

Wyoming Department of Environmental Quality  
Water Quality Division  
WYPDES Program

STATEMENT OF BASIS

Major Modification

APPLICANT NAME: Nance Petroleum Corporation

MAILING ADDRESS: P. O. Box 7168  
Billings, MT 59103

FACILITY LOCATION: Antelope Project, which is located in the NESW, SWSE, NWNW, and NWSW of Section 19, the NESW and SESW of Section 20, the NWSE of Section 21, the SESE of Section 24, the SENW of Section 28, the NWNE, SENW, and SESW of Section 29, the SENW, NENE, NENW, SENE, and NESW of Section 30, the NWNE, SWNE, and SWSW of Section 31, the NWNE and SWSW of Section 32, the NENW, NESW, and SESE of Section 33, and the NESE of Section 36, all in Township 58 North, Range 79 West; and in the SENW, SWNE, and NWSE of Section 22, the NESW and SWSW of Section 23, the NWSW of Section 24, the SWNE and NWSE of Section 25, the SENE of Section 26, and the SWNW and SWNE of Section 27 in Township 58 North, Range 80 West; and the SWSW and SESE of Section 7 in Township 57 North, Range 79 West, all in Sheridan County. The produced water will be contained within several off-channel pits (class 4C), located within, but not tributary to, the Hanging Woman Creek (class 3B) sub-basin of the Tongue River (class 2AB) drainage. The permit requires that the discharge be contained within the man-made containment units, discharge from the containment units is not allowed under this permit. The permit also requires that the produced water being discharged originate in one of the following formations: the Anderson, Canyon, Cook, Kendrick, Nance, Roberts, Dietz, Roland and/or Brewster-Arnold coal seams.

NUMBER: WY0052407

*This permit is being modified to add 29 new outfalls (003, 004, 007, 008, 010, 013, 014, 017, 020, 021, 023, 024, 025, 028, 032, 034, 035, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049). This permit now authorizes discharge from a total of 47 outfalls, as listed in Table 1 of the permit below. Surface discharge may not occur from outfalls that have not fulfilled groundwater monitoring requirements (see new permit language in Part I.C and Table 1). Forty-seven (47) wells are added to this facility and 24 wells are removed, for a total of 132 wells permitted to this facility. Discharge from two additional coal seams, the Dietz and the Roland, is permitted through this major modification.*

*With the exception of items explicitly delineated in this major modification, all terms and conditions of Permit No. WY0052407, including Parts II and III of the original permit, shall remain unchanged and in full force and effect.*

This facility is a typical coal bed methane production facility in which groundwater is pumped from a coal bearing formation resulting in the release of methane from the coal bed. The permit authorizes the discharge to the surface of groundwater produced in this way provided the effluent quality is in compliance with effluent limits that are established by this permit. In developing effluent limits, all state regulations and standards have been considered and the most stringent requirements incorporated into the permit. The EPA Effluent Guidelines and Standards for Oil and Gas Extraction Point Source Category (Part 435, Subpart E) predate the development of coal bed methane extraction technology; however, the technology is similar enough to conventional gas extraction that, in the

professional judgement of the WDEQ, this effluent limit guideline is appropriately applied to coal bed methane gas production. The guideline limits oil and grease effluent concentrations to less than 35 mg/l and requires that discharges of produced water be used for agricultural production and/or wildlife propagation. This permit does not cover activities associated with discharges of drilling fluids, acids, stimulation waters or other fluids derived from the drilling or completion of the wells.

This permit is being established under option 1A of the coal bed methane permitting options. The permittee has demonstrated through a water balance study that, considering CBM well production, natural precipitation, evaporation and infiltration, the off channel containment unit will be adequate to contain all the estimated CBM discharge water being produced by this facility and stormwater up to a 100 year 24 hour event. Discharges of produced water from the containment units entering any other water of the State of Wyoming will be considered to be a violation of this permit. The permittee is also required to reserve adequate freeboard within the containment units to allow for containment of stormwater runoff equivalent to a 100 year, 24 hour storm event. The permittee has indicated that the development of wells in this area will proceed in a phased manner such that the volume of discharge effluent never exceeds containment unit capacities. The permit establishes effluent limits for the end of pipe, which are protective of recreation, agriculture, industry, scenic value, and livestock and wildlife watering, and establishes monitoring requirements for the containment units.

Permit effluent limits are based on state regulations and are effective as of the date of issuance. The pH must remain within 6.5 and 9.0 standard units. Effluent limits for total dissolved solids (5,000 mg/l), sulfates (3,000 mg/l), chlorides (2,000 mg/l), specific conductance (7,500 micromhos/cm), total selenium (50 µg/l), are included to protect for livestock and wildlife watering. These limits are based upon Wyoming Water Quality Rules and Regulations, Chapters 1, 2, and 8, and apply to discharge from any permitted outfall. Because the permittee's demonstration that effluent limits protective of class 4C waters was based upon water quality data representative of produced water originating in the Anderson, Canyon, Cook, Kendrick, Nance, Roberts, and/or Brewster-Arnold coal seams in the immediate geographic area, the permit requires that the produced water being discharged at this facility originate in one or more of the following formations: the Anderson, Canyon, Cook, Kendrick, Nance, Roberts, Dietz, Roland, and/or Brewster-Arnold coal seams.

This permit originally established a total radium<sup>226</sup> limit of 60 pCi/l and a total petroleum hydrocarbons (TPH) limit of 10 mg/l at the end of pipe. Based upon water quality data collected by WDEQ since the time this permit was originally issued, a permitting approach for establishing total radium limits in coal bed methane permits has been developed. This approach is based upon the distance of the outfall from a class 2 water and or surface water use classification. The removal of the originally-established total radium<sup>226</sup> limit is based on this permitting approach. In addition, review of discharge monitoring report data for this facility and other CBM facilities in Northeast Wyoming indicates that the maximum reported concentrations for total petroleum hydrocarbons (TPH) in the discharge were well below the water quality standard of 10 mg/l established in Chapter 1 of the Wyoming Water Quality Rules and Regulations. Therefore, WDEQ has removed the effluent limit and monitoring requirement for TPH in this permit. Based on evaluation of the available data, it is WDEQ's determination that removing the total radium<sup>226</sup> and total petroleum hydrocarbons limits from this permit conforms to the anti-backsliding requirements established in Section 402(o).2.B.i of the Clean Water Act.

In order to monitor water quality within the reservoirs, the permit establishes routine water quality monitoring for the following constituents within the containment units being utilized for consumption/containment of CBM effluent: total arsenic, total recoverable selenium, total dissolved solids, specific conductance, chlorides and sulfates. The WDEQ has determined that although these constituents, according to the water quality data submitted in the permit application, are present in the effluent in concentrations well below the effluent limits being established in the permit, the potential exists for these constituents to concentrate within these reservoirs to the point that the effluent contained within the reservoirs becomes unusable for stock watering purposes. In order to monitor any possible degradation of water quality in the reservoirs, the permit requires that the permittee collect and analyze

samples from within the containment units every six months, and report this information to the DEQ as part of their routine monitoring.

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

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

Self monitoring of effluent quality and quantity is required on a regular basis with reporting of results semiannually. The permit is scheduled to expire on April 30, 2009. This expiration date was determined through review of the watershed permitting schedule which the WDEQ is implementing in order to synchronize the permitting and expiration of facilities within the same watershed. This holistic approach will provide for more efficient permitting of point-source discharges and allow for simultaneous review and renewal of all permits within a drainage.

Kathy Shreve  
Water Quality Division  
Department of Environmental Quality  
Drafted: October 22, 2004  
Revised: December 6, 2004  
Major Modification: Drafted December 15, 2004

Jennifer Zygmunt—Major Modification  
Water Quality Division  
Department of Environmental Quality  
Drafted: May 11, 2005

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

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

Nance Petroleum Corporation

is authorized to discharge from the wastewater treatment facilities serving the

Antelope Project ,

located in

NESW, SWSE, NWNW, and NWSW of Section 19, the NESW and SESW of Section 20, the NWSE of Section 21, the SESE of Section 24, the SENW of Section 28, the NWNE, SENW, and SESW of Section 29, the SENW, NENE, NENW, SENE, and NESW of Section 30, the NWNE, SWNE, and SWSW of Section 31, the NWNE and SWSW of Section 32, the NENW, NESW, and SESE of Section 33, and the NESE of Section 36, all in Township 58 North, Range 79 West; and in the SENW, SWNE, and NWSE of Section 22, the NESW and SWSW of Section 23, the NWSW of Section 24, the SWNE and NWSE of Section 25, the SENE of Section 26, and the SWNW and SWNE of Section 27 in Township 58 North, Range 80 West; and the SWSW and SESE of Section 7 in Township 57 North, Range 79 West, all in Sheridan County

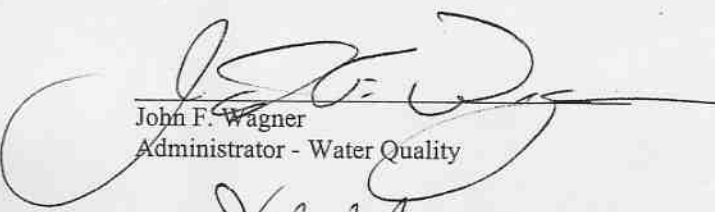
to receiving waters named

several off-channel pits (class 4C), located within, but not tributary to, the Hanging Woman Creek (class 3B) sub-basin of the Tongue River (class 2AB) drainage

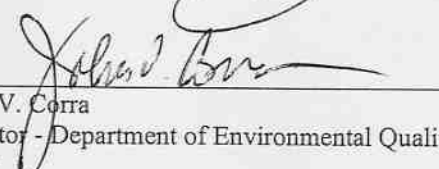
in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II and III hereof.

This permit modification shall become effective on the date of signature by the Director of the Department of Environmental Quality. With the exception of items explicitly delineated in this major modification, all terms and conditions of WY0052407, including Parts II and III of the original permit, shall remain unchanged and in full force and effect.

This permit and the authorization to discharge shall expire April 30, 2009 at midnight .

  
John F. Wagner  
Administrator - Water Quality

7/19/05  
Date

  
John V. Corra  
Director - Department of Environmental Quality

7/21/05  
Date

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through April 30, 2009, the quality of effluent discharged by the permittee shall, at a minimum, meet the limitations set forth below. The permittee is authorized to discharge from outfall(s) serial numbers 001-035, 038-049.

| <u>Effluent Characteristic*</u>    | <u>Daily Maximum</u> |
|------------------------------------|----------------------|
| Chlorides, mg/l                    | 2000                 |
| pH, standard units @ 25 degrees    | 6.5 - 9.0            |
| Sulfates, mg/l                     | 3000                 |
| Total Dissolved Solids, mg/l       | 5000                 |
| Total Selenium, µg/l               | 50                   |
| Total Arsenic, ug/l                | 200                  |
| Specific Conductance, micromohs/cm | 7500                 |

\*Dissolved amount is the amount that will pass through a 0.45 um membrane filter prior to acidification to pH 1.5 - 2.0 with nitric acid.

This permit does not authorize discharge of CBM produced water out of the class 4C man made containment units. All CBM produced water and associated stormwater runoff volumes up to and including a 100 year 24 hour event will be totally contained within the off channel containment unit and cannot flow into any other surface water of the state. Any surface discharge, including any subsurface discharge that has a direct and material hydrologic connection to other surface waters is a violation of this permit and must be remedied.

The permit requires that the produced water being discharged by this facility originate in one or more of the following formations: the Anderson, Canyon, Cook, Kendrick, Nance, Roberts, Dietz, Roland, and/or Brewster-Arnold coal seams. The permittee may, if so desired, discharge effluent from any authorized well to any permitted outfall, as long as all permit limits and requirements can be met.

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

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

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

a. Monitoring of the initial discharge

*Note: unless otherwise specified by WDEQ, the initial monitoring requirement described below will not apply to outfalls already sampled under previous permit coverage.*

Within 60 days of commencement of discharge, a sample shall be collected from each outfall and analyzed for the constituents specified below, at the required detection limits. Within 120 days of commencement of discharge, a summary report on the produced water must be submitted to the Wyoming Department of Environmental Quality and the U.S. EPA Region 8 at the addresses listed below. This summary report must include the results and detection limits for each of the constituents listed below. In addition, the report must include written notification of the established location of the discharge point (refer to Part I.B.11). This notification must include a confirmation that the location of the established discharge point(s) is within 1,510 feet of the location of the identified discharge point(s), is within the same drainage, and discharges to the same landowner's property as identified on the original application form. The legal description and location in decimal degrees of the established discharge point(s) must also be provided. After receiving the monitoring results for the initial discharge, the effluent limits and monitoring requirements established in this permit may be modified.

| <u>Parameter*</u> (See notes following the table on chemical states) | <u>Required Detection Limits and Required Units</u> |
|--|---|
| Alkalinity, Total  | 1 mg/l as CaCO <sub>3</sub>                         |
| Aluminum, Total Recoverable  | 50 µg/l   |
| Arsenic, Total   | 1 µg/l  |
| Barium, Total  | 100 µg/l  |
| Bicarbonate  | 10 mg/l   |
| Cadmium, Dissolved   | 5 µg/l  |
| Calcium, Dissolved   | 50 µg/l, report as me/l                             |
| Calcium, Dissolved Chlorides   | 50 µg/l, report as mg/l                             |
| Copper, Dissolved  | 5 mg/l  |
| Dissolved Solids, Total  | 10 µg/l   |
| Hardness, Total  | 10 mg/l as CaCO <sub>3</sub>                        |
| Iron, Dissolved  | 50 µg/l   |
| Lead, Dissolved  | 2 µg/l  |
| Magnesium, Dissolved   | 100 µg/l, report as me/l                            |
| Magnesium, Dissolved Chlorides                                       | 100 µg/l, report as mg/l                            |
| Manganese, Dissolved   | 50 µg/l   |
| Mercury, Dissolved   | 1 µg/l  |
| pH   | to 0.1 pH unit                                      |
| Radium 226, Total  | 0.2 pCi/l   |

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

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

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

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

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

Planning and Targeting Program, 8ENF-PT  
Office of Enforcement, Compliance, and Environmental Justice  
U.S. EPA Region 8  
999 18th St., Suite 300  
Denver, CO 80202-2466

and

Wyoming Department of Environmental Quality  
Water Quality Division  
Herschler Building, 4 West  
122 West 25th Street  
Cheyenne, WY 82002

3. Routine Monitoring, End of Pipe (001-035, 038-049)

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

| <u>Parameter</u>                       | <u>Measurement Frequency</u> | <u>Sample Type</u> |
|--|------------------------------|--------------------|
| pH                                     | Once Every Six Months        | Grab               |
| Specific Conductance<br>(micromohs/cm) | Once Every Six Months        | Grab               |

| <u>Parameter</u>              | <u>Measurement Frequency</u> | <u>Sample Type</u> |
|-------------------------------|------------------------------|--------------------|
| Total Flow – (MGD)            | Monthly                      | Continuous         |
| Total Selenium (µg/l)         | Once Every Six Months        | Grab               |
| Sulfates (mg/l)               | Once Every Six Months        | Grab               |
| Chlorides (mg/l)              | Once Every Six Months        | Grab               |
| Total Dissolved Solids (mg/l) | Once Every Six Months        | Grab               |

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At the outfall of the final treatment unit which is located before the discharge reaches the containment unit.

Flow meters shall be calibrated annually.

b. Additional Monitoring within the Containment Unit (CU1-CU35, CU38-CU49)

Monthly inspections shall be conducted of the off-channel containment units to assure no significant seeps or spring areas occur.

Samples of the produced water within the containment units (off-channel pits) shall be collected and analyzed for total recoverable selenium, specific conductance, chlorides, total dissolved solids, total arsenic, and sulfates on a semiannual basis. Results shall be included on the semiannual Discharge Monitoring Report (DMR). Samples collected within the containment units are to be collected from an area located at least 100 feet from the point that effluent from the outfall enters the reservoir, and the samples should contain no sediment or other solid matter.

| <u>Parameter</u>   | <u>Measurement Frequency</u> | <u>Sample Type</u> |
|--|------------------------------|--------------------|
| Total Selenium of the produced water within the containment unit         | Once Every Six Months        | Grab               |
| Total Dissolved Solids of the produced water within the containment unit | Once Every Six Months        | Grab               |
| Specific Conductance of the produced water within the containment unit   | Once Every Six Months        | Grab               |
| Chlorides of the produced water within the containment unit              | Once Every Six Months        | Grab               |
| Sulfates of the produced water within the containment unit               | Once Every Six Months        | Grab               |
| Total Arsenic of the produced water within the containment unit          | Once Every Six Months        | Grab               |

B. MONITORING AND REPORTING

1. Representative Sampling

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

2. Reporting

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

Results of routine end of pipe monitoring during the previous six (6) months shall be summarized and reported semiannually on a Discharge Monitoring Report Form (DMR). If the discharge is intermittent, the date the discharge began and ended must be included. The information submitted on the first semiannual DMR shall contain a summary of flow measurements and any additional monitoring conducted subsequent to the submittal of the initial monitoring report. When required, whole effluent toxicity (biomonitoring) results must be reported on the most recent version of EPA Region VIII's Guidance for Whole Effluent Reporting. Monitoring reports must be submitted to the state water pollution control agency at the following address postmarked no later than the 15th day of the second month following the completed reporting period. The first monitoring report following issuance of this modification is due February 15, 2006.

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

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

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

3. Definitions

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

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

4. Test Procedures

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

5. Recording of Results

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

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

6. Additional Monitoring by Permittee

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

7. Records Retention

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

8. Penalties for Tampering

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

9. Compliance Schedules

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

10. Facility Identification

All facilities discharging produced water shall be clearly identified with an all-weather sign posted at each outfall and flow monitoring locations (points of compliance). This sign shall, as a minimum, convey the following information:

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

11. Identification and Establishment of Discharge Points

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

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

12. Location of Discharge Points

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

SEE TABLE 1 (Below) FOR A LIST OF OUTFALL AND CONTAINMENT UNIT LOCATIONS

Requests for modification of the permit will be processed as follows. If the requested modification satisfies the definition of a minor permit modification as defined in 40 CFR 122.63 modifications will not be required to be advertised in a public notice. A minor modification constitutes a correction of a typographical error, increase in monitoring and/or reporting, revision to an interim compliance schedule date, change in ownership, revision of a construction schedule for a new source discharger, deletion of permitted outfalls, and/or the incorporation of an approved local pretreatment program.

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

The outfalls listed in the table below may be moved from the established location without submittal of a permit modification application provided all of the following conditions are satisfied:

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

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

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

Table 1: WY0052407 - Antelope Project

| Discharge Point | Qtr/Qtr | SECTION | TWP (N) | RNG (W) | LATITUDE  | LONGITUDE  | Description                                 | Groundwater Approval Required for discharge? |
|-----------------|---------|---------|---------|---------|-----------|------------|---|--|
| 001             | NESW    | S19     | T58N    | R79     | 44.983040 | 106.435330 | Discharges to off-channel pit P58-79-19-11  | Yes  |
| 002             | SWSE    | S19     | T58N    | R79     | 44.980930 | 106.425240 | Discharges to off-channel pit P58-79-19-15  | Yes  |
| 003             | NESW    | S20     | T58N    | R79     | 44.985090 | 106.413670 | Discharges to off-channel pit P58-79-20-11  | Yes  |
| 004             | SESW    | S20     | T58N    | R79     | 44.981120 | 106.410030 | Discharges to off-channel pit P58-79-20-14  | Yes  |
| 005             | NWSE    | S21     | T58N    | R79     | 44.984240 | 106.387780 | Discharges to off-channel pit P58-79-21-10  | Yes  |
| 006             | SENW    | S28     | T58N    | R79     | 44.973730 | 106.387780 | Discharges to off-channel pit P58-79-28-06  | Yes  |
| 007             | NWNE    | S29     | T58N    | R79     | 44.977900 | 106.407690 | Discharges to off-channel pit P58-79-29-02  | Yes  |
| 008             | SENW    | S29     | T58N    | R79     | 44.973080 | 106.415790 | Discharges to off-channel pit P58-79-29-05  | Yes  |
| 009             | SESW    | S29     | T58N    | R79     | 44.967250 | 106.409580 | Discharges to off-channel pit P58-79-29-14  | Yes  |
| 010             | SENW    | S30     | T58N    | R79     | 44.974000 | 106.430660 | Discharges to off-channel pit P58-79-30-06  | Yes  |
| 011             | NWNE    | S31     | T58N    | R79     | 44.962680 | 106.428770 | Discharges to off-channel pit P58-79-31-02  | Yes  |
| 012             | SWNE    | S31     | T58N    | R79     | 44.956280 | 106.426540 | Discharges to off-channel pit P58-79-31-07  | Yes  |
| 013             | SWSW    | S31     | T58N    | R79     | 44.949770 | 106.435060 | Discharges to off-channel pit P58-79-31-13  | Yes  |
| 014             | NWNE    | S32     | T58N    | R79     | 44.963180 | 106.407100 | Discharges to off-channel pit P58-79-32-02  | Yes  |
| 015             | SWSW    | S32     | T58N    | R79     | 44.951330 | 106.419020 | Discharges to off-channel pit P58-79-32-13  | Yes  |
| 016             | NENW    | S33     | T58N    | R79     | 44.961390 | 106.389450 | Discharges to off-channel pit P58-79-33-02  | Yes  |
| 017             | NESW    | S33     | T58N    | R79     | 44.954390 | 106.389470 | Discharges to off-channel pit P58-79-33-11  | Yes  |
| 018             | SESE    | S33     | T58N    | R79     | 44.951970 | 106.384030 | Discharges to off-channel pit P58-79-33-16  | Yes  |
| 019             | SENE    | S26     | T58N    | R80     | 44.973740 | 106.466200 | Discharges to off-channel pit P58-80-26-08  | Yes  |
| 020             | NWNW    | S19     | T58N    | R79     | 44.991460 | 106.439830 | Discharges to off-channel pit P58-79-19-04  | Yes  |
| 021             | NWSW    | S19     | T58N    | R79     | 44.983210 | 106.440510 | Discharges to off-channel pit P58-79-19-12  | Yes  |
| 022             | SENW    | S22     | T58N    | R80     | 44.987490 | 106.493340 | Discharges to off-channel pit P58-80-22-06  | Yes  |
| 023             | SWNE    | S22     | T58N    | R80     | 44.987360 | 106.488160 | Discharges to off-channel pit P58-80-22-07  | Yes  |
| 024             | NWSE    | S22     | T58N    | R80     | 44.984630 | 106.489250 | Discharges to off-channel pit P58-80-22-10  | Yes  |
| 025             | NESW    | S23     | T58N    | R80     | 44.983550 | 106.473430 | Discharges to off-channel pit P58-80-23-11  | Yes  |
| 026             | SWSW    | S23     | T58N    | R80     | 44.979530 | 106.477070 | Discharges to off-channel pit P58-80-23-13  | Yes  |
| 027             | NWSW    | S24     | T58N    | R80     | 44.983250 | 106.457330 | Discharges to off-channel pit P58-80-24-12  | Yes  |
| 028             | SESE    | S24     | T58N    | R79     | 44.978400 | 106.440660 | Discharges to off-channel pit P58-80-24-16  | Yes  |
| 029             | SWNE    | S25     | T58N    | R80     | 44.972690 | 106.450140 | Discharges to off-channel pit P58-80-25-07  | Yes  |
| 030             | NWSE    | S25     | T58N    | R80     | 44.967850 | 106.447170 | Discharges to off-channel pit P58-80-25-10  | Yes  |
| 031             | SWNW    | S27     | T58N    | R80     | 44.971800 | 106.497830 | Discharges to off-channel pit P58-80-27-05  | Yes  |
| 032             | SWNE    | S27     | T58N    | R80     | 44.973560 | 106.488400 | Discharges to off-channel pit P58-80-27-07  | Yes  |
| 033             | NESE    | S36     | T58N    | R79     | 44.955330 | 106.445150 | Discharges to off-channel pit P58-80-36-09  | Yes  |
| 034             | NENE    | S30     | T58N    | R79     | 44.976703 | 106.424354 | Discharges to off-channel pit P58-79-30-01a | Yes  |
| 035             | NENW    | S30     | T58N    | R79     | 44.975409 | 106.432917 | Discharges to off-channel pit P58-79-30-03a | Yes  |
| 038             | SE, NE  | S30     | T58N    | R79     | 44.971092 | 106.422125 | Discharges to off-channel pit P58-79-30-08a | Yes  |
| 039             | NESW    | S30     | T58N    | R79     | 44.969361 | 106.433928 | Discharges to off-channel pit P58-79-30-11  | Yes  |
| 040             | SWSW    | S07     | T57     | R79     | 44.922112 | 106.436870 | Discharges to off-channel pit P57-79-0713a  | Yes  |
| 041             | SESE    | S07     | T57     | R79     | 44.921274 | 106.421627 | Discharges to off-channel pit P57-79-0716   | Yes  |
| 042             | NENW    | S28     | T58     | R80     | 44.973847 | 106.513585 | Discharges to off-channel pit P58-80-28-03  | Yes  |
| 043             | NWNE    | S21     | T58     | R80     | 44.978286 | 106.515668 | Discharges to off-channel pit P58-80-21-14  | Yes  |
| 044             | NWSW    | S20     | T58     | R80     | 44.984591 | 106.539830 | Discharges to off-channel pit P58-80-20-12  | Yes  |
| 045             | SWSE    | S29     | T58     | R80     | 44.962604 | 106.532703 | Discharges to off-channel pit P58-80-29-14  | Yes  |
| 046             | NENW    | S32     | T58     | R80     | 44.960632 | 106.533565 | Discharges to off-channel pit P58-80-32-03  | Yes  |
| 047             | NESW    | S28     | T58     | R80     | 44.970258 | 106.543388 | Discharges to off-channel pit P58-80-28-11  | Yes  |
| 048             | NENW    | S20     | T58     | R80     | 44.989519 | 106.530647 | Discharges to off-channel pit P58-80-20-02  | Yes  |
| 049             | NWNE    | S19     | T58     | R80     | 44.983716 | 106.545259 | Discharges to off-channel pit P58-80-19-09A | Yes  |

Table 1: WY0052407 - Antelope Project

| Discharge Point | Qtr/Qtr | SECTION | TWP (N) | RNG (W) | LATITUDE  | LONGITUD E | Description                                | Groundwater Approval Required for discharge? |
|-----------------|---------|---------|---------|---------|-----------|------------|--|--|
| CU1             | NESW    | S19     | T58N    | R79     | 44.983040 | 106.435330 | Containment Unit sampling at P58-79-19-11  |  |
| CU2             | SWSE    | S19     | T58N    | R79     | 44.980930 | 106.425240 | Containment Unit sampling at P58-79-19-15  |  |
| CU3             | NESW    | S20     | T58N    | R79     | 44.985090 | 106.413670 | Containment Unit sampling at P58-79-20-11  |  |
| CU4             | SESW    | S20     | T58N    | R79     | 44.981120 | 106.410030 | Containment Unit sampling at P58-79-20-14  |  |
| CU5             | NWSE    | S21     | T58N    | R79     | 44.984240 | 106.387780 | Containment Unit sampling at P58-79-21-10  |  |
| CU6             | SENW    | S28     | T58N    | R79     | 44.973730 | 106.387780 | Containment Unit sampling at P58-79-28-06  |  |
| CU7             | NWNE    | S29     | T58N    | R79     | 44.977900 | 106.407690 | Containment Unit sampling at P58-79-29-02  |  |
| CU8             | SENW    | S29     | T58N    | R79     | 44.973080 | 106.415790 | Containment Unit sampling at P58-79-29-05  |  |
| CU9             | SESW    | S29     | T58N    | R79     | 44.967250 | 106.409580 | Containment Unit sampling at P58-79-29-14  |  |
| CU10            | SENW    | S30     | T58N    | R79     | 44.974000 | 106.430660 | Containment Unit sampling at P58-79-30-06  |  |
| CU11            | NWNE    | S31     | T58N    | R79     | 44.962680 | 106.428770 | Containment Unit sampling at P58-79-31-02  |  |
| CU12            | SWNE    | S31     | T58N    | R79     | 44.956280 | 106.426540 | Containment Unit sampling at P58-79-31-07  |  |
| CU13            | SWSW    | S31     | T58N    | R79     | 44.949770 | 106.435060 | Containment Unit sampling at P58-79-31-13  |  |
| CU14            | NWNE    | S32     | T58N    | R79     | 44.963180 | 106.407100 | Containment Unit sampling at P58-79-32-02  |  |
| CU15            | SWSW    | S32     | T58N    | R79     | 44.951330 | 106.419020 | Containment Unit sampling at P58-79-32-13  |  |
| CU16            | NENW    | S33     | T58N    | R79     | 44.961390 | 106.389450 | Containment Unit sampling at P58-79-33-02  |  |
| CU17            | NESW    | S33     | T58N    | R79     | 44.954390 | 106.389470 | Containment Unit sampling at P58-79-33-11  |  |
| CU18            | SESE    | S33     | T58N    | R79     | 44.951970 | 106.384030 | Containment Unit sampling at P58-79-33-16  |  |
| CU19            | SENE    | S26     | T58N    | R80     | 44.973740 | 106.466200 | Containment Unit sampling at P58-80-26-08  |  |
| CU20            | NWNW    | S19     | T58N    | R79     | 44.991460 | 106.439830 | Containment Unit sampling at P58-79-19-04  |  |
| CU21            | NWSW    | S19     | T58N    | R79     | 44.983210 | 106.440510 | Containment Unit sampling at P58-79-19-12  |  |
| CU22            | SENW    | S22     | T58N    | R80     | 44.987490 | 106.493340 | Containment Unit sampling at P58-80-22-06  |  |
| CU23            | SWNE    | S22     | T58N    | R80     | 44.987360 | 106.488160 | Containment Unit sampling at P58-80-22-07  |  |
| CU24            | NWSE    | S22     | T58N    | R80     | 44.984630 | 106.489250 | Containment Unit sampling at P58-80-22-10  |  |
| CU25            | NESW    | S23     | T58N    | R80     | 44.983550 | 106.473430 | Containment Unit sampling at P58-80-23-11  |  |
| CU26            | SWSW    | S23     | T58N    | R80     | 44.979530 | 106.477070 | Containment Unit sampling at P58-80-23-13  |  |
| CU27            | NWSW    | S24     | T58N    | R80     | 44.983250 | 106.457330 | Containment Unit sampling at P58-80-24-12  |  |
| CU28            | SESE    | S24     | T58N    | R79     | 44.978400 | 106.440660 | Containment Unit sampling at P58-80-24-16  |  |
| CU29            | SWNE    | S25     | T58N    | R80     | 44.972690 | 106.450140 | Containment Unit sampling at P58-80-25-07  |  |
| CU30            | NWSE    | S25     | T58N    | R80     | 44.967850 | 106.447170 | Containment Unit sampling at P58-80-25-10  |  |
| CU31            | SWNW    | S27     | T58N    | R80     | 44.971800 | 106.497830 | Containment Unit sampling at P58-80-27-05  |  |
| CU32            | SWNE    | S27     | T58N    | R80     | 44.973560 | 106.488400 | Containment Unit sampling at P58-80-27-07  |  |
| CU33            | NESE    | S36     | T58N    | R79     | 44.955330 | 106.445150 | Containment Unit sampling at P58-80-36-09  |  |
| CU34            | NENE    | S30     | T58N    | R79     | 44.976703 | 106.424354 | Containment Unit sampling at P58-79-30-01a |  |
| CU35            | NENW    | S30     | T58N    | R79     | 44.975409 | 106.432917 | Containment Unit sampling at P58-79-30-03a |  |
| CU38            | SE, NE  | S30     | T58N    | R79     | 44.971092 | 106.422125 | Containment Unit sampling at P58-79-30-08a |  |
| CU39            | NESW    | S30     | T58N    | R79     | 44.969361 | 106.433928 | Containment Unit sampling at P58-79-30-11  |  |
| CU40            | SWSW    | S07     | T57     | R79     | 44.922112 | 106.436870 | Containment Unit sampling at P57-79-0713a  |  |
| CU41            | SESE    | S07     | T57     | R79     | 44.921274 | 106.421627 | Containment Unit sampling at P57-79-0716   |  |
| CU42            | NENW    | S28     | T58     | R80     | 44.973847 | 106.513585 | Containment Unit sampling at P58-80-28-03  |  |
| CU43            | NWNE    | S21     | T58     | R80     | 44.978286 | 106.515668 | Containment Unit sampling at P58-80-21-14  |  |
| CU44            | NWSW    | S20     | T58     | R80     | 44.984591 | 106.539830 | Containment Unit sampling at P58-80-20-12  |  |
| CU45            | SWSE    | S29     | T58     | R80     | 44.962604 | 106.532703 | Containment Unit sampling at P58-80-29-14  |  |
| CU46            | NENW    | S32     | T58     | R80     | 44.960632 | 106.533565 | Containment Unit sampling at P58-80-32-03  |  |
| CU47            | NESW    | S28     | T58     | R80     | 44.970258 | 106.543388 | Containment Unit sampling at P58-80-28-11  |  |
| CU48            | NENW    | S20     | T58     | R80     | 44.989519 | 106.530647 | Containment Unit sampling at P58-80-20-02  |  |
| CU49            | NWNE    | S19     | T58     | R80     | 44.983716 | 106.545259 | Containment Unit sampling at P58-80-19-09A |  |

Note: All CBM wells at this facility may discharge to any of the above listed outfalls.

C. RESERVOIR / IMPOUNDMENT REQUIREMENTS

1. Groundwater Monitoring Beneath Impoundments

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

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 permit, or other appropriate enforcement action.