FILED

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Environmental Quality Council

SUBMIT IN TRIPLICATE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO SURFACE DISCHARGE PRODUCED WATER FROM COAL BED METHANE NEW DISCHARGES, RENEWALS, OR MAJOR MODIFICATIONS

Revised 12-19-03

PLEASE PRINT OR TYPE

Agency Use Only
Application Number
WY00_____
Date Received:
_____
(mo/day/yr)

1. Check the box corresponding to the type of application being applied for

☐ New CBM permit

☐ CBM permit renewal Permit number _____

☐ CBM permit major modification Permit number _____

2. Select a permit option

☐ Option 1A - complete containment to an off-channel man made containment unit(s) (class 4C), no discharge allowed to surface waters of the state outside the containment unit.

☐ Option 1B - complete containment to a natural closed basin or playa lake (class 3A), no discharge allowed to surface waters of the state outside the basin or playa.

☐ Option 2 - surface discharge to class 2 or 3 receiving stream of the Belle Fourche River or Cheyenne River drainage (class 2ABWW).

☐ Option 2 - surface discharge to class 2 or 3 receiving stream of the Powder River or Little Powder Rivers (class 2ABWW).

☐ Option 2 – surface discharge to class 2 or 3 receiving streams of the Tongue, Clear Creek, or Crazy Woman Creek (class 2AB)– this option requires the permittee to demonstrate that quality of the effluent at the discharge point is equal to or better than the ambient quality of the perennial class 2 receiving water.

3. Name, mailing address, e-mail address, location and telephone number of the individual or company which owns the facility producing the discharge.

Name:

_____

Street Address:

_____

City, State, and Zip Code:

_____

Telephone Number:

_____

E-Mail Address:

_____

WILLIAMS
EXHIBIT 2

4. Name(s) and mailing address(es) of owner(s) of the surface rights on whose land the discharge occurs (in cases where the land is owned by the state or federal government but surface rights are leased to a private individual, provide lessee's name and address)

Name:

_____

Street Address:

_____

City, State, and Zip Code:

_____

Telephone Number:

_____

5. Name of the facility producing the discharge (this is the facility name that will appear on the NPDES permit. It is not necessary to name every well contributing to this facility's discharge in this section)

_____

6. For Option 1A or 1B permit, attach a water balance that demonstrates, considering total maximum projected discharge inflows, natural precipitation, evaporation and infiltration, that the containment unit will be adequately sized to contain all projected discharge and stormwater runoff from a 100 year, 24 hour storm event. If actual flow rates are available, use the maximum flow rate from all active wells within the previous six months of operation in the water balance.

7. For an Option 2 permit utilizing on-channel reservoirs, attach a water balance and mixing analysis documenting the amount of CBM discharge that, under normal operating conditions, can be contained within the reservoirs, the amount and circumstances under which the reservoirs will discharge, and the expected water quality upon discharge from the reservoirs.

8. Attach a description and a clear, legible, detailed topographic map of the discharging facility. Include the following:
   - **a.** A legend
   - **b.** Well locations
   - **c.** Ponds
   - **d.** Reservoirs
   - **e.** Stock tanks
   - **f.** Discharge points (outfalls)
   - **g.** Immediate receiving streams
   - **h.** Water quality monitoring stations
   - **i.** Irrigation compliance points
   - **j.** Location of nearest downstream irrigator.
   - **k.** Section, Township, and Range information

   If any of the above are not applicable please indicate in the description and include a brief explanation as to why the item is not applicable)

9. Describe the control measures that will be implemented to prevent significant damage to or erosion of the receiving water channel at the point of discharge.

_____

_____

10. Describe the control measures that will be implemented to achieve water quality standards and effluent limits. If proposing to utilize a treatment process, provide a detailed description of the treatment process, including, but not limited to: Water quality analyses demonstrating the effluent quality before and after treatment; waste stream volumes and planned method of disposal; aquatic life toxicity data for any chemicals being used in the treatment process; description of how the chemicals will be handled at the facility and the potential for any impacts to waters of the state in the event of a spill; and diagrams of the facility indicating the water treatment path. Additional sheets and diagrams may be attached.

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11. Outfall locations must be established as part of a preliminary field reconnaissance survey using GPS or conventional survey equipment and documented in Table 1. Please document the type of equipment used, the expected accuracy of your measurements, and a brief rationale for locating the outfalls at the requested sites below.

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12. Complete the attached **Table 1**. Provide all the information in the table for each proposed discharge point or monitoring point. If proposing changes (a major modification) to an existing facility, **clearly** indicate the desired changes on the table. Additional tables may be attached. Use the format provided.

13. Complete the attached **Table 2**. Provide all the information in the table for each well associated with this proposed discharge authorization. If proposing changes (a major modification) to an existing facility, **clearly** indicate the desired changes on the table. Additional tables may be attached. Use the format provided.

14. Provide the results of water analyses for a sample collected from a location representative of the quality of the water being proposed for discharge for the 25 chemical parameters listed below. The sample must be collected from well(s) or outfall(s) within a twenty mile radius of the proposed facility's location, and from the same coal formation(s) and the same approximate depth(s) as proposed in this application. If filing an application for a permit renewal or modification, the representative sample must be collected from the facility being proposed for renewal or modification. Explain why this sample is representative of the produced water to be discharged.

Samples from co-mingled coal seams are acceptable as long as the sample(s) meet the following criteria:

A. all of the coal seams being proposed for development are represented in the co-mingled sample,

B. the ratio of each coal seam's contribution is approximately the same in the sample and the proposed development,

C. documentation is provided to verify the criteria listed in A. and B.

The analyses must be conducted in accordance with approved EPA test procedures (40 CFR Part 136). Include a signed copy of your lab report that includes the following:

a. detection limits
b. results of each of the 25 chemical parameters at the chemical state given below
c. quarter/quarter, section, township and range of the sample collection location
d. Time and date of sample collection

e. Time and date of analysis for each parameter
f. Analyst's initials for each parameter
g. Detection limit for each parameter as achieved by the laboratory
h. NPDES permit number and outfall number, where the sample was collected.
i. Origin of produced water (coal seam)

If more than one coal seam is being proposed for development, the permittee must submit a lab analysis and complete information characterizing water quality from each coal seam being proposed for development. If the permittee is proposing to include discharges from a coal seam not previously developed at this facility, the permittee must submit a lab analysis and complete information characterizing water quality from the new coal seam being proposed for development. Analyses must be provided in the units listed below.

Parameter* (See notes following the table on chemical states)	**Required Detection Limits and Required Units**
Alkalinity, Total	**1 mg/l as $CaCO_3$**
Aluminum, Total Recoverable	**50 µg/l**
Arsenic, Total	**1 µg/l**
Barium, Total	**100 µg/l**
Bicarbonate	**10 mg/l**
Cadmium, Dissolved	**5 µg/l**
Calcium, Total	**50 µg/l, report as meq/l**
Calcium, Total	**50 µg/l, report as mg/l**
Chlorides	**5 mg/l**
Chlorides	**5 mg/l**
Copper, Dissolved	**10 µg/l**
Dissolved Solids, Total	**5 mg/l**
Hardness, Total	**10 mg/l as $CaCO_3$**
Iron, Dissolved	**50 µg/l**
Lead, Dissolved	**2 µg/l**
Magnesium, Total	**100 µg/l, report as meq/l**
Magnesium, Total	**100 µg/l, report as mg/l**
Manganese, Dissolved	**50 µg/l**
Mercury, Dissolved	**1 µg/l**
pH	**to 0.1 pH unit**
Radium 226, Total	**0.2 pCi/l**
Selenium, Total Recoverable	**5 µg/l**
Sodium Adsorption Ratio	**Calculated as unadjusted ratio**
Sodium, Total	**100 µg/l, report as meq/l**
Sodium, Total	**100 µg/l, report as mg/l**
Specific Conductance	**5 micromhos/cm**
Sulfates	**10 mg/l**
Zinc, Dissolved	**50 µg/l**

**Discharges into drainages other than the Powder River geologic basin may require analysis of additional parameters, please contact the WDEQ for a separate list.*

15. For new facilities, provide the expected (estimated) flow volume from each well in gallons per day, and provide the rationale behind the flow volume estimate. For existing facilities, provide actual flow data from all wells within the last six months.

_____

_____

16. For applications for new facilities, are any of the required chemical constituents in the laboratory analysis present in concentrations above Wyoming Water Quality Standards?

☐ **YES** ☐ **NO**

If the answer to question # 16 is yes, answer 16.a. – 16.b below. If no, proceed to question 18.

a. Which constituents?

_____

b. Has this constituent been addressed in the response to question 10?

_____

17. For applications for existing facilities, has the facility ever exceeded permit limits or water quality standards?

☐ **YES** ☐ **NO**

If the answer to question 17 is yes, answer 17.a. – 17.b. If no, proceed to question 18.

a. Which constituents?

_____

b. Has the exceedance been addressed?

_____

c. Describe how the exceedance is being addressed.

_____

_____

18. Is there active irrigation, (including but not limited to irrigation of cultivars or flood irrigation) in the drainage of the discharge?

☐ **YES** ☐ **NO**

If the answer to question #18 is yes, then documentation demonstrating one of the following must be provided:

A. Effluent will meet SAR and specific conductance (EC) values that are equal or of better quality to ambient values in the mainstem or highest quality receiving stream; or

B. Demonstrate that a higher level of EC and SAR at the point of irrigation diversion can be tolerated by irrigated soils and crops without a significant reduction in crop yield and soil quality/permeability.

This information should include, but is not limited to the following:

a. Location and description of irrigated crop land between the discharge points and mainstem, including maximum local tolerance thresholds to SAR, EC, and sodium of each crop.
b. Description of irrigation practices including when and how frequent irrigation occurs.
c. Soil characteristics for each area where irrigation occurs which includes:Classification of soils and soil type (i.e. sandy loam, clay, etc.) Composition of soils (% clay, silt, sand), type of soils, texture and permeability
d. Baseline soil parameters in all actively irrigated areas which includes soil SAR, EC, Na, Mg, Ca, permeability, and exchangeable sodium percentage (ESP).
e. Determine the maximum SAR and EC of water that can be applied to the least tolerant and most sensitive identified irrigated soil type and crop, which would not result in a short and/or long-term reduction in soil infiltration/permeability or yield.
f. Provide the location (township, range, section, quarter quarter and lat/long coordinates) of point(s) upstream from the first downstream point of irrigation diversion/use between the outfalls and mainstem and/or provide the location(s) of the irrigation diversion/use that requires the least flow to operate.
g. An evaluation that demonstrates the proposed discharge will be in compliance with Section 20, Chapter 1 of the Wyoming Water Quality Rules and Regulations.
h. If necessary to protect irrigated crops and/or soils, describe changes that must be made in traditional irrigation practices to protect downstream irrigation activities.
i. A monitoring plan, if necessary to gauge changes in water/soil quality and make adjustments before substantial reduction in crop production and soil permeability would occur.
j. Citations of reference for all the above information must be provided.

19. Name(s) and address(es) of all downstream irrigators between the outfalls and the mainstem must be provided.

Name:

_____

Street Address:

_____

City, State, and Zip Code:

_____

Telephone Number:

_____

20. Section 40 CFR Part 435 Subpart E requires that the permittee document agricultural and wildlife uses of produced water. Provide documentation that the produced water will be used for agriculture or wildlife during periods of discharge. Agriculture and wildlife use includes irrigation, livestock watering, wildlife watering and other agricultural uses. Agricultural and wildlife use documentation includes (but is not limited to) a certified letter from a landowner(s), a formal written statement from a state, federal or local resource management agency, or a formal written statement with supporting documentation from a natural resources or environmental professional accompanied by the credentials of the natural resources or environmental professional. Agriculture and wildlife use documentation must be provided for each outfall included in the application. Agricultural and wildlife certification must be submitted for each outfall's discharge, and must have original signatures.

I (CEO or other authorized person) certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief, such information is true, complete, and accurate. I am requesting _____ outfalls in this application.

_____ _____

Printed Name of Person signing* Title*

Signature Date

*All permit applications must be signed in accordance with 40 CFR Part 122.22, "for" or "by" signatures are not acceptable.

Section 35-11-901 of Wyoming Statutes provides that:
Any person who knowingly makes any false statement, representation, or certification in any application ... shall upon conviction be fined not more than $10,000 or imprisoned for not more than one year, or both.

Mail this application to:

NPDES Permits Section
Department of Environmental Quality/WQD
122 West 25th Street, Herschler Building, 4W
Cheyenne, WY 82002

Please include unique footer information on each page of this application and on all supporting documentation using the following format:
Company Name: Year/Month/Day/NEW, MOD, RENEWAL/10 Digit HUC Code/Permit # (if a modification or renewal) or Application # (from this particular company) for that particular day

TABLE 1: OUTFALL INFORMATION

Discharge Point # (Outfall)	Immediate Receiving Stream	Mainstem	Distance from outfall to mainstem (stream miles)	Quarter / Quarter	Section	Township	Range	Latitude *(decimal degree format, accuracy to nearest 5 seconds)*	Longitude *(decimal degree format, accuracy to nearest 5 seconds)*	County	Reservoir Permit Application Submitted to SEO?	SEO Reservoir Permit #	Reservoir Name	SEO Reservoir Requirements
001														
002														
003														
004														
005														
006														
007														
008														
009														
010														
ICP1														
ICP2														
TRIB														
WQMS - Up														
WQMS - Down														

ICP - Irrigation Compliance Point, TRIB - Tributary water quality monitoring station, WQMS - Up - upstream mainstem water quality monitoring station, WQMS- Down - downstream mainstem water quality monitoring station

Additional sheets may be attached as necessary. Use the format provided.

TABLE 2 - WELL INFORMATION

Well Name	API Number	Coal Seam	Well Depth	Discharges to Outfall #*

**AWAO - all wells to all outfalls*

Additional sheets may be attached as necessary. Use the format provided.