

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

STATEMENT OF BASIS

MAJOR MODIFICATION

APPLICANT NAME: Pennaco Energy Inc.

MAILING ADDRESS: 3601 Southern Drive
Gillette, WY 82718

FACILITY LOCATION: Adams Ranch Treatment Facility, located in the SWNE of Section 3 and the NESE of Section 6, Township 55 North, Range 83 West, in Sheridan County. The produced water will be treated and discharged directly to Prairie Dog Creek (class 2AB), and to one on-channel reservoir located on Wildcat Creek (class 3B), which is tributary to Prairie Dog Creek. The daily maximum permitted flow rate for the direct discharge to Prairie Dog Creek at this facility is 1.47 million gallons per day (MGD). Because the effluent at this facility is being discharged from treatment units with controllable output quality, this permit does not regulate which coal seam(s) may contribute to the discharge.

NUMBER: WY0054364

Because the permittee has determined that direct discharge to Wildcat Creek is no longer necessary at this facility, the permit is being modified by WDEQ, in accordance with Chapter 2, Section 12(d)(i) of the Wyoming Water Quality Rules and Regulations, as follows:

- 1) Remove outfall 001.*
- 2) Add containment requirement to discharge at outfall 002 (See Part I.A.1.b).*
- 3) Update effluent limits at outfall 002 to reflect containment of effluent, rather than direct discharge (See Part I.A.1.b).*

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

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.

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. Outfall 003 discharges directly to Prairie Dog from a treatment unit. Outfall 002 discharges from a treatment unit to an on-channel reservoir located on Wildcat Creek. 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 (including irrigated agriculture), wildlife, industry and scenic value. Based on a review of this permit application, it has been determined that numerous active irrigation uses of surface water do occur downstream from this facility on Wildcat Creek and Prairie Dog Creek.

Below outfall 002, the permittee is 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 reservoir to overtop and spill, is prohibited. 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.

Effluent Limits (Outfall 003 – Direct Discharge to Prairie Dog Creek)

Permit effluent limits are based on 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, and limits sulfate to 3000 mg/l. These limits are based on water quality standards established in Chapter 2 of the Wyoming Water Quality Rules and Regulations for the protection of livestock and wildlife consumption.

A wasteload allocation (WLA) was used for the calculation of water quality based effluent limits at outfall 003 for this facility. Results are presented in the table below. To determine available dilution volume within Prairie Dog Creek under a worst-case scenario, a critical low-flow 7Q10 value was calculated for Prairie Dog Creek, using the EPA DFLOW model, and stream flow data from USGS station 06306250 “Prairie Dog Creek Near Acme, WY.” This results in a calculated 7Q10 value of 1.20 cfs for Prairie Dog Creek. As an additional input to the waste load allocation, WDEQ used ambient water quality data collected from the same station.

Based on the previously-described WLA, the daily maximum effluent flow limit for outfall 003 is 1.47 MGD. In addition, the following water quality based effluent limits are established at outfall 003: a dissolved iron limit of 100 µg/l, a cadmium limit of 0.3 µg/l, a dissolved manganese limit of 50 µg/l, a dissolved copper limit of 12 µg/l, a dissolved lead limit of 3 µg/l, a total recoverable arsenic limit of 3.7 µg/l, a total recoverable selenium limit of 2.0 µg/l, a chloride limit of 70 mg/l, a total recoverable barium effluent limit of 645 µg/l and a total recoverable Radium 226 + 228 effluent limit of 2 pCi/l. These water quality based effluent limits are based on standards for class 2AB waters which are intended to protect for the above listed designated uses and reflect the application of tier 2 antidegradation protection in accordance with the "Wyoming Surface Water Quality Implementation Policies for Antidegradation."

All effluent limits are to be met at the end of the final treatment unit, prior to dilution with any other waters of the state.

Waste Load Allocation Calculations (For Outfall 003 - Direct Discharge to Prairie Dog Creek)**WY0054364**

USGS 06306250 PRAIRIE DOG CREEK NEAR ACME, WYO.

Assuming Instream Hardness = 400 mg/l

Parameter	Low Flow*, cfs (7Q10)	Low Flow, MGD (7Q10)	Discharge Rate, MGD	Combined Flow, MGD	Water Quality Standard, Chronic	Background Con. (LA)	Assimilative Capacity of Stream	Allowable Standard	WLA	Limit
Chlorides (mg/l)	1.20	0.77	1.47	2.24	230	4.5	225.5	49.6	73	70
Dissolved Iron (µg/l)	1.20	0.77	1.47	2.24	300	12	288	69.6	100	100
Dissolved Manganese (µg/l)	1.20	0.77	1.47	2.24	50	89	-39	81.2	50	50
Ra226 + 228 (pCi/l)	1.20	0.77	1.47	2.24	5	0	5	1	2	2
Total Recoverable Arsenic (µg/l)	1.20	0.77	1.47	2.24	10	0.9	9.1	2.72	3.7	3.7
Dissolved Cadmium (µg/l)	1.20	0.77	1.47	2.24	0.6	0.1	0.5	0.2	0.3	0.6
Dissolved Lead (µg/l)	1.20	0.77	1.47	2.24	10.9	0.1	10.8	2.26	3	3
Dissolved Copper (µg/l)	1.20	0.77	1.47	2.24	29.3	3.7	25.6	8.82	12	12
Total Recoverable Barium (µg/l)	1.20	0.77	1.47	2.24	2000	52	1948	441.6	647	645
Total Recoverable Selenium (µg/l)	1.20	0.77	1.47	2.24	5	1.4	3.6	2.12	2	2

Effluent Limits (Outfall 002 – Discharging To An On-Channel Reservoir, Wildcat Creek)

Permit effluent limits are based on 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, and limits sulfate to 3000 mg/l. These limits are based on water quality standards established in Chapter 2 of the Wyoming Water Quality Rules and Regulations for the protection of livestock and wildlife consumption.

At outfall 002, the effluent is contained in an on-channel reservoir, and is only expected to reach Prairie Dog Creek on a temporary or short-term basis. Therefore, the water quality based effluent limits for outfall 002 are calculated differently than for outfall 003. Rather than using a waste load allocation to determine the effluent limit that will not result in significant degradation to Prairie Dog Creek, WDEQ has determined that the containment of the effluent in the on-channel reservoir below outfall 002 provides an equivalent tier 2 level of anti-degradation protection. Regarding the calculation of effluent limits for discharge activities, WDEQ's implementation policy for antidegradation states that, "The activity shall be considered not to result in significant degradation if...the activity will result in only temporary or short term changes in water quality." (Section IV.A.1.a). Therefore, the effluent limits at outfall 002 utilize the full class 2 water quality standard for Prairie Dog Creek, rather than making an adjustment for use of only 20% of the available assimilative capacity after mixing.

At outfall 002, the following water-quality based effluent limits are established: a dissolved cadmium limit of 0.6 µg/l, a dissolved manganese limit of 50 µg/l, a total recoverable selenium limit of 5 µg/l, a chloride limit of 230 mg/l and a total recoverable barium effluent limit of 2000 µg/l. These water quality based effluent limits are based on standards for class 2AB waters which are intended to protect for the above listed designated uses and reflect the application of tier 2 antidegradation protection in accordance with the "Wyoming Surface Water Quality Implementation Policies for Antidegradation." The permit also establishes an effluent limit of 1000 µg/l for dissolved iron at outfall 002. WDEQ has determined that for outfalls located on class 3B waters, greater than one stream mile from a class 2AB water, the appropriate effluent limit for dissolved iron is 1000 µg/l. This reflects application of a "Tier 1" level of antidegradation protection, in accordance with the above policy.

All effluent limits are to be met at the end of the final treatment unit, prior to dilution with any other waters of the state.

Irrigation Protection

Prairie Dog Creek Irrigation:

In order to monitor and regulate coal bed methane discharges from this facility for compliance with Chapter 1, Section 20 (protection of agricultural water supply), effluent limits for specific conductance and dissolved sodium are included in this permit (See Table 2).

Table 2 – Effluent limits - Dissolved Sodium and Specific Conductance		
Constituent	Ambient data description, method used to calculate effluent limit	Calculated Effluent Limit
Dissolved Sodium, mg/l	58 measurements from USGS stations 6306250, 445130106511601, and 6306200, mainly from 2000-2006, correlation between SAR and dissolved sodium concentrations	349
Specific Conductance (micromhos/cm)	Average of 96 measurements from USGS stations 6306250, 445130106511601, and 6306200, mainly from 2000-2006	1215

These calculated effluent limits are based on average specific conductance ambient water quality, and a correlation calculated between ambient dissolved sodium concentrations and sodium adsorption ratio. Using water quality data primarily from two USGS gauging stations – 06306250, “Prairie Dog Creek Near Acme, WY”, and 6306200, “Prairie Dog Creek at Wakeley Siding”, a linear correlation between dissolved sodium concentration and calculated sodium adsorption ratio (SAR) can be observed in Graph 1 below. The relationship provides the following formula, which has an R^2 correlation value of 0.98, for predicting instream SAR, based upon instream dissolved sodium concentrations:

$$y = 0.0138x + 0.1723,$$

Where y = SAR, and x = dissolved sodium concentration in mg/l.

Based on recommendations for allowable SAR in irrigation water, found in *Agricultural Salinity and Drainage, Hanson et al., 2006 edition*, and the calculated average ambient specific conductance (1215 micromhos/cm) calculated for Prairie Dog Creek, an SAR of 5 would protect existing uses within the Prairie Dog Creek drainage. According to the correlation calculated in Graph 1, an SAR of 5 in Prairie Dog Creek is approximately equivalent to an instream dissolved sodium concentration of 349 mg/l. As an added measure of irrigation water quality protection, the permittee has voluntarily committed to meeting an effluent limit of 300 mg/l for dissolved sodium at this facility. Therefore, the permit establishes a dissolved sodium effluent limit of 300 mg/l. These limits are designed to protect existing irrigation uses within the Prairie Dog Creek drainage.

Wildcat Creek Irrigation:

Based on information gathered during the development of this permit, WDEQ has determined that irrigation exists downstream of the proposed discharge points on Wildcat Creek. Wildcat Creek Irrigation is supplied by two primary sources: Prairie Dog Creek water imported through the Ninemile Ditch (entering Wildcat Creek in Section 21 of Township 56 North, Range 83 West); and from rainfall, snowmelt and springs occurring naturally within Wildcat Creek itself. According to irrigators on Wildcat Creek, the diversion of water for irrigation on Wildcat Creek occurs both above and below the inlets of the Ninemile Ditch.

The downstream irrigators on Wildcat Creek produce a variety of crops, the most salt-sensitive of which appear to be alfalfa and pumpkins. These crops are identified in the USDA salt tolerance database as being “Moderately Sensitive” to soil salinity. A numeric soil EC threshold of 2000 micromhos/cm is listed within the USDA salt tolerance database for alfalfa. Pumpkins are listed as moderately sensitive, but the USDA database does not list a numeric soil EC threshold for pumpkins. Based on a separate reference document (Figure 13.3 of “Agricultural Salinity Assessment and Management.” American Society of Civil Engineers Manual No. 71, 1996), the salt tolerance category of “Moderately Sensitive” ranges from a soil EC of approximately 1500 micromhos/cm to 3000 micromhos/cm for 100% relative crop yield. The median soil EC threshold value for this moderately sensitive crop range is 2250 micromhos/cm. Therefore, WDEQ has determined that alfalfa and Pumpkins have similar sensitivity to salt, and that protection of water quality for alfalfa production will result in an adequate level of protection for Pumpkin production. In order to calculate an EC effluent limit for protection of the downstream irrigated crops on Wildcat Creek, WDEQ divided the target soil EC threshold (in this case 2000 micromhos) by 1.5, as recommended in *Agricultural Salinity and Drainage, Hanson et al., 2006 edition*. This results in a default EC effluent limit of 1330 micromhos/cm for protection of the downstream alfalfa and other crops on Wildcat Creek.

Irrigation Monitoring Requirements

The permit requires daily monitoring on Wildcat Creek below the outfall in order to determine whether effluent discharged from the outfall 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 an irrigation monitoring point has been documented within a sampling month, then weekly measurement 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 that month. The IMP is not a compliance point. It is intended only as a location to gather downstream water quality data.

Data collected at location IMP1 will be evaluated by WDEQ on an ongoing basis in order to determine if effluent from this facility conforms to the following chemical characteristics at the IMP location:

$$*SAR < 6.67 \times EC - 3.33$$

(*where “SAR” represents sodium adsorption ratio, and “EC” represents specific conductance of the IMP sample in dS/m).

In the event that overtopping from a reservoir that receives discharges from the permittee’s outfall(s) is contributing to flow at station IMP1, and the IMP sample exceeds the SAR threshold listed above, then WDEQ may re-open the permit and add an effluent limit for SAR at the outfall(s) discharging to such reservoir. In any case, where the IMP samples (minimum of 5 samples) exceed the above SAR threshold in 50% or more of the sampled flow events during any continuous 12-month period, then, upon written notification to the permittee, the above SAR threshold ($SAR < 6.67 \times EC - 3.33$) will automatically become an effluent limit at each outfall discharging to such reservoir.

In-Stream Monitoring

The permit also requires sampling at designated water quality monitoring stations located on the receiving streams (Wildcat Creek, Prairie Dog Creek). Water quality monitoring stations on Wildcat Creek will be located on Wildcat Creek immediately upstream of the Prairie Dog Creek – Wildcat Creek confluence, water quality

monitoring stations on Prairie Dog Creek will be located upstream and downstream of the Wildcat Creek – Prairie Dog Creek confluence. All water quality monitoring stations are to be located outside of the mixing zone of the immediate receiving stream and the adjoining drainage. Effluent samples at the designated water quality monitoring stations must be collected on a monthly basis and are to be reported semi-annually. If no effluent is discharged from this facility during an entire sampling month, then "no discharge" is to be reported and samples need not be collected at the four water quality monitoring stations for that monthly sampling period. At the designated water quality monitoring stations, monitoring will be required for calcium, chlorides, magnesium, sodium, sodium adsorption ratio, specific conductance, and pH. Information gathered from the water quality monitoring stations may result in modification of the permit to protect existing uses on the mainstem.

Treatment Facility

This permit authorizes discharge of treated effluent from two outfalls. Any concentrated waste generated in the operation of the treatment unit(s) at this facility will be contained in lined pits, outside of any natural stream channels or water bodies. These lined pits will not constitute waters of the state and will therefore not require WYPDES permit coverage for discharge into them. However, the pits will require permitting through the Wyoming Oil and Gas Conservation Commission. In addition, the entire treatment facility will require a Chapter 3 permit-to-construct from the WDEQ Water and Wastewater Program.

Prior to addition of any chemicals to the treatment, pre-treatment, or post-treatment processes (flocculants, surfactants, anti-scalants, sterilants, etc.), written authorization must be obtained from the WYPDES Program. Addition of chemicals to the treatment process without prior written authorization from the WYPDES program will constitute a violation of this permit.

Additional Requirements

Results are to be reported twice-yearly and if no discharge occurs at a given outfall for an entire sampling period, then "no discharge" is to be reported for that outfall. The permit also requires that an initial monitoring of the effluent be conducted within the first 60 days of discharge and the results submitted to WDEQ and the U.S. Environmental Protection Agency within 120 days of the commencement of discharge.

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

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

Self monitoring of effluent quality and quantity is required on a regular basis with reporting of results semi-annually. The permit is scheduled to expire on December 31, 2010. This expiration date is reflective of the WDEQ's efforts towards watershed permitting and similar expiration dates for all permits within a specific drainage, which will allow for basin-wide analysis upon renewal of the permits in the drainage. Having all permits in the drainage expire at the same time will allow for basin-wide analysis of impacts due to these discharges upon renewal of these permits, and will allow the WDEQ to adopt a more holistic, watershed-based permitting approach.

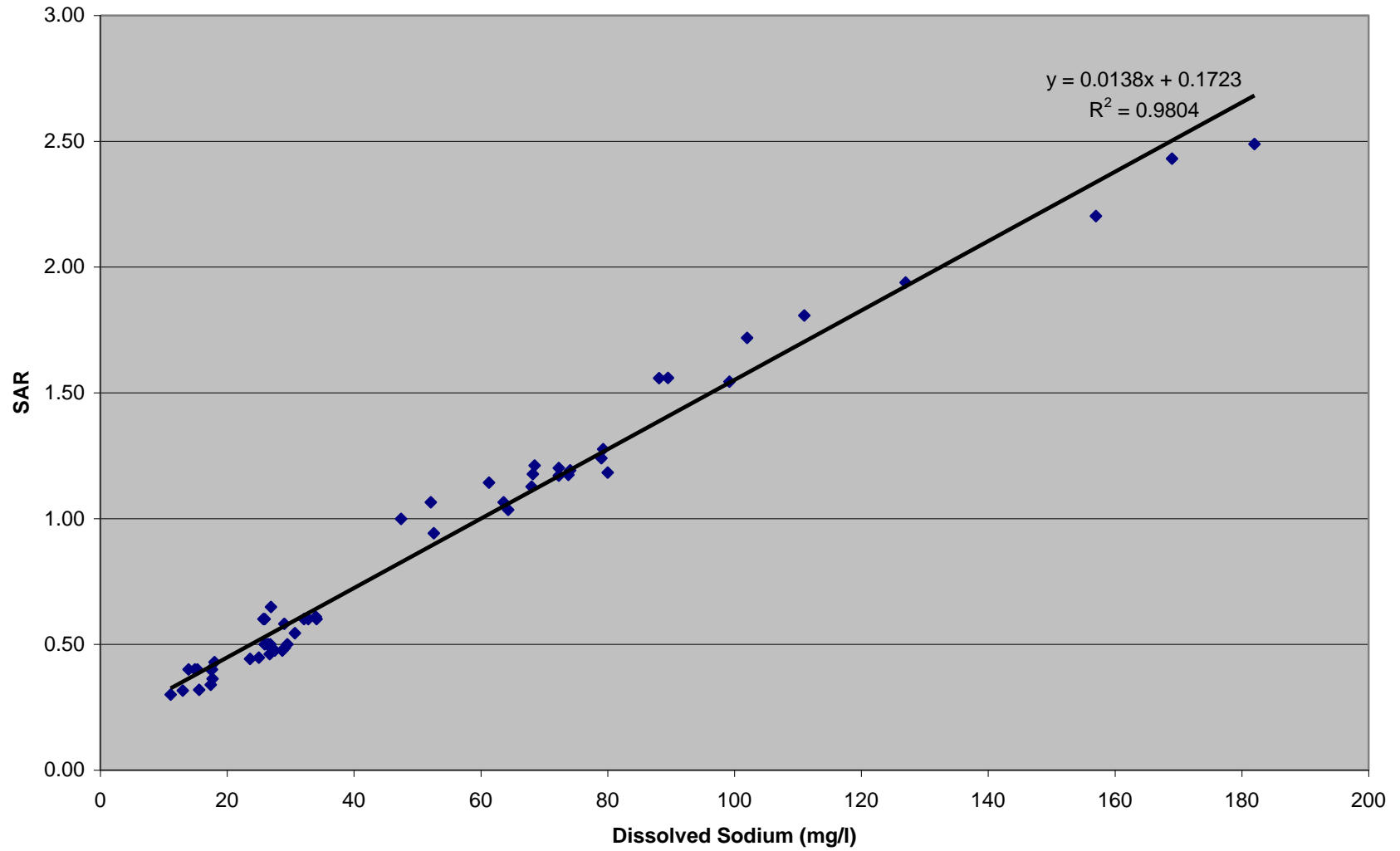
Kathy Shreve
Water Quality Division, DEQ
Drafted June 27, 2006

Jennifer Zygmunt—Renewal
Water Quality Division, DEQ
Drafted: December 12, 2007

Revised: December 29, 2008
Water Quality Division, DEQ
Jason Thomas

Jason Thomas — Major Modification
Water Quality Division, DEQ
Drafted: February 13, 2009

Graph 1 - Dissolved Sodium - SAR Correlation, Prairie Dog Creek



MODIFICATION OF AUTHORIZATION TO DISCHARGE UNDER THE
WYOMING POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, (hereinafter referred to as "the Act"), and the Wyoming Environmental Quality Act,

Pennaco Energy, Inc.

is authorized to discharge from the wastewater treatment facilities serving the

Adams Ranch Treatment Facility,

located in

the SWNE of Section 3 and the NESE of Section 6, Township 55 North, Range 83 West, in Sheridan County,

to receiving waters named

the produced water will be treated and discharged directly to Prairie Dog Creek (class 2AB), and to one on-channel reservoir located on Wildcat Creek (class 3B), which is tributary to Prairie Dog Creek.,

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

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

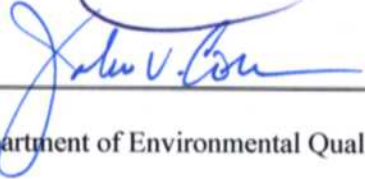
This permit and the authorization to discharge shall expire at midnight December 31, 2010.



John F. Wagner
Administrator - Water Quality Division

Date

4/28/09



John V. Corra
Director - Department of Environmental Quality

Date

4/29/09

PART IA. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately 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 outfalls serial numbers 002-003.

1. **Such discharges shall be limited as specified below:**a. **Outfall 003 (Discharging Directly to Prairie Dog Creek)**Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum</u>
Chlorides, mg/l	70
pH, standard units	6.5 – 9.0
Specific Conductance, micromhos/cm	1215
Dissolved Sodium, mg/l	300
Sulfate, mg/l	3000
Total Recoverable Arsenic, µg/l	3.7
Total Recoverable Barium, µg/l	645
Total Recoverable Radium 226 + 228 (pCi/l)	2
Total Flow, MGD	1.47
Dissolved Iron, µg/l	100
Dissolved Copper, µg/l	12
Dissolved Cadmium, µg/l	0.3
Dissolved Lead, µg/l	3
Total Recoverable Selenium, µg/l	2
Dissolved Manganese, µg/l	50

b. Outfall 002 (Discharging to a Reservoir on Wildcat Creek)Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum</u>
Chlorides, mg/l	230
pH, standard units	6.5 – 9.0
Specific Conductance, micromhos/cm	1330
Sulfate, mg/l	3000
Total Recoverable Barium, µg/l	2000
Dissolved Iron, µg/l	1000
Dissolved Cadmium, µg/l	0.6
Total Recoverable Selenium, µg/l	5
Dissolved Manganese, µg/l	50

At outfall 002, the permittee is required to contain all produced water within the receiving reservoir during “dry” operating conditions, and discharge of effluent from the reservoir, except during periods of time in which natural precipitation causes the reservoir to overtop and spill, is prohibited. 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.

c. Additional Requirements Applicable at Both Outfalls (002, 003)

This permit authorizes discharge of treated effluent from two outfalls. Any concentrated waste generated in the operation of the treatment unit(s) at this facility will be contained in lined pits, outside of any natural stream channels or water bodies. These lined pits will not constitute waters of the state and will therefore not require WYPDES permit coverage for discharge into them. However, the pits will require permitting through the Wyoming Oil and Gas Conservation Commission. In addition, the entire treatment facility will require a Chapter 3 permit-to-construct from the WDEQ Water and Wastewater Program.

Prior to addition of any chemicals to the treatment, pre-treatment, or post-treatment processes (flocculants, surfactants, anti-scalants, sterilants, etc.), written authorization must be obtained from the WYPDES Program. Addition of chemicals to the treatment process without prior written authorization from the WYPDES program will constitute a violation of this permit.

Since this is a treatment facility with controllable output quality, the operator may discharge from any coal seam, as long as all effluent limits and permit requirements are met.

This permit requires the permittee to cease discharge from the outfalls if any of the above listed parameters exceeds its effluent limit at the end of pipe. Discharge from the outfalls may resume only if the exceeding parameter is brought back into compliance.

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

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

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

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

a. Initial Monitoring- end of pipe (002, 003)

If outfalls have already been sampled and analyzed for initial monitoring constituents, the permittee is not required to re-sample and re-analyze the outfalls if results have been obtained for all the constituents listed below and reported to the WDEQ.

Within 60 days of commencement of discharge following issuance of this new permit or permit renewal, a sample shall be collected from each outfall and analyzed for all the constituents specified below, at the required detection limits. Within 120 days of commencement of discharge following issuance of this new permit or permit renewal, a summary report on the produced water must be submitted to the Wyoming Department of Environmental Quality and the U.S. EPA Region 8 at the addresses listed below. 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 Part I.A.2.c. may be modified to require more stringent monitoring.

<u>Parameter* (See notes following the table on chemical states)</u>	<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
Chlorides	5 mg/l
Copper, Dissolved	10 µg/l
Dissolved Solids, Total	5 mg/l
Fluoride, Dissolved	0.1 mg/l
Hardness, Total	10 mg/l as CaCO ₃
Iron, Dissolved	50 µg/l
Lead, Dissolved	2 µg/l
Magnesium, Dissolved	100 µg/l, report as mg/l
Manganese, Dissolved	50 µg/l
Mercury, Dissolved	1 µg/l
pH	to 0.1 pH unit
Radium 226, Total Recoverable*	0.2 pCi/l
Radium 228, Total Recoverable*	0.2 pCi/l
Selenium, Total Recoverable	5 µg/l
Sodium Adsorption Ratio	Calculated as unadjusted ratio
Sodium, Dissolved	100 µg/l, report as mg/l
Specific Conductance	5 micromhos/cm
Sulfates	10 mg/l
Zinc, Dissolved	50 µg/l

*initial monitoring for radium only required for outfall 003

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** (003 – Discharging Directly to Prairie Dog Creek)

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 Copper, µg/l	Annually	Grab
Dissolved Cadmium, µg/l	Annually	Grab
Dissolved Fluoride, µg/l	Annually	Grab
Dissolved Iron, µg/l	Annually	Grab
Dissolved Manganese, µg/l	Annually	Grab
Dissolved Lead, µg/l	Annually	Grab
Dissolved Magnesium, mg/l	Monthly	Grab
Dissolved Sodium, mg/l	Monthly	Grab
pH, s. u.	Monthly	Grab
Total Recoverable Radium 226, pCi/l	Annually	Grab
Total Recoverable Radium 228, pCi/l	Annually	Grab
Total Recoverable Selenium, µg/l	Annually	Grab
Sodium Adsorption Ratio, calculated as unadjusted for bicarbonate ratio	Monthly	Calculated
Total Dissolved Solids, mg/l	Monthly	Grab
Specific Conductance, micromohs/cm	Monthly	Grab
Sulfate, mg/l	Annually	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

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

c. **Routine monitoring End of Pipe (002 – Discharging to a Reservoir on Wildcat Creek)**

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 Cadmium, µg/l	Annually	Grab
Dissolved Fluoride, µg/l	Annually	Grab
Dissolved Iron, µg/l	Annually	Grab
Dissolved Manganese, µg/l	Annually	Grab
Dissolved Magnesium, mg/l	Monthly	Grab
Dissolved Sodium, mg/l	Monthly	Grab
pH, s. u.	Monthly	Grab
Total Recoverable Selenium, µg/l	Annually	Grab
Sodium Adsorption Ratio, calculated as unadjusted for bicarbonate ratio	Monthly	Calculated
Total Dissolved Solids, mg/l	Monthly	Grab
Specific Conductance, micromhos/cm	Monthly	Grab
Sulfate, mg/l	Annually	Grab
Total Alkalinity, mg/l	Annually	Grab
Total Recoverable Barium, µg/l	Annually	Grab
Total Flow - (MGD)	Monthly	Continuous

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

d. **Routine Monitoring Water Quality Monitoring Stations (TRIB1, UPDC, DPDC)**

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

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Dissolved Calcium, mg/l	Monthly	Grab
Dissolved Magnesium, mg/l	Monthly	Grab
Dissolved Sodium, mg/l	Monthly	Grab
Sodium Adsorption Ratio, calculated as unadjusted for bicarbonate ratio	Monthly	Calculated
Chloride, mg/l	Monthly	Grab
pH, s. u.	Monthly	Grab
Bicarbonate, mg/l	Monthly	Grab
Specific Conductance, micromohs/cm	Monthly	Grab
Flow, MGD	Monthly	Instantaneous
Sulfate, mg/l	Monthly	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): designated water quality monitoring stations located on Wildcat Creek and Prairie Dog Creek (detailed locations and descriptions for TRIB1, UPDC, and DPDC are included in Table 1 of Part I.B.13). These water quality monitoring stations are to be located outside the mixing zones of the confluences. Results are to be reported semi-annually, if no effluent is discharged from this facility, then "no flow" is to be reported and samples need not be collected at the three water quality monitoring stations for that monthly sampling period.

e. **Irrigation Monitoring Point (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

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Sodium Adsorption Ratio , unitless	Monthly	Calculated
Specific Conductance , $\mu\text{mhos/cm}$	Monthly	Grab
Flow , MGD	Monthly	Instantaneous
Sodium Adsorption Ratio, calculated limit	Monthly	Calculated

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 Wildcat Creek below the outfall in order to determine whether effluent discharged from the outfall 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 measurement 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 that month. The IMP is not a compliance point. It is intended only as a location to gather downstream water quality data.

Data collected at location IMP1 will be evaluated by WDEQ on an ongoing basis in order to determine if effluent from this facility conforms to the following chemical characteristics at the IMP location:

$$*\text{SAR} < 6.67 \times \text{EC} - 3.33$$

(*where "SAR" represents sodium adsorption ratio, and "EC" represents specific conductance of the IMP sample in dS/m).

In the event that overtopping from a reservoir that receives discharges from the permittee's outfall(s) is contributing to flow at station IMP1, and the IMP sample exceeds the SAR threshold listed above, then WDEQ may re-open the permit and add an effluent limit for SAR at the outfall(s) discharging to such reservoir. In any case, where the IMP samples (minimum of 5 samples) exceed the above SAR threshold in 50% or more of the sampled flow events during any continuous 12-month period, then, upon written notification to the permittee, the above SAR threshold ($\text{SAR} < 6.67 \times \text{EC} - 3.33$) will automatically become an effluent limit at each outfall discharging to such reservoir.

B. MONITORING AND REPORTING1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and approval by, the permit issuing authority.

2. Reporting

Results of initial monitoring, including the date the discharge began, shall be summarized on a Monitoring Report Form for Monitoring of Initial Discharge and submitted to the state water pollution control agency at the address below postmarked no later than 120 days after the commencement of discharge.

Results of routine end of pipe and water quality station monitoring during the previous 6 months shall be summarized and reported semi-annually 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 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 whole effluent toxicity testing (biomonitoring) is required, results must be reported on the most recent version of EPA Region VIII's Guidance for Whole Effluent Reporting. Monitoring reports must be submitted to the state water pollution control agency at the following address postmarked no later than the 15th day of the second month following the completed reporting period. The first report following issuance of this modification is due by August 15, 2009.

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

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

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

3. Definitions

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

- c. The "daily maximum" shall be determined by the analysis of a single grab or composite sample.
- d. "MGD", for monitoring requirements, is defined as million gallons per day.
- e. "Net" value, if noted under Effluent Characteristics, is calculated on the basis of the net increase of the individual parameter over the quantity of that same parameter present in the intake water measured prior to any contamination or use in the process of this facility. Any contaminants contained in any intake water obtained from underground wells shall not be adjusted for as described above and, therefore, shall be considered as process input to the final effluent. Limitations in which "net" is not noted are calculated on the basis of gross measurements of each parameter in the discharge, irrespective of the quantity of those parameters in the intake waters.
- f. A "composite" sample, for monitoring requirements, is defined as a minimum of four grab samples collected at equally spaced two hour intervals and proportioned according to flow.
- g. An "instantaneous" measurement for monitoring requirements is defined as a single reading, measurement, or observation.
- h. A "pollutant" is any substance or substances which, if allowed to enter surface waters of the state, causes or threatens to cause pollution as defined in the Wyoming Environmental Quality Act, Section 35-11-103.
- i. "Total Flow" is the total volume of water discharged, measured on a continuous basis and reported as a total volume for each month during a reporting period. The accuracy of flow measurement must comply with Part III.A.1.

4. Test Procedures

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

5. Recording of Results

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

- a. The exact place, date and time of sampling;
- b. The dates and times the analyses were performed;
- c. The person(s) who performed the analyses and collected the samples;
- d. The analytical techniques or methods used; and
- e. The results of all required analyses including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine the results.

6. Additional Monitoring by Permittee

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

7. Records Retention

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

8. Penalties for Tampering

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

9. Compliance Schedules

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

10. Facility Identification

All facilities discharging produced water shall be clearly identified with an all-weather sign posted at each outfall, and at the outlet of each receiving reservoir listed in Table 1 below. This sign shall, at a minimum, convey the following information:

- a. The name of the company, corporation, person(s) who holds the discharge permit, and the WYPDES permit number;
- b. The contact name and phone number of the person responsible for the records associated with the permit;
- c. The name of the facility (as identified in this WYPDES permit). In addition, all outfall signs will include the outfall number. Reservoir signs are separate from the outfall signs, and are to be located at the outlet of the reservoir. Reservoir signs must include the information listed in items a and b above, in addition to the reservoir name, as identified in Table 1 below.

11. Identification and Establishment of Discharge Points

According to 40 CFR 122.21(k)(1), the permittee shall identify the expected location of

each discharge point on the appropriate NPDES permit application form. The location of the discharge point must be identified to within an accuracy of 15 seconds. This equates to a distance of 1,510 feet.

In order for the permit not to be subjected to additional public notice, the location of the established discharge point must be within 1,510 feet of the location of the discharge point originally identified on the permit application. In addition, the discharge must be within the same drainage and must discharge to the same landowner's property as identified on the original application form. If the three previously stated requirements are not satisfied, modification of the discharge point location(s) constitutes a major modification of the permit as defined in Part I.B.12. The permittee shall provide written notification of the establishment of each discharge point in accordance with Part I.A.2.a above.

12. Location of Discharge Points

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

SEE TABLE 3 FOR A LIST OF OUTFALLS AND WATER QUALITY MONITORING STATION LOCATIONS

Requests for modification of the below 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.

Table 1: WY0054364 Adams Ranch Treatment Unit

Out-Fall	Qtr/Qtr	SECT	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description	Groundwater Approval Required Prior to Discharge?	Reservoir Bond to WDEQ Required Prior to Discharge?
002	SWNE	3	55	83	44.77344	-106.83702	Discharges to on-channel reservoir "Paul #3" located in Wildcat Creek	NO	NO
003*	NESE	6	55	83	44.76705	-106.89563	Direct discharge to Prairie Dog Creek	N/A	N/A
IMP1	NENE	33	56	83	44.78891	-106.85050	Irrigation monitoring point	N/A	N/A
UPDC	NENE	7	55	83	44.76066	-106.89252	Upstream Prairie Dog Creek monitoring station, above confluence with Wildcat Creek	N/A	N/A
DPDC	SENE	4	56	83	44.85856	-106.85518	Downstream Prairie Dog Creek monitoring station, below confluence with Wildcat Creek. Located at Prairie Rd Crossing	N/A	N/A
TRIB1	NENW	21	56	83	44.81732	-106.86478	Tributary monitoring station on Wildcat Creek at County Rd 84 crossing	N/A	N/A

*Asterisk denotes outfalls for which WDEQ has field-verified the latitude and longitude locations. This is considered to be the most accurate location information available for these outfalls, and will supersede latitude and longitude values presented in the application.

A request for a minor modification must be initiated by the permittee by completing the form titled National Pollutant Discharge Elimination System Permit Modification Application For Coal Bed Methane. Incomplete application forms will be returned to the applicant.

The outfalls listed in Table 1 (Part I.B.12) 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 and/or total radium 226 effluent 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. 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 IIA. MANAGEMENT REQUIREMENTS1. 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 January 1st through December 31st. This permit fee will continue to be assessed for as long as the permit is active, regardless of whether discharge actually occurs. This fee is not pro-rated. If the permit is active during any portion of the fee year, the full fee will be billed to the permittee for that fee year. In the event that this permit is transferred from one permittee to another, each party will be billed the full permit fee for the fee year in which the permit transfer was finalized.

PART IIIA. OTHER REQUIREMENTS1. Flow Measurement

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

2. 208(b) Plans

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

3. Reopener Provision

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

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

4. Permit Modification

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

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

5. Toxicity Limitation - Reopener Provision

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

- a. Toxicity was detected late in the life of the permit near or past the deadline for compliance;
- b. The TRE results indicate that compliance with the toxic limits will require an implementation schedule past the date for compliance and the permit issuing authority agrees with the conclusion;
- c. The TRE results indicate that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits and the permit issuing authority agrees that numerical controls are the most appropriate course of action;
- d. Following the implementation of numerical controls on toxicants, the permit issuing authority agrees that a modified whole effluent protocol is necessary to compensate for those toxicants that are controlled numerically;
- e. The TRE reveals other unique conditions or characteristics which, in the opinion of the permit issuing authority, justify the incorporation of unanticipated special conditions in the permit.

6. Severability

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

7. Penalties for Falsification of Reports

The federal act provides that any person who knowingly makes any false statement, representation or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation or by imprisonment for not more than two years per violation or both.