

**Wyoming Department of Environmental Quality
Water Quality Division
WYPDES (Wyoming Pollutant Discharge Elimination System) Program**

STATEMENT OF BASIS

RENEWAL

APPLICANT NAME: Aethon Energy Operating, LLC

MAILING ADDRESS: 450 South Federal Boulevard
Riverton, WY 82501

FACILITY LOCATION: Frenchie Draw, which is located in Sections NWNE 18, NWNE 9, NENE 16, NWNE 20, SESW 16, SENE 17, NENE 22, NENE 21, NWNE 15, NWNE 23, NENE 10, NENE 7, SWNE 8, NWSW 15, NENW 5, Township 37N, Range 89W; and NWSE Section 36, Township 38N, Range 90W, and SESE Section 36, Township 38N, Range 91W, Fremont County. The wastewater will discharge to Boysen Reservoir (class 2AB) via Badwater Creek (class 2AB) via Alkali Creek (class 3B)

PERMIT NUMBER: WY0002062

This permit has been renewed in accordance with current WYPDES permitting requirements. All permit effluent limits and monitoring requirements have been updated in accordance with current WDEQ regulations and policy. Specific changes to the permit include the following:

- 1) *Increase allowable facility-wide load for Total Dissolved Solids (TDS) and add a monthly load limit for Chloride (See part I.A.1.a)*
- 2) *Add concentration limits for TDS and Chloride, based on historic discharge concentrations from this facility. (See part I.A.1.a)*
- 3) *Add compliance schedule for Chloride effluent limits to protect Badwater Creek (class 2AB).*
- 4) *Add effluent limits and routine outfall sampling for persistent pollutants (See part I.A.1.a)*
- 5) *Add outfall 016 (see Part I.B.14)*
- 6) *Add instream monitoring locations and new sampling requirements to include: Alkali Creek (DMP1), Badwater Creek (BWC1), Badwater Bay in Boysen Reservoir (BWB1), Wind River Canyon (WRC1) (See Part I.A.2.b)*
- 7) *Add routine monitoring requirement at Neptune Treatment Unit (NEPI) (See Part I.A.2.c)*
- 8) *Add Routine sampling requirement for BTEX constituents (Benzene, Toluene, Ethylbenzene, Xylene) at the outfalls, and at the downstream monitoring point on Alkali Creek (DMP1). See Part I.A.2.a, Part I.A.2.b.*
- 9) *Add Whole Effluent Toxicity testing and limits (See Part I.A.3)*
- 10) *Revised language regarding access to the facility (see Part II.B.1 of the permit)*
- 11) *Add nutrient monitoring requirements for total nitrogen, total ammonia-nitrogen, nitrate + nitrite-nitrogen, total phosphorus, and orthophosphate-phosphorus in support of Boysen Watershed nutrient management planning. (See Part I.A.2.a)*

General Description: This facility is a gas production treatment unit that separates gas from formation waters at the surface using a gun barrel technology, and skim ponds and tanks. The permit authorizes the discharge of produced water from conventional oil and/or gas facilities to waters of the state if the effluent quality complies with effluent limits established by this permit. Development of permit limits involves considering all federal and state regulations and standards and incorporates the most stringent requirements into the permit. The effluent limits established in this permit are based upon Chapters 1 and 2 of the Wyoming Water Quality Rules and Regulations, 40 CFR Part 435 Subpart E, and other evaluations conducted by WDEQ related to this industry. This permit does not cover activities associated with

discharges of drilling fluids, acids, stimulation waters or other fluids derived from the drilling or completion of the wells.

Facility Description: This facility may produce up to a maximum of 8.27 million gallons per day (MGD) of produced water. Of that total discharge flow, approximately 5.84 MGD must be treated at a reverse osmosis unit onsite. The remainder of the produced water (2.43 MGD) is untreated. The untreated water can be either blended with the treated water (at outfall 001) or discharged directly to unnamed ephemeral stream channels through the other outfalls at the project. All blending of treated and untreated waters happens within the project area. The intended net result of this water blending approach is compliance with all applicable downstream water quality standards for the produced water leaving the project area.

Currently, Aethon has the capacity to treat up to 1.64 million gallons of water per day which has the effect of limiting the total discharge of treated and blended water to 4.37 MGD (104,000 barrels). Additional treatment capacity would have to be added in order to reach the 8.27 MGD (197,000 barrels) maximum discharge volume analyzed in this permit revision, and comply with the concentration and load limits for all parameters.

Modeling for Water Quality Based Effluent Limits This facility discharges into Alkali Creek, a tributary of Badwater Creek approximately 40 stream miles upstream from Boysen Reservoir, which is located on the Wind River mainstem. The Wind River in the canyon below Boysen Dam is a Class 1 river segment, protected by WDEQ as an “outstanding water.” Under Chapter 1, Section 4 of the Wyoming Water Quality Rules and Regulations, “Class 1 waters are those surface waters in which no further water quality degradation by point source discharges other than from dams will be allowed.... the water quality and physical and biological integrity which existed on the water at the time of designation will be maintained and protected.” The Wind River below Boysen Reservoir was designated as a Class 1 water in 1979. This particular discharge facility (Frenchie Draw Gas Field) originated in the mid-1960’s. Previous discharges from this facility remained essentially unchanged since the designation of the downstream Wind River segment as a Class 1 water in 1979. Therefore the facility itself represented an allowable background condition that complied with Chapter 1 restrictions on new discharges to Class 1 waters.

However, upon this renewal, the applicant has submitted plans for expansion of the project along with increased treatment of the discharge water to accompany. Previous discharge rates from this facility averaged around 1.0 MGD combined. Projected discharge rates for the next permit term are around 4.37 MGD combined (treated + untreated) Pursuant to Section IV of WDEQ’s *Policy on Establishing Effluent Limits for Permitted Point Source Discharges to Class 1 Water Tributaries* (August, 2007), a water quality model can be used to calculate effluent limits in such cases. The water quality model must take into account the fate and transport of the pollutants discharged, and must account for the cumulative effects of all pre-existing point source discharges in the tributary watershed. The goal of the model is to determine the allowable levels of specific constituent pollutants that can be discharged from the facility, while still maintaining the background quality of the downstream Class 1 water. For permitting purposes in Wyoming, the background quality of a Class 1 water is considered to be the range between the upper and lower first standard deviations of the mean background concentrations for each parameter of interest.

In order to meet the above water quality modeling requirements, the permittee has developed a GEMSS model (Generalized Environmental Modeling System for Surface waters). Inputs to the mixing model included long term flow and water quality from this facility as well as all other sources of water flowing into Boysen Reservoir. The GEMSS model also used soil, atmospheric data and physical topography of the lake bottom and surrounding watersheds to assist in determining water movements and quality under various seasonal conditions. The model used a conservative approach to the fate and transport question by assuming that all modeled constituents will pass through the reservoir, into the Class 1 water; and not attenuate or precipitate in that flow path. The model builds in an additional margin of safety by using the most limiting background month for each parameter to derive a limit that applies year-round. The data used to establish baseline conditions for the Class 1 water were collected during the years 2010 – 2016 for a suite of “persistent parameters” identified by WDEQ as those constituents that could negatively impact Class 1 water quality, are persistent in the water column and can be traced from the point of discharge to the Class 1 water. Output results for these calculated effluent limits are based on available mixing within the greater Boysen Reservoir watershed, and take into account various

flow scenarios. Results are listed below for allowable discharge levels of the persistent parameters from this facility that will not cause an increase in concentrations beyond one standard deviation in the downstream Class 1 water.

MODEL OUTPUT – BASELINE CONCENTRATIONS AND PERMIT LIMITS	Wind River Baseline Concentrations				WQ Standards and Effluent Limits		
	Avg	std Dev	Anti-deg Target	Max	WQ std. (Cronic AL)	EOP Mixed Concentration Limit ⁽¹⁾	Modeled Monthly Load Limit Tons/Mo
Chloride (mg/L)	9	3	12	16	230	2419 mg/L⁽²⁾	719
Oil & Grease (mg/L)	N/A	N/A	N/A	N/A	10	10	N/A
pH	8	0	9	9.54	6.5 - 9.0	6.5 - 9.0	N/A
Sulfate (mg/L)	129	38	167	240	N/A	3000 mg/L	1072.5
TDS (mg/L)	348	60	409	490	N/A	6400 mg/L⁽²⁾	2161
Manganese (µg/L)	14	37	51	182	2083 ⁽³⁾	2083 µg/L⁽³⁾	2.158
Aluminum (µg/L)	5	11	16	50	750	750 µg/L⁽³⁾	0.311
Chromium (µg/L)	2	2	3	8	126 ⁽³⁾	126 µg/L⁽³⁾	0.1305
Copper (µg/L)	4	12	16	82	15.6 ⁽³⁾	15 µg/L⁽³⁾	0.016
Mercury (µg/L)	0.07	0.02	0.10	0.10	0.77	0.77 µg/L⁽³⁾	0.001
Nickel (µg/L)	2	3	5	20	90 ⁽³⁾	90 µg/L⁽³⁾	0.0935
Arsenic (µg/L)	2	1	2	3	150	90 µg/L	0.093
Calcium (mg/L)	49	6	55	60	N/A	N/A	14.924
Fluoride (µg/L)	0	0	0	0.5	4000	4000	1.658
Magnesium (mg/L)	15	2	17	20	N/A	N/A	14.5
Sodium (mg/L)	43	12	56	71	N/A	N/A	1426.1
Zinc (µg/L)	5.8	10.8	16.6	80	205 ⁽³⁾	16.8 µg/L⁽³⁾⁽⁴⁾	N/A
Iron (µg/L)	N/A	N/A	N/A	N/A	300	1000	0.663
radium (pCi/L)	N/A	N/A	N/A	N/A	60	60	N/A
Sulfide-.Hhydrogen Sulfide (µg/L)	N/A	N/A	N/A	N/A	2 µg/L	Report only	N/A
Beryllium (µg/L)	0.3	0.2	0.5	0.5	N/A	0.05 µg/L⁽³⁾⁽⁵⁾	N/A
Cadmium (µg/L)	0.4	0.7	1.0	5	0.4 ⁽³⁾	0.05 µg/L⁽³⁾⁽⁴⁾	N/A
Lead (µg/L)	0.3	0.2	0.5	1	5.1 ⁽³⁾	0.5 µg/L⁽³⁾⁽⁴⁾	N/A
Selenium (µg/L)	0.6	0.2	0.8	2	5	0.5 µg/L⁽³⁾⁽⁴⁾	N/A
Silver (µg/L)	0.4	0.1	0.5	0.5	10.6	0.5 µg/L⁽³⁾⁽⁴⁾	N/A
Thallium (µg/L)	0.2	0.1	0.3	0.52	N/A	0.25 µg/L⁽³⁾⁽⁴⁾	N/A

The constituents listed in the table above were grouped into categories for analysis purposes.

¹ Concentration limits are applied on a facility-wide basis (after mixing) and some parameters are additionally limited by total monthly load.

² Based on an historic effluent concentrations.

³ Hardness Dependent Criterion based on 192 mg/L CaCO₂.

⁴ Limit is Wind River baseline plus 1 standard deviation at end-of-pipe because baseline was established, zinc is sometimes present in discharge, but the acceptable load was not modeled.

⁵ Limit is non-detect expressed as ½ the laboratory reporting limit to meet class 1 goals on the Wind River below Boysen Dam.

Category 1	.Category I includes constituents normally limited on discharges of oil & gas produced water in Wyoming. End-of-Pipe (EOP) Concentration limits for Chloride and TDS were established based on historic grandfathered discharge concentrations. The Boysen Reservoir Basin Model determined that chloride was the most limiting constituent for achieving the antidegradation requirements on the class 1 segment of the Wind River below Boysen and established a total monthly load limit of 719 tons/month chloride. A monthly TDS load of 2161 tons/month was estimated as the load of TDS that is commensurate with the 719 tons/month limit.
Category 2	Category II includes one parameter, manganese, which has been consistently below detection in Aethon's discharge but has baseline data available. Non-detect in Discharge, Anti-deg target = 51 µg/L; water quality standard is 2083 µg/L at 192 mg/L CaCO ₂ . Permit limits are set at 2083 µg/L and a loading of 2.581 Tons/Month.
Category 3	Category III constituents are those where the Wind River Baseline is non-detect more than 50% of the time but the constituents may be found in Aethon's discharge. For modeling purposes, the Anti-deg target was set to non-detect concentrations; End-of-pipe concentration limits were set to water quality standards for each constituent plus model-calculated monthly load limits intended to achieve Wind River antidegradation targets.
Category 4	Category IV includes parameters above detection in Aethon's discharge and which have available baseline data to perform an Antidegradation compliance analysis for Wind River Below Boysen Reservoir. Except for zinc, concentration limits are based on either WQS or Model Concentration iterations where standards have not been adopted. The concentration limit for zinc was set at the baseline concentration plus one standard deviation because an acceptable zinc load was not verified in the modeling effort.
Category 5	Category V includes parameters without Wind River baseline data available that do have relevant water quality standards. End-of-pipe concentration limits were set at the water quality standards and a load limit for iron was calculated..
Category 6	Insufficient data to model; constituents were non-detect at Wind River baseline; End-of-pipe concentration limits set to 1/2 detection limit - no load limit.

The GEMSS model results indicated that with regard to maintaining existing water quality conditions within the downstream Class 1 water, the most limiting parameters from this facility are total dissolved solids (TDS) and chloride. Independent model runs conducted on both of these constituents indicated that total monthly loads of chloride and TDS could be as high as 719 tons/month and 6571 tons/month respectively without exceeding the class 1 antidegradation targets on the Wind River below Boysen dam (*see the Sept. 2018 Modeling Report Addendum*). Those loads represent the amount of pollutants that could be discharged if concentration limits were not also required to be met. However, chloride must be limited to its existing level of 2,419 mg/L. Because chloride is a component of TDS, the amount of treatment necessary to achieve the 2,419 mg/L chloride limit also reduces the end-of-pipe concentration of TDS to approximately

2161 tons/month. Since that is the practical limit that can be achieved, a TDS limit of 2161 tons/month as a flow-weighted average concentration will be enforced in the discharge along with a 719 ton limit on chloride.

The Total Dissolved Solids (TDS) load limit is 2161 tons per month, and the chloride load limit is 719 tons per month, sum of all outfalls. TDS and chloride concentrations are also limited on a facility-wide basis (concentration effluent limits listed above) and will be calculated and reported based on a net concentration derived from flow weighted values at each outfall. WDEQ has determined, based on results of the GEMSS analysis, that if TDS and chloride loads are limited to these monthly levels, the quality of the downstream Class 1 water will not be degraded.

In addition to chloride and TDS, limits and monitoring have also been established for 24 other constituents. As mentioned above the constituents of concern were grouped into categories and limits established as follows:

CATEGORY I - Industry-specified standards exist for chloride, TDS, sulfate, oil and grease, and pH that must be met in Aethon’s net discharge. These parameters were evaluated first to determine a maximum flow rate for Aethon’s discharge that would allow these parameters, at their industry limits, to also meet the Wind River Below Boysen Reservoir Antidegradation criteria. Oil and grease water quality was considered separately; established baseline were not available for oil and grease.

Examining the Category I parameters as part of the Wind River Below Boysen Reservoir Antidegradation considerations, Aethon’s discharge rates were iterated within the GEMSS Boysen Reservoir model to determine the maximum flow rate for Case 01 to be 68,000 bpd. This maximum flow rate is based on the most limiting of the industry standard parameters, chloride. A flow of 68,000 bpd (2.856 MGD) from Aethon’s operations leads to a Wind River below Boysen Reservoir chloride concentration just below the Antidegradation target during the most restrictive month, April.

The main reason that chloride is the most limiting is because chloride has to overcome the greatest dilution of the industry parameters, diluting from a 2000 mg/L effluent concentration to, on average, 12 mg/L leaving the Boysen Reservoir. The 167-times average reduction in chloride needed to meet the Wind River Below Boysen Reservoir Antidegradation criteria is far more stringent than that of TDS (12 times dilution) or sulfate (17.5 times dilution), thus presenting the strictest limitations on Aethon’s operations.

It was confirmed for all other parameters with existing industry standards that Antidegradation criteria downstream of the Boysen Dam were met, where applicable, and a separate confirmation was done for oil and grease showing that oil and grease concentrations downstream of the Boysen Dam are well below the 10 mg/L industry standard.

A similar approach for flow Cases 02 and 03 showed that chloride is the most limiting of the industry standard parameters for these cases as well. Case 02 resulted in a total allowable flow of 104,000 barrels per day if 39,000 barrels per day were treated through Neptune, and Case 03 resulted in a total allowable flow of 197,000 barrels per day if 139,000 barrels per day were treated through Neptune. The resulting maximum flow cases and treatment diversion necessary are summarized below:

Flow Case #	Total Discharge Flow	Treated Flow	Untreated Flow
01	68,000 bpd (2.856 MGD)	0*	68,000 bpd (2.856 MGD)
02	104,000 bpd (4.368 MGD)	39000 bpd (1.638 MGD)	65,000 bpd (2.730 MGD)
03	197,000 bpd (8.274 MGD)	139,000 bpd (5.838 MGD)	58,000 bpd (2.436 MGD)

- *Zero treated flow on Case #01 is theoretical in that it assumes a produced water chloride concentration of 2000 mg/L. Actual chloride concentrations of the raw produced water is generally above 2000 mg/L and must be treated to meet a 2000 mg/L end-of-pipe limit.*

CATEGORY II - Manganese is categorized separately from other parameters because concentrations present in Aethon's produced water are very low according to previous measurements, but this is uniquely coupled with baseline data that are above detection levels in Wind River Below Boysen Reservoir. Manganese is distinctive in that it is measured consistently above detection limits in the baseline data at Wind River, but is consistently below detection and well below the aquatic life-based water quality limits in Aethon's discharge. For a complete Antidegradation analysis, Manganese was evaluated at Wind River below Boysen Reservoir relative to the baseline for a situation where Aethon's discharge reaches the maximum aquatic life-based limit. Manganese is one of four metals relevant to this study that have hardness-dependent water quality guidelines. An increase in total hardness allows for an increased water quality limit within a certain range of hardness values. Hardness values were lower in Aethon's discharge, on average, than in Wind River below Boysen, so as a conservative approach, hardness-based criteria were calculated for the greater hardness value at Wind River below Boysen Reservoir. With this assumption, the manganese concentration assumed for Aethon's discharge is 2083 µg/L.

The three various flow scenarios tested (Case 01, 02, and 03) all demonstrate compliance with the Wind River Antidegradation targets. Although manganese has not shown concentrations above the 50 µg/L required detection limit in Aethon's produced water, this analysis demonstrates that Antidegradation criteria are met downstream of Boysen Dam at the maximum flow rate determined from the Category I parameter analysis.

CATEGORY III - Category III parameters have baseline concentration measurements at Wind River Below Boysen Reservoir that are consistently (more than 50% of recorded values) below detection. The detection limits in the available baseline data vary over time for these parameters, so the maximum detection limit was used for comparison.

As is true for manganese, three of the Category III parameters, chromium, copper, and nickel, are hardness-dependent metals. Because an increase in total hardness allows for increased water quality limits that could then increase concentrations of metal parameters in Wind River below Boysen Reservoir, hardness-based criteria were calculated based on the average hardness value at Wind River below Boysen Reservoir, which is greater than that observed in Aethon's produced water. With this assumption, the concentrations proposed as permit requirements for chromium, copper, and nickel are 126, 15, and 90 µg/L, respectively. For the other Category III parameters, aluminum and mercury, existing limits of 750 µg/L and 0.77 µg/L were applied, respectively.

With the proposed effluent limits applied as effluent concentrations for a maximum impact analysis, resulting concentrations of aluminum, chromium, copper, mercury, and nickel all comply with the maximum detection limits on a monthly average basis for all three test cases.

CATEGORY IV - Category IV water quality parameters have baseline data available above detection limits and values in Aethon's effluent also above detection. An Antidegradation demonstration was performed for each of the Category IV parameters for each of the three test cases. Arsenic and fluoride have water quality standards. The arsenic standard of 150 µg/L and the fluoride standard of 4000 µg/L were applied in the GEMSS model as Aethon's effluent concentrations for these two parameters, and resulting downstream concentrations were processed and compared to the field baseline for the three test cases. Aethon's contribution to Wind River below Boysen Reservoir complies with downstream Antidegradation targets (baseline plus one standard deviation) in all three cases for this concentration level.

Like fluoride, arsenic was assumed to be discharged at the standard and meets compliance in Cases 01 and 02, but exceeds the Antidegradation criterion in Wind River below Boysen Reservoir in flow Case 03. One of the treatment assumptions made was that the treatment efficiency of arsenic is 0%. This assumption was made because arsenic concentrations before and after treatment in Aethon's current processes are both below detection (and are already well below the 150 µg/L limit), so a treatment efficiency cannot be quantified. In reality, arsenic is removed through Neptune treatment plant's RO filtering process and a treatment efficiency greater than zero is expected to occur. However, the

treatment assumptions made are conservative based on the available data. A more restrictive concentration at the Case 03 flow conditions was determined to be 90 µg/L through iterative modeling to reach the Antidegradation compliance target in the Wind River.

To simulate worst-case conditions, water quality concentrations of 90 µg/L for arsenic and 4000 µg/L for Fluoride were applied as Aethon's effluent concentration. The remaining Category IV parameters, hardness, sodium, calcium, and magnesium, do not have equivalent standards or limits as do arsenic and fluoride, therefore, effluent concentrations were determined through model iteration to meet Antidegradation criteria in Wind River below Boysen Reservoir for all three flow cases.

The load limit for sodium was determined through model iteration such that Wind River antidegradation criteria would be met for all three cases. The Case 01 sodium results are representative for all three cases at Wind River below Boysen Reservoir.

Calcium, and magnesium are present in Aethon's discharge at concentrations below the baseline values, and model iterations showed that concentrations in the effluent that meet Wind River antidegradation criteria can be very high so an appropriate upper limit for these three constituents is based on the baseline concentrations. The exact values for calcium, and magnesium effluent limits were selected to be the average field baseline data measured for each parameter. Because there are no adopted water quality standards for calcium, magnesium and sodium, permit limits are expressed as monthly loads determined through model iterations.

Zinc has been included with the Category III constituents though it was not included in Aethon's modeling analysis. It is included in this category because it was non-detect more in than 90% of the baseline samples taken in the Wind River and it is known to occur at times in discharges from the gas field. Because it was not specifically addressed in the Boysen model, a concentration limit equal to the average concentration plus 1 standard deviation (16.6 µg/L) will be applied at the point of discharge.

CATEGORY V - Category V parameters do not have baseline data, but have established water quality standards. These parameters were analyzed for Aethon's contributions to Wind River Below Boysen Reservoir relative to the limits present. Category V parameters include dissolved iron, radium-226, and sulfide-hydrogen sulfide. The values that were applied for iron (1000 µg/L) and radium-226 (60 pCi/L) represent a worst-case analysis.

Sulfide-hydrogen sulfide has a 2 µg/L standard yet the required detection limit is 100 µg/L. Therefore, a value below detection is considered compliant for sulfide-hydrogen sulfide and the detection limit of 100 µg/L was used as the effluent concentration for analysis.

Iron modeled at 1000 µg/L in Aethon's effluent results in concentrations in Wind River below Boysen Reservoir well below 1000 µg/L on a monthly average, unadjusted basis for all three test cases.

Radium-226 modeled at 60 pCi/L in Aethon's effluent resulted in Wind River below Boysen Reservoir concentrations below both standards of 60 pCi/L and 5 pCi/L. This is true for all three cases.

CATEGORY VI - Category 6 constituents were not addressed in the Boysen Reservoir Model. They consist of trace metals that were below detection in the Wind River baseline sampling below Boysen Dam and are not known to exist in Aethon's discharge. As such, end-of-pipe mixed concentration limits for beryllium, cadmium, lead, selenium, silver and thallium were established at ½ the detection limit. Load limits were determined to be unnecessary because the effective discharge limit is zero.

Mixing Analysis in Boysen Reservoir: The GEMSS model used a bathymetric (3D) mixing approach to analyze potential impacts from this facility at the confluence of Badwater Creek and Boysen Reservoir. This is not a conventional mixing zone since the discharge facility is located approximately 40 stream miles up from this confluence. However, the permittee was tasked by WDEQ with analyzing potential impacts to the lake itself under worst case scenarios. The model found that complete mixing occurs, even under low natural flow conditions in Badwater Creek, before Badwater Creek fully enters Boysen Reservoir. The mixing area is estimated to be approximately 330 feet long east to west, and 730 feet wide, north to south. The location of this mixing area is at the far east end of Badwater Bay, right at the mouth of Badwater Creek. The mixing area location is not static, however, since the mouth of the creek migrates with lake levels and stream flow conditions. Based on the results of the analysis, WDEQ anticipates that adequate mixing will occur before discharges reach the full body of the lake, and that by setting effluent limits for protection of the Class 1 water below the dam, the water quality within the lake itself is also adequately protected.

Compliance Schedule for Chloride:

This permit includes a compliance schedule for chloride effluent limits. The previous permits for this facility did not include chloride effluent limits for protection of Badwater Creek as a class 2AB stream (cold water fishery). The chloride standard for class 2AB waters in Wyoming is 230 mg/L. However, previous versions of this permit included chloride effluent limits that ranged from 2,000 mg/L to unlimited concentrations of chloride. The purpose of the four-year compliance schedule is to allow the permittee time to install additional treatment capacity and optimize its output, in order to meet the final effluent limit of 230 mg/L from the outfalls at this facility. During the 4-year interim period for this compliance schedule, annual reports shall be submitted to WDEQ as outlined below, in accordance with 40 CFR § 122.47. This compliance schedule does not affect monthly load limits on chloride for protection of the downstream Class 1 waters below Boysen Dam. Monthly load limits for chloride, like total dissolved solids, are in effect immediately upon issuance of this renewal. This compliance schedule is specifically for effluent limits on chloride concentration. In addition, Badwater Creek below this project area is a candidate stream segment for a site-specific chloride standard. If the chloride standard on Badwater Creek is revised prior to the final compliance schedule deadline of June 30, 2023, then the final effluent limit for chloride in this permit will be modified accordingly.

Compliance Schedule

Deadline	Milestone	Effluent Limit at outfalls 001-016 (Flow-weighted monthly average)
June 30, 2020	Report on design for chloride treatment upgrades.	2,419 mg/L (Interim)
June 30, 2021	Initiate chloride treatment upgrades. Submit progress report.	
June 30, 2022	Report on construction progress for chloride treatment upgrades.	
June 30, 2023	Finalize construction and optimization for chloride treatment upgrades. Submit progress report.	
July 1, 2023	Full compliance with final chloride effluent limit.	230 mg/L (Final)

Instream Monitoring: In addition to routine outfall sampling, this permit requires sampling at four downstream locations for TDS, chloride, oil & grease, pH and temperature. Additionally, the uppermost monitoring station (DMP1) includes monitoring for BTEX constituents (Benzene, Toluene, Ethylbenzene, Xylene). Monitoring station DMP1 is at the very downstream end of the project area on Alkali Creek. Monitoring station BWC1 is on Badwater Creek, below its confluence with Alkali Creek. Monitoring station BWB1 is located in Badwater Bay and is intended to monitor water quality in the lake after mixing. Station WRC1 is located in Wind River Canyon (below the dam) within the Class 1 water segment. All instream monitoring locations are for data collection purposes only, and do not constitute regulated discharge points under the permit.

Treatment Plant Monitoring: Because the workability of this project relies heavily on the functional operation of the Neptune Treatment Facility, monitoring is also required at the outlet of Neptune, prior to its in-line mixture with outfall 001. For reporting purposes, this station is called NEP1. This permit requires monitoring for Flow, TDS, chloride, pH and temperature at location NEP1. Sampling at NEP1 is for data collection purposes only, and NEP1 does not constitute a regulated discharge point under the permit.

Historical Beneficial Use: (Outfalls 001-012). According to Chapter 2, Appendix H(i) of Wyoming Water Quality Rules and Regulations, for existing permits where the original permit application was submitted prior to September 5, 1978, modification of the effluent limits for chloride, sulfates, specific conductance and total dissolved solids may be granted on a case-by-case basis if a signed "letter of beneficial use" from the land owner was provided specifically requesting that the discharge in question be allowed to continue; or a signed statement by the Wyoming Game and Fish Department was provided in which it was stated that the discharge in question is of value to fish or wildlife; or documentation was provided by the owner or operator of the discharging facility that, because of extenuating circumstances (volume of discharge, individual chemical constituents, nature of the area in which the discharge occurs, etc.), an exemption should be considered.

Antidegradation

Chapter 1, Section 8 of the Wyoming Water Quality Rules and Regulations requires WDEQ to consider existing water quality of the receiving waters when setting effluent limits in discharge permits, and to maintain the highest appropriate quality of those waters upon discharge. Wyoming's *Implementation Policy for Antidegradation* outlines three tiers of protection, based on the classification and existing quality of the receiving waters. Below is a summary of WDEQ's antidegradation review and implementation for each water body downstream of this facility.

Alkali Creek (Class 3B): This is a low-flow stream, generally flowing only in response to storm events, snowmelt, or man-made discharges to it. Uses protected for Class 3B streams such as this include aquatic life, industrial uses, secondary recreation, as well as livestock and wildlife watering. This stream is not considered a "high quality water" as contemplated in Section 4 of the Wyoming Surface Water Quality Standards Implementation Policy for Antidegradation. Therefore, it receives in this permit a "Tier 1" (basic) level of antidegradation protection. The effluent limits for protection of this stream are set equal to the applicable class 3B standards.

Badwater Creek (Class 2AB): This is a perennial water body, with at least some base flow in certain segments. Designated uses on Class 2AB streams include all of the above uses for class 3B streams, in addition to fish and drinking water uses. There is no existing drinking water use for Badwater Creek, but non-game fish do inhabit certain segments. Badwater Creek is a relatively low-flow perennial stream. Its critical low flows below this facility historically approach zero during certain dry times of the year. In addition, this facility and its discharge predate the 1975 Clean Water Act, and also pre-date the designation of Badwater Creek as a class 2AB stream (1990). While flows from this facility are expected to increase with this permit renewal, concentrations of pollutants in the discharge are expected to remain at or below historic pollutant levels in the discharge. Section 4(a)(i)(A)(IV) of the Wyoming Surface Water Quality Standards Implementation Policy for Antidegradation provides that a permitted discharge activity shall be considered not to result in

significant degradation if “the activity will result in only temporary or short term changes in water quality.” Because this facility employs newly increased treatment of the effluent, the expected discharge from this facility will be equal to or higher in quality than any past discharges from this facility since the adoption of the Clean Water Act and the ensuing classification of this water as a class 2AB stream. Any increase in downstream pollutant levels within Badwater Creek would be expected only during short periods of servicing or malfunction of the treatment unit, if at all. During such times, the permit still requires full compliance with all established effluent limits. Therefore, WDEQ’s review has concluded that continued discharges from this facility will not result in significant degradation of Badwater Creek. In addition, the discharges will not result in any impairments of the stream, or lowering of water quality below the criteria established in Wyoming’s standards. This finding conforms with requirements for “Tier 2” protections on class 2AB waters, as outlined in Section 2 of the Wyoming Surface Water Quality Standards Implementation Policy for Antidegradation.

Boysen Reservoir (Class 2AB): This lake is classified as having the same designated uses as Badwater Creek above. However, it is a higher quality water than Badwater Creek and its existing uses include game fish, drinking water and primary contact recreation. Boysen Reservoir is not impaired for any water quality parameters listed in Chapter 1 of the Wyoming Water Quality Rules and Regulations. Sections 2 and 4 of the Wyoming Surface Water Quality Standards Implementation Policy for Antidegradation specify that a “Tier 2” level of protection applies to class 2AB waters such as this. Further, Section 4(a)(i)(A)(III) provides that permitted discharge activity shall be considered not to result in significant degradation if “the new or increased loading from the source under review will consume, after mixing, less than 20% of the available increment between low flow pollutant concentrations and the relevant standards (assimilative capacity), for critical constituents.” WDEQ has reviewed the expected mixed concentrations of effluent within the Boysen Reservoir system, and has determined that the above condition is maintained. No pollutants from this facility are expected to result in mixed concentrations that consume 20% or more of the available assimilative capacity within the lake. Therefore, WDEQ’s review has concluded that continued discharges from this facility will not result in significant degradation of Boysen Reservoir. In addition, the discharges will not result in any impairments of the lake, or lowering of water quality below the criteria established in Wyoming’s standards.

Wind River Below Boysen Dam (Class 1): As explained in the Statement of Basis above, Chapter 1, Section 4 of the Wyoming Water Quality Rules and Regulations defines Class 1 waters as “Outstanding waters..... in which no further water quality degradation by point source discharges other than from dams will be allowed.... the water quality and physical and biological integrity which existed on the water at the time of designation will be maintained and protected.” These waters are subject to the highest level of antidegradation protection, “Tier 3.” New or expanded direct discharges to Class 1 streams are generally either not allowed. However, new and expanded discharges to tributaries of Class 1 waters are allowable in Wyoming under certain conditions, as outlined in Section IV of WDEQ’s *Policy on Establishing Effluent Limits for Permitted Point Source Discharges to Class 1 Water Tributaries* (August, 2007). That was the basis for the GEMSS model used in the permittee’s application for this permit, described in greater detail above. Based on the results of the GEMSS calculations, WDEQ has set the effluent limits in this permit to ensure that existing conditions are maintained within the Class 1 segment below the dam. WDEQ has determined that the discharge, when controlled by the effluent limits established in this permit, will not result in a measurable lowering of the existing Class 1 water quality. The resultant instream water quality will be maintained at a level within one standard deviation of the average background concentration for each limited pollutant. This does not mean that the discharge is expected to result in raising the instream pollutant levels from the average background concentration to the upper standard deviation bound. Rather, the upper standard deviation will only be approached for one parameter (chloride) for one month out of the year (April). The GEMSS model indicates this to be the most limiting combination of natural conditions and pollutant output. All other mixed pollutants at that time, as well as chloride the rest of the year, are well below the upper standard deviation bound. Therefore the long term average mixed condition is not stressed with the potential for adverse departure from average background conditions. This is consistent with provisions in the above referenced Class 1 policy, and therefore conforms with requirements for achievement of Tier 3 water quality protection in the Wind River below Boysen Dam.

Whole Effluent Testing (Acute)

Upon issuance of this permit, the permittee shall, at least once annually, conduct acute static replacement toxicity tests on a grab sample of the discharge. For this permit, the WET sample will consist of a flow-weighted composite from all discharging outfalls. 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". 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, the WDEQ reserves the right to require the permittee to perform additional tests at alternate dilutions and/or replicates. The WDEQ also reserves the right to require the submission of all information regarding all initiated tests, regardless of whether the tests were carried to completion or not.

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 WDEQ will assume that all outfalls, which have not yet been sampled, 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. 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 the DEQ.

Annual test results shall be reported on a Discharge Monitoring Report (DMR) that must be submitted by January 28th of each year. The format for the report shall be consistent with the latest revision of the "Region VIII Guidance for Acute Whole Effluent Reporting", 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.

Whole Effluent Testing (Chronic)

Upon issuance of this permit, the permittee shall, at least once annually, conduct chronic static replacement toxicity tests on a grab sample of the discharge. For this permit, the WET sample will consist of a flow-weighted composite from all discharging outfalls. 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". 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, the WDEQ reserves the right to require the permittee to perform additional tests at alternate dilutions and/or replicates. The WDEQ also reserves the right to require the submission of all information regarding all initiated tests, regardless of whether the tests were carried to completion or not.

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 WDEQ will assume that all outfalls, which have not yet been sampled, 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. 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 WDEQ.

Annual test results shall be reported on a Discharge Monitoring Report (DMR) each year. The format for the report shall be consistent with the latest revision of the "Region VIII Guidance for Chronic Whole Effluent Reporting", and shall include all chemical and physical data as specified.

Agricultural and wildlife use of water: Federal effluent guidelines, per 40 CFR Part 435 Subpart E, require utilization of the discharges of produced water from oil production units for agricultural or wildlife propagation when discharged. The Wyoming Game and Fish Department determined that discharge of produced water from all existing WYPDES-permitted oil production units in Wyoming enhances wildlife propagation and habitat. Hence, this facility complies with 40 CFR Part 435 Subpart E, if the discharge meets the effluent limits of this WYPDES permit.

Antidegradation, impairment review: The discharge of wastewater and the effluent limits established in this permit ensure that the levels of water quality maintain and protect the designated uses of the receiving waters. An antidegradation review 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. In addition, an evaluation of the receiving waters revealed that they are not on the 303(d) list as waterbodies that cannot support designated uses.

Other Permit Requirements: 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.

Self-monitoring of effluent quality and quantity is required on a regular basis. Reporting of results is required semi-annually. The permit is scheduled to expire on June 30, 2024, the same expiration date of other oil production unit WYPDES facilities in this locale.

Water Quality Division
Department of Environmental Quality
Drafted: March 13, 2019

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,

Aethon Energy Operating, LLC

is authorized to discharge from the wastewater treatment facilities serving the

Frenchie Draw

located in

Sections NWNE 18, NWNE 9, NENE 16, NWNE 20, SESW 16, SENE 17, NENE 22, NENE 21, NWNE 15, NWNE 23, NENE 10, NENE 7, SWNE 8, NWSW 15, NENW 5, Township 37N, Range 89W; and NWSE Section 36, Township 38N, Range 90W, and SESE Section 36, T38N, Range 91W, Fremont County.

to receiving waters named

Boysen Reservoir (class 2AB) via Badwater Creek (class 2AB) via Alkali Creek (class 3B)

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

This permit renewal shall become effective on date of issuance below.

This permit and the authorization to discharge shall expire June 30, 2024 at midnight.

Kevin Frederick, Administrator
Water Quality Division

Todd Parfitt, Director
Department of Environmental Quality

Date of Issuance: _____

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Effective immediately and lasting through June 30, 2024, the quality of effluent discharged by the permittee shall, at a minimum, meet the limitations set forth below. This permit authorizes the permittee to discharge from outfall serial number(s) 001-016.

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.

a. **The following effluent limits are established for outfalls 001-016:**

Parameter	EOP Mixed Concentration Limit *	Modeled Monthly Load Limit* Tons/Mo
Chloride (mg/L)	2419 mg/L	719
Oil & Grease (mg/L)	10 mg/L	N/A
pH	6.5 - 9.0	N/A
Sulfate (mg/L)	3000 mg/L	1072
Radium (pCi/L)	60	N/A
Sulfide-.Hydrogen Sulfide (µg/L)	Report only	N/A
TDS (mg/L)	6400 mg/L	2161
Aluminum (µg/L)	750 µg/L	0.311
Arsenic (µg/L)	90 µg/L	0.093
Beryllium (µg/L)	0.05 µg/L	N/A
Cadmium (µg/L)	0.05 µg/L	N/A
Calcium (mg/L)	N/A	14.924
Chromium (µg/L)	126 µg/L	0.1305
Copper (µg/L)	15 µg/L	0.016
Fluoride (mg/L)	N/A	1.658
Iron (µg/L)	1000	0.663
Lead (µg/L)	0.5 µg/L	N/A
Magnesium (mg/L)	N/A	14.5
Manganese (µg/L)	2083 µg/	2.158
Mercury (µg/L)	0.77 µg/L	0.001
Nickel (µg/L)	90 µg/L	0.0935
Selenium* (µg/L)	0.5 µg/L	N/A
Silver (µg/L)	0.5 µg/L	N/A
Sodium (mg/L)	N/A	1426.1
Thallium (µg/L)	0.25 µg/L	N/A
Zinc (µg/L)	16.8 µg/L	N/A

* End-Of-Pipe (EOP) mixed concentration limit is the calculated, flow weighted monthly average concentration of the mixed discharges from outfalls 001 to 016. The monthly load limit is the combined total load from outfalls 001 to 016.

The reported monthly loads for the whole facility (SUM) will be the sum of loads from each individual outfall for each constituent. Each outfall load is calculated using the formula below. Please note that the constituent concentrations must be in mg/L in this formula. After each outfall load is calculated, add all the outfall loads together and report the load for the facility in tons per month on discharge monitoring reports in outfall name "SUM."

Load Calculation for each outfall (001-016):

$$\frac{\text{Outfall Flow (million gallons/month)} \times [\text{parameter, mg/L}] \times 8.34 \text{ lbs/gal}}{2000 \text{ lbs/ton}} = \text{Parameter Load (tons/mo)}$$

Load Calculation for whole facility (SUM):

Sum of loads from each outfall (tons/month)

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

The permittee may, if so desired, discharge produced water 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, streambeds, ditches, or other waters of the state at the point of discharge. In addition, there shall be no deposition of substances in quantities that 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.

This permit requires implementation of the "Moneta Divide Channel Stability Monitoring and Mitigation Protocol", dated August 12, 2011, for erosion control. Quarterly monitoring reports are required for erosion monitoring, as prescribed in the abovementioned report. See Part I.B.3 of the permit for more reporting requirements and Appendix A for a full copy of the aforementioned report.

b. Compliance Schedule: Chloride Effluent limits for outfalls 001-016:

Deadline	Milestone	Effluent Limit at outfalls 001-016 (Flow-weighted monthly average)
June 30, 2020	Report on design for chloride treatment upgrades.	2,419 mg/L (Interim)
June 30, 2021	Initiate chloride treatment upgrades. Submit progress report.	
June 30, 2022	Report on construction progress for chloride treatment upgrades.	
June 30, 2023	Finalize construction and optimization for chloride treatment upgrades. Submit progress report.	
July 1, 2023	Full compliance with final chloride effluent limit.	230 mg/L (Final)

2. The permittee shall monitor the discharge as specified below:

a. Routine monitoring End of Pipe—for outfall(s) 001-016

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

Outfalls 001-016

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Aluminum (µg/L)	Quarterly	Grab
Arsenic (µg/L)	Quarterly	Grab
Beryllium (µg/L)	Quarterly	Grab
Cadmium (µg/L)	Quarterly	Grab
Chloride (mg/L)	Monthly	Grab
Chloride Load (mg/L)	Monthly	Calculated
Chromium (µg/L)	Quarterly	Grab
Copper (µg/L)	Quarterly	Grab
Flow (million gallons per month)	Daily	Continuous
Fluoride (mg/L)	Quarterly	Grab
Iron (µg/L)	Quarterly	Grab

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Lead (µg/L)	Quarterly	Grab
Manganese (µg/L)	Quarterly	Grab
Mercury (µg/L)	Quarterly	Grab
Nickel (µg/L)	Quarterly	Grab
Oil & Grease (mg/L)	Quarterly	Grab
pH	Quarterly	Grab
Radium ²²⁶ (pCi/L)	Quarterly	Grab
Selenium (µg/L)	Quarterly	Grab
Silver (µg/L)	Quarterly	Grab
Sulfate (mg/L)	Quarterly	Grab
Sulfides (mg/L)	Quarterly	Grab
Sodium (mg/L)	Quarterly	Grab
Calcium (mg/L)	Quarterly	Grab
Magnesium (mg/L)	Quarterly	Grab
TDS (mg/L)	Monthly	Grab
TDS Load (tons/month)	Monthly	Calculated
Temperature (degrees F)	Monthly	Instantaneous
Thallium (µg/L)	Quarterly	Grab
Zinc (µg/L)	Quarterly	Grab
Benzene (µg/L)	Quarterly	Grab
Toluene (µg/L)	Quarterly	Grab
Ethylbenzene (µg/L)	Quarterly	Grab
Xylene (µg/L)	Quarterly	Grab
Total Ammonia as N, mg/L	Quarterly	Grab
Total Nitrogen, mg/L	Quarterly	Grab
Nitrate + Nitrite Nitrogen	Quarterly	Grab
Total Phosphorus	Quarterly	Grab
Orthophosphate Phosphorus	Quarterly	Grab

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

b. Instream Monitoring Points – (BWC1, BWB1, WRC1)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies and reported quarterly.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Total Dissolved Solids (mg/L)	Quarterly	Grab
Chloride (mg/L)	Quarterly	Grab
pH (standard units)	Quarterly	Grab
Temperature (degrees F)	Quarterly	Instantaneous
Oil & Grease (mg/L)	Quarterly	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the locations described in Table 1, in Part I(B)(12) of the permit.

c. Instream Monitoring Point – (DMP1)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies and reported quarterly.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Total Dissolved Solids (mg/L)	Quarterly	Grab
Chloride (mg/L)	Quarterly	Grab
pH (standard units)	Quarterly	Grab
Temperature (degrees F)	Quarterly	Instantaneous
Oil & Grease (mg/L)	Quarterly	Grab
Benzene (µg/L)	Quarterly	Grab
Toluene (µg/L)	Quarterly	Grab
Ethylbenzene (µg/L)	Quarterly	Grab
Xylene (µg/L)	Quarterly	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the locations described in Table 1, in Part I(B)(12) of the permit.

d. Treatment Unit Monitoring Point – (NEP1)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies and reported quarterly.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Total Dissolved Solids (mg/L)	Monthly	Grab
Total Dissolved Solids Load (tons/month)	Monthly	Calculated
Chloride (mg/L)	Monthly	Grab
Chloride Load (tons/month)	Monthly	Calculated
pH (standard units)	Monthly	Grab
Flow, monthly average (MGD)	Monthly	Instantaneous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the locations described in Table 1, in Part I(B)(12) of the permit.

3. Effluent Limitations (Toxic Pollutants)

Upon issuance of this permit renewal, there shall be no chronic or acute toxicity in any outfalls at this facility.

a. Whole Effluent Testing (Acute)

Upon issuance of this permit, the permittee shall, at least once annually, conduct acute static replacement toxicity tests on a grab sample of the discharge. For this permit, the WET sample will consist of a flow-weighted composite from all discharging outfalls. 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*”. 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, the WDEQ reserves the right to require the permittee to perform additional tests at alternate dilutions and/or replicates. The WDEQ also reserves the right to require the submission of all information regarding all initiated tests, regardless of whether the tests were carried to completion or not.

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 WDEQ will assume that all outfalls, which have not yet been sampled, 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. 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 the DEQ.

Annual test results shall be reported on a Discharge Monitoring Report (DMR) that must be submitted by January 28th of each year. The format for the report shall be consistent with the latest revision of the "Region VIII Guidance for Acute Whole Effluent Reporting", 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.

b. Whole Effluent Testing (Chronic)

Upon issuance of this permit, the permittee shall, at least once annually, conduct chronic static replacement toxicity tests on a grab sample of the discharge. For this permit, the WET sample will consist of a flow-weighted composite from all discharging outfalls. 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*". 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, the WDEQ reserves the right to require the permittee to perform additional tests at alternate dilutions and/or replicates. The WDEQ also reserves the right to require

the submission of all information regarding all initiated tests, regardless of whether the tests were carried to completion or not.

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 WDEQ will assume that all outfalls, which have not yet been sampled, 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. 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 WDEQ.

Annual test results shall be reported on a Discharge Monitoring Report (DMR) each year. The format for the report shall be consistent with the latest revision of the "Region VIII Guidance for Chronic Whole Effluent Reporting", and shall include all chemical and physical data as specified.

c. Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE)

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

If acceptable to the permit issuing authority, 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.

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 wastestream, body of water, or substance. Monitoring points shall not be changed without notification to and approval by, the permit issuing authority.

2. Discharge Monitoring Report Reporting

Effluent monitoring results obtained during the previous six (6) month(s) shall be summarized and reported on a Discharge Monitoring Report Form. If the permit requires whole effluent toxicity (WET) (biomonitoring) testing, WET test results must be reported on the most recent version of EPA Region 8 Guidance for Whole Effluent Reporting. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements (see Part II.A.11.), and submitted to the state water pollution control agency at the following address. The reports must be received by the agency no later than the 28th day of the month following the completed reporting period. The first report is due on October 28, 2019.

Wyoming Department of Environmental Quality
Water Quality Division
200 West 17th 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. Channel Stability Monitoring and Mitigation Protocol

(See Appendix A, approved by WDEQ 8/12/2011)

- A. The WDEQ-approved Channel Stability Monitoring and Mitigation Protocol (Appendix A) shall be implemented by the permittee.
- B. The data collected in the Channel Stability Monitoring and Mitigation Protocol is not an effluent limit or otherwise used for compliance under this permit, but may be considered by WDEQ as a basis for re-opening this permit.
- C. The permittee shall submit any modification(s) of the Channel Stability Monitoring and Mitigation Protocol to the WDEQ for its review and approval prior to implementation of any such change.

4. Erosion Control Report Submission

For the duration of the permit, at a minimum, the permittee shall complete the monitoring requirements as per "Moneta Divide Channel Stability Monitoring and Mitigation Protocol", dated August 12, 2011, and submit results of the monitoring to the WDEQ. Legible copies of the submitted monitoring reports shall be signed and certified in accordance with the Signatory Requirements contained in Part II.A.11 of permit WY0002062.

The permittee shall submit to WDEQ quarterly reports based on the WDEQ-approved protocol. Monitoring will be based on quarterly timeframes, from January through March, April through June, July through September, and October through December. The reports shall be received by WDEQ quarterly by the 28th day of the first month following the completion of each quarter, and shall include all associated data that is specified in the Channel Stability Monitoring and Mitigation Protocol. The first quarterly report following issuance of this permit renewal is due by April 28, 2019.

Monitoring reports shall be submitted to the WDEQ at the following address:

Wyoming Department of Environmental Quality
WYPDES Program, Water Quality Division
200 West 17th Street
Cheyenne, WY 82002
Telephone: (307) 777-7781

a) Report Contents

The quarterly submitted reports shall, at a minimum, contain the following information:

- a table listing the names and locations of the sites monitored and latitudes/longitudes of control points of all established cross sections, and
- all raw data and data analysis as required in Section 1 of the report, and
- the permittee's assessment of overall channel stability based on the gathered data, and
- any recommendations for changes to the monitoring program.

5. Definitions

- a. A "composite" sample, for monitoring requirements, is defined as a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow.
- b. The "daily maximum" shall be determined by the analysis of a single grab or composite sample.
- c. An "instantaneous" measurement for monitoring requirements is defined as a single reading, measurement, or observation.
- d. "MGD", for monitoring requirements, is defined as million gallons per day.
- e. The "monthly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform and E. coli) of all composite and/or grab samples collected during a calendar month.
- f. "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.
- g. A "pollutant" is any substance or substances that, 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.

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

6. 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.

7. 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.

8. 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.

9. 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 (3) years from the date of the sample, measurements, 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.

10. 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 (2) years per violation, or both.

11. 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.

12. Facility Identification

All facilities discharging produced water shall be clearly identified with an all-weather sign posted at a visually prominent location. This sign shall, at a minimum, convey the following information:

- a. The name of the company, corporation, person or persons who hold(s) the discharge permit; and
- b. The name of the facility (lease, tank battery number, etc.) as identified by the discharge permit.
- c. In addition, all outfall signs will include the outfall number.

13. Outlet Structures

The permittee shall construct and maintain all outlet structures so that there is a free fall from the discharge pipe sufficient to allow the collection of representative samples and the measurement of flow volume using the bucket and stopwatch technique.

If the volume of discharge is too large to make measurement of flow by the bucket and stopwatch technique practical, the permittee must be able to measure or calculate flow volume by another means to an accuracy of plus or minus ten percent of the actual flow.

14. Location of Discharge Points

See Table 1, Below.

Table 1: WY0002062 - Frenchie Draw Permit

Discharge Point	Previous Outfall ID	Units	QTR/ QTR	SEC-TION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description
001	N/A	Graham Unit #10	NWNE	18	37N	89W	43.18385	-107.56176	Alkali Creek via an unnamed drainage (all 3B)
002	WY0002071-001	Graham Unit #9	NWNE	9	37N	89W	43.19805	-107.52222	Alkali Creek via an unnamed drainage (all 3B)
003	WY0002089-001	Graham Unit #5	NENE	16	37N	89W	43.18227	-107.52055	Alkali Creek via an unnamed drainage (all 3B)
004	WY0025526-001	Graham Unit #8	NWNE	20	37N	89W	43.16868	-107.54214	Alkali Creek via an unnamed drainage (all 3B)
005	WY0025534-001	Graham Unit #19	SESW	16	37N	89W	43.17426	-107.53107	Alkali Creek via an unnamed drainage (all 3B)
006	WY0025542-001	Graham Unit #6	SENE	17	37N	89W	43.18139	-107.54137	Alkali Creek via an unnamed drainage (all 3B)
007	WY0027227-001	Graham Unit #3	NENE	22	37N	89W	43.17021	-107.49983	Alkali Creek via an unnamed drainage (all 3B)
008	WY0002101-001	Graham Unit #1	NENE	21	37N	89W	43.16953	-107.51988	Alkali Creek via an unnamed drainage (all 3B)
009	WY0027235-001	Graham Unit #7	NWNE	15	37N	89W	43.1830997	-107.5038942	Alkali Creek via an unnamed drainage (all 3B)

Table 1: WY0002062 - Frenchie Draw Permit

Discharge Point	Previous Outfall ID	Units	QTR/ QTR	SEC-TION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description
010	WY0027243-001	Graham Unit #16	NWNE	23	37N	89W	43.16939	-107.48239	Alkali Creek via an unnamed drainage (all 3B)
011	WY0027251-001	Graham Unit #17	NENE	10	37N	89W	43.19784	-107.50145	Alkali Creek via an unnamed drainage (all 3B)
012	WY0027456-001	Graham Unit #15	NENE	7	37N	89W	43.19775	-107.56143	Alkali Creek via an unnamed drainage (all 3B)
013	WY0028771-001	Graham Unit # 13	SWNE	8	37N	89W	43.19565	-107.54316	Alkali Creek via an unnamed drainage (all 3B), Wind River Basin
014	WY0031828-001	Graham Unit # 20	NWSW	15	37N	89W	43.17532	-107.51158	Alkali Creek via an unnamed drainage (all 3B), Wind River Basin
015	WY0056791-001	N. Merriam State 44-36	SESE	36	38N	91W	43.2119	-107.699	Alkali Creek via Reservoir Creek (all 3B), Wind River Basin
016	N/A	N/A	NENW	5	37N	89W	43.20901	-107.54879	Alkali Creek via Reservoir Creek (all 3B), Wind River Basin
DMP1	N/A	N/A	NWNW	36	38N	90W	43.22219	-107.5912935	Alkali Creek (3B), Wind River Basin
WRC1	N/A	N/A	SESE	8	40N	95W	43.42786	-108.17852	Wind River Canyon Monitoring Point

Table 1: WY0002062 - Frenchie Draw Permit

Discharge Point	Previous Outfall ID	Units	QTR/ QTR	SEC-TION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description
BWB1	N/A	N/A	NWSE	34	38N	94W	43.28139	-108.16256	Badwater Bay Monitoring Point (Boysen Reservoir)
BWC1	N/A	N/A	NENE	18	38N	90W	43.326445	-107.69595	Badwater Creek Monitoring Point (Below Alkali Creek Confluence)
NEP1	N/A	N/A	SWNE	19	37N	89W	43.16429	-107.56185	Neptune Treatment Unit Monitoring Point

PART II

A. MANAGEMENT REQUIREMENTS

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:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29 (b); or
- b. The alteration or addition could change the nature or increase the quantity of pollutants discharged.

2. Noncompliance Notification

- a. The permittee shall give advance notice of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- b. The permittee shall report any noncompliance which may endanger health or the environment as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Quality Division, Wyoming Department of Environmental Quality at (307) 777-7781.
- c. A written submission shall be provided within five (5) days of the time that the permittee becomes aware of a noncompliance circumstance as described in paragraph b. above.

The written submission shall contain:

- (1) A description of the noncompliance and its cause;
 - (2) The period of noncompliance, including exact dates and times;
 - (3) The estimated time noncompliance is expected to continue if it has not been corrected; and
 - (4) Steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance.
- d. The following occurrences of unanticipated noncompliance shall be reported by telephone to the Water Quality Division, WYPDES Program (307) 777-7781 by the first workday following the day the permittee became aware of the circumstances.
 - (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
 - (2) Any upset which exceeds any effluent limitation in the permit; or

- (a) The bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (c) The permittee submitted notices as required under paragraph c. of this section.
- e. The administrator of the Water Quality Division may approve an anticipated bypass, after considering its adverse effects, if the administrator determines that it will meet the three conditions listed above in paragraph d. (1) of this section.

6. Upset Conditions

- a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improper designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph c. of this section are met.
- c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:
 - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required under Part II.A.2; and
 - (4) The permittee complied with any remedial measures required under Part II.A.4.
- d. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

7. Removed Substances

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters or intake waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the state.

8. Power Failures

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

- a. In accordance with a schedule of compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities; or
- b. If such alternative power source as described in paragraph a. above is not in existence and no date for its implementation appears in Part I, take such precautions as are necessary to maintain and operate the facility under its control in a manner that will minimize upsets and insure stable operation until power is restored.

9. Duty to Comply

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

10. Duty to Mitigate

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

11. Signatory Requirements

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

- a. All permit applications shall be signed as follows:
 - (1) For a corporation: by a responsible corporate officer;
 - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
 - (3) For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected official.
- b. All reports required by the permit and other information requested by the administrator of the Water Quality Division shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - (1) The authorization is made in writing by a person described above and submitted to the administrator of the Water Quality Division; and

- (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
- c. If an authorization under paragraph II.A.11.b. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph II.A.11.b must be submitted to the administrator of the Water Quality Division prior to or together with any reports, information or applications to be signed by an authorized representative.
- d. Any person signing a document under this section shall make the following certification:

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

B. RESPONSIBILITIES

1. A. Providing Access

The permittee shall allow Department of Environmental Quality personnel and their invitees to enter the premises where the facility is located, or where records are kept under the conditions of this permit, and collect resource data as defined by Wyoming Statute § 6-3-414, inspect and photograph the facility, collect samples for analysis, review records, and perform any other function authorized by law or regulation. The permittee shall secure and maintain such access for the duration of the permit.

If the facility is located on property not owned by the permittee, the permittee shall also secure and maintain from the landowner upon whose property the facility is located permission for Department of Environmental Quality personnel and their invitees to enter the premises where a regulated facility is located, or where records are kept under the conditions of this permit, and collect resource data as defined by Wyoming Statute § 6-3-414, inspect and photograph the facility, collect samples for analysis, review records, and perform any other function authorized by law. The permittee shall secure and maintain such access for the duration of the permit.

If the facility cannot be directly accessed using public roads, the permittee shall also secure and maintain permission for Department of Environmental Quality personnel and their invitees to enter and cross all properties necessary to access the facility. The permittee shall secure and maintain such access for the duration of the permit.

B. Access Records

The permittee shall maintain in its records documentation that demonstrates that the permittee has secured permission for Department of Environmental Quality personnel and their invitees to access

the permitted facility, including (i) permission to access the land where the facility is located, (ii) permission to collect resource data as defined by Wyoming Statute § 6-3-414, and (iii) permission to enter and cross all properties necessary to access the facility if the facility cannot be directly accessed from a public road. The permittee shall also maintain in its records a current map of the access route(s) to the facility and contact information for the owners or agents of all properties that must be crossed to access the facility. The permittee shall ensure that the documentation, map, and contact information are current at all times. The permittee shall provide the documentation, map, and contact information to Department of Environmental Quality personnel upon request. Upon termination of the permit, the permittee shall maintain such records for a period of three (3) years.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the regional administrator of the Environmental Protection Agency and the administrator of the Water Quality Division. The administrator of the Water Quality Division shall then provide written notification to the new owner or controller of the date in which they assume legal responsibility of the permit. The permit may be modified or revoked and reissued to change the name of the permittee and incorporate such other requirements as described in the federal act.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the federal act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Wyoming Department of Environmental Quality and the regional administrator of the Environmental Protection Agency. As required by the federal act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the federal act.

4. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the federal act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Changes in Discharge of Toxic Substances

Notification shall be provided to the administrator of the Water Quality Division as soon as the permittee knows of, or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

- (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or
 - (4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- (1) Five hundred micrograms per liter (500 µg/L);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or
 - (4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).

6. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. As long as the conditions related to the provisions of "Bypass of Treatment Facilities" (Part II.A.5), "Upset Conditions" (Part II.A.6), and "Power Failures" (Part II.A.8) are satisfied then they shall not be considered as noncompliance.

7. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the federal act.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable state or federal law or regulation. In addition, issuance of this permit does not substitute for any other permits required under the Clean Water Act or any other federal, state, or local law.

10. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights nor any infringement of federal, state or local laws or regulations.

11. Duty to Reapply

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

12. Duty to Provide Information

The permittee shall furnish to the administrator of the Water Quality Division, within a reasonable time, any information which the administrator may request to determine whether cause exists for modifying, revoking and reissuing or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the administrator, upon request, copies of records required by this permit to be kept.

13. Other Information

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

14. Permit Action

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

15. Permit Fees

Once this permit has been issued, the permittee will be assessed a \$100.00 per-year permit fee by the Water Quality Division. The fee year runs from January 1st through December 31st. This permit fee will continue to be assessed for as long as the permit is active, regardless of whether discharge actually occurs. This fee is not pro-rated. If the permit is active during any portion of the fee year, the full fee will be billed to the permittee for that fee year. In the event that this permit is transferred from one permittee to another, each party will be billed the full permit fee for the fee year in which the permit transfer was finalized.

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PART III

A. OTHER REQUIREMENTS

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.

2. 208(b) Plans

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

3. Reopener Provision

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

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

4. Permit Modification

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

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

- d. If necessary to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b) (2) (C) and (D), 304 (b) (2) and 307 (a) (2) of the federal act, if the effluent standard or limitation so issued or approved:
 - (1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) Controls any pollutant not limited in the permit.

5. Toxicity Limitation - Reopener Provision

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

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

6. Severability

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

7. Penalties for Falsification of Reports

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