

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

STATEMENT OF BASIS

Major Modification

APPLICANT NAME: Nance Petroleum Corporation

MAILING ADDRESS: 550 N 31st Street, Suite 500
Billings, MT 59103

FACILITY LOCATION: River 1 POD, which is located in the NWNW, SENW, SESW, and the NESW, Section 9, the SESW and NWNW, Section 15, the NWSW, Section 19, and the SWNE of Section 30, Township 57 North, Range 76 West, Sheridan and Campbell Counties. The produced water will be discharged to 9 man-made, off-channel containment units (class 4C), located within, but not tributary to, the Powder River (class 2ABWW). The permit requires that the produced water being discharged from this facility originate in one or more of the following formations – the Cook, Wall and Pawnee coal seams.

NUMBER: **WY0053830**

The following Statement of Basis only includes information that has changed with this modification. For a complete Statement of Basis, please see previously issued modifications or renewals for this permit.

Upon approval of this major modification, the terms of permit WY0053830 are hereby modified as follows:

- 1. Outfalls 006-008 are removed from this facility along with associated reservoirs, P57-76-21-02, P57-76-29-05, and P57-76-16-15, respectively.*
- 2. Thirteen (13) wells are added to this facility.*
- 3. Two outfalls (011 and 012) are added to this facility along with associated reservoirs P57-76-19-22 and P57-76-19-20.*
- 4. Two (2) containment unit water quality monitoring stations (CU011 and CU012) are added and three (3) containment unit water quality monitoring stations (CU006, CU007 and CU008) are removed from this facility.*

New:
Bob Alexander
Water Quality Division
Department of Environmental Quality
Drafted: October 4, 2005

Major Modification:
Jennifer Zygmunt
Water Quality Division
Department of Environmental Quality
Drafted: March 3, 2006
Revised: March 29, 2006

Major Modification:
Dena Hicks
Water Quality Division
Department of Environmental Quality
Drafted: March 20, 2007

AUTHORIZATION TO DISCHARGE UNDER THE
WYOMING POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

Nance Petroleum Corporation

is authorized to discharge from the wastewater treatment facilities serving the

River 1 POD

located in the

the NWNW, SENW, SESW, and the NESW, Section 9, the SESW and NWNW, Section 15, the NWSW, Section 19, and the SWNE of Section 30, Township 57 North, Range 76 West, Sheridan and Campbell Counties,

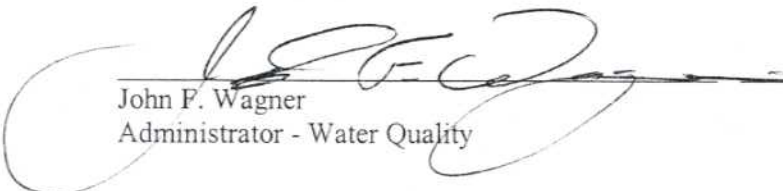
to receiving waters named

nine man-made, off-channel containment units (class 4C), located within, but not tributary to, the Powder River (class 2ABWW),

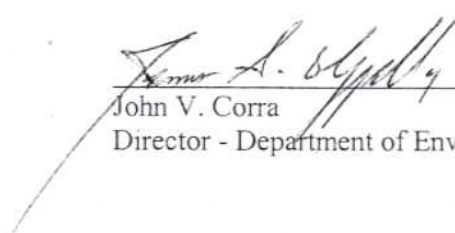
in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II and III hereof.

This major 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 WY0053830, 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 June 30, 2008, at midnight.


John F. Wagner
Administrator - Water Quality

5/30/07
Date


John V. Corra
Director - Department of Environmental Quality

5/30/07
Date

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through June 30, 2008, 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 number(s) 001-005 and 009-012.

1.a Effluent Limits: The quality of the effluent discharged by this facility shall, at a minimum, meet the limitations set forth below at the end of pipe.

Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum</u>
Chloride, mg/l	2000
pH, standard units	6.5 – 9.0
Specific Conductance, micromhos/cm	7500
Sulfate, mg/l	3000

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. As modified, this facility consisted of 9 outfalls. The produced water being discharged at this facility will originate from the Cook, Pawnee, and Wall coal seams.

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

Produced water is to be released at a rate which does not cause significant erosion to the channel or receiving lands. 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. Intentional discharge from the off-channel reservoirs being utilized for produced water containment at this facility is not allowed except during those periods of time that a precipitation event equal to or greater than a 50 year, 24 hour storm event causes the reservoirs to fill and overtop, and discharges under such circumstances will be limited to natural overtopping only. In the event of discharge from the reservoirs, it shall be the permittee's responsibility to demonstrate whether or not the discharge was related to a 50 year, 24 hour storm event. Discharges from the reservoirs not directly related to a 50 year, 24 hour storm event will be considered a violation of this permit.

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.

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. a. Monitoring of the initial discharge

Within **60** days of commencement of discharge, a sample shall be collected from *each outfall and coal seam that has not been previously sampled for initial monitoring* and analyzed for all the constituents specified below, at the required detection limits and chemical states. 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 CaCO₃
Aluminum, Dissolved	50 µg/l
Arsenic, Total Recoverable	1 µg/l
Barium, Total Recoverable	100 µg/l
Bicarbonate	10 mg/l
Cadmium, Dissolved	5 µg/l
Calcium, Dissolved	50 µg/l, report as mg/l
Chloride	5 mg/l
Copper, Dissolved	10 µg/l
Dissolved Solids, Total	5 mg/l
Fluoride, Dissolved	100 µg/l
Hardness, Total	10 mg/l as CaCO₃
Iron, Dissolved	50 µg/l
Lead, Dissolved	2 µg/l
Magnesium, Dissolved	100 µg/l, report as mg/l
Manganese, Dissolved	50 µg/l
Mercury, Dissolved	1 µg/l
pH	to 0.1 pH unit
Selenium, Total Recoverable	5 µg/l
Sodium Adsorption Ratio	Calculated as unadjusted ratio
Sodium, Dissolved	100 µg/l, report as mg/l
Specific Conductance	5 micromhos/cm
Sulfate	10 mg/l
Zinc, Dissolved	50 µg/l

**Dissolved is the value 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. Total is the value expressed in terms of total recoverable metal in the water column.

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

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

and

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

b. Routine monitoring End of Pipe – 001-005 and 009-012

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>
Chloride (mg/l)	Annually	Grab
pH (standard units)	Once Every Six Months	Grab
Specific Conductance (micromhos/cm)	Once Every Six Months	Grab
Sulfate (mg/l)	Annually	Grab
Total Alkalinity (mg/l)	Once Every Six Months	Grab
Total Recoverable Arsenic (µg/l)	Annually	Grab
Total Flow - (MGD)	Monthly	Continuous
Total Dissolved Solids (mg/l)	Annually	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At the outfall of the final treatment unit which is located out of the natural drainage and prior to admixture with diluent waters: 001-005 and 009-012.

c. Containment Unit Monitoring – CU001-CU005 and CU009-CU012

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. Monitoring will be based on semi-annual time frames, from January through June, and from July through December.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Specific Conductance (micromhos/cm)	Once Every Six Months	Grab
Total Recoverable Arsenic (µg/l)	Annually	Grab
Total Recoverable Selenium (µg/l)	Annually	Grab
Chloride (mg/l)	Annually	Grab
Total Dissolved Solids (mg/l)	Annually	Grab
Sulfate (mg/l)	Annually	Grab
pH (standard units)	Once Every Six Months	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): within the individual containment units, 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. See Part I.B.12 of the permit for additional information regarding containment unit locations.

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 and water quality station monitoring during the previous six (6) months shall be summarized and reported semiannually on a Discharge Monitoring Report Form (DMR). If the discharge is intermittent, the date the discharge

began and ended must be included. The information submitted on the first semiannual DMR shall contain a summary of flow measurements and any additional monitoring conducted subsequent to the submittal of the initial monitoring report. If required by this permit, whole effluent toxicity (biomonitoring) results must be reported on the most recent version of EPA Region VIII's Guidance for Whole Effluent Reporting. Monitoring reports must be submitted to the state water pollution control agency at the following address postmarked no later than the 15th day of the second month following the completed reporting period. The first report following issuance of this modification is due on August 15, 2007.

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

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

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

3. Definitions

- a. The "monthly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during a calendar month.
- b. The "weekly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during any week.
- c. The "daily maximum" shall be determined by the analysis of a single grab or composite sample.
- d. "MGD", for monitoring requirements, is defined as million gallons per day.
- e. "Net" value, if noted under Effluent Characteristics, is calculated on the basis of the net increase of the individual parameter over the quantity of that same parameter present in the intake water measured prior to any contamination or use in the process of this facility. Any contaminants contained in any intake water obtained from underground wells shall not be adjusted for as described above and, therefore, shall be considered as process input to the final effluent. Limitations in which "net" is not noted are calculated on the basis of gross measurements of each parameter in the discharge, irrespective of the quantity of those parameters in the intake waters.

- f. A "composite" sample, for monitoring requirements, is defined as a minimum of four grab samples collected at equally spaced two hour intervals and proportioned according to flow.
- g. An "instantaneous" measurement for monitoring requirements is defined as a single reading, measurement, or observation.
- h. A "pollutant" is any substance or substances which, if allowed to enter surface waters of the state, causes or threatens to cause pollution as defined in the Wyoming Environmental Quality Act, Section 35-11-103.
- i. "Total Flow" is the total volume of water discharged, measured on a continuous basis and reported as a total volume for each month during a reporting period. The accuracy of flow measurement must comply with Part III.A.1.

4. Test Procedures

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

5. Recording of Results

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

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

6. Additional Monitoring by Permittee

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

7. Records Retention

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

8. Penalties for Tampering

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

9. Compliance Schedules

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

10. Facility Identification

All facilities discharging produced water shall be clearly identified with an all-weather sign posted at each outfall and 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 NPDES 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 NPDES permit application form. The location of the discharge point must be identified to within an accuracy of 15 seconds. This equates to a distance of 1,510 feet.

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

notification of the establishment of each discharge point in accordance with Part I.A.2.a above.

12. Location of Discharge Points and Containment Unit Monitoring Locations

Table 1. WY0053830 – River 1 POD

Out-fall	Qtr/Qtr	SECTION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description	Groundwater approval required prior to Discharge?	Reservoir Bond to WDEQ Required prior to Discharge?
001	NWNW	9	57	76	44.94450	-106.01982	Powder River (2ABww) via Off-Channel Pit "P57-76-09-04" (4C)	YES	No
002	SEnw	9	57	76	44.93945	-106.01390	Powder River (2ABWW) via off-Channel Pit "P57-76-09-06" (4C)	YES	No
003	SESW	9	57	76	44.93575	-106.01536	Powder River (2ABWW) via Off-Channel Pit "P57-76-09-14" (4C)	YES	No
004	NESW	9	57	76	44.93654	-106.01560	Powder River (2ABWW) via Off-Channel Pit "P57-76-09-11" (4C)	YES	No
005	SESW	15	57	76	44.91776	-106.99328	Powder River (2ABWW) via Off-Channel Pit "P57-76-15-14" (4C)	YES	No
009	NWNW	15	57	76	44.93994	-106.99667	Powder River (2ABWW) via Off-Channel Pit "P57-76-15-03" (4C)	YES	No
010	SWNE	30	57	76	44.89741	-106.05322	Powder River (2ABWW) via Off-Channel Pit "P57-76-30-03" (4C)	YES	No
011	NWSW	19	57	76	44.90746	-106.07318	Powder River (2ABWW) via Off-Channel Pit "P57-76-19-22" (4C)	YES	No
012	NWSW	19	57	76	44.90629	-106.07084	Powder River (2ABWW) via Off-Channel Pit "P57-76-19-20" (4C)	YES	No
CU001	NWNW	9	57	76	44.94450	-106.01982	Containment unit water quality monitoring station associated outfall 001	N/A	N/A
CU002	SEnw	9	57	76	44.93945	-106.01390	Containment unit water quality monitoring station associated outfall 002	N/A	N/A
CU003	SESW	9	57	76	44.93575	-106.01536	Containment unit water quality monitoring station associated outfall 003	N/A	N/A
CU004	NESW	9	57	76	44.93654	-106.01560	Containment unit water quality monitoring station associated outfall 004	N/A	N/A
CU005	SESW	15	57	76	44.91776	-106.99328	Containment unit water quality monitoring station associated outfall 005	N/A	N/A
CU009	NWNW	15	57	76	44.93994	-106.99667	Containment unit water quality monitoring station associated outfall 009	N/A	N/A
CU010	SESW	30	57	76	44.89741	-106.99328	Containment unit water quality monitoring station associated outfall 010	N/A	N/A
CU011	NWSW	19	57	76	44.90746	-106.07318	Containment unit water quality monitoring station associated outfall 011	N/A	N/A
CU012	NWSW	19	57	76	44.90629	-106.07084	Containment unit water quality monitoring station associated outfall 012	N/A	N/A

Requests for modification of the above list will be processed as follows. If the requested modification satisfies the definition of a minor permit modification as defined in 40 CFR 122.63 modifications will not be required to be advertised in a public notice. A minor modification constitutes a correction of a typographical error, increase in monitoring and/or reporting, revision

to an interim compliance schedule date, change in ownership, revision of a construction schedule for a new source discharger, deletion of permitted outfalls, and/or the incorporation of an approved local pretreatment program.

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

The outfalls listed in Table 1 (Part I.B.12) may be moved from the established location without submittal of a permit modification application provided all of the following conditions are satisfied:

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

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

An outfall relocation as described above will not be allowed if the new outfall location is less than one mile from the confluence of a Class 2 waterbody and the dissolved iron and/or total radium 226 effluent limits established in the permit for the outfall are based upon Class 3 standards.

C. RESERVOIR / IMPOUNDMENT REQUIREMENTS

1. Groundwater Monitoring Beneath Impoundments:

Table 1 of the permit above identifies which outfalls (if any) are designed to discharge into impoundments that are subject to groundwater monitoring requirements established in the latest version of the Water Quality Division guideline “*Compliance Monitoring for Groundwater Protection Beneath Unlined Coalbed Methane Produced Water Impoundments.*” These specified outfalls are not authorized to discharge until a written groundwater compliance approval has been granted by the Groundwater Pollution Control Program of the Water Quality Division. 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.