 of the Wyoming Water Quality Rules and Regulations**

### **Section (a) - Purpose**

A revision to Section (a) that allows preexisting discharges to maintain current effluent limits when those discharges began prior to January 1, 1997 and there is no prior indication or complaint of reduced agricultural production, and unless the discharge is shown to constitute a hazard to humans, livestock or wildlife.

### **Section (b) - Live Stock Watering**

Language has been revised from the previously proposed Appendix H to incorporate the concepts of the previously approved Agriculture Use Protection policy into rule form.

The basic concept in protecting a livestock watering use is to ensure that water quality is not acutely toxic to livestock or does not contain pollutants in concentrations that would affect growth or reproduction. There are basic effluent limitations provided in the WYPDES permit regulations (*Chapter 2 of the Water Quality Rules and Regulations*) that are intended to ensure that the water is safe for livestock to drink.

End-of-pipe effluent limits have been added for discharges that will be used for livestock watering and must be achieved prior to mixing with the receiving stream. All applicable permits will receive limits for Total Dissolved Solids (TDS), Sulfates, and Chlorides; furthermore, when discharges are believed to contain: Selenium, Fluoride, Arsenic, Copper, Cadmium, Boron, Chromium, Lead, Mercury, or Zinc then permits will also contain applicable permit limits for these constituents as well.

Livestock watering waiver - An exception to the limits above may be made whenever the background water quality of the receiving water is worse than the value listed for the associated pollutant or when the livestock producer requests use of the water and thereby accepts any potential risk to his livestock.

### **Section (c) - Irrigation**

Language has been revised from the previously proposed Appendix H to incorporate the concepts of the previously approved Agriculture Use Protection policy into rule form.

The interpretation of the Section 20 standard for irrigation is more complex than for livestock watering because there are more variables than just the quality of the water to consider.

However, after considering the local circumstances relative to irrigation and crop production, effluent limits can be established on WYPDES permits that will be protective of the pre-existing irrigation uses. The goal is to ensure that pre-existing irrigated crop production will not be diminished as a result of the lowering of water quality.

The basic water quality parameters of concern in regard to irrigation are EC and SAR. Protection of irrigation uses where WYPDES permits are involved amounts to deriving appropriate effluent limits for EC and SAR.

Identification and protection of irrigation uses will be accomplished by implementation of the Section 20 standard through the WYPDES permitting program and involves a sequence of decisions based upon the amount and quality of data that is available to the permit writer. The most basic question is whether a proposed discharge will reach irrigated lands. If the discharge will not reach an irrigated field, either because of natural conditions or water management techniques, it could not affect crop production on that field.

If the discharge will reach an irrigated field, a 3-tiered decision making process will be used to establish appropriate effluent limits for EC and SAR. Tier 1 refers to a procedure for setting default EC and SAR limits and is useful in situations where the irrigated crops are salt-tolerant and/or the discharge water quality is relatively good. Tier 2 refers to a process whereby the default limits may be refined to equal background water quality conditions and is intended to be used in situations where the background EC and SAR is worse than the effluent quality. As a final measure, Tier 3 applies where background EC and SAR is better than the effluent quality. The purpose of a Tier 3 analysis is to provide sufficient justification to establish effluent limits that are of a lower quality than the pre-discharge background conditions. Under Tier 3, effluent limits may be established based upon local site conditions and irrigation practices to a level that can be demonstrated to cause no harm to the existing irrigation uses.

For the purpose of developing effluent limits for naturally irrigated lands, as defined in Part (c)(i)(B), EC and SAR limits will be applied to WYPDES permits where the produced water discharge may reach stream segments containing single parcels of naturally irrigated land greater than 20 acres in size or multiple parcels in near proximity that total more than 20 acres. In making this estimation, small drainage bottoms may be excluded from consideration. Two specific criteria which may be used to exclude lands include lack of a persistent active channel and unconsolidated floodplain deposits which are generally less than 50 feet in width.

For the purpose of developing effluent limits for artificially irrigated lands, as defined in Part (c)(i)(A), if there are no pre-existing diversions within reach of a discharge, if the water will be impounded or managed so as not to reach a diversion during the irrigation season, or if the discharge will not reach an irrigated field, either because of natural conditions or water management techniques, then permit limits will be established to protect other relevant water uses (e.g. livestock watering, wildlife, aquatic life, etc.)

Irrigation Waiver. An exception to EC or SAR limits established under the Tier 1, 2 or 3 procedures may be made when affected landowners request use of the water and thereby accept any potential risk to crop production on their lands. Irrigation waivers will only be granted in association with an irrigation management plan that provides reasonable assurance that the lower quality water will be confined to the targeted lands.

### **Effect of the Rule Revision**

The Council anticipates that the result of these proposed revisions will provide a level of surface water protection sufficient to address public health and environmental concerns. The revised standards update the Wyoming surface water protection program to meet the most current federal requirements provided in 40 CFR Part 131.

### **Public Participation**

On July 15, 2002 a public notice announcing the department's intention to revise the Chapter 1 surface water regulations was released for the purpose of soliciting comment relating to the proposal. A public meeting was held via the Wyoming Video Conference System on August 6, 2002 during which the department accepted both oral and written comments. Comments received as a result of this public outreach were considered in the drafting of the proposed revisions.

A first draft of proposed rules and policies was published in November, 2004 and public comment was solicited by the Water and Waste Advisory Board at a public meeting on March 2, 2005. After consideration of public comments received, a second draft of the rules and policies was published for public review on August 8, 2005. Public comments on the 2<sup>nd</sup> draft were solicited and considered by the Advisory Board at a public meeting in September, 2005. A 3<sup>rd</sup> draft was developed and approved by the Advisory Board in January, 2006. Though the Advisory Board approved the proposed Chapter 1 rule revisions at the January, 2006 meeting, they did not approve the associated Section 20 Agricultural Use Protection Policy. A 4<sup>th</sup> draft of the Agricultural Use Policy was published in March 2006 and public comments were solicited. After consideration of the comments received, a 5<sup>th</sup> Draft of the policy was published in July, 2006 and deliberated by the Advisory Board at a public meeting in August, 2006. Comments on the 5<sup>th</sup> Draft were solicited and after final Advisory Board revisions were made, the Agricultural Use Protection Policy was approved at a public meeting on October 18, 2006.

The Environmental Quality Council solicited public comments on the proposed rules on December 29, 2006 and held a public hearing on February 15 and 16, 2007. At the conclusion of the public hearing, the Council opened a meeting to consider final revisions and make a determination on adoption.



On February 15 and 16, 2007, the Environmental Quality Council approved proposed revisions to Chapter 1 except for Appendix H, Agricultural Use Protection, which was remanded back to the DEQ for directed changes and revisions. In May of 2007, proposed changes to the Appendix were posted on the DEQ website and a public notice was published in the Casper Star Tribune and indicated a public meeting would be convened on June 15, 2007 to hear comments on the proposed revisions. The public meeting was convened at the Wyoming Oil and Gas Conservation Commission hearing room in Casper, Wyoming.

**Conclusion.** The Council has determined that the adoption of these rules is necessary to update the Wyoming surface water standards to comply with federal regulations and to carry out the responsibilities of the Department of Environmental Quality in regards to the protection of surface water quality in the state.

EXECUTED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2007.

FOR THE ENVIRONMENTAL QUALITY COUNCIL

\_\_\_\_\_  
Chairperson

# EXHIBIT B

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

**STATEMENT OF BASIS  
RENEWAL**

APPLICANT NAME: Yates Petroleum Corporation

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

FACILITY LOCATION: Taylor - Wild Horse Creek, which is located in the SWSE and SESE, Section 2, Township 53 North, Range 76 West, and the SESE, Section 34, Township 54 North, Range 76 West, Campbell County. The produced water will be discharged to unnamed, ephemeral tributaries (class 3B) of Wild Horse Creek (class 3B), which is tributary to the Powder River (class 2ABWW). The permit establishes a total maximum daily flow limit of 0.21 MGD, and requires that the produced water being discharged from this facility originate from the Anderson, Upper and Lower Canyon, and/or Wall coal seams.

NUMBER: **WY0049271**

*All terms and conditions of permit WY0049271 have been updated in accordance with current WDEQ permitting requirements during the renewal process. In addition, the permittee has requested that the following modifications be made to this permit:*

- 1. The expiration date is extended to December 31, 2010.*
- 2. The effluent limits and routine end-of-pipe monitoring requirements for sulfate, and manganese are removed from this permit according to current permitting practices.*
- 3. The required routine monitoring frequencies for chloride, alkalinity and bicarbonate are updated to annual.*
- 4. Irrigation monitoring point (IMPI) is added to this facility.*
- 5. Dissolved chloride is updated from 46 mg/l to 150 mg/l according to current permitting practices for the Powder River.*
- 6. The total recoverable arsenic effluent limit is updated from 7.0 µg/l to 8.4 µg/l in accordance with current WDEQ regulations.*
- 7. All other effluent limits and monitoring requirements in this permit reflect current state and federal standards and guidelines.*

**General Facility 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. In addition, the permit establishes an irrigation monitoring point (IMP1 listed in Table 1 of the permit below). The irrigation monitoring point is a designated monitoring location prior to the first downstream point of irrigation diversion/use on Wild Horse Creek from the permitted facility. An IMP differs from an irrigation compliance point (ICP) in that the IMP does not establish effluent limits. IMP sampling is for data-gathering purposes only.

This CBM facility is located approximately 16 stream miles from the Powder River. The permit establishes a tributary monitoring station on Wild Horse Creek (TRIB1) which will serve to monitor any CBM flows from this facility to the Powder River.

For the on-channel discharges at outfalls 001-003, the permittee will be required to contain all effluent in an on-channel reservoir(s) at this facility. The permittee will be required to contain all produced water within the reservoir during "dry" operating conditions, and discharge of effluent from the reservoir, except during periods of time in which natural precipitation causes the reservoirs to overtop and spill, will be prohibited. Intentional discharges from the reservoir will be considered 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. Additional release from the reservoir is not authorized. It is the sole responsibility of the operator to adequately demonstrate the circumstances in which reservoir discharges occurred, if requested to do so by the WYPDES Program. Reservoir and/or discharge water is to be released at a rate which does not cause significant erosion to the channel or receiving lands.

### **Effluent Limits and Monitoring Requirements**

**Effluent Limits:** Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. The permit requires that the pH must remain within 6.5 and 9.0 standard units. The permit establishes a total recoverable barium limit of 1800 µg/l, and a total recoverable arsenic limit of 8.4µg/l. The permit also establishes a chloride limit of 150 mg/l and a dissolved iron effluent limit of 1000 µg/l. These limits are based on chronic aquatic life standards for class 2AB and 3B 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 also originally established a sulfates limit of 3000 mg/l and a dissolved manganese limit of 630 µg/l at the end of pipe. Review of discharge monitoring report data for this facility and other CBM facilities in Northeast Wyoming indicates that the maximum reported concentrations for dissolved manganese and sulfates in the discharge were well below the water quality standards or water quality criteria of 3000 mg/l for sulfates and 630 µg/l for dissolved manganese, as established in *Chapter 1 of the Wyoming Water Quality Rules and Regulations*. Therefore, WDEQ has removed the effluent limits and monitoring requirements for dissolved manganese and sulfates in this permit. Based on evaluation of the available data, it is WDEQ's determination that the above changes to this permit conform to the anti-backsliding requirements established in Section 402(o).2.B.i of the Clean Water Act.

**Irrigation Use Protection:** In order to monitor and regulate coal bed methane discharge for compliance with Chapter 1, Section 20 of the Wyoming Water Quality Rules and Regulations (protection of agricultural water supply), effluent limits for sodium adsorption ratio (SAR) and specific conductance (EC) are included in this permit. The Wyoming DEQ has determined that an SAR effluent limit of 15 and a specific conductance effluent limit of 2,350 micromhos/cm are appropriate for protection of agriculture use in the Wild Horse Creek drainage. These effluent limits for EC and SAR were derived using information obtained in the application for this permit (*Section 20 Compliance Analysis for Proposed Discharges by Petro-Canada to Wild Horse Creek, Campbell County, WY*; KC Harvey, LLC, November 2005). The specific conductance limit of 2,350 micromhos/cm was derived through evaluation of the average root zone salinity in the downstream irrigated hay meadows (Floyd Ranch in Section 1 of Township 52 North, Range 76 West, Section 6 of Township 52 North, Range 75 West, and Sections 25, 26, and 36 of Township 53 North, Range 76 West). As indicated in the above referenced report, the average root zone salinity within the downstream irrigated area was measured at 4,084 micromhos/cm, with a 95 % confidence interval of +/- 552 micromhos/cm (based on the 32 samples analyzed). This means that while the sampled population indicates a mean root zone salinity of 4,084 micromhos/cm, the actual mean root zone salinity for the whole field likely falls within the range of 3,532 to 4,636 micromhos/cm. For the purpose of introducing a margin of conservatism to the calculation of irrigation effluent limits for this permit, the lower value (3,532 micromhos/cm) was assumed to be the actual mean root zone salinity for the downstream irrigated fields. In calculating an effluent limit for EC that will maintain a mean root zone salinity of 3,532 micromhos/cm in the downstream irrigated fields, USDA recommends dividing the soil EC by 1.5 to estimate allowable salinity in the applied water (*Agricultural Salinity and Drainage, Hanson et al., 1999 revision*). This results in a specific conductance effluent limit of 2,350 micromhos/cm at the outfall.

The SAR limit of 15 was derived by analyzing the relationship between background sodium adsorption ratio (SAR) levels and exchangeable sodium percentage (ESP) levels within the downstream irrigated soils. The mean background SAR of the downstream irrigated soils was measured at 5. The mean background ESP of the downstream irrigated soils was measured at 3.9%. With regard to sodicity, the general goal in protecting irrigated soils is to maintain ESP levels at or below 15% (*Agricultural Salinity Assessment and Management, American Society of Civil Engineers, 1996*). For the various analyzed soil samples, the correlation between background SAR and ESP was found to be  $ESP = [(0.0366 \times SAR^2) + (0.1194 \times SAR) + 2.008]$ , with a correlation value of  $R^2 = 0.84$ . Therefore, in order to maintain ESP levels at or below 15% in these irrigated soils, SAR of the irrigated soils should be maintained at or below 17. Again, for the purpose of introducing a margin of conservatism, the permit limits SAR to 15, rather than 17. Continued irrigation with water containing an SAR level of 15 would theoretically increase the ESP of the downstream irrigated soils from 3.9% to around 12%, which is well below the accepted 15%

*Statement of Basis*

maximum ESP threshold necessary for maintaining soil permeability.

The above described effluent limits for specific conductance and sodium adsorption ratio are established at each outfall authorized under this permit, and are effective year-round.

**Monitoring and Reporting Requirements:** The permit requires daily monitoring on Wild Horse Creek below the outfalls in order to determine whether effluent discharged from the outfalls reaches the established irrigation monitoring point (IMP1 listed in Table 1 of the permit below). Daily monitoring is necessary because the permit establishes different sampling and analysis requirements based on whether the effluent reaches the irrigation monitoring point. Once effluent flow at the irrigation monitoring point has been documented within a sampling month, then weekly monitoring of flow at the IMP is required for the remainder of that calendar month. At the beginning of each calendar month, the monitoring frequency will revert to daily until such time as effluent flow occurs at the irrigation monitoring point and a sample is collected to represent effluent quality for irrigation monitoring point constituents. Results are to be reported twice-yearly and if no effluent from this facility reaches the irrigation monitoring point during an entire sampling month, then "no discharge" is to be reported for the IMP(s) that month. The IMPs are not compliance points. It is intended only as a location to gather downstream water quality data.

The permit also requires sampling at a designated tributary water quality monitoring station located on the receiving stream – Wild Horse Creek, and at mainstem water quality monitoring station locations on the Powder River upstream and downstream of the Wild Horse Creek - Powder River confluence. Water quality monitoring stations on the Powder River will be located in the main channel of the Powder River outside of the mixing zone of Wild Horse Creek and 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. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: designated water quality monitoring stations identified as TRIB1, UPR, and DPR in Table 1 of the permit below. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone with the tributary and the mainstem. Monthly water quality samples are to be collected at all three water quality monitoring stations when effluent from this CBM facility reaches the TRIB1 station on Wild Horse Creek. If flow occurs at the TRIB1 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 three 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 TRIB1 station. If no flow at all occurs at the TRIB1 station for an entire monthly monitoring period, then "no flow" is to be reported and samples need not be collected at the three 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 tributary and mainstem.

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

Agency within 120 days of the commencement of discharge.

**Additional Permit Requirements**

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

The discharge of wastewater and the effluent limits that are established in this permit have been reviewed to ensure that the levels of water quality necessary to protect the designated uses of the receiving waters are maintained and protected. An antidegradation review has been conducted and verifies that the permit conditions, including the effluent limitations established, provide a level of protection to the receiving water consistent with the antidegradation provisions of Wyoming surface water quality standards.

Self monitoring of effluent quality and quantity is required on a regular basis with reporting of results semiannually. The permit is scheduled to expire on December 31, 2010. This expiration date was determined through review of the watershed permitting schedule which the WDEQ is implementing in order to synchronize the permitting and expiration of facilities within the same watershed. This holistic approach will provide for more efficient permitting of point-source discharges.

Kathy Shreve  
Water Quality Division  
Department of Environmental Quality  
September 13, 2002

Major Modification  
Bob Alexander  
Water Quality Division  
Department of Environmental Quality  
Drafted June 8, 2006

Dena Hicks  
Water Quality Division  
Department of Environmental Quality  
Drafted: May 22, 2007

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 Corporation

is authorized to discharge from the wastewater treatment facilities serving the

Taylor - Wild Horse Creek CBM Facility

located in

the SWSE and SESE, Section 2, Township 53 North, Range 76 West, and the SESE, Section 34, Township 54 North, Range 76 West, Campbell County.

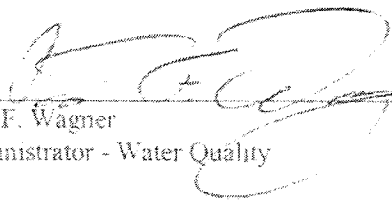
to receiving waters named

unnamed, ephemeral tributaries (3B) of Wild Horse Creek (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.

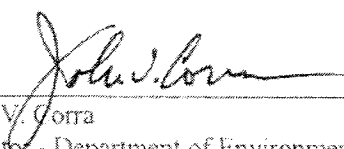
The original permit became effective on November 13, 2002 and expires October 31, 2007. This permit renewal shall become effective on November 1, 2007.

This permit and the authorization to discharge shall expire December 31, 2010, at midnight.

  
\_\_\_\_\_  
John F. Wagner  
Administrator - Water Quality

\_\_\_\_\_  
Date

7/27/07

  
\_\_\_\_\_  
John V. Corra  
Director - Department of Environmental Quality

\_\_\_\_\_  
Date

7/30/07



PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective November 1, 2007 and lasting through December 31, 2010, 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 – 003.

1. **Such discharges shall be limited as specified below:**

Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum Outfall</u>
Chlorides, mg/l	150
Dissolved Iron, µg/l	1000
pH, standard units	6.5 – 9.0
Specific Conductance,	2350
Sodium Adsorption Ratio, calculated as unadjusted ratio	15
Total Recoverable Arsenic, µg/l	8.4
Total Flow, MGD*	0.21
Total Recoverable Barium, µg/l	1800

\*Total flow is to be calculated as the sum of all discharge from all permitted outfalls.

This facility has a total combined daily maximum flow rate of 0.21 million gallons per day (MGD) from outfalls 001-003. The permit requires that the produced water being discharged by this facility originate in one or more of the following formations: the Anderson, Upper and Lower Canyon, and/or 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.

Information gathered from the water quality monitoring stations and irrigation monitoring points may result in modification of the permit, in accordance with Part III.A.3 of the permit below, to protect existing uses on the tributary and 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 Wild Horse Creek 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.

Beginning November 1, 2007 and remaining the life of this permit, the permittee will be required to contain all effluent in an on-channel reservoir(s) at this facility. The permittee will be required to contain all produced water within the reservoir during "dry" operating conditions, and discharge of effluent from the reservoir, except during periods of time in which natural precipitation causes the reservoirs to overtop and spill, will be prohibited. Intentional discharges from the reservoir will be considered 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. Additional release from the reservoir is not authorized. It is the sole responsibility of the operator to adequately demonstrate the circumstances in which reservoir discharges occurred, if requested to do so by the WYPDES Program. Reservoir and/or discharge water is to be released at a rate which does not cause significant erosion to the channel or receiving lands.

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

**a. Monitoring of the initial discharge**

*Note: The initial monitoring requirement described below will not apply to outfalls which have already undergone sampling for these parameters under previous permit coverage.*

Within 60 days of commencement of discharge following issuance of this 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, a summary report on the produced water must be submitted to the Wyoming Department of Environmental Quality and the U.S. EPA Region 8 at the addresses listed below. This summary report must include the results and detection limits for each of the constituents listed below. In addition, the report must include written notification of the established location of the discharge point (refer to Part I.B.11). This notification must include a confirmation that the location of the established discharge point(s) is within 1,510 feet of the location of the identified discharge point(s), is within the same drainage, and discharges to the same landowner's property as identified on the original application form. The legal description and location in decimal degrees of the established discharge point(s) must also be provided. After receiving the monitoring results for the initial discharge, the effluent limits and monitoring requirements established in this permit may be modified.

<u>Parameter</u>	<u>Required Detection Limit</u>	<u>Sample Type</u>
Dissolved Aluminum	50 µg/l	Grab
Dissolved Cadmium	0.1 µg/l	Grab

<u>Parameter</u>	<u>Required Detection Limit</u>	<u>Sample Type</u>
Dissolved Calcium	as mg/l	Grab
Chloride	5 mg/l	Grab
Dissolved Copper	1 µg/l	Grab
Dissolved Iron	30 µg/l	Grab
Dissolved Manganese	10 µg/l	Grab
Total Hardness	10 mg/l as CaCO <sub>3</sub>	Grab
Dissolved Lead	2 µg/l	Grab
Dissolved Magnesium	as mg/l	Grab
Dissolved Mercury	0.06 µg/l	Grab
pH	to 0.1 pH unit	Grab
Total Recoverable Radium 226	0.2 pCi/l	Grab
Total Recoverable Selenium	5 µg/l	Grab
Dissolved Sodium	as mg/l	Grab
Sodium Adsorption Ratio	not applicable	Calculated
Specific Conductance	5 micromhos/cm	Grab
Sulfates	10 mg/l	Grab
Total Alkalinity	1 mg/l as CaCO <sub>3</sub>	Grab
Total Recoverable Arsenic	1 µg/l	Grab
Total Recoverable Barium	100 µg/l	Grab
Dissolved Zinc	10 µg/l	Grab
Bicarbonate	1 mg/l	Grab
Total Dissolved Solids	5 mg/l	Grab

**TOTAL:** Value is expressed in terms of total recoverable metal in the water column.

NOTE: Except for aquatic life values for metals and where otherwise indicated, the values given refer to the total recoverable (dissolved plus suspended) amount for each substance. For the aquatic life values for metals, the values refer to the dissolved amount.

**DISSOLVED:** Value is based on the dissolved amount which is the amount that will pass through a 0.45 µm membrane filter prior to acidification to pH 1.5 - 2.0 with nitric acid.

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

Planning and Targeting Program, 8ENF-PT  
 Office of Enforcement, Compliance, and Environmental Justice  
 U.S. EPA Region 8  
 1595 Wynkoop Street  
 Denver, CO 80202-1129

and

Wyoming Department of Environmental Quality  
 Water Quality Division  
 Herschler Building, 4 West

122 West 25th Street  
Cheyenne, WY 82002

**b. Routine monitoring End of Pipe – 001-003**

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. The first routine monitoring for the time frame during which the monitoring of initial discharge occurs will, at a minimum, consist of flow measurements for the duration of the six-month monitoring time frame. Monitoring will be based on semi-annual time frames, from January through June, and from July through December.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Bicarbonate (mg/l)	Annually	Grab
Dissolved calcium (mg/l)	Monthly	Grab
Chloride (mg/l)	Annually	Grab
Dissolved Iron (µg/l)	Annually	Grab
Dissolved Magnesium (mg/l)	Monthly	Grab
pH (standard units)	Once Every Six Months	Grab
Dissolved Sodium (mg/l)	Monthly	Grab
Sodium Adsorption Ratio (unadjusted)	Monthly	Calculated
Specific Conductance (micromhos/cm)	Monthly	Grab
Total Alkalinity (mg/l)	Annually	Grab
Total Recoverable Arsenic (µg/l)	Annually	Grab
Total Recoverable Barium (µg/l)	Annually	Grab
Total Flow - (MGD)	Monthly	Continuous
Total Dissolved Solids (mg/l)	Monthly	Grab

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

**c. Irrigation Monitoring Points –IMP1**

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

annually.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Dissolved Calcium, mg/l	Monthly	Grab
Dissolved Magnesium, mg/l	Monthly	Grab
Dissolved Sodium, mg/l	Monthly	Grab
Sodium Adsorption Ratio, unitless	Monthly	Calculated
Specific Conductance, $\mu$ mhos/cm	Monthly	Grab
Bicarbonate, mg/l as CaCO <sub>3</sub>	Monthly	Grab
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 monitoring points which are located as described in Table 1 of the permit below.

The permit requires daily monitoring on Wild Horse Creek below the outfalls in order to determine whether effluent discharged from the outfalls reaches the established irrigation monitoring point (IMP1 listed in Table 1 of the permit below). Daily monitoring is necessary because the permit establishes different sampling and analysis requirements based on whether the effluent reaches the irrigation monitoring point(s). Once effluent flow at the irrigation monitoring point(s) has been documented within a sampling month, then weekly monitoring of flow at the IMP is required for the remainder of that calendar month. At the beginning of each calendar month, the monitoring frequency will revert to daily until such time as effluent flow occurs at the irrigation monitoring point(s) and a sample is collected to represent effluent quality for irrigation monitoring point constituents. Results are to be reported twice-yearly and if no effluent from this facility reaches the irrigation monitoring point(s) during an entire sampling month, then "no discharge" is to be reported for the IMP(s) that month. The IMP is not a compliance point. It is intended only as a location to gather downstream water quality data.

**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.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Dissolved Calcium (mg/l)	Monthly	Grab
Dissolved Magnesium (mg/l)	Monthly	Grab

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Dissolved Sodium (mg/l)	Monthly	Grab
Sodium Adsorption Ratio (calculated as unadjusted ratio)	Monthly	Calculated
Specific Conductance (micromhos/cm)	Monthly	Grab
Flow* (MGD)	Monthly	Instantaneous

\*The permittee is only required to monitor and report flow at the tributary monitoring station on Wild Horse Creek (TRIB1). 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: designated water quality monitoring stations identified as TRIB1, UPR, and DPR in Table 1, Part I.B.12. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone with the tributary and the mainstem. Monthly water quality samples are to be collected at all three water quality monitoring stations when effluent from this CBM facility reaches the TRIB1 station on Wild Horse Creek. If flow occurs at the TRIB1 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 three 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 TRIB1 station. If no flow at all occurs at the TRIB1 station for an entire monthly monitoring period, then "no flow" is to be reported and samples need not be collected at the three 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 tributary and 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 postmarked no later than 120 days after the commencement of discharge.

Results of routine end of pipe, irrigation monitoring 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. When required, whole effluent toxicity (biomonitoring) results must be reported on the most recent version of EPA Region VIII's Guidance for Whole Effluent Reporting. Monitoring reports must be submitted to the state water pollution control agency at the following address postmarked no later than the 15th day of the second month following the completed reporting period. The first report following the issuance of this renewal is due on February 15, 2008.

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 flow monitoring locations (points of compliance). This sign shall, as a minimum, convey the following information:

- a. The name of the company, corporation, person(s) who holds the discharge permit, and the WYPDES permit number;
- b. The contact name and phone number of the person responsible for the records associated with the permit;
- c. The name of the facility (lease, well number, etc.) and the outfall number as identified by the discharge permit.

11. **Identification and Establishment of Discharge Points**

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

Public notice is not required if the location of the established discharge point is 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, Irrigation Monitoring Point and stream monitoring points**

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

**Table 1: WY0049271 Taylor-Wild Horse Creek**

Out-fall	Qtr/Qtr	SEC-TION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description	Groundwater approval required prior to Discharge?	Reservoir Bond to WDEQ Required prior to Discharge?
*001	SWSE	2	53	76	44.59541	-105.96678	Powder River (2ABWW), via an unnamed, ephemeral tributary (3B) of Wild Horse Creek (3B) via an on-channel reservoir "Tiffany" (3B)	No	YES
002	SESE	34	54	76	44.60717	-105.98530	Powder River (2ABWW), via an unnamed, ephemeral tributary (3B) of Wild Horse Creek (3B) via an on-channel reservoir "Feisty" (3B)	YES	YES
003	SESE	2	53	76	44.59416	-105.96284	Powder River (2ABWW), via an unnamed, ephemeral tributary (3B) of Wild Horse Creek (3B) via an on-channel reservoir "Hem Haw" (3B)	YES	NO
IMP1	NESE	32	54	76	44.61220	-106.02453	Irrigation Monitoring Point on unnamed ephemeral tributary to Wild Horse Creek. Serves outfall 001-003.	N/A	N/A
TRIB1	SESE	16	54	77	44.65044	-106.12215	Tributary monitoring station on Wild Horse Creek	N/A	N/A
UPR	SWSE	16	54	77	44.65036	-106.12836	Upstream Powder River monitoring station (above Wild Horse Creek)	N/A	N/A
DPR	NWSE	34	55	77	44.69695	-106.11294	Downstream Powder River monitoring station (below Wild Horse Creek)	N/A	N/A

\* Location is verified by WDEQ GPS field data using NAD83.

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.

The outfalls listed in Table 1 (located at the end of Part I) may be moved from the established location without submittal of a permit modification application provided all of the following conditions are satisfied:

1. The new outfall location is within 2640 feet of the established outfall location.
2. The new outfall location is within the same drainage or immediate permitted receiving waterbody.
3. There is no change in the affected landowners.
4. Notification of the change in outfall location must be provided to the WYPDES Permits Section on a form provided by the WQD Administrator within 10 days of the outfall location change. The form must be provided in duplicate and legible maps showing the previous and new outfall location must be attached to the form.

Moving an outfall location without satisfying the four above listed conditions will be considered a violation of this permit and subject to full enforcement authority of the WQD.

An outfall relocation as described above will not be allowed if the new outfall location is less than one mile from the confluence of a Class 2 waterbody and the dissolved iron limits established in the permit for the outfall are based upon Class 3 standards.

#### C. RESERVOIR / IMPOUNDMENT REQUIREMENTS

1. Groundwater Monitoring Beneath Impoundments:

Table 1 of the permit above identifies which outfalls (if any) are designed to discharge into impoundments that are subject to groundwater monitoring requirements established in the latest version of the Water Quality Division guideline "*Compliance Monitoring for Groundwater Protection Beneath Unlined Coalbed Methane Produced Water Impoundments.*" These specified outfalls are not authorized to discharge until a written groundwater compliance approval has been granted by the Groundwater Pollution Control Program of the Water Quality Division. A groundwater compliance approval will consist of either a final approved groundwater compliance monitoring plan, or written authorization for an exemption thereof. Once an impoundment has been granted a written groundwater compliance approval, the contributing outfall(s) to that reservoir may commence discharge.

2. Reclamation Performance Bonds for On-Channel Reservoirs:

Table 1 of the permit above also identifies which outfalls (if any) are designed to discharge into impoundments that are subject to WDEQ bonding requirements, as set forth in the latest version of the Water Quality Division guideline "*Implementation Guidance for Reclamation and Bonding of On-Channel Reservoirs That Store Coalbed*"

*Natural Gas Produced Water.*” These specified outfalls are not authorized to discharge until the associated reservoir reclamation bond is approved by WDEQ. Once the reservoir reclamation bond is approved by WDEQ, the contributing outfall(s) to that reservoir may commence discharge.

Any discharge into an above-listed impoundment which has not been secured by the required WDEQ-approved bond, or which has not been granted the required groundwater compliance approval, will constitute a violation of this permit, and may result in enforcement action from the Water Quality Division.

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, NPDES Program (307) 777-7781 as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances.

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

3. Facilities Operation

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

4. Adverse Impact

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

5. Bypass of Treatment Facilities

- a. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
- b. The permittee may allow any bypass to occur which does not cause effluent

limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs c. and d. of this section. Return of removed substances to the discharge stream shall not be considered a bypass under the provisions of this paragraph.

- c. Notice:
  - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice at least 60 days before the date of the bypass.
  - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.A.2.
- d. Prohibition of bypass.
  - (1) Bypass is prohibited and the administrator of the Water Quality Division may take enforcement action against a permittee for a bypass, unless:
    - (a) The bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
    - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
    - (c) The permittee submitted notices as required under paragraph c. of this section.
- e. The administrator of the Water Quality Division may approve an anticipated bypass, after considering its adverse effects, if the administrator determines that it will meet the three conditions listed above in paragraph d. (1) of this section.

6. Upset Conditions

- a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improper designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph c. of this section are met.

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

7. Removed Substances

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

8. Power Failures

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

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

9. Duty to Comply

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



10. Duty to Mitigate

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

11. Signatory Requirements

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

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

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information

submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

B. RESPONSIBILITIES

1. Inspection and Entry

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

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

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

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the regional administrator of the Environmental Protection Agency and the administrator of the Water Quality Division. The administrator of the Water Quality Division shall then provide written notification to the new owner or controller of the date in which they assume legal responsibility of the permit. The permit may be modified or revoked and reissued to change the name of the permittee and incorporate such other requirements as described in the federal act.

3. Availability of Reports

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

4. Toxic Pollutants

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

5. Changes in Discharge of Toxic Substances

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

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

- (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or
- (4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).

6. Civil and Criminal Liability

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

7. Need to Halt or Reduce Activity not a Defense

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

8. Oil and Hazardous Substance Liability

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

9. State Laws

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

10. Property Rights

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

11. Duty to Reapply

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

12. Duty to Provide Information

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

13. Other Information

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

14. Permit Action

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

15. Permit Fees

Once this permit has been issued, the permittee will be assessed a \$100.00 per-year permit fee by the Water Quality Division. The fee year runs from July 1<sup>st</sup> through June 30<sup>th</sup>. This permit fee will continue to be assessed for as long as the permit is active, regardless of whether discharge actually occurs. This fee is not pro-rated. If the permit is active during any portion of the fee year, the full fee will be billed to the permittee for that fee year. In the event that this permit is transferred from one permittee to another, each party will be billed the full permit fee for the fee year in which the permit transfer was finalized.

PART 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.