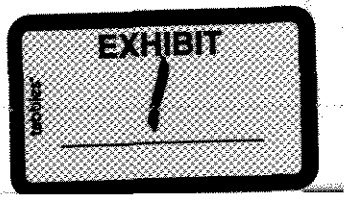
Willow Creek Watershed General Permit for Surface Discharges Related to Coal Bed Methane Production

Wyoming Department of Environmental Quality
Water Quality Division
WYPDES Program



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AUTHORIZATION TO DISCHARGE PRODUCED WATER FROM COAL BED METHANE WELLS LOCATED WITHIN THE WILLOW CREEK WATERSHED OF THE POWDER RIVER BASIN

In accordance with the provisions of the Wyoming Environmental Quality Act, facilities that are located within the Willow Creek watershed of the Powder River Basin that have the potential to discharge groundwater produced as the result of coal bed methane production in accordance with the requirements of this general permit are hereby authorized to discharge to surface waters of the state of Wyoming.

This general permit is issued under the provisions of Chapters 1 and 2 of the Wyoming Water Quality Rules and Regulations. Operators issued discharge authorizations under this general permit are required to comply with all applicable state and federal regulations and requirements.

This general permit shall become effective on the date of issuance, and shall expire at midnight, five years after permit issuance. All authorizations issued under this general permit also expire at midnight, five years after the general permit is issued.

John F. Wagner
Administrator - Water Quality

9/11/06
Date

John V. Corra
Director - Department of Environmental Quality

9/11/06
Date

PART I

1. AUTHORIZATION TO DISCHARGE

1.1 Coverage Under This Permit

1.1.1 Permit Area

This permit covers all coal bed methane (CBM) operations within the greater Willow Creek watershed of the Powder River Basin in Northeastern Wyoming, as identified in the map contained in Appendix A, including all named and unnamed tributaries of Willow Creek. The greater Willow Creek watershed also includes several unnamed ephemeral tributaries to the Powder River, as well as Curtis Draw and School Section Draw, which are located West of the Powder River. Any reference in this document to the "Willow Creek watershed" will include these additional minor tributaries.

1.1.2 Activities Covered Under This Permit

Under this general permit, facilities may be granted authorization to discharge produced water related to coal bed methane gas development as defined in Part I, Section 1.2.1 and Part I, Section 1.2.3. Prior to issuance of discharge authorization, the permittee shall demonstrate that upon entering a water of the state of Wyoming, the discharge will not exceed the effluent limitations as described in Part I, Section 2 – Part I, Section 5, or cause a violation of Wyoming Water Quality Standards as established in *Chapter 1 of the Wyoming Water Quality Rules and Regulations*.

1.1.2.1 **Category I Discharges** (On-channel with no containment requirements); Formerly "Option 2" for individual discharge permits:

Sub-Category 1A discharges apply to all outfalls discharging to on-channel reservoirs and/or directly to stream channels located **within one stream mile of confluence with the Powder River.**

Sub-Category 1B discharges apply to all outfalls discharging to on-channel reservoirs and/or directly to stream channels located **greater than one stream mile from confluence with the Powder River, but downstream of** the existing irrigation use within the Willow Creek watershed. The downstream-most existing irrigation use within the Willow Creek watershed is located in **the NESE of Section 23, Township 45 North, Range 77 West.**

Sub-Category 1C discharges apply to all outfalls discharging to on-channel reservoirs and/or directly to stream channels located **upstream of** the existing irrigation use within the Willow Creek watershed. The downstream-most existing irrigation use within the Willow Creek watershed is located in **the NESE of Section 23, Township 45 North, Range 77 West.**

1.1.2.2 **Category II Discharges** (50-year Storm Containment ; Headwater Reservoir or Playa Lake); Formerly "Option 1B" for individual discharge permits:

Category II discharges apply to all outfalls discharging to on-channel reservoirs or natural closed topographic depressions (playa lakes) capable of containing all CBM effluent in addition to stormwater runoff equivalent to a 50 year, 24 hour precipitation event.

Impoundments associated with Category II discharges may be located anywhere within the Willow Creek watershed, but must not impound runoff from more than 40 acres of upstream drainage area. Use of an SEO-approved by-pass structure to divert storm flows around the impoundment will serve as an acceptable substitute for meeting the 40-acre maximum on upstream drainage area. In order to qualify for Category II effluent limitations, the operator must demonstrate to the satisfaction of WQD, that the discharges can meet the following criteria prior to issuance of discharge authorization:

1.1.2.2.1 Adequate demonstration must be made that the reservoir(s) or playa lake(s)proposed for utilization of containment of CBM discharge are able to contain, in addition to all proposed CBM discharges, runoff associated with a 50 year, 24 hour precipitation event.

1.1.2.2.2 For each reservoir not located within a naturally closed topographic depression, the permittee has identified flow monitoring locations, with the approval of WQD, within ¼ mile downstream of the reservoir outlets that will enable the permittee to monitor for flow and/or excess seepage from the reservoirs. The permittee must conduct daily monitoring for flow at these locations, and is required to reduce, eliminate, or otherwise manage discharges from the reservoirs in the event that flow is reported at any one of the downstream flow monitoring locations during "dry" weather conditions such that discharges and/or seepage from the reservoirs no longer reaches the flow monitoring locations. The identified flow monitoring locations shall not be sited in locations that may be impacted by existing CBM discharges.

1.1.2.2.3 The permittee has identified containment unit monitoring locations, with the approval of WQD, within each of the proposed containment units (headwater reservoirs or playa lakes), outside of the mixing zone of the outfall and the containment unit.

1.1.3 Activities Not Covered Under This Permit

The following types of discharges are not authorized by this general permit.

1.1.3.1 **Discharge of any drilling fluids, acids, stimulation waters or other fluids** derived during the course of drilling, maintaining, and/or completing wells.

1.1.3.2 **Stormwater runoff** from construction activities.

1.1.3.3 **Category III Discharges** – to constructed off-channel pits capable of containing all CBM effluent in addition to stormwater runoff equivalent to a 50 year, 24 hour precipitation event (formerly "option 1A for individual discharge permits). Discharges meeting the criteria described below may not be covered under this general permit and must receive permit coverage under an individual WYPDES permit. Although discharges of this type will not be considered for coverage under this general permit, the effluent limitations and requirements associated with such discharges are described in this general permit, in order to serve as the template for individual permits.

1.1.3.3.1 Adequate demonstration must be made that the pits proposed for utilization of containment of CBM discharge are able to contain, in addition to all proposed CBM discharges, all runoff associated with a 50 year, 24 hour precipitation event.

1.1.3.3.2 Pits of this type require a demonstration that the pit complies with the "*Off-Channel, Unlined CBM Produced Water Pit Siting Guidelines for the Powder River Basin, Wyoming*", established August 6, 2002 and updated June 14, 2005.

1.1.3.3.3 Upon entering a water of the state of Wyoming, the discharge will not exceed the effluent limitations as described in Part I, Section 4, or cause a violation of Wyoming Water Quality Standards as established in *Chapter 1 of the Wyoming Water Quality Rules and Regulations*.

1.1.3.3.4 The permittee has identified containment unit monitoring locations, with the approval of WQD, within each of the proposed off-channel pits.

1.1.3.4 **Discharges to containment units (reservoirs or infiltration pits) located in the Powder River alluvium**- Operators seeking discharges to on-channel reservoirs, natural, closed topographic basins, or off-channel infiltration pits located within the Powder River alluvium will not be covered under this general permit. WQD will consider discharges of this type on an individual basis.

1.1.3.5 **Direct discharges to the Powder River** – Operators seeking direct discharges of produced water related to coal bed methane production to the Powder River will not be covered under this general permit. WQD will consider discharges of this type on an individual basis.

1.1.4 Criteria for Coverage Under the General Permit

Evaluation of whether or not an individual permit may be required instead of coverage under this general permit is subject to one or more of the following criteria:

1.1.4.1 Information is available indicating that the permittee can not attain compliance with the conditions of this general permit.

1.1.4.2 The general permit would not provide sufficient limits, monitoring, or requirements for the proposed discharge to ensure that state and/or federal water quality standards were protected.

1.1.4.3 The proposed discharge is not eligible for coverage under this general permit, based on restrictions listed in Part I, Section 1.3 above.

1.1.5 Discharge Authorization Effective Date

Authorization to discharge from an outfall shall become effective upon receipt of written notification, in the form of an authorization letter, from the Wyoming Department of Environmental Quality, Water Quality Division.

1.2 Notice of Intent Requirements

1.2.1 Pre-submission Requirements

1.2.1.1. **Prior to submission** of a notice of intent (NOI) from the operator requesting surface discharge authorization under this general permit, the permittee must notify all landowners upon whose property an outfall associated with this general permit will be located, as per *Section 4.F.1.iii of Chapter 2, Wyoming Water Quality Rules and Regulations*. The permittee must also send a copy of the notifications to the WYPDES Program, at the address indicated in Part I, Section 1.2.2.18 of this general permit, at the same time such notifications are sent to the landowners..

1.2.1.1.1. Operators seeking discharge authorization under Category I as described in Part I, Section 1.1.2.1. must notify all landowners located along the downstream flow path of the discharge from the outfall to the confluence of the Powder River.

1.2.1.1.2. Operators seeking discharge authorization under Category II as described in Part I, Section 1.1.2.2. are only required to notify those landowners upon whose property an outfall associated with this general permit will be located.

1.2.1.2. Permittees will notify all landowners described in (1.2.1.1.1 - 1.2.1.1.2) above at least **30 days prior to submission of any NOI under this general permit to the WYPDES Program** via registered letter. Permittees will submit copies of the registered letter, in addition to legible, dated copies of the registered mail receipt, with their NOI as proof that the landowner notification requirements have been met. Permittees must also send a copy of the landowner notification to the WYPDES Program at the address given under Part I, Section 1.2.2.18 at the same time the notifications are sent to the landowners. The landowner notifications must include the following:

1.2.1.2.1. Name and contact information for operator seeking coverage under this general permit,
1.2.1.2.2. Facility Name,
1.2.1.2.3. Legal location of all proposed outfalls,
1.2.1.2.4. Estimated discharge volume,
1.2.1.2.5. Estimated water quality,
1.2.1.2.6. Brief summary of proposed water management plan.

Applicants must use the same proposed facility name on their NOIs and their landowner notification letters.

1.2.1.3. Failure to submit the information described in (1.2.1.2.) above will result in the NOI being returned to the applicant.

1.2.2 Request for Authorization

In order to be eligible for authorization to discharge produced water under the terms and conditions of this permit, the owner, operator, or corporate officer as defined in Part I,I Section 1.11 of this permit, must submit a complete and technically adequate Notice of Intent (NOI) on the approved form to WQD . The NOI must be submitted at least 60 days prior to the anticipated commencement of discharge from the facility, and must, at a minimum, contain the following information:

1.2.2.1 Name, mailing address, location and telephone number of the individual, company, or other principals seeking coverage under this general permit.

1.2.2.2 Name of the facility being proposed for discharge authorization.

1.2.2.3 Requested location of the facility's discharge points (outfalls), and water quality and flow monitoring locations, in both legal (quarter/quarter, section, township and range) and geographical (latitude and longitude in decimal degree) formats, with an accuracy to the nearest 15 seconds.

1.2.2.4 Well names, producing coal seams, well locations, drilling permit numbers, SEO reservoir permit numbers or temporary filing numbers (if available), and reservoir names.

1.2.2.5 A detailed, legible topographic map, with a legend, of the facility proposed for discharge authorization. Include well locations, outfall locations, water flow lines, treatment units, surface hydrology, location and directional information (sections, townships, and ranges; and a north arrow) and containment units. Indicate the number of separate discharge points being requested.

1.2.2.6 If proposing to utilize any type of containment as part of the water management plan for this facility, a water balance describing all inputs and outputs must be included.

1.2.2.7 The results of a water analysis from each of the targeted coal seams, for all water quality parameters listed in the NOI form. The representative sample(s) must be collected from within a 20 mile radius of the proposed facility, from the same coal seams being proposed for development at the proposed facility. The water analysis results must be submitted in the form of a legible, signed copy of a laboratory analysis sheet. The submitted lab sheet(s) must: use the same parameter units listed in the NOI form; list the approved EPA test procedures used in the analyses (40 CFR 136 or 40 CFR 136.5); identify the legal location of the sampled discharge; identify the coal seam(s) represented in the sampled discharge; identify the sample date and analysis date of the discharge.

1.2.2.8 Names and addresses of all surface landowners of record on whose property the discharges will occur, and/or containment units will be built.

1.2.2.9 The NOI must be signed and dated according to Part I,I Section 1.11 of the permit.

1.2.2.10 Applicant status as a federal, state, private, public, or other entity.

1.2.2.11 A description of the activity conducted by the applicant, including the identification of the specific Category(ies) of Discharge requested under this general permit.

1.2.2.12 Outfall numbers and names of all surface waters of the State of Wyoming that would or could potentially receive any portion of the discharge for each outfall, including, where applicable, a description of the tributary system from the outfall location to the mainstem.

1.2.2.13 Permittees are subject to additional requirements related to assimilative capacity in the Powder River, as determined by the "*Wyoming Powder River Assimilative Capacity Allocation and Control Process*"

1.2.2.14 Permittees are required to submit an individual or collective monitoring and reporting plan related to tributary water quality monitoring stations, mainstem water quality monitoring stations, and channel capacity monitoring stations (see Table 1 and Map, Appendix A for station locations).

1.2.2.15 Note that WQD may request additional information in addition to that requested above to identify potential impacts to designated uses.

1.2.2.16 The NOI and any supplemental information is to be submitted to:

Wyoming Department of Environmental Quality, Water Quality Division
WYPDES Permitting Program
122 West 25th Street, 4 West
Cheyenne, WY 82002

1.2.2.17 Applicants shall submit one paper copy of their notice of intent, including all supporting documentation (maps, supplemental information, reports, etc), and one electronic copy, via compact disc or floppy diskette. Each page of the NOI must be clearly marked with facility name, company name, and submittal date. All supporting information must also be clearly marked on every page with facility name, company name, and submittal date. Operators without the capability to submit applications electronically may submit two paper copies of their NOIs and all supporting information to WQD.

1.2.2.18 WQD must be notified by the operator if proposing to use treatment chemicals such as biocides, anti-scaling agents, water conditioners, etc. at the time the NOI is submitted. In the event that such plans to use treatment chemicals are not made until after the discharge authorization is granted, the discharge authorization may need to be modified in accordance with usual modification procedures. In all cases, written approval from WQD regarding use of treatment chemicals must be granted prior to the use of the chemicals.

1.2.3 Post submission requirements

Within 30 days of receipt of the NOI, WQD will review the NOI and make a completeness determination. If the notice of intent and supplemental information are deemed to be complete, processing of the notice of intent shall proceed. If WQD determines that the notice of intent is incomplete, a notice shall be provided to the applicant, describing the additional information needed in order to complete the processing of the notice of intent, within 45 days of receipt of the notice of intent. The completeness of any notice of intent shall be judged independently of the status of any other notice of intent for the same facility or activity.

Upon determination of completeness, WQD shall make a determination of issuance or denial of the authorization for coverage under the general permit. If WQD decides to authorize the discharge, WQD will identify all applicable conditions of authorization in the authorization letter.

The authorization letter will be posted on the WQD website.

1.2.4 Post authorization requirements

Once authorization for surface discharge has been obtained under this general permit, permittees are required to post a copy of the signature page of the discharge authorization at the facility's physical location in a prominent and protected location within the public's view.

Operators are also required to submit notification to WQD regarding the "as built" discharge point locations once the discharge points are installed. (See Part I, Section 14.10 for additional information regarding establishment of discharge point locations).

Once the signed authorization is received by the permittee, the permittee must provide a paper copy of the authorization to the Campbell County Public Library for filing.

Campbell County Public Library
2101 South 4J Road
Gillette, WY 82718-5205

1.2.5 Change of Operator

When responsibility for the discharge at an authorized facility changes from one operator to another, the current and future permittees shall submit a complete Notice of Transfer and Acceptance

(NOTA). The NOTA must be signed by both parties in accordance with Part I,I Section 1.11 of this permit. The new operator must comply with all conditions in this permit and the authorization. Copies of the NOTA may be obtained from the WQD website, or via mail upon request.

1.2.6 Notice of Termination

A permittee may request, by submitting a Notice of Termination (NOT), that coverage under this permit be terminated. Such a request shall describe why coverage is no longer necessary and be signed in accordance with Part I,I Section 1.11. Following a review, WQD will terminate coverage, deny termination or request additional information. The permittee will receive a written confirmation of the WQD's actions. Copies of the NOT may be obtained from the WQD website, or via mail upon request.

1.2.7 Discharge Authorization Fees

Once an operator has been issued a discharge authorization letter, the permittee will be assessed a $100.00 per-year-per-authorization permit fee by WQD. The fee year runs from July 1st through June 30th. Fees are not pro-rated, holding a discharge authorization during any portion of any fee year will result in a $100.00 fee assessment.

2. EFFLUENT LIMITS, CATEGORY I DISCHARGES (On-channel reservoirs with no stormwater runoff containment requirements)

Effective immediately, the quality of effluent for Category I discharges shall, at a minimum, meet the limitations set forth below. Category I discharge authorizations may be additionally limited for total flow, total dissolved solids (TDS), and dissolved sodium at the outfall(s) pursuant to restrictions established in WQD/WYPDES Program Policy *"Wyoming Powder River Assimilative Capacity Allocation and Control Process."*

2.1 Subcategory 1A: (within one stream mile of confluence with the Powder River)

Effluent Limits

Effluent Characteristic	Daily Maximum, Outfall
Total Flow, MGD	0.36
Chloride, mg/l	230
Dissolved Iron, µg/l	240
Dissolved Cadmium, µg/l	4
pH, standard units	6.5 – 9.0
Dissolved Lead, µg/l	4
Dissolved Copper, µg/l	10
Dissolved Fluoride, µg/l	2000
Sulfate, mg/l	3000
Total Recoverable Arsenic, µg/l	7
Total Recoverable Barium, µg/l	1800

Effluent Characteristic	Daily Maximum, Outfall
Total Dissolved Solids, mg/l	5000
Total Radium 226 + Total Radium 228, pCi/l	1
Ammonia, mg/l as total N (July)	3.1
Ammonia, mg/l as total N (August)	2.2
Ammonia, mg/l as total N (September)	3.5
Dissolved Zinc, µg/l	90
Specific Conductance, micromhos/cm	7500
Whole Effluent Toxicity Testing, acute*	NOEC @ 100% Effluent
Whole Effluent Toxicity Testing, chronic*	NOEC @ 100% Effluent

Note: "Dissolved" value for metals refers to the amount that will pass through a 0.45 µm membrane filter prior to acidification to 1.5-2.0 with Nitric Acid.

* Whole Effluent Toxicity Testing applicable as described in WDEQ guidance document, "*Coal Bed Methane WET Testing Implementation Approach.*"(Updated September 27, 2004).

2.2 Subcategory 1B: (greater than one stream mile from confluence with the Powder River, but downstream of the lowermost irrigated lands on Willow Creek in the NESE of Section 23, Township 45 North, Range 77 West)

Effluent Limits

Effluent Characteristic	Daily Maximum, Outfall
Chloride, mg/l	230
Dissolved Iron, µg/l	1000
Dissolved Cadmium, µg/l	4
pH, standard units	6.5 – 9.0
Dissolved Lead, µg/l	4
Dissolved Copper, µg/l	10
Dissolved Fluoride, µg/l	2000
Sulfate, mg/l	3000
Total Recoverable Arsenic, µg/l	7
Total Recoverable Barium, µg/l	1800
Total Dissolved Solids, mg/l	5000

Effluent Characteristic	Daily Maximum, Outfall
Total Radium 226	3
Dissolved Zinc, µg/l	90
Specific Conductance, micromhos/cm	7500
Whole Effluent Toxicity Testing, acute*	NOEC @ 100% Effluent

Note: "Dissolved" value for metals refers to the amount that will pass through a 0.45 µm membrane filter prior to acidification to 1.5-2.0 with Nitric Acid.

* Whole Effluent Toxicity Testing applicable as described in WDEQ guidance document, "*Coal Bed Methane WET Testing Implementation Approach.*"(Updated September 27, 2004).

2.3 Subcategory 1C: (Upstream of the lowermost irrigated lands on Willow Creek in the NESE of Section 23, Township 45 North, Range 77 West)

Effluent Limits

Effluent Characteristic	Daily Maximum, Outfall
Chlorides, mg/l	230
Dissolved Iron, µg/l	1000
Dissolved Cadmium, µg/l	4
pH, standard units	6.5 – 9.0
Dissolved Lead, µg/l	4
Dissolved Copper, µg/l	10
Dissolved Zinc, µg/l	90
Dissolved Fluoride, µg/l	2000
Sulfates, mg/l	3000
Total Recoverable Arsenic, µg/l	7
Total Recoverable Barium, µg/l	1800
Total Dissolved Solids, mg/l	887
Specific Conductance, micromhos/cm	1330
Sodium Adsorption Ratio, unitless	7
Whole Effluent Toxicity Testing, acute*	NOEC @ 100% Effluent

Note: "Dissolved" value for metals refers to the amount that will pass through a 0.45 µm membrane filter prior to acidification to 1.5-2.0 with Nitric Acid.

* Note:Whole Effluent Toxicity Testing applicable as described in WDEQ guidance document, "*Coal Bed Methane WET Testing Implementation Approach.*"(Updated September 27, 2004).

3. **EFFLUENT LIMITS, CATEGORY II DISCHARGES** (outfalls discharging to playa lakes or on-channel headwater reservoirs capable of containing runoff from up to a 50-year / 24-hour precipitation event)

Effective immediately, the quality of effluent for Category II discharges shall, at a minimum, meet the limitations set forth below.

Effluent Limits

Effluent Characteristic	Daily Maximum
Chlorides, mg/l	230
Dissolved Iron, µg/l	1000
Dissolved Fluoride, µg/l	2000
Sulfates, mg/l	3000
pH, standard units	6.5 – 9.0
Specific Conductance, micromhos/cm	7500
Total Dissolved Solids, mg/l	5000
Whole Effluent Toxicity Testing, acute*	NOEC @ 100% Effluent

Note: "Dissolved" value for metals refers to the amount that will pass through a 0.45 µm membrane filter prior to acidification to 1.5-2.0 with Nitric Acid.

* Whole Effluent Toxicity Testing applicable as described in WDEQ guidance document, "*Coal Bed Methane WET Testing Implementation Approach.*"(Updated September 27, 2004).

Containment units utilized for the impoundment of Category II discharges are only authorized to overtop in response to a precipitation event equal to or greater than a 50 year, 24 hour storm event. Such overtopping events must occur in response to stormwater influxes that cause the impoundments to fill and overtop. Intentional releases from impoundments being utilized to contain Category II discharges are not allowed, and will be considered a violation of this permit. Impoundment overtopping events related to 50 year, 24 hour storm events are limited to natural overtopping only. It is the permittee's responsibility to adequately demonstrate the circumstances in which impoundments overtop, if requested by WQD.

4. **EFFLUENT LIMITS, CATEGORY III DISCHARGES** (outfalls discharging to constructed off-channel pits: Requires individual permit coverage)

Effluent Limits

Effluent Characteristic	Daily Maximum
Chlorides, mg/l	230
pH, standard units	6.5 – 9.0
Dissolved Fluoride, µg/l	2000
Sulfates, mg/l	3000
Specific Conductance, micromhos/cm	7500
Total Dissolved Solids, mg/l	5000

Off-channel pits utilized for the impoundment of Category III discharges are only authorized to overtop in response to a precipitation event equal to or greater than a 50 year, 24 hour storm event. Such overtopping events must occur in response to stormwater influxes that cause the pits to fill and overtop. Intentional releases from pits being utilized to contain Category III discharges are not allowed, and will be considered a violation of the associated discharge permit. Pit overtopping events related to 50 year, 24 hour storm events are limited to natural overtopping only. It is the permittee's responsibility to adequately demonstrate the circumstances in which pits overtop, if requested by WQD.

5. **GENERAL EFFLUENT LIMITATIONS AND REQUIREMENTS (applicable at all outfalls, regardless of Category):**

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

5.2 Information gathered from the water quality and/or stream monitoring stations may result in modification of the permit after a public notice and comment period to protect existing uses on the tributary and the mainstem.

5.3 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.

5.4 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.

5.5 Reservoir and/or discharge water is to be released at a rate which does not cause significant erosion to the channel or receiving lands.

5.6 This permit does not constitute authorization under 33 U.S.C 1344 (Section 404 of the Clean Water Act) for any stream dredging and/or filling operations.

5.7 This permit does not authorize discharges that contain substances in concentrations or combinations which are toxic to human, animal or aquatic life.

5.8 All facilities discharging produced water shall be clearly identified with an all-weather sign posted at each discharge point. The sign, at a minimum, will include the following information:

5.8.1 The name of the company, corporation, or person(s) who has obtained authorization under the general permit for surface discharges within the Willow Creek watershed, the WYPDES permit number for the assigned authorization, and the number assigned to each discharge point (outfall number).

5.8.2 If different from (1) above, the contact name and telephone number of the person responsible for the monitoring records associated with the permit,

5.8.3 The name of the facility as identified in the surface discharge authorization,

5.8.4 A 24-hour emergency contact name and telephone number.

5.9 Prior to commencement of surface discharge under this general permit, the permittee is required to obtain approval from the Groundwater Division of WQD for either a groundwater protection waiver or the installation of a groundwater monitoring network for all discharges to any type of containment unit that has not previously been utilized for the containment of CBM produced water, as per Part I, Section 15.

5.10 Operators failing to comply with the effluent limits and requirements of this general permit will be considered in violation of this permit, and will be subject to appropriate enforcement action from the Water Quality Division.

5.11 Water shall not be discharged in a diffuse manner such that damage to land and/or vegetation occurs.

5.12 Discharges of produced water will not contain substances that will settle to form sludge, bank or bottom deposits in quantities sufficient to result in significant aesthetic degradation, significant degradation of habitat for aquatic life or adversely affect public water supplies, agricultural or industrial use, plant life or wildlife.

5.13 Discharges may not result in visible hydrocarbon sheen on the receiving water.

5.14 All water quality samples collected by WQD and discharge authorization holders shall be taken from the free fall of water from the last treatment unit which is located out of the natural drainage. The sample must not be mixed with waters of any other surface water or with water from another discharge point.

5.15 Ice accumulation in the downstream channel, resulting in whole or in part from freezing effluent, must be corrected by the contributing discharger(s) in the event of channel obstruction.

6. STREAM CHANNEL PROTECTIONS (For Category I Discharges Only)

6.1 Headcut Mitigation and Monitoring:

For discharge category I (including all subcategories 1A – 1C), the permittee must monitor identified headcuts measuring two or more feet from the top of the headcut to the channel bottom, located between the outfall(s) and the Powder River. On an annual basis, these headcut(s) must be evaluated by the permittee to determine if there has been a change in either the lateral movement, or the vertical drop in the identified headcuts. Movement of headcuts will be determined using a stationary marker in the field, placed by the permittee at the initial location of the headcut. If the headcut has moved more than four (4) feet, either laterally or vertically, within a calendar year, the permittee must submit for review and approval a mitigation plan. Within three months of approval of the mitigation plan, the plan must be implemented. If the plan is not implemented, WQD may require the permittee to cease discharge from the outfalls authorized by the

general permit until the plan is implemented. In addition to the minimum annual headcut monitoring requirements noted above for the permittee, headcuts may also be reported to WQD early at any time, and by any party.

Headcuts which are already being mitigated in conjunction with separate BLM requirements will not require a mitigation plan to be submitted in association with this general permit. In addition, if an operator demonstrates that their effluent has not reached a particular downstream headcut area, then the operator will not be required to submit a mitigation plan for that headcut. In the absence of such a demonstration from the operator, WDEQ will assume that the effluent is contributing to the headcut. If a downstream headcut is located on private property and is not contributing to a water quality violation or impairment, the upstream discharger(s) may be released from obligation to monitor and/or mitigate that headcut in the event that a written waiver is submitted to WDEQ from the affected landowner. The written waiver must identify on a map the specific headcut in question, and list the latitude, longitude, quarter/quarter, section, township, and range. The written waiver must also be signed by the affected landowner. In the absence of such a written waiver from affected downstream landowner(s), the permittee is responsible for monitoring and/or mitigation of all identified downstream headcuts between the outfall(s) and the Powder River as specified above.

6.2 Instream Flow Constraints:

In order to maintain channel stability within the watershed, Category I discharge authorizations will be limited so as not to cumulatively exceed the following instream flow values:

Stream Location (See Table 1)	Corresponding Survey Site #	Channel Stability Flow Threshold (cfs)
SM1	8	1.5
SM2	10	8.0
SM3	2	10.0
SM4	3	1.5
SM5	7	9.0
SM6	9	5.0
SM7	11	3.5
SM8	12	0.8
TRIB1	1	12.0
TRIB2	4	5.5
TRIB3	5	1.4
TRIB4	6	3.7

The above listed channel stability flow threshold values were derived from the report *"Channel Surveys for Willow, Pumpkin, and Fourmile Creek Watersheds"* (May, 2005; WWC Engineering and WDEQ). These stability flow threshold values were selected as the lower of either the channel capacity value ("Estimated Discharge") or the channel stability value ("Allowable Discharge") in the survey report.

The above listed channel stability flow threshold values are not instream flow limits for routine compliance purposes. Rather, the values are intended to guide authorization decisions by WDEQ. Consideration may be made for net loss of produced water prior to interception of the above stream locations, provided an adequate demonstration is made by the applicant that such net losses of produced water will occur.

In the event that CBM discharges exceed the above listed channel stability flow thresholds at the associated stream locations, WQD will notify the upstream permittees and require a field evaluation to assess the cause of the exceeding flow, evaluate any erosional impacts to the stream channel, and develop a corrective action if necessary. WQD may also modify existing discharge authorizations if necessary in order to maintain CBM contributions at levels consistent with the above listed channel stability flow thresholds.

For any direct tributaries to the Powder River within this watershed which have not yet been surveyed for channel stability, a channel survey will be required by WDEQ prior to authorization of discharge within those direct tributaries.

7. EFFLUENT LIMITATIONS (TOXIC POLLUTANTS)

Effective immediately, there shall be no acute toxicity in any effluent authorized for discharge under this general permit. In addition, there shall be no chronic toxicity in any effluent authorized for discharge under subcategory 1A of this general permit. Acute and chronic toxicity requirements are established in this permit to protect aquatic life designated uses within the receiving stream(s). Whole effluent toxicity testing will be required in accordance with WDEQ guidance document, "*Coal Bed Methane WET Testing Implementation Approach.*"(Updated September 27, 2004).. For those discharges which originate from CBM wells lying within the Big George coal boundary, as defined in the above referenced guidance document, the following conditions apply:

7.1 Whole Effluent Testing (Acute) – Applicable to discharges originating from within the Big George coal boundary and authorized under Categories I and II

Upon issuance of a discharge authorization letter under this general permit, the permittee shall, at least once annually, conduct acute static replacement toxicity tests on a grab sample of those discharges having established acute WET testing requirements. At a minimum, 20 percent of all discharging outfalls authorized under Categories I and II are to be sampled and tested annually for acute whole effluent toxicity (WET). Each year, a different 20 percent minimum portion of the discharging outfalls is to be sampled and tested for acute whole effluent toxicity. Consecutive yearly samples may not be collected from the same outfall unless that outfall is the only discharging outfall that complies with the criteria listed above. The permittee may select the outfall(s) that will be sampled each year unless the WDEQ specifically identifies which outfalls must be sampled. The permittee must also provide written notification to the WDEQ at least two weeks prior to WET-related sampling. The written notification will specify which outfall(s) are discharging and which outfalls will be selected and sampled for the WET test.

The replacement static toxicity tests shall be conducted in accordance with the procedures set forth in 40 CFR 136.3 and the *"Region VIII EPA NPDES Acute Test Conditions: Static Renewal Whole Effluent Toxicity Tests"* (August, 1997 version). In the case of conflicts in method, 40 CFR 136.3 will prevail. The permittee shall conduct an acute 48-hour static toxicity test using *Daphnia magna* and an acute 96 hour static toxicity test using *Pimephales promelas*. All tests will be conducted utilizing a multi-dilution series consisting of at least five (5) concentrations and a control as defined below:

100% effluent
85% effluent
67% effluent

50% effluent
25% effluent
control (or 0% effluent)

All tests will be conducted utilizing a minimum of 5 replicates for each test. In the event of inconclusive test results, WQD reserves the right to require the permittee to perform additional tests at alternate dilutions and/or replicates. The operator will provide WQD with all information regarding all initiated tests, regardless of whether the tests were carried to completion or not, upon request by the WDEQ.

Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration at any outfall. If acute toxicity occurs at any outfall during a sampling period, then the WYPDES Program will assume that all unsampled (untested) outfalls exhibit similar acute toxicity characteristics as well.

If more than 10 percent control mortality occurs, the test is not valid. The test shall be repeated until satisfactory control survival is achieved.

If acute toxicity occurs, an additional test on the failing outfall(s) shall be initiated within two (2) weeks of the date of when the permittee learned of the test failure. The permittee may elect to retest only one of the failing outfalls, however, the WDEQ will apply the results of the retest to all outfalls in question. If only one species fails, retesting may be limited to this species. Should acute toxicity occur in the second test, the Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) process described below shall be implemented on a schedule established by WQD.

Annual test results shall be reported on a Discharge Monitoring Report (DMR) that shall be submitted by February 15th of each year. The format for the report shall be consistent with the format outlined in the August 1997 EPA guidance document entitled *"Region VIII NPDES Whole Effluent Toxics Control Program"*, and shall include all chemical and physical data as specified.

If the results of two consecutive annual reports indicate no acute toxicity for all sampled outfalls, the permittee may reduce the monitoring to annual acute toxicity testing on only one species on an alternating basis. The test procedures for alternating species shall be the same as specified above.

7.2 Whole Effluent Testing (Chronic) – Applicable to discharges originating from within the Big George coal boundary and authorized under Subcategory IA

Upon issuance of a discharge authorization letter under this general permit, the permittee shall, at least once annually, conduct chronic static replacement toxicity tests on a grab sample of the discharge. At a minimum, 20 percent of all discharging outfalls permitted under Category IA are to be sampled and tested annually for chronic whole effluent toxicity (WET). Each year, a different 20 percent minimum portion of the discharging outfalls is to be sampled and tested for chronic whole effluent toxicity. Consecutive yearly samples may not be collected from the same outfall unless that outfall is the only discharging outfall that complies with the criteria listed above. The permittee may select the outfall(s) that will be sampled each year unless the WDEQ specifically identifies which outfalls must be sampled. The permittee must also provide written notification to the WDEQ at least two weeks prior to WET-related sampling. The written notification will specify which outfall(s) are discharging and which outfalls will be selected and sampled for the WET test.

The chronic toxicity tests shall be conducted in accordance with the procedures set forth in 40 CFR 136.3 and the *"Region VIII EPA NPDES Acute Test Conditions; Static Renewal Whole Effluent Toxicity Tests"* (August, 1997 version). In the case of conflicts in method, 40 CFR 136.3 will prevail. Test species shall consist of *Pimephales promelas*. All tests will be conducted utilizing a multi-dilution series consisting of at least five (5) concentrations and a control as defined below:

100% effluent
85% effluent
67% effluent
50% effluent
25% effluent
control (or 0% effluent)

All tests will be conducted utilizing a minimum of 5 replicates for each test. In the event of inconclusive test results, WQD reserves the right to require the permittee to perform additional tests at alternate dilutions and/or replicates. The operator shall provide WQD with all information regarding all initiated tests, regardless of whether the tests were carried to completion or not, upon request by the WDEQ.

Chronic toxicity occurs when, during a chronic toxicity test, 25 percent or more inhibition (calculated on the basis of test organism survival and growth or survival and reproduction) is observed in either species at any effluent concentration at any outfall. If chronic toxicity occurs at any outfall during a sampling period, then WYPDES Program will assume that all unsampled (untested) outfalls exhibit similar chronic toxicity characteristics as well.

If a test acceptability criterion is not met for control survival, growth, or reproduction, the test shall be considered invalid. In such cases, the test shall be repeated until all test acceptability criteria are met and valid results are obtained.

If chronic toxicity occurs, an additional test of the failing outfall(s) shall be initiated within two (2) weeks of the date of when the permittee learned of the test failure. The permittee may elect to retest only one of the failing outfalls, however, the WDEQ will apply the results of the retest to all outfalls in question. Should chronic toxicity occur in the second test, the Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) process described below shall be implemented on a schedule established by WQD.

Annual test results shall be reported on a Discharge Monitoring Report (DMR) that must be submitted by February 15th of each year. The format for the report shall be consistent with the format outlined in the August 1997 EPA guidance document entitled *"Region VIII NPDES Whole Effluent Toxics Control Program"*, and shall include all chemical and physical data as specified.

7.3 Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE)

Should toxicity be detected in an operator's discharge, a TIE-TRE shall be undertaken by the operator to establish the cause of the toxicity, locate the source(s) of the toxicity, and develop controls and/or treatment for the toxicity. Failure to initiate or conduct an adequate TIE-TRE, or delays in the implementation of such test, shall not be considered a justification for noncompliance with the whole effluent toxicity limits contained in this permit. A TRE plan must be submitted to the permitting authority within 45 days of confirmation of effluent toxicity.

If acceptable to WQD, and if in conformance with current regulations, this permit may be reopened and modified to incorporate TRE conclusions relating to additional numerical limitations, a modified compliance schedule, and/or modified whole effluent protocol.

8. END-OF –PIPE SAMPLING AND REPORTING

For the duration of this General Permit, all discharges authorized under the General Permit must perform routine monitoring of all constituents listed under the appropriate routine monitoring schedule and submit the results of such monitoring as indicated.

8.1 All outfalls authorized under Category I (Outfalls discharging on-channel with no containment requirements)

For the duration of each discharge authorization, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies and reported in discharge monitoring reports semi-annually. Semi-annual monitoring periods run January through June, and July through December.

Parameter	Measurement Frequency	Sample Type
Total Alkalinity (mg/l as $CaCO_3$)	Monthly	Grab
Ammonia (total N as mg/l)	Monthly July - September	Grab
Bicarbonate (mg/l)	Monthly	Grab
Dissolved Cadmium (µg/l)	Annually	Grab
Dissolved Calcium (mg/l)	Monthly	Grab
Dissolved Calcium (me/l)	Monthly	Grab
Chloride (mg/l)	Annually	Grab
Dissolved Copper (µg/l)	Annually	Grab
Dissolved Iron (µg/l)	Once Every Three Months	Grab
Dissolved Lead (µg/l)	Annually	Grab
Dissolved Manganese (µg/l)	Annually	Grab
Dissolved Magnesium (mg/l)	Monthly	Grab
Dissolved Magnesium (me/l)	Monthly	Grab
pH (standard units)	Monthly	Grab
Total Recoverable Radium 226 (pCi/l)	Annually	Grab
Total Radium 228 (pCi/l)	Annually	Grab
Total Recoverable Uranium, mg/l	Annually	Grab
Total Recoverable Selenium (µg/l)	Annually	Grab
Dissolved Sodium (mg/l)	Monthly	Grab
Dissolved Sodium (me/l)	Monthly	Grab
Dissolved Fluoride (mg/l)	Annually	Grab

Parameter	Measurement Frequency	Sample Type
Sodium Adsorption Ratio (unitless)	Monthly	Calculated
Specific Conductance (micromhos/cm)	Monthly	Grab
Total Dissolved Solids (mg/l)	Monthly	Grab
Sulfates (mg/l)	Annually	Grab
Total Recoverable Arsenic (µg/l)	Annually	Grab
Total Recoverable Barium (µg/l)	Annually	Grab
Total Flow – (MGD)	Monthly	Continuous
Temperature, (degrees F)	Monthly	Grab
Dissolved Zinc (µg/l)	Annually	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s) – at all outfalls permitted under Category I, prior to any dilution or admixture with any other waters.

8.2. **All outfalls authorized under Category II** (outfalls discharging to playa lakes or on-channel headwater reservoirs capable of containing runoff from up to a 50-year / 24-hour precipitation event)

For the duration of each discharge authorization, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies and reported in discharge monitoring reports semi-annually. Semi-annual monitoring periods run January through June, and July through December.

Parameter	Measurement Frequency	Sample Type
Chloride (mg/l)	Annually	Grab
Dissolved Fluoride (µg/l)	Annually	Grab
pH (standard units)	Annually	Grab
Total Recoverable Uranium, mg/l	Annually	Grab
Total Recoverable Selenium (µg/l)	Annually	Grab
Specific Conductance (micromhos/cm)	Annually	Grab
Total Dissolved Solids (mg/l)	Annually	Grab
Sulfates (mg/l)	Annually	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s) – at all outfalls permitted under Category II, prior to any dilution or admixture with any other waters.

8.3 **All outfalls authorized under Category III** (outfalls discharging to constructed off-channel pits)

For the duration of each discharge authorization, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies and reported in discharge monitoring reports semi-annually. Semi-annual monitoring periods run January through June, and July through December.

Parameter	Measurement Frequency	Sample Type
Chloride (mg/l)	Annually	Grab
pH (standard units)	Annually	Grab
Total Dissolved Solids, mg/l	Annually	Grab
Total Recoverable Selenium (µg/l)	Annually	Grab
Specific Conductance (micromhos/cm)	Annually	Grab
Sulfates (mg/l)	Annually	Grab
Dissolved Fluoride (µg/l)	Annually	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s) – at all outfalls permitted under Category III, prior to any dilution or admixture with any other waters.

9. CONTAINMENT UNIT SAMPLING AND REPORTING

For all containment units impounding discharges from Category II or Category III outfalls:

Parameter	Measurement Frequency	Sample Type
Chloride (mg/l)	Annually	Grab
Dissolved Fluoride (µg/l)	Annually	Grab
pH (standard units)	Annually	Grab
Total Recoverable Uranium, mg/l	Annually	Grab
Total Recoverable Selenium (µg/l)	Annually	Grab
Specific Conductance (micromhos/cm)	Annually	Grab

Parameter	Measurement Frequency	Sample Type
Total Dissolved Solids (mg/l)	Annually	Grab
Sulfates (mg/l)	Annually	Grab

For the duration of each discharge authorization, at a minimum, samples for the constituents described above shall be collected at the indicated frequencies. Reporting will be based on annual time frames, from January through December each calendar year. Sampling at containment units is for data-gathering purposes only, and is not used for determining compliance with the general permit. All containment unit sampling results will be submitted electronically and separate from outfall discharge monitoring reports. WQD will provide a blank electronic table for containment unit data at the time of authorization issuance. The table will be filled out by the permittee and submitted electronically to WQD by February 15 each year.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): within individual containment units impounding discharges from Category II or III outfalls, outside of the mixing zone of the outfall and the containment unit, at least 100 feet from the location that the discharge enters the containment unit. Based upon representative water quality samples and/or discharge monitoring report data, WQD may include additional constituents in the routine containment unit monitoring.

10. STREAM MONITORING STATION FLOW MEASUREMENT AND REPORTING (SM1 – SM8)

10.1 For the duration of this general permit, all permittees having outfalls permitted under Category I described in Part I, Section 2 of this permit must perform either individual or cooperative (group) routine flow monitoring at all downstream monitoring stations, and electronically submit the results of such monitoring as indicated. Only one copy of each monitoring group's results, whether conducted on an individual or collective basis, is required to be submitted for each monitoring period.

Flow reporting for stream monitoring stations SM1 – SM8 will be based on quarterly time frames, from January through March, from April through June, from July through September, and from October through December. Flow measurement at stream monitoring stations is for data-gathering purposes only, and is not used for determining compliance with the general permit. All stream monitoring station flow measurements will be submitted electronically and separate from outfall discharge monitoring reports. WQD will provide a blank electronic table for stream monitoring station data at the time of authorization issuance. The table will be filled out by the permittee(s) and submitted electronically to WQD by May 15, August 15, November 15, and February 15 each year.

Routine Monitoring Requirements

Parameter	Measurement Frequency	Sample Type
Flow - (cfs)	Daily	Continuous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s) – at the stream monitoring stations (SM1-SM8) identified in Appendix A, Table 1 of the permit.

For stations SM1-SM8, total flow at each station will be measured continuously and the data will be compiled by the permittee in order to report in the quarterly submitted electronic table, the maximum daily flow at each station.

Failure to comply with the stream monitoring requirements of this general permit may result in enforcement action from the Water Quality Division to include a notice of violation, revocation of the discharge authorization, or other appropriate enforcement action.

10.2 If, during the term of this general permit, additional stream monitoring stations are deemed necessary due to the discovery of new information and/or studies not available at the time this general permit was issued, WQD may modify the general permit to include additional stream monitoring stations. Permittees will be notified via registered letter in the event additional stream monitoring stations are included in this general permit.

11. STREAM MONITORING STATION CHEMICAL SAMPLING AND REPORTING (SM1 – SM3 Only)

11.1 For the duration of this general permit, all permittees having outfalls permitted under Category I described in Part I, Section 2 of this permit must perform either individual or cooperative (group) routine water quality sampling at all applicable downstream sampling stations, and electronically submit the results of such monitoring as indicated. Only one copy of each monitoring group's results, whether conducted on an individual or collective basis, is required to be submitted for each monitoring period.

Reporting for sampling conducted at stations SM1 – SM3 will be based on quarterly time frames, from January through March, from April through June, from July through September, and from October through December. Sampling at stream monitoring stations is for data-gathering purposes only, and is not used for determining compliance with the general permit. All stream monitoring station sampling results will be submitted electronically and separate from outfall discharge monitoring reports. WQD will provide a blank electronic table for stream monitoring station data at the time of authorization issuance. The table will be filled out by the permittee(s) and submitted electronically to WQD by May 15, August 15, November 15, and February 15 each year.

Routine Monitoring Requirements

Parameter	Measurement Frequency	Sample Type
Specific Conductance -(micromhos/cm)	Monthly	Grab
Dissolved Sodium - (mg/l)	Monthly	Grab
Dissolved Calcium - (mg/l)	Monthly	Grab
Dissolved Magnesium - (mg/l)	Monthly	Grab
Sodium Adsorption Ratio (calculated as unadjusted ratio)	Monthly	Grab
Bicarbonate (mg/l)	Monthly	Grab
pH – (standard units)	Monthly	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s) – at stream monitoring stations (SM1 – SM3) identified in Table 1, Appendix A of the permit.

Failure to comply with the stream monitoring requirements of this general permit may result in enforcement action from the Water Quality Division to include a notice of violation, revocation of the discharge authorization, or other appropriate enforcement action.

11.2 Permittees are required to maintain complete records, including but not limited to: laboratory reports, chain of custody forms, and field notes related to samples collected in fulfillment of stream monitoring. WQD may request copies of these records at any time.

11.3 If, during the term of this general permit, additional stream monitoring stations are deemed necessary due to the discovery of new information and/or studies not available at the time this general permit was issued, WQD may modify the general permit to include additional stream monitoring stations. Permittees will be notified via registered letter in the event additional stream monitoring stations are included in this general permit.

12. CONFLUENCE STATION MONITORING AND REPORTING (TRIB1, TRIB2, TRIB3, TRIB4, UPR and DPR)

12.1 For the duration of this general permit, all permittees having outfalls permitted under Category I described in Part I, Section 2 of this permit must perform either individual or cooperative (group) routine water quality sampling at all applicable downstream sampling stations, and electronically submit the results of such monitoring as indicated. Only one copy of each monitoring group's results, whether conducted on an individual or collective basis, is required to be submitted for each monitoring period.

Reporting for sampling conducted at stations TRIB1, TRIB2, TRIB3, TRIB4, UPR and DPR will be based on monthly time frames. Sampling at stream monitoring stations is for data-gathering purposes only, and is not used for determining compliance with the general permit. All stream monitoring station sampling results will be submitted electronically and separate from outfall discharge monitoring reports. WQD will provide a blank electronic table for stream monitoring station data at the time of authorization issuance. The table will be filled out by the permittee(s) and submitted electronically to WQD by the 28th of the month following the completed reporting period. For instance, the report for the January monitoring period is due on February 28th each calendar year.

Parameter	Measurement Frequency	Sample Type
Flow – (cfs)*	Daily	Continuous
Dissolved Sodium (mg/l)	Monthly	Grab
Dissolved Calcium (mg/l)	Monthly	Grab
Dissolved Magnesium (mg/l)	Monthly	Grab
Specific Conductance, micromhos/cm	Monthly	Grab
Alkalinity (mg/l as $CaCO_3$)	Monthly	Grab
Bicarbonate (mg/l)	Monthly	Grab
Sodium Adsorption Ratio (calculated as unadjusted for bicarbonate ratio)	Monthly	Grab

Parameter	Measurement Frequency	Sample Type
pH (standard units)	Monthly	Grab
Temperature (degrees F)**	Monthly	Continuous

* Flow measurement is not required at the UPR and DPR stations. For stations TRIB1 – TRIB4, total flow at each station will be measured continuously and the data will be compiled by the permittee in order to report in the monthly submitted electronic table, the maximum daily flow at each station.

** Temperature at the established water quality monitoring stations will be measured continuously and the data will be compiled by the permittee in order to report the following values in the monthly [1] submitted DMR's:

1) monthly average value (average of all temperature readings for a given month)
2) daily maximum value (highest single temperature reading for that month)
3) daily minimum value (lowest single temperature reading for that month)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s) – at the applicable confluence monitoring stations (TRIB1 – TRIB4, UPR, DPR) identified in Table 1, Appendix A of the permit and in each facility's discharge authorization letter.

12.2 Permittees are required to maintain complete records, including but not limited to: laboratory reports, chain of custody forms, and field notes related to samples collected in fulfillment of stream monitoring. WQD may request copies of these records at any time.

12.3 If, during the term of this general permit, additional stream monitoring stations are deemed necessary due to the discovery of new information and/or studies not available at the time this general permit was issued, WQD may modify the general permit to include additional stream monitoring stations. Permittees will be notified via registered letter in the event additional stream monitoring stations are included in this general permit.

13. DEFINITIONS

13.3.6 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.

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

13.3.10 A "headcut" is the erosional process by which a nick point migrates progressively upstream.

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

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

[1] "UPR" refers to the upstream Powder River mainstem water quality monitoring station
[2] "DPR" refers to the downstream Powder River mainstem water quality monitoring station
[3] "TRIB1" refers to a tributary water quality monitoring station (discharge authorizations may require establishment of multiple tributary water quality monitoring stations, which are numbered sequentially ….TRIB1, TRIB2, TRIB3….etc.

13.3.1 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.

13.3.5 "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.

13.3.11 A "nick point" is a sudden steepening of the gradient of a stream channel, usually where it flows over resistant strata. It is produced by an intersection of new and old graded profiles of a stream when a previous base level has been altered.

13.3.8 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.

13.3.12 A "stream channel" is a long narrow depression shaped by the concentrated flow of a stream and covered continuously or periodically by water.

13.3.9 "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 I.II Section 1.1.

13.3.2 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.

14. GENERAL MONITORING AND REPORTING REQUIREMENTS

14.1 Representative Sampling

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

14.2 Reporting

Results of routine end of pipe monitoring during the previous six (6) months shall be summarized and reported semiannually on a Discharge Monitoring Report Form (DMR). If the discharge is intermittent, the date the discharge began and ended must be included. When required, Whole effluent toxicity (biomonitoring) results must be reported on the most recent version of EPA Region VIII's Guidance for Whole Effluent Reporting. Outfall Discharge 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. Results of routine instream monitoring will be submitted electronically as specified in Parts I.8 – I.12 above.

Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements contained in Part I,I Section 1.11.

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.

14.3 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.

14.4 Recording of Results

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

14.5.1 The exact place, date and time of sampling;

14.5.2 The dates and times the analyses were performed;

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

14.5.4 The analytical techniques or methods used; and

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

14.5 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.

14.6 Records Retention

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

14.7 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.

14.8 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.

14.9 Facility Identification

All facilities discharging produced water shall be clearly identified with an all-weather sign posted at each outfall, water quality monitoring station and channel capacity monitoring station. This sign shall, as a minimum, convey the following information:

14.9.1 The name of the company, corporation, person(s) who holds the discharge authorization, and the WYPDES permit number;

14.9.2 The contact name and phone number of the person responsible for the records associated with the discharge authorization;

14.9.3 The name of the facility (lease, well number, etc.) and the outfall and/or station name and/or number as identified by the discharge authorization.

14.10 Identification and Establishment of Discharge Points

14.10.1 Establishing an outfall location:

At the time of initial outfall sampling, the permittee shall identify and report the actual location of the outfall, as constructed. If the outfall was constructed greater than 1510 feet away from the location originally authorized by WQD, or on a different landowner's property, or outside of the Willow Creek watershed, or in a different discharge category than originally authorized by WQD, a new notice of intent shall be completed and submitted by the permittee to account for the major modification to the facility. The notice of intent will be processed by WQD in accordance with Part I, Section 2.3 of the general permit above. If the outfall was constructed within 1510 feet of the location originally authorized by WQD, and on the same landowner's property, and still within the Willow Creek watershed, and within the same discharge category, then there is no requirement for submittal of a new notice of intent. In this case, the constructed location of the outfall upon initial outfall sampling will be the "established" outfall location.

14.10.2 Re-locating an established outfall:

Once an outfall location is established as described in Part 14.10.1 above, the outfall may be moved without submittal of a new notice of intent 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 Willow Creek watershed of the Powder River basin.

3) There is no change in the affected landowners (either on-site or downstream)

4) Written notification of the change in outfall location must be provided by the permittee to WQD within 10 days of the outfall location change. The written notification must be provided in duplicate and legible maps showing the previous and new outfall location must be attached to the letter.

5) The new outfall location must fall in the same discharge coverage Category (described in Parts 2.1 – 2.3 of the general permit above) as originally authorized.

If any of the above 5 conditions are not met, a new notice of intent must be submitted by the permittee, and a new authorization must be issued by WQD prior to re-location of the outfall.

14.11 Location of Monitoring Points

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

SEE APPENDIX A, TABLE 1 FOR LOCATIONS OF STREAM MONITORING STATIONS AND CONFLUENCE STATIONS. PERMITTED OUTFALL LOCATIONS WILL BE LISTED IN INDIVIDUAL DISCHARGE AUTHORIZATIONS.

14.12 Discharge Authorization Modifications

Authorized discharge points may be re-located at the request of the permittee in accordance with Part 14.10.

In addition, permittees may request **minor modifications** to discharge authorizations. Minor modifications would include correction of typographical errors made by WQD in the original authorization letter, removal of discharge points from the discharge authorization, etc.. A request for minor modification does not require advance notification from the permittee to landowners.

Any proposed modification to a discharge authorization that would affect either on-site or downstream landowners (such as increases in discharge flow, addition of outfalls, etc.) will be processed as **major modifications** to the discharge authorization as follows:

30 days prior to submission of the proposed major modification to the discharge authorization to WQD, the permittee is required to notify by registered letter all surface landowners affected by the proposed major modification. Affected landowners are the landowners on whose property the outfalls are located, and the downstream landowners located between the outfall(s) and the Powder River. Legible, dated copies of the registered letter receipt must be submitted with the discharge authorization modification request.

In the event that WQD approves a minor or major modification to a discharge authorization, permittees will be notified of approval via receipt of a modified discharge authorization in the mail. Modification of the facility by the permittee may not occur until the modification is approved by WQD.

15. RESERVOIR / IMPOUNDMENT REQUIREMENTS

15.1 Groundwater Monitoring Beneath Impoundments

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

Any discharge into an impoundment 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 to include a notice of violation, revocation of the discharge authorization, or other appropriate enforcement action.

15.2 Reclamation Performance Bonds for On-Channel Reservoirs

Discharge authorizations issued under this general permit will identify 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 Performance Bonding of On-Channel Reservoirs That Store Coalbed Natural Gas Produced Water"* The 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 impoundment subject to WDEQ bonding requirements 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 general permit, and may result in enforcement action from the Water Quality Division.

16. REQUIREMENTS RELATED TO THE POWDER RIVER ASSIMILATIVE CAPACTIY AND CONTROL PROCESS

16.1 Types of Discharges That Do Not Require the Use of Assimilative Capacity Credits: Prior to issuance of any authorization under this general permit, the WYPDES Program will ascertain whether the proposed discharge requires the use of assimilative capacity credits.

16.2 Methodology Used to Determine Number of Credits Needed for Surface Discharges: Prior to authorization of the discharge, the WYPDES Program will utilize the following process to determine the following:

16.2.1. Number of Credits needed for authorization of surface discharge.

16.2.2. Availability of credits for surface discharge.

In order to determine the number of credits needed to authorize a particular surface discharge, the WYPDES Program will utilize the following equation for both TDS and dissolved sodium:

$$\frac{Q_p C_p (8.34)}{10} = \text{proposed load in tens of pounds per day (also equal to number of credits)}$$

Where Q = flow in MGD
C = concentration in mg/l
8.34 = conversion factor – mg/l to pounds per day

The result is divided by 10 as the credits issued under the *Powder River Assimilative Capacity and Control Process* are based upon each credit issued being equal to 10 pounds of either TDS or dissolved sodium per day.

Operators may opt to utilize TDS and dissolved sodium credits on either a facility-wide or outfall-by-outfall basis. In instances where operators are proposing permits with a combination of outfalls that do not require use of assimilative capacity credits and outfalls that do require assimilative capacity credits under the same permit, the operators will be required to report separate total flows for outfalls that require use of assimilative capacity credits and outfalls that do not require assimilative capacity credits. Once the WYPDES Program has determined the number of credits needed to allow authorization of a discharge, the WYPDES Program will then access the "credit bank" described in the *Powder River Assimilative Capacity and Control Process* to determine whether or not the operator possesses sufficient unallocated credits to allow the proposed discharge to occur. **Should the operator possess insufficient credits, the proposed discharge will not be authorized.**

PART II

1. MANAGEMENT REQUIREMENTS

1.1. Changes

The permittee shall give notice to the administrator of the Water Quality Division as soon as possible of any physical alterations or additions to the permitted facility. Notice is required when:

1.1.1. 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

1.1.2. The alteration or addition could change the nature or increase the quantity of pollutants discharged.

1.2. Noncompliance Notification

1.2.1. The permittee shall give advance notice of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

1.2.2. 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.

1.2.3. 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:

1.2.3.1. A description of the noncompliance and its cause;

1.2.3.2. The period of noncompliance, including exact dates and times;

1.2.3.3. The estimated time noncompliance is expected to continue if it has not been corrected; and

1.2.3.4. Steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance.

1.2.4. 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.

1.2.4.1. Any unanticipated bypass which exceeds any effluent limitation in the permit;

1.2.4.2. Any upset which exceeds any effluent limitation in the permit; or

1.2.4.3. 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.

1.2.5. 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, Watershed Management Section, WYPDES Program (307) 777-7781

1.2.6. Reports shall be submitted to the Wyoming Department of Environmental Quality at the address in Part I, Section 1.2.2.18,and to the Planning and Targeting Program, 8ENF-PT, Office of Enforcement, Compliance, and Environmental Justice, U.S. EPA Region 8, 999 18th St., Suite 300, Denver, CO 80202-2466.

1.2.7. 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.

1.3. 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 discharge authorization effluent compliance.

1.4. 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.

1.5. Bypass of Treatment Facilities

1.5.1. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

1.5.2. 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.

1.5.3. Notice:

1.5.3.1. 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.

1.5.3.2. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part I,I Section 1.5.3.2.

1.5.4. Prohibition of bypass.

1.5.4.1. Bypass is prohibited and the administrator of the Water Quality Division may take enforcement action against a permittee for a bypass, unless:

1.5.4.1.1. The bypass was unavoidable to prevent loss of life, personal injury or severe property damage;

1.5.4.1.2. 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

1.5.4.1.3. The permittee submitted notices as required under paragraph c. of this section.

1.5.5. 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. (I) of this section.

1.6. Upset Conditions

1.6.1. 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.

1.6.2. 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.

1.6.3. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:

1.6.3.1. An upset occurred and that the permittee can identify the cause(s) of the upset;

1.6.3.2. The authorized facility was at the time being properly operated;

1.6.3.3. The permittee submitted notice of the upset as required under Part I,I Section 1.2.4.; and

1.6.3.4. The permittee complied with any remedial measures required under Part I,I Section 1.4.

1.6.4. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

1.7. 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.

1.8. Power Failures

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

1.8.1. In accordance with a schedule of compliance contained in Part I,, provide an alternative power source sufficient to operate the wastewater control facilities; or

1.8.2. 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.

1.9. Duty to Comply

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

1.10. Duty to Mitigate

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

1.11. Signatory Requirements

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

1.11.1. All Notices of Intent shall be signed as follows:

1.11.1.1. For a corporation: by a responsible corporate officer;

1.11.1.2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;

1.11.1.3. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected official.

1.11.2. All reports required by the discharge authorization 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:

1.11.2.1. The authorization is made in writing by a person described above and submitted to the administrator of the Water Quality Division; and

1.11.2.2. 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.

1.11.3. 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.

1.11.4. 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."

2. RESPONSIBILITIES

2.1. 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 discharge authorization 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:

2.1. 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;

2.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

2.3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

2.4. Sample or monitor, at reasonable times, for the purpose of assuring compliance or as otherwise authorized by the federal act, any substances or parameters at any location.

2.2. 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 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 discharge authorization. The discharge authorization 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.

2.3. 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 discharge authorization 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.

2.4. 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 discharge authorization has not yet been modified to incorporate the requirement.

2.5. 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:

2.5.1. 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":

2.5.1.1. One hundred micrograms per liter (100 µg/l);

2.5.1.2. 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;

2.5.1.3. Five (5) times the maximum concentration value reported for that pollutant in the discharge authorization application in accordance with 40 CFR 122.21 (g) (7); or

2.5.1.4. The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).

2.5.2. 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":

2.5.2.1. Five hundred micrograms per liter (500 µg/l);

2.5.2.2. One milligram per liter (1 mg/l) for antimony;

2.5.2.3. Ten (10) times the maximum concentration value reported for that pollutant in the discharge authorization application in accordance with 40 CFR 122.21 (g) (7); or

2.5.2.4. The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).

2.6. Civil and Criminal Liability

Nothing in this discharge authorization 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 I,I Section 1.5), "Upset Conditions" (Part I,I Section 1.6), and "Power Failures" (Part I,I Section 1.8) are satisfied then they shall not be considered as noncompliance.

2.7. 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.

2.8. Oil and Hazardous Substance Liability

Nothing in this discharge authorization 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.

2.9. State Laws

Nothing in this discharge authorization 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 discharge authorization does not substitute for any other permits or authorizations required under the Clean Water Act or any other federal, state, or local law.

2.10. Property Rights

The issuance of this discharge authorization 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.

2.11. Duty to Reapply

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

2.12. 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 discharge authorization or to determine compliance with this permit. The permittee shall also furnish to the administrator, upon request, copies of records required by this discharge authorization to be kept.

2.13. Other Information

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

2.14. Discharge Authorization Action

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

PART III

1. OTHER REQUIREMENTS

1.1. Flow Measurement

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

1.2. 208(b) Plans

This discharge authorization 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.

1.3. Reopener Provision

This permit and/or discharge authorization 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:

1.3.1. 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; 1.3.1.

1.3.2. 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;

1.3.3. A revision to the current water quality management plan is approved and adopted which calls for different effluent limitations than contained in this permit;

1.3.4. Downstream impairment is observed and the permitted facility is contributing to the impairment;

1.3.5. The limits established by the permit no longer attain and/or maintain applicable water quality standards;

1.3.6. 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.

1.3.7. 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.

1.3.8. 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.

1.4. Permit/Discharge Authorization Modification

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

1.4.1. Violation of any terms or conditions of this permit;

1.4.2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

1.4.3. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

1.4.4. 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:

1.4.4.1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

1.4.4.2. Controls any pollutant not limited in the permit.

1.5. Toxicity Limitation - Reopener Provision

This permit and/ or discharge authorizations issued under it 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:

1.5.1. Toxicity was detected late in the life of the permit (or discharge authorization) near or past the deadline for compliance;

1.5.2. 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;

1.5.3. 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;

1.5.4. 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;

1.5.5. 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 and/or any discharge authorization issued under it.

1.6. 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.

I.7. Penalties for Falsification of Reports

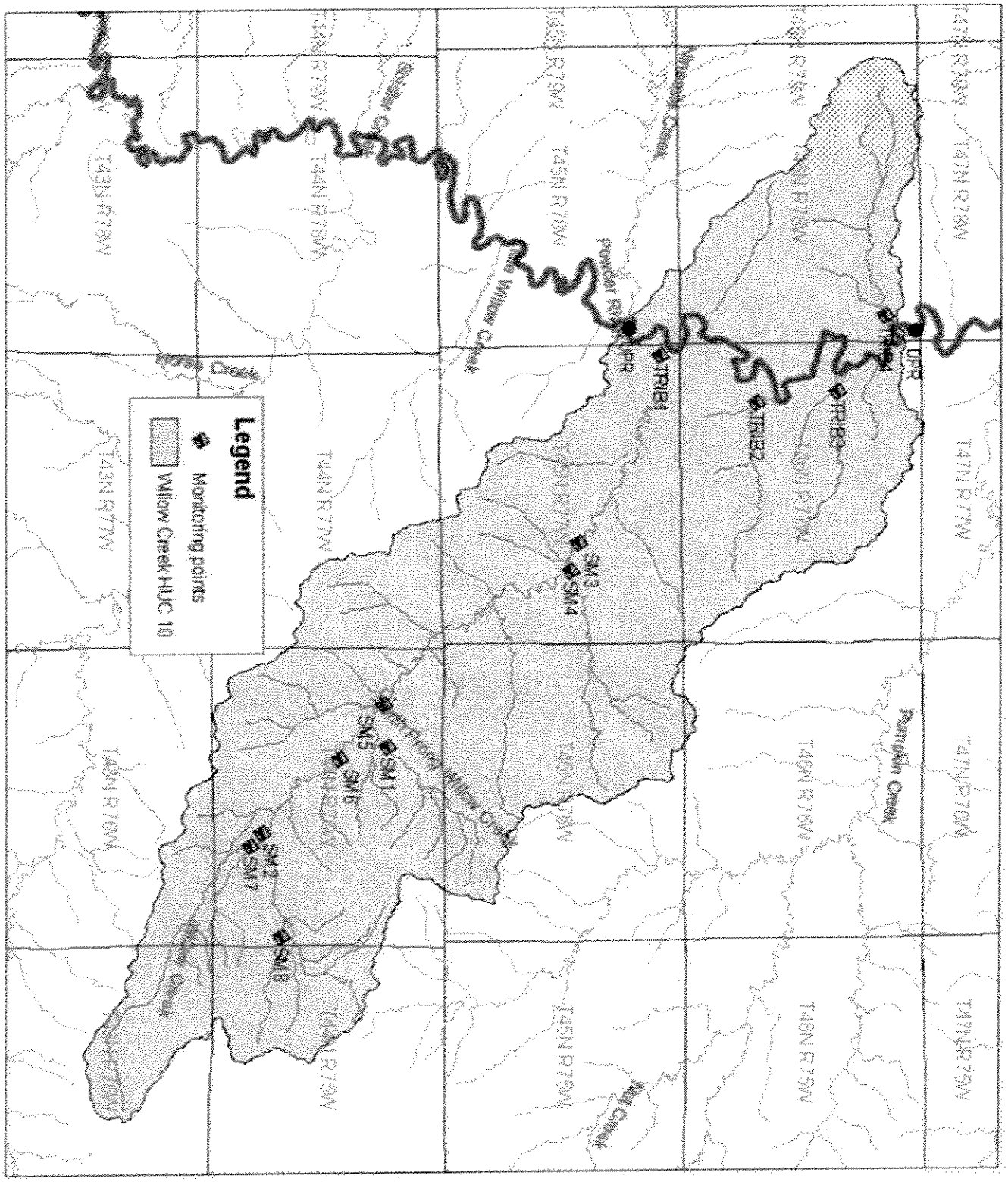
The federal act provides that any person who knowingly makes any false statement, representation or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be 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.

APPENDIX A

Table 1: Willow Creek Water Quality Monitoring Locations

Table 1: Willow Creek Watershed: Monitoring Locations

Station Name	Qtr/Qtr	SECTION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Description
SM1	NESE	8	44	76	43.60131	-106.00686	Stream Monitoring station on North Prong Willow Creek
SM2	NWSE	27	44	76	43.75556	-105.97222	Stream Monitoring station on Willow Creek just upstream of spreader dam system
SM3	NWSW	14	45	77	43.87047	-106.08861	Stream Monitoring station on Willow Creek downstream of spreader dam system
SM4	SESE	14	45	77	43.86789	-106.07714	Stream Monitoring station on Craney Draw, tributary to Willow Creek
SM5	SWSW	8	47	76	43.79958	-106.02375	Stream Monitoring station on Willow Creek
SM6	SESE	17	44	76	43.78361	-106.00192	Stream Monitoring station on Willow Creek
SM7	NWNW	35	44	76	43.75106	-105.96697	Stream Monitoring station on Dry Willow Creek
SM8	NENE	25	44	76	43.76250	-105.93042	Stream Monitoring station on Willow Creek
TRIB1	SWNW	6	45	77	43.90064	-106.16422	Tributary monitoring station on Willow Creek
TRIB2	NWNW	29	46	77	43.93525	-106.14464	Tributary monitoring station on Windmill Draw
TRIB3	NWNW	17	46	77	43.96464	-106.14908	Tributary monitoring station on unnamed ephemeral tributary to Powder River
TRIB4	SWSE	1	45	78	43.98200	-106.17972	Tributary monitoring station on Curtis Draw
UPR	NWNE	12	45	78	To be measured in field	To be measured in field	Upstream Powder River monitoring station (above Willow Creek)
DPR	SWNE	1	46	78	To be measured in field	To be measured in field	Downstream Powder River monitoring station (below Curtis Draw)



Map 1 – Willow Creek Watershed Permitting Area